



TECHNICAL REPORT	TA-HB-0007-1™	REV. A
	Issued 2013-05 Revised 2023-08	
	Superseding TA-HB-0007-1	
(R) Logistics Product Data Summaries Handbook		

RATIONALE

Revision A of this handbook is a complete revision to SAE TA-HB-0007-1. It includes 29 additional summaries, minor corrections to existing summaries and detailed guidance for tailoring, in addition to the previously documented summaries. All summaries from MIL-STD-1388-2B (Cancelled) are now included in this handbook, plus the new LSA-020, LSA-021, LSA-022, LSA-051, and LSA-055. Detailed guidance was also added to assist programs in determining which summaries to place on contract and how/why to limit the data element selections on a given summary. This revision provides information related to the policy, which dictates the requirement for the summary product or for the data listed on the summary. It also describes who typically uses the summary and under which circumstances, when the data is generated in the life cycle, and how the data is developed for Product Support Analysis (SAE TA-STD-0017A) activities and Systems Engineering Processes. The selection of reports is tailorable by program, and no program should require the delivery of all summaries specified in this handbook.

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1. SCOPE

SAE TA-HB-0007-1A is an integral part of the following suite of documents, which are meant to be used together: SAE TA-STD-0017A, Product Support Analysis, SAE GEIA-STD-0007C, Logistics Product Data, SAE GEIA-HB-0007B, Logistics Product Data Handbook, and SAE TA-HB-0007-1A. MIL-HDBK-502A, Product Support Analysis provides additional guidance and instruction applicable to United States DoD programs.

SAE TA-STD-0017A Product Support Analysis is a standard which prescribes a set of analysis activities for designing support and supporting the design of a product. MIL-HDBK-502A provides DoD users with implementation guidance for SAE TA-STD-0017A. The results of the analysis are Logistics Product Data. SAE GEIA-HB-0007B is a companion handbook to SAE GEIA-STD-0007C. The handbook provides standard guidance (i.e., how to), data population during life cycle phases, tailoring, contracting, data selection, a data map, and detailed information on data development for key and major fields (LCN, PLISN, UOC, etc.).

SAE GEIA-STD-0007C provides a comprehensive list of data elements that can be generated as a result of the Product Support Analysis conducted during the design, development, and initial fielding of a system or end item (EI). It captures information related to logistics design requirements, reliability and maintainability, system safety, maintenance engineering, support and test equipment, training and training devices, manpower and skills, facilities, transportation, supply support, and parts packaging. The most important aspect of the data in SAE GEIA-STD-0007C is that it is used to generate the logistics support products (e.g., operator and maintainer manuals, supply support lists, training programs for operators/maintainers, etc.) required to sustain a system or end item. These products can be generated using the summary specifications in SAE TA-HB-0007-1A. The summary specifications are written to take advantage of the data element and entity relationships in SAE GEIA-STD-0007C. Figure 1 illustrates the interrelations between the suite of documents.

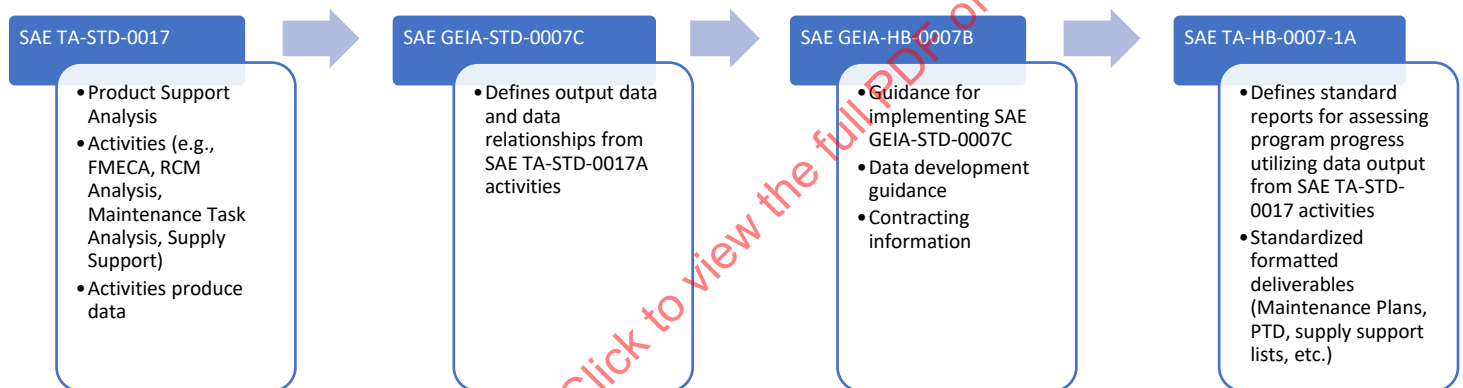


Figure 1 – PSA and LPD suite of standards and handbooks

SAE TA-HB-0007-1A is written primarily with two audiences in mind: The software developer and the data consumer. Instructions for software developers are intended to explain the relationships between data elements and summary elements, as well as how to produce the LPD summaries from those data elements. Software developers should pay particular attention to the following sections within each summary specification: Summary Scope, Summary Selection, Summary Processing/Business Rules, Summary Sequence and Summary Format. Data consumers should pay particular attention to the Introduction, Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions (DID), Tailoring, and Data Sources. Data consumers can use the tables of data sources to determine the breadth and depth of data that is displayed on each summary. This is particularly helpful when contracting for the data and the summaries, since contracting for a particular summary requires contracting for all of the required data elements as identified in the summary.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply unless a specific version is referenced. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption is obtained. The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.1.1 SAE Publications

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Telephone: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), Web address: <https://www.sae.org/>

AIR4845 The FMECA Process In The Concurrent Engineering Environment

AS1390A Level of Repair Analysis

EIA-649 Configuration Management

GEIA-HB-649A Configuration Management Standard Implementation Guide

GEIA-HB-0007B Logistics Product Data Handbook

GEIA-STD-0007C Logistics Product Data

TA-STD-0017A Product Support Analysis

JA-1011 Evaluation Criteria for Reliability-Centered Maintenance (RCM) Process

JA-1012 A Guide to the Reliability-Centered Maintenance (RCM) Standard

2.1.2 Association Connecting Electronics Industries

Available from Association Connecting Electronics Industries, 3000 Lakeside Drive Suite 105N, Bannockburn, IL 60015, Telephone: 847-615-7100, Web address: <https://www.ipc.org/>

IPC-1752 Materials Declaration Management Standard

IPC-1754 Materials and Substances Declaration for Aerospace and Defense

2.1.3 Aerospace Industries Association Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, <https://www.aia-aerospace.org/>

NAS 411 Hazardous Materials Management Program (HMMP)

NAS 411-1 Hazardous Materials Target List (HMTL)

2.1.4 U.S. Government Publications

Available from Government Publishing Office, 732 North Capitol St. NW, Washington, DC 20401-0001, Telephone: 202-512-1800, Web Address: <https://www.gpo.gov/>

Code of Federal Regulations (CFR) Title 10 Armed Forces

Code of Federal Regulations (CFR) Title 14 Part 43 Federal Aviation Regulation

Code of Federal Regulations (CFR) Title 29 Part 1910.1200 Hazardous Communications

Code of Federal Regulations (CFR) Title 32 National Defense

Code of Federal Regulations (CFR) Title 48 Federal Acquisition Regulation

Code of Federal Regulations (CFR) Title 49 Transportation

Code of Federal Regulations (CFR) Title 50 War and National Defense

Available from Executive Services Directorate, 1155 Defense Pentagon Room 3C842 Washington, DC 20301-1155, Telephone: 703-692-5473; Web Address: <https://www.esd.whs.mil/>

DoDD 1100.4	Guidance for Manpower Management
DoDD 1322.18	Military Training
DoDD 4510.11	DoD Transportation Engineering
DoDD 5000.01	The Defense Acquisition System
DoDD 6055.09E	Explosives Safety Management (ESM)
DoDI 4151.20	Depot Maintenance Core Capabilities Determination Process
DoDI 4151.21	Public-Private Partnerships for Product Support
DoDI 4151.22	Condition Based Maintenance Plus (CBM+) for Materiel Maintenance
DoDI 4160.28	DoD Demilitarization (DEMIL) Program
DoDI 4540.07	Operation of the DoD Engineering for Transportability and Deployability Program
DoDI 4715.23	Integrated Recycling and Solid Waste Management
DoDI 5000.73	Cost Analysis Guidance and Procedures
DoDI 5000.88	Engineering of Defense Systems
DoDI 5000.91	Product Support Management for the Adaptive Acquisition Framework
DoDI 5220.22	National Industrial Security Program (NISP)
DoDI 6050.05	DoD Hazard Communication (HAZCOM) Program
DoDI 7041.04	Estimating and Comparing the Full Costs of Civilian and Active Duty Military Manpower and Contract Support
DoDM 4100.39	Federal Logistics Information System (FLIS) Procedures
DoDM 4140.01	DoD Supply Chain Materiel Management Procedures
DoDM 4140.27	DoD Shelf-Life Management Program
DoDM 4151.22-M	Reliability Centered Maintenance (RCM)

Available from Defense Procurement and Acquisition Policy, Services Acquisition Directorate, 3060 Defense Pentagon, Room 3C958, Washington, DC 20301-3060 Telephone: 703-693-0486, Web Address: <https://www.acq.osd.mil/dpap/sa/about.html>

Automatic Test Systems Joint Memorandum of Agreement Among Service Acquisition Executives, subject: Automatic Test Systems Acquisition Procedures

DOT&E and TEMP Guidebook

Logistics Assessment Guidebook

Policy memo, Under Secretary of Defense, DoD Policy for Automatic Test Systems

Test and Evaluation Master Plan

Available from Defense Acquisitions University, 9820 Belvoir Road, Fort Belvoir, VA. 22060, Telephone: 703-805-3459, Web Address: <https://www.dau.edu>.

Defense Acquisition Guidebook

IPS Element Guidebook

PSM Guidebook

Available from Defense Logistics Agency, Andrew T. McNamara Building, 8725 John J. Kingman Road, Fort Belvoir, VA 22060-6221, Telephone: 877-352-2255, Web Address: <https://www.dla.mil/>

Cataloging Handbook H2 Federal Supply Classification Cataloging Handbook

Cataloging Handbook H6 Federal Item Name Directory

DLAI 4145.3	Preparing Hazardous Materials for Military Air Shipments
DLAI 4145.08	Radioactive Commodities in the Department of Defense Supply System
DLAI 4145.11	Storage and Handling of Hazardous Materiel
DLAI 4145.25	Storage and Handling of Liquefied and Gaseous Compressed Gasses and Their Full and Empty Cylinders

Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS)

Available from the Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone: 215-697-6257, Web address: <https://quicksearch.dla.mil/qsSearch.aspx>

DI-PSSS-81545	Interactive Computer Aided Provisioning System (ICAPS) Data Exchange
DI-ENVR-80266	Nuclear Hardness and Survivability (NH&S) Design Analysis Report
DI-HFAC-81399	Critical Task Analysis Report
DI-ILSS-80454	Support Equipment Installation Data (SEID)
DI-ILSS-80868	Special Equipment Tools and Test Equipment List
DI-PACK-80120	Preservation and Packing Data
DI-PACK-80880	Transportability Report
DI-PACK-81582	Packaging Development Data Report
DI-PSSS-80980	Reliability-Centered Maintenance (RCM) Failure Modes and Effects Analysis (FMEA) Report
DI-QCIC-80278	Calibration and Measurement Requirements Summary (CMRS)
DI-SESS-80294	Maintenance Test and Support Equipment Requirements List
DI-SESS-81495	Failure Modes, Effects, and Criticality Analysis Report
DI-SESS-81518	Instructional Performance Requirements Document
DI-SESS-81712	Provisioning Parts List Index (PPLI)
DI-SESS-81714	Provisioning Screening Data
DI-SESS-81758	Logistics Product Data

DI-SESS-81759	Logistics Product Data Summaries
DI-PSSS-81823	Reliability-Centered Maintenance (RCM) Class Maintenance Plan (CMP)
DI-PSSS-81829	Reliability-Centered Maintenance (RCM) Corrective Maintenance (CM) Development Report
DI-SESS-81968	Reliability and Maintainability (R&M) Allocation Report
FED-STD-313	Material Safety Data, Transportation Data, and Disposal Data for Hazardous Materials Furnished to Government Activities
MIL-DTL-24784/23	Illustrated Parts Breakdown (IPB) Requirements
MIL-DTL-38807	Manuals, Technical - Illustrated Parts Breakdown
MIL-HDBK-2097	Acquisition of Support Equipment and Associated Integrated Logistics Support
MIL-HDBK-502A	Product Support Analysis
MIL-HDBK-817	System Development Radiation Hardness Assurance
MIL-HDBK-29612	Guidance for Acquisition of Training Data Products and Service
MIL-PRF-49506	Logistics Management Information (Cancelled)
MIL-STD-1366	Transportability Criteria
MIL-STD-1388-2B	DoD Requirements for a Logistic Support Analysis Record (Cancelled)
MIL-STD-1472	Human Engineering
MIL-STD-1629	Procedures for Performing a Failure Mode, Effects and Criticality Analysis (Cancelled)
MIL-STD-1766	Nuclear Hardness and Survivability Program Requirements for ICBM Weapon Systems
MIL-STD-1839	Calibration and Measurement Requirements
MIL-STD-2073-1	Standard Practice for Military Packaging
MIL-STD-209	Lifting and Tiedown Provisions
MIL-STD-3018	Parts Management
MIL-STD-3023	High-Altitude Electromagnetic Pulse (HEMP) Protection for Military Aircraft
MIL-STD-3031	Army Business Rules for S1000D: International Specification for Technical Publications Utilizing a Common Source Data Base
MIL-STD-3034	Reliability-Centered Maintenance (RCM) Process
MIL-STD-3048	Air Force Business Rules for the Implementation of S1000D
MIL-STD-40051-1	Preparation of Digital Technical Information for Interactive Electronic Technical Manuals (IETMs)
MIL-STD-40051-2	Preparation of Digital Technical Information for Page-Based Technical Manuals (TMs)
MIL-STD-46855	Human Engineering Requirements for Military Systems, Equipment, and Facilities
MIL-STD-882	System Safety
SD-19	Parts Management Guide

UDI-L-21594 Maintenance Plan, Support Equipment, Airborne Systems, Subsystems and Equipment

Available from Air Force Publishing Office, Air Force E-Publishing, Telephone: 202-404-2438, Web Address: <https://www.e-publishing.af.mil/>

AFI 21-113 Air Force Metrology and Calibration (AFMETCAL) Management

AFI 21-118 Improving Air and Space Equipment Reliability and Maintainability

AFI 21-129 Two Level Maintenance and Regional Repair of Air Force Weapon Systems and Equipment

AFI 38-201 Management of Manpower Requirements and Authorizations

AFI 63-101/20-101 Integrated Life Cycle Management

AFI 23-101 Air Force Materiel Management

AFMCI 21-100 Depot Maintenance Management

AFMCI 21-101 Depot Maintenance Activation Planning

AFPD 10-9 Lead Command Designation and Responsibilities for Weapon Systems

AFPD 20-1 Integrated Life Cycle Management

AFPD 21-1 Maintenance of Military Materiel

AFPD 38-2 Manpower

AFPD 90-11 Air Force Strategy, Planning, and Programming Process

Available from Army Publishing Directorate, 9031 Chapek Road, Building 1458, Fort Belvoir, VA 22060-5447, Telephone: 703-614-3727, Web Address: armypubs.army.mil/ContactUs/ContactUs.aspx

AR 70-1 Army Acquisition Policy

AR 71-32 Force Development and Documentation Consolidated Policies

AR 73-1 Test and Evaluation Policy

AR 350-38 Policies and Management for Training Aids, Devices, Simulators, and Simulations

AR 602-2 Human Systems Integration in the System Acquisition Process

AR 700-18 Provisioning of U.S. Army Equipment

AR 700-15/NAVSUST 4030.28F/AFMAN 24-206/MCO 4030.33F/DLAR 4145.7/DCMAR 4145.X Packaging of Materiel

AR 700-127 Integrated Product Support

AR 708-1 Logistics Management Data and Cataloging Procedures for Army Supplies and Equipment

AR 750-1 Army Materiel Maintenance Policy

AR 750-43 Army Test, Measurement, and Diagnostic Equipment

DA PAM 70-3 Army Acquisition Procedures

DA PAM 700-127 Integrated Product Support Procedures

DA PAM 738-751 Functional Users Manual for the Army Maintenance Management System-Aviation.

TB 750-25 Maintenance of Supplies and Equipment Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program

TB 750-93-1 Department of the Army Technical Bulletin Maintenance of Supplies and Equipment Functional Grouping Codes: Combat, Tactical, Support Vehicles, Medical and Special Purpose Equipment.

Available from United States Army Training and Doctrine Command Administrative Publications, Fort Eustis, VA 23604-5000, Telephone: 757-501-6514, Web Address: <https://adminpubs.tradoc.army.mil/>

TP 350-70 Publication Series TRADOC Training Guidance Publications

TRADOC Pamphlet 350-70-13 System Training Integration

Available from Program Manager, Head, Publishing & Logistics Systems Management, HQMC ARDE, Telephone: 703-614-1712 or 1713, Web address: <https://www.marines.mil/News/Publications/>

MCO 4733.1 Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)

MCO 4790.21 Depot Level Source of Repair (DLSOR) Policy

CMC Washington DC L LP (UC) Message 251917Z

Available from Naval Air Systems Command, Logistics and Industrial Operations, Patuxent River, MD 20670, Telephone: 301-342-5292, Web address: <https://www.navair.navy.mil/>

NAVAIR 00-25-403 Guidelines for the Naval Aviation Reliability-Centered Maintenance (RCM) Process

NAVAIR 00-25-406 Maintenance Planning Management Manual

Available from Naval Sea Systems Command, 1333 Isaac Hull Avenue, SE, Washington Navy Yard, DC 20376, Telephone: 202-781-0000, Web Address: <https://www.navsea.navy.mil/Resources/Instructions/>

NAVSEA S0300-B2-MAN-010 Ship Operations Manual

NAVSEA SL150-AA-PRO-010/DMP Operations and Procedures Manual for Contractor Prepared Data

NAVSEA ST000-AG-IDX-010 Test Measurement Diagnostics Equipment (TMDE) Index

NETCINST 1510.4 Job Duty Task Analysis Policy

Available from Department of Navy Issuances, 2000 Navy Pentagon, Washington, DC 20350, Web Address: <https://www.secnav.navy.mil/doni/default.aspx>

OPNAVINST 1000.16 Navy Total Force Manpower Policies and Procedures

OPNAVINST 1500.76 Naval Training Systems Requirements, Acquisition, and Management

OPNAVINST 3960.16 Navy Test, Measurement, and Diagnostic Equipment, Automatic Test Systems, and Metrology and Calibration

OPNAVINST 4790.14 Joint Depot Maintenance Program

OPNAV M-5090.1 Environmental Readiness Program Manual

Available at United States Coast Guard Office of Information Management, US Coast Guard Stop 7710, 2703 Martin Luther King Jr Ave SE, Washington DC 20593-7710, Telephone 202-475-3531, Web Address: <https://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-C4IT-CG-6/The-Office-of-Information-Management-CG-61/About-CG-Directives-System/Commandant-Instruction-Manuals/>

CIM 4105.14 The Coast Guard Integrated Logistics Support (ILS) Manual

CIM 4408.8

Spare Parts Breakout (SPBO) Program

Available from National Aeronautics and Space Administration, 300 E. Street SW, Suite 5R30, Washington, DC 20546,
Telephone: (202) 358-0001, Web Address: <https://www.nasa.gov/>

NASA Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment

Available from National Security Agency, Cybersecurity Directorate, 9800 Savage Road, Suite 6623, Ft. George G.
Meade, MD 20755-6623, Web Address: <https://www.nsa.gov/>

DS-84 Data Standard for the Preparation and Submission of Provisioning Technical Documentation

2.2 Acronyms/Abbreviations

AAL	Additional Authorization List
ACAT	Acquisition Category
AIC	Allowance Item Code
AFI	Air Force Instruction
ALC	Alternate Logistics Support Analysis Control Number
AMC	Acquisition Method Code
AMSC	Acquisition Method Suffix Code
ANL	Annual
AOR	Annual Operating Requirement
AR	Army Regulation
ARA	As Required List A
ARB	As Required List B
ARN	Additional Reference Number
ASIOE	Associated Support Items of Equipment
ATS	Automatic Test Systems
BDAR	Battle Damage Assessment Repair
BIIL	Basic Issue Items List
BIT	Built-in Test
BITE	Built-in Test Equipment
BOIP	Basis of Issue Plan
BOIPFD	Basis of Issue Plan Feeder Data
C&RS	Calibration and Repair Support
CAD	Condemned at Depot
CAGE	Commercial and Government Entity Code
CAL	Calibration
CARD	Cost Analysis Requirements Description
CBD	Condemned Below Depot
CBIL	Common and Bulk Items List
CBM+	Condition Based Maintenance Plus
CDD	Capability Development Document
CDRL	Contract Data Requirements List
CFE	Contractor Furnished Equipment

CFI	Card Format Indicator
CIC	Critical Item Code
CMRSP	Calibration Measurement Requirement Summary Parameter
COEI	Component of End Item
COTS	Commercial off the Shelf
CPC	Concurrent Production Code
CSN	Card Sequence Number
CTIC	Contractor Technical Information Code
DA PAM	Department of the Army Pamphlet
DAC	Document Availability Code
DAG	Defense Acquisition Guidebook
DASD	Deputy Assistant Secretary of Defense
DCN	Design Change Notice
DDCC	Design Data Category Code
DFARS	Defense Federal Acquisition Regulation Supplement
DID	Data Item Description
DLA	Defense Logistics Agency
DLIS	Defense Logistics Agency Logistics Information Services
DMIL	Demilitarization Code
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DMWR	Depot Maintenance Work Requirements
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DoDM	Department of Defense Manual
DOT&E	Director Operational Test and Evaluation
DSOR	Depot Source of Repair
DSP	Defense Standardization Program
DT&E	Development Testing and Evaluation
DTN	Data Type Number
DTS	Defense Transportation System
EBCDIC	Extended Binary Coded Decimal Interchange Code
EC	Essentiality Code
ED	Embedded Diagnostics
EFM	Engineering Failure Mode
EI	End Item
EIAC	End Item Acronym Code
EMP	Electromagnetic Pulse
EP	Embedded Prognostic
ESML	Expendable/Durable Supplies and Materials List
ESOH	Environment, Safety, and Occupational Health

ETM	Electronic Technical Manuals
FCA	Facility Requirement Code
FDC	Facility Drawing Classification
FEP	Failure Effect Probability
FGC	Functional Group Code
FMECA	Failure Mode, Effects, and Criticality Analysis
FMI	Failure Mode Indicator
FMR	Failure Mode Ratio
FPL	Failure Probability Level
FR	Failure Rate
FTA	Fault Tree Analysis
FY	Fiscal Year
GFAE	Government Furnished Aeronautical Equipment
GFE	Government Furnished Equipment
HCI	Hardness Critical Item
HCP	Hardness Critical Procedure
HEMP	High-Altitude Electromagnetic Pulse
HM	Hardness Maintenance
HMMP	Hazardous Material Management Program
HMPC	Hazardous Maintenance Procedure Code
HMTL	Hazardous Materials Target List
HPS	Hardness Protection Subsystem
HQDA	Headquarters, Department of the Army
HS	Hardness Surveillance
HSI	Human System Integration
I/O	Input/Output
IA	Inherent Availability
IAEG	International Aerospace Environmental Group
IC	Indenture Code
ICAPS	Interactive Computer Aided Provisioning System
ICC	Item Category Code
ICTP	Individual and Collective Training Plans
IETM	Interactive Electronic Technical Manuals
ILS	Integrated Logistics Support
IMC	Item Management Code
IPB	Illustrated Parts Breakdown
IRCC	Integrated Logistics Support Requirement Category Code
ISIL	Interim Support Items List
JCIDS	Joint Capabilities Integration and Development System
JDM	Joint Depot Maintenance
LCN	Logistics Support Analysis Control Number

LCSP	Life Cycle Sustainment Plan
LFT&E	Live Fire Test and Evaluation
LIN	Line Item Number
LLTIL	Long Lead Time Items List
LMI	Logistics Management Information
LMP	Logistics Modernization Program
LOG DEMO	Logistics Demonstration
LORA	Level of Repair Analysis
LPD	Logistics Product Data
LRU	Line Replaceable Unit
LSA	Logistics Support Analysis
LVC	Land Vessel Code
MAC	Maintenance Allocation Chart
MAIS	Major Automated Information System
MANPRINT	Manpower and Personnel Integration
MAOT	Maximum Allowable Operating Time
MARC	Manpower Requirements Criteria
MATDEV	Materiel Developer
MB	Measurement Base
MDAP	Major Defense Acquisition Program
M-DEMO	Maintainability Demonstration
METCAL	Metrology and Calibration
MGI	Maintenance Group Identifier
M-H	Man-hours
MIL-HDBK	Military Handbook
MIL-PRF	Military Performance Specifications
MIL-STD	Military Standard
MLF	Maintenance Level Function
M/L	Maintenance Level
MOS	Military Occupational Speciality
MPC	Mission Phase Code
MPT	Manpower, Personnel, and Training
MRR	Maintenance Replacement Rate
MRU	Minimum Replacement Unit
MTA	Maintenance Task Analysis
MT&SE	Maintenance Test and Support Equipment
MTBF	Mean Time Between Failure
MTBM	Mean Time Between Maintenance
MTBPM	Mean Time Between Preventive Maintenance
MTBTMA	Mean Time Between Task Maintenance Actions
MTTR	Mean Time to Repair

NALC	Navy Ammunition Logistic Code
NASA	National Aeronautics and Space Administration
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NAVSUP WSS	Naval Supply Systems Command Weapons Systems Support
NDS	National Defense Stockpile
NEC	Navy Enlisted Code
NET	New Equipment Training
NHA	Next Higher Assembly
NIIN	National Item Identification Number
NIST	National Institute of Standards and Technology
NMWR	National Maintenance Work Requirements
NOFF	Nonoperational Fragility Factor
NRTS	Not Repairable This Station
NSA	National Security Agency
NSN	National Stock Number/NATO Stock Number
NTSP	Navy Training System Plan
O/M	Operations/Maintenance
ODRC	Output Data Request Code
OPI	Operational Procedures Indicator
ORR	Overhaul Replacement Rate
OSD	Office of the Secretary of Defense
PCCN	Provisioning Contract Control Number
PCL	Post Conference List
PD-TMDE	Product Director Test, Measurement, and Diagnostic Equipment
PE	Program Element
PESHE	Programmatic Environment, Safety, and Occupational Health Evaluation
PGC	Parameter Group Code
PHST	Packaging/Preservation, Handling, Storage, and Transportation
PI	Part Indicator
PIC	Priority Indicator Code
PIIN	Procurement Instrument Identification Number
PLCC	Provisioning List Category Code
PLISN	Provisioning List Item Sequence Number
PLT	Production Lead Time
PM	Program Manager
PMAC	Preliminary Maintenance Allocation Chart
PMCS	Preventive Maintenance Checks and Services
PMF	Parts Master File
PMIC	Precious Metal Indicator Code
PMTA	Preventive Maintenance Task Analysis

PPLI	Provisioning Parts List Index
PPSL	Program Parts Selection List
PSA	Product Support Analysis
PSICP	Program Support Inventory Control Point
PSM	Product Support Manager
PSPC	Physical Security Pilferage Code
PTD	Provisioning Technical Documentation
QPA	Quantity per Assembly
QPEI	Quantity per End Item
QQPRI	Qualitative and Quantitative Personnel Requirements Information
QUP	Quantity per Unit Pack
R&M	Reliability and Maintainability
R/S IND	Replaced or Superseding Provisioning List Item Sequence Number Indicator
R/V	Range or Value
RAM	Reliability, Availability, and Maintainability
RCM	Reliability-Centered Maintenance
RCMA	Reliability-Centered Maintenance Analysis
RDC	Reference Designator Code
RDOC	Reference Designation Overflow Code
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
RFP	Request for Proposal
RIL	Repairable Items List
RIP	Remain In Place Indicator
RISS	Recommended Initial System Stock Buy
RMSSL	Recommended Minimum System Stock Level
RNVC	Reference Number Variation Code
RoHS	Restriction of Hazardous Substances
RPSTL	Repair Parts and Special Tools List
RSR	Repair Survival Rate
RTLL	Recommended Tender Load List
SAIP	Service Acquisition Integrated with Production
SCPL	System Configuration Provisioning List
SDDC	Surface Deployment and Distribution Command
SE	Support Equipment
SECL	Support Equipment Candidate List
SEID	Support Equipment Installation Data
SERD	Support Equipment Recommendation Data
SERV DES	Service Designator
SETR	Systems Engineering Technical Reviews
SFPPL	Short Form Provisioning Parts List
SHSC	Safety Hazard Severity Code

SIASCN	Standard Interservice Agency Serial Control Number
SL	Shelf Life
SLAC	Shelf Life Action Code
SMCC	Special Material Content Code
SMIC	Special Maintenance Item Code
SMR	Source, Maintenance, and Recoverability Code
SOW	Statement of Work
SPI	Special Packaging Instructions
SPIIN	Supplementary Procurement Instruction Identification Number
SRA	Shop Replacement Assemblies
SSC	Skill Specialty Code
SSI	Special Stockage Indicator
STTE	Special Tools and Test Equipment
T&E	Test and Evaluation
TADSS	Training Aids, Devices, Simulators, and Simulations
TA-HB	TechAmerica Handbook
TAR ACT	Test Accuracy Ratio Actual
TAR DES	Test Accuracy Ratio Desired
TA-STD	TechAmerica Standard
TD	Technical Data
TDM-Catalyst	Technical Data Management-Catalyst
TDP	Technical Data Package
TEA	Transportation Engineering Agency
TEC	Type Equipment Code
TEMP	Test and Evaluation Master Plan
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TMFGC	Technical Manual Functional Group Code
TNGDEV	Training Developers
TOCC	Type of Change Code
TRADOC	U.S. Army Training and Doctrine Command
TRD	Test Requirements Document
TRN EQP	Training Equipment Requirements Code
TRN REC	Training Recommendations Type
TTEL	Tool and Test Equipment List
TUC	Type of Price Code
UM	Unit of Measure
UOC	Usable On Code
USAF	U.S. Air Force
USAFMSA	U.S. Army Force Management Support Agency
USAPSL	U.S. Army Primary Standards Laboratory

USATA	U.S. Army Test, Measurement, and Diagnostic Equipment Activity
USC	United States Code
USD(AT&L)	Under Secretary of Defense (for Acquisition, Technology, and Logistics)
USER	Using Service Designator Code
UUT	Unit Under Test
W/P	Wartime/Peacetime
WG	Wage Grade
WRA	Weapons Replacement Assemblies
WUC	Work Unit Code
ZLIN	Z (Development) Line Item Number

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3. GENERAL REQUIREMENTS

3.1 Introduction

SAE TA-HB-0007-1A, Logistics Product Data (LPD) Summaries (i.e., Reports) Handbook describes the processes required for generating recommended Product Support Analysis summaries. The entities, data attributes, and element definitions for the data listed on the summaries are prescribed in Appendix A of SAE GEIA-STD-0007C. The LPD summaries and their layouts, selection options and data development requirements for each summary are described in this document. Summary generation can be accomplished via manual process or via software. The latter approach is recommended since software is available on the market that meets the requirements for each of the summaries in this handbook.

Each summary is defined by selection options, processing, format, summary sequence, and data sources. The selection options paragraph identifies recommended mandatory and optional selections that can be made by the user to tailor the summary content. The processing paragraph identifies qualifying criteria for summary data, summary calculations, and specific instructions regarding how the data should be presented on the summary. Each summary has a sample summary showing its format. Summary sequences specify the sort criteria for a given summary, and each Part/Section within a summary. There is an attached listing of data sources for the elements that are on a summary. The listing provides the summary header for each element and its SAE GEIA-STD-0007C data element/attribute, along with the appropriate entity. The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets []. The LCN Nomenclature column of the summary allows for 42 positions (1st row: 18 positions, 2nd row: 18 positions, 3rd row: 6 positions). The Task Identification column of the summary allows for 36 positions (1st row: 18 positions, 2nd row: 18 positions).

3.2 Contracting for the Summaries

In each functional area/systems engineering discipline there are specific deliverable products required for a given contractual phase. Specific summaries can be used to either satisfy completely or provide source information to the generation of these deliverable products. For example, provisioning technical documentation (PTD) is normally required at the end of engineering development and manufacturing. The LSA-036 summary satisfies the requirement for this product from the Logistics Product Data (LPD) data repository. This section addresses the products by functional area that are normally required, the LPD summary that can satisfy or provide source information for development of the product and the Data Item Descriptions (DID) and documents associated with the product. Knowing which summaries are required is a key step in determining which data elements are required.

The U.S. Department of Defense (DoD) can contract for each summary using DI-SESS-81759, Logistics Product Data Summaries. It is highly recommended that the data also be delivered at least at the end of contract.

Cancelled DIDs cannot be referenced as they are not contractually enforceable. Cancelled DIDs are only used as examples and reference material.

3.2.1 Tailoring

Tailoring is a very important aspect of developing and purchasing necessary data and summaries. The goal of tailoring is to determine the most appropriate data and the timing at which the data and summaries should be delivered. This handbook was developed with tailoring in mind. Every program should assess the Product Support Analysis (PSA) scheduled to be accomplished during each phase of a program and the need for a particular summary down to the data elements on that summary.

Within the context of this handbook, there are several sections to assist the user in tailoring summaries. Table D1 associates each summary to the applicable IPS elements as defined in DoDI 5000. This table also indicates whether or not a summary is typically delivered, either as a formatted summary along with the data or as a data delivery only. The table should be used for guidance and does not dictate whether or not a program should require delivery of a particular summary.

The Tailoring section within each summary specification provides guidance for who, what, how, when, and why; who typically requires delivery of this summary or data, what the data represents (functional area, processes in which the data is used), how the data is developed (which activities or process), when the data or summary is typically developed and/or delivered, and why the user might want or need this data or summary.

The Data Element Requirement column in the Data Sources Table indicates whether the subject data element is required or optional. The required data elements are identified as a recommended minimum data set, which represents the set of data elements that are necessary in order to adhere to the processing instructions and business rules for each LSA summary, enforce data integrity, and preserve data relationships. In most cases, additional data elements (marked "optional," or left blank) will be necessary in order to provide any useful content within the report. Many of the elements marked "optional" include additional comments that suggest a possible motivation for selecting the subject data element, such as ensuring data clarification, adhering to service-specific business rules, or identifying the usage of the data element in other processes or downstream data repositories. Selection of optional data elements should be evaluated carefully during the contracting process to ensure that program process requirements are met, while at the same time balancing any cost factors related to the production, delivery and maintenance of the optional data elements. SAE does not endorse the selection of any particular set of Data Elements

3.2.2 Summary Deliverables

Within each functional area/systems engineering discipline there are specific deliverable products required for a given contractual phase. Specific summaries can be used to either satisfy completely or provide source information to the generation of these deliverable products. For example, provisioning technical documentation is normally required at the end of engineering development and manufacturing. The LSA-036 summary satisfies this requirement. This section addresses the products by functional area that are normally required, the summary that can satisfy or provide source information for development of the product, and the Data Item Descriptions (DID) and documents associated with the product. Determining which summaries are required is a key step in determining which LPD data elements are required.

Reliability, Failure Mode, Effects, and Criticality Analysis (FMECA), and RCM. The LSA-050, Reliability-Centered Maintenance (RCM) summary, can be used as source data for a final RCM summary. This will satisfy Military Standard (MIL-STD)-3034 and Naval Air System Command (NAVAIR) 00-25-403 Guidelines for the Naval Aviation Reliability-Centered Maintenance (RCM) Process. The RCM summary identifies preventive maintenance tasks by evaluating maintenance required for an item by its reliability characteristics. This summary can be used to identify the results or effects of a potential failure on the system. The LSA-058, Reliability and Maintainability Analysis Summary, can be used as source information for any type of Reliability and Maintainability. It also can be used as a quick overview of most of the R&M type information.

Maintenance Planning. The LSA-004 summary, also known as the Maintenance Allocation Chart (MAC), provides man-hour allocations by maintenance function and level. Also included in the MAC are the tools and test equipment required by the task function and maintenance level (M/L). The summary identifies tools and equipment by maintenance levels needed to perform the maintenance functions, and to validate Source, Maintenance, and Recoverability (SMR) Codes for spares and repair parts. The LSA-023, Maintenance Plan Summary, satisfies the requirements for an U.S. Air Force (USAF) maintenance plan. The summary compares the requirements for a system end item to the Reliability, Availability, and Maintainability (RAM) characteristics. It identifies the preventive and corrective maintenance actions along with a listing of required support equipment (SE) for those maintenance actions. The LSA-024, Maintenance Plan, satisfies the requirements for an U.S. Navy maintenance plan. The summary identifies general considerations, the required repair capabilities, and maintenance tasks needed for the item under analysis. The LSA-033, Preventive Maintenance Checks and Services Summary, can be used as a starting point for maintenance operations. These summaries provide operator/crew and organizational level preventive maintenance task identification, description, and whether or not the equipment has full mission capability during the maintenance action.

Technical Data (TD) and Manuals. Appendix B of U.S. Army TMs will include the Maintenance Allocation Chart (MAC), the LSA-004 summary. The LSA-019, Task Analysis Summary, is task narrative data and has multiple options for selecting that summary. The summary can be selected by maintenance level, item category code (ICC), task narrative, hardness critical procedures, task interval, and task function. It serves as feeder data to operators' and maintainers' Technical Manuals (TM). The LSA-030, Indentured Parts List, summary can be used for developing parts manuals. It serves as source information for the Repair Parts and Special Tools List (RPSTL) for the U.S. Army, the Illustrated Parts Breakdown (IPB) for the U.S. Air Force and the Stockage List Type Four for the U.S. Marine Corps. These three products are part of the LSA-030 summary and need to be specified when asking for the LSA-030 summary. The LSA-033 summary will satisfy the requirements to develop an operator/crew and organizational level Preventive Maintenance Checks and Services (PMCS) TM. The LSA-040, Authorization List Items Summary, comprises the Authorization List Items Summary which includes sections listing end item components, basic issue items, additional authorization items, and expendable/durable supplies and materials. The Component of End Item (COEI) List, Basic Issue Items (BII) List, Additional Authorization List (AAL), and Expendable/Durable Supplies and Materials List (ESML) are also used as source data for TM development. Those four lists and the U.S. Marine Corps Stockage List Type Three are contained in the LSA-040 summary. Most of the above summaries can also serve as source data for MIL-STD-40051-1, Preparation of Digital Technical Information for Interactive Electronic Technical Manuals (IETMs), and MIL-STD-40051-2, Preparation of Digital Technical Information for Page-Based Technical Manuals (TMs). In the case of the latter, typically only formatting changes are required. MIL-STD-40051-1 and MIL-STD-40051-2 provide additional information on the Preparation of Digital Technical Information for Interactive Electronic and Page-Based Technical Manuals. sections listing end item components, basic issue items, additional authorization items,

and expendable/durable supplies and materials. The Component of End Item (COEI) List, Basic Issue Items (BII) List, Additional Authorization List (AAL), and Expendable/Durable Supplies and Materials List (ESML) are also used as source data for TM development. Those four lists and the U.S. Marine Corps Stockage List Type Three are contained in the LSA-040 summary. Appendix B of U.S. Army TMs will include the Maintenance Allocation Chart (MAC), the LSA-004 summary. The LSA-033 summary will satisfy the requirements to develop an operator/crew and organizational level PMCS TM. MIL-STD-40051-1 and MIL-STD-40051-2 provide additional information on the Preparation of Digital Technical Information for Page-Based Technical Manuals.

Support and Test Equipment. These summaries are used when developing pieces of support equipment. The Support Equipment Recommendation Data (SERD) summary, LSA-070, describes requirements for a piece of support equipment. The LSA-071, Support Equipment Candidate List (SECL), provides a list of support equipment requirements by active and disapproved candidates. The LSA-074 summary, Support Equipment Tool List, provides a list of tools currently in the inventory and tools that are not in the inventory, but need to be developed. These three summaries satisfy the requirement established by Military Handbook (MIL-HDBK)-2097. When a piece of support equipment needs to be registered in the U.S. Army inventory, use the LSA-072 summary, Test, Measurement, and Diagnostic Equipment (TMDE) Requirements. To satisfy MIL-STD-1839, Calibration and Measurement Requirements, use the LSA-076 summary, Calibration Measurement and Requirement Summary (CMRS). This summary provides details of the TMDE and its calibration procedures.

Supply Support. The LSA-036 Provisioning Requirements Summary provides the Logistics Product Data necessary to review, catalog and procure the initial range and depth of parts for supply support. Life cycle cost reductions and operational readiness of systems is enhanced through parts standardization, as emphasized in MIL-HDBK-502A. Parts selection during the engineering design effort will have the most impact on standardization and supply support. Screening parts against the Defense Logistics Agency Federal Logistics Information System (FLIS) improves supply support by identifying parts with existing National Stock Numbers (NSNs) currently being managed in the DoD system. The LSA-032 Defense Logistics Agency Logistics Information Services Provisioning Screening Summary is used to screen parts for NSNs and update logistics product data software accordingly. The NSN data from the LSA-032 is used to update the LSA-036 Summary and other PTD such as the proof RPSTL and Authorization Lists. The LSA-036 Summary is used to produce the following provisioning lists: Provisioning Parts List (PPL); Long Lead Time Items List (LLTIL); Repairable Items List (RIL); Interim Support Items List (ISIL); Tool and Test Equipment List (TTEL); Common and Bulk Items List (CBIL); Design Change Notices (DCN); System Configuration Provisioning List (SCPL); Short Form Provisioning Parts List (SFPPL); and Post Conference List (PCL). The LSA-080, Bill of Materials, LSA-151, Provisioning Parts List Index (PPLI), and LSA-155, Recommended Spare Parts List for Service Acquisition Integrated with Production (SAIP) Parts are used to assist in Supply Support.

Manpower, Personnel, and Training (MPT). The following reports are used for identifying manpower, personnel, and training considerations. In the area of MPT the LSA-019 summary can be used as feeder data to the task skill analysis. The LSA-018 summary can be used to develop a task inventory list. This summary should be used when there is a need for the development of human systems integration type task analysis. The LSA-014, Training Task List, summary should be requested when a training task list is required. This summary will satisfy the requirements of Military Performance Specifications (MIL-HDBK-29612). The U.S. Army's LSA-065, the Manpower Requirements Criteria (MARC), will satisfy the requirements for a MARC summary. The LSA-075, Manpower, Personnel and Training, can be used as the Manpower and Personnel Integration (MANPRINT) summary.

Facilities. In the area of facilities, the LSA-012, Facility Requirement, summary can be used to identify the facilities needed to perform maintenance tasks and training. This summary can be used by the services to develop their service peculiar facility requirements. The LSA-077, Depot Maintenance Interservice Data Summary, should be used when there is a need for a Joint Depot Maintenance (JDM) facility.

Packaging, Handling, Storage, and Transportability (PHS&T). The LSA-025, Packaging Requirements Data summary and the LSA-026, Packaging Developmental Data summary are used to identify requirements for packaging developmental data and packaging requirements data identified in MIL-STD-2073-1. Special Packaging Instructions (SPI) are required to be developed when packaging cannot be developed using packaging requirements data identified in the decision chart of MIL-STD-2073-1. The packaging data is then captured in the SPI. When an LSA-025 summary has a SPI identified, DI-PACK-80121 will be a contract CDRL deliverable along with the LSA-025 and LSA-026 in the format required by the DoD Service Agency Packaging Activity. Refer to requirements for SPI and additional packaging requirements in MIL-STD-2073-1. The Transportability Summary, LSA-085, provides information critical to the shipping and transport of major end items of equipment. It includes environmental and hazardous material information necessary for safe transport of an item by air, highway, rail, and sea.

Hazardous Materials. The LSA-078 satisfies the DoDI 5000.88 and DoDI 5000.91 requirement to identify all hazardous materials associated with a system. The data identifies hazardous materials inherent in the design of the end item and hazardous materials required for operations and maintenance.

3.2.2.1 Provisioning Related Summaries

This section contains the provisioning related summaries that facilitate the development of the provisioning technical documentation that is normally submitted to DoD agencies as part of the initial and follow-on provisioning process. The following summaries contained in this handbook support the provisioning process. An overview of their use in the provisioning process is provided.

The MAC (LSA-004) identifies the maintenance task functions and associated maintenance man-hours (M-H), maintenance-level allocations, tool and test equipment requirements, and other remarks. The MAC will appear as Appendix B to Crew/Maintainer level maintenance manuals for the U.S. Army. While the MAC is a U.S. Army-oriented summary, the U.S. Air Force uses the LSA-023, Maintenance Plan Summary, and the U.S. Navy/U.S. Marine Corps uses the LSA-024, Maintenance Plan, as the primary planning, analysis, and review tools for maintenance requirements. The summaries contain the maintenance concept for each reparable or maintenance significant item. The support item requirements portion of the task analysis, i.e., Entity CG serves as a baseline for determination of the Source Maintenance and Recoverability Code. The third position of the Source Maintenance and Recoverability Code provides authorization for requisition and stockage of an item. The Source Maintenance and Recoverability Code is provided to the user in the field in the RPSTL or -P (parts) manual. The Source Maintenance and Recoverability Code and other provisioning related data elements, i.e., Replacement Task Distribution Type, Repair Cycle Time Type, Maintenance Task Distribution Type, Maintenance Replacement Rate (MRR) I, Maintenance Replacement Rate II, and Maintenance Replacement Rate Modifier are used for determination of initial spares and repair requirements.

The Support Items List (LSA-009) allows simplified review of all repair parts, tool and test equipment necessary to support the system or piece of equipment. This is a useful summary due to the ability to review by National Stock Number, provisioning technical documentation list, and Item Category Code, and can be sorted by Logistics Support Analysis Control Number (LCN) or Reference Number.

The RPSTL, or illustrated parts breakdown manual, contains lists of repair parts and special tools and illustrations of the parts and tools peculiar to the end item. The RPSTL manual format includes a table of contents, a tabular listing of authorized spare/repair parts, a listing of special tools and support equipment, illustrations that show all spare/repair parts and special tools and support equipment, and part number/National Stock Number (NSN) to figure and item number indexes. The LSA-030 summary can be used as a comparative baseline for ensuring these listings and indexes are built accurately.

The Defense Logistics Agency (DLA) Logistics Information Services Provisioning Screening Summary (LSA-032) is used to screen the Federal Logistics Information System (FLIS) for existing National Stock Numbers (NSNs) that match reference numbers associated with the system being provisioned. The information returned from the screening process is used to update logistics product data software to populate the NSNs data fields in various PTD summaries such as the proof RPSTL and Authorization Lists.

The LSA-036, PTD is used by the customer for the identification, selection and determination of initial requirements and cataloging of support items to be procured through the provisioning process. The various types of provisioning lists are automatically produced using the SAE GEIA-STD-0007C style sheet process or logistics product data software or Logistics Support Analysis (LSA) Record software. The LSA-036, PTD is generic term for any of the Provisioning List, LLTIL, PPL, RIL, etc. Each service uses the LSA-036 text file for receipt of PTD as inputs to their in-house provisioning ADP system.

The Authorization List Items summary (LSA-040) contains four categories of items which are published in the Crew/Maintainer Technical Manual. These are (1) components of end item, (2) basic issue items list, (3) additional authorization list, and (4) expendable durable supplies and materials list. The items placed into the four categories are identified within the provisioning data.

The LSA-068 summary displays a comparison of the Replacement and Repair Task Codes (first position), and displays the Source, Maintenance, and Recoverability (SMR) Code to validate this critical provisioning data. Basic Task information (Entity CA) is displayed followed by the associated Entity CI Provisioned Items for each task. The summary then displays the associated provisioned item's Source Maintenance and Recoverability Code for easy comparison with the maintenance level of the Task Code (third position).

The LSA-080 summary provides a detailed analysis of the provisioning data. The Bill of Materials Summary, Part I, identifies assembly level items, and a one indenture lower listing of the spare/repair parts that comprise the assembly. The LSA-080 summary can be used to check for completeness of the provisioning data against assembly drawings and may also be useful for RPSTL data development. The summary is sequenced by the assembly level Reference Number, so that it can track with a drawing package provided in drawing number sequence. Basic data related to the development of a properly structured provisioning parts list is also displayed. An LSA-80 summary should accompany an LSA-036 summary when performing an LSA/Logistics Product Data Provisioning Review.

The LSA-151, Provisioning Parts List Index (PPLI) provides a cross reference between Reference Numbers and the applicable Provisioning List Item Sequence Number (PLISN) of the provisioning list. It provides a reference of usage and location within the provisioning list by LCN for a given Reference Number. It will also show all items that have been deleted

against a System End Item Provisioning Contract Control Number (PCCN) but still remain in the parts application data [an Entity HG "D" Type of Change Code (TOCC) entry].

The LSA-152, PLISN Assignment/Reassignment Summary provides a listing, by Reference Number, of PLISN, Indenture Code (IC), NHA PLISN, and Prior Item PLISN, assigned by SAE GEIA-STD-0007C compliant software, based on user input parameters. The summary will depict the file content before and after the assignments or reassignments are made [PLISNs are assigned using the Extended Binary Coded Decimal Interchange Code (EBCDIC) collating sequence]. As an option, this summary can be used to assign provisioning related control and reference data.

It is necessary that the data be properly structured using either a uniform (i.e., unbroken) LCN Structure when applying the classical or modified classical LCN assignment technique. When applying the sequential LCN assignment technique, the indenture code must be consistently applied to avoid a break in the LCN structure. Using the LSA-080, Bill of Materials Summary, the analyst can review the file for correct structure, or use the detect error conditions to ensure a correct file structure. This summary should be developed prior to the development of the LSA-036, PTD summary in order to ensure the key fields of the LSA-036 summary are correct and properly assigned.

3.3 Standard Summary Generation

3.3.1 Common Selection Criteria

For a majority of the summaries there are eight common selections. These common selections are End Item Acronym Code (EIAC), Logistics Support Analysis Control Number (LCN), Alternate Logistics Support Analysis Control Number (ALC), Logistics Support Analysis Control Number Type, Usable On Code (UOC), Service Designator (SERV DES) Code (Task Code, fourth position), Operations and Maintenance Level Code, and Item Category Code (ICC).

The handbook primarily uses Refrigeration Unit for the EIAC in the summaries, however there are other examples found throughout the handbook. Other end items were required to be able to generate specific summaries.

LCN selections must specify an EIAC parameter.

LCN selections may have both a Start and a Stop LCN. If a Start and Stop LCN are selected then it will include all LCNs that fall within that range of LCNs selected, unless Start and Stop are equal then only a single LCN will be included. If a Start LCN is selected but not a Stop LCN then only the Start LCN and LCNs following it sequentially will be included. For selections from the "A", "B", "C", "F", "G", and "J" entities which may have data under combinations of functional and physical LCNs, the following selection criteria applies.

If the summary selection specifies a LCN Type of "F", an attempt to match each qualified LCN to Entity XG functional/physical LCN mapping entity is first performed. If a match is found in this entity, then summary data is extracted under the physical LCN equivalent if said data exists. However, if the functional data has not yet been migrated (copied) to the physical LCN, data from the functional LCN is extracted instead. Regardless, the functional LCN is displayed on the summary. If no match for a functional LCN is found in Entity XG, then the search for the summary data for the non-matched LCN is conducted using the functional LCN value directly.

If the summary selection specifies a "P" LCN Type, the search for summary data is conducted directly under the appropriate entities for summary generation. It will not be necessary to search Entity XG for functional equivalent LCNs.

When a selection is made with a specific ALC, only items matching the selected ALC are displayed. If the ALC is left blank on a selection, then other summary qualifiers are used.

The UOC is mandatory for most summaries and is used to identify specific model(s) of the end item. It is used to identify the model/configuration relationship of each LCN comprising a system/equipment and to control these relationships for summary creation. In accordance with (IAW) Entity XC, each configuration/model is assigned a unique UOC at the system/end item level LCN. Each individual assembly/component/piece part is also "linked" to the assigned UOC of the model of which it is applicable through Entities XF and HO. When an assembly/component/piece part is applicable to more than one configuration/model, then multiple UOCs are "linked" to the component for a single LCN and ALC via Entities XF and HO. This eliminates the requirement of duplicating analysis and related data, merely because an item has application to multiple configurations/models. A common source of report errors is the unintended omission of XF and/or HO data.

For selections, choosing a Service Designator Code of A, F, N, or M results in the selection of the matched Service Designator Codes and X and J codes. Choosing code T results in selection of T and J. Choosing X, J, S, or O results in only those codes being selected. Service Designator Codes and descriptions are shown in Table 1.

Table 1 – Service Designator Codes

Code	Description	Code	Description
A	ARMY	T	FAA
N	NAVY	S	National Security Agency
F	AIR FORCE	Y	COAST GUARD
M	MARINES	J	FAA/All Military
X	ALL SERV	O	OTHER

The Operations and Maintenance Level Code will interpret the third position of the Task Code to produce the requested summary. Refer to SAE GEIA-STD-0007C for allowable codes.

The default value for selectable Item Category Codes is all applicable Item Category Codes. Each summary description will denote allowable Item Category Codes. If Item Category Codes are selectable but not denoted for the summary, then all Item Category Codes defined in SAE GEIA-STD-0007C are allowed.

3.3.2 Subordinate LCN/ALC

Subordinate LCN/ALC selections can be of use when multiple configurations, or alternate design and maintenance concepts have been included as part of the logistics product data for an equipment. The ALC specified for the subordinate selection(s) for any LCN within the LCN range overrides the basic ALC selection. The output summary will include the alternate assembly(s) requested including its subordinate items, if applicable. Once the alternate assembly and their breakdown have been selected, the process will revert to the configuration and LCN range specified on the basic selection. For example, if the basic selection is LCN = A, ALC = 00, no Stop LCN (implies a Stop LCN of AZZZZZZZZZZZZZZZZZZ) with subordinate LCN/ALC selections of A0102/01, A010207/02, and A04/01, results from the LCN/ALCs shown in Table 2 would be output on the report.

Table 2 – LCN/ALC codes

LCN (From)	LCN (To)	ALC
A	A0101ZZZZZZZZZZZZZZZZZZ	00
A0102	A010206ZZZZZZZZZZZZZZZZ	01
A010207	A010207ZZZZZZZZZZZZZZZZ	02
A010208	A0102ZZZZZZZZZZZZZZZZZZ	01
A0103	A03ZZZZZZZZZZZZZZZZZZZZ	00
A04	A04ZZZZZZZZZZZZZZZZZZZZ	01
A05	AZZZZZZZZZZZZZZZZZZZZZZ	00

3.3.3 Task Referencing or Subtask Referencing

Entity CA in SAE GEIA-STD-0007C allows for referencing of tasks and their related information. To reference a task, a user will input the "Referenced" EIAC, LCN, ALC, LCN Type and Task Code following the Entity CA key set (or "Referencing" keys). As SAE GEIA-STD-0007C denotes, this task referencing capability should only be utilized when the data of Entity CA and subordinate Entities CB to CI, CK, CL, CR, CS, CT, CV, and CW are identical for the referenced and referencing tasks. All non-key attributes in Entity CA and all data in subordinate entities will be used from the Referenced Task and its subordinate entities. Therefore, only key entries, referenced task entries, and mandatory element entries (Task Identification and Task Frequency) are required in Entity CA, and no further entries are required in the subordinate Entities.

Subtask referencing is similar to task referencing. The subtask referencing capability should only be used when the data of this entity and its subordinate entities (Entities CD, CR, and CS) are the same for referenced and referencing subtasks. All non-mandatory attributes in Entity CB and all subordinate entities are pulled from the Referenced Subtask and its subordinate entities.

When utilizing task or subtask referencing, two cautions should be followed. First, many software systems allow only one tier of referencing for tasks and subtasks. In other words, task A can reference task B as long as task B does not reference task C. If task B does reference task C, then task A must reference task C instead of task B. Second, in any summaries dealing with task information and related calculations, software systems must utilize referenced task and subtask information for summary outputs.

In any summaries dealing with task information and related calculations, software systems should utilize referenced task and subtask information for summary outputs with the exception of the non-subordinate information described above.

3.3.4 Use of Task Resource Entities (CG, CI, CR, and CS)

Entities CR (Subtask Support Equipment Data) and CS (Subtask Provisioned Item Data) were added in the SAE GEIA-STD-0007B. However, the standard does not provide any business rules for the use of CG, CI, CR, and CS entities with possible duplication of resources at the task and subtask levels respectively. Several summaries in this handbook use the data from the CG and CI entities and this section provides generic guidance for any program that desires to use the CR and CS entities in the Maintenance Task Analysis (MTA) process.

The affected summaries include LSA-005, LSA-012, LSA-023, LSA-024, LSA-027, and LSA-078.

Summaries that summarize the quantity of support equipment resources shall use the maximum quantity defined for the same support equipment across all CR occurrences for the task. If the same SE exists in CG, then the greater of quantities between CR and CG shall be used.

Summaries that report quantities of provisioned parts used for a task shall roll up each CS provisioned item quantity across all subtasks. If the same part exists in the CI entity, then its quantity shall be added to the sum of CS quantities.

Summaries that display the resources without quantities shall display a single occurrence for each support equipment and/or provisioned item despite the possibility that it may appear in multiple entities (CG, CI, CR, and CS). For detailed processing logic, refer to appropriate sections of the summaries defined in APPENDIX D – LOGIC TABLES.

3.3.5 Including Digital File Data in Summaries

Entity XT provides the ability to store Digital File Data, which can be applied to multiple functional areas in the logistics product database through the use of various cross mapping Entities. Many of the summaries contained within this handbook may be augmented with graphics or other types of rich media that have been stored in Entity XT and mapped to an Entity related to one of the Entities found in the Data Sources section of each individual report. There are different ways in which rich media may be represented in the summary, some of which may be dependent upon the desired output format. For example, output printed on paper could include a reasonable representation of a static graphic, but to represent a video would require some type of external reference. More modern output formats may be able to include fully embedded video, CGM graphics, external links, and the like.

Every effort has been made to identify logical options for including rich media within each summary, provide guidance on which entity data sources would be applicable thereto in the summary's data sources section, and display suggested methods of representing the rich media in the recommended format section.

Because of the diverse nature of the various types of rich media and the non-restrictive nature of Entity XT, the reader is encouraged to explore additional uses of rich media in the summaries, and alternate representations thereof in the summary outputs, in ways that interested parties agree are best suited for the business solution under analysis. Given this flexibility, it is expected that this exploration process may result in the inclusion of rich media content in the summaries that deviates from the data sources and formats shown in the summary specifications of this handbook.

4. SUMMARIES SPECIFICATIONS

4.1 Annual Man Hours by Skill Specialty Code and Level of Maintenance (LSA-001)

4.1.1 Introduction

The LSA-001, Annual Man Hours by Skill Specialty Code (SSC) and maintenance level (M/L) of Task Code (third position), summarizes the training and personnel requirements identified for each maintenance task. It provides the analyst with a one or two-page summary of the total Operations and Maintenance man-hours required to support the weapon system. This data can be used to assess the new system impact on field/depot manpower by Military Occupational Specialty (MOS)/Wage Grade (WG)/Navy Enlisted Code (NEC). The LSA-001 also provides the analyst with a summary of all tasks requiring a given MOS/WG/NEC. Additionally, the summary displays a report of skill levels required, as well as any requirement for special training equipment to acquire the skill to perform the task.

For the U.S. Army, a Basis of Issue Plan (BOIP) is required by Army Regulation (AR) 71-32. This report provides input for the Basis of Issue Plan Feeder Data (BOIPFD). Detailed information on BOIPFD can be found in Department of the Army Pamphlet (DA PAM) 700-27.

4.1.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. The Program Manager (PM) will, in conjunction with designated DoD Component Human System Integration (HSI) staff, define the human performance characteristics of the user population based on the system description, projected characteristics of target occupational specialties, and recruitment and retention trends. The PM will also develop complete resource estimates for Test and Evaluation (T&E) [(Defense Acquisition Guidebook (DAG) CH 8—3.6.1] to include: test articles, test sites and instrumentation, test support equipment, threat representations and simulations, test targets and expendables, support for operational forces used in test (both friendly and threat), models and simulations, testbeds, joint mission environment, distributed test networks, funding, manpower and personnel, training, federal/state/local requirements, range requirements, and any special requirements (e.g., explosive ordnance disposal requirements or corrosion prevention and control).
- DoDI 7041.04 and DoDI 5000.73. Manpower data is used in developing cost estimates for Economic Analysis beginning with Milestone A as required in the Cost Analysis Requirements Description (CARD).
- SAE TA-STD-0017A, and MIL-HDBK-502A. The following activities are applicable: Activity B.3, Comparative Analysis and Activity D.1, Task Analysis.
- Director Operational Test and Evaluation (DOT&E) and Test and Evaluation Master Plan (TEMP) Guidebook. Manpower/personnel and training requirements and limitations are identified in the Resource Summary section of the TEMP. Manpower/Personnel and Training; Require programs to specify manpower/personnel and training requirements and limitations that affect test and evaluation execution, and identify how much training will be conducted with modeling and simulation.
- Product Support Manager (PSM) Guidebook. Indicates the Life Cycle Sustainment Plan (LCSP) should be written and approved, to include supply chain performance requirements, manpower, information technology infrastructure, support equipment plans, logistics risks and mitigation plans, support strategies, and product support arrangement strategies. The LCSP development begins at Milestone A and is mature at Milestone C. The LCSP is then reviewed by the Component Acquisition Executive (CAE) at least every five years after a system's Initial Operational Capability.

4.1.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. The formatted summary is often delivered as part of a contractual requirement. The data or summary may be delivered IAW DI-SESS-81758, Logistics Product Data/DI-SESS-81759, Logistics Product Data Summaries via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

What: LSA-001 summarizes the training and personnel requirements identified for each maintenance task. The summary also displays any requirement for special training equipment to acquire the skill to perform the task.

When: During development, this summary should be used as an analysis tool to assess the new system's impact on field/depot manpower by MOS/WG/NEC.

How: Estimated data can be derived from previous like systems through SAE TA-STD-0017A, Activity B.3, Comparative Analysis. The mature data for this summary is an output of Task Analysis per Activity D.1. Task analysis is an iterative

process throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Manpower requirements are required to be documented in the TEMP. A draft update is due for the Development Request for Proposal (RFP) Release Decision Point and approved at Milestone B. Additionally, the data in the LSA-001 summary is used as input into Manpower mix data, as required in Economic Analyses. Manpower mix data is used to support workforce mix decisions. Costing tools, including DoDI 7041.04, account for fully loaded costs (i.e., all variable and fixed costs, compensation and non-compensation costs, current and deferred benefits, and cash and in-kind benefits) approved by the DoD Component manpower authority.

For the U.S. Army, the data is the BOIPFD that is used to develop the Basis of Issue Plan (BOIP). The BOIPFD is a compilation of information about a new or improved item of equipment. It contains functions, capabilities, intended use, initial cost estimate, basis of issue, personnel, and support requirements. The developer summarizes information obtained from valid requirements documents and applicable information obtained from the product/project manager. The materiel developer (MATDEV) prepares and submits the BOIPFD to initiate BOIP development. As the system matures, the MATDEV may amend the feeder data. BOIPFD will be prepared by the MATDEV upon receipt of an approved Capability Development Document (CDD) and approved Milestone B decision. BOIPFD will be prepared by the MATDEV and forwarded to U.S. Army Force Management Support Agency (USAFMSA) within 60 days of the assignment of Line Item Number (LIN) for developmental items and within 30 days for NDI. A BOIP is a requirements document that states the planned placement of quantities of new equipment and associated support items of equipment (ASIOE) and personnel, as well as the reciprocal displacement of equipment and personnel. MATDEVs use BOIPs as input for concept studies, life cycle cost estimates, and trade-off analyses during the research and development process.

4.1.4 Scope

The summary is divided into two parts. It is used to determine manpower requirements of the system/equipment, and to determine the time required and number of personnel, by Skill Specialty Code, and Subtask Person Identifier to perform each task. Part I contains a summary of annual man-hour expenditures by maintenance levels (i.e., Task Code, third position) and Skill Specialty Code. Man-hour totals are based on the Number of Systems Supported by maintenance level. Part II contains a summary of the man-hours, by Subtask Person Identifier, expended on each maintenance task.

4.1.5 Selection

Mandatory: EIAC, Start LCN, LCN Type, UOC, and Service Designator Code

Optional: ALC, Stop LCN, Skill Specialty Code, Skill Specialty Evaluation Code, Number of Systems Supported per maintenance level (Default = 1), Display Option (Part I, Part II) and Skill Specialty Code Description Option

4.1.6 Processing/Business Rules

The same qualifying criteria is used for both Parts I and II. Task Codes are qualified by matching on selected Service Designator Code (Task Code, fourth position). Qualified tasks must have an entry in Entity CD with a valid Subtask Mean Man-minutes per Subtask Person Identifier over the range of selected LCNs.

It is possible to select only Part I of the summary. If Part II is selected, Part I will also be displayed. If a selection is made by Skill Specialty Code, then both Parts I and II will be generated.

Part I Man-Hour Summary MAN-HOURS (M-H) is computed by summing all Total Annual Man-Hours [TOTAL ANNUAL (ANL) M-H] for a given Subtask Person Identifier, Skill Specialty Code (or New or Modified Skill Specialty Code) and maintenance level of the Task Code, third position.

Part I TOTAL NUMBER OF MAINTENANCE TASKS is computed by summing each qualified Task Code having contributed to man-hour computations.

Part II M-H PER PERS ID is computed by summing all Subtask Mean Man-minutes for each subtask entry matching an identical Subtask Person Identifier and Skill Specialty Code. This value is then divided by 60.

Part II ANL M-H/ITEM is computed by multiplying the M-H PER PERSON ID (see 4.1.6 0.) by the Task Frequency.

Part II TOTAL ANL M-H is computed by multiplying the ANL M-H/ITEM (see 4.1.6 0.) by the Number of Systems Supported by Task Code maintenance levels input through the summary selection.

Part III lists all SSC or NM SSC that qualifies based on the selection option.

4.1.7 Sequence

Part I is sequenced by ascending values of Skill Specialty Code. Part II is sorted also by ascending Skill Specialty Code. Within this sequence Tasks are sorted in ascending LCN then Task Code sequence.

4.1.8 Data Sources

The data sources listed in Table 3, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 3 – Data Sources for Annual Man-Hours by Skill Specialty Code and Level of Maintenance (LSA-001)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Required
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			
SSE	Skill Specialty Evaluation Code	CD	4820	Optional
DISPLAY OPTION (Selected. Options include: Both Parts (default), Part I only)				
NUMBER OF SYSTEMS SUPPORTED BY MAINTENANCE LEVEL: C,O,F,H,G,L,D (Throughput)	Task Code	CA	5110	Optional
SSC DESCRIPTION OPTION (Selected)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
OUTPUT				
PART I - MAN-HOUR SUMMARY (Header)				
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
MAINTENANCE LEVEL (Header)				
[TASK CODE]	Task Code (3rd position)	CA	5110	Required
MAN-HOURS BY SSC, MAINTENANCE LEVEL & NO. OF SYSTEMS SUPPORTED (Calculated)				Automatically generated
[SUBTASK PERSON ID]	Subtask Person Identifier	CD	3890	Required to perform calculations
[TOTAL ANNUAL MAN HOURS] (Calculated)				Required to perform calculations
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man Minutes	CD	3230	Required to perform calculations
NUMBER OF SYSTEMS SUPPORTED BY MAINTENANCE LEVEL: C,O,F,H,G,L,D (Throughput)	Task Code	CA	5110	Required
TOTAL NUMBER OF MAINTENANCE TASKS (Calculated)				Required to perform calculations
PART II - PERSONAL SKILL AND TASK SUMMARY (Header)				
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
LCN	Logistics Support Analysis Control Number	CA	2970	Required
NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	CA	2980	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required
SSE	Skill Specialty Evaluation Code	CD	4820	Optional
PERS ID	Subtask Person Identifier	CD	3890	Required
TRG EQP	Training Equipment Requirement Code	CA	5480	Optional
M-H PER PERS ID (Calculated)				Automatically generated
[SUBTASK MEAN MAN MINUTES]	(Subtask Mean Man-minutes)	CD	3230	Required to perform calculations
ANL M-HR/ITEM (Calculated)				Automatically generated
[M-H PER PERS ID]				Required to perform calculations

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[TASK FREQ]	Task Frequency	CA	5140	Required to perform calculations
TOTAL ANL M-H (Calculated)				Automatically generated
[ANL M-HR/ITEM]				Required to perform calculations
[NUMBER OF SYSTEMS SUPPORTED PER MAINTENANCE LEVEL] (Throughput)				Required to perform calculations
FGC	Technical Manual Functional Group Code	XB	5260	Optional
PART III - SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs
	Skill Specialty Code Description	GB	4815	Optional

4.1.9 Format

Figure 2 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

SAENORM.COM : Click to view the full PDF of tahb0007-1a

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 1

ANNUAL MAN HOURS BY SKILL SPECIALTY CODE AND LEVEL OF MAINTENANCE (LSA-001)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	CD.skspc	CD.skspc	CD.skspc	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SSC	SSE	PARTS	
REFRIG UNT	REFRIGERATION UNT	0	00	F		DCY	ARMY				BOTH
	COLD STORAGE WALK										
	-IN										

SELECTED

SSC DESCRIPTION OPTION: YES

THROUGHPUT

NUMBER OF SYSTEMS SUPPORTED BY MAINTENANCE LEVEL:

OPERATOR/CREW	(C):	5000
ORGANIZATIONAL/AVUM/ON EQUIP	(O):	5000
INTERMEDIATE/DS AVIM/AFLOAT/OFF EQUIP	(F):	5000
INTERMEDIATE/GS/ASHORE	(H):	5000
ASHORE AND AFLOAT (NAVY)	(G):	0
SPECIALIZED REPAIR ACTIVITY	(L):	5000
DEPOT/SHIPYARD	(D):	5000

PART I - MAN-HOUR SUMMARY

CA.taskcode

MAINTENANCE LEVEL

CD.skspc	CD.nomskspc	OPERATOR/ CREW (C)	ORGANIZATIONAL/ ON EQUIP (O)	INTERMEDIATE/DS- AVIM/AFL/OF EQP (F)	INTERMEDIATE/ GS/ASHORE (H)	INTERMEDIATE/ NAVY ASH/AFL (G)	SPECIALIZED REPAIR ACT (L)	DEPOT/ SHIPYARD (D)
		calc	calc	calc	calc	calc	calc	calc
35B20AAA1		0.00	2770.00	0.00	0.00	0.00	0.00	0.00
35B30AAA1		0.00	3440.00	1759.15	0.00	0.00	0.00	0.00
44B10AAA1		0.00	0.00	213.50	0.00	0.00	0.00	0.00
44E10AAA1		0.00	0.00	1186.60	0.00	0.00	0.00	0.00
52C10AAA1		0.00	24.57	315.00	0.00	0.00	0.00	0.00
52C20AAA1		0.00	614.30	1219.20	0.00	0.00	0.00	0.00
76J10AAA1		0.00	0.00	0.00	0.00	0.00	127.00	1005.15

TOTAL NUMBER OF MAINTENANCE TASKS: 33

Figure 2 – Format for LSA-001, Annual Man-Hours by Skill Specialty Code and Level of Maintenance

PART II - PERSONNEL SKILL AND TASK SUMMARY

CD.skspc	CA.lcn XB.lcnomen	CA.lcntype CA.alc	CA.taskcode	CA.taskid	CA.tskfreq	CA.taanommb CD.skspvlc	CD.stprsnid CA.trneqrqc	CALC PERS	CALC TRG	CALC M-H	CALC PER	CALC ANL	CALC M-H	CALC TOTAL	XB.tmfgc
SSC	LCN	LCN-TYPE	ALC	TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	SSE	ID	EQP	PERS	ITEM		ANL	FGC
35B20AAA1	002	F	GGOAGAA	INSTALL WIRE HARNESS	.2000	O	M	AAA	N	0.67		0.13		670.00	02
	WIRE HARNESS ASSY	00		ASSY											
	00204	F	HGOAAAA	REPLACE LIGHT ASSY	.8400	O	A	AAA	N	0.50		0.42		2100.00	0204
	LIGHT ASSEMBLY	00													
35B30AAA1	002	F	GGOAGAA	INSTALL WIRE HARNESS	.2000	O	M	AAF	N	1.34		0.27		1340.00	02
	WIRE HARNESS ASSY	00		ASSY											
	00201	F	JGFOGAA	REPAIR POWER CONTROL	.2330	O	A	ABB	Y	1.51		0.35		1759.15	0201
	POWER CONTROL ASSY	00													
	00204	F	HGOAAAA	REPLACE LIGHT ASSY	.8400	O	A	AAF	N	0.50		0.42		2100.00	0204
	LIGHT ASSEMBLY	00													

PART III - SKILL SPECIALTY CODE DESCRIPTION

CD.skspc	GA.skspcdsc
SSC	SSC DESCRIPTION
35B20AAA1	ELECTRICAL JOURNEYMAN

Figure 2 – Format for LSA-001, Annual Man-Hours by Skill Specialty Code and Level of Maintenance (Continued)

4.2 Maintenance Summary (LSA-003)

4.2.1 Introduction

The intent of this summary is to compare the status of an item versus the requirements for the same item. LSA-003 compares the required manpower plan or budget with the calculated requirements for manpower based on tasks to be performed.

4.2.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- SAE TA-STD-0017A and MIL-HDBK-502A. The following activity is applicable: Activity D.1, Task Analysis.

4.2.3 Tailoring

Who: Users may include: (1) Commercial/Industry, (2) All Armed Services, (3) Program Executive Offices, (4) Program Managers and, (5) Product Support Managers. This is a management/analyst review summary. It is often cited as a deliverable.

What: During development, this summary should be used as an analysis tool to compare the required manpower plan or budget with the calculated requirements for manpower throughout the development process. The data on this summary is input to a Maintenance Plan.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

How: Data in this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1).

Why: This summary compares the required manpower plan or budget with the calculated requirements for manpower based on tasks to be performed. It aids in identifying shortages in manpower.

4.2.4 Scope

This summary compares the current status of the system maintenance parameters with the requirements recorded on the A entities.

4.2.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, UOC, Service Designator (Task Code, fourth position), Annual Operating Requirement (AOR), Measurement Base (MB), and Wartime/Peacetime (W/P) Indicator (default value is Peacetime).

Optional: ALC and Stop LCN

4.2.6 Processing/Business Rules

The intent of this summary is to compare the status of an item versus the requirements for the same item. Therefore, for the "Required" line to be displayed, there must be an exact match with the Start LCN in Entities AC and/or AD. If no AC/AD Entity values exist for the Start LCN, then do not display the "Required" line; only calculate the "Actual" line dependent on the selection range. If "Required" line exists ("A" Entity LCN), "Actual" line values should be calculated based on a roll-up of LCNs subordinate to the "A" entity LCN (Required line) and within the selection range. The same qualifying criteria is used throughout this summary. Task Codes are qualified by matching on selected Service Designator Code (Task Code, fourth position).

- Qualified tasks must have an entry in Entity CA with a Mean Man-Hour value (Measured Mean Man-Hours first precedence, Predicted Mean Man-Hours second precedence), a Mean Elapsed Time entry (Measured Mean Elapsed Time first, Predicted Mean Elapsed Time second), and a Task Frequency entry.
- Task Code first position (Function) of "O", "T", "U", "V", and "Y", and Task Code second position (Interval) of "Y" are not used in the LSA-003 summary calculations.
- The elapsed time and man-hour values displayed on the "Actual" line of the summary are calculated from data on the "C" entities:

$$\bar{t}_e = \frac{\sum_{i=1}^n (f_{ti})(t_{ei})}{\sum_{i=1}^n (f_{ti})} \quad (\text{Eq. 1})$$

$$\overline{t_p} = \frac{\sum_{i=1}^n (f_{ti})(t_{pi})}{\sum_{i=1}^n (f_{ti})} \quad (\text{Eq. 2})$$

where:

$\overline{t_e}$	=	Mean Elapsed Time
$\overline{t_p}$	=	Mean Man-Hours
t_{ei}	=	Elapsed Time for task i (Measured Mean Elapsed Time 1st, Predicted Mean Elapsed Time 2nd)
t_{pi}	=	Total Man-Hours for task i (Measured Mean Man-Hours 1st, Predicted Mean Man-Hours 2nd)
f_{ti}	=	Task Frequency for task i
n	=	Total number of tasks performed for the range of LCNs

The preceding computations are performed for each of the following groupings of tasks at Crew and Organizational Operations/Maintenance Levels:

- d. Daily Inspection (Task Code first position is "A" and second position is "C").
- e. Preoperative Inspection (Task Code first position is "A" and second position is "A").
- f. Post Operative Inspection (Task Code first position is "A" and second position is "H").
- g. Periodic Inspection (Task Code first position is "A" and second position is "E" or "B").
- h. Mission Profile Change (Task Code first position is "M").
- i. Turnaround (Task Code fifth position is "F").

Also, the preceding computations are performed for Unscheduled Tasks (Task Code, second position is F, G, or J) at all maintenance levels.

- j. The scheduled and unscheduled values for annual man-hours per end item are derived utilizing data from the "C" entities for a given LCN and using the interval codes (Task Code, second position) F, G, and J to qualify unscheduled tasks and all remaining interval codes (except Y - Task Code, second position) qualifying as scheduled. Calculations are performed at each maintenance level:

$$(t_{ps})_a = \sum_{i=1}^n (f_{ti})(t_{ps})_i \quad (\text{Eq. 3})$$

$$(t_{pu})_a = \sum_{i=1}^n (f_{ti})(t_{pu})_i \quad (\text{Eq. 4})$$

where:

$(t_{ps})_a$	=	Annual Man-Hours for scheduled maintenance
$(t_{pu})_a$	=	Annual Man-Hours for unscheduled maintenance
f_{ti}	=	Task Frequency for task i
$(t_{ps})_i$	=	Man-Hours for scheduled maintenance task i
$(t_{pu})_i$	=	Man-Hours for unscheduled maintenance task i
n	=	Total number of tasks performed for the range of LCNs

The scheduled and unscheduled values are summed to yield total annual man-hours per end item for each maintenance level.

- k. The "Actual" percentile for a given maintenance level is calculated by dividing the qualified tasks with Elapsed Times less than or equal to the "required" MAX TIME TO REPAIR value by the total number of qualified tasks at that Maint Level X 100:

$$\text{Actual Percentile} = \left(\frac{\text{Number of Qualified Tasks per } M/L \text{ with Elapsed Time } \leq \text{Max TTR Value}}{\text{Total Number of Qualified Tasks per } M/L} \right) \times 100 \quad (\text{Eq. 5})$$

- l. The scheduled and unscheduled man-hours per operating hour (Actual) are calculated by dividing the annual man-hours per end item from Equations 3 and 4 by the AORs specified on the selection criteria. Values should be calculated to the one-hundredths (two positions right of the decimal). This calculation is performed for each Operations/Maintenance (O/M) Level. The scheduled and unscheduled values are summed to yield total man-hours per operating hour per maintenance level.
- m. The "Actual" totals (at the bottom of the output) are calculated by summing the Annual Man-Hours and M-H per Operating Hour (Scheduled, Unscheduled, and Total) actual values for all maintenance levels.

4.2.7 Sequence

The Crew and Organizational Inspections section is always shown first, with the Crew Inspections shown before the Organizational Inspections. The remainder of the summary is sequenced by ascending maintenance level (crew/operator to depot).

4.2.8 Data Sources

The data sources listed in Table 4, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 4 – Data Sources for the Maintenance Summary (LSA-003)

Element Name	Data Element Name	Entity	Date Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Required
AOR	Annual Operating Requirement	AG	1240	Required

Element Name	Data Element Name	Entity	Date Type Number	Data Element Requirement
MB	Annual Operating Requirement Measurement Base	AG	3380	Required
PEACE/WAR	Reliability Operational Requirements Indicator	AG	3710	Required
OUTPUT				
ORGANIZATIONAL INSPECTIONS (Header)				
DAILY INSPECTIONS				
REQUIRED M-H	Daily Inspection Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Daily Inspection Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
PREOP INSP				
REQUIRED M-H	Preoperative Inspection Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Preoperative Inspection Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
POSTOP INSP				
REQUIRED M-H	Postoperative Inspection Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Postoperative Inspection Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated

Element Name	Data Element Name	Entity	Date Type Number	Data Element Requirement
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
PERIODIC INSP				
REQUIRED M-H	Periodic Inspection Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Periodic Inspection Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
MISS PROF CHG				
REQUIRED M-H	Mission Profile Change Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Mission Profile Change Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
TURNAROUND				
REQUIRED M-H	Turnaround Inspection Mean Man Hours	AD	3220	Optional
REQUIRED ELAP	Turnaround Inspection Mean Elapsed Time	AD	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated

Element Name	Data Element Name	Entity	Date Type Number	Data Element Requirement
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
MAINTENANCE LEVEL (Header)				
[TASK CODE]	Task Code (3rd position)	CA	5110	Required
UNSCH MAINT				
REQUIRED M-H	Unscheduled Maintenance Mean Man Hours	AC	3220	Optional
REQUIRED ELAP	Unscheduled Maintenance Mean Elapsed Time	AC	3210	Optional
ACTUAL M-H (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN MAN HOURS]	Measured Mean Man Hours	CA	3220	Required. 1st precedence
[PREDICTED MEAN MAN HOURS]	Predicted Mean Man Hours	CA	3220	Required. 2nd precedence
ACTUAL ELAP (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
[MEASURED MEAN ELAPSED TIME]	Measured Mean Elapsed Time	CA	3210	Required. 1st precedence
[PREDICTED MEAN ELAPSED TIME]	Predicted Mean Elapsed Time	CA	3210	Required. 2nd precedence
MAX TIME				
REQUIRED MAX TIME TO REPAIR	Maintenance Level Maximum Time to Repair	AC	3170	Optional
REQUIRED PCT	Maintenance Level Percentile	AC	3880	Optional
ACTUAL MAXIMUM TIME TO REPAIR		CA`	3170	Optional
ACTUAL PCT (Calculated)				Automatically generated
ANNUAL M-H PER END ITEM				
REQUIRED SCHED	Maintenance Level Scheduled Annual Man Hours	AC	1210	Optional
REQUIRED UNSCHED	Maintenance Level Unscheduled Annual Man Hours	AC	1210	Optional
REQUIRED TOTAL (Calculated)				Automatically generated
ACTUAL SCHED (Calculated)				Automatically generated
ACTUAL UNSCHED (Calculated)				Automatically generated
ACTUAL TOTAL (Calculated)				Automatically generated
M-H PER OPER HOUR				
REQUIRED SCHED	Scheduled Man Hour per Operating Hour	AC	3120	Optional
REQUIRED UNSCHED	Unscheduled Man Hour per Operating Hour	AC	3120	Optional
REQUIRED TOTAL (Calculated)				Automatically generated
ACTUAL SCHED (Calculated)				Automatically generated
ACTUAL UNSCHED (Calculated)				Automatically generated

Element Name	Data Element Name	Entity	Date Type Number	Data Element Requirement
ACTUAL TOTAL (Calculated)				Automatically generated
ACTUAL TOTALS FOR ALL MAINT LEVELS (Header)				
SCHEDULED ANNUAL M-H PER END ITEM (Calculated)				Automatically generated
SCHEDULED M-H PER OPER HOUR (Calculated)				Automatically generated
UNSCHEDULED ANNUAL M-H PER END ITEM (Calculated)				Automatically generated
UNSCHEDULED M-H PER OPER HOUR (Calculated)				Automatically generated
TOTAL M-H PER END ITEM ANNUAL M-H PER END ITEM (Calculated)				Automatically generated

4.2.9 Format

The format shown in Figure 3 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

MAINTENANCE SUMMARY (LSA-003)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcn	XB.lcn	XF/XC.uoc	CA.taskcode	AG.annopreq	AG.anoprqmb	AG.reloprqi
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	AOR	MB	PEACE/WAR
REFRIG UNIT	REFRIGERATION UNIT	0	00	P	DCY		AIR FORCE	07200		P

ORGANIZATIONAL INSPECTIONS

	DAILY INSP		PREOP INSP		POSTOP INSP		PERIODIC INSP		MISS PROF CHG		TURNAROUND	
	M-H	ELAP	M-H	ELAP	M-H	ELAP	M-H	ELAP	M-H	ELAP	M-H	ELAP
	AD.dlyinmmh	AD.dlyinmet	AD.propimmmh	AD.propimet	AD.popinmmh	AD.popinmet	AD.prdinmmh	AD.prdinmet	AD.msprcmmh	AD.msprcmet	AD.trnaimmmh	AD.trnaimet
REQUIRED	.25	.25	.25	.25	.15	.15	.51	.51	1.00	1.15	.00	.00
CALC (ALL ROW VALUES)												
ACTUAL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CA.taskcode	MAINTENANCE LEVEL		CREW/OP	MAX TIME		ANNUAL M-H PER END ITEM			M-H PER OPER HOUR		
	UNSCH	MAINT		TO REPAIR	PCT	SCHED	UNCHED	TOTAL	SCHED	UNCHED	TOTAL
	AC.uscmmmmh	AC.uscmmetm		AC.mtlmxttr	AC.mtlvperc	AC.mtlvsamh	AC.mtlvuamh	CALC	AC.schmhpoh	AC.uscmhpoh	CALC
REQUIRED	.00	.00		.00	.00	.0	.0	.0	.00	.00	.00
CALC (ALL ROW VALUES)											
ACTUAL	.00	.00				.5	.0	.5	.00	.00	.00

MAINTENANCE LEVEL	ORG	UNSCH MAINT		MAX TIME		ANNUAL M-H PER END ITEM			M-H PER OPER HOUR		
		M-H	ELAP	TO REPAIR	PCT	SCHED	UNCHED	TOTAL	SCHED	UNCHED	TOTAL
REQUIRED		.00		.00	.00	.00	.00	.00	.00	.00	.00
ACTUAL		1.68	1.54			.00	5.1	5.1	.00	.00	.00

MAINTENANCE LEVEL	INT(F)	UNSCH MAINT		MAX TIME		ANNUAL M-H PER END ITEM			M-H PER OPER HOUR		
		M-H	ELAP	TO REPAIR	PCT	SCHED	UNCHED	TOTAL	SCHED	UNCHED	TOTAL
REQUIRED		4.00	4.00	5.00	95	75.0	18.0	93.0	.02	.05	.07
ACTUAL		.69	.53	5.00	100	.0	1.9	1.9	.00	.00	.00

CALC	ACTUAL TOTALS FOR ALL MAINT LEVELS:	ANNUAL M-H	M-H PER OPER HOUR
		PER END ITEM	
SCHEDULED		0.5	0.00
UNSCHEDULED		7.0	0.00
TOTAL M-H PER END ITEM		7.5	0.00

Figure 3 – Format for LSA-003, Maintenance Summary

4.3 Maintenance Allocation Chart (LSA-004)

4.3.1 Introduction

The LSA-004 is a summary of the man-hour allocations by maintenance function and maintenance level. The Maintenance Allocation Chart (MAC) can be produced directly from the LSA-004, Maintenance Allocation Chart Summary.

The MAC is a list of equipment maintenance functions showing the maintenance level at which each maintenance task is authorized. The MAC is arranged in functional group code (FGC) sequence or in top-down, breakdown sequence in the logical order of disassembly. Additionally, the MAC documents the details of a system's maintenance plan. It is a list of equipment maintenance functions showing the maintenance level for the performance of maintenance functions on an identified end item or component.

Thus, the MAC identifies and authorizes specific maintenance functions (e.g., inspect, test, replace, repair, etc.) for each maintenance level to be performed. The MAC is arranged in functional group code sequence or in top-down, breakdown sequence in the logical order of disassembly which is also used by the Repair Parts and Special Tools List (RPSTL) in its order of assembly/subassembly listings. Also, the MAC establishes a time standard for each authorized maintenance function as a functional group entry, lists the tools and test equipment required for each maintenance function to the various maintenance levels, and contains supplemental instructions and explanatory notes for a particular maintenance function.

4.3.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- MIL-STD-40051-2. States the technical data and instructions developed by the requirements of PSA/Logistics Product Data (LPD) and DoD Requirements for LPD, (including the MAC) are used as the baseline to prepare Technical Manuals (TMs). For equipment that does not have LPD data available, either a Preliminary Maintenance Allocation Chart (PMAC) or the MAC can be used as the baseline to prepare TMs.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- PSM Guidebook. States the Preliminary Maintenance Allocation Chart (PMAC) is required during the Definition Phase and the full Maintenance Allocation Chart is required during Development Phase. Note that the LSA-019 contains similar data to the PMAC.

4.3.3 Tailoring

Who: This summary is typically required as a deliverable to the U.S. Army. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers

What: During development, this summary should be used as an analysis tool to identify the man-hour allocations by maintenance function and level. U.S. Army Provisioners often use the LSA-004 summary for developing SMR codes. Additionally, during fielding, the MAC appears as Appendix B to organizational level maintenance manuals.

When: The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

How: The data for the MAC is an output of Task Analysis (SAE TA-STD-0017A, Activity D.1).

Why: This summary is a key exit document in both the Definition Phase (PMAC) and Development Phase (MAC) phases of the life cycle. It is also the baseline to preparing a Maintenance Allocation Chart (MAC) for Technical Manuals.

4.3.4 Scope

The Maintenance Allocation Chart (MAC) is a summary consisting of four sections, three of which are obtainable from the logistics product data. Section I, Introduction, is "boiler plate" information developed IAW MIL-STD-40051-2. Sections II, MAC; III, Tool and Test Equipment Requirements; and IV, Remarks are produced as separate sections of this summary. The summary is provided in standard or aviation format IAW MIL-STD-40051-1 and MIL-STD-40051-2. It is used as source information for the final MAC contained in the organizational maintenance manual. Spacing between rows and columns is not critical on the draft MAC.

4.3.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, Service Designator Code (Task Code, fourth position), and Draft/Proof/Aviation option

Optional: ALC, Stop LCN and UOC, LCN/Item Name Selection, Item Category Codes, Tool List option, Technical Manual Code, Display Option (LCN or TMFGC), and Technical Manual Designation (provided by requiring authority)

The LCN/Item Name Selection can consist of LCN Nomenclature only, Item Name only, or both (Proof and Aviation Proof) Item Name followed by LCN Nomenclature in parenthesis.

If the Tool List option is not used, then the Item Category Code option cannot be used. Item Category Codes are limited to D, G, H, M, N, P, R, V, AC, and 1 to 8.

4.3.6 Processing/Business Rules

The Maintenance Allocation Chart is a summary of the man-hour allocations by function (Task Code, first position) and maintenance level (Task Code, third position). The summary can be requested as either a draft (reflects all maintenance functions allowed) or a proof (formatted IAW MIL-STD-40051-1 and MIL-STD-40051-2). The draft MAC consists of two parts, the man-hour allocation section and the cross-referenced tool list (if selected).

The Proof MAC and Aviation MAC consist of four sections, three of which are obtainable from the logistics product data. The proof tool list should consist of only Item Category Codes for peculiar or special tools and for existing or new tool sets, kits and outfits. It should not include common tools that are part of a kit as separately listed (referenced) items. Entity CA LCNs must exist within the range of selected LCNs and with a qualified Task Code qualified against the selected Service Designator Code (Task Code, fourth position). If Tech Manual Designation option is used, the Entity CH would have to be used to identify the task used on a specified tech manual. If the tool option is selected, qualified Entity CG LCNs must have a tool/test equipment having an Item Category Code that matches on those selected [must match the Reference Number and Commercial and Government Entity Code (CAGE) Code in Entity CG with the Reference Number and Support Equipment CAGE Code in Entity EA in order to access the Item Category Code]. Asterisks will be displayed in the man-hours column of this summary when there is more than one Task Code qualified for a given maintenance level and task function and either the Man-Hours or Task Frequency is blank or zero; or when there is qualified Task Code for a given maintenance level and task function, but there is no Man-hour value, whatsoever.

- a. Column 2, for both Proof and Aviation Proof, consists of both the Item Name followed by the LCN Nomenclature in parenthesis.
- b. Task Function (Task Code, first position) for the draft are contained in the logistics product data.
- c. Task Functions not allowed on the Proof MAC will be automatically included as follows:
 1. Access, Disassemble/Assemble, and Fault Locate Times are included as part of Repair time.
 2. End-of-Runway Inspection times are included as part of the Inspect time.
 3. Remove and Replace times are included as Replace time.
- d. Clean, Mission Profile Change, Package/Unpackage, Preserve, Operate, Transport, and Transportation Preparation are not included on the MAC. Also, Battle Damage Assessment Repair (BDAR) tasks are not included on the MAC (these are identified by a Task Interval Code (Task Code, second position of "Y").
- e. Maintenance Level (ML) "G" is not included on the Proof MAC and Maintenance Level "L" is included as part of Maintenance Level "H" on the Proof. For joint service manuals, an asterisk shall be placed next to the "C" and the following note shall follow the table to explain the asterisk: NOTE: This is a joint service manual. While Army uses a "C," other services may use an "O" in this column. All maintenance levels are included on the Draft MAC (C, O, F, H, G, L, D). Only Maintenance Levels of "O", "F", "L", and "D" apply when the aviation MAC is developed. Maintenance category AMC equates to "O", ASB to "F", TASMGM to "L", and Depot to "D".
- f. For each maintenance level, the Mean Man-hours is calculated for all tasks with the same task Function:

$$\overline{t_p} = \frac{\sum_{i=1}^n (f_{ti})(t_{pi})}{\sum_{i=1}^n (f_{ti})} \quad (\text{Eq. 6})$$

where:

$\overline{t_p}$	=	Mean Man-hours
t_{pi}	=	Total Man-hours for task i (Calculated by summing the Man-hours for each Subtask Person Identifier of task i)
f_{ti}	=	Task Frequency for task i
n	=	Total number of tasks performed

NOTE: Man-hours are rounded to the nearest tenth of an hour.

- g. For a given component/assembly (LCN driven)/task function combination, a new line is required for each applicable maintenance level. This will enable necessary tools to be linked to specific maintenance levels.
- h. Section III, Tool and Test Equipment Requirements, consists of tools and test equipment required to perform the task functions listed in Section II, Maintenance Allocation Summary. Sections II and III are cross indexed by the "Tool or Test Equipment Reference Code" which is generated based on the ascending Reference Number sequence in Section III.
- i. Section IV, Remarks, is based upon remarks entered against qualified MAC tasks. Section II and IV are cross indexed by the Task Remarks Reference Code contained in column six of Section II and the Reference Code (Task Remarks Reference Code) in column 1 of Section IV.

4.3.7 Sequence

Section II is sequenced by ascending LCN or Technical Manual Functional Group Code depending on the Display Option selected, then by ascending task function based on the first position of the Task Code. Section III is sequenced by ascending Reference Numbers and CAGE Codes. Section IV is sequenced by ascending Task Remarks Reference Code.

4.3.8 Data Sources

The data sources listed in Table 5, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance. This summary has three versions: Draft, Proof, and Aviation MAC. Some data elements in Table 5 appear on both the Proof MAC and the Draft MAC. Some sections appear on one or the other version and some data elements only appear on one or other versions of the summaries. All data elements/sections display on all versions of the summary unless specified in the Element Name column.

Table 5 – Data Sources for the Maintenance Allocation Chart (LSA-004)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER (DRAFT)				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ICC SELECTION (DRAFT)	Support Equipment Item Category Code	EA	2730	Optional
TM CODE (Selected)	Technical Manual Code	XI	5250	Optional
TOOL LIST (Selected)				
TECH MANUAL DESIGNATION (Selected)	Technical Manual Number	XI	5280	Optional
DISP OPT (Selected. Options include: LCN, TM FGC)				Optional
LCN/ITEM NAME SELECTION				Optional
DRAFT/PROOF/AVIATION OPT (Selected)				Required
OUTPUT				
MAINTENANCE ALLOCATION CHART (DRAFT) - SECTION II				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
ITEM NAME	Item Name	HA	2790	Optional
LCN NOMENCLATURE	LCN Nomenclature	XB	2950	Required
MAINTENANCE FUNCTION	Task Code (1st position)	CA	5110	Required
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
MEAN MAN-HOURS PER MAINTENANCE FUNCTION AND LEVEL (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man Minutes	CD	3230	Required
[SUBTASK PERSON IDENTIFIER]	Subtask Person Identifier	CD	3890	Required
TOOLS AND EQUIPMENT (Generated)				
MAINTENANCE ALLOCATION CHART (DRAFT) / TOOL AND TEST EQUIPMENT REQUIREMENTS - SECTION III				
TOOL/TEST EQUIPMENT REF CODE (Generated)				
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
ITEM NAME	Item Name	HA	2790	Required
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
REFERENCE NUMBER	Reference Number	HA	4400	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required
MAINTENANCE ALLOCATION CHART SUMMARY (PROOF)				
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Required
ICC SELECTION (PROOF)	Support Equipment Item Category Code	EA	2730	Optional
TOOL LIST (Selected)			5250	
TM CODE (Selected)	Technical Manual Code	XI	5250	Optional
TECH MANUAL DESIGNATION (Selected)	Technical Manual Number	XI	5280	Optional
DRAFT/PROOF/AVIATION OPT (Selected)				Required
DISPLAY OPTION (Selected)				
LCN/ITEM NAME SELECTION				Optional
OUTPUT				
MAINTENANCE ALLOCATION CHART (PROOF) - SECTION II				
GROUP NUMBER	Technical Manual Functional Group Code	XB	5260	Required
COMPONENT ASSEMBLY	Item Name	HA	2790	Required if available
	LCN Nomenclature	XB	2950	Required
MAINTENANCE FUNCTION	Task Code (1st position)	CA	5110	Required
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
MEAN MAN-HOURS PER MAINTENANCE FUNCTION AND LEVEL (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man Minutes	CD	3230	Required
[SUBTASK PERSON IDENTIFIER]	Subtask Person Identifier	CD	3890	Required
TOOLS AND EQUIPMENT (Generated)				
REMARKS	Task Remarks Reference Code	CE	5170	Required
MAINTENANCE ALLOCATION CHART (PROOF) - TOOL AND TEST EQUIPMENT REQUIREMENTS - SECTION III				
TOOL AND TEST EQUIPMENT REF CODE (Generated)				
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
NOMENCLATURE	Item Name	HA	2790	Required
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
TOOL NUMBER	Reference Number	HA	4400	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MAINTENANCE ALLOCATION CHART (PROOF) - REMARKS - SECTION IV				
REMARKS CODE	Task Remarks Reference Code	CE	5170	Required
REMARKS	Task Remarks	CE	5180	Required
MAINTENANCE ALLOCATION CHART SUMMARY (AVIATION)				
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Required
ICC SELECTION (AVIATION)	Support Equipment Item Category Code	EA	2730	Optional
TOOL LIST (Selected)				
TM CODE (Selected)	Technical Manual Code	XI	5250	Optional
TECH MANUAL DESIGNATION (Selected)	Technical Manual Number	XI	5280	Optional
DISP OPT (Selected)				
LCN/ITEM NAME SELECTION				Optional
DRAFT/PROOF/AVIATION OPT (Selected)				Required
OUTPUT				
MAINTENANCE ALLOCATION CHART (AVIATION) - SECTION II				
GROUP NUMBER	Technical Manual Functional Group Code	XB	5260	Required
DESCRIPTION	Item Name	HA	2790	Required if available
	LCN Nomenclature	XB	2950	Required
MAINTENANCE FUNCTION	Task Code (1st position)	CA	5110	Required
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
MEAN MAN-HOURS PER MAINTENANCE FUNCTION AND LEVEL (Calculated)				Automatically generated
[TASK FREQUENCY]	Task Frequency	CA	5140	Required
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man Minutes	CD	3230	Required
[SUBTASK PERSON IDENTIFIER]	Subtask Person Identifier	CD	3890	Required
TOOLS AND EQUIPMENT (Generated)				
REMARKS	Task Remarks Reference Code	CE	5170	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MAINTENANCE ALLOCATION CHART (AVIATION) - TOOL AND TEST EQUIPMENT REQUIREMENTS - SECTION III				
TOOL AND TEST EQUIPMENT REF CODE (Generated)				
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
NOMENCLATURE	Item Name	HA	2790	Required
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
TOOL NUMBER	Reference Number	HA	4400	Required
MAINTENANCE ALLOCATION CHART (AVIATION) - REMARKS - SECTION IV				
REMARKS CODE	Task Remarks Reference Code	CE	5170	Required
REMARKS	Task Remarks	CE	5180	Required

4.3.9 Format

The format shown in Figure 4 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary. The samples shown are for the Draft and Proof Maintenance Allocation Chart Summaries. Other summary options include the Draft and Proof Aviation MAC.

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SECTION II. DRAFT MAINTENANCE ALLOCATION CHART

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	EA.seqicc	XI.tmc	
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	ICC SELECTION	TMCODE	
REFRIG UNT	ENGINE ASSY	006		P		FF	ARMY	B,X,Y,Z	TM2	
SELECTED TOOL LIST YES	XI.tmn TECH MANUAL DESIGNATION TM 5-4110-234-14	SELECTED DISP OPT LCN	SELECTED DRAFT/PROOF/AVIATION OPT DRAFT	SELECTED LCN/ITEM NAME SELECTION LCN NOMENCLATURE						
SECTION II. DRAFT MAINTENANCE ALLOCATION CHART										
CA.lcn	CA.alc	XB.lcnomen	CA.taskcode	CA.taskcode CA.alc						GENERATED (Proof)
LCN	ALC	LCN NOMENCLATURE	MAINTENANCE FUNCTION	C	O	F	H	G	L	D TOOLS AND EQUIPMENT
006	00	ENGINE ASSY	TEST	.00	.00	.77	.00	.00	.00	.00
			SERVICE	.06	.00	.00	.00	.00	.00	.00
			FAULT LOCATION	.00	.78	.00	.00	.00	.00	.00 14,15,18
00602	00	ENGINE BLOCK	REMOVE	.00	.00	.54	.00	.00	.00	.00 12,16,18
0060201	00	PISTON ASSY	REPAIR	.00	.00	.56	.00	.00	.00	.00 1,2,3,4, 5,6,7,17
00607	01	SUPER CARB	REMOVE AND RE PLACE	.00	1.38	.00	.00	.00	.00	.00 8,10,14, 16,18
			REPAIR	.00	.00	1.50	.00	.00	.00	.00
00614	00	STARTER ASSY	REMOVE AND RE PLACE	.00	.00	.61	.00	.00	.00	.00 10,13,18
			REPAIR	.00	.00	.35	.00	.00	.00	.00 11,13,18

Figure 4 – Format for LSA-004, Maintenance Allocation Chart

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

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SECTION III. DRAFT TOOL AND TEST EQUIPMENT REQUIREMENTS

GENERATED TOOL/TEST EQUIPMENT REF CODE	CA.taskcode MAINTENANCE CATEGORY	HA.itemname ITEM NAME	HA.nsnfsc HA.nsnin NATIONAL STOCK NUMBER	HA.refno REFERENCE NUMBER	HA.cage CAGE
1	F	RING, RETAINING		112-0003	44940
2	F	PIN, PISTON		112-0069	44940
3	F	PISTON	2805-00-647-0713	112-0136	44940
4	F	RING SET, PISTON	2805-01-045-3095	113-0153	44940
5	F	BUSHING, CONN ROD		114-0036	44940
6	F	BEARING, ROD (HALF)		114-0145	44940
7	F	CONNECT ROD, PISTON	2805-00-865-2333	114-0203	44940
8	O	KIT, GASKET		142-0033	44940
9	O	CARBURETOR	2910-01-044-8999	142-0431	44940
10	F	STARTER ASSY	2920-01-043-8778	191-1052	44940
11	F	CLUTCH ASSY	3010-01-008-9140	191-1087	44940
12	F	WRENCH, SOCKET	5120-00-449-8083	AT503	11599
13	F	WRENCH, SOCKET	5120-00-148-7917	B107-6	80204
14	O	SOCKET SET 3/8 INCH		B2502	10702
15	O	COMPRESSION GAUGE	5210-00-278-1248	GGG-G-17 TY9CL2STA123	80244
16	O, F	SCREWDRIVER	5120-00-222-8852	GGG-S-121	81348
17	F	SPREADER, PISTON RING		JH25	44940
18	O, F	TOOL KIT GEN REFRIG	5180-00-596-1474	SC5180-90-CL-N14	50980

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

PROOF MAINTENANCE ALLOCATION CHART SUMMARY							
XB.eiac	XB.lcnno	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES
REFRIG UNT	ENGINE ASSY	006		P		FF	ARMY

EA.segicc
ITEM CATEGORY CODES SELECTED: A, B, C

SELECTED
TOOL LIST OPTION: YES

XI.tmc
TECHNICAL MANUAL CODE: TM2

XI.tmn
TECHNICAL MANUAL DESIGNATION: TM 5-4110-234-14

SELECTED
DRAFT/PROOF/AVIATION OPTION SELECTED: PROOF MAC

SELECTED
DISPLAY OPTION: TECHNICAL MANUAL FUNCTIONAL GROUP CODE

SELECTED
LCN/ITEM NAME SELECTION: BOTH

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

SECTION II. PROOF MAINTENANCE ALLOCATION CHART

TM 5-4110-234-14

XB.tmfgc	XB.lcnomen	CA.taskcode (1st Position)	CA.taskcode CALC (3rd Position)				Generated	CE.taskmrk
(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS & EQUIP REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW (C)	MAINTAINER (F)	BELOW DEPOT (H)	DEPOT (D)		
06	(ENGINE ASSEMBLY)	TEST SERVICE REPLACE	.0 .1 .1	1.5 .0 .0	.0 .8 .0	.0 .0 .0	4,5,6,12,14,16	AA
0601	(DELUXE CARB)	REPAIR SERVICE REPLACE	.0 .0 .1	1.2 .8 .0	.0 .0 .3	.0 .0 .0	9,11 8,10 9,13	
0602	(ENGINE BLOCK)	REMS/INS	.0	.0	.5	.0	4,13	
0602	(SUPER CARB)	REPLACE REPAIR	.0 .0	.0 1.4	1.5 .0	.0 .0	9,13	BB
060201	(PISTON ASSY)	REPAIR	.0	.0	.2	.0	1,2,3,15	
0607	(CARBURETOR)	ADJUST SERVICE REPAIR	.0 .0 .0	.0 .5 .0	1.0 .0 .2	.0 .0 .0	8,10	
0608	ASSEMBLY, CIRCUIT CARD (CCA, EMS MODULE)	INSPECT REPLACE TEST REPAIR	0.1 0.5	0.1 0.5		1.0 2.0	1 1 1, 2, 3, 6, 7, 8 1, 2, 3, 4, 6, 7, 8	

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

SECTION III. PROOF TOOL AND TEST EQUIPMENT REQUIREMENTS

5-4110-234-14

GENERATED TOOL/TEST EQUIPMENT REF CODE	CA.taskcode (3rd POSITION) MAINT LEVEL	HA.itemname NOMENCLATURE	HA.nsnfsc HA.nsnniin NATIONAL/NATO STOCK NUMBER	HA.refno TOOL NUMBER
1	F	SET, SOLDERING	5820-00-347-8650	4003100
2	F	COMPRESSOR, RING	5480-00-123-9876	4003100
3	F	LEAK DETECTION DEV	3420- - -	4990866
4	O, F	WRENCH, SOCKET	5120-00-449-8083	AT503
5	O	SCREWDRIVER	5120-00-278-1273	A135
6	O	SOCKET	5120-00-189-7985	A24
7	F	WRENCH, BOX	5120-00-148-7917	B107-6
8	F	TONGS		B25
9	O	SOCKET WRENCH		B2502
10	F	BUCKET WITH LID		CTB1
11	O	COMPRESSION GAUGE	5210-00-278-1248	GGG-G-17 TY9CL2S
12	O	PLIERS	5120-00-293-0032	GGG-P-471
13	O, F	SCREWDRIVER	5120-00-222-8852	GGG-S-121
14	O	EXT, SOCKET WRENCH	5120-00-243-1697	GGG-W-641
15	F	SPREADER, PISTONRING		JH25
16	O	SCREW STARTER, HAND	5120-00-832-6221	SN9

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

MAINTENANCE ALLOCATION CHART

TM 5-4110-234-14

SECTION IV. PROOF REMARKS

CE.taskrrcd REMARKS CODE	CE.taskrmrk REMARKS
AA	DS WILL REPLACE PHENOLIC CONNECTOR AND POT FOR MOISTURE.
BB	ALL REPAIR AND REPLACEMENT OF PARTS PERFORMED BY ORGANIZATIONAL MAINTENANCE LIMITED TO AUTHORIZED ITEMS LISTED IN TM 9-4240-1643-24P.

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

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AVIATION MAINTENANCE ALLOCATION CHART SUMMARY							
XB.eiac	XB.lcnno	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES
TURBIN ENG	ENGINE ASSY	006		P		FF	ARMY

EA.segicc
ITEM CATEGORY CODES SELECTED: A, B, C

SELECTED
TOOL LIST OPTION: YES

XI.tmc
TECHNICAL MANUAL CODE: TM2

XI.tmn
TECHNICAL MANUAL DESIGNATION: TM 5-4110-234-14

SELECTED
DRAFT/PROOF/AVIATION OPTION SELECTED: AVIATION MAC

SELECTED
DISPLAY OPTION: TECHNICAL MANUAL FUNCTIONAL GROUP CODE

SELECTED
LCN/ITEM NAME SELECTION OPTION: BOTH

Figure 4 – Format for LSA-004, Aviation Maintenance Allocation Chart (Continued)

SECTION II. AVIATION MAINTENANCE ALLOCATION CHART

TM 5-4110-234-14

XB.TMFGC	XB.lcnomen	CA.taskcode (1st Position)	CA.taskcode CALC (3rd Position)				Generated	CE.taskmrk
(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS & EQUIP REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
04	Power Plant							
0401	Engine Turbine	Inspect Test Test Service Replace Repair Repair Overhaul	0.1 0.1 0.2	 0.2 0.4 0.4	 0.4	 3.0	1	A B A
040101	External Lines/Hoses	Inspect Test Replace Repair	0.1 0.5	0.2 1.0			3	
0402	Compressor, Selection (Cold Selection Module)	Inspect Inspect Test Service Repair Repair Overhaul	0.1 0.2	0.2 0.2 .04	 0.6	 4.0		

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

AVIATION TOOL AND TEST EQUIPMENT REQUIREMENTS

TM 5-4110-234-14

GENERATED TOOL/TEST EQUIPMENT REF CODE	CA.taskcode (3rd POSITION) MAINT LEVEL	HA.itemname NOMENCLATURE	HA.nsnfsc HA.nsniiin NATIONAL/NATO STOCK NUMBER	HA.refno TOOL NUMBER
1	F	SET, SOLDERING	5820-00-347-8650	4003100
2	F	COMPRESSOR, RING	5480-00-123-9876	4003100
3	F	LEAK DETECTION DEV	3420- - -	4990866
4	O, F	WRENCH, SOCKET	5120-00-449-8083	AT503
5	O	SCREWDRIVER	5120-00-278-1273	A135
6	O	SOCKET	5120-00-189-7985	A24
7	F	WRENCH, BOX	5120-00-148-7917	B107-6
8	F	TONGS		B25
9	O	SOCKET WRENCH		B2502

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

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SECTION IV. AVIATION REMARKS

CE.taskrrcd REMARKS CODE	CE.taskrmrk REMARKS
A	INSPECTION; REMOVE ENGINE COWLING, NEED ADDITIONAL LIGHTING FOR INSPECTION.
B	TEST; ATE TEST EQUIPMENT IS PROVIDED IN THE COMMON TEST EQUIPMENT SET.

Figure 4 – Format for LSA-004, Maintenance Allocation Chart (Continued)

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4.4 Support Item Utilization Summary (LSA-005)

4.4.1 Introduction

This summary shows the use of the item by maintenance level. The summary should be used to justify the requirement for support equipment and determine the quantity and distribution requirements. The summary should also be used to determine recommended order quantities of repair parts based on their total use.

4.4.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Requires the acquiring organization to provide the warfighter with a capability that satisfies the need to include any required training, spares, technical data, computer software, support equipment, maintenance, or other logistics support necessary for operation.
- MIL-HDBK-2097. States that the initial SE order is accomplished by the ordering activity based upon approval and authorization from the acquiring activity. The SE items, quantities, and estimated costs will be furnished to the ordering activity by the acquiring activity. The initial SE order may include requirements for SE engineering drawings and associated lists, support equipment Illustrations, SE logistic support requirements, and other requirements as specified in the approved Support Equipment Recommendation Data (SERDs), the CDRL, and the order as specifically provided by the ordering activity.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task Inventory (Activity C.1.9), and Maintenance Task Analysis (Activity D.1); specifically Supply Support (Activity D.1.8).
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective for Army MATDEVs will be minimizing the development of special tools and test equipment (STTE) and new or system-unique support equipment and components.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.4.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers This is a management/analyst review summary. Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of support equipment.

What: During development, this summary should be used to justify support equipment requirements, determine quantities and determine distributions of support equipment based on their maintenance task usage. The complete Support Item Utilization Summary will not be fully mature until a detailed task analysis is performed at the lowest possible indenture level.

When: These analyses, beginning in the Definition Phase, are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time. Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW with DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

How: The data on this summary is an output of Task Inventory (SAE TA-STD-0017A, Activity C.1.9), and Maintenance Task Analysis (Activity D.1); specifically Supply Support (Activity D.1.8).

Why: This summary assists managers in making decisions for the usage and justification of support equipment toward supply support/provisioning. As part of the U.S. Army's Total Systems Approach, this summary provides a list of support items by their utilization which assists in determining quantities and distribution requirements.

4.4.4 Scope

This summary, by ICC, shows the use of the item by maintenance level and LCN. The user has the option to choose between elapsed time an item of support equipment is used, or the quantity of support items utilized.

4.4.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, UOC, Item Category Code, and Elapsed Time/Quantity option

Optional: Service Designator (SERV DES), ALC, Stop LCN and Display Option [LCN (default) or Technical Manual Functional Group Code (TMFGC)]

- a. If the Elapsed Time option is selected, then only the following ICCs will be allowed: D, E, F, G, H, J, M, N, P, R, S, T, U, V, AC, and 1 to 8.
- b. If the Quantity option is selected, only the following ICCs will be allowed: K, L, Q, W, X, Y, Z, AA, AB, AD, AE, and 9.

4.4.6 Processing/Business Rules

Task Codes are qualified by matching on selected Service Designator. Measured values for Elapsed Time and Man-Hours take precedence over Predicted values. Each Elapsed Time and Man-Hour value will have a (P) or (M) associated with it to distinguish between Predicted and Measured values. Qualified tasks must have a valid Mean Minute Elapsed Time entry in Entity CB, or Mean Elapsed Time (measured or predicted) in Entity CA, and a Task Frequency entry in Entity CA over the range of selected LCNs for the Elapsed Time option. Likewise, Task Frequency and Quantity per Task (Support Item Quantity per Task) or Quantity per Task in Entity CI, depending on ICC, must have entries for the Quantity option.

- a. At each Operations/Maintenance (O/M) Level, the total annual elapsed time for all tasks where a particular item of support equipment is used is calculated:

$$t_e = \sum_{i=1}^n (f_{ti})(t_{ei}) \quad (\text{Eq. 7})$$

where:

t_e	=	Total Elapsed Time per O/M Level
f_{ti}	=	Task Frequency for task i
t_{ei}	=	Elapsed Time for task i
n	=	Total number of tasks performed

- b. At each O/M Level, the total annual quantity of a repair part is calculated for each task where the repair part is used:

$$q_t = \sum_{i=1}^n (f_{ti})(q_i) \quad (\text{Eq. 8})$$

where:

q_t	=	Total Quantity per O/M Level
f_{ti}	=	Task Frequency for task i
q_i	=	Quantity per task i
n	=	Total number of tasks performed

- c. The total elapsed time usage for a piece of support equipment for all maintenance levels or total quantity for repair parts for all maintenance levels is calculated by summing all total elapsed times or quantities for each level of maintenance, respectively, that the piece of support equipment or repair part is utilized.
- d. If elapsed time is selected, the ICC from entity EA is qualified against the CG reference number/CAGE.
- e. If quantity is selected, the ICC from entity HG is qualified against the CI reference number/CAGE.

4.4.7 Sequence

The summary is sequenced first by ICC (A to Z, 1 to 9); second by ascending Reference Number; third by ascending maintenance level (crew-depot); and fourth by ascending LCN or TMFGC.

4.4.8 Data Sources

The data sources listed in Table 6, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 6 – Data Sources for Support Item Utilization Summary (LSA-005)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
ITEM CATEGORY CODES	Support Equipment Item Category Code (TQ OPTION = ELAPSED TIME)	EA	2730	Required
	Item Category Code (TQ OPTION = QUANTITY)	HG		
TIME/QUANTITY OPTION (Selected)				Required
DISPLAY OPTION (Selected. Options include: LCN, TM FGC)				Optional
OUTPUT				
SUPPORT ITEM REFERENCE NUMBER	Task Support Reference Number (TQ OPTION = ELAPSED TIME)	CG	4400	Required
	Task Provision Reference Number (TQ OPTION = QUANTITY)	CI		
CAGE	Task Support Commercial and Government Entity Code (T/Q OPTION = ELAPSED TIME)	CG	1520	Required
	Task Provision Commercial And Government Entity Code (T/Q OPTION = QUANTITY)	CI		
ITEM NAME	Item Name	HA	2790	Optional
ITEM CATEGORY CODE	Support Equipment Item Category Code (TQ OPTION = ELAPSED TIME)	EA	2730	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Item Category Code (TQ OPTION = QUANTITY)	HG		
M/L	Task Code (3rd Position)	CA	5110	Required
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TM FUNCT GROUP CODE	Technical Manual Functional Group Code	XB	5260	Required
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required
ELAP TIME	Predicted Mean Elapsed Time	CA	3210	One or the other is required
	Measured Mean Elapsed Time			
MAN-HOURS	Predicted Mean Man Hours	CA	3220	One or the other is required
	Measured Mean Man Hours			
QTY/TA	Support Item Quantity Per Task (TQ OPTION = ELAPSED TIME)	CG	4230	One or the other is required
	Quantity per Task (TQ OPTION = QUANTITY)	CI		
UM	Support Item Quantity Per Task Unit of Measure (TQ OPTION = ELAPSED TIME)	CG	5720	One or the other is required
	Quantity Per Task Unit of Measure (TQ OPTION = QUANTITY)	CI		
TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR MAINTENANCE LEVEL (Calculated)				Automatically generated
TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR ALL MAINTENANCE LEVELS (Calculated)				Automatically generated

4.4.9 Format

The format shown in Figure 5 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

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SUPPORT ITEM UTILIZATION SUMMARY (LSA-005)

XA.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	EA.seqicc HG.icc
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	ITEM CATEGORY CODES
REFRIG UNT	CARBURETOR ASSEMBLY	00607	00	P	007	FF	ARMY	2, 8

SELECTED TIME/QUANTITY OPTION	SELECTED DISPLAY OPTION
ELAPSED TIME	LCN

CG.refno CI.refno	CG.cage CI.cage	HA.itemname	EA.seqicc HG.icc
SUPPORT ITEM			
REFERENCE NUMBER: SC5189-90-CL-N14-2345	CAGE: 44940	ITEM NAME: TOOL KIT GEN REFRIG	ITEM CATEGORY CODE: Z

CA.taskcode	CA.lcn	CA.alc	XB.lcnomen	XB.tmfcc
M/L	LCN	ALC	LCN NOMENCLATURE	TM FUNCT GROUP CODE
DS	00614	00	STARTER ASSY	0614

CA.taskcode	CA.taskid	CA.tskfreq	CA.taanormb	CA.prdmneit CA.msdmneit	CA.prdmnhr CA.msdmnhr	CG.sigpta CI.qtyperta	CG.seqptaum CI.qtypptaum
TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	ELAP TIME	MAN-HOURS	QTY/TA	UM
JGFAGAA	REPAIR STARTER ASSY	.3330	O	.35 (M)	.35 (M)	1.00	EA
HGFAGAA	REPLACE STARTER ASSEMBLY	.3330	O	.61 (M)	.61 (M)	1.00	EA

CALC
TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR MAINTENANCE LEVEL:DS .32

CALC
TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR ALL MAINTENANCE LEVELS .32

SUPPORT ITEM		CAGE: 44940	ITEM NAME: TONGS	ITEM CATEGORY CODE: 4
REFERENCE NUMBER: B25				

M/L	LCN	ALC	LCN NOMENCLATURE	TM FUNCT GROUP CODE
DS	00607		CARBURETOR ASSY	0607

TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	ELAP TIME	MAN-HOURS	QTY/TA	UM
CGFAGAA	SERVICE CARBURETOR	3.3360	O	1.70 (M)	.20 (M)	1.00	EA

TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR MAINTENANCE LEVEL: DS 5.67

TOTAL ELAPSED TIME USAGE FOR SUPPORT EQUIPMENT FOR ALL MAINTENANCE LEVELS 5.67

Figure 5 – Format for LSA-005, Support Item Utilization Summary

4.5 Critical Maintenance Task Summary (LSA-006)

4.5.1 Introduction

The summary provides a list of all maintenance tasks which exceed a specific value for Task Frequency, or elapsed time, or man-hours, or annual man-hours. This summary should be used to pinpoint problem areas and plan maintenance for critical components. By analyzing the problem areas, analysts may be able to reduce maintenance times or identify potential candidates for redesign.

4.5.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- MIL-HDBK-2097. States that a critical item is an item of SE for which the period of time, cost, safety, or state of the art required to obtain it makes meeting contractual end article delivery schedules, or the need date, a critical factor. SE critical items are afforded special management attention.
- MIL-STD-46855. Requires the analysis of all tasks to ensure safety.
- DI-HFAC-81399. Requires the delivery of a report detailing critical tasks.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.

4.5.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. The formatted summary may be delivered as part of a contractual requirement.

What: The data is a direct input to a Critical Task Analysis Report (DI-HFAC-81399) as required by MIL-STD-46855. Critical Task Analysis, is an analysis of human performance requirements which, if not accomplished IAW system requirements, will likely have adverse effects on cost, system reliability, efficiency, effectiveness, or safety.

When: During development, this summary should be used as an analysis tool to pinpoint specific problem areas as related to planned maintenance for critical components throughout the development process. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indeture level over time.

Why: Identification of critical tasks allows decision makers to adjust corrective and preventive maintenance tasks and potentially influence design so that maintenance tasks no longer exceed specific criteria (negatively impacting cost, schedule, or performance).

4.5.4 Scope

The summary provides a list of all maintenance tasks which exceed a specific value for Task Frequency, or elapsed time, or man-hours, or annual man-hours. The specific value(s) exceeded is identified as critical criteria. The summary may be selected for any maintenance level or combination of levels and for scheduled or unscheduled maintenance.

4.5.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, UOC, and Critical Criteria (optional between Task Frequency, Elapsed Time, Man-Hours, and Annual Man-Hours)

Optional: Service Designator, ALC, Stop LCN, Display Option (LCN or TMFGC), Maintenance Level, and Maintenance Interval (Unscheduled or Scheduled)

4.5.6 Processing/Business Rules

Task Codes must qualify by matching on selected Service Designator (Task Code, fourth position). Task Codes must qualify by matching on selected Maintenance Level (Task Code, third position). If unscheduled maintenance interval is selected, then Task Codes are further qualified by checking the second position for F, G, or J. If scheduled maintenance interval is selected, then Task Codes are qualified by checking the second position for A, B, C, E, H, K, L, M, N, P, Q, or R. Task Interval Code of Y (BDAR) is not included in the LSA-006.

- a. Depending upon selection option chosen (Task Frequency, Elapsed Time, Man-Hours, or Annual Man-Hours), at least one qualifying task with a Task Frequency, or Elapsed Time, or Mean Man-Hours must be entered for the corresponding selection. Annual Man-Hour selection requires Elapsed Time and Mean Man-Hours values entered. The selection options will give the user a specific summary based upon the critical maintenance task by Task Frequency, Elapsed Time, Man-Hours, or Annual Man-Hours.
- b. When man-hours or elapsed times are reported each value will be preceded by a (P) or (M) to indicate predicted or measured values, respectively. Where a measured value has not been input, the summary will default to the predicted value.
- c. Annual man-hours is computed by multiplying the mean man-hours by the Task Frequency for the given task. Measured Mean Man-Hours takes precedence over Predicted Mean Man-Hours when both are present.

4.5.7 Sequence

This summary is sequenced by descending critical value. If the critical values are identical, then the summary sequences by ascending LCN, then by ascending Task Codes (start with first position).

4.5.8 Data Sources

The data sources listed in Table 7, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 7 – Data Sources for the Critical Maintenance Task Summary (LSA-006)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4 th position)	CA	5110	Optional
DISPLAY OPTION (Selected. Options include LCN, TM FGC)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
CRITICAL CRITERIA [(Header (Selected))]				
TASK FREQUENCY	Task Frequency	CA	5140	Select one per summary
ELAPSED TIME	Mean Elapsed Time	CA	3210	
MAN-HOURS	Mean Man Hours	CA	3220	
ANNUAL MAN-HOURS	Annual Man-Hours	CA	1210	
OUTPUT				
TM FGC	Technical Manual Functional Group Code	XB	5260	Depends on selection option
ALC	Alternate Logistics Support Analysis Control Number	CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
REFERENCE NUMBER	Reference Number	HA	4400	Optional
CAGE	Commercial and Government Entity Code	HA	1520	Optional
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
CRITERIA (Header)				
TASK FREQ	Task Frequency	CA	5140	Required if Task Frequency selected as Critical Criteria
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required for calculations
MAN-HOURS	Predicted Mean Man Hours	CA	3220	One or the other is required if Man-Hours selected as Critical Criteria
	Measured Mean Man Hours			
ELAPSED TIME	Predicted Mean Elapsed Time	CA	3210	One or the other is required if Elapsed Time selected as Critical Criteria
	Measured Mean Elapsed Time			
ANNUAL MAN-HOURS (Calculated)	Mean Man Hours (Measured then Predicted)	CA	3220	Requires both if Annual Man-Hours selected
	Task Frequency		5140	
LCN	Logistics Support Analysis Control Number	XB	2970	Depends on selection option

4.5.9 Format

The format shown in Figure 6 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary. The sample shown is for the Task Frequency Summary. Other summary options include: Elapsed Time, Man-Hours, or Annual Man-Hours.

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CRITICAL MAINTENANCE TASK SUMMARY (LSA-006)

XA.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	DISPLAY OPTION
REFRIG UNT	REFRIGERATION UNIT	0		P		DCY	AIR FORCE	TM FGC

CRITICAL CRITERIA

1. THE FOLLOWING TASKS EQUALS TO OR EXCEEDS 2.0000 FOR TASK FREQUENCY

2. THIS SUMMARY COVERS THE FOLLOWING MAINTENANCE LEVELS: ALL

3. THIS SUMMARY COVERS UNSCHEDULED TASKS ONLY

XB.tmfgc	XB.alc	XB.lcn	HA.refno	HA.cage	CA.taskcode	CA.taskid	CA.tskfreq	CA.taannormb	XB.lcn
TM FGC	ALC	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	TASK CD	TASK IDENTIFICATION	TSK FREQ	MB	LCN
00	00	REFRIGERATION UNIT	F100000RG-245CK4 AM700	94833	HGOAAAA	REPLACE REFRIGERAT ION UNIT	4.0540	O	0
0607	00	CARBURETOR ASSY	142-0431	44940	CGFAAAA	SERVICE CARBURETOR	3.3360	O	00607
0607	00	CARBURETOR ASSY	142-0431	44940	DGOAAAA	ADJUST CARBURETOR	3.3360	O	00607
06	00	ENGINE ASSY	CCKA-MS/3834J	44940	HGDAAAA	REPLACE ENGINE ASSY	3.3330	O	006
06	00	ENGINE ASSY	CCKA-MS/3834J	44940	NGOAAAA	FAULT LOCATION - ENGINE ASSY	3.3090	O	006
05	00	COMPRESSOR ASSY	5D43-139-A	10855	HGFAAAA	REPLACE COMPRESSOR ASSY	2.0000	O	005

Figure 6 – Format for LSA-006, Critical Maintenance Task Summary

4.6 Support Equipment Requirements (LSA-007)

4.6.1 Introduction

LSA-007 is a summary of all support equipment (i.e., tools, test equipment, etc.) utilized by Skill Specialty Code and level of maintenance. The summary may be selected for any maintenance level or combination of levels. This summary should be used to develop tool kits for each skill specialty at each level of maintenance.

4.6.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that during Production and Deployment the acquiring organization provides the warfighter with a capability that satisfies the need to include any required training, spares, technical data, computer software, support equipment, maintenance, or other logistics support necessary for operation.
- MIL-HDBK-2097. The SE items, quantities, and estimated costs will be furnished to the ordering activity by the acquiring activity. The initial SE order may include requirements for SE engineering drawings and associated lists, support equipment illustrations, SE logistics support requirements, and other requirements as specified in the approved SERDs, the CDRL, and the order as specifically provided by the ordering activity.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task Inventory (Activity C.1.9), and Maintenance Task Analysis (Activity D.1).
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective of the Army MATDEVs will be minimizing the development of special tools and test equipment and new or system-unique support equipment and components.
- AR 700-18. States Acquisition of Provisioning Technical Documentation (PTD) will be sufficient to (1) Perform provisioning coding, (2) Accomplish provisioning screening (see Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS), Vol. 10), and (3) Select and compute requirements for support items, tools, test equipment, and support equipment."
- AR 700-127. States ease of repair in the forward battlefield area is a key design parameter for all Army equipment. The maintenance task design interface for a materiel must emphasize (1) the use of standard Army sets, kits, outfits, and tools and test, measurement and diagnostic equipment (TMDE) to meet tool and TMDE requirements, (2) minimizing requirements for special tools and special test equipment, and (3) Reducing required maintenance skill levels.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.6.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of support equipment.

What: During development, this summary is useful for developing tool kits and for identifying support equipment utilized by Skill Specialty Code and by level of maintenance.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several iterative analyses including Task Inventory (SAE TA-STD-0017A, Activity C.1.9) and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing

government or commercial equipment (PSM Guidebook). This summary can provide a view of support equipment to help identify proliferation of support equipment. Additionally, this summary can assist in developing kits necessary to support a system for corrective and preventive maintenance tasks at a particular maintenance level for a specific skill specialty.

4.6.4 Scope

This is a summary of all support equipment (i.e., tools, test equipment, etc.) utilized by Skill Specialty Code (SSC) and level of maintenance. The summary may be selected for any maintenance level or combination of levels. This summary should be used to develop tool kits for each skill specialty at each level of maintenance.

4.6.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator, ICCs, ALC, Stop LCN, SSC, Maintenance Level, Display Option (LCN (default) or TMFGC), SSC Description Option, and Sequence Option [Skill Specialty Code (SSC) then level of maintenance, or level of maintenance then Skill Specialty Code (SSC) (default)]

4.6.6 Processing/Business Rules

- Task Codes are qualified by matching on selected Service Designator and Maintenance Level against the range of LCNs chosen. Selected Item Category Codes are limited to D, G, H, M, N, P, R, V, 1 through 8, AC, and AF.
- The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.6.7 Sequence

This summary is sequenced according to the selected Sequence Option (SSC then Maintenance Level or Maintenance Level then SSC) first, then by Display Option (LCN or TMFGC) second, and Reference Number third.

4.6.8 Data Sources

The data sources listed in Table 8, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 8 - Data Sources for the Support Equipment Requirements (LSA-007)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
ICC (Selected) NOTE: Allow summary to use only items w. ICCs from EA entity	Support Equipment Item Category Code	EA	2730	Optional
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
M/L	Task Code	CA	5110	Optional
SEQ OPT (Selected)				
DISP OPT (Selected. Options include: LCN, TMFGC)				
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
M/L	Task Code	CA	5110	Required
SSC	Skill Specialty Code	CD	4810	Required
	New or Modified Skill Specialty Code			
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
LCN	Logistics Support Analysis Control Number	CG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number	CG	1200	Required
TASK CODE	Task Code	CG	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TMFGC	Technical Manual Functional Group Code	XB	5260	Optional. Required when used to sort via TMFGC.
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC is selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.6.9 Format

The format shown in Figure 7 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

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SUPPORT EQUIPMENT REQUIREMENTS BY SKILL SPECIALTY CODE AND MAINTENANCE LEVEL (LSA-007)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	EA.segicc	CD.nomskspc	CD.skspc	CA.taskcode
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	ICC	SSC		M/L
REFRIG UNT	ENGINE ASSY	006		P	00608	FF	NAVY	4	52C20AAA1		O
SELECTED	SELECTED	SELECTED									
SEQ OPT	DISP OPT	SSC DESCRIPTION OPTION									
M/L-SSC	LCN	NO									
CA.taskcode	CD.skspc	CD.nomskspc	HA.itemname	CG.refno	CG.cage	CG.lcn	CG.alc	CG.taskcode	CA.taskid		XB.tmfcc
M/L	SSC		ITEM NAME	REFERENCE NUMBER	CAGE	LCN	ALC	TASK CD	TASK IDENTIFICATION	TM	FGC
ORG	52C20AAA1		CLOTHS	A-A-531	04643	006	00	HGOXAAA	REPLACE ENGINE ASSY		06
			ADJUSTABLE WRENCH	AT503	41947	006	00	HGOXAAA	REPLACE ENGINE ASSY		06
			SOCKET SET 3/8 INCH	B2502	41947	00607	00	HGONGAA	REPLACE CARBURETOR	0607	
			TOOL KIT GEN REFRIG	SC5180-90-CL-N14-1234	44940	006	00	CBONAAA	CHANGE OIL AND OIL	06	
			TOOL KIT GEN REFRIG	SC5180-90-CL-N14-1234	44940	006	00	HGOXAAA	REPLACE ENGINE ASSY	06	
			TOOL KIT GEN REFRIG	SC5180-90-CL-N14-1234	44940	00607	00	HGONGAA	REPLACE CARBURETOR ON	607	
			SEALANT, GASKET	S023	10855	00607	00	HGONGAA	REPLACE CARBURETOR ON	0607	
			FILTER, OIL	122-0323	10855	006	00	CBONAAA	CHANGE OIL AND OIL	06	
			KIT, GASKET	142-0033	10855	00607	00	HGONGAA	REPLACE CARBURETOR	607	
									ON ENGINE ASSY		

Figure 7 – Format for LSA-007, Support Equipment Requirements by Skill Specialty Code and Maintenance Level

4.7 Support Items Validation Summary (LSA-008)

4.7.1 Introduction

LSA-008 provides a listing of support items required to support/perform the task at each maintenance level. It is used to review support item requirements for the maintenance and operator task(s) involved.

4.7.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Department of Defense Directive (DoDD) 4151.18. Requires minimizing of requirements for support equipment including test, measurement, and diagnostic equipment (TMDE). When the use of support equipment can not be eliminated, standardize support equipment design for the broadest possible range of applications, consistent with maintenance concepts. Maintenance programs for military materiel shall utilize diagnostics, prognostics and health management techniques in embedded and off-equipment applications when feasible and cost-effective. Maintenance programs shall provide the organic maintenance workforce with the range of technological tools necessary to enhance capabilities (e.g., interactive technical manuals, portable maintenance aids, access to technical information), properly equip the workforce, and provide adequate technical and managerial training.
- MIL-HDBK-2097. Requires the initial SE order be accomplished by the ordering activity based upon approval and authorization from the acquiring activity. The SE items, quantities, and estimated costs will be furnished to the ordering activity by the acquiring activity. The initial SE order may include requirements for SE engineering drawings and associated lists, support equipment illustrations, SE logistic support requirements, and other requirements as specified in the approved SERDS, the CDRL, and the order as specifically provided by the ordering activity.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), and Maintenance Task Analysis (Activity D.1).
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective of the Army MATDEVs will be minimizing the development of special tools and test equipment and new or system-unique support equipment and components.
- AR 700-18. Requires acquisition of Provisioning Technical Documentation (PTD) be sufficient to (1) Perform provisioning coding, (2) Accomplish provisioning screening [see Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS), Vol. 10], and (3) Select and compute requirements for support items, tools, test equipment, and support equipment.
- AR 700-127. Ensure that Logistics Demonstrations (LDs) include the nondestructive disassembly, reassembly, diagnostics and prognostics demonstration of a production representative materiel using its required TMDE, tools, training devices, technical publications and support equipment. The LD will address operator, field maintenance, and remove and replace tasks; preventive maintenance checks and services; troubleshooting; and diagnostics and prognostics. The diagnostics and prognostics demonstration will address 100 percent of all known critical faults, introduced into the equipment individually according to the FMECA.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.7.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of support equipment.

What: During development, LSA-008 provides a specific view of support equipment by maintenance level tasks. It also provides direct input into a maintenance plan and provisioning processes.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be

delivered as part of a LPD file as the contract specifies. The complete Support Items Validation Summary to the level of detail necessary, to execute the maintenance plan, will not be mature until a detailed task analysis is performed at the lowest possible indenture level. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several iterative analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), and Maintenance Task Analysis (D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Programs are required to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest Total Operating Cost.

4.7.4 Scope

This summary provides a listing of support items required to support/perform the task at each maintenance level. The support items are categorized in groups of: Support/Test Equipment and Tools; Spare and Repair Parts; and Other. This summary should be used to review support items requirements for the maintenance and operator task(s) involved and may be selected for an entire equipment, specific LCN range, maintenance level, or ICC(s).

4.7.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, UOC

Optional: Service Designator, ALC, Stop LCN, Maintenance Level, Item Category Code, and SSC Description Option

4.7.6 Processing/Business Rules

As a minimum, there must be one qualified LCN (within the specified LCN range) with a Support Item Reference Number and CAGE Code (CAGE) entered against it (Entity HA) that matches on selected ICCs and a Task Code that matches on selected Maintenance Level and Service Designator.

- Items qualifying as "Support/Test Equipment and Tools" must have an ICC of D, G, H, M, N, P, R, V, 1 to 8, or AC.
- Items qualifying as "Spare and Repair Parts" must have an ICC of K, L, X, Y, Z, 9, AA, AB, or AE.
- Items qualifying as "Other" must have an ICC of E, F, J, Q, S, T, W, AD, or AF.

The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.7.7 Sequence

This summary is sequenced by ascending Maintenance Level (crew-depot), then ascending ICC, then ascending Reference Number within each ICC grouping. The ICC grouping order is Support/Test Equipment and Tools, then Spare and Repair Parts, then Other Data Sources.

4.7.8 Data Sources

The data sources listed in Table 9, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 9 – Data Sources for Support Items Validation Summary (LSA-008)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
M/L SEL (Selected)				
ICC SELECTED (Selected)				
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
SUPPORT/TEST EQUIPMENT AND TOOLS (Header)				
M/L	Task Code	CG	5110	Required
ICC	Item Category Code	EA	2730	Required
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
QTY/TASK	Support Item Quantity per Task	CG	4230	Optional
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Required if QTY/TASK selected
SUPPORT LCN	Logistics Support Analysis Control Number	CG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CG	1200	Required
TASK CD	Task Code	CG	5110	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Optional
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			
HMPC	Hazardous Maintenance Procedure Code	CA	2380	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SPARES AND REPAIR PARTS (Header)				
M/L	Task Provision Task Code	CI	5110	Required
ICC	Item Category Code	HG	2730	Required
REFERENCE NUMBER	Task Provision Reference Number	CI	4400	Required
CAGE	Task Provision Commercial and Government Entity Code	CI	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
QTY/TASK	Quantity per Task	CI	4230	Optional
UM	Quantity Per Task Unit of Measure	CI	5720	Required if QTY/TASK selected
SUPPORT LCN	Task Provision Logistics Support Analysis Control Number	CI	2970	Required
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required
TASK CD	Task Provision Task Code	CI	5110	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Optional
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			
HMPC	Hazardous Maintenance Procedure Code	CA	2380	Optional
OTHER (Header)				
M/L	Task Code	CG	5110	Required
	Task Provision Task Code	CI		
ICC	Item Category Code	HG	2730	One or the other is required
	Support Equipment Item Category Code	EA		
REFERENCE NUMBER	Task Provision Reference Number	CI	4400	One or the other is required
	Task Support Reference Number	CG		
CAGE	Task Provision Commercial and Government Entity Code	CI	1520	One or the other is required
	Task Support Commercial and Government Entity Code	CG		
ITEM NAME	Item Name	HA	2790	Optional
QTY/TASK	Quantity per Task	CG	4230	Optional
	Support Item Quantity per Task	CI		
UM	Quantity per Task Unit of Measure	CI	5720	Required if QTY/TASK selected
	Support Item Quantity per Task Unit of Measure	CG		
SUPPORT LCN	Task Provision Logistics Support Analysis Control Number	CI	2970	Required
	Logistics Support Analysis Control Number	CG		

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required
	Alternate Logistics Support Analysis Control Number Code	CG		
TASK CD	Task Provision Task Code	CI	5110	Required
	Task Code	CG		
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Optional
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			
HMPC	Hazardous Maintenance Procedure Code	CA	2380	Optional
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.7.9 Format

The format shown in Figure 8 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

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SUPPORT ITEMS VALIDATION SUMMARY (LSA-008)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	M/L SEL	ICC SELECTED
REFRIG UNT	ENGINE ASSY	006		P		DCY	ARMY	O	Z,B,X

SELECTED

SSC DESCRIPTION OPTION: YES

SUPPORT/TEST EQUIPMENT AND TOOLS

CG.taskcode	CG.refno	CG.cage	HA.itemname	CG.sigpta	CG.lcn	CG.alc	CG.taskcode	CA.tskfreq	CD.nomskspc	CA.hazmtpro			
EA.seqicc					CG.seqptaum				CD.skspc	CA.hazmtpro			
M/L	ICC	REFERENCE NUMBER	CAGE	ITEM NAME	QTY/TASK	UM	SUPPORT LCN	ALC	TASK CD	TASK FREQ	MB	SSC	HMPC
ORG	4	AT503	41947	ADJUSTABLE WRENCH	1.00	EA	006	00	HGOXAAA	3.3370	O	52C10AAA1	B
ORG	4	GGG-G-17 TY9CL2S	10855	COMPRESSION GAUGE	1.00	EA	006	00	NGOAAAA	3.3090	O	52C20AAA1	C
		-1234											
ORG	4	GGG-P-471	96906	PLIERS	1.00	EA	006	00	HGOXAAA	3.3370	O	52C10AAA1	B
ORG	4	GGG-W-641	41947	EXT, SOCKET WRENCH	1.00	EA	006	00	HGOXAAA	3.3370	O	52C10AAA1	B
ORG	4	SN9	96906	SCREW STARTER, HAND	1.00	EA	006	00	HGOXAAA	3.3370	O	52C20AAA1	B

SPARE AND REPAIR PARTS

CI.taskcode	CI.refno	CI.cage	HA.itemname	CI.qtyperta	CI.lcn	CI.alc	CI.taskcode	CA.tskfreq	CD.skspc	CA.hazmtpro			
HG.icc					CI.qtypptaum				CD.nomskspc	CA.hazmtpro			
M/L	ICC	REFERENCE NUMBER	CAGE	ITEM NAME	QTY/TASK	UM	SUPPORT LCN	ALC	TASK CD	TASK FREQ	MB	SSC	HMPC
ORG	X	CCKA-MS/3834J	44940	ENGINE	1.00	EA	006	00	HGOXAAA	3.3370	O	52C20AAA1	B
ORG	Z	SC5180-90-CL-N14	44940	TOOLKIT GAN REFRIG	1.00	EA	006	00	HGOXAAA	3.3370	O	52C10AAA1	B
		-1234											
ORG	Z	SC5180-90-CL-N14	44940	TOOL KIT GAN REFRIG	1.00	EA	006	00	HGOXAAA	3.3370	O	52C20AAA1	B
		-1234											

OTHER

CI.taskcode	CI.refno	CI.cage	HA.itemname	CI.qtyperta	CI.lcn	CI.alc	CI.taskcode	CA.tskfreq	CD.skspc	CA.hazmtpro			
HG.icc					CI.qtypptaum				CD.nomskspc	CA.hazmtpro			
CG.taskcode	CG.refno	CG.cage		CG.sigpta	CG.lcn	CG.alc	CG.taskcode						
EA.seqicc					CG.seqptaum								
M/L	ICC	REFERENCE NUMBER	CAGE	ITEM NAME	QTY/TASK	UM	SUPPORT LCN	ALC	TASK CD	TASK FREQ	MB	SSC	HMPC
ORG	F	142-0001-02	00000	TM-4401-10	1.00	EA	006	00	HGOXAAA				

SKILL SPECIALTY CODE DESCRIPTION

CD.skspc	GA.skspcdsc
SSC	SSC DESCRIPTION
52C10AAA1	ENGINE MECHANIC
52C20AAA1	SENIOR ENGINE MECHANIC

Figure 8 – Format for LSA-008, Support Items Validation Summary

4.8 Support Items List (LSA-009)

4.8.1 Introduction

LSA-009 provides a list of all repair parts, tools, and test equipment necessary to support the system. It is used to provide information necessary to assist in the provisioning process.

4.8.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDD 4151.18. Requires the standardization of support equipment design for the broadest possible range of applications, consistent with maintenance concepts. Maintenance programs for military materiel shall utilize diagnostics, prognostics and health management techniques in embedded and off-equipment applications when feasible and cost-effective. Maintenance programs shall provide the organic maintenance workforce with the range of technological tools necessary to enhance capabilities (e.g., interactive technical manuals, portable maintenance aids, access to technical information), properly equip the workforce and provide adequate technical and managerial training.
- DoDM 4140.01. Provisioning planning begins with program initiation for the planning and acquisition of initial spares to support a new or existing weapon system or major end item and continues through the system acquisition.
- MIL-HDBK-2097. Include requirements for SE engineering drawings and associated lists, support equipment illustrations, SE logistic support requirements, and other requirements as specified in the approved SERDs, the CDRL, and the order as specifically provided by the ordering activity.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task Inventory (Activity C.1.9), and Maintenance Task Analysis (Activity D.1).
- DI-ILSS-80868. The listing of unique tools and test equipment required for the repair and use of the end item. The listing is intended to be used by the government to determine provisioning requirements for special equipment. This DID requires the delivery of the following data elements: EIAC, End Item CAGE Code, Contract Number, End Item National Stock Number (NSN), End Item Reference Number in the header, and Part CAGE, Part Number, Approved Item Name, Unit Price for the parts.
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective of the Army MATDEVs will be minimizing the development of special tools and test equipment and new or system-unique support equipment and components.
- AR 700-18. Select and compute requirements for support items, tools, test equipment, and support equipment.

4.8.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage of support items as part of the provisioning process.

What: During development, LSA-009 provides an alternate view of support equipment associated with the maintenance and operation of a system.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data should be delivered as part of a LPD file as the contract specifies. The complete Support Items List, to the level of detail necessary to provision support items, will not be mature until a detailed task analysis is performed at the lowest possible indenture level. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several iterative analyses including Task Inventory (SAE TA-STD-0017A, Activity C.1.9), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: This summary assists in provisioning of support equipment as required by AR 700-18.

4.8.4 Scope

A summary by LCN, Reference Number, National Stock Number Federal Supply Classification and National Stock Number National Item Identification Number (NIIN) of all repair parts and tools/test equipment necessary to support the system/equipment. The summary may be selected for any Item Category Code or combination of Item Category Codes, or single or multiple Provisioning Technical Documentation selection code. It is sequenced in either ascending LCN or Reference Number/CAGE Code. The Price Provisioning appears on the summary. The summary should be used to provide information necessary to assist in performing provisioning. Spacing between rows and columns is not critical on this summary.

4.8.5 Selection Options

Manadatory: EIAC, Start LCN and at least one selection of Item Category Code (Entity HG) or Provisioning Technical Documentation (Entity HG)

Optional: ALC, Stop LCN, sequence and UOC

The LCN Type is always "P". If both Provisioning Technical Documentation and Item Category Code are selected, then to qualify an item, it must match BOTH selected codes or code combinations.

4.8.6 Processing/Business Rules

- At least one qualified item by either Provisioning Technical Documentation or Item Category Code must be contained in the selected range of LCNs in order to produce the summary. The Unit Price with a Price Type Selection of "M" and a Price Provisioning of "Y" is displayed on the summary.
- All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.
- TOCC is used to exclude deleted items.

4.8.7 Sequence

The summary is sequenced in either ascending Reference Number and CAGE Code, or LCN. If left blank, sequencing is by Reference Number and CAGE Code.

NOTE: An optional sort is by ascending System End Item PCCN/PLISN.

4.8.8 Data Sources

The data sources listed in Table 10, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 10 – Data Sources for Support Items List (LSA-009)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC	Usable On Code	HO/XC	5790	Optional
SEQ OPT (Selected. Options include: CAGE/Reference Number, LCN, PCCN/PLISN)				
ICC	Item Category Code	HG	2730	Either ICC or PTD required
PTD LIST [Sub-Header (Selected)]				
PPL	Provisioning Parts List Provisioning Technical Documentation	HG	4170	If PTD selected, one or more is required
SFPPL	Short Form Provisioning Parts List Provisioning Technical Documentation			
LLTIL	Long Lead Time Items List Provisioning Technical Documentation			
RIL	Repairable Items List Provisioning Technical Documentation			
ISIL	Interim Support Item List Provisioning Technical Documentation			
TTEL	Tool and Test Equipment List Provisioning Technical Documentation			
CBIL	Common and Bulk Items List Provisioning Technical Documentation			
PCL	Post Conference List Provisioning Technical Documentation			
SCPL	System Configuration Provisioning Parts List			
ARA	As Required List A Provisioning Technical Documentation			
ARB	As Required List B Provisioning Technical Documentation			
OUTPUT				
CAGE	Commercial and Government Entity Code	HG	1520	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
WUC	Work Unit Code	HG	5920	Optional
PCCN	System End Item Provisioning Contract Control Number	XC	4100	Required
PLISN	Provisioning List Item Sequence Number	XC/HG	4120	Required
IND	Indenture Code	HG	2520	Optional
ITEM NAME	Item Name	HA	2790	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
NAT STOCK NUMBER	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
SMCC	Special Material Content Code	HA	4900	Optional
SMIC	Special Maintenance Item Code	HA	4870	Optional
ICC	Item Category Code	HG	2730	Required
UM	Item Unit of Measure	HA	5720	Optional
PLT	Production Lead Time	HA	4020	Optional
QTY/EI	Quantity per End Item	XC/HG	4210	Optional
UM PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION (= "M")]		HD	4000	Optional
CURR CD	Currency Code	HD	1745	Optional. Required when Unit Price required
PSPC	Physical Security Pilferage Code	HA	3920	Optional
QTY/ASY	Quantity per Assembly	XC/HG	4190	Optional
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional
SL	Shelf Life	HA	4730	Optional

4.8.9 Format

The format shown in Figure 9 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

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SUPPORT ITEMS LIST (LSA-009)

HG.eiac	HA.itemname	XB.lcn	HG.alc	HG.lcntype	HG.lcn	XF/XC.uoc	SELECTED										
EIAC	ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	SEQUENCE										
REFRIG UNT	REFRIGERATION UNIT	0	00	P			REFERENCE NUMBER										
HG.icc ITEM CATEGORY CODES SELECTED:		HG.pplptd	HG.sfpplptd	HG.lltilptd	HG.rilptd	HG.isilptd	HG.ttlptd	HG.cbilptd	HG.pclptd	HG.scplptd	HG.araptd	HG.arbptd					
		PPL	SFPPL	LLTIL	RIL	ISIL	TTEL	CBIL	PCL	SCPL	ARA	ARB					
X, Y, AA, AC		YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO					
HG.cage	HG.refno	HG.alc	HG.wuc	XC.seipccn	HG.ic	HA.itemname	HA.spcmatcc	HA.icc	HG.qpei	HD.unitprc	HA.physcplc	HG.qpa	HG.srcmtrcc	HA.shflife			
XB.lcn				HG.plisn		HA.nsnccgc nsnmcc nsnfsc nsnniin	HA.smaintic	HA.um	HA.plt	HD.currcode							
CAGE	REFERENCE NUMBER			PCCN	IND	ITEM NAME	SM	SM	ICC	UM	QTY/EI	UM	PRICE	PS/	QTY/ASY	SMR	SL
LCN		ALC	WUC	PLISN	CD	NAT STOCK NUMBER	CC	IC	PLT			CURR	CD	PC			
44940	A12316142F-110			A90B10	C	COMPRESSOR ASSY	9	B	X	EA	00001	1239.74	U		0001	PAOFF	0
00506		00	05AA	AACG		4130-01-091-9159			12			USD					
51440	CCG45/1842-11AC			A90B10	C	POWER SUPPLY	4		X	EA	00002	327.25	U		0001	PAFDD	0
00501		00	0520	ABA3		5120-01-096-3211			07			USD					
31560	LP1213980F-1000			A90B10	B	ENGINE, GASOLINE	9		X	EA	00001	2156.69	U		0001	PAODD	0
006		00	06	AAAK		3150-00-976-9349			15			USD					
54330	12398/1842-11AC			A90B10	C	CABLE, ASSEMBLY	9	A	X	EA	00001	19.39	U		0001	PAFDD	0
00512AA		00	0512A	AC12		5120-01-097-4322			04			USD					
29871	189.0918			A90B10	F	SCREW, CAP	9	A	Y	EA	00001	0.03	U		0001	PAODD	0
0031028AL		00	0312	AV19		5302-01-000-0542			01			USD					
54330	19698/1842-12AD			A90B10	C	CABLE, ASSEMBLY	9	A	X	EA	00001	21.34	U		0001	PAFDD	0
0051209AD		00	0514A	AC28		5120-00-398-4322			04			USD					

Figure 9 – Format for LSA-009, Support Items List

4.9 Parts Standardization Summary (LSA-010)

4.9.1 Introduction

LSA-010 is a summary, by reference number, of all spare and repair parts comprising the system/equipment. It can be utilized to assist in performance of required Defense Standardization Program (DSP) Procedures and DoD Replenishment Parts Breakout Program. Additionally, parts standardization and planning provide programs visibility of obsolescence risk and assure integrity in the Defense Logistics Agency's demand planning role.

4.9.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDM 4140.24. The program manager must balance the decision to standardize against specific mission requirements, technology growth, and cost effectiveness IAW the better buying power tenets described in Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum.
 - In accordance with the DoD's performance-based acquisition policies, it is primarily the contractor's responsibility to recommend the use of standard materials, parts, components, and other items needed to meet performance requirements and satisfy other program elements, such as parts management and logistics support.
 - Interoperability, compatibility, and integration are key standardization goals that must be satisfactorily addressed for all acquisitions. These goals must be specified and validated during the requirements generation process and throughout the product or system life cycle.
- DoDM 4140.01. States significant resources are dedicated to the acquisition and management of parts for military systems and equipment. The ability to competitively buy spares must be considered early in a weapon system acquisition. Initially, repairable or consumable parts are identified and acquired through a provisioning process; repairable or consumable parts acquired thereafter are for replenishment. The objective of the DoD Spare Parts Breakout Program is to reduce costs through the use of competitive procurement methods, or the purchase of parts directly from the actual manufacturer rather than the prime contractor, while maintaining the integrity of the systems and equipment in which the parts are to be used.
- MIL-STD-3018. The Parts Management Program is strictly a contractor internal and only requires a final delivery of a Part Management Plan and a list of Part Numbers and CAGE Codes as specified in DI-SDMP-81748.
- SAE TA-STD-0017A and MIL-HDBK-502A . The following activities are applicable. Activity D.1, Task Analysis and Activity E.1, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Obsolescence Analysis.
- CIM 4408.8.

4.9.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. It is not typically delivered as part of a contractual requirement. Though LSA-010 can be used as input into the Parts Management Program as specified in MIL-STD-3018, it provides far more data than is required. The summary should only be used during program review.

What: LSA-010 can be reviewed during program development and may be used as input into a:

- DSP procedures as it is the responsibility of the program manager to balance the decision to standardize against specific mission requirements, technology growth, and cost effectiveness.
- Parts Management Plan as developed by the contractor.

When: The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. The summary is especially important during a Systems Engineering Technical Review when this summary will assist in interfacing standard parts designation with Supply Chain planning.

How: The data on this summary is an output of the Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). Maintenance Task Analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time. Additionally, this summary can assist in the Supply Chain planning. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

Why: LSA-010 can assist in performance of required DSP Procedures and DoD Replenishment Parts Breakout Program.

4.9.4 Scope

This is a summary by reference number of all spare and repair parts comprising the system/equipment. The summary may be selected for any Contractor Technical Information Code (CTIC) or CTIC combination and for any Acquisition Method Code (AMC) or AMC combination.

4.9.5 Selection Options

Mandatory: EIAC and Start LCN

Optional: ALC, Stop LCN, UOC, AMC, CTIC1, and CTIC2

CTIC1 applies to the first position of the CTIC code and CTIC2 to the second position. A maximum of four AMCs can be selected. Default values for CTIC and AMC selections are "All" legitimate values.

4.9.6 Processing/Business Rules

- In order to produce an LSA-010, summary at least one instance of (Entity HG) qualified by specified CTICs or AMC must be contained within the selected LCN range. All Unit of Measure (UM) Prices for a given LCN/ALC combination will be displayed along with the corresponding Lot Quantity From and To values. A row refers to an entity instance in a data repository.
- All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.

4.9.7 Sequence

The summary is sequenced in ascending Reference Number and CAGE, 1st position of the CTIC, 2nd position of the CTIC, or AMC as specified in the display option.

4.9.8 Data Sources

The data sources listed in Table 11, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 11 – Data Sources for Parts Standardization Summary (LSA-010)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC	Usable On Code	HO/XC	5790	Optional
CTIC	Contractor Technical Information Code	HA	1650	Optional
AMC	Acquisition Method Code	HA	1030	Optional
DISPLAY OPTION (Selected. Options include: CAGE/Reference Number, CTIC 1, CTIC 2, AMC)				
OUTPUT				
REFERENCE NUMBER	Reference Number	HA	4400	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required
RNCC	Reference Number Category Code	HA	4390	Optional
RNVC	Reference Number Variation Code	HA	4410	Optional
ITEM NAME	Item Name	HA	2790	Required
FSC	National Stock Number Federal Supply Classification	HA	2280	Optional
DAC	Document Availability Code	HA	1910	Optional
AMC	Acquisition Method Code	HA	1030	Either AMC or CTIC are required
AMSC	Acquisition Method Suffix Code	HA	1040	Optional
PPSL	Program Parts Selection List	HA	4050	Optional
CTIC	Contractor Technical Information Code	HA	1650	Either AMC or CTIC are required
CTIC CAGE	Contractor Technical Information Code Commercial and Government Entity Code	HA/HC	1520	Optional. Required when CTIC required
UM PRICE	Unit Price	HD	3990	Optional. Required if Lot Quantity required
[PRICE TYPE SELECTION (= "M")]	Price Type Selection	HD	4000	Required If Unit Price selected
CURR CD	Currency Code	HD	1745	Optional. Required when Unit Price required
LOT QUANTITY FROM	Price Lot Quantity From	HD	3000	Optional. Required if Unit Price required
LOT QUANTITY TO	Price Lot Quantity To	HD	3000	Optional. Required if Unit Price required
UM	Item Unit of Measure	HA	5720	Optional. Required if Lot Quantity required
FY	Price Fiscal Year	HD	2300	Optional
CPC	Price Concurrent Production Code	HD	3980	Optional
TUC	Price Type of Price Code	HD	5640	Optional
PUC	Price Provisioning	HD	4140	Required

4.9.9 Format

The format shown in Figure 10 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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PARTS STANDARDIZATION SUMMARY (LSA-010)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcn	HO/XC.uoc	HA.ctic	HA.acqmethdc	SELECTED
EIAC	ITEM NAME	START LCN	ALC	STOP LCN	UOC	CTIC	AMC	DISPLAY OPTION
REFRIG UNT	REFRIGERATION UNIT	0	00			K	3,2	REFERENCE NO

Figure 10 – Format for LSA-010, Parts Standardization Summary

4.10 Requirements for Special Training (LSA-011)

4.10.1 Introduction

LSA-011 is a summary of all operator or maintenance tasks, which have been identified as requiring a special training device and the narrative explanation of the training equipment requirement. The summary should be used to identify the requirements, and provide justification, for the acquisition of training devices.

4.10.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. The Program Manager will, in conjunction with designated DoD Component staff, develop options for individual, collective, and joint training for operators, maintenance and support personnel, and, where appropriate, base training decisions on training effectiveness evaluations (which can be integrated with other test and evaluation). The major tasks identified in the job task analysis, training device document coordinating paper and training plans will support a comprehensive analysis with special emphasis on options that enhance user capabilities, maintain skill proficiencies, and reduce individual and collective training costs. The Program Manager will develop training system plans that consider the use of new learning techniques, simulation technology, embedded training and distributed learning, and instrumentation systems that provide “anytime, anyplace” training and reduce the demand on the training establishment. Where cost effective and practical, the Program Manager will use simulation-supported embedded training, and the training systems will fully support and mirror the interoperability of the operational system IAW DoDD 1322.18, Military Training.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective of the Army MATDEVs will be minimizing the development of special tools and test equipment and new or system-unique support equipment and components.
- AR 350-38. The Training Aids, Devices, Simulators, and Simulations (TADSS) PM will provide initial spare and/or repair parts, Special Tools and Test Equipment (STTE), Operator and Maintenance (O&M) manuals, logistics management information, training materials, and technical data applicable to the TADSS. Data will provide, as a minimum, sufficient information to enable procurement of spare and/or repair parts as well as instructions needed to perform both field and sustainment level maintenance tasks.
- DA PAM 70-3. The PMs manage their acquisition programs to optimize total system performance and reduce TOC. The total system includes, but is not limited to (1) The end item, (2) The associated support items of equipment (ASIOE), (3) The personnel identified to operate and maintain the end item and ASIOE, (4) The training, training devices, and training support identified in capabilities documents and STRAP, and (5) Technical data, to include but not limited to, operations and maintenance manuals including both electronic technical manuals (ETMs) and interactive electronic technical manuals (IETMs), standards, specifications, field manuals, engineering drawings, and software documentation.
- U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 350-70-13. Training developers (TNGDEV) will coordinate with the Capabilities Development and Integration Directorate staff, TCM and MATDEV to ensure program manager (PM)-developed analysis data and learning products conform to established training and education development standards outlined in the TP 350-70 publication series, TRADOC Training Guidance Publications. According to the “balanced fielding” tenet of Army acquisition (refer to AR 70-1), as well as policy regarding development and fielding of training devices, acquisition of the training system will have the same priority as the supported (parent) system or equipment. A System Training Plan (STRAP) should be developed concurrently with the supported system and will be available when the supported system is fielded.

4.10.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Training is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. LSA-011 is important in identifying the requirements and therefore the justification for special training devices.

What: During development, this summary should be used as an analysis tool to identify the requirements, and provide justification, for the acquisition of special training devices.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be

delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several iterative analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: If there are requirements for unique functions, support equipment or software, there may be a need for special training devices. For the U.S. Army, specific training requirements are outlined in the CDD. The data on the LSA-011 is input to a System Training Plan (STRAP), which is begun prior to Milestone B. While the PSM does not develop the STRAP, the data should be shared with the training developer (TNGDEV). The PSM will be aware of any special training devices prior to contract award. This summary displays which tasks are associated with any special training devices.

4.10.4 Scope

This is a summary of all operator or maintenance tasks, which have been identified as requiring a special training device, and the narrative explanation of the training equipment requirement. The summary can be used to identify training opportunities based on unique training devices or to influence changes to functions to reduce unique training requirements.

4.10.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator Code (Task Code, fourth position), ALC, Stop LCN, Display Option (LCN or TMFGC), and SSC Description Option

4.10.6 Processing/Business Rules

As a minimum, at least one qualified LCN within the selected range must contain a "Y" code entry in Training Equipment Requirement Code, Entity CA.

For a given LCN (or TMFGC), show the Subtask Mean Man-Minutes from Entity CD for each New or Modified Skill Specialty Code (else Skill Specialty Code), for each Task Code. If no value found on CD, show Measured Mean Man Hours from Entity CA, else Predicted Mean Man Hours from Entity CA. Calculate the Man-Hours.

Elapsed Time is a roll-up of CB Subtask Mean Minute Elapsed Time for a given Task Code and SSC, else use Measured Mean Elapsed Time from Entity CA then Predicted Mean Elapsed Time from Entity CA.

Man-Hours is a roll-up of CD Subtask Mean Man-Minutes for a given Task Code and SSC. Sum the Subtask Mean Man-Minutes per New or Modified Skill Specialty Code (else Skill Specialty Code) and calculate the Man-Hours. If showing values from Entity CA, show (M) or (P) after the Man-Hour calculation to indicate whether the value is a measured or a predicted value, respectively.

The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.10.7 Sequence

This summary is sequenced by ascending LCN or TMFGC (depending on Display Option chosen), then ALC, then ascending Task Codes.

4.10.8 Data Sources

The data sources listed in Table 12, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 12 – Data Sources for Requirements for Special Training (LSA-011)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
DISPLAY OPTION (Selected. Options include: LCN, TMFGC)				
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
[TRAINING EQUIPMENT REQUIREMENT CODE = “Y”]	Training Equipment Requirement Code	CA	5480	Required for summary generation
ALC	Alternate Logistics Support Analysis Control Number Code	XB/CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
ELAP TIME	Subtask Mean Minute Elapsed Time	CB	3240	Optional (Calculated). 1st Precedence
	Measured Mean Elapsed Time	CA	3210	Optional. 2nd Precedence
	Predicted Mean Elapsed Time	CA	3210	Optional. Last
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MAN-HOURS	Subtask Mean Man-Minutes	CD	3230	Optional (Calculated). 1st Precedence
	Measured Mean Man Hours	CA	3220	Optional. 2nd Precedence
	Predicted Mean Man Hours			Optional. Last
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.10.9 Format

The format shown in Figure 11 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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REQUIREMENTS FOR SPECIAL TRAINING (LSA-011)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcn	XB.lcn	XF/XC.uoc	CA.taskcode	SELECTED		
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	DISPLAY OPTION		
REFRIG UNT	REFRIGERATION UNIT	0		P	00614	DCY	ARMY	LCN		
SELECTED										
SSC DESCRIPTION OPTION: NO										
CA.lcn	CA.alc	XB.lcn	CA.taskcode	CA.taskid	CA.tskfreq	CA.taano	CB.subtmet	CD.skspc	CD.subtmmn	XB.tmfgc
LCN	ALC	LCN NOMENCLATURE	TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	ELAP TIME	SSC	MAN-HOURS	TMFGC
0		REFRIGERATION UNIT	HGOAAAA	REPLACE REFRIGERAT ION UNIT	4.0540	O	.46	52C20AAA1	.46	00
		REFRIGERATION UNIT	HGOAAAA	REPLACE REFRIGERAT ION UNIT	4.0540	O	.46	52C10AAA1	.17	00
		REFRIGERATION UNIT	NGCAAAC	FAULT LOCATION - N OISY OPERATION	5.4050	O	.37	76J20AAA1	.37	00
001		DOOR-SCREEN ASSY	AGOABAA	INSPECT FOR DAMAGE	.8250	O	.09	76J10AAA1	.09	01
00102		DOOR SIDE LEFT	HGOABAA	REPLACE DOOR	.5720	O	.19	52C20AAA1	.19	0102
002		WIRE HARNESS ASSY	ABOACAA	ORGANIZATIONAL INS P OF WIRES/CABLES	.3000	O	.10	52C10AAA1	.10	02
		WIRE HARNESS ASSY	BGDAGAA	TEST WIRE HARNESS ASSY	.2000	O	.37	35B30AAA1	.37	02
		WIRE HARNESS ASSY	RGDAGAA	REMOVE WIRE HARNES S ASSY	.2000	O	.50	35B20AAA1	.50	02
00501		VALVE PLATE ASSY	AGFAGAA	INSPECT VALVE PLAT E ASSY	1.2240	O	.10	52C20AAA1	.10	0501
006		ENGINE ASSY	CBCACAA	CHECK ENGINE OIL L EVEL	900.0000	O	.06	76J10AAA1	.06	06
0060201		PISTON ASSY	JGFXGAA	REPAIR PISTON ASSY	.2330	O	.56	52C20AAA1	.56	060201
00607		CARBURETOR ASSY	DGOAAAA	ADJUST CARBURETOR	3.3360	O	.50	52C20AAA1	.56	0607

Figure 11 – Format for LSA-011, Requirements for Special Training

4.11 Facility Requirements (LSA-012)

4.11.1 Introduction

The summary should be used by IPS managers to justify new or modified facility requirements such as Facility Design Criteria, Facility Installation Lead Time, Facility Task Area Breakdown, Facility Utilization, Facility Requirements, Facility Unit Cost Rationale, Facility Justification, Type of Construction, and Utilities Requirement. It is used to identify the facilities needed to do maintenance tasks and training. It can also be used by the services to develop their service peculiar facility requirements.

4.11.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Requires Supportability Analysis be performed including facilities acquisitions to support all levels of maintenance: The Program Manager will ensure resources are programmed and necessary IP deliverables and associated license rights, tools, equipment, and facilities are acquired to support each of the levels of maintenance that will provide product support.
- MIL-STD-1472. Provides the requirement for human engineering including task analysis to determine, among other things, facility requirements. There is no identified DID for this standard.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- AR 700-127. Directs programs to conduct supportability analysis specifically with regards to facilities. All IPS elements must be evaluated and developed, integrated, and related to the systems engineering process. Facilities and Infrastructure is one of the IPS elements.
- DA PAM 700-127. Provides further guidance for supportability analysis and directly recommends the Facilities Requirements Report as a summary of facilities related supportability data. This report fulfills that recommendation and therefore the requirements of DoDI 5000.88, DoDI 5000.91, and AR 700-127.
- PSM Guidebook. Requires the PSM to identify, plan, resource, and acquire facilities to enable training, maintenance and storage to maximize effectiveness of system operation and the logistic support system at the lowest TOC. Identify and prepare plans for the acquisition of facilities to enable responsive support for the Warfighter. Description. Facilities and infrastructure are the permanent and semi-permanent real property assets required to support a system, including studies to define types of facilities or facility improvements, location, space needs, environmental and security requirements, and equipment. It includes facilities for training, equipment storage, maintenance, supply storage, ammunition storage, and so forth.

4.11.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Facilities is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of new or modified facilities.

How: The data on this summary is an output of several iterative analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3) and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

What: During development, this summary should be used as an analysis tool to identify the facilities needed to perform maintenance tasks and training. It can also be used by the services to develop their service-specific facility requirements.

Why: DoDI 5000.88 and DoDI 5000.91 directs programs to ensure resources are programmed and necessary IP deliverables and associated license rights, tools, equipment, and facilities are acquired to support each of the levels of maintenance that will provide product support.

4.11.4 Scope

LSA-012 is generated from F, E, and C entity data and lists maintenance tasks which require facilities and any narrative associated with the facilities. The technical data in the F entities is used by facilities designers to prepare facilities plans.

4.11.5 Selection Options

Mandatory: EIAC, Start LCN, ALC, LCN Type, UOC, and Service Designator Code (Task Code, fourth position)

Optional: Stop LCN, Facility Type, Drawing Option, and Facility Category Code

4.11.6 Processing/Business Rules

Tasks reported are limited to those documented against specific LCN range and Service Designator Code (Task Code, fourth position). In addition a (Y) must be entered in Entity CA Facility Requirement Code (FCA), to qualify for inclusion into the list.

- The (P) or (M) preceding the elapsed time values on the output represent predicted and measured, respectively. Measured values take precedence over predicted values.
- The data elements from the EI entity may have multiple rows of information. Each instance should be displayed.
- Facility Construction Unit of Measure Price and Facility Construction Unit of Measure Price Currency Code fields must either both be blank or both have entries.
- All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.

4.11.7 Sequence

The summary is sequenced by ascending values of the LCN or by the Facility Category Code selected. The Facility Requirements summary will consist of four facility types (1) Test Facility Requirement, (2) Operational Facility Requirement, (3) Training Facility Requirement, and (4) Depot Facility Requirement

4.11.8 Data Sources

The data sources listed in Table 13, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 13 – Data Sources for Facility Requirements (LSA-012)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Required
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC (UOC is matched VIA the XF Entity)	Usable On Code	XC/XF	5790	Required
SERV DES	Task Code (4th position)	FE	5110	Required
FACT TYPE (Selected. Matched against the narratives)	Facility Type	FA	2160	Optional
FCC	Facility Category Code	FA	2120	Optional
DRAWING OPTION				
OUTPUT				
FACILITY NAME	Facility Name	FA	2140	Required
FACILITY CATEGORY CODE	Facility Category Code	FA	2120	Required
FACILITY CLASS	Facility Class	FA	2130	Optional
FACILITY DRAWING NUMBER	Facility Drawing Number	FA	1970	Optional
DRAW REV	Facility Drawing Revision	FA	4580	Optional
FDC	Facility Drawing Classification	FA	1960	Optional
FACILITY AREA	Facility Area	FA	2110	Optional
FA UM	Facility Area Unit of Measure	FA	5720	Required when Facility Area required
COST UM OF PRICE	Facility Construction Unit of Measure Price	FA	3990	Optional
CURR CODE	Facility Construction Unit of Measure Price Currency Code	FA	1745	Required when Unit of Measure Price required
CP UM	Construction Unit of Measure	FA	5720	Required when Unit of Measure Price required
DOCUMENT ID	Document ID	XT/FZ	1940	Optional
ORIGINATOR CODE	Originator Code	XT/FZ	1520	Optional
ISSUE NUMBER	Issue Number	XT/FZ	2715	Optional
SECURITY CLASS	Security Classification	XT/FZ	4655	Optional
CAPTION	Caption	XT	1480	Optional
DOCUMENT FILE EXTENSION	Document File Extension	XT	1930	Optional
DRAWING	Drawing	XT	1980	Optional
TASK LCN	Logistics Support Analysis Control Number	FE	2970	Required
[FACILITY REQUIREMENT CODE = "Y"]	Facility Requirement Code	CA	2150	Required for summary generation
ALC	Alternate Logistics Support Analysis Control Number Code	FE	1200	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
TASK CODE	Task Code	FE	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency required
ELAPSED TIME	Predicted Mean Elapsed Time	CA	3210	Optional. Measured values 1st precedence
	Measured Mean Elapsed Time	CA	3210	
FACILITY LOCATION	Facility Location Narrative	FA	3510	Optional
FACILITY CAPABILITY	Facility Capability Narrative	FA	3510	Optional
FACILITIES MAINTENANCE REQUIREMENTS	Baseline Facility Maintenance Requirement Narrative			Optional
FACILITIES REQUIREMENTS FOR OPERATIONS	Baseline Facility Requirements for Operations Narrative			Optional
FACILITIES REQUIREMENTS FOR TRAINING	Baseline Facility Requirements for Training Narrative			Optional
FACILITY REQUIREMENTS: SPECIAL CONSIDERATIONS	Baseline Facility Requirements Special Considerations Narrative			Optional
FACILITY REQUIREMENTS: SUPPLY/STORAGE	Baseline Facility Requirements Supply Storage Narrative			Optional
FACILITY DESIGN CRITERIA	New or Modified Facility Design Criteria Narrative			Optional
FACILITY INSTALLATION LEAD TIME	New or Modified Facility Installation Lead Time Narrative			Optional
FACILITY TASK AREA BREAKDOWN	New or Modified Facility Task Area Breakdown Narrative			Optional
FACILITIES UTILIZATION	New or Modified Facility Utilization Narrative			Optional
FACILITIES REQUIREMENTS	New or Modified Facility Requirements Narrative			Optional
FACILITY UNIT COST RATIONALE	New or Modified Facility Unit Cost Rationale Narrative			Optional
FACILITY JUSTIFICATION	New or Modified Facility Justification Narrative			Optional
TYPE OF CONSTRUCTION	New or Modified Facility Type of Construction Narrative			Optional
UTILITIES REQUIREMENT	New or Modified Facility Utilities Requirement Narrative			Optional
SUPPORT EQUIPMENT (Header)				
ITEM NAME	Item Name	HA	2790	Optional
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	Optional
REFERENCE NUMBER	Support Equipment Reference Number	EA	4400	Optional
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Optional
LENGTH	Operating Length	EA	2890	Optional
WIDTH	Operating Width			Optional
HEIGHT	Operating Height			Optional
UM	Operating Dimensions Unit of Measure	EA	5720	Required when Operating L, W, H required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
WEIGHT	Operating Weight	EA	5830	Optional
UM	Operating Weight Unit of Measure	EA	5720	Required when Operating Weight required
QTY	Support Item Quantity per Task	CG	4230	Optional
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Required when Quantity required
AC/DC	Input Power Source AC DC	EI	2600	Optional
IPS FRMAX	Input Power Source Frequency Range Maximum	EI	2610	Optional
IPS FRMIN	Input Power Source Frequency Range Minimum			Optional
IPS ORMAX	Input Power Source Operating Range Maximum	EI	2620	Optional
IPS ORMIN	Input Power Source Operating Range Minimum			Optional
IPS PER MAX RIPPLE	Input Power Source Percent Maximum Ripple	EI	2630	Optional
PHASE	Input Power Source Phase	EI	2640	Optional
WATTS	Input Power Source Watts	EI	2650	Optional

4.11.9 Format

The format shown in Figure 12 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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REQUIREMENTS FOR FACILITY (LSA-012)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcn	XB.lcn	XC/XF.uoc	FE.taskcode	FA.factype	FA.faccatgc
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	FACT TYPE	FCC
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	ARMY		

FA.facname	FA.faccatgc	FA.facclass	FA.facdwrno	FA.facdwrvc	FA.facdwrcl	FA.facarea	FA.facarum	FA.faccump	FA.cnstrum
FACILITY NAME	FACILITY CATEGORY CODE	FACILITY CLASS	FACILITY DRAWING NUMBER	DRAW REV	FDC	FACILITY AREA	UM OF PRICE	CURR CP	
LEXINGTON ARMY DEPOT	12333	REFRIG REPAIR FAC	BR54910-09234235 123-045	AC	D1N	15000	SF 20000	USD	SF



FE.lcn	FE.alc	FE.taskcode	CA.taskid	CA.tsksfreq	CA.taanormb	CA.prdmnl	CA.msdmnl
TASK LCN	ALC	TASK CODE	TASK IDENTIFICATION	FREQ	MB	ELAPSED	TIME
002		BGDAGAA	TEST WIRE HARNESS ASSEMBLY	.2000	0	.37 (M)	
		JGDAGAA	REPAIR WIRE HARNESS ASSEMBLY	.2000	0	1.36 (P)	
006		HGOXAAA	REPLACE ENGINE ASSEMBLY	3.3370	0	1.68 (M)	

1. FACILITY LOCATION: LEXINGTON, KENTUCKY, BUILDING 4, BAY A.
2. FACILITY CAPABILITY: THIS BAY CAN HANDLE UP TO 100 REFRIGERATION UNITS WITHOUT ANY PROBLEMS.
3. FACILITIES MAINTENANCE REQUIREMENTS: NONE
4. FACILITIES REQUIREMENTS FOR OPERATIONS: 120 VOLT POWER SUPPLY.
5. FACILITIES REQUIREMENTS FOR TRAINING: WORK AREAS SHOULD BE SET ASIDE FOR TRAINING.
6. FACILITY REQUIREMENTS; SPECIAL CONSIDERATIONS: NONE

Figure 12 – Format for LSA-012, Requirements for Facilities

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REQUIREMENTS FOR FACILITY (LSA-012)

7. FACILITY REQUIREMENTS; SUPPLY/STORAGE: NONE
8. FACILITY DESIGN CRITERIA: MUST REWIRE BAY FOR 40 120 VOLTS SPACED EVENLY ALONG THE WALLS.
9. FACILITY INSTALLATION LEAD TIME: NONE
10. FACILITY TASK AREA BREAKDOWN:
THE TESTING OF THE WIRE HARNESS ASSEMBLY IS DONE IN AREA 3 WHICH IS A 10 BY 15 FOOT TEST BED CUBICAL. IF THE TESTING PROVES THAT THE WIRE HARNESS IS DEFECTIVE IT IS REPAIRED IN AREA 4 WHICH IS 10 BY 10 FOOT. REPLACE THE ENGINE ASSEMBLY IN AREA 6 WHICH IS 20 BY 20 FOOT.
11. FACILITIES UTILIZATION: THERE WILL BE 24 TEST AND REPAIR TASKS DONE AT THIS FACILITY.
12. FACILITIES REQUIREMENTS: NONE
13. FACILITY UNIT COST RATIONALE: NONE
14. FACILITY JUSTIFICATION:
THERE IS NOT A FACILITY AT THIS TIME THAT HAS THE CAPABILITY TO REPAIR REFRIGERATION UNITS. THE HUNTSVILLE FACILITY HAS THE SPACE AVAILABLE AND THE PERSONNEL TO REPAIR THE UNITS.
15. TYPE OF CONTRUCTION: THE REWIRING OF THE FACILITY SHOULD TAKE APPROXIMATELY 3 MONTHS.
16. UTILITIES REQUIREMENT: NONE

SUPPORT EQUIPMENT:

HA.itemname	HA.nsnfsc	HA.nsnin	EA.refno	EA.cage	EA.oplength	EA.opwidth	EA.opheight	EA.opweight	EA.opwghtum	CG.seqptum	CG.sigpta
ITEM NAME	NSN	FSC NIIN	REFERENCE NUMBER	CAGE	LENGTH	WIDTH	HEIGHT	UM	WEIGHT	UM	QTY
LAYUP TABLES	TBD	TBD	44-6578-A123	44940	120.0	60.0	42.0	IN	75.0	LB	3.00
EA.inpsacdc	EA.inpsfrm	EA.inpsfrmn	EA.inpsormx	EA.inpsormn	EA.inpspmxr	EA.inpsphas	EA.ipswatts				
AC/DC	IPS	IPS	IPS	IPS	IPS PER	PHASE	WATTS				
	FRMAX	FRMIN	ORMAX	ORMIN	MAX RIPPLE						

Figure 12 – Format for LSA-012, Requirements for Facilities (Continued)

4.12 Support Equipment Grouping Number Utilization (LSA-013)

4.12.1 Introduction

LSA-013 should be used to provide the requirements, quantity, and justification for the acquisition of support equipment. This summary utilizes the Support Equipment Grouping Identification Number (Support Equipment Grouping), which is a contractor-assigned number to facilitate the aggregation of requirements for similar or identical support or test equipment types, including automatic test equipment.

The summary provides an alternate view of support equipment; for instance, by function rather than by part number.

4.12.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDD 4151.18. Requires standardization of support equipment design for the broadest possible range of applications, consistent with maintenance concepts.
- MIL-HDBK-2097. SE items, quantities, and estimated costs will be furnished to the ordering activity by the acquiring activity. The initial SE order may include requirements for SE engineering drawings and associated lists, support equipment illustrations, SE logistic support requirements, and other requirements as specified in the approved SERDS, the CDRL, and the order as specifically provided by the ordering activity.
- DI-ILSS-80868. The listing of unique tools and test equipment required for the repair and use of the end item. The listing is intended to be used by the government to determine provisioning requirements for special equipment.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- AR 70-1. Minimizing requirements for special tools, test equipment, unique items, and components. A primary objective of the Army MATDEVs will be minimizing the development of special tools and test equipment and new or system-unique support equipment and components.
- AR 700-18. Requires the acquisition of PTD will be sufficient to select and compute requirements for support items, tools, test equipment, and support equipment.
- AR 700-127. Requires a Logistics Demonstration (LD) to be performed as part of developmental testing outlined in AR 73-1 to evaluate spares and repair parts list.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.12.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of support equipment.

What: During development, this summary should be used as an analysis tool to provides an alternate view of support equipment associated with the maintenance and operation of a system. The summary provides an alternate view of support equipment; for instance, by function rather than by part number.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several iterative analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative

activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Programs are required to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest Total Operating Cost.

4.12.4 Scope

A summary by maintenance level and Support Equipment Grouping Identification Number of the tasks, which use the support equipment group. The summary may be selected for any maintenance level or combination of levels. The summary should be used to provide the requirements, quantity, and justification for the acquisition of support equipment.

4.12.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator, ALC, Stop LCN, SE Grouping, Maintenance Level (M/L), and Display Option (LCN or TMFGC)

4.12.6 Processing/Business Rules

Task Codes are qualified against the selected Service Designator.

- a. As a minimum, there must be one LCN within the selected range that requires a piece of support equipment (identified by Reference Number and CAGE) (match Entity CG with Entity EA) which has a valid SE Grouping Identification Number that matches the selection criteria.
- b. When man-hours or elapsed times are reported each value will be preceded by a (P) or (M) to indicate predicted or measured values, respectively. Where a measured value has not been input, the summary will default to the predicted value.

4.12.7 Sequence

This summary is sequenced by ascending SE Group Numbers and within each SE Group Number by ascending M/L, then ascending LCN, then ascending Task Code.

4.12.8 Data Sources

The data sources listed in Table 14, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 14 – Data Sources for Support Equipment Grouping Number Utilization (LSA-013)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
SE GROUP NO (Selected)	Support Equipment Grouping	EA	5020	Optional
M/L (Selected)	Task Code (3rd position)	CA	5110	Optional
DISP OPT (Selected. Options include: LCN, TM FGC)				
OUTPUT				
SUPPORT EQUIPMENT GROUPING IDENTIFICATION NUMBER	Support Equipment Grouping	EA	5020	Required
M/L	Task Code	CG	5110	Required
LCN (Need qualifying Reference Numbers and Cage Codes from EA Entity based on SE Group Number)	Logistics Support Analysis Control Number	XB/CG	2970	Required
[SUPPORT EQUIPMENT REFERENCE NUMBER]	Support Equipment Reference Number	EA	4400	Required for summary processing
[SE CAGE CODE]	Support Equipment Commercial and Government Entity Code	EA	1520	Required for summary processing
ALC	Alternate Logistics Support Analysis Control Number Code	XB/CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TASK CD	Task Code	CA/CG	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency required
ELAP TIME	Measured Mean Elapsed Time	CA	3210	Optional. Measured values 1st precedence
	Predicted Mean Elapsed Time			
MAN-HOURS	Measured Mean Man Hours	CA	3220	Optional. Measured values 1st precedence
	Predicted Mean Man Hours			
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional

4.12.9 Format

The format shown in Figure 13 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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SUPPORT EQUIPMENT GROUPING UTILIZATION SUMMARY (LSA-013)

XB.eiac	XB.lcn	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XC/XF.uoc	CA.taskcode	SELECTED	SELECTED	SELECTED
EIAC	LCN	NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SE GROUP NO	M/L	DISP OPT
REFRIG UNIT	0	REFRIGERATION UNIT		P			DCY	AIR FORCE	200	F O	LCN

EA.seggrpng

SUPPORT EQUIPMENT GROUPING IDENTIFICATION NUMBER: 200

CG.taskcode	CG.lcn	CG.alc	XB.lcnomen	CG.taskcode	CA.taskid	CA.tskfreq	CA.taannormb	CA.msdmnelt	CA.prdnmnhr	XB.tmfge
M/L	LCN	ALC	LCN NOMENCLATURE	TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	ELAP TIME	MAN-HOURS	TM FGC
ORG	0	00	REFRIGERATION UNIT	HGOAAAA	REPLACE REFRIGERATION UNIT	4.0540	O	.46 (M)	.17 (M)	00
	006	00	ENGINE ASSY	HGOXAAA	REPLACE ENGINE ASSY	3.3370	O	1.68 (M)	1.51 (M)	06
	006	00	ENGINE ASSY	NGOAAAA	FAULT LOCATION - ENGINE ASSY	3.3090	O	.78 (M)	.78 (M)	0
	00607	00	CARBURETOR ASSY	DGOAAAA	ADJUST CARBURETOR	3.3360	O	.50 (P)	.50 (P)	0607
DS	006	00	ENGINE ASSY	BGFAGAA	TEST ENGINE ASSY AFTER REPAIR	3.3370	O	.77 (P)	.77 (P)	06
	00602	00	ENGINE BLOCK	RGFAGAA	REMOVE ENGINE FROM ENGINE ASSY	.3370	O	.54 (M)	.54 (M)	0602
	0060201	00	PISTON ASSY	JGFXGAA	REPAIR PISTON ASSY	.2333	O	.56 (P)	.56 (P)	060201
	00607	00	CARBURETOR ASSY	JGFXGAA	REPAIR CARBURETOR	.8400	O	1.00 (M)	1.00 (M)	0607
	00607	00	CARBURETOR ASSY	CGFAGAA	SERVICE CARBURETOR	3.3360	O	1.70 (M)	.20 (M)	0607
	00614	00	STARTER ASSY	JGFAGAA	REPAIR STARTER ASSY	.3330	O	.35 (M)	.35 (M)	0614
	00614	00	STARTER ASSY	HGFAGAA	REPLACE STARTER ASSY	.3330	O	.61 (M)	.61 (M)	0614

Figure 13 – Format for LSA-013, Support Equipment Grouping Utilization Summary

4.13 Training Task List (LSA-014)

4.13.1 Introduction

The LSA-014 summary is used to summarize the data captured during maintenance task analysis including training location needs and provides a rationale for both the training type and the training location. This summary is typically used as input to maintenance concepts, maintenance plans and to develop training programs. Maintenance task analysis is normally performed by a contractor and therefore, access to the data is integral to many decisions. Whether the acquirer has access to the raw data or a summary of that data, management must have this information available for decision making.

4.13.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that the Program Manager will, in conjunction with designated DoD Component staff, develop options for individual, collective, and joint training for operators, maintenance and support personnel, and, where appropriate, base training decisions on training effectiveness evaluations (which can be integrated with other test and evaluation). The major tasks identified in the job task analysis, training device document coordinating paper and training plans will support a comprehensive analysis with special emphasis on options that enhance user capabilities, maintain skill proficiencies, and reduce individual and collective training costs.
- MIL-HDBK-29612. States data must be available for management to make decisions; including determining which tasks should be trained.
- DI-SESS-81518. States that a list of tasks that have been selected for training may be required. LPD and this report, produce such a list from Maintenance Task Analysis (MIL-HDBK-502A, Activity D.1).
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). Activity D.1.4 addresses training requirements. It identifies training, training materiel, recommended training locations and rationale.
- DA PAM 70-3. The PMs manage their acquisition programs to optimize total system performance and reduce TOC. The total system includes, but is not limited to (1) the end item, (2) the associated support items of equipment (ASIOE), (3) the personnel identified to operate and maintain the end item and ASIOE, (4) the training, training devices, and training support identified in capabilities documents and STRAP, and (5) technical data, to include but not limited to, operations and maintenance manuals including both electronic technical manuals (ETMs) and interactive ETMs (IETMs), standards, specifications, field manuals, engineering drawings, and software documentation.
- TRADOC Pamphlet 350-70-13. Training developers (TNGDEV) will coordinate with the Capabilities Development and Integration Directorate staff, TCM and MATDEV to ensure program manager (PM) developed analysis data and learning products conform to established training and education development standards outlined in the TP 350-70 publication series. According to the "balanced fielding" tenet of Army acquisition (refer to AR 70-1), as well as policy regarding development and fielding of training devices, acquisition of the training system will have the same priority as the supported (parent) system or equipment. A System Training Plan (STRAP) should be developed concurrently with the supported system and will be available when the supported system is fielded.
- Test and Evaluation Master Plan (TEMP) requires programs to specify manpower/personnel and training requirements and limitations that affect test and evaluation execution, and identify how much training will be conducted with modeling and simulation.
- PSM Guidebook. Requires the PSM to plan, resource, and implement a cohesive integrated strategy early in the development process to train military and civilian personnel to maximize the effectiveness of the doctrine, manpower and personnel, to fight, operate, and maintain the equipment throughout the life cycle. As part of the strategy, plan, resource, and implement management actions to identify, develop, and acquire TADSS to maximize the effectiveness

4.13.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. As one of the 12 IPS elements, training is an important part of the acquisition process, and the safety of our warfighters and their equipment. Identifying training tasks is integral to addressing the training needs for equipment maintenance.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle. Training documentation is required in the Maintenance Plan and the Test and Evaluation Master Plan (TEMP) development.

What: During development, this summary should be used as an analysis tool to determine training needs based on tasks, parts, and equipment. There are numerous policy requirements for training of maintainers and depot personnel. The LPD provides a solid baseline from which management can make decisions on training for new/existing equipment.

How: The data on this summary is an output of several iterative analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Training is required for all New Equipment Training (NET), institutional, sustainment training and Displaced Equipment Training (DET) for the individual, crew, unit, collective, and maintenance through initial, formal, informal, on the job training (OJT), and sustainment proficiency training. Significant efforts are focused on NET which in conjunction with the overall training strategy shall be validated during system evaluation and test at the individual, crew, and unit level.

4.13.4 Scope

The summary should be used to recommend a task for training and provide the basis for recommendation of the training location of the task. It contains the rationale for training recommendations and training location requirements necessary to perform a given task.

4.13.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator, ALC, Stop LCN, SSC, Training Recommended option, and SSC Description Option

4.13.6 Processing/Business Rules

Task Codes are qualified by matching on selected Service Designator. As a minimum, one LCN within the selected range with a qualified Task Code in Entity CA must exist.

- If the Training Recommended option is selected, then LCNs are further qualified by checking for a Training Recommendation Type code of B, C, or J in Entity CA.
- If the Training Recommended option is selected, then Task Conditions, Performance Standards, Rationale for Training Recommendation, and Rationale for Training Location will be output for qualified LCNs.

Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.13.7 Sequence

This summary is sequenced by ascending SSC first (if tasks exist which are not linked to an SSC in Entity CD, these tasks will be listed first under a blank SSC), then by ascending LCN within each SSC.

4.13.8 Data Sources

The data sources listed in Table 15, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 15 – Data Sources for Training Task List (LSA-014)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
SSC (Selected)				Optional
TRAINING SELECTION (Selected)				
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
SSC (New or Modified SSC - 1st Precedence)	New or Modified Skill Specialty Code	CD	4810	One or the other is required
	Skill Specialty Code	CD	4810	
LCN	Logistics Support Analysis Control Number	CD	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CD	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TSK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TRAINING RECOMMENDED	Training Recommendation Type	CA	5510	Optional
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
TASK CONDITIONS	Task Condition A	CA	5120	Optional
	Task Condition B			Optional
	Task Condition C			Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PERFORMANCE STANDARDS	Task Performance Standard A	CA	5160	Optional
	Task Performance Standard B			Optional
	Task Performance Standard C			Optional
RATIONALE FOR TRAINING RECOMMENDATION	Training Rationale	CA	5500	Optional
RATIONALE FOR TRAINING LOCATION	Training Location Rationale	CA	5490	Optional
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.13.9 Format

The format shown in Figure 14 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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TRAINING TASK LIST (LSA-014)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SSC	TRAINING RECOMMENDED
REFRIG UNT	ENGINE BLOCK	00602		P	00608	DCY	ARMY	ALL	YES

SSC DESCRIPTION OPTION: NO

CD.nomskspc	CD.lcn	CD.alc	XB.lcnomen	CA.tskfreq	CA.taanormb	CA.taskcode	CA.taskid	CA.trnrcmt	XB.tmfgc
CD.skspc	LCN	ALC	LCN NOMENCLATURE	TSK FREQ	MB	TASK CD	TASK IDENTIFICATION	TRAINING RECOMMENDED	TM FGC
SSC	LCN	ALC	LCN NOMENCLATURE	TSK FREQ	MB	TASK CD	TASK IDENTIFICATION	TRAINING RECOMMENDED	TM FGC
46B10AAA1	00607	B	SUPER CARB	1.8400	O	HGOAGAA	REPLACE CARBURETOR ON ENGINE ASSY	OJT	0602

CA.tskconda CA.tskcondb CA.tskcondc

TASK CONDITIONS

TM/TO USE NOT REQUIRED SPECIAL TOOLS REQUIRED

CA.tskprfma CA.tskprfmb CA.refno

PERFORMANCE STANDARDS

PRECISION REQUIRED

TIME STANDARD

CA.trnratnl

RATIONALE FOR TRAINING
RECOMMENDATIONTASK LEARNING DIFFICULTY
IMMEDIACY OF PERFORMANCE
TASK DELAY TOLERANCE
PROBABLE CONSEQUENCES OF INADEQUATE PERFORMANCE

CA.trnloert

RATIONALE FOR TRAINING
LOCATIONPERCENT OF TOTAL TIME SPENT PERFORMING THE TASK
PERCENT OF WORK FORCE PERFORMING THE TASK
THEORY, PRINCIPLES, OR VERBALIZED CONCEPTS REQUIRED
FIELD EQUIPMENT AVAILABLE FOR TRAINING PURPOSES

CD.nomskspc

CD.skspc	CD.lcn	CD.alc	XB.lcnomen	CA.tskfreq	CA.taanormb	CA.taskcode	CA.taskid	CA.trnrcmt	XB.tmfgc
SSC	LCN	ALC	LCN NOMENCLATURE	TSK FREQ	MB	TASK CD	TASK IDENTIFICATION	TRAINING RECOMMENDED	TM FGC
SSC	LCN	ALC	LCN NOMENCLATURE	TSK FREQ	MB	TASK CD	TASK IDENTIFICATION	TRAINING RECOMMENDED	TM FGC
52C20AAA1	00602		ENGINE BLOCK	.3370	O	RGFAGAA	REMOVE ENGINE FROM ENGINE ASSY	OJT	0602

TASK CONDITION

PERFORMANCE STANDARD

SUPERVISION REQUIRED

RATIONALE FOR TRAINING

IMMEDIACY OF PERFORMANCE RECOMMENDATION

RATIONALE FOR TRAINING

FIELD EQUIPMENT AVAILABLE FOR TRAINING PURPOSES LOCATION

Figure 14 – Format for LSA-014, Format for Training Task List

4.14 Preliminary Maintenance Allocation Chart (LSA-016)

4.14.1 Introduction

The Preliminary Maintenance Allocation Chart (PMAC) is a preliminary report of task allocation by maintenance function and maintenance level, and a preliminary report of tools, equipment, and spares/repair parts required by task function and maintenance level. The report is used to identify tools and equipment by maintenance levels to perform the maintenance functions, and to validate Source, Maintenance, and Recoverability (SMR) Codes for spares and repair parts. It is divided into three parts. Part I is the basic maintenance allocations and is sequenced in either ascending LCN or TM FGC; part II contains the tool listing; and part III contains the spare/repair part listing. Both parts II and III are sequenced in ascending Reference Number and CAGE.

4.14.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- MIL-STD-40051-1. TM data shall be task oriented and fully consistent with the maintenance concepts derived from logistics product data. The technical data and instructions developed by the requirements of LPD, along with the DoD Requirements for an LPD (including the MAC), shall be used as the baseline to prepare TMs. For equipment that does not have LPD data available, either a Preliminary Maintenance Allocation Chart (PMAC) or a MAC shall be used as the baseline to prepare TMs.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task Inventory (Activity C.1.9) and Activity D.1, Task Analysis.
- PSM Guidebook. Requires the PSM to identify, plan, resource, and implement maintenance concepts and requirements to ensure the best possible equipment/capability is available when the Warfighter needs it at the lowest possible TOC. Description. Maintenance planning and management establishes maintenance concepts and requirements for the life of the system, for hardware and software, including:
 - Levels of repair
 - Repair time
 - Testability requirements
 - Support equipment needs
 - Training and Training Aids, Devices, Simulators, and Simulations (TADSS)
 - Manpower skills
 - Facilities
 - Inter-service, organic and contractor mix of repair responsibility
 - Deployment planning/site activation
 - Development of preventive maintenance programs using Reliability-Centered Maintenance Analysis (RCMA)
 - Condition Based Maintenance Plus (CBM+)

4.14.3 Tailoring

Who: This summary is typically used on U.S. Army Programs. The Preliminary Maintenance Allocation Chart (PMAC) is often a deliverable and can be an alternate deliverable to the Maintenance Allocation Chart (MAC). For the PSM, the PMAC is a key exit document in the Definition Phase. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

When: The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of Task Inventory (SAE TA-STD-0017A, Activity C.1.9) and Task Analysis (Activity D.1).

What: During development, this summary should be used as an analysis tool to identify the man-hour allocations by maintenance function and level. U.S. Army Provisioners often use the LSA-016 summary for developing SMR codes. Additionally, during fielding, the PMAC can appear as Appendix B to organizational level maintenance manuals. The PMAC provides more details than a standard MAC.

Why: This summary is a key exit document in both the Definition Phase (PMAC) and Development Phase (MAC) phases of the life cycle. It is also the baseline to preparing a Maintenance Allocation Chart (MAC) for Technical Manuals.

4.14.4 Scope

LSA-016 identifies all maintenance tasks and the tools/support equipment and Spare/Repair required to perform each maintenance task. The PMAC is a more detailed depiction of the maintenance concept.

4.14.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator, ALC, Stop LCN, Tool List, Part List, ICC, and Sequence

If either Tool List or Part List are selected, then there may also be an entry in the ICC selections (default is all) for the Tool or Part Lists. Tool List (ICCs D, G, H, M, N, P, R, 1 through 8, AC, AD) or Part List (ICCs K, L, X, Y, Z, 9, AA, AB, AE) ICC selections.

4.14.6 Processing/Business Rules

Qualified items must have a Task Code matching the selected Service Designator (Task Code, fourth position) and must be contained in the selected range of LCNs. This task must have an entry in either Measured or Predicted Mean Man-Hours. If a Task Code has both predicted and measured man-hours, then the measured man-hours are used. If a Task contains a Task Frequency = 0.0, asterisks (****) shall be displayed in the M-HRS column.

- Tasks with Task Function Codes of Q, Z, P, M, O, U, V, C, Y, T, and 2 to 9 are excluded from the PMAC. The Task Function is interpreted when displayed for the PMAC summary. Following the Task Function Code, the Operations/Maintenance Level is shown in parenthesis, e.g., (F).
- M-HRS displayed on the summary are based on the calculation shown in Equation 9. Following the man-hours a (P) or (M) will appear. If all man-hours in a given calculation are measured, an (M) is displayed. If any of the man-hours are predicted in the calculation, then a (P) is shown.

$$\overline{t_p} = \frac{\sum_{i=1}^n (f_{ti})(t_{pi})}{\sum_{i=1}^n (f_{ti})} \quad (\text{Eq. 9})$$

where:

$\overline{t_p}$	=	Mean Man-hours
t_{pi}	=	Total Man-hours for task i (Calculated by summing the Man-hours for each Subtask Person Identifier of task i)
f_{ti}	=	Task Frequency for task i
n	=	Total number of tasks performed for a given LCN/TMFGC matching on Task Function and O/M Level (TASKCDCA, third person) displayed on the LSA-016, Part I

NOTE: Man-hours are rounded to the nearest tenth of an hour.

- Tool References are assigned numbers to the tools with number assignment based on the tools in ascending sequence of the Tool Reference Number and CAGE. If more than six tools are required for a given Task Function and O/M Level, then a second and subsequent line(s) is used.
- Part References are assigned numbers to the parts with number assignment based on the ascending sequence of the part Reference Number and CAGE. If more than six parts are required for a given Task Function and O/M Level, then a second and subsequent line(s) is used.
- If the basic assembly or part Reference Number exceeds 16 positions, the remainder of the Reference Number is displayed on the next line directly below the first 16 positions.
- On Part II, all O/M Levels which use the Referenced Tool across all LCN/TMFGCs are displayed below the O/M LEVELS header.

- g. On Part III, Part Reference Number and CAGEs also display the Part LCN and SMR by matching the CI Part LCN, Reference Number and CAGE to the HG LCN, Reference Number and CAGE. O/M Levels shown for a Part LCN are applied only against the uses of the Part LCN, not all applications of the Reference Number.

4.14.7 Sequence

Part I of the summary is sequenced in either ascending LCN or TMFGC and the generated NUMBER is assigned, incremented by one, for each different, qualified LCN or TMFGC. Parts II and III are sequenced in ascending Reference Number and CAGE using the generated TOOL NO. and PART NO., respectively.

4.14.8 Data Sources

The data sources listed in Table 16, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 16 – Data Sources for Preliminary Maintenance Allocation ()

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XC/XF	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
TOOL LIST (Selected)				
PART LIST (Selected)				
SEQUENCE (Selected. Options include: LCN, TM FGC)				
ICC(S) TOOL LIST	Support Equipment Item Category Code	EA	2730	Optional
ICC(S) PARTS LIST	Item Category Code	HG	2730	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
OUTPUT				
PART I - MAINTENANCE ALLOCATION (Header)				
NUMBER (Generated)				Automatically generated
LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Required
IC	Logistics Support Analysis Control Number Indenture Code	XB	2940	Optional
ITEM NAME	Item Name	HA	2790	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
QPA	Quantity per Assembly	HG	4190	Optional
MRR-I	Maintenance Replacement Rate I	HG	3060	Optional
EC	Essentiality Code	HG	2080	Optional
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
TASK FUNCTIONS:	Task Code	CA	5110	Required
M-HRS (Calculated)				Automatically generated
[Measured Mean Man Hours]	(Measured Mean Man Hours)	CA	3220	Required for calculation. Measured MMH 1st precedence
[Predicted Mean Man Hours]	(Predicted Mean Man Hours)	CA	3220	Required for calculation if MMH is not selected
[SUBTASK PERSON ID]	(SUBTASK PERSON ID)	CD	3890	Required for calculation
[SUBTASK MEAN MAN MINUTES]	(SUBTASK MEAN MAN MINUTES)	CD	3230	Required for calculation if Measured or Predicted MMH is not selected
[TASK FREQUENCY]	(TASK FREQUENCY)	CA	5140	Required for calculation
TOOL REFERENCES: (Generated)				Automatically generated
PART REFERENCES: (Generated)				Automatically generated
PART II - TOOLS LIST (Header)				
TOOL NO. (Generated)				Automatically generated
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required if Tools List selected
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required if Tools List selected
ITEM NAME	Item Name	HA	2790	Optional
O/M LEVELS	Task Code	CG	5110	Required if Tools List selected
PART III - PARTS LIST (Header)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PART NO. (Generated)				
CAGE	Task Provision Commercial and Government Entity Code	CI	1520	Required if Parts List selected
REFERENCE NUMBER	Task Provision Reference Number	CI	4400	Required if Parts List selected
ITEM NAME	Item Name	HA	2790	Optional
LCN	Task Provision Logistics Support Analysis Control Number	CI	2970	Required if Parts List selected
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required if Parts List selected
O/M LEVELS	Task Provision Task Code	CI	5110	Required if Parts List selected
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional

4.14.9 Format

The format shown in Figure 15 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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LOGISTICS PRODUCT DATA

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PRELIMINARY MAINTENANCE ALLOCATION CHART (LSA-016)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XC/XF.uoc	CA.taskcode	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	TOOL LIST	PART LIST	SEQUENCE
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	ARMY	YES	YES	LCN

EA.segicc
ICC(S) TOOL LIST: A, B, C

HG.icc
ICC(S) PART LIST: Y, AA, AB

PART I - MAINTENANCE ALLOCATION

XB.lcn	XB.alc	XB.lcnidcd	HA.itemname	HG.cage	HG.refno	HG.qpa	HG.mrri	HG.essntcod	HG.srcmtrcc	XB.tmfgc
NUMBER LCN	ALC	IC	ITEM NAME	CAGE	REFERENCE NUMBER	QPA	MRR-I	EC	SMR	TM FGC
0001 0	00	A	REFRIGERATION UNIT	44940	FI0000RG-300	1	0.0231	1	PAOHH	00

CA.taskcode
TASK FUNCTIONS: M-HRS
INSPECT (C) 0.25 (P)
TEST (O) 0.33 (M)
REPLACE (O) 0.75 (P)
REPAIR (O) 0.40 (P)
REPAIR (F) 0.87 (P)
REPAIR (H) 1.25 (P)

GENERATED
TOOL REFERENCES:
0007,0009
0003,0001,0005
0002,0003,0005,0006
0003,0004,0007
0004,0008,0009,0011
0005,0006,0007,0008,0009,0010,0012

GENERATED
PART REFERENCES:
0002,0011
0003,0004,0005,0009
0003,0008,0009,0011,0012
0001,0004,0005,0007,0008,0009

NUMBER	LCN	ALC	IC	ITEM NAME	CAGE	REFERENCE NUMBER	QPA	MRR-I	EC	SMR	TM FGC
0002	001	00	B	DOOR, SCREEN ASSEM	10825	32198/89-12	2	0.1312	1	PAFFF	01

TASK FUNCTIONS: M-HRS
INSPECT (C) 0.08 (M)
REPLACE (F) 0.25 (M)
REPAIR (F) 0.67 (M)

TOOL REFERENCES:
0005
0005,0009,0013,0014
0003,0008,0010,0012

PART REFERENCES:
0003,0009,0010
0003,0005,0012,0013

NUMBER	LCN	ALC	IC	ITEM NAME	CAGE	REFERENCE NUMBER	QPA	MRR-I	EC	SMR	TM FGC
0003	002	00	B	WIRE HARNESS ASSEM	31280	12190-7892	1	1.0022	1	PAFDD	02

TASK FUNCTIONS: M-HRS
INSPECT (C) 0.05 (P)
REPLACE (F) 0.67 (P)
REPAIR (D) 1.33 (P)

TOOL REFERENCES:
0016,0017
0003,0008,0009,0010,0015

PART REFERENCES:
0003,0009
0006,0014,0015,0016

Figure 15 – Format for LSA-016, Preliminary Maintenance Allocation Chart

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PRELIMINARY MAINTENANCE ALLOCATION CHART (LSA-016)

PART II - TOOLS LIST

GENERATED TOOL NO.	CG.cage CAGE	CG.refno REFERENCE NUMBER	HA.itemname ITEM NAME	CG.taskcode O/M LEVELS
0001	31290	AT503	ADJUSTABLE WRENCH	H
0002	21988	AT35	SCREWDRIVER	O
0003	55389	A24	SOCKET	O, F
0004	71980	B107-6	WRENCH, SOCKET	O, D
0005	32190	B25	TONGS	F
0006	44978	B2502	SET, SOCKET, 3/8" I	C, O, F, H
0007	31201	CTB1	BUCKET WITH LID	O
0008	11908	GGG-P-471	PLIERS	C
0009	87965	GGG-S-121	TABLE, CABLE FORMI	F, D
0010	54310	GGG-W-64F1	EXTENSION, SOCKET	F, H, D
0011	32500	JM25	SPREADER, DOOR JAM	F
0012	98024	SC5180-90-CL-N14/23P (V)	TOOL KIT, GENERAL	F
0013	76505	SN9	SOLDERING IRON	F
0014	12298	121-098/34	HAMMER	F
0015	12280	12298	MULTIMETER	D
0016	32190	12980-349	WORKBENCH	F
0017	12134	131098/MVR-T	GAUGE, COMPRESSION	F

Figure 15 - Format for LSA-016, Preliminary Maintenance Allocation Chart (Continued)

REQUESTER: J. Doe

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PRELIMINARY MAINTENANCE ALLOCATION CHART

PART III - PARTS LIST

GENERATED	CI.cage	CI.refno	HA.itemname	CI.lcn	CI.alc	CI.taskcode	HG.srcmtrcc
PART NO.	CAGE	REFERENCE NUMBER	ITEM NAME	LCN	ALC	O/M LEVELS	SMR
0001	44940	B19109	COUPLING, FEMALE	0AG	00	H,	PAHZZ
0002	21988	D8977	GAUGE, TEMPERATURE	0AL	00	O	PAOZZ
0003	32890	E12908	SCREW, CAP HEXAGON	0AC	00	O, F	PAOZZ
				001AD	00	F	PAFZZ
				002AY	00	F	PAFZZ
0004	12897	GG1389/231451234	VALVE, SUCTION	0AQ	00	O	PAOZZ
		32198					
0005	89702	G1209865	NUT, TUBE, COUPLIN	0A8	00	O, H	PAOZZ
0006	98076	Z98076/32	CABLE, CONNECTOR	002AI	00	D	PADZZ
0007	23198	119807-23	VALVE, PLATE	0AR	00	H	PAHZZ
0008	44908	119907	RING, RETAINER	0AN	00	F	PAFZZ
0009	32890	12098/E	WASHER, LOCK	0AD	00	O, F, H	PAOZZ
				001AE	00	F	PAFZZ
				002AZ	00	F	PAFZZ
0010	21897	14098-LP	HINGE, MECHANICAL	001AU	00	F	PAFZZ
0011	32198	15109/09	BULB, ELECTRIC LI	0BA	00	F	PAFZZ
0012	98012	22190/23	SWITCH, ELECTRIC	0BF	00	F	PAFZZ
0013	12190	3421AAUL	SPACER, 1/4 INCH	001A4	00	F	PAFZZ
0014	33218	441-8976	CABLE, INSULATED	002AN	00	D	PADZZ
0015	33218	441-9801/2	CABLE, THREE WIRE	002AW	00	D	PADZZ
0016	33218	441-99102	CONNECTOR, ELECTR	002AX	00	D	PADZZ

Figure 15 – Format for LSA-016, Preliminary Maintenance Allocation Chart (Continued)

4.15 Task Inventory Summary (LSA-018)

4.15.1 Introduction

LSA-018, Task Inventory Summary, provides a listing of all tasks performed by system personnel to operate and maintain the item. It can be used to develop a Task Inventory list. This summary should be used when there is a need for the development of a task performance analysis and used by the Human System Integration (HSI) community for work load analysis.

4.15.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that planning for the sustainment phase should begin during the Definition Phase, when requirements trades and early design decisions are still occurring. The Program Manager will finalize sustainment requirements and decompose them into more detailed requirements to support the PDR and, among other uses, provide logistics requirements, workload estimates, and logistics risk assessment.
- DoDD 4151.18. States that task development shall include: determination of initial compliance thresholds and task repetition intervals; and a plan for providing feedback to the design process if effective maintenance tasks cannot adequately address a failure mode or effect.
- MIL-STD-46855. This standard establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-1472. This standard establishes general human engineering design criteria for military systems, subsystems, equipment and facilities.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task Inventory (Activity C.1.9), and Maintenance Task Analysis (Activity D.1).
- TRADOC Pamphlet 350-70-6. Provides guidance to training developers, subject matter experts (SMEs), and training development managers for conducting analysis in developing training products. It describes how to conduct the five types of analyses, (needs, mission, collective task, job, and individual task analysis) in the Systems Approach to Training (SAT) and manage analysis information.

4.15.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is often a deliverable to satisfy Human Systems Integration task inventory lists.

When: The data on this summary leverages requirements using MIL-STD-46855, MIL-HDBK-502A, SAE TA-STD-0017A, and SAE GEIA-STD-0007C to perform the analysis and develop the data. The data is typically developed during the Definition Phase as part of design interface with Human Systems Integration.

How: The data on this summary is an output of several analyses including Task Inventory (SAE TA-STD-0017A, Activity C.1.9), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

What: Task Inventory Summary, provides a listing of all tasks performed by system personnel to operate and maintain the item. It can be used to develop a Task Inventory list.

Why: This summary should be used when there is a need for the development of a type task performance analysis and used by the Human System Integration (HSI) community for work load analysis.

4.15.4 Scope

LSA-018, Task Inventory Summary is generated from data documented in the "C" entities. It is a listing of tasks required to operate and maintain the system.

4.15.5 Selection Options

Mandatory: EIAC, Start LCN, and LCN Type

Optional: ALC, UOC, SSC, Job, Maintenance Level, Service Designator, Task Function, and SSC Description Option

4.15.6 Processing/Business Rules

Part I of the report is a listing of all tasks documented in the LPD. Identify the LCN and Item Function. BC/BH entities maybe used to map a Task Code to a specific Item Function Identifier, if required to distinguish task code for specific function.

Part II of the report list the job and identifies those tasks associated against that Job. Total Mean Man-Hours/Total Mean Elapsed Time(summation of Subtask Mean Man-Minutes). Gives time by subtask ID.

The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.15.7 Sequence

Part I, is sequenced by LCN, then Task Code, then subtasks. List all Task Codes for an LCN before moving to next LCN. Maintenance level, Service Designator and Task function can affect the output on Part I. Part II, is sequenced by SSC, then Task Codes, then subtasks associated against that SSC.

4.15.8 Data Sources

The data sources listed in Table 17, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 17 – Data Sources for Task Inventory Summary (LSA-018)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
PART I (Header)				
EIAC	End Item Acronym Code	XA	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number	XB	1200	Optional
LCN TYPE	LCN Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Optional
MAINT LVL	Task Code (3rd position)	CA	5110	Optional
TASK FUNCTION	Task Code (1st position)	CA	5110	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PART II (Header)				
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
JOB SELECTION (Qualify by JOB CODE)	Job	CJ	2820	Required
PART III (Header)				
SSC DESCRIPTION OPTION (Selected)				Optional
OUTPUT				
PART I - TASK INVENTORY LIST (Header)				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
LCN NOMENCLATURE	LCN Nomenclature	XB	2950	Required
ITEM FUNCTION IDENTIFIER	Item Function Identifier	BB	2755	Required
ITEM FUNCTION	Reliability Availability and Maintainability Item Function Narrative	BB	3510	Required
[END ITEM ACRONYM CODE]	End Item Acronym Code	BC	2040	Required
[ALTERNATE LCN CODE]	Alternate Logistics Support Analysis Control Number Code	BC	1200	Required
[LCN]	Logistics Support Analysis Control Number Code	BC	2970	Required
[LCN TYPE]	Logistics Support Analysis Control Number Type	BC	2980	Required
[ITEM FUNCTION IDENTIFIER]	Item Function Identifier	BC	2755	Required
[FAILURE MODE INDICATOR]	Failure Mode Indicator	BC	2200	Required
[END ITEM ACRONYM CODE]	End Item Acronym Code	BH	2040	Required
[FAILURE MODE TASK ALTERNATE LCN CODE]	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
[FAILURE MODE TASK FAILURE MODE INDICATOR]	Failure Mode Task Failure Mode Indicator	BH	2200	Required
[FAILURE MODE TASK LCN]	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required
[FAILURE MODE TASK LCN TYPE]	Failure Mode Task Logistics Support Analysis Control Number Type	BH	2980	Required
[TASK CODE]	Task Code	BH	5110	Required
[TASK REQUIREMENT ALTERNATE LCN CODE]	Task Requirement Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
[TASK REQUIREMENT LCN]	Task Requirement Logistics Support Analysis Control Number	BH	2970	Required
[TASK REQUIREMENT LCN TYPE]	Task Requirement Logistics Support Analysis Control Number Type	BH	2980	Required
TASK CODE	Task Code	CA	5110	Required
TASK ID	Task Identification	CA	5150	Required
SUBTASK NUMBER	Subtask Number	CB	4970	Required
SUBTASK ID	Subtask ID	CB	5150	Optional
MEAN MAN-MINUTES	Measured Mean Man-Minutes	CA	3220	Optional. 1st precedence

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Predicted Mean Man-Minutes	CA	3220	Optional. 2nd precedence
MEAN MINUTE ELAPSED TIME	Measured Mean Minute Elapsed Time	CA	3210	Optional. 1st precedence
	Predicted Mean Minute Elapsed Time	CA	3210	Optional. 2nd precedence
PART II - JOB INVENTORY				
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
JOB	Job	CJ	2820	Required
[JOB CODE]	Job Code	CJ	2810	Required
DUTY	Duty	CJ	2010	Required
[DUTY CODE]	Duty Code	CJ	1990	Required
TASK CODE	Task Code	CA	5110	Required
TASK ID	Task Identification	CA	5150	Required
SUBTASK NUMBER	Subtask Number	CB	4970	Required
PERSON ID	Person Identification	CD	3890	Required
MEAN MAN MINUTES	Measured Mean Man-Minutes	CA	3220	Optional. 1st precedence
	Predicted Mean Man-Minutes	CA	3220	Optional. 2nd precedence
MEAN MINUTE ELAPSED TIME	Measured Mean Minute Elapsed Time	CA	3210	Optional. 1st precedence
	Predicted Mean Minute Elapsed Time	CA	3210	Optional. 2nd precedence
TOTAL MEAN MAN HOURS (Calculated)				Automatically generated
TOTAL MEAN ELAPSED TIME (Calculated)				Automatically generated
PART III - SKILL SPECIALTY CODE DESCRIPTION				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.15.9 Format

The format shown in Figure 16 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

Requester: S. Forbes

LOGISTICS PROODUCT DATA

Time: 02:36 PM

Date: 02/04/2019

TASK INVENTORY SUMMARY (LSA-018)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XC/XF.uoc	CA.taskcode	CA.taskcode	CA.taskcode
EIAC	LCN NOMENCLATURE	START LCN	ALC	STOP LCN	TYPE	UOC	SERV DES	MAINT LVL	TASK FUNCTION
T850	ENGINE	A	00		P	AAA	ARMY	ALL	ALL

PART II

CD.skspc/CD.nomskspc
SSC
35B20AAA1

CJ.job
JOB SELECTION:

PART III

SELECTED
SSC DESCRIPTION OPTION
YES

PART I - TASK INVENTORY LIST

CA.lcn	XB.lcn	BB.itmfncid	BB.ramitfn
LCN	LCN NOMENCLATURE	IFI	ITEM FUNCTION
A	ENGINE ASSEMBLY	001	PROVIDES POWER TO DRIVE SHAFT
		002	PROVIDES POWER TO RADIO
		003	PROVIDES POWER TO LASER RANGE FINDER

CA.taskcode	CA.taskid	CA.msdmnmhr/CA.prdmnmhr	CA.msdmnelt/CA.prdmnel
TASK CODE	TASK ID	MEAN MAN-MINUTES	MEAN MINUTE ELAPSED TIME
HGOAAAE	R/R ENGINE GASKET	1.1	1.1

CB.subtano	CB.subtaid	CB.subtmmt
SUBTASK NUMBER	SUBTASK ID	SUBTASK MEAN MINUTE ELAPSED TIME
001	REMOVE SPLINE BOLTS	0.6
002	REMOVE DAMAGED BRACKET	0.1
003	INSTALL SLIP MOUNT BRACKET	0.3
004	ALIGN FRONT BRACKET	0.1

Figure 16 – Format for LSA-018, Task Inventory Summary

Requester: S. Forbes

LOGISTICS PROODUCT DATA

Time: 02:36 PM

Date: 02/04/2019

TASK INVENTORY SUMMARY (LSA-018)

PART II - JOB INVENTORY

CD.skspc/CD.nomskspc

SSC/NEW OR MODIFIED SSC

35B20AAA1

CJ.job

JOB

UNIT MAINTAINER

CJ.duty

DUTY

ITEM SERVICING

SHOP MAINTAINER

CA.taskcode

TASK CODE

JGDAGAC

CA.taskid

TASK ID

REPAIR, R/R REAR

CA.msdcmmhr/CA.prdmnmhr

MEAN MAN-MINUTES

1.1

CA.msdcmmelt/CA.prdmnel

MEAN MINUTE ELAPSED TIME

1.1

FLANGE T-HEAD BOLTS

CB.subtano

SUBTASK NUMBER

01

02

03

04

05

06

CB.subtaid

SUBTASK ID

PLACE CASE ASSY ON ARBOR PRESS

PRESS OUT DAMAGED BOLT

ALIGN NEW BOLT

SEAT BOLT IN CASE

REMOVE NUT AND SPACER

VISUALLY INSPECT

CD.stprsnid

PERSON ID

A00

A00

A00

A00

A00

A00

CB.subtmmt

SUBTASK MEAN MINUTE ELAPSED TIME

0.1

0.5

1.3

1.5

1.5

0.2

TOTAL MEAN MAN-HOURS

0.085

TOTAL MEAN ELAPSED TIME

0.085

PART III - SSC

SSC

35B20AAA1

SSC DESCRIPTION

UNIT MAINTAINER

Figure 16 – Format for LSA-018, Task Inventory Summary (Continued)

4.16 Task Analysis Summary (LSA-019)

4.16.1 Introduction

LSA-019 displays the task narrative data and can be used as feeder data to the task skills analysis for Manpower, Personnel and Training. The narrative is used in the development of Technical Manuals.

This summary provides task times, a listing of support requirements, manpower and skill specialty codes needed to perform maintenance tasks. The summary is designed to be used in the preparation of maintenance manuals/interactive electronic technical manuals, during Logistics Demonstration (LOG DEMO) or Maintainability Demonstration (M-DEMO) to record and review data results.

At the option of the user, the summary may also contain the narrative sequential subtask description for each task, and the description of those subtasks which are referenced. The referenced subtask descriptions will appear in the proper sequence of the task description requested.

4.16.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. System designs will minimize or eliminate system characteristics that require excessive cognitive, physical, or sensory skills; entail extensive training or workload-intensive tasks; result in mission-critical errors; or produce safety or health hazards.
- MIL-STD-46855. Establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-1472. This standard establishes general human engineering design criteria for military systems, subsystems, equipment and facilities.
- MIL-STD-882. This standard identifies the DoD approach for identifying hazards, and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defense systems.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- SAE6906. This standard describes the best practices for applying Human Systems Integration (HSI), the management and technical discipline of planning, enabling, coordinating, and optimizing all human-related considerations during system design, development, test, production, use, and disposal of systems, subsystems, equipment, and facilities. HSI is concerned with human capability, capacity, proficiency, availability, utilization, accommodation, health, safety, and survivability, as well as the ability of the system to facilitate human performance.
- DI-SESS-81759A. This DID enables various summaries, that can be extracted from the LPD database, be delivered to the government as part of a contract. A DID is required for completion of a Contract Data Requirements List (CDRL), DD Form 1423.
- PSM Guidebook. Achieving Sustainment Maturity Levels along the Life Cycle Phase timeline helps the PSM evolve the program's product support approach to achieve the best value support solution. Achieving the levels will help in designing support actions to reduce total ownership costs and ensure the product support package is being developed using supportability analysis concepts such as Failure Mode, Effects and Criticality Analysis (FMECA), Fault Tree Analysis (FTA), Reliability-Centered Maintenance Analysis (RCMA), Level of Repair Analysis (LORA), and Maintenance Task Analysis. Achieving the SMLs will help ensure that the product support strategies can be continuously improved based on actual data collected during the testing and operations phases.

4.16.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. The data in this summary is input to a Task Performance Analysis Summary for Human Systems Engineering.

What: This summary provides a listing of support items and skill specialty requirements needed to perform maintenance tasks. The data on this summary leverages requirements using MIL-STD-46855, MIL-HDBK-502A, SAE TA-STD-0017A, and SAE GEIA-STD-0007C to perform the analysis and develop the data.

When: Based on the specific operational/environmental conditions and sustainment requirements, the Sustainment Engineering Team may develop Maintenance Requirements. Preventive Maintenance tasks are derived from results of RCM analysis, but may also be developed on site by an experienced maintenance officer or by the in-service engineering activity. Corrective Maintenance Tasks are derived from the FMECA. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Task Analysis should be almost complete by Critical Design Review, with revisions as a result of any design changes from the Systems Engineering Technical Review (SETR) event, followed by final changes after incorporation of modifications from testing results. This occurs during the Development Phase. The data is part of the Product Support Package required during LOG Demo and when the system is deployed. The data on this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). This analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Task Analysis is required to identify and define maintenance procedures and resource requirements for the end item or system being procured. The LSA-019 was designed for use at LOG DEMO or M-DEMO. This information is applicable for a Task Performance Analysis Summary as required by the applicable tasks of the Human Engineering Requirements for Military Systems, Equipment, and Facilities in MIL-STD-46855.

4.16.4 Scope

This summary provides a listing of support items and skill specialty requirements needed to perform maintenance tasks. At the option of the user, the summary may also contain the narrative sequential subtask description for each task, and the description of those subtasks which are referenced. The referenced subtask descriptions will appear in the proper sequence of the task description requested.

4.16.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Service Designator Code (Task Code, fourth position), ALC, Stop LCN, Maintenance Level (Task Code, third position), Item Category Codes, Display Option (LCN or TMFGC), Task Narrative (YES or NO), Task Interval (Task Code, second position), Task Function (Task Code, first position), Hardness Critical Procedure (HCP) Code, and SSC Description Option

4.16.6 Processing/Business Rules

LCNs are qualified within the selected LCN range with a valid Task Code that qualifies against selected Service Designator Code (Task Code, fourth position), selected maintenance level (third position Task Code), selected Task Interval (Task Code, second position), and selected task function (Task Code, first position)

- a. If the Task Narrative option is selected, then the Subtask Number, Subtask Description, Subtask Work Area Code Zone, Subtask Person Identifier, Subtask Mean Man-minutes, and Subtask Mean-minute Elapsed Time are output for the qualified tasks. Referenced tasks and subtasks will be incorporated into referencing tasks where required. A developer option may be to allow users to select whether referenced tasks should be incorporated.
- b. If the Hardness Critical Procedure Code option is selected, then only tasks with an associated Hardness Critical Procedure Code of "Y" or "S" will qualify and be output (including narrative).
- c. Either predicted or measured elapsed times and man-hours can be output (measured taking first precedence).
- d. MAN-HOURS is calculated by summing Mean Man-Minutes per Subtask Person Identifier and Skill Evaluation Code, for each Skill Specialty Code or New Or Modified Skill Specialty Code and then dividing by 60.
- e. The support items identified to perform the subject task are categorized according to their respective Item Category Code:
- f. Items qualifying as "Support/Test Equipment and Tools" must have an Item Category Code of D, G, H, M, N, P, R, 1 through 8, or AC.
- g. Items qualifying as "Spare and Repair Parts" must have an Item Category Code of K, L, X, Y, Z, 9, AA, AB, or AE.
- h. Items qualifying as "Other" must have an Item Category Code of E, F, J, Q, S, T, W, AD, or AF.
- i. There are spaces provided for manual entries onto this summary for Manually Measured Elapsed Time, Manually Measured Man-hours, Actual Quantity Used, Manual Evaluation, Reviewer's Name, and Support Items Not Identified in SAE GEIA-STD-0007C.

- j. If the task associated narrative indicator type is true, then output warning type and associated narrative (will not have person id mean/elapsed time/mean man minutes). If task associated narrative indicator is false, then output sequential subtask description.
- k. The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.16.7 Sequence

This summary is sequenced by ascending LCN or TMFGC (depending on the Display Option chosen), then by ascending Task Code. The support items portion is sequenced by support item type with Support/Test Equipment and Tools being first, then Spare and Repair Parts, then Other, then space is provided for Support Items Not Identified. Within each of the first three categories of support items, sequencing is done by ascending Item Category Code, then ascending Reference Numbers.

4.16.8 Data Sources

The data sources listed in Table 18, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 18 – Data Sources for Task Analysis Summary (LSA-019)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
M/L SELECT	Task Code (3rd position)	CA	5110	Optional
ICC SELECTION (Selected)				
DISP OPT (Selected. Options include: LCN, TM FGC)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
TASK NARRATIVE SELECTION (Selected)				
HARDNESS CRITICAL PROCEDURES SELECTION (Selected)				
TASK INTERVAL	Task Code (2nd position)	CA	5110	Optional
TASK FUNCTION	Task Code (1st position)	CA	5110	Optional
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
HCP	Hardness Critical Procedure Code	CA	2360	Optional
HMPC	Hazardous Maintenance Procedure Code	CA	2380	Optional
TSK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
ELAP TIME	Measured Mean Elapsed Time (M)	CA	3210	Optional. Measured 1st precedence.
	Predicted Mean Elapsed Time (P)	CA	3210	
MEASURED ELAPSED TIME (Manually Entered)				
SUBTASK NUMBER	Subtask Number	CB	4970	Required
SUBTASK ID	Subtask Identification	CB	5150	Optional
WARNING TYPE/CB SEQ NO.	Task Subtask Associated Narrative Type (If "True")	CLL	5200	Optional
	[Subtask Number]	CB	4970	Optional
	[Caution Warning Note Identifier]	CL	1483	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
DRAWING	Drawing	XT	1980	Optional
[DOCUMENT ID]	Document ID	XT/CLX	1940	Optional
[ORIGINATOR CODE]	Originator Code	XT/CLX	1520	Optional
[ISSUE NUMBER]	Issue Number	XT/CLX	2715	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[SECURITY CLASS]	Security Classification	XT/CLX	4655	Optional
[CAPTION]	Caption	XT	1480	Optional
[DOCUMENT FILE EXTENSION]	Document File Extension	XT	1930	Optional
SEQUENTIAL TASK NARRATIVE	Subtask Description	CB	4960	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
WORK AREA	Subtask Work Area Code Zone	CB	5910	Optional
	Subtask Work Area Code Access		5900	
PERS ID	Subtask Person Identifier	CD	3890	Optional
MEAN MAN-MINUTE	Subtask Mean Man-Minutes	CD	3230	Optional
MEAN MINUTE ELAP TIME	Subtask Mean Minute Elapsed Time	CB	3240	Optional
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
SS EVAL	Skill Specialty Evaluation Code	CD	4820	Optional
PERSON ID	Subtask Person Identifier	CD	3890	Required
MAN-HOURS (Calculated)				Automatically generated
[Subtask Mean Man Minutes]	(Subtask Mean Man Minutes)	CD	3230	Required for calculation
MANUALLY MEASURED MAN-HOURS (Manually Entered)				
SUPPORT/TEST EQUIPMENT AND TOOLS (Header)				
ICC (D, G, H, M, N, P, R, 1-8, AC)	Support Equipment Item Category Code	EA	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Support Reference Number	CG/EA	4400	Optional
	Subtask Support Reference Number	CR/EA		
CAGE	Task Support Commercial and Government Entity Code	CG/EA	1520	Optional
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TSK	Support Item Quantity per Task	CG	4230	Optional
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Required if Support Item Quantity per Subtask selected
SUBTASK NUMBER	Subtask Number	CB	4970	Required
QTY/SUBTASK	Support Item Quantity per Subtask	CR	4230	Optional
UM	Support Item Quantity per Subtask Unit of Measure	CR	5720	Optional
ACTUAL QUANTITY USED (Manually Entered)				
MANUAL EVALUATION (Manually Entered)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SPARE AND REPAIR PARTS (Header)				
ICC (H, L, X, Y, Z, 9, AA, AB, AE)	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CI/HG	4400	Optional
	Subtask Provision Reference Number	CS/HG		
CAGE	Task Provision Commercial and Government Entity Code	CI/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
QTY/TASK	Quantity per Task	CI	4230	Optional
UM	Quantity per Task Unit of Measure	CI	5720	Required if QTY/TASK selected
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CS	4230	Optional
UM	Quantity per Subtask Unit of Measure	CS	5720	Required if Quantity per Subtask selected
ACTUAL QUANTITY USED (Manually Entered)				
MANUAL EVALUATION (Manually Entered)				
OTHER (Header)				
ICC (E, F, J, Q, S, T, W, AD, AF)	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CG/HG	4400	Optional
	Subtask Provision Reference Number	CS/HG		
	Task Support Reference Number	CI/EA		
	Subtask Support Reference Number	CR/EA		
CAGE	Task Provision Commercial and Government Entity Code	CG/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
	Task Support Commercial and Government Entity Code	CI/EA		
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TASK	Quantity Per Task	CG	4230	Optional
	Support Item Quantity per Task	CI		
UM	Support Item Quantity per Task Unit of Measure	CG/CI	5720	Required if Support Item Quantity per Subtask selected
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CR/CS	4230	Optional
UM	Support Item Quantity per Subtask Unit of Measure	CR	5720	Required if QTY/TASK selected
	Quantity per Subtask Unit of Measure	CS		

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ACTUAL QUANTITY USED (Manually Entered)				
MANUAL EVALUATION (Manually Entered)				
SUPPORT ITEMS NOT IDENTIFIED IN LPD (Header)				
ICC (Manually Entered)				
ITEM NAME (Manually Entered)				
REFERENCE NUMBER (Manually Entered)				
CAGE (Manually Entered)				
QTY/TASK (Manually Entered)				
ACTUAL QUANTITY USED (Manually Entered)				
MANUAL EVALUATION (Manually Entered)				
REVIEWERS NAME (Manually Entered)				
PART II - SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.16.9 Format

The format shown in Figure 17 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: S. Forbes

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TASK ANALYSIS SUMMARY (LSA-019)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	M/L SELECT	ICC SELECTION
REFRIG UNT	ENGINE BLOCK	00602		P		DCY	ALL	ALL	ALL

SELECTED	SELECTED	SELECTED	CA.taskcode	CA.taskcode
DISP OPT	TASK NARRATIVE SELECTION	HARDNESS CRITICAL PROCEDURES SELECTION	TASK INTERVAL	TASK FUNCTION
LCN	YES	NO		

SELECTED
SSC DESCRIPTION OPTION: YES

CA.lcn	CA.alc	HG.refno	HG.cage	HA.itemname	XB.tmfge
LCN	ALC	REFERENCE NUMBER	CAGE	ITEM NAME	TM FGC
00602		142-0431ALCA	33647	ENGINE BLOCK	0601

CA.taskcode	CA.taskid	CA.hrdcrprc	CA.hazmtprc	CA.tskfreq	CA.taanormb	CA.msdmnelt/CA.prdmnel	MANUALLY ENTERED
TASK CD	TASK IDENTIFICATION	HCP	HMPC	TSK FREQ	MB	ELAP TIME	MANUALLY MET
RGFAGAA	REMOVE ENGINE FROM ENGINE ASSY	S	D	.3370	O	.82 (M)	

CB.subtano	CB.subtaid	CLL.tastanty XT.drw	CLL.tastasn CB.subtdesc	CB.subtwacz CB.subtwaca	CD.stprsnid	CD.subtmmmn	CB.subtmmet
SUBTASK NUMBER	SUBTASK ID	WARNING/ SEQ NO.	SEQUENTIAL TASK NARRATIVE	WORK AREA	PERS ID	MEAN MAN MINUTE	MEAN MINUTE ELAP TIME
001	REMOVE RINGS	1	REMOVE THE RINGS FROM THE PISTON USING THE PISTON RING SPREADER	AO1	A	5.0	5.0



002		CAUTION	DO NOT DISTORT RINGS WHILE REMOVING				
002	REMOVE PISTON	1	REMOVE PISTON PIN RETAINER FROM EACH SIDE	AO2	A	8.0	8.0
003	REMOVE SCREWS	1	REMOVE TWO SCREWS SECURING THE CARBURETOR TO THE MANIFOLD	AO2	A	10.0	10.0
004	INSPECT	1	INSPECT PISTONS FOR FRACTURES AT RING LANDS SKIRTS AND PIN BOSSES	AO2	A	3.0	3.0
005	INSTALL	1	INSTALL NEW RINGS ON THE PISTON USING A PISTON RING SPREADER	AO2	A	10.0	10.0

CD.skspc/CD.nomskspc	CD.skspvle	CD.stprsnid	CALCULATED	MANUALLY ENTERED
SSC	SS EVAL	PERSON ID	MAN-HOURS	MANUALLY MEASURED MAN-HOURS
52C20AAA1	E	A	.82 (M)	

Figure 17 – Format for LSA-019, Task Analysis Summary

REQUESTER: S. Forbes

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TASK ANALYSIS SUMMARY (LSA-019)

SUPPORT/TEST EQUIPMENT AND TOOLS

EA.seqicc	HA.itemname	CG/EA.refno	CG/EA.cage	CG.sigpta	CG.seqptum	CR.subtano	CR.sigpst	CR.sigpstum	MANUALLY ENTERED ACTUAL	MANUALLY ENTERED MANUAL
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM	NUMBER	SUBTASK	UM	QUANTITY USED	EVALUATION
4	PISTON SPREADER	PS5180-91-CN-N1532	10855	1.00	EA	001	1.00	EA		

SPARE AND REPAIR PARTS

HG.icc	HA.itemname	CI/EA.refno	CI/EA.cage	CI.qtyperta	CG.seqptum	CS.subtano	CS.sigpst	CS.qpstum	MANUALLY ENTERED ACTUAL	MANUALLY ENTERED MANUAL
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM	NUMBER	SUBTASK	UM	QUANTITY USED	EVALUATION
X	PISTON	143-0431	44940	1.00	EA	005	1.00	EA		

OTHER

EA.seqicc	HA.itemname	CG/EA.refno	CG/EA.cage	CG.sigpta	CI.qtyperta	CR/CS.subtano	CR/CS.sigpst	CR.sigpstum	MANUALLY ENTERED ACTUAL	MANUALLY ENTERED MANUAL
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM	NUMBER	SUBTASK	UM	QUANTITY USED	EVALUATION
F	TM-4401-10	142-0001-02	00000	1.00	EA	001	1.00	EA		

SUPPORT ITEMS NOT IDENTIFIED IN LPD

ALL BELOW MANUALLY ENTERED:

ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	SUBTASK NUMBER	QTY/ SUBTASK	ACTUAL QUANTITY USED	MANUAL EVALUATION

REVIEWER'S NAME: _____

PART II - SSC

SSC
52C20AAA1SSC DESCRIPTION
ENGINE MECHANIC

Figure 17 – Format for LSA-019, Task Analysis Summary (Continued)

4.17 Task Narrative (LSA-020)

4.17.1 Introduction

LSA-020 displays the task narrative and associated subtasks required to complete maintenance action for the primary task. This report will help you validate the task steps within a maintenance action. Tasks are identified by Task Code, Task Identification and LCN/ALC. Subtasks are listed below by Subtask Code and Sequential Task Narrative.

4.17.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. System designs will minimize or eliminate system characteristics that require excessive cognitive, physical, or sensory skills; entail extensive training or workload-intensive tasks; result in mission-critical errors; or produce safety or health hazards.
- MIL-STD-46855. Establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-1472. This standard establishes general human engineering design criteria for military systems, subsystems, equipment and facilities.
- MIL-STD-882. This standard identifies the DoD approach for identifying hazards, and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defense systems.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- DI-SESS-81759A. This DID enables various summaries, that can be extracted from the LPD database, be delivered to the government as part of a contract. A DID is required for completion of a Contract Data Requirements List (CDRL), DD Form 1423.
- PSM Guidebook. Achieving Sustainment Maturity Levels along the Life Cycle Phase timeline helps the PSM evolve the program's product support approach to achieve the best value support solution. Achieving the levels will help in designing support actions to reduce total ownership costs and ensure the product support package is being developed using supportability analysis concepts such as Failure Mode, Effects and Criticality Analysis (FMECA), Fault Tree Analysis (FTA), Reliability-Centered Maintenance Analysis (RCMA), Level of Repair Analysis (LORA), and Maintenance Task Analysis. Achieving the SMLs will help ensure that the product support strategies can be continuously improved based on actual data collected during the testing and operations phases.

4.17.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: This summary provides the narrative listing of tasks and subtasks for a maintenance action.

When: Working with the sustainment engineering team the technical writer will develop maintenance task steps to repair the item under analysis. Preventive Maintenance tasks are derived from results of RCM analysis, but may also be developed on site by an experienced maintenance officer or by the in-service engineering activity. Corrective Maintenance Tasks are derived from the FMECA. Task Analysis is completed by Critical Design Review, during the Development Phase. These analyses are iterative activities performed throughout the acquisition life cycle.

How: The data is part of the Product Support Package required during LOG Demo and when the system is deployed. The data on this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). This analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Task Analysis is required to develop the data required in the Product Support Package. The LSA-020 was designed for use at M-DEMO or LOG DEMO.

4.17.4 Scope

This summary provides the narrative listing of tasks and subtasks to perform maintenance actions.

4.17.5 Selection Options

Mandatory: EIAC, Start LCN, and LCN Type

Optional: ALC, Stop LCN, Service Designator, Maintenance Level, Task Interval, Task Function, and Digital File Data

4.17.6 Processing/Business Rules

LCNs are qualified within the selected LCN range with a valid Task Code that qualifies against selected SERV DES (Task Code, fourth position), selected M/L (Task Code, third position), selected Task Interval (Task Code, second position), and selected Task Function (Task Code, first position).

Drawings are output on report based on selection option. If drawings are selected to appear on a report they may appear as a link or as a whole image. Drawings are associated by each subtask on the CQ mapping table. When using a digital file ensure the link or file is attached to the appropriate subtask(s).

4.17.7 Sequence

This report is sequenced by ascending LCN then by ascending Task Code and subtasks.

4.17.8 Data Sources

The data sources listed in Table 19, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 19 – Data Sources for Task Narrative (LSA-020)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
SERV DES	Task Code (4th position)	CA	5110	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
M/L SELECT (Selected)	Task Code (3rd position)	CA	5110	Optional
TASK INTERVAL	Task Code (2nd position)	CA	5110	Optional
TASK FUNTCTION	Task Code (1st position)	CA	5110	Optional
DIGITAL FILE DATA (Selected)				
OUTPUT				
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
SUBTASK NUMBER	Subtask Number	CB	4970	Required
WARNING TYPE/CB SEQ NO.	Task Subtask Associated Narrative Type (If "True")	CL	5200	Optional
	[Subtask Number]	CB	4970	Optional
	[Caution Warning Note Identifier]	CL	1483	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
DRAWING	Drawing	XT	1980	Optional
[DOCUMENT ID]	Document ID	XT/CLX	1940	Optional
[ORIGINATOR CODE]	Originator Code	XT/CLX	1520	Optional
[ISSUE NUMBER]	Issue Number	XT/CLX	2715	Optional
[SECURITY CLASS]	Security Classification	XT/CLX	4655	Optional
[CAPTION]	Caption	XT	1480	Optional
[DOCUMENT FILE EXTENSION]	Document File Extension	XT	1930	Optional
SEQUENTIAL TASK NARRATIVE	Subtask Description	CB	4960	Required
DRAWING	Drawing	CQ/XT	1980	Optional
CAPTION	Caption	XT	1480	Optional

4.17.9 Format

The format shown in Figure 18 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Colson

LOGISTICS PRODUCT DATA

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TASK NARRATIVE (LSA-020)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	SERV DES	M/L SELECT
REFRIG UNT	ENGINE BLOCK	00602		P		ALL	ALL

CA.taskcode	CA.taskcode	SELECTED
TASK INTERVAL	TASK FUNCTION	DIGITAL FILE DATA
		NO

CA.taskcode	CA.taskid	CA.lcn	CA.alc
TASK CODE	TASK IDENTIFICATION	LCN	ALC
JGOAAAE	R/R FRT OIL TANK MT BRACKET ASSY	A	00

CB.subtano	CLL.tastanty	CLL.tastasn
SUBTASK	XT.drw	CB.subtdesc
NUMBER	WARNING/ SEQ NO.	SEQUENTIAL TASK NARRATIVE



001	CAUTION	OIL TANK ASSEMBLY MAY BE HOT! USING 7MM SPLINE SOCKET, 6 INCH EXTENSION AND 1/4 INCH DRIVE RATCHET, REMOVE TWO SPLINE BOLTS SECURING FRONT OIL TANK BRACKET ASSY TO FRONT FRAME ASSY.
002	1	SWING BRACKET DOWN AND MOVE FORWARD OFF OIL TANK ALIGNMENT PIN. DISCARD DAMAGED BRACKET.
003	1	INSTALLATION: SLIP MOUNT BRACKET ONTO OIL TANK ALIGNMENT PIN AND SWING BRACKET UP TO FRAME ASSEMBLY.
004	1	ALIGN FRONT BRACKET TO FRONT FRAME ASSY, INSTALL AND FINGER TIGHTEN TWO 7MM SPLINE BOLTS.
005	1	TIGHTEN TWO 7MM SPLINE BOLTS SECURING RING FRONT BRACKET TO 45 DEGREE WRENCH ARC.
006	1	PERFORM A TECHNICAL INSPECTION TO ENSURE COMPLETION OF THE TASK.

Figure 18 – Format for LSA-020, Task Summary

4.18 Event Trigger Preventive Maintenance Task Analysis (PMTA) (LSA-021)

4.18.1 Introduction

The Event Trigger Preventive Maintenance Task Analysis summary allows users to identify initial and subsequent scheduled events; events that are “whichever comes first”; and identification of an event that must occur first before an interval can begin. These events are separated by task code and task identification. Measurements that are also found in the summary include task frequency, Initial and Subsequent schedule interval, sampling value and sampling description. The summary also shows caution warning for the Subtask which are used in the summary. Part II gives a description of all the skill specialty codes used in the summary.

4.18.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. System designs will minimize or eliminate system characteristics that require excessive cognitive, physical, or sensory skills; entail extensive training or workload-intensive tasks; result in mission-critical errors; or produce safety or health hazards.
- MIL-STD-46855. Establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-1472. This standard establishes general human engineering design criteria for military systems, subsystems, equipment and facilities.
- MIL-STD-882. This standard identifies the DoD approach for identifying hazards, and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defense systems.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- PSM Guidebook. Achieving Sustainment Maturity Levels along the Life Cycle Phase timeline helps the PSM evolve the program's product support approach to achieve the best value support solution. Achieving the levels will help in designing support actions to reduce total ownership costs and ensure the product support package is being developed using supportability analysis concepts such as Failure Mode, Effects and Criticality Analysis (FMECA), Fault Tree Analysis (FTA), Reliability-Centered Maintenance Analysis (RCMA), Level of Repair Analysis (LORA), and Maintenance Task Analysis. Achieving the SMLs will help ensure that the product support strategies can be continuously improved based on actual data collected during the testing and operations phases.

4.18.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. The data on this summary is input a Task Performance Analysis Summary for Human Systems Engineering.

What: This summary provides users to identify initial and subsequent scheduled events and identify which events put be completed first once a specific condition is met. Practitioners are able to use MIL-STD-46855, MIL-HDBK-502A, SAE TA-STD-0017A, and SAE GEIA-STD-0007C to perform the analysis and develop the data.

When: Working with the Sustainment Engineering Team will develop Maintenance Requirements, based on the specific operational/environmental conditions and sustainment requirements. Preventive maintenance tasks are derived from RCM analysis. Corrective Maintenance Tasks are derived from the FMECA. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of Maintenance Task Analysis and RCM (SAE TA-STD-0017A, Activity C.1.8, and Activity D.1). This analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Preventive Maintenance Task Analysis may be required to develop the data required in the Product Support Package.

4.18.4 Scope

This summary report provides a list of the preventive maintenance event triggers.

4.18.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: ALC, Service Designator Code (Task Code, fourth position), Stop LCN, Maintenance Level (Task Code, third position), Item Category Codes, Display Option (LCN or TMFGC), Task Narrative (YES or NO), Task Interval (Task Code, second position), Task Function (Task Code, first position) and Hardness Critical Procedure (HCP) Code, and SSC Description Option

4.18.6 Processing/Business Rules

LCNs are qualified within the selected LCN range with a valid Task Code that qualifies against selected Service Designator Code (Task Code, fourth position), selected maintenance level (third position Task Code), selected Task Interval (Task Code, second position), and selected task function (Task Code, first position).

- a. If the Task Narrative option is selected, then the Subtask Number, Subtask Description, Subtask Work Area Code Zone, Subtask Person Identifier, Subtask Mean Man-minutes, and Subtask Mean-minute Elapsed Time are output for the qualified tasks. Referenced tasks and subtasks will be incorporated into referencing tasks where required. A developer option may be to allow users to select whether referenced tasks should be incorporated.
- b. If the Hardness Critical Procedure Code option is selected, then only tasks with an associated Hardness Critical Procedure Code of "Y" or "S" will qualify and be output (including narrative).
- c. Either predicted or measured elapsed times and man-hours can be output (measured taking first precedence).
- d. MAN-HOURS is calculated by summing Mean Man-Minutes per Subtask Person Identifier and Skill Evaluation Code, for each Skill Specialty Code or New or Modified Skill Specialty Code and then dividing by 60.
- e. The support items identified to perform the subject task are categorized according to their respective Item Category Code:
- f. Items qualifying as "Support/Test Equipment and Tools" must have an Item Category Code of D, G, H, M, N, P, R, 1 through 8, or AC.
- g. Items qualifying as "Spare and Repair Parts" must have an Item Category Code of K, L, X, Y, Z, 9, AA, AB, or AE.
- h. Items qualifying as "Other" must have an Item Category Code of E, F, J, Q, S, T, W, AD, or AF.
- i. There are spaces provided for manual entries onto this summary for Manually Measured Elapsed Time, Manually Measured Man-hours, Actual Quantity Used, Manual Evaluation, Reviewer's Name, and Support Items Not Identified in SAE GEIA-STD-0007C.
- j. If the task associated narrative indicator type is true, then output warning type and associated narrative (will not have person id mean/elapsed time/mean man minutes). If task associated narrative indicator is false, then output sequential subtask description.

The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.18.7 Sequence

This summary is sequenced by ascending LCN or EIAC (depending on the Display Option chosen), then by ascending Task Code. Subtask and SubTask Identification is displayed with the associated caution, warning and notes

4.18.8 Data Sources

The data sources listed in Table 20, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 20 – Data Sources for Event Trigger - PMTA (LSA-021)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC		Required
SERV DES	Task Code (4th position)	CA	5110	Optional
M/L SELECT (Selected)	Task Code (3rd position)	CA	5110	Optional
ICC SELECTION (Selected)				Optional
DISP OPT (Selected)				
TASK NARRATIVE SELECTION (Selected)				
HARDNESS CRITICAL PROCEDURES SELECTION (Selected)				
TASK INTERVAL	Task Code (2nd position)	CA	5110	Optional
TASK FUNCTION	Task Code (1st position)	CA	5110	Optional
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
TM FUNCT GROUP CODE	Technical Manual Functional Group Code	XB	5260	Optional
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
HCP	Hardness Critical Procedure Code	CA	2360	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
HMPD	Hazardous Maintenance Procedure Code	CA	2380	Optional
TSK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
ELAP TIME	Measured Mean Elapsed Time	CA	3210	Optional. Measured is first precedence
	Predicted Mean Elapsed Time			
INITIAL SCHEDULED INTERVAL	Initial Scheduled Maintenance Interval	CW	4625	Required
MB	Initial Scheduled Maintenance Interval Measurement Base	CW	3380	Required
INITIAL SAMPLING VALUE	Initial Sampling Value	CW	4616	Required
INITIAL SAMPLING TYPE	Initial Sampling Type	CW	4615	Required
INITIAL SAMPLING DESCRIPTION	Initial Sampling Description	CW	4614	Optional
SUBSEQUENT SCHEDULED INTERVAL	Subsequent Scheduled Maintenance Interval	CV	4625	Optional
MB	Subsequent Scheduled Maintenance Interval Measurement Base	CV	3380	Required if Maintenance Interval selected
SUBSEQUENT SAMPLING VALUE	Subsequent Sampling Value	CW	4616	Optional
SUBSEQUENT SAMPLING TYPE	Subsequent Sampling Type	CW	4615	Optional
SUBSEQUENT SAMPLING DESCRIPTION	Subsequent Sampling Description	CW	4614	Optional
EVENT TRIGGER	Event Trigger	CV	2095	Optional
EVENT TRIGGER EIA	Event Trigger End Item Acronym Code	CV	2040	Required
EVENT TRIGGER LCN	Event Trigger Logistics Support Analysis Control Number	CV	2970	Required
EVENT TRIGGER ALC	Event Trigger Alternate Logistics Support Analysis Control Number Code	CV	1200	Required
EVENT TRIGGER LCN TYPE	Event Trigger Logistics Support Analysis Control Number Type	CV	2980	Required
EVENT TRIGGER TASK CODE	Event Trigger Task Code	CV	5110	Required
SUBTASK NUMBER	Task Subtask Associated Narrative	CLL	3510	Optional
	Subtask Number	CB	4970	Optional
SUBTASK ID	Subtask Identification	CB	5150	Optional
WARNING TYPE/CB SEQ NO.	Task Subtask Associated Narrative Type (If "True")	CLL	5200	Optional
	[Subtask Number]	CB	4970	Optional
	[Caution Warning Note Identifier]	CL	1483	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
[DOCUMENT ID]	Document ID	XT/CLX	1940	Optional
[ORIGINATOR CODE]	Originator Code	XT/CLX	1520	Optional
[ISSUE NUMBER]	Issue Number	XT/CLX	2715	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[SECURITY CLASS]	Security Classification	XT/CLX	4655	Optional
[CAPTION]	Caption	XT	1480	Optional
[DOCUMENT FILE EXTENSION]	Document File Extension	XT	1930	Optional
[DRAWING]	Drawing	XT	1980	Optional
SEQUENTIAL TASK NARRATIVE	Subtask Description	CB	4960	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
WORK AREA	Subtask Work Area Code Zone	CB	5900	Optional
	Subtask Work Area Code Access		5910	
PERS ID	Subtask Person Identifier	CD	3890	Optional
MEAN MAN-MINUTE	Subtask Mean Man Minutes	CD	3230	Optional
MEAN MINUTE ELAP TIME	Subtask Mean Minute Elapsed Time	CB	3240	Optional
SSC	Skill Specialty Code	CD	4810	Optional
	New or Modified Skill Specialty Code			Optional
SS EVAL	Skill Specialty Evaluation Code	CD	4820	Optional
PERSON ID	Subtask Person Identifier	CD	3890	Optional
MAN HOURS (Calculated)				Automatically generated
[Subtask Mean Man Minutes]	(Subtask Mean Man Minutes)	CD	3230	Required for calculation
SUPPORT/TEST EQUIPMENT AND TOOLS (Header)				
ICC (D, G, H, M, N, P, R, 1-8, AC)	Support Equipment Item Category Code	EA	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Support Reference Number	CG/EA	4400	Optional
	Subtask Support Reference Number	CR/EA		
CAGE	Task Support Commercial and Government Entity Code	CG/EA	1520	Optional
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TSK	Support Item Quantity per Task	CG	4230	Optional
	Quantity per Task	CI		
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Required if QTY/TASK selected
	Quantity per Task Unit of Measure	CI		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Support Item Quantity per Subtask	CR	4230	Optional
	Quantity per Subtask	CS		
UM	Support Item Quantity per Subtask Unit of Measure	CR	5720	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Quantity per Subtask Unit of Measure	CS		
SPARE AND REPAIR PARTS (Header)				
ICC (H, L, X, Y, Z, 9, AA, AB, AE)	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CI/HG	4400	Optional
	Subtask Provision Reference Number	CS/HG		
CAGE	Task Provision Commercial and Government Entity Code	CI/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
QTY/TASK	Quantity per Task	CI	4230	Optional
	Support Item Quantity per Task	CG		
UM	Quantity per Task Unit of Measure	CI	5720	Required if QTY/TASK selected
	Support Item Quantity per Task Unit of Measure	CG		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CS	4230	Optional
	Support Item Quantity per Subtask	CR		
UM	Quantity per Subtask Unit of Measure	CS	5720	Optional
	Support Item Quantity per Subtask Unit of Measure	CR		
OTHER (Header)				
ICC (E, F, J, Q, S, T, W, AD, AF)	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CG/HG	4400	Optional
	Subtask Provision Reference Number	CS/HG		
	Task Support Reference Number	CI/EA		
	Subtask Support Reference Number	CR/EA		
CAGE	Task Provision Commercial and Government Entity Code	CG/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
	Task Support Commercial and Government Entity Code	CI/EA		
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TASK	Quantity per Task	CG	4230	Optional
	Support Item Quantity per Task	CI		

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Required if QTY/TASK selected
	Quantity per Task Unit of Measure	CI		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CS	4230	Optional
	Quantity per Task	CI		
UM	Support Item Quantity per Subtask Unit of Measure	CR	5720	Required if QTY/TASK selected
	Quantity per Subtask Unit of Measure	CS		
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.18.9 Format

The format shown in Figure 19 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Colson

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/04/29

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EVENT TRIGGER - PMTA (LSA-021)

XB.eiac	XB.lcnomen	XB.lcn	XB.lcn	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	M/L SELECT	ICC SELECTION
REFRIG UNT	ENGINE BLOCK	00602		P		DCY	ALL	ALL	ALL

SELECTED	SELECTED	SELECTED	CA.taskcode	CA.taskcode
DISP OPT	TASK NARRATIVE SELECTION	HARDNESS CRITICAL PROCEDURES SELECTION	TASK INTERVAL	TASK FUNCTION
LCN	YES	NO		

SELECTED
SSC DESCRIPTION OPTION: YES

CA.lcn	CA.alc	HG.refno	HG.cage	HA.itemname	XB.tmfgc
LCN	ALC	REFERENCE NUMBER	CAGE	ITEM NAME	TM FUNCT GROUP CODE
006		142-0431ALCA	33647	ENGINE ASSY	06

CA.taskcode	CA.taskid	CA.hrdcrprc	CA.hazmtprc	CA.tsksfreq	CA.taanormb	CA.msdmnelt	CA.prdmelt
TASK CD	TASK IDENTIFICATION	HCP	HMPC	TSK FREQ	MB	ELAP TIME	
CBOABAA	SCHEDULED MAINT OF ENGINE ASSY	S	D	.2500	O	.50 (M)	

CW.inscmi	CW.inscmimb	CW.inismpvl	CW.inismpty	CW.inismpdc	CV.sbscmi	CV.suscmb	CW.subsmpvl	CW.subsmpdy	CW.subsmpdc
INITIAL		INITIAL	INITIAL	INITIAL	SUBSEQUENT		SUBSEQUENT	SUBSEQUENT	SUBSEQUENT
SCHEDULED		SAMPLING	SAMPLING	SAMPLING	SCHEDULED		SAMPLING	SAMPLING	SAMPLING
INTERVAL	MB	VALUE	TYPE	DESCRIPTION	INTERVAL	MB	VALUE	TYPE	DESCRIPTION
3.0	T								

CV.evnttrig EVENT TRIGGER:
 CV.eiac EVENT TRIGGER EIAC:
 CV.lcn EVENT TRIGGER LCN:
 CV.alc EVENT TRIGGER ALC:
 CV.lcntype EVENT TRIGGER LCN TYPE:
 CV.taskcode EVENT TRIGGER TASK CODE:

CW.inscmi	CW.inscmimb	CW.inismpvl	CW.inismpty	CW.inismpdc	CV.sbscmi	CV.suscmb	CW.subsmpvl	CW.subsmpdy	CW.subsmpdc
INITIAL		INITIAL	INITIAL	INITIAL	SUBSEQUENT		SUBSEQUENT	SUBSEQUENT	SUBSEQUENT
SCHEDULED		SAMPLING	SAMPLING	SAMPLING	SCHEDULED		SAMPLING	SAMPLING	SAMPLING
INTERVAL	MB	VALUE	TYPE	DESCRIPTION	INTERVAL	MB	VALUE	TYPE	DESCRIPTION
100	H								

CV.evnttrig EVENT TRIGGER:
 CV.eiac EVENT TRIGGER EIAC:
 CV.lcn EVENT TRIGGER LCN:
 CV.alc EVENT TRIGGER ALC:
 CV.lcntype EVENT TRIGGER LCN TYPE:
 CV.taskcode EVENT TRIGGER TASK CODE:

Figure 19 – Format for LSA-021, Event Trigger - PMTA

REQUESTER: J. Colson

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/04/29

PAGE: 02

EVENT TRIGGER - PMTA (LSA-021)

CB.subtano SUBTASK NUMBER	CB.subtaid SUBTASK ID	CLL.tastanty WARNING/ SEQ NO.	CLL.tastassn CB.subtdesc SEQUENTIAL TASK NARRATIVE	CB.subtwacz CB.subtwaca WORK AREA	CD.stprsnid PERS ID	CD.subtmmmn MEAN MAN MINUTE	CB.subtmmet MEAN MINUTE ELAP TIME
001		CAUTION	ENGINE MAY BE HOT				
001		1	OPEN ENGINE COMPARTMENT		A	2.0	
002		1	REMOVE OIL CAP		A	2.0	2.0
003		1	REMOVE DRAIN PLUG FROM OIL PAN DRAIN OIL INTO CATCH PAN		A	8.0	8.0
004		1	REPLACE DRAIN PLUG		A	2.0	2.0
005		1	REPLACE OIL		A	10.0	10.0
006		1	REPPACE OIL CAP		A	1.0	1.0
007		1	CLOSE ENGINE COMPARTMENT		A	8.0	8.0
CD.skspc SSC 52C20AAA1	CD.nomskspc SS 52C20AAA1	CD.skspcvlc SS EVAL E	CD.stprsnid PERSON ID A	CALCULATED MAN-HOURS .5 (M)			

SUPPORT/TEST EQUIPMENT AND TOOLS

EA.seqicc ICC 4	HA.itemname ITEM NAME PISTON SPREADER	EA.refno REFERENCE NUMBER PS5180-91-CN-N1532	EA.cage CAGE 10855	CG.sigpta QTY/TASK 1.00	CG.seqptaum UM EA	CR.subtano SUBTASK NUMBER 001 005	CR.sigpst QTY/ SUBTASK 1.00 1.00	CR.sigpstum UM EA EA

SPARE AND REPAIR PARTS

HG.icc ICC X	HA.itemname ITEM NAME PISTON	HA.refno REFERENCE NUMBER 143-0431	EA.cage CAGE 44940	CI.qtyperta QTY/TASK 1.00	CI.qtypptaum UM EA	CS.subtano SUBTASK NUMBER 005	CS.qpst QTY/ SUBTASK 1.00	CS.qpstum UM EA

OTHER

EA.HG.seqicc ICC	HA.itemname ITEM NAME	EA/HA.refno REFERENCE NUMBER	EA/HG.cage CAGE	CI.qtyperta QTY/TASK	CI.qtypptaum UM	CR/CS.subtano SUBTASK NUMBER	CR.sigpst/ CS.qpst QTY/ SUBTASK	CR.sigpstum/ CS.qpstum UM

SKILL SPECIALTY CODE DESCRIPTION

CD.skspc SSC 52C20AAA1	GA.skspcdsc SSC DESCRIPTION ENGINE MECHANIC

Figure 19 – Format for LSA-021, Event Trigger - PMTA (Continued)

4.19 Circuit Breaker Tasks (LSA-022)

4.19.1 Introduction

The LSA-022 summary provides information on the circuit breaker requirements which are needed in support of equipment. The summary outlines the circuit breaker locations along with the accompanying caution/warning and notes for the specific circuit breakers. Part II outlines the Skill Specialty Code which is required for a specific maintenance action along with the quantity per task and subtask

4.19.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. System designs will minimize or eliminate system characteristics that require excessive cognitive, physical, or sensory skills; entail extensive training or workload-intensive tasks; result in mission-critical errors; or produce safety or health hazards.
- MIL-STD-46855. Establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-1472. This standard establishes general human engineering design criteria for military systems, subsystems, equipment and facilities.
- MIL-STD-882. This standard identifies the DoD approach for identifying hazards, and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defense systems.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- PSM Guidebook. Achieving Sustainment Maturity Levels along the Life Cycle Phase timeline helps the PSM evolve the program's product support approach to achieve the best value support solution. Achieving the levels will help in designing support actions to reduce total ownership costs and ensure the product support package is being developed using supportability analysis concepts such as Failure Mode, Effects and Criticality Analysis (FMECA), Fault Tree Analysis (FTA), Reliability-Centered Maintenance Analysis (RCMA), Level of Repair Analysis (LORA), and Maintenance Task Analysis. Achieving the SMLs will help ensure that the product support strategies can be continuously improved based on actual data collected during the testing and operations phases.

4.19.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. The data on this summary is input a Task Performance Analysis Summary for Human Systems Engineering.

What: This summary provides users the location of circuit breakers related to subtasks under analysis, their objective states, and the associated warning caution and notes. Practitioners are able to use MIL-STD-46855, MIL-HDBK-502A, SAE TA-STD-0017A, and SAE GEIA-STD-0007C to perform the analysis and develop the data.

When: Working with the Sustainment Engineering Team will develop Maintenance Requirements, based on the specific operational/environmental conditions and sustainment requirements. Preventive Maintenance tasks are derived from results of RCM analysis, but may also be developed on site by an experienced maintenance officer or by the in-service engineering activity. Corrective Maintenance Tasks are derived from the FMECA. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). This analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Task Analysis is required to develop the data required in the Product Support Package. The LSA-022 was designed for use at M-DEMO or LOG DEMO. This summary is a subset of the LSA-019, specifically highlighting circuit breakers.

4.19.4 Scope

This summary report provides circuit breaker maintenance actions.

4.19.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: ALC, Service Designator Code (Task Code, fourth position), Stop LCN, Maintenance Level (Task Code, third position), Item Category Codes, Display Option (LCN or TMFGC), Task Narrative (YES or NO), Task Interval (Task Code, second position), Task Function (Task Code, first position) and Hardness Critical Procedure (HCP) Code, and SSC Description Option

4.19.6 Processing/Business Rules

LCNs are qualified within the selected LCN range with a Task Code that qualifies against selected Service Designator Code (Task Code, fourth position), selected maintenance level (third position Task Code), selected Task Interval (Task Code, second position), and selected task function (Task Code, first position)

- a. If the Task Narrative option is selected, then the Subtask Number, Subtask Description, Subtask Work Area Code Zone, Subtask Person Identifier, Subtask Mean Man-minutes, and Subtask Mean-minute Elapsed Time are output for the qualified tasks. Referenced tasks and subtasks will be incorporated into referencing tasks where required. A developer option may be to allow users to select whether referenced tasks should be incorporated.
- b. If the Hardness Critical Procedure Code option is selected, then only tasks with an associated Hardness Critical Procedure Code of "Y" or "S" will qualify and be output (including narrative).
- c. Either predicted or measured elapsed times and man-hours can be output (measured taking first precedence).
- d. MAN-HOURS is calculated by summing Mean Man-Minutes per Subtask Person Identifier and Skill Evaluation Code, for each Skill Specialty Code or New Or Modified Skill Specialty Code and then dividing by 60.
- e. The support items identified to perform the subject task are categorized according to their respective Item Category Code:
- f. Items qualifying as "Support/Test Equipment and Tools" must have an Item Category Code of D, G, H, M, N, P, R, 1 through 8, or AC.
- g. Items qualifying as "Spare and Repair Parts" must have an Item Category Code of K, L, X, Y, Z, 9, AA, AB, or AE.
- h. Items qualifying as "Other" must have an Item Category Code of E, F, J, Q, S, T, W, AD, or AF.
- i. There are spaces provided for manual entries onto this summary for Manually Measured Elapsed Time, Manually Measured Man-hours, Actual Quantity Used, Manual Evaluation, Reviewer's Name, and Support Items Not Identified in SAE GEIA-STD-0007C.
- j. If the task associated narrative indicator type is true, then output warning type and associated narrative (will not have person id mean / elapsed time / mean man minutes). If task associated narrative indicator is false, then output sequential subtask description.

The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.19.7 Sequence

This summary is sequenced by ascending LCN or EIAC (depending on the Display Option chosen), then by ascending Task Code. Subtask and SubTask Identification is displayed with the associated caution, warning and notes.

4.19.8 Data Sources

The data sources listed in Table 21, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 21 – Data Sources for Circuit Breaker Tasks (LSA-022)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code	CA	5110	Optional
M/L SELECT	Task Code	CA	5110	Optional
ICC SELECTION (Selected)				Optional
DISP OPT (Selected)				
TASK NARRATIVE SELECTION (Selected)				
HARDNESS CRITICAL PROCEDURES SELECTION (Selected)				
TASK INTERVAL	Task Code	CA	5110	Optional
TASK FUNCTION	Task Code	CA	5110	Optional
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
CIRCUIT BREAKER LOCATIONS				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
TM FUNCT GROUP CODE	Technical Manual Functional Group Code	XB	5260	Optional
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
HCP	Hardness Critical Procedure Code	CA	2360	Optional
HMPC	Hazardous Maintenance Procedure Code	CA	2380	Optional
TSK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
ELAP TIME	Measured Mean Elapsed Time	CA	3210	Optional. Measured is first precedence
	Predicted Mean Elapsed Time			
CIRCUIT BREAKER ID	Circuit Breaker Identification Code	CUU	1492	Required
LCN	Circuit Breaker Logistics Support Analysis Control Number	CUU	2970	Required
ALC	Circuit Breaker Alternate Logistics Support Analysis Control Number Code	CUU	1200	Required
LCN TYPE	Circuit Breaker Logistics Support Analysis Control Number Type	CUU	2980	Optional
REFERENCE NUMBER	Circuit Breaker Reference Number	CUU	4400	Required
CAGE	Circuit Breaker Commercial and Government Entity Code	CUU	1520	Required
SUBTASK NUMBER	Subtask Number	CB	4970	Required
WARNING TYPE/CB SEQ NO.				
WARNING/CAUTION/NOTE – EMBEDDED IN SEQUENTIAL TASK NARRATIVE	Caution Warning Note Identifier	CL	1483	Optional
	Task Associated Narrative Indicator	CLL	5155	Optional
WARNING/CAUTION/NOTE DESCRIPTION	Subtask Number	CB	4970	Optional
	Caution Warning Note Identifier	CL	1483	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
	Task Subtask Associated Narrative Type	CLL	5200	Optional
	Subtask Objective State	CT	3665	Optional
OBJECTIVE STATES IMBEDDED IN SEQUENTIAL TASK NARRATIVE	Circuit Breaker Type	HA	1498	Optional
	Circuit Breaker Identification Code	CU	1492	Required
	Circuit Breaker Objective State	CU	1496	Optional
	Circuit Breaker Group Number	CU	1491	Required
	Circuit Breaker Sequence Number	CU	1497	Optional
	Circuit Breaker End Item Acronym Code	XA/CU	2040	Required
	Circuit Breaker Logistics Support Analysis Control Number	XB/CU	2970	Required
	Circuit Breaker Alternate Logistics Support Analysis Control Number Code	XB/CU	1200	Required
	Circuit Breaker Logistics Support Analysis Control Number Type	XB/CU	2980	Required
	Circuit Breaker Commercial and Government Entity Code	XH/CU	1520	Required
	Circuit Breaker Reference Number	HA/CU	4400	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
OBJECTIVE STATES IMBEDDED IN SEQUENTIAL TASK NARRATIVE	[Circuit Breaker Group Number]	CU	1491	Required
	[End Item Acronym Code]	XA	2040	Required
	[Logistics Support Analysis Control Number]	XB	2970	Required
	[Alternate Logistics Support Analysis Control Number Code]	XB	1200	Required
	[Logistics Support Analysis Control Number Type]	XB	2980	Required
	[Task Code]	CA	5110	Required
	[Subtask Number]	XA	4970	Required
	[Circuit Breaker End Item Acronym Code]	XA/CU	2040	Required
	[Circuit Breaker Logistics Support Analysis Control Number]	XB/CU	2970	Required
	[Circuit Breaker Alternate Logistics Support Analysis Control Number Code]	CUU	1200	Required
	[Circuit Breaker Logistics Support Analysis Control Number Type]	CUU	2980	Required
	[Circuit Breaker Commercial and Government Entity Code]	CUU	1520	Required
	[Circuit Breaker Reference Number]	CUU	4400	Required
	[Circuit Breaker Identification Code]	CUU	1492	Required
	[Circuit Breaker Objective State]	CUU	1496	Required
	[Circuit Breaker Group Number]	CUU	1491	Required
	[Circuit Breaker Sequence Number]	CU	1497	Required
WORK AREA	Subtask Work Area Code Zone	CB	5900	One or the other is required
	Subtask Work Area Code Access	CB	5910	
PERS ID	Subtask Person Identifier	CD	3890	Optional
MEAN MAN-MINUTE	Subtask Mean Man-Minutes	CD	3230	Optional
MEAN MINUTE ELAP TIME	Subtask Mean Minute Elapsed Time	CB	3240	Optional
SSC	Skill Specialty Code	CD	4810	One or the other is required
	New or Modified Skill Specialty Code			
SS EVAL	Skill Specialty Evaluation Code	CD	4820	Optional
PERSON ID	Subtask Person Identifier	CD	3890	Optional
MAN-HOURS (Calculated)				Automatically generated
[Subtask Mean Man Minutes]	(Subtask Mean Man Minutes)	CD	3230	Required for calculation
SUPPORT/TEST EQUIPMENT AND TOOLS				
ICC (D,G,H,M,N,P,R,1-8, AC)	Support Equipment Item Category Code	EA	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Support Reference Number	CG/EA	4400	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Subtask Support Reference Number	CR/EA		
CAGE	Task Support Commercial and Government Entity Code	CG/EA	1520	Optional
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TASK	Support Item Quantity per Task	CG	4230	Optional
	Quantity per Task	CI		
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Optional
	Quantity per Task Unit of Measure	CI		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Support Item Quantity per Subtask	CR	4230	Optional
	Quantity per Task	CI		
UM	Quantity per Subtask Unit of Measure	CS	5720	Optional
	Support Item Quantity per Subtask Unit of Measure	CR		
SPARE AND REPAIR PARTS				
ICC (H, L, X, Y ,Z ,9, AA, AB, AE)	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CI/HG	4400	Optional
	Subtask Provision Reference Number	CS/HG		
CAGE	Task Provision Commercial and Government Entity Code	CI/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
QTY/TASK	Quantity per Task	CI	4230	Optional
	Support Item Quantity per Task	CG		
UM	Quantity per Task Unit of Measure	CI	5720	Optional
	Support Item Quantity per Task Unit of Measure	CG		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CS	4230	Optional
	Support Item Quantity per Subtask	CR		
UM	Quantity per Subtask Unit of Measure	CS	5720	Optional
	Support Item Quantity per Subtask Unit of Measure	CR		
OTHER				
ICC	Item Category Code	HG	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CG/HG	4400	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Subtask Provision Reference Number	CS/HG		
	Task Support Reference Number	CI/EA		
	Subtask Support Reference Number	CR/EA		
CAGE	Task Provision Commercial and Government Entity Code	CG/HG	1520	Optional
	Subtask Provision Commercial and Government Entity Code	CS/HG		
	Task Support Commercial and Government Entity Code	CI/EA		
	Subtask Support Commercial and Government Entity Code	CR/EA		
QTY/TASK	Quantity per Task	CG	4230	Optional
	Support Item Quantity per Task	CI		
UM	Support Item Quantity per Task Unit of Measure	CI	5720	Optional
	Quantity per Task Unit of Measure	CI		
SUBTASK NUMBER	Subtask Number	CB	4970	Optional
QTY/SUBTASK	Quantity per Subtask	CS	4230	Optional
	Quantity per Task	CI		
UM	Support Item Quantity per Subtask Unit of Measure	CR	5720	Optional
	Quantity per Subtask Unit of Measure	CS		
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.19.9 Format

The format shown in Figure 20 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

TIME: 14:20 DATE: 2020/04/06 PAGE: 01

CIRCUIT BREAKER TASKS (LSA-022)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE STOP LCN		UOC	SERV DES	M/L SELECT	ICC SELECTION
10K GEN	HYD CIRCUIT BREAK	00602		P		DCY	ALL	ALL	ALL

SELECTED	SELECTED	SELECTED	CA.taskcode	CA.taskcode
DISP OPT	TASK NARRATIVE SELECTION	HARDNESS CRITICAL PROCEDURES SELECTION	TASK INTERVAL	TASK FUNCTION
LCN	YES	YES		

SELECTED
SSC DESCRIPTION OPTION: YES

CA.lcn	CA.alc	HG.refno	HG.cage	HA.itemname	XB.tmfgr
LCN	ALC	REFERENCE NUMBER	CAGE	ITEM NAME	TM FUNCT GROUP CODE
006		142-0431ALCA	33647	ENGINE ASSY	06

CA.taskcode	CA.taskid	CA.hrdcrprc	CA.hazmtprc	CA.tsksfreq	CA.taannormb	CA.msdmnelt/CA.prdmneit
TASK CD	TASK IDENTIFICATION	HCP	HMPC	TSK FREQ	MB	ELAP TIME
RGFAGAA	REMOVE POWER SOURCE	S	D	.3370	O	.82 (M)

CIRCUIT BREAKER LOCATIONS:

CUU.cbldc	CUU.lcn	CUU.alc	CUU.lcntype	CUU.refno	CUU.cage
CIRCUIT BREAKER ID	LCN	ALC	LCN TYPE	REFERENCE NUMBER	CAGE
AA0	00501	00	P	CIRCUIT20	37375
AA1	00501	00	P	CIRCUIT20	37375

CB.subtano	CL.taassnin	CLL.tastanty	CLL.tastassn	CB.subtwaca	CD.stprsnid	CD.subtmmmn	CB.subtmmet
	(not shown)	CL.cwnid	CU.cbgrpno	CB.subtwacz			
		CU.cbsqnum	CU.cbldc CU.cbobjsta				
			CB.subtdesc				
SUBTASK NUMBER	WARNING TYPE/	CB SEQ NO.	SEQUENTIAL TASK NARRATIVE	WORK AREA	PERS ID	MEAN MAN MINUTE	MEAN MINUTE ELAP TIME
001	WARNING		ALL ELECTRICAL POWER MUST BE DISCONNECTED				
001			CIRCUIT BREAKER ORDER GROUP: 001				
001	1		CIRCUIT BREAKER ID: AA0 OBJECTIVE STATE: open	AA0	A	2.0	2.0
001	2		CIRCUIT BREAKER ID: AA1 OBJECTIVE STATE: verify closed	AA0	A	2.0	2.0
002	1		Visually examine Circuit Breaker	AA0	A	1.0	1.0
003	1		Remove Ground Wire from Breaker	AA0	A	3.0	3.0
004	1		Replace defective breaker	AA0	A	7.0	7.0
005	1		Reconnect Ground Wire	AA0	A	2.0	2.0

Figure 20 – Format for LSA-022, Circuit Breaker Tasks

REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

TIME: 14:20 DATE: 2020/04/06 PAGE: 02

CIRCUIT BREAKER TASKS (LSA-022)

CD.skspc	CD.skspevlc	CD.stprsnid	CALCULATED
CD.nomskspc			
SSC	SS EVAL	PERSON ID	MAN-HOURS
52C20AAA1	E	A	.82 (M)

SUPPORT/TEST EQUIPMENT AND TOOLS

EA.segicc	HA.itemname	EA.refno	EA.cage	CG.sigpta	CG.segptum	CR.subtano SUBTASK	CR.sigpst QTY/ SUBTASK	CR.sigpstum
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM	NUMBER	UM	
4	PISTON SPREADER	PS5180-91-CN-N1532	10855	1.00	EA	001	1.00	EA
					EA	005	1.00	EA

SPARE AND REPAIR PARTS

HG.icc	HA.itemname	HA.refno	EA.cage	CI.qtyperta	CI.qtypptum	CS.subtano SUBTASK	CS.qpst QTY/ SUBTASK	CS.qpstum
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM	NUMBER	UM	
X	PISTON	143-0431	44940	1.00	EA	005	1.00	EA

OTHER

HA.itemname	CG.sigpta	CG.segptum/	CR/CS.subtano	CR.sigpst/ CS.qpst	CR.sigpstum/
EA.HG.segicc	EA/HA.refno	EA/HG.cage	CI.qtyperta	CI.qtypptum	SUBTASK
ICC	ITEM NAME	REFERENCE NUMBER	CAGE	QTY/TASK	UM
					NUMBER
					SUBTASK
					UM

CD.skspc	GA.skspcdsc
SSC	SSC DESCRIPTION
52C20AAA1	ENGINE MECHANIC

Figure 20 – Format for LSA-022, Circuit Breaker Tasks (Continued)

4.20 Maintenance Plan Summary (LSA-023)

4.20.1 Introduction

This summary was originally developed for the Air Force, and has since become the comprehensive report for logisticians. It identifies required reliability, the achieved reliability, the list of maintenance actions, the spares and support equipment required to maintain your item. While there are similarities with other Maintenance Plan Summaries, the LSA-023 displays the serial number (if available) and Reliability Requirements data elements from Entity AA, AB, and AG. Additionally, it displays reliability information from Entity BD and skill information in regards to the task/subtask from Entity CD. This is the only summary that identifies the required O&M Reliability, Availability, and Maintainability (RAM) information in Part I and whether or not the contractor has met that requirement in Part II.

4.20.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Air Force Instruction (AFI) 63-101/20-101.
- AFI 21-129.
- AFI 21-118.
- AFI 23-101.
- AFPD 10-9.
- AFPD 21-1.
- AFPD 20-1.
- AFPD 90-11.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.

4.20.3 Tailoring

Who: Typically, this summary is used by the U.S. Air Force. This is a required delivery for some Air Force Programs. It is input to an Air Force Maintenance Program. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers, and Product Support Managers.

What: During development, this summary should be used as an analysis tool to compare the required manpower plan or budget with the calculated requirements for manpower throughout the development process. The complete maintenance summary, to the level of detail necessary to execute the maintenance plan, the data will not be mature until a detailed task analysis is performed at the lowest possible indenture level.

When: This summary is often delivered as part of a contract via DI-SESS-81759 and a Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Data in this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). Task analysis is an iterative process throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time. The data on this summary is input to a Maintenance Plan.

Why: This is a required delivery for some Air Force Programs. It is input to an Air Force Maintenance Program

4.20.4 Scope

Tailored to the Air Force, this summary contains general information, reliability requirements, reliability characteristics, maintenance actions, the required support equipment, and associated technical data pertaining to the system/end item.

4.20.5 Selection

Mandatory: EIAC, Start LCN, LCN Type, UOC, and Service Designator Code

Optional: ALC, Stop LCN, ICC, Report Part, Display Option (Part I, II, III, and IV), and Wartime/Peacetime (default is peacetime)

The summary selections consist of RPT:

- a. Part I, enter a (y) if Part I of the 023 summary is required, otherwise, leave blank.
- b. Part II, enter a (y) if Part II of the 023 summary is required, otherwise, leave blank.

- c. Part III, enter a (y) if Part III of the 023 summary is required, this includes both preventive and corrective maintenance. If only preventive maintenance is required enter a (P). If only corrective maintenance is required enter a (C). If Part III is not required leave blank.
- d. Part IV, enter a (y) if Part IV of the 023 summary is required, otherwise, leave blank. If blank, no entry should be made in the ICC select.
- e. If a (y) was entered in Part IV of RPT PT selection, then enter the ICCs for which part IV is required. Refer to Appendix A of SAE GEIA-STD-0007C for a listing and definitions of the various ICCs. If an (A) is entered in the ICC field, the output summary will include the ICCs 8, M, D, 1, and 7; an entry of (B) will result in ICCs 2, 4, 5, 6, and H being included; an entry of (C) will result in ICCs of G, N, P, R, and 3 being included; and an entry of (V) will result in the ICC of V being included. These groupings will only have validity when definitions of the ICCs specified in Appendix A of SAE GEIA-STD-0007C have been adhered to.
- f. Part V, enter a (y) if Skill Specialty Code Description is required, otherwise leave blank.
- g. Display Option, enter an (X) if the summary is to be sequenced by TMFGC in lieu of LCN; otherwise leave blank.

4.20.6 Processing/Business Rules

The same qualifying criteria is used for all parts.

- a. Part I of the summary provides the technical and operational parameters for the items which are from the operations and maintenance requirements area, and several specific maintenance considerations, such as, whether the item is hardness critical, what type of support is being considered, the maintenance concept and the maintenance plan rationale. Part II should be used from the entities when the selection criteria has been met. To produce the summary at least one AA and AG entities should exist on file. Reference Number, CAGE, and Item Designator Code may not appear if LCN Type is Functional (F). The Reference Number is wrapped at the 16th position.
- b. Part II of the summary depicts reliability and maintainability parameters for the selected items in the order of comparative analyzed, allocated, predicted, and measured. Part II should be used from the entities when the selection criteria has been met. To produce the summary at least one BA and BD entity should exist on file. NSN AND RELATED DATA, Reference Number, CAGE, Maximum Allowable Operating Time (MAOT), MAC. SMR, UI, and Unit of Issue Price may not appear if LCN Type is Functional (F).
- c. Part III of the summary is divided into analyses of preventive and corrective maintenance tasks by maintenance level and hardware LCN designation. The preventive maintenance task area identified by the second position of the Task Code (Q, C, P, M, N, L, and B). The corrective maintenance tasks are identified by the second position of the Task Code (all that are not preventive). This part identifies personnel and training requirement considerations. To produce the summary the CA and its corresponding CD entity should exist on file. The NO SSC can be calculated by summing up the number of Subtask Person Identifiers (Entity CD) for a given Skill Specialty Code and Task Code, and/or the New or Modified Skill Specialty Code and Task Code. The (P) or (M) preceding the and ELAP TIME values on the output represent predicted and measured, respectively. Where a measured value has not been input to the SAE GEIA-STD-0007C data repository, the summary will default to the predicted value.
- d. Part IV of this summary provides a listing of all support items required to perform each task meeting the summary selection criteria by ICC. To produce the summary at least one CA, CG, EA, and HA entity should exist on file.
- e. In order to exercise the display option the TMFGC must be entered in Entity XB.
- f. Each part of this summary should start at the top of a new page.

4.20.7 Sequence Options

Parts I, II, and IV are sequenced by (depending upon the display option):

- a. If the display option of TMFGC is selected then within all summary parts the output is sorted in ascending TMFGC then LCN sequence.
- b. If the display option of TMFGC is not selected then within all summary parts the output is sorted in ascending LCN then TMFGC sequence.

Part III A and Part III B should be sorted by Maintenance Level, the first being crew the last being depot for that Service Designator Code sub-table. Within this sequence, tasks are sorted in ascending LCN, then ascending Task Code (starting with the first position).

4.20.8 Data Sources

The data sources listed in Table 22, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 22 – Data Sources for the Maintenance Plan Summary (LSA-023)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC (matched via the XF Entity)	Usable On Code	XF/XC	5790	Required
SERV DES	Service Designator Code	AA	4710	Required
	Task Code (4th position for Part III and IV)	CA	5110	
ICC (Selected)	Item Category Code	EA/HG	2730	Optional
RPT PT (Selected)				
REPORT PART I	[System/End Item R&M Requirement]			
REPORT PART II	[Reliability and Maintainability]			
REPORT PART III A	[Preventive Maintenance Requirement]			
REPORT PART III B	[Corrective Maintenance Requirement]			
REPORT PART IV	[Resource Requirements]			
REPORT PART V	[SSC Description Options]			
DISP OPT (Selected. Options include: LCN, TM FGC)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
W/P (Selected)	Operational Requirement Indicator			Optional
OUTPUT				
PART I - SYSTEM/END ITEM R&M REQUIREMENTS (Header)				
TM FGC	Technical Manual Functional Group Code	XB	5260	Required
ALC	Alternate Logistics Support Analysis Control Number Code	AA	1200	Required
LCN	Logistics Support Analysis Control Number	AA	2970	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
ITEM DESIGNATOR CODE	System End Item Item Designator Code	XC	2750	Optional
HCI	Hardness Critical Item	HG	2350	Optional
SC	Support Concept	BA	5000	Optional
SEC	Security Clearance	BA	4660	Optional
SERIAL NUMBER (Header)				
FROM	Serial Number From	XD	4690	Optional
TO	Serial Number To	XD	4690	Optional
AOR	Annual Operating Requirement	AG	1240	Optional
MB	Annual Operating Requirement Measurement Base	AG	3380	Required when AOR is selected
MSN DUR	Mean Mission Duration	AB	3250	Optional
MB	Mean Mission Duration Measurement Base	AB	3380	Required if Mean Mission Duration selected
AI	Required Inherent Availability	AA	2560	Optional
AA	Required Achieved Availability	AA	1010	Optional
AO	Required Operational Availability	AB	3700	Optional
MTBF				
MTBF (TECH)	Required Technical Mean Time Between Failures	AG	3270	Optional
MTBF (OPER)	Required Operational Mean Time Between Failures	AG	3270	Optional
MTBMA				
MTBMA (TECH)	Required Technical Mean Time Between Maintenance Actions	AG	3280	Optional
MTBMA (OPER)	Required Operational Mean Time Between Maintenance Actions	AG	3280	Optional
MTBR	Required Mean Time Between Removals	AG	3340	Optional
MB	Annual Operating Requirement Measurement Base	AG	3380	Required if MTBR selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MTTR				
MTTR (TECH)	Required Technical Mean Time to Repair	AA	3360	Optional
MTTR (OPER)	Required Operational Mean Time to Repair	AA	3360	Optional
MAMDT				
MAMDT (TECH)	Technical Mean Active Maintenance Downtime	AA	3200	Optional
MAMDT (OPER)	Operational Mean Active Maintenance Downtime	AA	3200	Optional
MAX TTR	Required Maximum Time to Repair	AA	3170	Optional
PCTL	Required Percentile	AA	3880	Required if MAX TTR selected
MAINTENANCE CONCEPT	Reliability Availability and Maintainability Maintenance Concept Narrative	BA	3510	Optional
MAINTENANCE PLAN RATIONALE	Reliability Availability and Maintainability Maintenance Plan Rationale Narrative	BA	3510	Optional
PART II - RELIABILITY AND MAINTAINABILITY (Header)				
TM FGC	Technical Manual Functional Group Code	XB	5260	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA	1200	Required
LCN	Logistics Support Analysis Control Number	BA	2970	Required
NSN AND RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
REFERENCE NUMBER	Reference Number	HD	4400	Optional
CAGE	Commercial and Government Entity Code	HD	1520	Optional
CONV FACTOR	Conversion Factor	BA	1670	Optional
MAOT	Maximum Allowable Operating Time	HG	3160	Optional
MAC	Maintenance Action Code	HG	3010	Optional
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional
UI	Unit of Issue	HA	5700	Optional
UNIT OF ISSUE PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "I")	Price Type Selection	HD	4000	Required when Unit Price selected
CURR CODE	Currency Code	HD	1745	Required when Unit Price is selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[UI PRICE PROVISIONING (= "Y")]	Price Provisioning	HD	4140	Required when Unit Price is selected
QPA	Quantity per Assembly	HG	4190	Optional
RAM INDICATOR CODE	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
MTBF				
MTBF (TECH)	Mean Time Between Failures Technical	BD	3270	Optional
MTBF (OPER)	Mean Time Between Failures Operational	BD	3270	Optional
MB (TECH)	Mean Time Between Failure Technical Measurement Base	BD	3380	Required when MTBFT is selected
MB (OPER)	Mean Time Between Failure Operational Measurement Base	BD	3380	Required when MTBFO is selected
MTBMA				
MTBMA (TECH)	Mean Time Between Maintenance Actions Technical	BD	3280	Optional
MTBMA (OPER)	Mean Time Between Maintenance Actions Operational	BD	3280	Optional
MB (TECH)	Mean Time Between Maintenance Actions Technical Measurement Base	BD	3380	Required when MTBAT is selected
MB (OPER)	Mean Time Between Maintenance Actions Operational Measurement Base	BD	3380	Required when MTBAO is selected
MTBM-INH				
MTBM-INH	Mean Time Between Maintenance Inherent	BD	3300	Optional
MB	Mean Time Between Maintenance Inherent Measurement Base	BD	3380	Required when MTBMI is selected
MTBM-IND				
MTBM-IND	Mean Time Between Maintenance Induced	BD	3290	Optional
MB	Mean Time Between Maintenance Induced Measurement Base	BD	3380	Required when MTBMI is selected
MTBM NO DEF				
MTBM NO DEF	Mean Time Between Maintenance No Defect	BD	3310	Optional
MB	Mean Time Between Maintenance No Defect Measurement Base	BD	3380	Required when MTBMN is selected
MTBPM				
MTBPM	Mean Time Between Preventive Maintenance	BD	3330	Optional
MB	Mean Time Between Preventive Maintenance Measurement Base	BD	3380	Required when MTBPM is selected
MTBR				
MTBR	Mean Time Between Removals	BD	3340	Optional
MB	Mean Time Between Removals Measurement Base	BD	3380	Required when MTBR is selected
MTTR				
MTTR (TECH)	Mean Time to Repair Technical	BD	3360	Optional
MTTR (OPER)	Mean Time to Repair Operational	BD	3360	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MAX TTR	Maximum Time to Repair	BD	3170	Optional
PCTL	Percentile	BD	3880	Required when Max TTR is selected
PART III - A (PREVENTIVE) AND B (CORRECTIVE)				
MAINTENANCE LEVEL TASK CODE 3rd POSITION	Task Code	CA	5110	Required
TM FGC	Technical Manual Functional Group Code	XB	5260	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
TASK CODE	Task Code	CA	5110	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required when Task Frequency selected
HCP	Hardness Critical Procedure Code	CA	2360	Optional
NO SSC (Calculated by summing SPI/SSC&TC)				Automatically generated
[SUBTASK PERSON ID]	Subtask Person Identifier	CD	3890	Required to perform calculation
[Skill Specialty Code]	Skill Specialty Code	CD	4810	Required to perform calculation
[New or Modified Skill Specialty Code]	New or Modified Skill Specialty Code	CD	4810	Required to perform calculation. New or Modified SSC is first precedence
M-H PER SSC Calculated sum SUBMMCD and divided by 60 for a SSC and task code				Automatically generated
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man-Minutes	CD	3230	Required to perform calculation
ELAP TIME (M)	Measured Mean Elapsed Time	CA	3210	Optional. Measured is first precedence
ELAP PREDICTED (P)	Predicted Mean Elapsed Time	CA	3210	
SKILL LEVEL	Skill Level Code	GA	4800	Optional
	New or Modified Skill Level Code	GB		
SSC and new or modified SSC are used from entity CD, there should only be one, but if there are 2, the new or modified SSC should be selected. The corresponding skill levels should be used from either entity GA or GB.				
SSC	New or Modified Skill Specialty Code	CD	4810	Optional
	Skill Specialty Code			
TRN REC	Training Recommendation Type	CA	5510	Optional
TRN EQP	Training Equipment Requirement Code	CA	5480	Optional
LCN	Logistics Support Analysis Control Number	CA	2970	Required
PART IV - RESOURCE REQUIREMENTS (Header)				
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
TM FGC	Technical Manual Functional Group Code	XB	5260	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
LCN	Logistics Support Analysis Control Number	CA	2970	Required
TASK CODE	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
FAC	Facility Requirement Code	CA	2150	Optional
REQUIREMENTS FOR SUPPORT EQUIPMENT (Sub-Header)				
ICC	Support Equipment Item Category Code	EA	2730	Optional
ITEM NAME	Item Name	HA	2790	Optional
QTY/TASK	Support Item Quantity per Task	CG	4230	Optional
UM	Support Item Quantity per Task Unit of Measure	CG	5720	Optional
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Optional
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Optional

4.20.9 Format

The Figure 21 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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MAINTENANCE PLAN SUMMARY (LSA-023)

PART I - SYSTEM/END ITEM R&M REQUIREMENT

XB.eiac	XB.lcn	XB.lcn	XB.alc XB.lcn	XB.lcn	XF/XC.uoc	CA.taskcode AA.servdesc	SELECTED	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC TYPE	STOP LCN	UOC	SERV DES	ICC	RPT PT	DISP OPT	W/P
REFRIG UNT	REFRIGERATION UNIT	0	00 P	0	DCY	ARMY	BZQY	YYYYN	X	
XB.tmfgc	AA.alc AA.lcn	XB.lcn	HG.refno	HG.cage	XC.seidesc	HG.hardcrit	BA.supncpt	BA.secclnrc		
TM FGC	ALC LCN	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	ITEM DESIGNATOR CODE	HCI	SC	SEC		
00	00 0	REFRIGERATION UNIT	F100000RG-2223-1	94833	TYPE001 MODEL00002 SR SUFFIXO		B	4		
XD.snfrom	XD.snto									
SERIAL	NUMBER									
FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	
0012	002349									
AG.annopreq	AG.anoprqmb	AG.annopreq	AG.anoprqmb	AG.annopreq	AG.anoprqmb		AB.mmsndur	AB.mmsdurmb		
AOR MB		AOR MB		AOR MB			MSN DUR	MB		
7200	O	300	D	10	T		1	D		
AA.reqhnav	AA.reqachav	AB.reqopav	AG.rqmtbfbf	AG.rqmtbmabma	AG.rqmtbr	AG.anoprqmb	AA.rqmtttr	AA.tecmamdt	AA.reqmxttr	AA.reqperct
AI	AA	AO	MTBF	MTBMA	MTBR	MB	MTTR	MAMDT	MAX TTR	PCTL
97.000000	95.000000	90.000000	TECH 350.0	75.0	125.0	O	.35	1.0	7.50	95
			OPER 500.0	90.0		O	.25	.7		
			TECH 0.5	0.1	.15	D				
			OPER 0.4	0.1		D				
			TECH 14.6	3.1	4.2	T				
			OPER 12.0	2.9		T				

Figure 21 – Format for LSA-023, Maintenance Plan Summary

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MAINTENANCE PLAN SUMMARY (LSA-023)

PART II - RELIABILITY AND MAINTAINABILITY

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	AA.servdesc CA.taskcode	SELECTED	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC TYPE	STOP LCN	UOC	SERV DES	ICC	SELECTED	RPT PT	OPT	W/P
REFRIG UNIT	REFRIGERATION UNIT	0	00 P	0	DCY	ARMY	BZQY	YYYY	X		

XB.tmfcc	XB.lcnomen	BA.alc	BA.lcn	HA.nsnccgc	HA.nsnmcc	HA.nsnfsc	HA.nsnniin	HA.nsnmima	HA.nsnactvc	HD.refno	HD.cage
TM FGC	LCN NOMENCLATURE	ALC LCN		NSN AND RELATED DATA				REFERENCE NUMBER			CAGE
00	REFRIGERATION UNIT	00 0		-4110-01-074-5174-				E100000RG-2223-11334-FGR			94833

BA.convfact	HG.maxalopt	HG.mntactnc	HG.srcmtrcc	HA.ui	HD.unitprc	HD.preprovs	HD.crrcode	HG.qpa
CONV FACTOR	MAOT	MAC	SMR	UI	UNIT OF	ISSUE PRICE	CURR CODE	QPA
00001					5876.00		USD	1

BD.ramind

RAM INDICATOR CODE: ALLOCATED

	BD.mtbftech BD.mtbfop	BD.mtbfmb BD.mtbfomb	BD.mtbfmatec BD.mtbfmaop	BD.mtbfmatmb BD.mtbfmaomb	BD.mtbfminh	BD.mtbfmihmb	BD.mtbfmind BD.mtbfminmb	BD.mtbfmnodf	BD.mtbfmndmb	BD.mtbfprevm	BD.mtbfprmb	BD.mtbfremvl BD.mtbfmlmb
TECH	MTBF	MB	MTBMA	MB	MTBM-INH	MB	MTBM-IND	MB	MTBM NO DEF	MB	MTBPM	MB
	426.2	0	7.1	0	7.1					7.2	0	10.4
OPER												
	588.1	0	12.2									

	BD.mttrtech BD.mttrper	BD.mttr	BD.percentl
TECH	MTTR	MAX TTR	PCTL
	5.18	5.30	95
OPER			
	4.10		

Figure 21 – Format for LSA-023, Maintenance Plan Summary (Continued)

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MAINTENANCE PLAN SUMMARY (LSA-023)

PART III - SECTION A

PREVENTIVE MAINTENANCE REQUIREMENTS SUMMARY

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	AA.servdesc	SELECTED	SELECTED	SELECTED	SELECTED			
							CA.taskcode				DISP			
EIAC	LCN NOMENCLATURE	START LCN	ALC TYPE	STOP LCN	UOC	SERV DES	ICC	SELECTED	RPT PT	OPT	W/P			
REFRIG UNT	REFRIGERATION UNIT	0	00 P	0	DCY	ARMY	BZQY		YYYY	X				
CA.taskcode														
MAINTENANCE LEVEL: CREW														
XB.tmfgc	CA.alc	CA.taskcode	CA.tskfreq	CA.taanoomb	CA.hrdcrprc	CD.stprsnid	CD.subtmnmn	CA.msdmelt	GA.sklvlc	CD.skspc	CA.trnrcmt	CA.trneqrqc	CA.lcn	
TM FGC	ALC	TASK CODE	TASK FREQ	MB	HCP	NO	SSC	M-H PER	ELAP	SKILL	SSC	TRN	TRN	LCN
							SSC	TIME	LEVEL		REC	EQP		
02	00	AACACAA	.3500	O	N	01	.13	.13 (P)	B	76J10AAA1	N	N	002	
06	00	CBCACAA	900.0000	O	N	01	.06	.06 (M)	B	76J10AAA1	N	Y	006	
MAINTENANCE LEVEL: ORG														
02	00	ABOACAA	.3000	O	N	01	.10	.10 (P)	B	52C10AAA1	J	Y	002	

MAINTENANCE PLAN SUMMARY (LSA-023)

PART III - SECTION B

CORRECTIVE MAINTENANCE REQUIREMENTS SUMMARY

CA.taskcode															
MAINTENANCE LEVEL:		CREW													
XB.tmfgc	CA.alc	CA.taskcode	CA.tskfreq	CA.taanoomb	CA.hrdcrprc	CD.stprsnid	CD.subtmnmn	CA.msdmnelt	GA.sklvlc	CD.skspc		CA.trnrcmt	CA.trneqrqc	CA.lcn	
TM FGC	ALC	TASK CODE	TASK FREQ	MB	HCP	NO	SSC	M-H PER	ELAP	SKILL	SSC		TRN	TRN	LCN
									SSC	TIME	LEVEL		REC	EQP	
00	00	AGCABAA	.8450	O	N	01	.25	.25 (P)	B	76J10AA		N	N		0
	00	NGCAAAA	3.5470	O	N	01	.27	.27 (P)	B	76J10AA		N	N		0
MAINTENANCE LEVEL:		ORG													
	00	HGOAAAA	4.0540	O	N	01	.46	.46 (P)	I	52C20AA		J	Y		0
	00	HGOAAAA	4.0540	O	N	01	.17	.46 (P)	I	52C10AA		J	Y		0
	00	JGOAAAA	5.4050	O	N	01	.33	.33 (P)	I	52C20AA		J	Y		0

Figure 21 – Format for LSA-023, Maintenance Plan Summary (Continued)

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MAINTENANCE PLAN SUMMARY (LSA-023)

PART IV - RESOURCE REQUIREMENTS

XB.eiac SELECTED	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	AA.servdesc CA.taskcode	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	ICC	SELECTED	RPT PT
REFRIG UNT	REFRIGERATION UNIT	0	00	P	0	DCY	ARMY	BZQY		
CA.taskcode										
MAINTENANCE	LEVEL:	CREW								
XB.tmfcc	CA.alc	XB.lcnomen	CA.lcn		CA.taskcode	CA.taskid				CA.facreqc
TM FGC	ALC	LCN NOMENCLATURE	LCN		TASK CODE	TASK IDENTIFICATION				FAC
00	00	REFRIGERATION UNIT	0		AGCABAA	INSPECT DAMAGE				N
MAINTENANCE	LEVEL:	CREW								
TM FGC	ALC	LCN NOMENCLATURE	LCN		TASK CODE	TASK IDENTIFICATION				FAC
00	00	REFRIGERATION UNIT	0		NGCAAAA	FAULT LOCATION - UNIT INOPERABLE				N
REQUIREMENTS FOR SUPPORT EQUIPMENT:										
EA.seqicc	HA.itemname		CG.sigpta		CG.sigptaum		CG.refno			CG.cage
ICC	ITEM NAME		QTY/TASK		UM		REFERENCE NUMBER			CAGE
Q	FUEL, REG GASOLINE		16.00		GL		VV-G-1690			44566
MAINTENANCE	LEVEL:	CREW								
TM FGC	ALC	LCN NOMENCLATURE	LCN		TASK CODE	TASK IDENTIFICATION				FAC
00	00	REFRIGERATION UNIT	0		NGCAAAB	FAULT LOCATION - INSUFFICANT COOLING				N
MAINTENANCE	LEVEL:	CREW								
TM FGC	ALC	LCN NOMENCLATURE	LCN		TASK CODE	TASK IDENTIFICATION				FAC
00	00	REFRIGERATION UNIT	0		NGCAAAC	FAULT LOCATION - NOISY OPERATION				N
MAINTENANCE	LEVEL:	ORG								
TM FGC	ALC	LCN NOMENCLATURE	LCN		TASK CODE	TASK IDENTIFICATION				FAC
00	00	REFRIGERATION UNIT	0		HGOAAAA	REPLACE REFRIGERATION UNIT				N
REQUIREMENTS FOR SUPPORT EQUIPMENT:										
ICC	ITEM NAME		QTY/TASK		UM		REFERENCE NUMBER			CAGE
Q	CLOTHS		.10		PG		E3727			44565
Q	SHIMS		2.00		EA		E3727			44565
Z	TOOL KIT GEN REFRIG		1.00		EA		SC5180-90-CL-N14			44940
4	SOCKET SET		1.00		EA		B2502			22300

Figure 21 – Format for LSA-023, Maintenance Plan Summary (Continued)

4.21 Maintenance Plan Summary (LSA-024)

4.21.1 Introduction

The LSA-024 satisfies the requirements for a U.S. Navy maintenance plan. The U.S. Navy and U.S. Marine Corps use the LSA-024, Maintenance Plan, as the primary planning, analysis, and review tools for maintenance requirements. The summary contains the maintenance concept for each repairable or maintenance-significant consumable.

4.21.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- NAVAIR 00-25-406. States the Maintenance Concept may be updated from a functional configuration to a hardware configuration with the Augmented LPD data repository that is developed in an integrated digital environment by the contractor. The three-part Maintenance Plan is produced during system design by analyzing each repairable Weapons Replacement Assemblies (WRA) and Shop Replacement Assemblies (SRA).
- Naval Sea System Command (NAVSEA) S0300-B2-MAN-010. Through Change #22 of 8, states that the contractor may be required to deliver Maintenance Planning Summaries IAW DoD adopted SAE GEIA-STD-0007 which covers the same content. Referring to reports, the operations manual also state the summaries may identify preventive and corrective maintenance actions and the required spares and support equipment. These summaries may also be used to provide supporting information that justifies the need for each maintenance action, e.g., elapsed time of maintenance actions, task frequency, failure rate of an item, and mean time to repair (MTTR) an item.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- DI-SESS-81759A. This DID enables various summaries, that can be extracted from the LPD database, be delivered to the government as part of a contract. A DID is required for completion of a Contract Data Requirements List (CDRL), DD Form 1423.

4.21.3 Tailoring

Who: U.S. Navy is the primary user. This summary is often delivered as part of a contract. It is required by the U.S. Navy per NAVAIR 00-25-406. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: During development, this summary should be used as an analysis tool to compare as the primary planning, analysis, and review tools for maintenance requirements throughout the development process. The complete maintenance plan, to the level of detail necessary to execute, will not be mature until a detailed task analysis is performed at the lowest possible indenture level.

When: A preliminary version of the U.S. Navy Maintenance Plan is typically required before CDR. This summary is often delivered as part of a contract via DI-SESS-81759 and a Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Preparation and Evaluation of Alternatives (Activity C.1), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: NAVAIR 00-25-406, specifically calls out the LSA-024. This summary defines the established Maintenance Concept and resources to the support system. It identifies Repairable Items, Maintenance Significant Consumables (MSCs), Tasking, Frequency of the task, and Support requirements for each WRA and SRA.

- The results of Maintenance Planning and other engineering and logistics analyses are recorded in an augmented Logistics Product Data (LPD). LPD is described in SAE GEIA-STD-0007C.
- When Maintenance Planning results are added to the augmented LPD data repository, it becomes the repository for the IPS products throughout the life cycle of the system.

4.21.4 Scope

The summary consists of three parts which may be selected together or individually. Part I contains general considerations (design description, maintenance plan summary, and maintenance plan rationale) for the LCN selected. Part II describes

the repair capability required to support the LCN selected and includes maintenance technical data for the LCN selected and its lower indenture level repairable items, and maintenance significant consumable items. Part III contains a list of the maintenance tasks by category (preventive, corrective, servicing and calibration) for the LCN selected and its lower assembly repairable items. The summary can be selected for any maintenance level (Task Code, third position) by LCN down to piece part. Spacing between rows and columns is not critical on this summary.

4.21.5 Selection Options

LCN

Mandatory: EIAC, Start LCN, LCN Type, UOC, Service Designator (Task Code, fourth position), Display Option (LCN or TMFGC), and ICC.

Optional: ALC, Stop LCN, AOR, AOR MB, Maintenance Level, Equipment Type Code, and Report Parts

MGI

Mandatory: EIAC, Start MGI, UOC, Service Designator, Display Option (LCN or TMFGC), and ICC.

Optional: Stop MGI, AOR, AOR MB, Maintenance Level, Equipment Type Code, and Report Parts

The LCN and MGI summaries consists of the following:

- a. Optional selections for summary parts; by default, all parts are selected. Deselect parts as required.
- b. If Part I only is selected and no header information is desired, the remainder of this selection criteria may be left blank.
- c. Equipment Type Code – Shows if an item is “S” (Support Equipment), “A” (Air), “M” (Missile), or “Blank” (Other).
- d. Part II Item Category Codes - Enter the Item Category Codes to be displayed in Part II (D, K, L, M, W, X, Z, AA, AB, AD, 1, and 7).
- e. Part III Item Category Codes – These are the items that qualify for Part III when doing a maintenance action. Entity CG Support Equipment Item Category Code ICCs (1 through 8, D, E, F, G, H, J, M, N, P, R, S, T, U, V, AC, AD, and AF) and Entity CI Item Category Code ICCs (9, K, L, Q, W, X, Y, Z, AA, AB, AD, and AE).
- f. Display Option - The summary may be sequenced by TMFGC in lieu of LCN if so desired.
- g. Maintenance Level - If Parts II and III of the summary are to display only a specific maintenance level(s), enter the appropriate code(s). If this field is left blank, all maintenance levels will be selected.

4.21.6 Processing/Business Rules

If MGI option is selected, pull those LCNs associated against the selected MGI range. For one MGI there may be multiple LCNs. Output all the LCNs associated against an MGI for Parts I, II, and III before proceeding on to the next MGI. MGI's are to group LCNs. LCNs are for structure, and MGI are for maintenance information/task requirements analysis and documentation. If LCN option is selected, ignore the MGI. Start and Stop MGIs are to be treated like Start and Stop LCNs.

The same qualifying criteria is used for all three parts of this summary. Task Codes must first qualify by matching on selected Service Designator Code (Task Code, fourth position), then Maintenance Level (Task Code, third position). As a minimum, there must be one LCN within the selected range with a valid entry in Entity BA for either Reliability, Availability, and Maintainability Item Function Narrative or Reliability, Availability, and Maintainability Maintenance Concept Narrative Element. To produce Part II Reference Number and CAGE Code, there must be a match between the LCN from Entity CA and the LCN from Entity HG (for the corresponding Reference Number and CAGE Code) if the LCN selection is physical (LCN Type of "P"). If the LCN selection is functional (LCN Type of "F"), then a matching physical LCN must be found in Entity XG before being matched against Entity HG LCNs.

- a. The following definitions are for the header information which are not contained in SAE GEIA-STD-0007C.

1. DATE OF INITIAL SUBMISSION/REVISION/DATE OF REVISION: A 19-position field containing the date of the initial submission of the maintenance plan, the alphabetic revision indicator, and the date of the current revision.

The dates and revision should be entered in the following format including slashes and dashes: MM-DD-YY/A/MM-DD-YY.

2. PREPARING ACTIVITY: A 15-position field containing the name of the performing activity having responsibility for the data.
3. PREPARED BY: A 15-position field containing the name of the individual having responsibility for accuracy of the data.
4. DLSC SCREEN DATE: An eight position field containing the date indicating when screening results were accepted by the government on all repairable items. The date should be entered in the following format, including dashes: MM-DD-YY.
5. NAVY AMMUNITION LOGISTIC CODE (NALC): A four-position alphanumeric code identifying the generic description within the Federal Supply Class. The NALC is assigned by Ships Parts Control Center (SPCC). The NALC is used for fleet reporting/requisitioning of ammunition and to indicate functional interchangeability of items.
6. MAINTENANCE PLAN NUMBER: A number identifying each maintenance plan. The Maintenance Plan Number is assigned by the requiring authority.

b. The following definitions and calculations are for technical factors:

1. INTERVAL: The recommended operating hours or usage rate preceded by an alpha character indicating the type of maintenance requirements for an item. The calculation is shown in Equation 10:

$$Interval = \frac{r_a(c)}{\sum_{i=1}^n f_{ti}} \quad (\text{Eq. 10})$$

where:

r_a	=	Annual operating requirement
c	=	Conversion factor
f_{ti}	=	Task Frequency for task i
n	=	Total number of tasks performed

Codes are as follows:

- P - Preventive (first position Task Code of A, Z, or 8)
- C - Corrective (first position Task Code of B, G, R, J, H, L, K, N, S, O, W, or 2)
- T - Servicing (first position Task Code of Q, V, P, M, or C)
- U - Calibration (first position Task Code of D, E, or F)

Annual Operating Requirement (r_a) - From Entity AG based on the values entered for LCN, ALC, LCN Type, and Task Annual Operating Requirements Measurement Base in Entity CA for the given item. All tasks associated with the item must have the same AOR Measurement Base.

Conversion Factor (c) - Used from Entity BA.

Task Frequency (f_{ti}) - From Entity CA. Summation of Task Frequencies ($i = 1$ to n) within given type of maintenance for subject LCN.

2. MAINTENANCE CYCLE: This data is calculated as shown in Equation 11:

$$Maintenance\ Cycle = r_a \times c \quad (\text{Eq. 11})$$

Annual Operating Requirement (r_a) - from Entity AG based on the values entered for ALC, LCN, LCN Type, and Task Annual Operating Requirements Measurement Base in Entity CA for the given item. All tasks associated with the item must have the same AOR Measurement Base.

Conversion Factor (c) - From Entity BA.

- c. Other technical factors are computed as follows:

1. MAINTENANCE REPLACEMENT FACTOR (REPAIRABLES) (MRF): The expected rate at which an item is found to be beyond the capability of maintenance (BCM) below the depot level and is inducted at the depot for repair or condemnation per maintenance cycle.

$$MRF = (MTD_D + MTD_{CAD})(MRR I) \quad (\text{Eq. 12})$$

where:

MRF	=	Maintenance Replacement Factor (Repairables)
MTD_D	=	Depot Shipyard Maintenance Task Distribution
MTD_{CAD}	=	Condemned At Depot Maintenance Task Distribution
$MRR I$	=	Maintenance Replacement Rate I

2. NUMERIC STOCKAGE OBJECTIVE (NSO): NSO = Recommended Minimum System Stock Level (RMSSL).
3. DEPOT SCRAP RATE (r_{DS}): The expected percentage of the items scrapped at the depot level per maintenance cycle.

$$r_{DS} = \frac{MTD_{CAD}}{(MTD_D + MTD_{CAD})} \quad (\text{Eq. 13})$$

where:

r_{DS}	=	Depot Scrap Rate
MTD_D	=	Depot Shipyard Maintenance Task Distribution
MTD_{CAD}	=	Condemned At Depot Maintenance Task Distribution

4. BELOW DEPOT SCRAP RATE (r_{BDS}): The predicted number of times in one maintenance cycle that a field level repairable will be disposed of at the Organizational/Intermediate levels of maintenance.

$$r_{BDS} = MTD_{CBD}(MRR I) \quad (\text{Eq. 14})$$

where:

r_{BDS}	=	Below Depot Scrap Rate
MTD_{CBD}	=	Condemned Below Depot Maintenance Task Distribution
$MRR I$	=	Maintenance Replacement Rate I

5. ROTATABLE POOL FACTOR (RPF): The predicted number of times in one maintenance cycle that an item is removed from its next higher assembly (NHA) at the Organizational/Intermediate level of maintenance, repaired at the Intermediate level and returned to ready for issue at this level.

$$RPF = (MTD_F + MTD_H)(MRR I) \quad (\text{Eq. 15})$$

where:

RPF	=	Rotatable Pool Factor
MTD_F	=	Intermediate Direct Support Maintenance Task Distribution
MTD_H	=	Intermediate General Support Maintenance Task Distribution
MRR	=	Maintenance Replacement Rate I

6. SYSTEM ATTRITION RATE (r_{SA}): The percentage of depot level repairable items that fail, which will not, through repair, be returned to a serviceable condition.

$$r_{SA} = 1 - \left[\frac{MTD_D}{(MTD_D + MTD_{CAD} + MTD_{CBD})} \right] \quad (\text{Eq. 16})$$

where:

r_{SA}	=	System Attrition Rate
MTD_D	=	Depot Shipyard Maintenance Task Distribution
MTD_{CAD}	=	Condemned At Depot Maintenance Task Distribution
MTD_{CBD}	=	Condemned Below Depot Maintenance Task Distribution

7. REPAIR SURVIVAL RATE (r_{RS}): The percent of nonserviceable repairable assets which will, through depot repair, be returned to serviceable condition.

$$r_{RS} = \frac{MTD_D}{(MTD_D + MTD_{CAD})} \quad (\text{Eq. 17})$$

where:

r_{RS}	=	Repair Survival Rate
MTD_D	=	Depot Shipyard Maintenance Task Distribution
MTD_{CAD}	=	Condemned At Depot Maintenance Task Distribution

8. REWORK REMOVAL RATE (RRR): RRR = Overhaul Replacement Rate Quantity. Order of Overhaul Replacement Rate precedence for multiple occurrences of Overhaul Replacement Rate for a given LCN in Entity HH: N, B, C, E, A, F, "blank". "*" is excluded.
- d. Part II repair capability items qualify based on valid Entity CA entry first, and Item Category Code selection next. Maintenance significant consumables qualify out of Entity CI based on an Item Category Code of "AB". I/R (Interchangeability/Replaceability code) is determined based on the Supercedure Interchangeability Code entered in Entity HP, shown in Table 23.

Table 23 – Interchangeability/Replacement Codes

INTERCHANGEABILITY CODE	INTERCHANGEABILITY/REPLACEMENT CODE
OW	I
OR	I
TW	I
OM	R
TM	R
NI	Blank
NR	Blank

When multiple Supercedure Interchangeability Codes are contained in Entity HP for a given Reference Number, CAGE Code, LCN and ALC combination, the order of precedence for Supercedure Interchangeability Code assignments are "I", followed by "R", followed by blank.

- e. Part III REQ NO (Requirement Number) is a five-position counter (first four positions numeric starting with 0001, and last position alphabetic P, C, T, or U) based on the type of task [Predictive (P), Corrective (C), Servicing (T), or Calibration (U)]. The counter begins at 0001 for each type of task and resets to 0001 for a new LCN. The assignment of P, C, T, or U is based on the first position of the Task Code only.

Codes are as follows:

- P - Preventive (first position Task Code of A, Z, or 8)
- C - Corrective (first position Task Code of B, G, R, J, H, L, K, N, S, O, W, or 2)
- T - Servicing (first position Task Code of Q, V, P, M, or C)
- U - Calibration (first position Task Code of D, E, or F)

- f. For every CA entity in Part II and every CI/HG entity qualified in Part II & III, use the HG EIAC/LCN/ALC/TYPE to match and find the HO entity based on the Provisioning keys in HO to then get the XC entity based on the HO EI keys. Use the XF/XC.UOC to display in Part II & III of the summary.
- g. Page breaks are required between Part I and II and Part II and III. For Part II, Repairable Items, the summary headers (i.e., LCN, ALC, Reference Number, etc.) are repeated for each item to be output in this section.

4.21.7 Sequence

For the LCN option, Part I is sequenced by ascending LCN (or TMFGC if selected in the Display Option). Part II is sequenced by ascending LCN and ascending Reference Number within each LCN. Part III is sequenced by ascending LCN, then maintenance type with Predicted first, Corrective second, Service third, and Calibration (CAL) fourth, then by maintenance level (crew-depot).

For the MGI option, Part I is sequenced by ascending MGI and for a specific MGI, further sequenced by ascending LCN (i.e., MGI 01, LCN AA ; MGI 01, LCN AB) then proceeding on to the next MGI. Part II is sequenced by ascending MGI followed by ascending LCN and ascending Reference Number within each LCN. Part III is sequenced by ascending MGI, then by ascending LCN, then maintenance type with Predicted first, Corrective second, Service third, and Calibration (CAL) fourth, then by maintenance level (crew depot).

4.21.8 Data Sources

The data sources listed in Table 24, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 24 – Data Sources for the Maintenance Plan Summary (LSA-024)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
LCN REPORT SELECTION OPTIONS AND HEADER				
REPORT OPTION: LCN				
EIAC	End Item Acronym Code	XA	2040	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XC/XF	5790	Required for summary generation
SERV DES	Task Code (4th Position)	CA	5110	Required for summary generation
DISP OPT (Selected. Options include: LCN, TMFGC/WUC)				
MAINTENANCE LEVEL OPTION (Selected)	Task Code (3rd position)	CA	5110	Optional
PART II ITEM CATEGORY CODES (Selected)	Item Category Code	HG	2730	Required
PART III ITEM CATEGORY CODES (Selected)	Item Category Code	HG	2730	Required
EQUIPMENT TYPE CODE (Selected)				
REPORT PARTS SELECTED (Selected)				
ANNUAL OPERATING REQUIREMENT (Throughput)	Annual Operating Requirement	AG	1240	Optional
ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE (Throughput)	Annual Operating Requirement Measurement Base	AG	3380	Optional
MGI REPORT SELECTION OPTIONS AND HEADER				
EIAC	End Item Acronym Code	XA	2040	Required
START MGI	Maintenance Group Identifier	XB	3015	Required if MGI toggle used
UOC	Usable On Code	XF	5790	Required for summary generation
SERV DES	Task Code (4th Position)	CA	5110	Required for summary generation
DISP OPT (Selected. Options include: LCN, TMFGC/WUC)				
MAINTENANCE LEVEL OPTION (Selected)	Task Code (3rd position)	CA	5110	Optional
PART II ITEM CATEGORY CODES (Selected)	Item Category Code	HG	2730	Required
PART III ITEM CATEGORY CODES (Selected)	Item Category Code	HG	2730	Required
STOP MGI	Maintenance Group Identifier	XB	3015	Optional
EQUIPMENT TYPE CODE (Selected)				
REPORT PARTS SELECTED (Selected)				
ANNUAL OPERATING REQUIREMENT (Throughput)	Annual Operating Requirement	AG	1240	Optional
ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE (Throughput)	Annual Operating Requirement Measurement Base	AG	3380	Optional
OUTPUT				
PART I - GENERAL CONSIDERATIONS (Header)				
REFERENCE NUMBER	Reference Number	HG	4400	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
CAGE	Commercial and Government Entity Code	XH	1520	Required
ITEM DESIGNATOR	System End Item Item Designator Code	XC	2750	Required
NSN & RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	Optional
	National Stock Number Federal Supply Classification		2280	Optional
	National Stock Number National Item Identification Number		3520	Optional
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	Optional
	National Stock Number Activity Code		3530	Optional
MAINTENANCE PLAN NUMBER (Manually Entered)				
SERD NUMBER (Selected Throughput)	Support Equipment Recommendation Data Number	EF	5030	Required
TMFGC/WUC	Technical Manual Functional Group Code	XB	5260	Required
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Required
NALC (Throughput)				
DLSC SCREEN (Selected Throughput)				
DATE OF SUB/REV/DATE OF REVISION (Throughput)				
APPROVED BY (Manually Entered)				
TITLE (Manually Entered)				
DATE OF APPROVAL (Manually Entered)				
TYPE EQUIP CODE (Selected Throughput)				
PREPARING ACTIVITY (Throughput)				
PREPARED BY (Throughput)				
REVIEWED BY (Manually Entered)				
MGI	Maintenance Group Identifier	XB	3015	Required if MGI selected
LCN	Logistics Support Analysis Control Number	BA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
NARRATIVE (Header)				
IFI	Item Function Identifier	BB	2755	Required. NOTE: Used to process the item functions
ITEM FUNCTION	Reliability Availability and Maintainability Item Function Narrative	BB	3510	Required
MAINTENANCE CONCEPT	Reliability Availability and Maintainability Maintenance Concept Narrative	BA	3510	Required
MAINTENANCE PLAN RATIONALE	Reliability Availability and Maintainability Maintenance Plan Rationale Narrative	BA	3510	Required
PART II - REPAIR CAPABILITY (Header)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
REPAIRABLE ITEMS (Sub-Header)				
MGI	Maintenance Group Identifier	XB	3015	Required if MGI selected
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[ICC]	Item Category Code	HG	2730	Required
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
NSN & RELATED DATA	National Stock Number Cognizance Code	HA	3540	Required
	National Stock Number Materiel Control Code		3550	Required
	National Stock Number Federal Supply Classification		2280	Required
	National Stock Number National Item Identification Number		3520	Required
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	Required
	National Stock Number Activity Code		3530	Required
TMFGC/WUC	Technical Manual Functional Group Code	XB	5260	Required
IND	Indenture Code	HG	2520	Required
I/R (Generated)	Interchangeability Code	HP	2670	Optional
TECHNICAL FACTORS (Sub-Header)				
SMR	Source Maintenance and Recoverability Code	HG	4830	Required
WEAROUT	Wearout Life	BA	5820	Required
MB	Wearout Life Measurement Base	BA	3380	Required
AMC	Acquisition Method Code	HA	1030	Required
SMIC	Special Maintenance Item Code	HA	4870	Required
DMIL	Demilitarization Code	HA	1820	Required
RIP	Remain In Place Indicator	HG	4470	Required
AMSC	Acquisition Method Suffix Code	HA	1040	Required
HCI	Hardness Critical Item	HG	2350	Required
MAINTENANCE TASK DISTRIBUTION	Organizational Maintenance Task Distribution	HG	3090	Required
	Intermediate Direct Support Maintenance Task Distribution			Required
	Intermediate General Support Maintenance Task Distribution			Required
	Depot Shipyard Maintenance Task Distribution			Required
	Condemned Below Depot Maintenance Task Distribution			Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Condemned at Depot Maintenance Task Distribution			Required
	Special Repair Activity Maintenance Task Distribution			Required
MRR	Maintenance Replacement Rate I	HG	3060	Required
MRF (Calculated)				Automatically generated
[DEPOT SHIPYARD MAINTENANCE TASK DISTRIBUTION]	Depot Shipyard Maintenance Task Distribution	HG	3090	Required for calculation
[CONDEMNED AT DEPOT MAINTENANCE TASK DISTRIBUTION]	Condemned At Depot Maintenance Task Distribution	HG	3090	Required for calculation
[MAINTENANCE REPLACEMENT RATE I]	Maintenance Replacement Rate I	HG	3060	Required for calculation
RPF (Calculated)				Automatically generated
[INTERMEDIATE DIRECT SUPPORT MAINTENANCE TASK DISTRIBUTION]	Intermediate Direct Support Maintenance Task Distribution	HG	3090	Required for calculation
[INTERMEDIATE GENERAL SUPPORT MAINTENANCE TASK DISTRIBUTION]	Intermediate General Support Maintenance Task Distribution	HG	3090	Required for calculation
[MAINTENANCE REPLACEMENT RATE I]	Maintenance Replacement Rate I	HG	3060	Required for calculation
DSR (Calculated)				Automatically generated
[DEPOT SHIPYARD MAINTENANCE TASK DISTRIBUTION]	Depot Shipyard Maintenance Task Distribution	HG	3090	Required for calculation
[CONDEMNED AT DEPOT MAINTENANCE TASK DISTRIBUTION]	Condemned At Depot Maintenance Task Distribution	HG	3090	Required for calculation
BDSR (Calculated)				Automatically generated
NSO	Recommended Minimum System Stock Level	HG	4330	Required
SAR (Calculated)				Automatically generated
[DEPOT SHIPYARD MAINTENANCE TASK DISTRIBUTION]	Depot Shipyard Maintenance Task Distribution	HG	3090	Required for calculation
[CONDEMNED AT DEPOT MAINTENANCE TASK DISTRIBUTION]	Condemned At Depot Maintenance Task Distribution	HG	3090	Required for calculation
[CONDEMNED BELOW DEPOT MAINTENANCE TASK DISTRIBUTION]	Condemned Below Depot Maintenance Task Distribution	HG	3090	Required for calculation
RSR (Calculated)				Automatically generated
[DEPOT SHIPYARD MAINTENANCE TASK DISTRIBUTION]	Depot Shipyard Maintenance Task Distribution	HG	3090	Required for calculation
[CONDEMNED AT DEPOT MAINTENANCE TASK DISTRIBUTION]	Condemned At Depot Maintenance Task Distribution	HG	3090	Required for calculation
ORR	Overhaul Replacement Rate Quantity	HH	3790	Required
ORI	Overhaul Replacement Indicator	HH	3785	Required
INTERVAL (Calculated)				Automatically generated
[ANNUAL OPERATING REQUIREMENT]	Annual Operating Requirement	AG	1240	Required for calculation
[ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE]	Annual Operating Requirement Measurement Base	AG/CA	3380	Required for calculation

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[CONVERSION FACTOR]	Conversion Factor	BA	1670	Required for calculation
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
MAINT CYCLE (Calculated)				Automatically generated
[ANNUAL OPERATING REQUIREMENT]	Annual Operating Requirement	AG	1240	Required for calculation
[CONVERSION FACTOR]	Conversion Factor	BA	1670	Required for calculation
[ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE]	Annual Operating Requirement Measurement Base	AG/CA	3380	Required for calculation
MAINTENANCE SIGNIFICANT CONSUMABLES (Sub-Header)				
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[ICC]	Item Category Code (= AB)	CI/HG	2730	Required
REFERENCE NUMBER	Reference Number	HA	4400	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required
ITEM NAME	Item Name	HA	2790	Required
NSN & RELATED DATA	National Stock Number Cognizance Code	HA	3540	Required
	National Stock Number Materiel Control Code	HA	3550	Required
	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number	HA	3520	Required
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code	HA	3560	Required
	National Stock Number Activity Code	HA	3530	Required
IND	Indenture Code	HG	2520	Required
TMFGC/WUC	Technical Manual Functional Group Code	XB	5260	Required
I/R (Generated)	Interchangeability Code	HP	2670	Optional
PART III - MAINTENANCE REQUIREMENTS (Header)				
MGI	Maintenance Group Identifier	XB	3015	Required if MGI selected
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
REQ NO (Generated)				
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required
INTERVAL (Calculated)				Automatically generated

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[ANNUAL OPERATING REQUIREMENT]	Annual Operating Requirement	AG	1240	Required for calculation
[ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE]	Annual Operating Requirement Measurement Base	AG/CA	3380	Required for calculation
[CONVERSION FACTOR]	Conversion Factor	BA	1670	Required for calculation
[TASK FREQUENCY]	Task Frequency	CA	5140	Required for calculation
TMFGC/WUC	Technical Manual Functional Group Code	XB	5260	Required
RESOURCE REQUIREMENTS (Sub-Header)				
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
	Task Provision Reference Number	CI	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
	Task Provision Commercial and Government Entity Code	CI	1520	Required
ITEM NAME	Item Name	HA	2790	Required
ICC	Support Equipment Item Category Code (1 through 8, D, E, F, G, H, J, M, N, P, R, S, T, U, V, AC, AD, and AF)	CG/EA	2730	One or the other is required
	Item Category Code ICC (9, K, L, Q, W, X, Y, Z, AA, AB, AD, and AE)	CI/HG	2730	

4.21.9 Format

The format shown in Figure 22 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20 DATE: 2020/01/07 PAGE: 01

MAINTENANCE PLAN (LSA-024)

XA.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF.uoc	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	DISP OPT
REFRIG UNT	DELUXE CARB	00607	02	P		DCY	ALL	LCN

SELECTION SUMMARY

CA.taskcode

MAINTENANCE LEVEL OPTION: ALL

HG.icc

PART II ITEM CATEGORY CODES SELECTED: ALL

HG.icc

PART III ITEM CATEGORY CODES SELECTED: ALL

SELECTED

EQUIPMENT TYPE CODE: SUPPORT EQUIPMENT

SELECTED

SUMMARY PARTS SELECTED: ALL

AG.annopreq

ANNUAL OPERATING REQUIREMENT: 1

AG.anoprqmb

ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE: 0

Figure 22 – Format for LSA-024, Maintenance Plan (LCN Report Option Selected)

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 02

MAINTENANCE PLAN (LSA-024)

PART I - GENERAL CONSIDERATIONS

HG.refno REFERENCE NUMBER 142-0431ALCA	HG.cage CAGE 33647	XB.tmfgc TMFGC/WUC: 0601	SELECTED THROUGHPUT TYPE EQUIP CODE: T123
XC.seidesc ITEM DESIGNATOR		HG.srcmtrec SMR CODE: PAOFF	THROUGHPUT PREPARING ACTIVITY LDAC
		THROUGHPUT NALC: A1B	
HA.nsnccgc nsnmcc nsnfsc nsnniin nsnmimma nsnactvc NSN & RELATED DATA		SELECTED THROUGHPUT DLSC SCREEN: 10-05-84	THROUGHPUT PREPARED BY:
MANUALLY ENTERED MAINTENANCE PLAN NUMBER TEST		THROUGHPUT DATE OF SUB/REV/DATE OF REV: 06-06-47/A/04-16-44	MANUALLY ENTERED REVIEWED BY: _____
		MANUALLY ENTERED APPROVED BY: _____	MANUALLY ENTERED DATE OF APPROVAL: _____
SELECTED THROUGHPUT SERD NUMBER TESTX12345		MANUALLY ENTERED TITLE: _____	
BA.lcn LCN 00607	BA.alc ALC 02	XB.lcnncmen LCN NOMENCLATURE CARBURETOR ASSY.	
NARRATIVE			
BB.itmfncid BB.ramitfn IFI: 001 ITEM FUNCTIONS: DEVICE PRODUCING AN EXPLOSIVE MIXTURE OF GAS AND AIR.			
BA.rammcn MAINTENANCE CONCEPT: ADJUST AND REPLACE TASKS ACCOMPLISHED BY ORGANIZATIONAL MAINTENANCE. DISASSEMBLE/ASSEMBLE. REPAIR AND SERVICE PERFORMED BY DIRECT SUPPORT MAINTENANCE.			
BA.rammprn MAINTENANCE PLAN RATIONALE:			

Figure 22 – Format for LSA-024, Maintenance Plan (LCN Report Option selected) (Continued)

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA
 MAINTENANCE PLAN (LSA-024) PART II - REPAIR CAPABILITY

TIME: 14:20 DATE: 2020/01/07 PAGE: 03

HA.refno
 REFERENCE NUMBER
 142-0431ALCA
 XC.seidesc
 ITEM DESIGNATOR

HA.cage
 CAGE
 33647

XB.tmfgc
 TMFGC/WUC: 0601
 HG.srcmtrec
 SMR CODE: PAOFF
 THROUGHPUT
 NALC: A1B

SELECTED THROUGHPUT
 TYPE EQUIP CODE: T123
 THROUGHPUT
 PREPARING ACTIVITY
 LDAC
 THROUGHPUT
 PREPARED BY:

HA.nsnccgc nsnmcc nsnfsc
 nsnniin nsnmimma nsnaetvc
 NSN & RELATED DATA

SELECTED THROUGHPUT
 DLSC SCREEN: 10-05-84

MANUALLY ENTERED
 REVIEWED BY: _____

MANUALLY ENTERED
 MAINTENANCE PLAN NUMBER
 TEST

THROUGHPUT
 DATE OF SUB/REV/DATE OF REV: 06-06-47/A/04-16-44

SELECTED THROUGHPUT
 SERD NUMBER
 TESTX12345

MANUALLY ENTERED
 APPROVED BY: _____
 MANUALLY ENTERED
 TITLE: _____
 MANUALLY ENTERED
 DATE OF APPROVAL: _____

REPAIRABLE ITEMS

HG.lcn	HG.alc	HG.refno	HG.cage	XB.lcnomen	HA.nsnccgc nsnmcc nsnfsc nsnniin nsnmimma nsnaetvc	XB.tmfgc	HG.ic	HP.intrcan
LCN	ALC	REFERENCE NUMBER	CAGE	LCN NOMENCLATURE	NSN & RELATED DATA	TMFGC/WUC	IND	I/R
00607	02	142-0431ALCA	44940	CARBURETOR ASSY		0601	B	

TECHNICAL FACTORS - MAINTENANCE TASK DISTRIBUTION

HG.srcmtrec
 SMR: PAOFF
 BA.wearoutl
 WEAROUT: 9000
 BA.weartlmb
 MB: O
 HA.acqmthdc
 AMC: 1
 HA.smaintic
 SMIC: G

HA.demilcd
 DMIL: A
 HG.ripindct
 RIP: 000
 HA.acqmthdc
 AMSC:
 HG.hardcrit
 HCI: FALSE

HG.srgmtdst HG.intgsmtd HG.dshpymtd HG.cndadmt d
 HG.intdsmt d HG.spamtd HG.cndbdmt d
 O DS GS SRA D CBD CAD
 -- 65 20 -- 00 15 00
 HG.mrri MRR: 1.1400
 CALC MRF: 00.0000
 CALC RPF: 00.7328
 CALC DSR:
 CALC BDSR: 00.1998

CALCULATED
 INTERVAL
 CALCULATED
 MAINT CYCLE
 P:
 C: 1679.68
 T:
 U:

HG.rmsystlv NSO: 5
 CALC SAR:
 CALC RSR:
 HH.orrq ORR: 01
 HH.orin ORI: Q

MAINTENANCE SIGNIFICANT CONSUMABLES

HG.lcn	HG.alc	HA.refno	HA.cage	HA.itemname	HA.nsnccgc nsnmcc nsnfsc nsnniin nsnmimma nsnaetvc	XB.tmfgc	HG.ic	HP.intrcan
LCN	ALC	REFERENCE NUMBER	CAGE	ITEM NAME	NSN & RELATED DATA	TMFGC/WUC	IND	I/R
00607AA	02	142-0431ALCA1	44940	VALVE, CARBURETOR				

Figure 22 – Format for LSA-024, Maintenance Plan (LCN Report Option selected) (Continued)

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 04

MAINTENANCE PLAN (LSA-024)

PART III - MAINTENANCE REQUIREMENTS

HA.refno
REFERENCE NUMBER
142-0431ALCA
XC.seidesc
ITEM DESIGNATOR

HA.cage
CAGE
33647

XB.tmfgc
TMFGC/WUC: 0601
HG.srcmtrcc
SMR CODE: PAOFF
THROUGHPUT
NALC: A1B

EA.typeqmtc
TYPE EQUIP CODE: T123
THROUGHPUT
PREPARING ACTIVITY
LDAC
THROUGHPUT
PREPARED BY:

HA.nsnmcc nsnfsc nsnccgc nsnniin
Nsnmimma nsnactvc
NSN & RELATED DATA

SELECTED THROUGHPUT
DLSC SCREEN: 10-05-84

MANUALLY ENTERED
REVIEWED BY: _____

MANUALLY ENTERED
MAINTENANCE PLAN NUMBER
TEST
SELECTED THROUGHPUT
SERD NUMBER
TESTX12345

THROUGHPUT
DATE OF SUB/REV/DATE OF REV: 06-06-47/A/04-16-44
MANUALLY ENTERED
APPROVED BY: _____
MANUALLY ENTERED
TITLE: _____
DATE OF APPROVAL: _____

CA.lcn	CA.alc	GENERATED	CA.taskcode	CA.tskid	CA.tskfreq	CA.taanormb	CALCULATED	XB.tmfgc
LCN	ALC	REQ NO	TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	INTERVAL	TMFGC/WUC
00607	02	0001C	HGOXGAA	REPLACE CARBURETOR ON ENGINE ASSY	1.1400	0	1679.68	0601

RESOURCE REQUIREMENTS

CG.refno CI.refno	CI.cage	HA.itemname	HG.icc
REFERENCE NUMBER	CAGE	ITEM NAME	ICC
S023	41497	SEALANT, GASKET	Q
142-0431	44940	CARBURETOR	X
142-0033	41497	GASKET, KIT	Y
SC5180-90-CL-N14-1234	44940	TOOL KIT GEN REFRIG	Z
B2502	04643	SOCKET SET 3/8 INCH	4
GGG-S-121	04643	SCREWDRIVER	4

Figure 22 – Format for LSA-024, Maintenance Plan (LCN Report Option selected) (Continued)

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

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MAINTENANCE PLAN (LSA-024)

XA.eiac

XB.lcnnomen

XB.magrid

XB.magrid

E I A C

LCN NOMENCLATURE

START MGI

STOP MGI

REFRIG UNT

DELUXE CARB

1000000000000000000000000000000001

100000000000000000000000000000000000001

XF.uoc

CA.taskcode

SELECTED

UOC

SERV DES

DISP OPT

DCY

ALL

LCN

SELECTION SUMMARY

CA.taskcode

MAINTENANCE LEVEL OPTION: ALL

HG.icc

PART II ITEM CATEGORY CODES SELECTED: ALL

HG.icc

PART III ITEM CATEGORY CODES SELECTED: ALL

SELECTED

EQUIPMENT TYPE CODE: SUPPORT EQUIPMENT

SELECTED

SUMMARY PARTS SELECTED: ALL

AG.annopreq

ANNUAL OPERATING REQUIREMENT: 1

AG.anoprqmb

ANNUAL OPERATING REQUIREMENT MEASUREMENT BASE: 0

Figure 22 – Format for LSA-024, Maintenance Plan (MGI Report Option selected)

REQUESTER: J. Doe

MAINTENANCE PLAN (LSA-024) PART II - REPAIR CAPABILITY

HA.refno
REFERENCE NUMBER
142-0431ALCA
XC.seidesc
ITEM DESIGNATOR

Figure 22 – Format for LSA-024, Maintenance Plan (MGI Report Option selected) (Continued)

PAGE: 04

PART III - MAINTENANCE REQUIREMENTS

```
EA.typegmtc
TYPE EQUIP CODE: T123
THROUGHPUT
PREPARING ACTIVITY
LDAC
THROUGHPUT
PREPARED BY:
```

MANUALLY ENTERED
REVIEWED BY:

THROUGHPUT _____
DATE OF SUB/REV/DATE OF REV: 06-06-47/A/04-16-44
MANUALLY ENTERED _____ MANUALLY ENTERED _____
APPROVED BY: _____ DATE OF APPROVAL _____
MANUALLY ENTERED _____
TITLE: _____

CA.lcn	CA.alc	GENERATED	CA.taskcode	CA.tskid	CA.tskfreg	CA.taanomrb	CALCULATED	XB.tmfgc
LCN	ALC	REQ NO	TASK CD	TASK IDENTIFICATION	TASK FREQ	MB	INTERVAL	TMFGC/WUC
00607	02	0001C	HGOXGAA	REPLACE CARBURETOR ON ENGINE ASSY	1.1400	0	1679.68	0601

RESOURCE REQUIREMENTS

CG.refno	CI.refno	CI.cage	HA.itemname	HG.icc
REFERENCE	NUMBER	CAGE	ITEM NAME	ICC
S023		41497	SEALANT, GASKET	Q
142-0431		44940	CARBURETOR	X
142-0033		41497	GASKET, KIT	Y
SC5180-90-CL-N14-1234		44940	TOOL KIT GEN REFRIG	Z
B2502		04643	SOCKET SET 3/8 INCH	4

Figure 22 – Format for LSA-024, Maintenance Plan (MGI Report Option selected) (Continued)

4.22 Packaging Requirements Data (LSA-025)

4.22.1 Introduction

LSA-025 is a summary of the basic data requirements for preservation and packing for military and commercial items. This summary consists of four 80-character card record formats DD Form 2326 of packaging information as specified by MIL-STD-2073-1. Measurement bases for measurements appearing in this summary will be consistent with MIL-STD-2073-1. The summary should be used to provide adequate packaging instructions for DoD users.

The summary outlines standard processes for the development and documentation of military packaging. This standard covers methods of preservation to protect materiel against environmentally induced corrosion and deterioration, physical and mechanical damage, and other forms of degradation during storage, multiple handling, and shipment of materiel in the defense transportation system (DTS). The decision chart in MIL-STD-2073-1 is for determining how to develop military packaging requirements. Note when SPI are required they shall be prepared submitted IAW current revision of DI-PACK-80121 along with the LSA-025.

4.22.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that the Program Manager will summarize the results of Development activity and the program assessment to date. The Program Manager will present plans to transport, deploy, and sustain the capability; to conduct Post-Deployment Assessments; and to train maintenance and operating personnel. This information will be provided to the MDA for approval.
- DoDM 4140.01. States modern materiel preservation, packaging, and marking techniques shall be used to provide all materiel within the DoD supply chain with the required level of protection and identification at the lowest possible cost.
- MIL-STD-2073-1. Redfines the packaging data associated with this summary.
- DI-PACK-80120. This DID identifies the format and content preparation instructions for preservation and packing data resulting from the work task described in MIL-STD-2073-1. This DID can be used in lieu of DI-SESS-81758 for the delivery of data IAW MIL-STD-2073-1.
- DI-PACK-80121. This DID identifies the format and content preparation instructions for SPI resulting from a work task described in MIL-STD-2073-1. This DID is used with DI-SESS-81758 for the delivery of Special Packaging Instructions IAW MIL-STD-2073-1.
- DI-MISC-81499. This DID covers the development of packaging for parts kits and modification kits resulting from a work task described in MIL-STD-2073-1. This DID contains the format, content, and intended use for the data deliverable. This DID is used with DI-PACK-80121 for the delivery of Packaging Kit Contents List IAW MIL-STD-2073-1.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- Logistics Assessment Guidebook. Requirements for PHS&T are initiated prior to Milestone B and finalized prior to Full Rate Production.
- PSM Guidebook. Requires the PSM to identify, plan, resource, and acquire packaging/preservation, handling, storage, and transportation (PHST) requirements to maximize availability and usability of the materiel to include support items whenever they are needed for training or mission. Description: The combination of resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation for the short and long storage, and transportability. Some items require special environmentally controlled, shock isolated containers for transport to and from repair and storage facilities via all modes of transportation (land, rail, air, and sea).

4.22.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: It is used to satisfy the requirements for packaging data as required by MIL-STD-2073-1.

When: This summary is often delivered as part of a contract. DI-PACK-80120 can be used in lieu of DI-SESS-81758 for the delivery of data IAW MIL-STD-2073-1. Note that when packaging data is being generated by DI-SESS-81758, do not use DI-PACK-80120. Packaging and transport plans are required as entry criteria to Production and Deployment phase.

How: In addition to the requirements of MIL-STD-2073-1, data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Packaging requirements data/SPI are required for all programs IAW DoD Joint regulation AR 700-15/NAVSUST 4030.28F/AFMAN 24-206/MCO 4030.33F/DLAR 4145.7/DCMAR 4145.X, Packaging of Materiel. Packaging data/SPI are required at Milestone C as part of the product support package. For the U.S. Army, packaging data/SPI are required at Logistics Demonstration (AR 700-127) and (AR 700-37).

4.22.4 Scope

A summary of the basic data requirements for preservation and packing for military and commercial items. This summary consists of four 80-character card record formats of packaging information as specified by MIL-STD-2073-1. The summary should be used to provide adequate packaging instructions for DoD users. It is selectable by either LCN range or a specified Reference Number and CAGE Code combination. The summary is sequenced in ascending Reference Number and CAGE Code.

4.22.5 Selection Options

EIAC/LCN

Mandatory: EIAC, Start LCN, LCN Type

Optional: Stop LCN, ALC, UOC, Military Packing Code (MPC), Minimal Packing Code (MIN PCK), Tape Option

CAGE/Reference Number

Mandatory: CAGE Code, Reference Number

Optional: N/A

The summary is selected by either a mandatory Start LCN or Reference Number and CAGE Code. Optional criteria are ALC, Stop LCN, and UOC. LCN Type must always be "P". If Reference Number/CAGE Code are selected, then all optional features are ignored.

4.22.6 Processing/Business Rules

Generation of the summary is bounded by either a mandatory Start LCN or Reference Number and CAGE Code. Optional criteria are ALC, Stop LCN, and UOC. LCN Type must always be "P". If Reference Number/CAGE Code are selected, then all option features are ignored.

- a. At least one Reference Number/CAGE Code combination within the LCN range must have an entry in Entity HF in order to produce the summary. When more than one LCN for the same Reference Number/CAGE Code combination is qualified, only one set of packaging requirements is output. Part Indicator (PI) generated based on the following:
 1. If only an "A" card is used, the PI is "1".
 2. If an "A" and "B" card are used, the PI is "2".
 3. If an "A", "B", and "C" card are used, the PI is "3".
 4. If an "A", "B", and "D" card are used, the PI is "4".
- b. Entity instances having values with units of measure inconsistent with MIL-STD-2073-1 should be ignored.

4.22.7 Sequence

The summary is sequenced in ascending Reference Number and CAGE Code sequence.

4.22.8 Data Sources

The data sources listed in Table 25, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed

by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 25 – Data Sources for Packaging Requirements Data (LSA-025)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
REPORT OPTION – LCN				
EIAC	End Item Acronym Code	HG	2040	Required EIAC/LCN selected
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required if EIAC/LCN selected
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional if EIAC/LCN selected
[TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required if EIAC/LCN selected
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional if EIAC/LCN selected
UOC	Usable On Code	HO/XC	5790	Optional if EIAC/LCN selected
MPC	Military Packing Code	HF	3410	Required
MIN PACKING CODE	Minimal Packing Code	HF	3430	Required
TAPE OPTION (Selected)				Optional
REPORT OPTION – CAGE/REFERENCE #				
CAGE	Commercial and Government Entity Code	HF	1520	Required if CAGE/Reference # selected
REFERENCE NUMBER	Reference Number	HF	4400	Required if CAGE/Reference # selected
OUTPUT				
CAGE	Commercial and Government Entity Code	HF	1520	Required
REFERENCE NUMBER	Reference Number	HF	4400	Required
ITEM NAME	Item Name	HA	2790	Required
CARD A (Generated)				Automatically generated
RES (5 Pos; Generated)				Automatically generated

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
UNIT WEIGHT	Unit Weight	HA	5770	Required
UNIT SIZE LENGTH	Unit Size Length	HA	2890	Required
UNIT SIZE WID	Unit Size Width	HA	2890	Required
UNIT SIZE DEP	Unit Size Height (Depth)	HA	2890	Required
PKG CC	Packaging Category Code	HF	3800	Required
SPEC MKG	Special Marking Code	HF	4890	Required
QUP	Quantity per Unit Pack	HF	4240	Required
ICQ	Intermediate Container Quantity	HF	2700	Required
CAGE	Commercial and Government Entity Code	HF	1520	Required
REFERENCE NUMBER	Reference Number	HF	4400	Required
PI (Generated)				Automatically generated
CARD B (Generated)				Automatically generated
RES (5 Pos; Generated)				Automatically generated
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
MTH PRES	Method of Preservation Code	HF	3390	Required
CD	Cleaning and Drying Procedures	HF	1500	Required
PRES MATL	Preservation Material Code	HF	3960	Required
WRAP MATL	Wrapping Material	HF	5930	Required
CUSH MATL	Cushioning and Dunnage Material	HF	1750	Required
CT	Cushioning Thickness	HF	1760	Required
UNIT CONT	Unit Container Code	HF	5660	Required
INT CONT	Intermediate Container Code	HF	2690	Required
UC LVL	Unit Container Level	HF	5670	Required
SPEC MKG	Special Marking Code	HF	4890	Required
PACKING A	Military Packing Code = "A"	HF	3410	Required
	Military Packing Code = "B"	HF	3410	Required
PACKING MIN	Minimal Packing Code	HF	3430	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
UNIT PACK WEIGHT	Maximum Unit Pack Weight	HF	3190	Required
UNIT SIZE LEN	Maximum Unit Pack Length	HF	2890	Required
UNIT SIZE WID	Maximum Unit Pack Width	HF	2890	Required
UNIT SIZE DEP	Maximum Unit Pack Depth	HF	2890	Required
UNIT PACK CUBE	Maximum Unit Pack Cube	HF	3180	Required
RES (5 Pos.; Generated)				Automatically generated
OPI	Optional Procedures Indicator	HF	3770	Required
PI (Generated)				Automatically generated
CARD C (Generated)				Automatically generated
RES (5 Pos; Generated)				Automatically generated
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
SUPPLEMENTAL PACKAGING DATA	Supplemental Packaging Data	HF	4990	Required
CARD D (Generated)				Automatically generated
RES (5 Pos; Generated)				Automatically generated
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
CAGE	Commercial and Government Entity Code	HA	1520	Required
SPI NUMBER	Special Packaging Instruction Number	HF	4920	Required
REV	Special Packaging Instruction Number Revision	HF	4910	Required
RES (Generated)				Automatically generated
SPI DATE	Special Packaging Instruction Number Julian Date	HF	2830	Required
CONTAINER NSN	Container National Stock Number	HF	1610	Required
APPROVED BY (Manually entered)				
APPROVED DATE (Manually entered)				

4.22.9 Format

The format shown in Figure 23 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

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PACKAGING REQUIREMENTS DATA (LSA-025)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	HF.cage	HF.refno	HF.milpackc	HF.minpackc	SELECTED
EIAC	ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	CAGE	REF NUM	MPC	MIN PCK	TAPE OPTION
REFRIG UNT	REFRIGERATION UNIT	0	00	P					A		

HF.cage	HF.refno	HA.itemname
CAGE	REFERENCE NUMBER	ITEM NAME
10855	AA06BR200	SCREW, HEX HEAD

GENERATED	HA.nsnfsc	HA.nsnmimma	HA.unitwt	HA.unitszlt	HA.unitszht	HF.pkgcatec	HF.spcmrkd	HF.qtyputpk	HF.intmcnqt	HF.cage	HF.refno	GENERATED	
(5 Pos)	NSN		UNIT WT	UNIT SIZE									
CARD RES	FSC/NIIN/ADDL		UNIT WT	LEN	WID	DEP	CAT	SPEC	QUP	ICQ	CAGE	REF NUM	PI
A	-----	5305-00-378-2804 --	00001	0010	0005	0005	32AO	00	012	004	10855	AA06BR200	4

GENERATED	HA.nsnfsc	HA.nsnmimma	HF.mthdprsc	HF.cladrypr	HF.presmatc	HF.wrapmtrl	HF.cshadunm	HF.cshthick	HF.untentcd	HF.untentlv	HF.spcmrkd	HF.milpackc
(5 Pos)	NSN		MTH	CD	PRES	WRAP	CUSH	CT	UNIT	INT	UC	SPEC
CARD RES	FSC/NIIN/ADDL		PRESS		MATL	MATL	MATL		CONT	CONT	LVL	MKG
B	-----	5305-00-378-2804 --	10	0	00	00	00	0	D3	EC	0	00

HF.mxupwght	HF.mxuplgh	HF.mxupwdth	HF.mxupcube	(5 Pos)	HF.optproin	GENERATED
UNIT PACK WEIGHT	UNIT PACK SIZE	UNIT PACK CUBE		RES	OPI	PI
	LENGTH	WIDTH	DEPTH			
-----10	0030	0030	0030	0000001	M	4

GENERATED	HA.nsnfsc	HA.nsnmimma	HF.splpkdt
(5 Pos)	NSN		SUPPLEMENTAL PACKAGING DATA
CARD RES	FSC/NIIN/ADDL		
C	-----	5303-00-378-2804 --	TEST-NARRATIVE--TEST-NARRATIVE--TEST-NARRATIVE--TEST-NARRAT

GENERATED	HA.nsnfsc	HA.nsnmimma	HF.cage	HF.sppkinno	HF.sppkinor	GENERATED	HF.sppkinjd	HF.contnnsn
(5 Pos)	NSN		CAGE	SPI	NUMBER	REV	SPI	DATE
CARD RES	FSC/NIIN/ADDL							CONTAINER NSN
D	-----	5303-00-378-3804 --	44940	-----	-	---	90061	-----

MANUALLY ENTERED	MANUALLY ENTERED
APPROVED BY:	APPROVAL DATE:

Figure 23 – Format for LSA-025, Packaging Requirements Data

4.23 Packaging Developmental Data Summary (LSA-026)

4.23.1 Introduction

LSA-026 summary is used to identify requirements for packaging developmental data. It contains basic identification data [i.e., Shelf Life (SL), Hazardous Code, Physical Security Pilferage Code (PSPC)] and SMR to determine if reusable containers are required for packaging development. It is used to assist in the development of Packaging Data in the LSA-025, Packaging Data in the DD Form 2326 and SPI identified in the decision chart in MIL-STD-2073-1 for determining how to develop military packaging requirements.

4.23.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that the Program Manager will summarize the results of Development activity and the program assessment to date. The Program Manager will present plans to transport, deploy, and sustain the capability; to conduct Post-Deployment Assessments; and to train maintenance and operating personnel. This information will be provided to the MDA for approval.
- DoDM 4140.01. States modern materiel preservation, packaging, and marking techniques shall be used to provide all materiel within the DoD supply chain with the required level of protection and identification at the lowest possible cost.
- MIL-STD-2073-1. Covers methods of preservation to protect materiel against environmentally induced corrosion and deterioration, physical and mechanical damage, and other forms of degradation during storage, multiple handling, and shipment of materiel in the defense transportation system. Note that packaging developed for classified items shall meet the requirements of DoDI 5220.22.
- DI-PACK-81582. This Data Item Description (DID) contains the format and content preparation instructions for a Packaging Development Data Summary. This DID can be used in lieu of DI-SESS-81758 for the delivery of data IAW MIL-STD-2073-1. MIL-STD-2073-1 defines the packaging data associated with this summary.
- DI-PACK-80121. This DID identifies the format and content preparation instructions for SPI resulting from a work task described in MIL-STD-2073-1. This DID is used with DI-SESS-81758 for the delivery of SPI IAW MIL-STD-2073-1.
- DI-MISC-81499. This DID covers the development of packaging for parts kits and modification kits resulting from a work task described in MIL-STD-2073-1. This DID contains the format, content, and intended use for the data deliverable. This DID is used with DI-PACK-80121 for the delivery of Packaging Kit Contents List IAW MIL-STD-2073-1.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- PSM Guidebook. Requires the PSM to identify, plan, resource, and acquire packaging/preservation, handling, storage and transportation (PHST) requirements to maximize availability and usability of the materiel to include support items whenever they are needed for training or mission. Description: The combination of resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation for the short and long storage, and transportability. Some items require special environmentally controlled, shock isolated containers for transport to and from repair and storage facilities via all modes of transportation (land, rail, air, and sea).

4.23.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. What: LSA-026 is used to identify requirements for packaging developmental data. It contains basic identification data required for packaging development. It satisfies the requirements for MIL-STD-2073-1.

What: This summary is used to identify requirements for packaging developmental data. It contains basic identification data [i.e., Shelf Life (SL), Hazardous Code, Physical Security Pilferage Code (PSPC)] and SMR to determine if reusable containers are required for packaging development.

When: This summary is often delivered as part of a contract, used to satisfy the requirements for packaging data as required by MIL-STD-2073-1. When using MIL-STD-2073-1, cite DI-PACK-81582 for data delivery. When using SAE GEIA-STD-0007C, cite DI-SESS-81758 for the delivery of data. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: In addition to the requirements of MIL-STD-2073-1, data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: Packaging requirements data/SPI are required for all programs IAW DoD Joint regulation AR 700-15/NAVSUST 4030.28F/AFMAN 24-206/MCO 4030.33F/DLAR 4145.7/DCMAR 4145.X, Packaging of Materiel. Packaging data/SPI are required at Milestone C as part of the product support package. For the U.S. Army, packaging data/SPI are required at Logistics Demonstration (AR 700-127) and (AR 700-37).

4.23.4 Scope

This summary contains basic identification data required for packaging development. The summary can be used as a standalone summary to develop adequate packaging instructions for DoD users.

4.23.5 Selection Options

EIAC/LCN

Mandatory: EIAC, Start LCN, LCN Type (= "P")

Optional: Stop LCN, ALC, UOC, Source Code

EIAC/CAGE/Reference Number

Mandatory: EIAC, CAGE Code, Reference Number, LCN Type (= "P")

Optional: UOC, Source Code

4.23.6 Processing/Business Rules

In order to produce an LSA-026 summary, at least one qualified parts application (Entity HG) must be contained within the selected LCN range.

4.23.7 Sequence

The summary is sequenced in ascending Reference Number and CAGE. Within each Reference Number and CAGE grouping, UI Price is sorted in descending sequence. LCN applications are sorted in ascending sequence.

4.23.8 Data Source

The data sources listed in Table 26, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 26 – Data Sources for Packaging Developmental Data (LSA-026)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
REPORT OPTION – LCN				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required if LCN option selected
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional if LCN option selected
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional if LCN option selected
UOC	Usable On Code	HO/XC	5790	Optional
SOURCE CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
REPORT OPTION – CAGE/REFERENCE NUMBER				
EIAC	End Item Acronym Code	HG	2040	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required if CAGE/Reference Number selected
REFERENCE NUMBER	Reference Number	HA	4400	Required if CAGE/Reference Number selected
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
UOC	Usable On Code	HO/XC	5790	Optional
SOURCE CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
OUTPUT				
CAGE	Commercial and Government Entity Code	HA	1520	Required
REFERENCE NUMBER	Reference Number	HA	4400	Required
NAT STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number		3520	
ITEM NAME	Item Name	HA	2790	Optional
UI	Item Unit of Issue	HA	5700	Optional
UNIT SIZE WEIGHT	Unit Weight	HA	5770	Optional
UNIT SIZE LENGTH	Unit Size Length	HA	2890	Optional
UNIT SIZE WIDTH	Unit Size Width			Optional
UNIT SIZE HEIGHT	Unit Size Height			Optional
SL	Shelf Life	HA	4730	Optional
HC	Hazardous Code	HA	2370	Optional
PS/PC	Physical Security Pilferage Code	HA	3920	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
UI PRICE	Unit Price	HD	3990	Required
[PRICE TYPE SELECTION] (= "I")		HD	4000	Required
CURR CODE	Currency Code	HD	1745	Required if Unit Price selected
LOT QUANTITY FROM	Price Lot Quantity From	HD	3000	Optional
LOT QUANTITY TO	Price Lot Quantity To			
PUC	Price Provisioning	HD	4140	Optional
UCL	Unit Container Level	HF	5670	Optional
QUP	Quantity per Unit Pack	HF	4240	Optional
PKG CAT	Packaging Category Code	HF	3800	Optional
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
QTY/ASSY	Quantity per Assembly	HG	4190	Optional
QTY/EI	Quantity per End Item	HG	4210	Optional
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional
USABLE ON CODES	Usable On Code	HO/XC	5790	Optional

4.23.9 Format

The format shown in Figure 24 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

PACKAGING DEVELOPMENTAL DATA (LSA-026)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	HG.srcmtrcc
EIAC	ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	SOURCE CODE
REFRIG UNIT	REFRIGERATION UNIT			P			PA

HA.cage	HA.refno
CAGE	REFERENCE NUMBER
10855	AA06BR200

HA.cage	HA.refno	HA.nsnfsc	HA.nsniiin	HA.itemname	HA.ui	HA.unitwt	HA.unitszlt	HA.unitszwd	HA.unitszht	HA.shlflife	HA.physcplc
CAGE	REFERENCE NUMBER	NAT	STOCK NUMBER	ITEM NAME	UI	WEIGHT	LENGTH	WIDTH	HEIGHT	SL	HC
10855	AA06BR200	5303-00-378-2804		SCREW, CAP HEX HEAD	EA	1.0	1.0	0.5	0.5		U

HD.unitprc	HD.currcode	HD.prltqfr	HD.prltqto	HD.prcprovs	HF.untentlv	HF.qtyputpk	HF.pkgcatec
UI PRICE	CURR	LOT	QUANTITY	PUC	UCL	QUP	PKG CAT
0.17	USD	000001	000025	N	0	012	8080
0.15	USD	000026	000100	Y	0		001

HG.lcn	HG.alc	HG.lcntype	HG.gpei	HG.srcmtrcc	XF/XC.uoc
LCN	ALC	XC.seigpa	XC.seigpei	SMR	USABLE ON CODES
00201AA	00	0003	000027	PAOZZ	DCY, DCX, DCZ
00304AC	00	0006	REF	PAOZZ	DCY, DCZ
0030609AQ	00	0002	REF	PAFZZ	DCY, DCZ
0050201AZ	00	0002	REF	PAOZZ	DCY, DCX, DCZ

Figure 24 – Format for LSA-026, Packaging Developmental Data

4.24 Failure/Maintenance Rate Summary (LSA-027)

4.24.1 Introduction

LSA-027 identifies an item and annual operating requirements by LCN and Task Code. This summary should be used to provide information necessary to monitor failure rates, failure modes, task frequencies, and Maintenance Replacement Rates (MRRs). This summary provides the basic information for task frequency both given and calculated, and MRRs I and II, both given and calculated.

4.24.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDD 4151.18. States that initial maintenance processes shall be structured to provide information necessary for design improvement of DoD materiel when inherent performance or reliability levels prove inadequate. Initial maintenance programs shall and be developed concurrently with materiel design, beginning with an analysis of failure modes and effects. The programs shall consist of applicable and effective tasks for addressing the failure modes and effects using reliability-centered analysis, and shall allocate tasks to appropriate levels of maintenance (i.e., field and depot) based on criteria derived from customer requirements and cost-effectiveness analysis. Task development shall include: determination of initial compliance thresholds and task repetition intervals; and a plan for providing feedback to the design process if effective maintenance tasks cannot adequately address a failure mode or effect.
- NAVSEA S0300-B2-MAN-010. Through Change #22 of 8, states that the contractor may be required to deliver Maintenance Planning Summaries IAW DoD adopted SAE GEIA-STD-0007 which covers the same content. Referring to reports, the operations manual also state the summaries may identify preventive and corrective maintenance actions and the required spares and support equipment. These summaries may also be used to provide supporting information that justifies the need for each maintenance action, e.g., elapsed time of maintenance actions, task frequency, failure rate of an item, and mean time to repair an item.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Reliability-Centered Maintenance (RCM) analysis (Activity C.1.8), Task Inventory (Activity C.1.9). and Maintenance Task Analysis (Activity D.1).

4.24.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary used for monitoring failure rate data and the basic information for task frequency.

What: During development, this summary should be used to provide information necessary to monitor failure rates, failure modes, task frequencies, and Maintenance Replacement Rates (MRRs).

When: This summary should be used early in the development of a system after a FMECA is performed (the FMECA identifies the Failure Modes). The Task Frequency calculation can be performed following a FMECA. The LSA-027 can be delivered multiple times throughout the development of the system. It is not typically delivered as part of a contractual requirement after Development Phase.

How: The data elements on this summary influence design and task analysis. It is most effective when systems engineering and logistics engineering share the data (found in SAE TA-STD-0017A, Activities C.1.6 FMECA, C.1.9 Task Inventory, C.1.8 RCM Analysis, D.1. Task Analysis).

Why: This summary is typically used early in the design phase. The data elements on this summary influence design and task analysis. It is most effective when systems engineering and logistics engineering share the data.

4.24.4 Scope

The LSA-027 summary displays a comparison of the Failure Rate (FR), Replacement and Repair Task Codes, and their associated Task Frequencies against each LSA candidate and displays the SMR, MRR, and MRRII from the PMR to validate this critical provisioning data.

4.24.5 Selection Options

Mandatory: EIAC, Start LCN, UOC, Service Designator, LCN Type

Optional: ALC, Stop LCN, Operating Program, Operating Measurement Base, MRRI/MRRII Ratio

- a. Enter the required Operating Program and its associated Measurement Base when option 1 is required for the MRRI and MRRII calculations. The OP MB should correspond to the MB of the AOR under analysis. If left blank MRRI can not be calculated.
- b. Enter the required MRRI/MRRII ratio when the MRRII is to be calculated, if left blank then MRRII can not be calculated.

4.24.6 Processing/Business Rules

This summary provides the basic information for task frequency both given and calculated, and maintenance replacements rates I and II, both given and calculated. To produce the LSA-027 Summary a BD and BF entity must be established in the data repository. Only tasks with a code "H", and "J" in the first position will be included in this summary and items with Item Category Codes of X for H Task Codes and Y for J tasks code will qualify for output on this summary.

- a. Most of the information used on this summary can be used directly from the entities, except for the calculated assembly task frequency, MRRI, and MRRII and the calculated repair part task frequency, MRRI and MRRII.
 1. The data elements used in the calculated assembly task frequency of the summary are depicted by comparative analysis (C), allocated (A), predicted (P), and measured (M) (Reliability Availability and Maintainability Indicator Code). Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis. The data elements used in the calculation include: Part Failure Rate and MB; MTBM Induced and MB; and MTBM No Defect and MB. The task frequency is calculated as per instructions in Data Type Number (DTN) 5140, Assembly Task Frequency is against only that task which is against that assembly.

$$f_t = r_a \left[\sum_{j=1}^m \left[\sum_{i=1}^n c_j \alpha_{ij} \left(\lambda + \frac{1}{MTBM_{in_j}} + \frac{1}{MTBM_{nd_j}} \right) \right] \right] \quad (\text{Eq. 18})$$

where:

f_t	=	Task Frequency
r_a	=	Annual Operating Requirement
m	=	The number of unique Failure Mode Task LCN/ALC/Type combinations
n	=	The Number of Failure Modes associated with the LCN/ALC/Type (Entity BH)
i	=	Index number for a particular failure mode associated with a particular LCN/ALC/Type combination
j	=	Index number for a particular Failure Mode Task LCN/ALC/Type combination
c	=	Conversion Factor (DTN 1670, Entity BA) of the j_{th} LCN/ALC/Type
α_{ij}	=	Failure Mode Ratio (DTN 2210) of the i_{th} failure mode of the j_{th} LCN/ALC/Type combination
λ	=	Failure Rate (DTN 2240, Entity BD) of the j_{th} LCN/ALC/Type
$MTBM_{in}$	=	Mean Time between Maintenance, Induced (DTN 3290, Entity BD) of the j_{th} LCN/ALC/Type combination
$MTBM_{nd}$	=	Mean Time between Maintenance, No Defect (DTN 3310, Entity BD) of the j_{th} LCN/ALC/Type combination

NOTE: This calculation requires that Corrective tasks only are documented and that these tasks are not documented in a manner that would result in "double counting", e.g., a referenced LCN/ALC-Task Code appearing on a high level assembly, and an intermediate assembly both accounting for the frequency of occurrence of this task by the associated FM Ratio and Failure Rate of the respective assemblies. For a given LCN/ALC containing the referenced Task Code, the $MTBM_{in(j)}$, $MTBM_{nd(j)}$ and/or Conversion Factor may be blank. If $MTBM_{in(j)}$ or $MTBM_{nd(j)}$ are blank; then a warning message is displayed.

2. The data elements used in the calculated assembly MRRI are the task frequency calculated in a.1 multiplied by the Quantity per Task multiplied by the operating program (if applicable) which is divided by the AOR.

$$MRRI = \sum_{i=1}^n (f_{ta})(q_a) \times \frac{\text{Operating Program (Selected)}}{r_{ap}} \quad (\text{Eq. 19})$$

where:

f_{ta}	=	Task frequency (allocated)
q_a	=	Quantity per task (allocated)
r_{ap}	=	Annual operating requirement (predicted)

3. The data elements used in calculating the MRRII are the MRRI calculated in a.2 multiplied by the selected MRR/II ratio.

$$MRRII = MRRI (calc) \times \frac{MRRI}{MRRII} (\text{Selected}) \quad (\text{Eq. 20})$$

4. The data elements used in the calculated repair part task frequency of the summary are depicted by comparative analysis (C), allocated (A), predicted (P), and measured (M) (measured values are reported wherever possible)(these come from RAM Indicator Code). These data elements include: Part Failure Rate and MB; MTBM Induced and MB; and MTBM No Defect and MB. The task frequency is calculated as per instructions in DTN 5140, Repair Part Task Frequency is against only that task which is against that repair part.

$$f_t = r_a \left[\sum_{j=1}^m \left[\sum_{i=1}^n c_j \alpha_{ij} \left(\lambda + \frac{1}{MTBM_{in_j}} + \frac{1}{MTBM_{nd_j}} \right) \right] \right] \quad (\text{Eq. 21})$$

where:

f_t	=	Task Frequency
r_a	=	Annual Operating Requirement (DTN 1240, Entity AG) of the j^{th} LCN/ALC/Type combination
m	=	The number of unique Failure Mode Task LCN/ALC/Type combinations
n	=	The Number of Failure Modes associated with the LCN/ALC/Type (Entity BH)
i	=	Index number for a particular failure mode associated with a particular LCN/ALC/Type combination
j	=	Index number for a particular Failure Mode Task LCN/ALC/Type combination
c	=	Conversion Factor (DTN 1670, Entity BA) of the j^{th} LCN/ALC/Type
α_{ij}	=	Failure Mode Ratio (DTN 2210) of the i^{th} failure mode of the j^{th} LCN/ALC/Type combination
λ	=	Failure Rate (DTN 2240, Entity BD) of the j^{th} LCN/ALC/Type
$MTBM_{in}$	=	Mean Time between Maintenance, Induced (DTN 3290, Entity BD) of the j^{th} LCN/ALC/Type combination
$MTBM_{nd}$	=	Mean Time between Maintenance, No Defect (DTN 3310, Entity BD) of the j^{th} LCN/ALC/Type combination

NOTE: This calculation requires that Corrective tasks only are documented and that these tasks are not documented in a manner that would result in "double counting", e.g., a referenced LCN/ALC-Task Code appearing on a high level assembly, and an intermediate assembly both accounting for the frequency of occurrence of this task by the associated FM Ratio and Failure Rate of the respective assemblies. For a given LCN/ALC containing the referenced Task Code, the MTBMin_(i), MTBMnd_(i) and/or Conversion Factor may be blank. If MTBMin_(i) or MTBMnd_(i) are blank; then a warning message is displayed.

5. The data elements used in the calculated repair part MRRI is the task frequency calculated in a.3 multiplied by the Quantity per Task multiplied by the operating program (if applicable) which is divided by the AOR.

$$MRRI = \sum_{i=1}^n (f_{trp})(q_{rp}) \times \frac{\text{Operating Program (Selected)}}{r_{ap}} \quad (\text{Eq. 22})$$

where:

f_{trp}	=	Task frequency (repair part)
q_{rp}	=	Quantity per task (repair part)
r_{ap}	=	Annual operating requirement (predicted)

The Operating Program is a numeric factor which has the ability to tweak the MRR. Utilizing the Operating Program, one may take into consideration subjective values that are not typically calculated; secondary failures, idleness, operator error, preventive/planned maintenance, and handling and storage. It is provided by the requiring authority.

6. The data elements used in calculating the MRRII is the MRRI calculated in a.0 multiplied by the selected MRR/II ratio.

$$MRRII = MRRI (calc) \times \frac{MRRI}{MRRII} (\text{Selected}) \quad (\text{Eq. 23})$$

4.24.7 Sequence

The summary is sequenced by ascending values of LCN for a given Task Code, then ascending Task Code. This holds true for the Assembly LCN, Repair Part LCN, and Task LCN. For the RAM LCNs they are sequenced in ascending values, then by Failure Mode Indicator (FMI).

4.24.8 Data Sources

The data sources listed in Table 27, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 27 – Data Sources for Failure/Maintenance Rate Summary Corrective Maintenance (LSA-027)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
UOC	Usable On Code	XF/XC	5790	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
SERVICE DESIGNATOR (Selected)	Task Code (4th position)	BH	5110	Required
OPERATING PROGRAM (Selected)				
OP MB (Selected. Must match AOR MB)				
MRRI/II RATIO (Selected)				
OUTPUT				
1st INDENTURE - A				
LCN (Item being repaired)	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required
[TASK CODE] (LCN is based on corrective Task Code)	Task Code	BH	5110	Required
	Task Type	BH	5220	Required
ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
AOR (Peacetime only)	Annual Operating Requirement	AG	1240	Optional
MB	Annual Operating Requirement Measurement Base	AG	3380	Required if AOR selected
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
MRR MOD	Maintenance Replacement Rate Modifier	HG	3080	Optional
WEAROUT LIFE	Wearout Life	BA	5820	Optional
MB	Wearout Life Measurement Base	BA	3380	Required if Wearout Life selected
2nd INDENTURE - B / Remove and Replace "H" Task Data (List all repair parts for "H" remove and replace tasks via B/CA/CI that qualify via ICC="X" in the HG entity.)				
LCN (For H Tasks and X ICC'S)	Task Provision Logistics Support Analysis Control Number	CI	2970	Required
[ITEM CATEGORY CODE] (Check HG ICC)		HG	2730	Required
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Reference Number	HA	4400	Optional
CAGE	Commercial and Government Entity Code	HA	1520	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
MRR MOD	Maintenance Replacement Rate Modifier	HG	3080	Optional
[2a IND List all MRRI and MRRIs against the LCN, Reference Number and CAGE combination from Entity HG for all Repair Parts that qualify for 2 indenture. (List in the same order as 2 indenture)]				
MRRI (List calculated MRRI for applicable CI entity repair parts)	Maintenance Replacement Rate I	HG	3060	Optional
MRRII (List calculated MRRII for applicable CI entity repair parts)	Maintenance Replacement Rate II	HG	3070	Optional
MRRI (Calculated)				Automatically generated
[CALCULATED TASK FREQUENCY FROM 3 rd IND (Calculated)]				Automatically generated
[MB (Taken from calculations)]				
[QTY/TASK (Needed for MRRI calculation)]	Quantity per Task	CI	4230	Required if calculating MRRI
[OPERATING PROGRAM (Selected)]				
[AOR MB]	Annual Operating Requirement Measurement Base (Selected, must match AOR MB)	AC	3380	Required
MRRII (Calculated)				Automatically generated
[MRRI (Calculated)]				
[MRRI/MRRII Ratio (From selection)]				
3rd IND				
(List first "H" task and its entity and calculated Task Frequency. Task Frequency is for the specific task. Calculated Task Frequency is based on affected LCNs from 5 IND)				
LCN (LCN based on Corrective Task Code)	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required
ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
TASK CODE	Task Code	BH	5110	Required
[TASK TYPE] (Used for processing)	Task Type	BH	5220	Required
ENTITY CA TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
CALCULATED TASK FREQ (Calculated using data elements listed below.) MB (As specified in the data listed below)				Automatically generated
[Failure Mode Ratio]	Failure Mode Ratio	BF	2210	Required
[Failure Rate]	Failure Rate	BD	2240	Required
[Failure Rate Measurement Base]	Failure Rate Measurement Base	BD	3380	Required
[Reliability Availability and Maintainability Indicator Code]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
[Mean Time Between Maintenance Induced]	Mean Time Between Maintenance Induced	BD	3290	Optional. Used to calculate accurate Task Frequency
[Mean Time Between Maintenance Induced Measurement Base]	Mean Time Between Maintenance Induced Measurement Base	BD	3380	Optional. Required if MTBM-I is required
[Mean Time Between Maintenance No Defect]	Mean Time Between Maintenance No Defect	BD	3310	Optional. Used to calculate accurate Task Frequency
[Mean Time Between Maintenance No Defect Measurement Base]	Mean Time Between Maintenance No Defect Measurement Base	BD	3380	Optional. Required if MTBM-ND is required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[Conversion Factor]	Conversion Factor	BA	1670	Required
[Annual Operating Requirement]	Annual Operating Requirement	AG	1240	Required
[Annual Operating Requirement Measurement Base]	Annual Operating Requirement Measurement Base	AG/CA	3380	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required
4th IND (List all qualifying Entity CI Provisioning Parts which are used for this Task Code. Use the Task LCN and ALC to identify the parts used.)				
LCN	Task Provision Logistics Support Analysis Control Number	HG/CI	2970	Required
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	HG/CI	1200	Required
[LCN]	Logistics Support Analysis Control Number	CA/CI	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number	CA/CI	1200	Required
REFERENCE NUMBER	Task Provision Reference Number	HG/CI	4400	Required
CAGE	Task Provision Commercial and Government Entity Code	HG/CI	1520	Required
QTY/TASK	Quantity per Task	CI	4230	Required
UM	Quantity per Task Unit of Measure	CI	5720	Required
5th IND (List all affected LCNs & FMIs for this "H" Task)				
LCN	Logistics Support Analysis Control Number	BA/BH	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA/BH	1200	Required
FMI	Failure Mode Indicator	BF	2200	Required
FAILURE MODE RATIO	Failure Mode Ratio	BF	2210	Required
FAILURE RATE	Failure Rate	BD	2240	Required
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
MB	Failure Rate Measurement Base	BD	3380	Required
MTBM INDUCED	Mean Time Between Maintenance Induced	BD	3290	Optional
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if MTBM Induced selected
MB	Mean Time Between Maintenance Induced Measurement Base	BD	3380	Required if MTBM Induced selected
MTBM NO DEFECT	Mean Time Between Maintenance No Defect	BD	3310	Optional
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if MTBM No Defect selected
MB	Mean Time Between Maintenance No Defect Measurement Base	BD	3380	Required if MTBM No Defect selected
CONV FACT	Conversion Factor	BA	1670	Optional
2nd INDENTURE Repair "J" Task Data (For J tasks and Y ICCs)				
LCN (For J Tasks and Y ICC'S)	Task Provision Logistics Support Analysis Control Number	CI	2970	Required
	(Item Category Code) (Check HG ICC)	HG	2730	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Reference Number	HA	4400	Optional
CAGE	Commercial and Government Entity Code	HA	1520	Optional
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
MRR MOD	Maintenance Replacement Rate Modifier	HG	3080	Optional
2a IND List all MRRI and MRRIs against the LCN, Reference Number and CAGE combination from Entity HG for all Repair Parts that qualify for 2nd indenture. (List in the same order as 2nd indenture)				
MRRI (List calculated MRRI for applicable CI entity repair parts)	Maintenance Replacement Rate I	HG	3060	Optional
MRRII (List calculated MRRII for applicable CI entity repair parts)	Maintenance Replacement Rate II	HG	3070	Optional
MRRI (Calculated)				Automatically generated
[CALCULATED TASK FREQUENCY FROM 3 rd IND (Calculated)]				Automatically generated
[MB (Taken from calculations)]				Automatically generated
[QTY/TASK (Needed for MRRI calculation)]	Quantity per Task	CI	4230	Required
[OPERATING PROGRAM (Selected)]				
[AOR MB]	(Annual Operating Requirement Measurement Base) (Selected, must match AOR MB)	AG	3380	Required
MRRII (Calculated)				Automatically generated
[MRRI (Calculated)]				
[MRRI/MRRII Ratio (From selection)]				
3rd IND (List first "J" task and its entity and calculated Task Frequency. Task Frequency is for the specific task. Calculated Task Frequency is based on affected LCNs from 5th IND)				
LCN (LCN based on Corrective Task Code)	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required
ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
TASK CODE	Task Code	BH	5110	Required
	Task Type (Used for processing)	BH	5220	Required
ENTITY CA TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
CALCULATED TASK FREQ (Calculated using data elements listed below.) MB (As specified in the data listed below)				Automatically generated
[Failure Mode Ratio]	Failure Mode Ratio	BF	2210	Required
[Failure Rate]	Failure Rate	BD	2240	Required
[Failure Rate Measurement Base]	Failure Rate Measurement Base	BD	3380	Required
[Reliability Availability and Maintainability Indicator Code]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[Mean Time Between Maintenance Induced]	Mean Time Between Maintenance Induced	BD	3290	Optional. Used to calculate accurate Task Frequency
[Mean Time Between Maintenance Induced Measurement Base]	Mean Time Between Maintenance Induced Measurement Base	BD	3380	Optional. Required if MTBM-I is required
[Mean Time Between Maintenance No Defect]	Mean Time Between Maintenance No Defect	BD	3310	Optional. Used to calculate accurate Task Frequency
[Mean Time Between Maintenance No Defect Measurement Base]	Mean Time Between Maintenance No Defect Measurement Base	BD	3380	Optional. Required if MTBM-ND is required
[Conversion Factor]	Conversion Factor	BA	1670	Required
[Annual Operating Requirement]	Annual Operating Requirement	AG	1240	Required
[Annual Operating Requirement Measurement Base]	Annual Operating Requirement Measurement Base	AG/CA	3380	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required
4th IND (List all qualifying Entity CI Provisioning Parts which are used for this Task Code. Use the Task LCN and ALC to identify the parts used.)				
LCN	Task Provision Logistics Support Analysis Control Number	HG/CI	2970	Required
ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	HG/CI	1200	Required
[LCN]	Logistics Support Analysis Control Number	CA/CI	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number	CA/CI	1200	Required
REFERENCE NUMBER	Task Provision Reference Number	CI	4400	Optional
CAGE	Task Provision Commercial and Government Entity Code	CI	1520	Optional
QTY/TASK	Quantity per Task	CI	4230	Required
UM	Quantity per Task Unit of Measure	CI	5720	Required
5th IND (List all affected LCNs & FMIs for this "J" Task)				
LCN	Logistics Support Analysis Control Number	BA/BH	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA/BH	1200	Required
FMI	Failure Mode Indicator	BF	2200	Required
FAILURE MODE RATIO	Failure Mode Ratio	BF	2210	Optional
FAILURE RATE	Failure Rate	BD	2240	Optional
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if Failure Rate selected
MB	Failure Rate Measurement Base	BD	3380	Required if Failure Rate selected
MTBM INDUCED	Mean Time Between Maintenance Induced	BD	3290	Optional
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if MTBM Induced selected
MB	Mean Time Between Maintenance Induced Measurement Base	BD	3380	Required if MTBM Induced selected
MTBM NO DEFECT	Mean Time Between Maintenance No Defect	BD	3310	Optional
[RAM INDICATOR CODE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if MTBM No Defect selected
MB	Mean Time Between Maintenance No Defect Measurement Base	BD	3380	Required if MTBM No Defect selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
CONV FACT	Conversion Factor	BA	1670	Optional

4.24.9 Format

The format shown in Figure 25 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

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FAILURE/MAINTENANCE RATE SUMMARY CORRECTIVE (LSA-027)
MAINTENANCE

XB.eiac		XB.lcn	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XF/XC.uoc	BH.taskcode	SELECTED OPERATING	SELECTED OP	SELECTED MRRI/II
EIAC REFRIG UNT		LCN REFRIG UNT	LCN NOMENCLATURE REFRIGERATION UNIT	START LCN O	ALC 00	TYPE P	STOP LCN 00607	UOC DCY	SERV DES ARMY	PROGRAM 7200	MB H RATIO 2.25
BH.lcn	BH.alc	XB.lcnomen		AG.annopreq	AG.anoprqmb		HG.srcmtrcc	HG.mrrm	BA.wearoutl		BA.weartlmb
LCN	ALC	LCN NOMENCLATURE		AOR	MB		SMR CODE	MRR MOD	WEAROUT LIFE		MB
00602	00	PISTON ASSEMBLY		7200	H		PAFFF	11111			
REMOVE AND REPLACE "H" TASK DATA											
	CI.lcn		CI.alc	HA.itemname		HA.refno		HA.cage	HG.srcmtrcc	HG.mrrm	
	LCN		ALC	ITEM NAME		REFERENCE NUMBER		CAGE	SMR CODE	MRR MOD	
	00602		00	PISTON ASSEMBLY		RZ4369		34456	PAFFF	11111	
		HG.mrri		HG.mrrii		CALC		CALC			
		MRRI		MRRII		MRRI CALCULATED		MRRII			
		2.5920		5.832		2.5920		5.832			
	BH.lcn		BH.alc	BH.taskcode		CA.tskfreq	CA.taanoymb	CALC		CA.taanoymb	
	LCN		ALC	TASK		ENTITY CA	MB	CALCULATED		MB	
				CODE		TASK FREQ		TASK FREQ			
	00602		00	HGFAAAA		2.5920	H	2.5920		H	
		CI.lcn		CI.alc		CI.refno		CI.cage	CI.qtyperta	CI.qtypertaum	
		LCN		ALC		REFERENCE NUMBER		CAGE	QTY/TASK	UM	
		00602		00		RZ4369		34456	1.00	EA	
		BA/BH.lcn		BA/BH.alc	BF.fmndctr	BD.failrate	BD.failrtmb	BD.mtbmind	BD.mtbmindmb	BD.mtbmindf	BD.mtbmindf
					BF.fmratio	(BD.ramincd)		(BD.ramincd)		(BD.ramincd)	BA.convfact
		LCN		ALC	FMI	FAIL MODE	FAILURE	MB	MTBM	MTBM	MB
					RATIO	RATE	INDUCED		INDUCED	NO DEFECT	CONV
		00602		00	FAAA	1.000	.0006667 (P)	H	50000.0 (P)	30000.0 (P)	FACT
											20050

Figure 25 – Format for LSA-027, Failure/Maintenance Rate Summary Corrective Maintenance

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REPAIR "J" TASK DATA

Figure 25 – Format for LSA-027, Failure/Maintenance Rate Summary Corrective Maintenance, continued

4.25 Indentured Parts List Summary (LSA-030)

4.25.1 Introduction

LSA-030, Indentured Parts List. This summary consists of four different summaries related to the parts related to a product. The four types of summaries are: Draft Repair Parts and Special Tools List (RPSTL), Proof RPSTL, Illustrated Parts Breakdown (IPB) and Stockage List Type Four (USMC only).

The listings and indexes of the RPSTL or illustrated parts breakdown manual are produced directly from the LSA-030, Indenture Parts List.

4.25.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- MIL-STD-40051-1 and MIL-STD-40051-2 require the use of Logistics Product Data for development of Technical Manuals, including the Repair Parts and Special Tools Lists and Illustrated Parts Breakdown.
- MIL-DTL-38807. Data required to develop IPBs can be sourced from logistics product data (as defined in SAE GEIA-STD-0007C); specifically FIGURE & INDEX/SHEET NO., PART NUMBER CAGE, DESCRIPTION 1234567, UNITS PER ASSY, USABLE ON CODE, and SMR CODE.
- MIL-DTL-24784/23. Detail Specification Sheet Illustrated Parts Breakdown (IPB Requirements, data required to develop IPBs can be sourced from logistics product data (as defined in SAE GEIA-STD-0007C); specifically FIGURE & INDEX/SHEET NO., PART NUMBER CAGE, DESCRIPTION 1234567, UNITS PER ASSY, USABLE ON CODE, and SMR CODE.
- MIL-STD-3031. This standard establishes the business rules for technical content, style, format and functionality requirements for technical publications prepared using S1000D Issue 4.0 for major weapon systems, and their related systems, subsystems, equipment, weapons replacement assemblies (WRAs), and shop replacement assemblies (SRAs). The requirements are applicable for all maintenance levels through overhaul (depot) including Depot Maintenance Work Requirements (DMWR) and National Maintenance Work Requirements (NMWRs). The requirements can be used to develop all new acquisition technical publications (page-oriented and IETPs for interactive screen presentations). SAE GEIA-STD-0007C can be the source data for S1000D data modules.
- NAVSEA SL150-AA-PRO-010/DMP. This manual provides a uniform approach within the DoD for the acquisition and management of contractor-prepared data. It provides common policy, procedures, and processes by which data requirements will be made as uniform as possible on differing contracts from the DoD components, thereby reducing the burden upon the contractor in the preparation, delivery, or providing access and use of the data required by the Government. While the TMMP is written for traditional TM definition and development processes, its guidance applies to all TM specifications including S1000D. SAE GEIA-STD-0007C, Logistics Product Data, can be the source data for S1000D data modules.
- MIL-STD-3048. SAE GEIA-STD-0007C can be the source data for S1000D data modules.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- AR 700-127. Equipment publications include, but not limited to, the maintenance allocation chart, operator manuals, maintainer manuals, repair parts and special tools list, DMWR and NMWRs. The MATDEV will— a. Include equipment publications requirements in solicitation documents and contracts. b. Coordinate equipment publications portions of Interactive Electronic Technical Manuals (IETM) contract solicitation documents IAW AR 25–30. Ensure the accuracy and adequacy of equipment publication data and publications prior to government acceptance of the materiel.
- DA PAM 738-751. Provides TMFGC guidance for aviation equipment.
- TB 750-93-1. Provides TMFGC guidance for ground equipment.

4.25.3 Tailoring

Who: The U.S. Army and U.S. Marines are primary users. Stockage List Type Four should only be used by the U.S. Marines. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: The data from this summary can be used to satisfy the listing portion of Repair Parts and Special Tools List, Illustrated Parts Breakdown, or Stockage List Type Four requirements.

When: This is often a deliverable as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). Mature drafts of Equipment Publications are required

at Initial Operational Capability and LOG DEMO. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of Maintenance Task Analysis (SAE TA-STD-0017A, Activity D.1). Maintenance Task Analysis is an iterative activity performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: This summary produces four different summaries related to the parts related to a product: Draft RPSTL, Proof RPSTL, Illustrated Parts Breakdown, Stockage List Type Four (USMC Only), Equipment Publications

4.25.4 Scope

This summary consists of four different summaries related to the parts related to a product. The four types of summaries are: Draft Repair Parts and Special Tools List (RPSTL), Proof RPSTL, Illustrated Parts Breakdown (IPB) and Stockage List Type Four (USMC only).

4.25.5 Selection Options (Draft/Proof RPSTL)

Mandatory: EIAC, Start LCN, LCN Type, TM Code

Optional: UOC, Maintenance Level, Start TMFGC, Stop TMFGC, Stop LCN, ALC, Cross Reference Index

Generation of the Proof option for the RPSTL is bounded by mandatory Technical Manual Functional Group Code (TMFGC) from Entity HK. The draft RPSTL option is developed by mandatory EIAC, Start LCN and TMFGC. The draft RPSTL has optional Stop LCN, ALC, LCN Type and UOC selections. Additional optional criteria for both the proof and draft are by maintenance level determined by the third position (Remove) of the Source Maintenance and Recoverability Code and Start and Stop range(s) of TMFGC. [NOTE: The only differences between the proof and draft RPSTL format involves display of the file control keys following the standard columns 1 through 6 (or 7)]. Both the proof and draft RPSTL have the option of depicting the formats prescribed by MIL-STD-40051-1 and MIL-STD-40051-2.

- a. The four cross reference indexes in Part IV of the RPSTL are each separately selectable.
- b. Technical Manual Functional Group Code (TMFGC) Headers are also optional inputs for the RPSTL summary. For each Functional Group header there will be a Start and Stop TMFGC header. Each Functional Group Header can consist of up to nine lines of header information. Each line of header information is 36 positions long. There is not a minimum or a maximum number of TMFGC headers/Start and Stop Technical Manual Functional Group Code.
- c. There is an additional summary criteria option, Start and Stop Technical Manual Functional Group Code. There is a maximum number of four Start and Stop Technical Manual Functional Group Codes. The Start and Stop Technical Manual Functional Group Code will allow the summary requester to select specific TMFGC to be output. They should be processed like Start and Stop LCNs (Start Technical Manual Functional Group Code, Stop Technical Manual Functional Group Code, except when Start and Stop Technical Manual Functional Group Codes are equal then select that Technical Manual Functional Group Code only).

4.25.6 Processing/Business Rules (Draft/Proof RPSTL)

In order to produce Draft/Proof, at least one entry matching the selected Technical Manual Code must be contained in Entity HK.

- a. TMFGC Headers are placed in the description column preceding the first row of data matching on TMFGC with the TMFGC header key.
- b. The PART NUMBER column contains 16 positions of the Reference Number. If the Reference Number exceeds 16 positions, the remainder is displayed immediately beneath the first 16 on the next line.
- c. Summary rows are sorted by section and TMFGC sequence. For the description column, the Item Name will first appear, then two spaces followed by the Parts Manual Provisioning Nomenclature, if applicable. If the Hardness Critical Item is "Y", then the symbol "(HCI)" is displayed one space following the Item Name and two spaces before the Parts Manual Provisioning Nomenclature. The Parts Manual Provisioning Nomenclature is wrapped in the 36 positions allocated for the description with "breaks" occurring only at spaces. Trailing periods are placed following the last position of the Item Name/Parts Manual Provisioning Nomenclature to the end the description column. If the row also has a Technical Manual Indenture Code entry, then leading periods are placed prior to the Item Name of the row, equaling the number in the Technical Manual Indenture Code.
- d. Following the Parts Manual Provisioning Nomenclature, on a separate line, applicable UOCs of the row are entered, preceded by "UOC:". If the part has full effectivity, no UOCs are displayed. Full effectivity is determined for a part when it is represented in Entity HO for every Entity XC UOC which contain the same System End Item PCCN.

- e. Also extracted are any entries in Entity HH for qualified rows matching on PLISN s which have NHA PLISN and NHA PLISN Indicators of asterisk. Where the instance is sorted in the summary, the phrase "PART OF KIT P/N" followed by the Reference Number of the Kit record will be displayed. The Kit Reference Number is determined by a match of Entity HH NHA PLISN to an Entity HG PLISN under the same System End Item PCCN as the kit component. One row of data may be used for multiple "kits" by multiple Entity HH row entries. Beneath each kit, the rows that make up the kit are displayed by Item Name, and in parenthesis the Quantity per Assembly (QPA), or Quantity per Figure, Figure Number a dash, then Item Number.
- f. Under the QTY column, the Quantity per Figure is displayed, unless blank. If Quantity per Figure is blank, then Quantity per Assembly is used.
- g. Under the NSN column (refer to MIL-STD-40051-1 and MIL-STD-40051-2), a "Y" is displayed if both National Stock Number Federal Supply Classification and National Stock Number National Item Identification Number are not blank and National Stock Number National Item Identification Number does not contain alpha characters for the instance. Otherwise "N" is displayed.
- h. Under the PLCC column, only entries in the Tools and Test Equipment List with a value of "D" are shown.
- i. After all rows of data are displayed following a TMFGC Header, and before the next TMFGC header the phrase "END OF FIGURE" (refer to MIL-STD-40051-1 and MIL-STD-40051-2) is displayed. Rows of information are displayed with no line skips between rows. At the end of a page, a page number is assigned using the Figure Number from the first record following the TMFGC header, followed by dash then "1", multiple pages of the same figure follow the same pattern, e.g., 3-1, 3-2, 3-3, etc. A page break will occur with each new TMFGC Header set under a different TMFGC. If no TMFGC Header inputs are provided, then the sorted rows will "page break" each time the Figure Number changes.
- j. The Section III description column is similar to the Section II description with the addition of the interpreted Basis of Issue (BOI). Each BOI is displayed by "BOI: Authorized Quantity, then either Organizational Level or End Item Range. The End Item Range is preceded by "PER" and followed by "END ITEMS". The BOI is inserted between Parts Manual Provisioning Nomenclature and UOC lines.
- k. Section IV cross reference indexes are produced as optional outputs as specified by the requester. The Reference Designations for the Reference Designation Index will either only include those items having a non-identifying migrating key of the appropriate Figure Number, Item Number, and Technical Manual Code; or if these keys are not present, it will include all related Figure Numbers, Item Numbers, and Technical Manual Codes from Entity HK for the Reference Designation key set. Overflows of Reference Numbers or Reference Designations exceeding 16 or 32 positions, respectively, are displayed on the next line immediately below the first portion of the element.
- l. Suppression rules for Section IV part number indexes and figure and item number indexes. Part number index suppresses any additional instance of information if the CAGE Code, Reference Number, National Stock Number National Item Identification Number, Figure Number and Item Numbers are the same. Part number index also suppresses the CAGE Code and Reference Number if the Figure Number and Item Number are different for the same CAGE Code, Reference Number and National Stock Number National Item Identification Number. Figure Number and Item Number Index suppress any additional instance of information if the CAGE Code, Reference Number, National Stock Number National Item Identification Number, Figure Number and Item Number are the same.

4.25.7 Sequence (Draft/Proof RPSTL)

- a. Sections II and III of the summary are primarily sequenced by section. Section is determined by the Provisioning List Category Code (PLCC) List. Items coded with a Provisioning List Category Code List entry in Tools and Test Equipment List are placed in Section III. All other items are placed in Section II. Within a section, items are sequenced in ascending Technical Manual Functional Group Code, followed by item, then PLISN.
- b. Part Number Index is sorted in ascending Reference Number, then CAGE Code.
- c. National Stock Number index is sorted in ascending National Stock Number National Item Identification Number, by column one, then by column two on a given page.
- d. Reference Designation Index is sorted in ascending Reference Designation.
- e. Figure and Item Number Index is sorted in ascending Figure Number, then Item Numbers, then Reference Number.

4.25.8 Selection (Illustrated Parts Breakdown)

Generation of this summary is bounded by a mandatory Technical Manual Functional Group Code.

4.25.9 Processing/Business Rules (Illustrated Parts Breakdown)

Extracted for the IPB are any entries in Entity HH for qualified rows matching on PLISNs which have NHA PLISN and NHA PLISN Indicators of asterisk. Where the instance of information is sorted in the summary, the phrase "PART OF KIT P/N" followed by the Reference Number of the Kit record will be displayed. The Kit Reference Number is determined by a match of the Entity HH NHA PLISN to an Entity HG PLISN under the same System End Item PCCN as the kit component. One row of data may be used for multiple "kits" by multiple Entity HH entries. Beneath each kit, the rows that make up the kit are displayed using Item Name, and in parenthesis the Quantity per Assembly or Quantity per Figure, Figure Number, a dash then Parts Manual Provisioning Nomenclature. A row refers to an entity instance in a data repository.

- a. A separate column for applicable UOCs of the row are entered. If the row has full effectivity, no UOCs are displayed. Full effectivity is determined by Entity HO/XC applicability of the instance of information to all XC UOC matching on the row System End Item PCCN.
- b. If the Hardness Critical Procedure Code is "Y", then the symbol "(HCl)" is displayed prior to the Item Name.
- c. The Parts Manual Provisioning Nomenclature is displayed with two spaces between it and the last completed position of the Item Name. Parts Manual Provisioning Nomenclature will break only on spaces between lines. On the second and subsequent lines of Parts Manual Provisioning Nomenclature automatically assigned two leading periods (e.g., ...) will precede the nomenclature continuation. Trailer points shall be displayed to "fill" the description column blank spaces from the last nomenclature character to the end of the description field. On subsequent lines for the same item, the trailer points are not used. Subsequent column data is displayed in line with the first description row.
- d. An item will contain leading periods equal to the entry against the item's Technical Manual Indenture Code (1-5). The numbers 12345 are displayed in the first five positions of the description column.

4.25.10 Sequence (Illustrated Parts Breakdown)

Section II is sequenced in ascending Figure Number and Item Number. Section III is sequenced by ascending Reference Number, and Section IV in ascending Reference Designation.

4.25.11 Selection (Stockage List Type Four Summary, U.S. Marine Corps Only)

Generation of this summary is bounded by mandatory Start LCN. Optional criteria are ALC, Stop LCN and UOC. A selection throughput is a 20-position Stockage List number.

4.25.12 Processing/Business Rules (Stockage List Type Four Report, U.S. Marine Corps Only)

- a. Item identification (sixth column) consists of the Item Name.
- b. Reference Designation (fourth column) is truncated after eight positions. Only a Reference Designation Code with a value of "F" is extracted for the summary. If multiple "F" Reference Designation Codes are documented in Entity HJ for an item, these are used to make up multiple rows of the summary.
- c. Column 8, QUANTITY APPL is Quantity per Assembly; PER EQUIP is the Quantity per End Item (QPEI). If REF or REFX is entered in the Quantity per End Item, then this is suppressed on the output summary.
- d. Display all matched UOCs (Element XC /HO) if no UOC is Selected. If there are extra UOCs they should be displayed under the model header, under the appropriate item number line.
- e. The Technical Manual Codes and Figure Numbers are used from Entity HJ. If there is not a match in Entity HJ, then use all Entity HK Technical Manual Codes and Figure Numbers against Entity HJ LCN keys and Entity HJ Reference Number keys matched in Entity HK.

The following terms are used in the Stockage List Type Four Report:

- a. Reference Designation (Figure Key) (REF DESIG FIG-KEY). Reference Designation with an associated Reference Designation Code of "F" (first eight positions only).
- b. Special Stockage Indicator (SSI). Assigned by the requiring authority, the SSI is left blank by the preparing activity.
- c. Replacement Factor (REPL FACTOR) is Maintenance Replacement Rate I, fourth through seventh positions only.

4.25.13 Sequence (Stockage List Type Four Report, U.S. Marine Corps Only)

The summary sorts on ascending Reference Designation and LCN sequence. A Reference Designation ending in an alpha character is sorted in sequence of the closest numeric, e.g., 012-0005, 012-005A, 012-0006.

4.25.14 Data Source

The data sources listed in Table 28, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 28 – Data Sources for the Indentured Parts List Summary (LSA-030)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
UOC	Usable On Code	HO/XC	5790	Optional
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
TM CODE	Technical Manual Code	HK	5250	Required
TM DESIGNATION	Technical Manual Number	XI	5280	Optional
OPERATIONS/MAINTENANCE LEVELS:	Source Maintenance and Recoverability Code	HG	4830	Optional
RANGE ONE				
START FGC	Technical Manual Functional Group Code	HK	5260	Optional
STOP FGC	Technical Manual Functional Group Code	HK	5260	Optional
RANGE TWO				
START FGC	Technical Manual Functional Group Code	HK	5260	Optional
STOP FGC	Technical Manual Functional Group Code	HK	5260	Optional
RANGE THREE				
START FGC	Technical Manual Functional Group Code	HK	5260	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
STOP FGC	Technical Manual Functional Group Code	HK	5260	Optional
RANGE FOUR				
START FGC	Technical Manual Functional Group Code	HK	5260	Optional
STOP FGC	Technical Manual Functional Group Code	HK	5260	Optional
CROSS REFERENCE INDEXES (Selected)				
RPSTL FUNCTIONAL GROUP CODE HEADERS (Throughput)				
OUTPUT				
SECTION II				
ITEM NO	Item Number	HK	2800	Required
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional
NSN ("Proof" only)	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	
CAGE	Commercial and Government Entity Code	HK	1520	Required
PART NUMBER	Reference Number	HK	4400	Required
DESCRIPTION AND USABLE ON CODE (UOC)	Item Name	HA	2790	Optional
	Parts Manual Provisioning Nomenclature	HK	4130	
	Usable On Code	XC	5790	
	Technical Manual Indenture Code	HK	5270	
(KIT COMPONENTS)	Next Higher Assembly Provisioning List Item Sequence Number	HH	4120	Required
	Next Higher Assembly Provisioning List Item Sequence Number Indicator	HH	3580	
QTY	Quantity per Assembly	HG	4190	Required if Quantity per Figure not selected
	Quantity per Figure	HK	4220	Optional, first precedence
FIG NO (DRAFT ONLY)	Figure Number	HK	2290	Optional
FGC (DRAFT ONLY)	Technical Manual Functional Group Code	HK	5260	Optional
PLCC (DRAFT ONLY)	Tools and Test Equipment List	HA	4110	Optional
NSN (DRAFT ONLY)	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	
PCCN (DRAFT ONLY)	System End Item Provisioning Contract Control Number	XC	4100	Required
PLISN (DRAFT ONLY)	Provisioning List Item Sequence Number	HG	4120	Required
SECTION III (When required)				
ITEM NO	Item Number	HK	2800	Required
SMR	Source Maintenance and Recoverability Code	HG	4830	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
CAGE	Commercial and Government Entity Code	HK	1520	Required
PART NUMBER	Reference Number	HK	4400	Required
DESCRIPTION AND USABLE ON CODE (BASIS OF ISSUE) RPSTL ONLY	Control	HM	1660	Required
	End Item Range	HM	2050	
	Organizational Level	HM	3780	
	Authorized Quantity	HM	1300	
QTY	Quantity per Assembly	HG	4190	Required if Quantity per Figure not selected
	Quantity per Figure	HK	4220	Optional, first precedence
FIG NO (DRAFT ONLY)	Figure Number	HK	2290	Optional
FGC (DRAFT ONLY)	Technical Manual Functional Group Code	HK	5260	Optional
PLCC (DRAFT ONLY)	Tools and Test Equipment List	HA	4110	Optional
NSN (DRAFT ONLY)	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	
PCCN (DRAFT ONLY)	System End Item Provisioning Contract Control Number	XC	4100	Required
PLISN (DRAFT ONLY)	Provisioning List Item Sequence Number	HG	4120	Required
SECTION IV				
CROSS REFERENCE INDEXES (Header)				
PART NUMBER INDEX (Sub-Header) When required				
CAGE	Commercial and Government Entity Code	HK	1520	Required
PART NUMBER	Reference Number	HK	4400	Required
STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number	HA	3520	
FIGURE NO	Figure Number	HK	2290	Required
ITEM NO.	Item Number	HK	2800	Required
NATIONAL STOCK NUMBER INDEX (Sub-Header) When required				
STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number	HA	3520	
FIGURE NUMBER	Figure Number	HK	2290	Required
ITEM NUMBER	Item Number	HK	2800	Required
REFERENCE DESIGNATION INDEX (Sub-Header)				
REFERENCE DESIGNATION	Reference Designation	HJ	4380	Required
FIGURE NUMBER	Figure Number	HK	2290	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ITEM NUMBER	Item Number	HK	2800	Required
FIGURE AND ITEM NUMBER INDEX (Sub-Header)				
FIGURE NO.	Figure Number	HK	2290	Required
ITEM NO. KIT	Item Number	HK	2800	Required
STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number	HA	3520	
CAGE	Commercial and Government Entity Code	HG	1520	Required
PART NUMBER	Reference Number	HG	4400	Required
STOCKAGE LIST TYPE FOUR - SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required only for USMC
ITEM NAME	Item Name	HA	2790	Required only for USMC
START LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	HG	2980	Required only for USMC
UOC	Usable On Code	HO/XC	5790	Optional
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
STOCK LIST NUMBER (Selected)				
STOCKAGE LIST TYPE FOUR - OUTPUT				
PART I - ITEM IDENTIFICATION LIST (Sub-Header)				
ITEM NO (Generated)				Automatically generated
MODEL	Usable On Code	XC	5790	Required only for USMC
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	
REF DESIG FIG-KEY	Reference Designation	HJ	4380	Optional
[REF DESIG CODE]	Reference Designation Code	HJ	4370	Required if REF DESIG selected
IND	Indenture Code	HG	2520	Optional
ITEM IDENTIFICATION	Item Name	HA	2790	Optional
UM	Item Unit of Measure	HA	5720	Required if APPL or PER EQUIP selected
QUANTITY (Sub Header)				
PER APPL	Quantity per Assembly	HG	4190	Optional
	System End Item Quantity per Assembly	XC		

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PER EQUIP	Quantity per End Item	HG	4210	Optional
	System End Item Quantity per End Item	XC		
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Optional
SSI (Manual)				
REPL FACTOR	Maintenance Replacement Rate I	HG	3060	Optional
CAGE	Commercial and Government Entity Code	HK	1520	Required only for USMC
REFERENCE NUMBER	Reference Number	HK	4400	Required only for USMC
TM CODE	Technical Manual Code	HJ/HK	5250	Required only for USMC
FIG NO	Figure Number	HJ/HK	2290	Required only for USMC
ILLUSTRATED PARTS BREAKDOWN (USAF) - SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
UOC	Usable On Code	HO/XC	5790	Optional
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
TM CODE	Technical Manual Code	HK	5250	Required
TM DESIGNATION	Technical Manual Number	XI	5280	Required
OPERATIONS/ MAINTENANCE LEVELS:	Source Maintenance and Recoverability Code	HG	4830	Required
ILLUSTRATED PARTS BREAKDOWN (USAF) - OUTPUT				
Figure & Index / Sheet No (Generated)				Automatically generated
PART NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HK	1520	Required
DESCRIPTION	Item Name	HA	2790	Optional
	Provisioning Nomenclature	HK	4130	Optional
UNITS PER ASSEMBLY	Quantity per Assembly	HG	4190	Required if Quantity per Figure not selected
	Quantity per Figure	HK	4220	Optional, first precedence
UOC	Usable On Code	XC	5790	Optional
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Optional

4.25.15 Format

The format shown in Figure 26 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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INDENTURED PARTS LISTINGS (LSA-030)

REPAIR PARTS AND SPECIAL TOOLS LIST

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HO/XC.uoc	HG.lcn
EIAC	ITEM NAME	START LCN	ALC	TYPE	UOC	STOP LCN
REFRIG UNT	COMPRESSOR ASSY	005	00	P		

SELECTION SUMMARY

HK.tmc	XI.tmn
TM CODE: TM2	TM DESIGNATION: TM-5-4110-300-24-P

HG.srcmtrcc

OPERATIONS/MAINTENANCE LEVELS:

CREW (C)	YES
ORGANIZATIONAL (O)	YES
DIRECT SUPPORT/AVIM (F)	YES
GENERAL SUPPORT (H)	YES
SPECIALIZED REPAIR ACTIVITY (L)	YES
DEPOT (D)	YES

RANGE ONE

HK.tmfgc	HK.tmfgc
START FGC	STOP FGC
0001	0001A

RANGE TWO

HK.tmfgc	HK.tmfgc
START FGC	STOP FGC
9501	9501

RANGE THREE

HK.tmfgc	HK.tmfgc
START FGC	STOP FGC

RANGE FOUR

HK.tmfgc	HK.tmfgc
START FGC	STOP FGC

SELECTED

CROSS REFERENCE INDEXES:	PART NUMBER	YES
	NATIONAL STOCK NUMBER	YES
	REFERENCE DESIGNATOR	YES
	FIGURE/ITEM NUMBER	YES

THROUGHPUT

RPSTL FUNCTIONAL GROUP CODE HEADERS

SECTION	TM	FUNCT	GROUP	SEQ	FUNCTIONAL GROUP CODE HEADER
2	0001	1	GROUP: 05		
		2	FIG 1 COMPRESSOR ASSEMBLY		
3	9501	1	GROUP: 95		
		2	FIG 27 SPECIAL TOOLS		

Figure 26 – Format for LSA-030, Indentured Parts List

SECTION II

TM-5-4110-300-24-P

REPAIR PARTS AND
SPECIAL TOOLS LIST

PAGE: 02

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(1) HK.itemno	(2) HG.srcmtrcc	(3) HK.cage	(4) HK.refno	(5) HA.itemname HK.pmpnom XC.uoc HK.tmid HH.nhaplissn HH.nhplisni	(6) HG.qpa HK.qtyfig	HK.figno	HK.tmfgc	HA.tte	HA.nsnfsc HA.nsnniin	XC.seipccn	HG.plisn
ITEM NO	SMR	CAGE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	FIG NO	FGC	PLCC	NSN	PCCN	PLISN
1	PAOFF	10855	6D23-522	VALVE PLATE ASSY UOC:DCY, FFA, AAB, AAC.....	1	1	0001		Y	A90B10	A101
2	PAFZZ	41947	A5051	NUT, TUB, COUPLING UOC:DCY, FFA, AAB.....	2	1	0001		Y	A90B10	A102
3	PAOZZ	31246	ENO748EAA3412378 12-24N	VALVE, SERVICE UOC:DCY, FFA, AAB, FF.....	1	1	0001		Y	A90B10	A103
4	PAFZZ	44282	123123123	CAP, TUBE UOC:DCY, FFA.....	1	1	0001		Y	A90B10	A104
5	KFOZZ	11215	6D43-1421	GASKET, VALVE PART OF KIT P/N 142-0033 UOC:DCY.....	2	1	0001		N	A90B10	A105

Figure 26 – Format for LSA-030, Draft Indentured Parts List (Continued)

SECTION II

TM-5-4110-300-24-P

REPAIR PARTS AND
SPECIAL TOOLS LIST

PAGE: 02

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(1) HK.itemno	(2) HG.srcmtrcc	(3) HA.fsc/HA.niin	(4) HK.cage	(5) HK.refno	(6) HA.itemname HK.pmpnom XC.uoc HK.tmid HH.nhaplissn HH.nhplisni DESCRIPTION AND USABLE ON CODE (UOC)	(7) HG.qpa HK.qtyfig
ITEM NO	SMR	NSN	CAGE	PART NUMBER		QTY
1	PAOFF	5310-00-894-3637	10855	6D23-522	VALVE PLATE ASSY UOC:DCY, FFA, AAB, AAC.....	1
2	PAFZZ	5315-00-127-8038	41947	A5051	NUT, TUB, COUPLING UOC:DCY, FFA, AAB.....	2
3	PAOZZ	5340-01-257-1761	31246	ENO748EAA3412378 12-24N	VALVE, SERVICE UOC:DCY, FFA, AAB, FF.....	1
4	PAFZZ	5315-00-288-2478	44282	123123123	CAP, TUBE UOC:DCY, FFA.....	1
5	KFOZZ	5310-00-078-9483	11215	6D43-1421	GASKET, VALVE PART OF KIT P/N 142-0033 UOC:DCY.....	2

Figure 26 – Format for LSA-030, Proof Indentured Parts List (Continued)

SECTION III

TM-5-4110-300-24-P

REPAIR PARTS AND
SPECIAL TOOLS LIST

PAGE: 03

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(1) HK.itemno	(2) HG.srcmtrcc	(3) HK.cage	(4) HK.refno	(5) HA.itemname HK.pmpnom XC.uoc HM.ctrl HM.eir HM.lorglvl HM.authqty DESCRIPTION AND USABLE ON CODE (UOC)	(6) HG.qpa HK.qtyfig	HK.figno	HK.tmfgc	HA.tte	HA.nsnfsc	XC.seipccn	HG.plisn
ITEM NO	SMR	CAGE	PART NUMBER		QTY	FIG NO	FGC	PLCC	NSN	PCCN	PLISN
1	PAODD	73785	GA9473512	DITMCO STATION	1	27	9501	D	Y	A90B10	T101
				UOC DCY.....							
				BOI 00002 A1							
				BOI 00004 B2							
				BOI 00003 F3							
2	PAOHH	01762	SN517832105	VOLTMETER, MICROWAVE	1	27	9501	D	Y	A90B10	T102
				UOC DCY.....							
				BOI 00001-24 1							
				BOI 0000225-48 2							
				BOI 0000349-100 3							

Figure 26 – Format for LSA-030, Indentured Parts List (Continued)

SECTION IV

TM-5-4110-300-24-P

REPAIR PARTS AND PAGE: 04

SPECIAL TOOLS LIST

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CROSS REFERENCE INDEXES

PART NUMBER INDEX

HK.cage	HK.refno	HA.nsnfsc HA.nsnniin	HK.figno	HK.itemno
CAGE	PART NUMBER	STOCK NUMBER	FIGURE NO	ITEM NO
41947	A5051	5305-00-225-8507	1	2
31246	EN0748EAA3412378	4820-00-316-2695	1	3
	12-24N			
73785	GA9473512	6680-01-122-8053	27	1
10855	MS27183-123	5315-00-925-8884	1	8
01762	SN517832105	6689-00-734-1394	27	2
44282	123123123	4320-01-345-9801	1	4
44940	6DKIT12-135	4130-00-328-2898	1	KIT
10855	6D23-522	3150-00-976-9943	1	1
25557	6D40-2163	4120-00-285-9801	1	6

NATIONAL STOCK NUMBER INDEX

HA.nsnfsc HA.nsnniin	HK.figno	HK.itemno	STOCK NUMBER	FIGURE NO	ITEM NO
STOCK NUMBER	FIGURE NO	ITEM NO	STOCK NUMBER	FIGURE NO	ITEM NO
5305-00-225-8507	1	2	5315-00-925-8884	1	8
4120-00-285-9801	1	6	3150-00-976-9943	1	1
4820-00-316-2695	1	3	6680-01-122-8053	27	1
4130-00-328-2898	1	KIT	4320-01-345-9801	1	4
6689-00-734-1394	27	2			

REFERENCE DESIGNATION INDEX

HJ.refdesc	HK.figno	HK.itemno
REFERENCE DESIGNATION	FIGURE NO	ITEM NO
CCHO415192AAAR	1	4
CCHO415192AABA	1	7
CCHO415192AACC	1	3
CCHO415311AA	1	1
CCHO415331AC-AAO/A128.32/YIL,121	1	6
31314		
CCHO41541512	1	2
CCHO419223AV	1	5
CCHO6121223T	1	8

Figure 26 – Format for LSA-030, Indentured Parts List (Continued)

FIGURE AND ITEM NUMBER INDEX

HK.figno	HK.itemno	HA.nsnfsc	HA.nsnniin	HG.cage	HG.refno
FIGURE NO	ITEM NO	STOCK NUMBER		CAGE	PART NUMBER
1	KIT	4130-00-328-2898		44940	6DKIT12-135
1	1	3150-00-976-9943		10855	6D23-522
1	2	5305-00-225-8507		41947	A5051
1	3	4820-00-316-2695		31246	EN0748EAA3412378
					12-24N
1	4	4320-01-345-9801		44282	123123123
1	6	4120-00-285-9801		25557	6D40-2163
1	8	5315-00-925-8884		10855	MS27183-123
27	1	6680-01-122-8053		73785	GA9473512
27	2	6689-00-734-1394		01762	SN517832105

Figure 26 – Format for LSA-030, Indentured Parts List (Continued)

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INDENTURED PARTS LIST (LSA-030)

STOCKAGE LIST TYPE FOUR

SELECTION SUMMARY

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	XF/XC.uoc	HG.lcn	SELECTED
EIAC	ITEM NAME	START LCN	ALC TYPE	UOC	STOP LCN		STOCK LIST NUMBER
REFRIG UNT	REFRIGERATION UNIT	0	00	P			SL-3-88643E

XF/XC.uoc
UOC(S): DCY, DCZ, ABC

MARINE CORPS STOCK LIST
PART I ITEM IDENTIFICATION LISTING

SL-4-88647E LSA-030, STOCKAGE LIST PAGE: 02
(IPL) TYPE FOUR
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1	2	3	4	5	6	7	8	9	10	11			
GENERATED	XC.uoc	HA.nsnfsc HA.nsniiin	HJ.refdes	HG.tmid	HA.itemname	HA.um	HG.qpa HG.qpei	HG.srctroc	HG.mrrri	HK.cage	HK.refno	HJ/HK.tmc	HJ/HK.figno
ITEM	NATIONAL STOCK	DESIG	REF	I	ITEM IDENTIFICATION	UM	PER PER	SMR S	REPL	FACTOR	CAGE	REFERENCE NUMBER	TMC
NO.	MODEL	NUMBER	FIG-KEY	D			APPL EQUIP	CODE I					NO.
1	DCY	3150-00-976-9943	001-0001	C	VALVE PLATE ASSY	EA	1 1	PAOFF	0.121	10855	6D23-522	TM2	2
2	DCY	5305-00-225-8507	001-0002	D	NUT, TUB, COUPLING	EA	2 12	PAFZZ	0.165	41947	A5051	TM2	2
3	DCY	4820-00-316-2695	001-0003	D	VALVE, SERVICE	EA	1 2	PAOZZ	0.123	31246	EN0748EAA3412378	TM2	2
											12-24N		
4	DCY	4320-01-345-9801	001-0004	C	CAP, TUBE	EA	1 1	PAFZZ	0.874	44282	123123123	TM2	2
5	DCY		001-0005	C	GASKET, VALVE	EA	2 2	KFOZZ	1.222	11215	6D43-1421	TM2	2
6	DCY	4120-00-285-9801	001-0006	C	HEAD, COMPRESSOR	EA	1 1	PAFZZ	0.367	25557	6D40-2163	TM2	2
7	DCY		001-0007	C	GASKET, HEAD	EA	1 1	KFOZZ	1.222	32145	6D43-1427	TM2	2
8	DCY	5315-00-925-8884	001-0008	C	WASHER, FLAT	EA	2 12	PAOZZ	0.321	10855	MS27183-123	TM2	2
9	DCY	5315-00-984-3521	001-0009	C	SCREW, CAP, HEX HD	EA	2 12	PAOZZ	0.321	10855	MS18802.35	TM2	2

Figure 26 – Format for LSA-030, Indentured Parts List (Continued)

Illustrated Parts Breakdown (USAF)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HO/XC.uoc	HG.lcn
EIAC	ITEM NAME	START LCN	ALC	TYPE	UOC	STOP LCN
REFRIG UNT	COMPRESSOR ASSY	005	00	P		

SELECTION SUMMARY

HK.tmc	XI.tmn
TM CODE:	TM DESIGNATION:
TM2	TM-5-4110-300-24-P

HG.srcmtroc	
OPERATIONS/MAINTENANCE LEVELS:	
CREW (C)	YES
ORGANIZATIONAL (O)	YES
DIRECT SUPPORT/AVIM (F)	YES
GENERAL SUPPORT (H)	YES
SPECIALIZED REPAIR ACTIVITY (L)	YES
DEPOT (D)	YES

GENERATED	HG.refno	HG.cage	HA.itemname HK.pmpnom	HG.qpa HK.qpf	XC.uoc	HG.srcmtroc
Figure&Index/ Sheet No.	Part Number	Cage	Description	Unit Per Assembly	UOC	SMR CODE
1	6DKIT12-135	10855	VALVE PLATE ASSY	1	DCY	PAOFF
2	6D23-522	41947	NUT, TUB, COUPLING	2	DCY	PAFZZ
3	6D40-2163	44282	HEAD, COMPRESSOR	1	DCY	PAFZZ

Figure 26 – Format for LSA-030, Indentured Parts List (Continued)

4.26 Defense Logistics Agency Logistics Information Services Provisioning Screening Summary (LSA-032)

4.26.1 Introduction

This summary provides a method to screen the Federal Logistics Information System (FLIS) for existing National Stock Numbers (NSNs) that match reference numbers associated with the system being provisioned. The NSNs identified by this summary can then be used to update logistics product data.

Many organizations with access to the FLIS use methods of screening submittals other than the LSA-032. [e.g., download of DLA's PUB LOG data, U.S. Air Force D155 system, U.S. Army Logistics Modernization Program, U.S. Navy Interactive Computer Aided Provisioning system, etc.].

4.26.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DS-84. Dictates an acceptable format.
- COMDTINST M4105.14. Establishes the provisioning of Coast Guard Equipment similar to MIL-STD-1388-1A/2B. It requires the use of DI-SESS-81714, Provisioning Screening Data, which refers to DS-84.
- DI-SESS-81714. The provisioning screening data is used to identify existing NSNs for an end item cataloged in the FLIS, validate currency of an NSN, and aid in maximum use of known assets.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Maintenance Task Analysis (Activity D.1).
- Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS). The interrogation process was developed to furnish authorized users of the FLIS with information from the data bank as required.

4.26.3 Tailoring

Who: This is a required delivery levied by some services and some programs on their contractors. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers, and Product Support Managers. Each of the U.S. military services provisioning systems have the ability to screen part numbers from an LSA-036 or other provisioning parts list internally, but these lists may have already been screened and reviewed by their contractors. The LSA-032 is still used by the U.S. military services in some instances to update their systems after NSNs have been requested from DLA Logistics Information Services (DLIS).

What: This summary should be used to screen manufacturers' reference numbers and match them to existing National Stock Numbers (NSNs) in DLA's Federal Logistics Information System (FLIS). Identifying NSNs for new systems helps reduce life cycle costs and enhances operational readiness of systems through standardization. The NSN data provided by this summary can be used to update logistics product data, which is useful in updating the LSA-036 Summary and other PTD such as the proof RPSTL and Authorization Lists.

When: Screening manufacturer's reference numbers to find and use existing NSNs is valuable early in the Definition Phase to capture the benefits of standardization. Screening is also important for updating the final LSA-036 summary data prior to producing it for use by the military services users performing the item-by-item parts reviews at provisioning conferences.

How: The LSA-032 matches the list of manufacturers' part numbers and Commercial and Government Entity Codes and matches them to the reference data in the FLIS to identify the corresponding NSN.

Why: This data screening supports standardization, helps prevent duplication of parts cataloged in the FLIS, identifies if the military service is currently a user of an existing NSN, and highlights the new parts needing to be cataloged as part of the initial provisioning process.

4.26.4 Scope

This summary provides a cross-reference between reference numbers selected for provisioning screening and the submitter's control number. DLIS screening is an optional requirement that is specified by contract. This summary provides a valuable tool for the screening of reference numbers against DLA's Federal Logistics Information System (FLIS) and the receipt of screening results from DLIS with respect to identification of National Stock Number Federal Supply Classification and National Stock Number National Item Identification Number.

4.26.5 Selection Options

Mandatory: EIAC, PCCN, Service Designator Code, Julian Date, Activity Code, Destination Code, Out Data Requirement Code, Single/Multiple Out Code, Type Screen Code, Statistical Indicator Code, Priority Indicator Code, LCN Type

Optional: ALC, Stop LCN, UOC, SMR Code, Additional Reference Number Selection Code, DIC Suppress, DSRC, Suppress, DLSC Submittal

4.26.6 Processing/Business Rules

This summary may be selected by LCN or System End Item PCCN, or both. At least one qualified Reference Number/CAGE Code combination must exist between the LCN range or be under the System End Item PCCN selected in order to produce the summary. When selecting by LCN range this summary may have items from multiple System End Item PCCNs.

- a. Items may be excluded from the summary by already having a screening result displayed in the DIC field. This means that if suppression is selected, any item that has a DIC code in the data repository will not be screened again, and therefore, not output on the summary. Items may also be excluded from the summary by having a result in DLA Logistics Information Services Screening Requirement Code (DSRC). The software system should allow suppression of up to five codes, A, B, C, D, and E. If an item contains one of these codes, i.e., "A", and "A" is selected to be suppressed on the selection card, then any item having an "A" DSRC will not come out on the summary.
- b. Part of the submitter control number is the System End Item PCCN/PLISN. The PLISN used is the lowest Extended Binary Coded Decimal Interchange Code (EBCDIC) valued PLISN for the item within the selected System End Item PCCN/LCN range (the Same as PLISN field is blank). If no System End Item PCCN/PLISN is recorded for an item, then a Type "1" error is displayed. No rows of data for the item are placed on Part II.
- c. If Additional Reference Number Select (ARN SEL) is "YES" and if the item has more than 24 Additional Reference Numbers (ARN), then error Type "2" is displayed. The first 24 Additional Reference Numbers in ascending Reference Number sequence are placed on Part II of the summary.
- d. If a specific SOURCE CODE is selected and the Source Maintenance and Recoverability Code is not contained against an item, at its first appearance, then error Type "3" is shown and the item is disqualified from Part II. The source code may be selected by its first position only in which case all corresponding second positions would qualify. For example, if one selects "P" source code, "PA", "PB", "PC", "PD", "PE", "PF", and "PG" source codes would qualify.
- e. If TYPE SCREEN CODE is "F" or "S", and if ARN SEL is "YES" and if an Additional Reference Number matches the prime Reference Number, then error type "4" is displayed. Only the duplicate Additional Reference Number is disqualified from Part II. In Part II of the summary, columns 41 and 42 are always left blank for "F" or "S" type screen.
- f. If TYPE SCREEN CODE [refer to Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS) for codes] is "P", and if either the Reference Number Category Code (RNCC) or Reference Number Variation Code (RNVC) is missing for the Reference Number/CAGE Code (Entity HA) or if ARN SEL is "YES" and there are any Additional Reference Number and CAGE Code (in Entity HB), then error Type "5" is displayed. If the RNCC/RNVC is an Additional Reference Number, only the Additional Reference Number is disqualified from Part II. If the RNCC/RNVC is the prime Reference Number, then the entire item is disqualified from Part II.
- g. ERROR CODE
 1. Missing PCCN/PLISN
 2. More than 24 Additional Reference Number/CAGE's for one Reference Number.
 3. Source Code (SMR) not recorded.
 4. Duplicate Reference Number/Additional Reference Number and CAGE's (F & S Type Screen).
 5. Missing RNCC/RNVC for P Type Screen.

Part I of the summary represents a human readable version of the summary. Part II is the electronic version of the summary that will result in an lsa_032.txt file for submission to the Defense Logistics Agency Logistics Information Services.

4.26.6.1 Definitions

- a. DOCUMENT IDENTIFIER CODE (DIC): A three-position alphanumeric code which is used for identifying interservice agency or intraservice agency logistic transactions. Reference Number and Commercial and Government Entity Code screening requests are identified by DIC "LSR". Items may be excluded from DLIS screening, if an entry showing a screening result, is already contained in the DIC field for the Reference Number and Commercial and Government Entity Code.
- b. PRIORITY INDICATOR CODE (PIC): A single numeric code used to designate the required priority to be applied to processing transactions [refer to Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS)].

- c. **ACTIVITY CODE:** A two-position alpha code identifying a DoD activity, Federal agency or other authorized government agency for cataloging, standardization or other management purposes [refer to Federal Logistics Information System (FLIS) CDTs].
- d. **DESTINATION CODE:** A five-position alphanumeric code used in conjunction with the activity code to register the address data for recipients of the results of provisioning screening [refer to Federal Logistics Information System (FLIS) CDTs].
- e. **OUTPUT DATA REQUEST CODE (ODRC):** A numeric series of established sets of data (Defense Integrated Data System output segments) identified by specific ODRCs and available for extraction from DLSC files for provisioning and preprocurement screening purposes [refer to Federal Logistics Information System (FLIS) CDTs].
- f. **SINGLE/MULTIPLE OUTPUT CODE:** A numeric code used by the submitter to indicate whether the results of screening are to be furnished to one or all of the recipients as registered under the applicable activity code and destination code [refer to Federal Logistics Information System (FLIS) CDTs].
- g. **SUBMITTER'S CONTROL NUMBER:** A 17-position computer assigned alphanumeric field peculiar to provisioning and preprocurement screening transactions which is used to control and reference the transactions. The number consists of a four-position julian date (YDDD), and a unique sequential 13-position number assigned for each Reference Number and Additional Reference Number package which is to be screened. The 13-position number consists of the selected Service Designator Code, PCCN, then PLISN.
- h. **STATISTICAL INDICATOR CODE:** A code designating whether data submitted for screening is required for provisioning or other services [refer to Federal Logistics Information System (FLIS) CDTs].
- i. **DIDS SEGMENT CODE:** This is the number of inputs segments that are required by DLIS for each record. This should always be a "2" to represent a fixed length record LSR (DIC) submittal.
- j. **PACKAGE SEQUENCE NUMBER (PSN):** The PSN is a three-character code used to indicate the quantity, sequence and interrelationship of cards related to a line item as within a package (i.e., applies to the same submitter's control number). If all line items submitted for screening are individually sequence in the submitters control number field, the PSN will always be "Z01". For Reference Number screening (DIC of "LSR") a maximum of 25 Reference Numbers may be submitted under the same SCN. In this instance the first record would have a PSN of "A01", the second "A02", the third "A03", etc, through "A24", and the last (25th) record would be "Z25". The last record in any package submitted under one SCN will always contain a "Z" in the first position of the PSN.

4.26.7 Sequence

The summary is sequenced in ascending Submitter Control Number. The first line lists information about the Prime Reference Number and the item's LCN/ALC and Source Maintenance and Recoverability Code of the first appearance item. Within this item are listed all Additional Reference Numbers in ascending Additional Reference Number sequence.

4.26.8 Data Source

The data sources listed in Table 29, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 29 – Data Sources for the DLIS Provisioning Screening Summary (LSA-032)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC	Usable On Code	HO/XC	5790	Optional
SERV DES (Selected, passthrough)				Required
PCCN	System End Item Provisioning Contract Control Number	XC	4100	Required
ACTIVITY CODE (Selected)				Required
DESTINATION CODE (Selected)				Required
OUT DATA REQ CODE (Selected)				Required
SGL/MULT OUT CODE (Selected)				Required
SOURCE CODE	Source Maintenance and Recoverability Code (1st two positions)	HG	4830	Optional
ARN SEL CODE (Selected)				Optional
TYPE SCREEN CODE (Selected)				Required
STAT IND CODE (Selected)				Required
PRI IND CODE (Selected)				Required
JULIAN DATE (Selected)				Required
DIC SUPPRESS	Document Identifier Code	HA	1950	Optional
DSRC SUPPRESS	DLA Logistics Information Services Screening Requirement Code	HA	1800	Optional
OUTPUT				
PART I - SUBMITTER'S CONTROL NUMBER - LCN CROSS REFERENCE LIST (Header)				
SUBMITTER CONTROL (Generated)	Julian Date			Required
	System End Item Provisioning Contract Control Number	XC	4100	
	Provisioning List Item Sequence Number	HG	4120	
REFERENCE NUMBER/ARN	Reference Number	HG	4400	Required
	Additional Reference Number	HB	1070	Required when available
CAGE	Commercial and Government Entity Code	HG	1520	Required
	Additional Reference Number Commercial and Government Entity Code	HB		
RNCC	Reference Number Category Code	HA	4390	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Additional Reference Number Reference Number Category Code	HB		
RNVC	Reference Number Variation Code	HA	4410	Required
	Additional Reference Number Reference Number Variation Code	HB		
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
SMR	Source Maintenance and Recoverability Code	HG	4830	Required
ERROR CODE(S) (Generated)				Automatically generated

4.26.9 Format

The format shown in Figure 27 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

Part I of the summary represents a human readable version of the summary. Part II is the electronic version of the summary that will result in an Isa 032.txt file for submission to the Defense Logistics Agency Logistics Information Services.

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DEFENSE LOGISTICS AGENCY LOGISTICS INFORMATION SERVICES (DLIS) SUBMITTALS

PROVISIONING SCREENING (LSA-032)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	SELECTED	XC.seipccn
EIAC	ITEM NAME	START LCN	ALC TYPE	STOP LCN		UOC	SERV DES	PCCN
REFRIG UNT	REFRIGERATION UNIT	0	00	P			ARMY	A90B10

SELECTED	SELECTED	SELECTED	SELECTED	HG.srcmtrcc (1st two positions)	SELECTED	SELECTED	SELECTED	SELECTED	SELECTED	HA.docidcd	HA.dlissrqc
ACTIVITY	DESTINATION	OUT DATA	SGL/MULT	SOURCE	ARN SEL	TYPE SCREEN	STAT IND	PRI IND	JULIAN	DIC	DSRC
CODE	CODE	REQ CODE	OUT CODE	CODE	CODE	CODE	CODE	CODE	DATE	SUPPRESS	SUPPRESS
MU	XMDSE	9910	4	PA	YES	F	A	4	0060	YES	A, B, C

ERROR CODE

- 1 - MISSING PCCN/PLISN
- 2 - MORE THAN 24 ADDITIONAL REFERENCE NUMBER/CAGES FOR ONE REFERENCE NUMBER.
- 3 - SOURCE CODE (SMR) NOT RECORDED.
- 4 - DUPLICATE REFERENCE NUMBER/ADDITIONAL REFERENCE NUMBER AND CAGES (F & S TYPE SCREEN).
- 5 - MISSING RNCC/RNVC FOR P TYPE SCREEN.

PART ONE

SUBMITTER'S CONTROL NUMBER - LCN CROSS REFERENCE LIST

GENERATED	HG.refno	HB.arn	HG.cage	HA.rncc	HA.rnvc	HG.lcn	HG.alc	HG.srcmtrcc	GENERATED
SUBMITTER CONTROL	REFERENCE NUMBER/ARN		CAGE	RNCC	RNVC	LCN	ALC	SMR	ERROR CODE (S)
0060AA90B10AACG	A123161142F-110		44940	5	9	005	00	PAOFF	
	1246-123		11267	5	2				
	41232/87AT		88714	3	2				
0060AA90B10AAEF	ER191923C-192		33251	3	2	0030201AA	00	PAOZZ	
	1121987/23-N		23231	5	9				
0060AA90B10AALG	C1219036-23		76743	3	2	00210AA	00	PAHZZ	
0060AA90B10AAM3	A18918234-45		34123	5	9	0010208AZ	00	PAFZZ	
	6565431		22178	5	2				
	ER12156/GH		33156	3	2				
	C120134		44569	5	9				

Figure 27 – Format for LSA-032, DLIS Provisioning Screening Summary

PART II

CARD IMAGE DLIS SCREENING

CARD COL	DESCRIPTION	CARD COL	DESCRIPTION
01-03	DOCUMENT IDENTIFIER CODE	LSR	32 TYPE SCREENING CODE F
04-06	PACKAGE SEQUENCE NUMBER		33-36 OUTPUT DATA REQ 9910
07	PRIORITY INDICATOR	4	37 STATISTICAL INDICATOR A
08-09	ACTIVITY CODE	MU	38 SINGLE/MULTIPLE OUTPUT 4
10-26	SUBMITTER CONTROL NUMBER		39 RNFC (LEFT BLANK)
10-13	JULIAN DATE	0060	40 DIDS SEGMENT CODE 2
14	SERVICE DESIGNATOR CODE	A	41 RNCC (P TYPE SCREEN)
15-25	PCCN-PLISN		42 RNVC (P TYPE SCREEN)
26	BLANK		43-47 CAGE
27-31	DESTINATION CODE	XMDSE	48-79 REFERENCE NUMBER/ARN
			80 CONTINUATION INDICATOR 1

1 2 3 4 5 6 7 8
0.....0.....0.....0.....0.....0.....0.....0.....0

LSRA014MU0060AA90B10AACG XMDSEF9910A4 2 44940A123161142F-110 1
 LSRA024MU0060AA90B10AACG XMDSEF9910A4 2 112671246-123 1
 LSRZ034MU0060AA90B10AACG XMDSEF9910A4 2 8871441232/87AT 1
 LSRA014MU0060AA90B10AAEF XMDSEF9910A4 2 33251ER191923C-192 1
 LSRZ024MU0060AA90B10AAEF XMDSEF9910A4 2 232311121987/23-N 1
 LSRA014MU0060AA90B10AALG XMDSEF9910A4 2 76743C1219036-23 1
 LSRA014MU0060AA90B10AAM3 XMDSEF9910A4 2 34123A18918234-45 1
 LSRA024MU0060AA90B10AAM3 XMDSEF9910A4 2 221786565431 1
 LSRA034MU0060AA90B10AAM3 XMDSEF9910A4 2 33156ER12156/GH 1
 LSRZ044MU0060AA90B10AAM3 XMDSEF9910A4 2 44569C12034

TOTAL 80-CARD COLUMN RECORDS TO DLIS: 10

Figure 27 – Format for LSA-032, DLIS Provisioning Screening Summary (Continued)

4.27 Preventive Maintenance Checks and Services Summary (LSA-033)

4.27.1 Introduction

The Preventive Maintenance Checks and Services (PMCS) are required for the operator and organizational level Technical Manuals and are based on the results of the reliability-centered maintenance analysis. This summary provides operator/crew and organizational level preventive maintenance task identification and description and equipment availability results.

PMCS are the primary building blocks and the starting point for maintenance operations. Equipment performance and condition observation by operators/crews is the basis for PMCS and requires documentation and reporting of findings. The equipment TMs require PMCS before, during, and after operation.

4.27.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Code of Federal Regulations (CFR) 14. Specifies requirements to identify preventive maintenance tasks.
- DoDI 5000.88 and DoDI 5000.91. Implementation of a reliability improvement program based on Failure Modes, Effects and Critically Analysis (or defect tracking for software), other engineering data developed during the systems engineering process, system health information generated by applicable on-board and off-board technologies, and data sources IAW DoDI 4151.22, Condition Based Maintenance Plus (CBM+) for Materiel Maintenance. Additionally, mature drafts of maintenance manuals are required at Initial Operational Capability/LOG DEMO.
- DoDM 4151.22-M. As part of the RCM analysis process, after consequences are assessed, the next step is to determine any proactive tasks that could be performed to predict, detect potential, prevent, or find failures. List a maintenance task or applicable action when it detects a potential failure, prevents a functional failure, or discovers a hidden functional failure. A maintenance task is considered effective when it reduces the risk of failure to an acceptable level. The consequences of failure must be used to determine task effectiveness.
- MIL-STD-40051-1 and MIL-STD-40051-2. The requirements to identify preventive maintenance tasks are required by policy, the data elements on the LSA-033 are identified as source data for TMs developed IAW MIL-STD-40051-1 and MIL-STD-40051-2.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. RCM analysis (Activity C.1.8), and Task Inventory (Activity C.1.9). RCM analysis consists of a systematic approach of analyzing system/equipment reliability and system safety data to determine the feasibility and desirability of preventive maintenance activities, to highlight maintenance problem areas for design review consideration, and to establish the most effective preventive maintenance program for the new system/equipment. Task requirements to satisfy the system/equipment's functional requirements which are not identified during the FMECA, FTA, and RCM analysis are generally system level activities.
- OPNAVINST 1500.76. Requires that a Navy Training System Plan (NTSP) be developed for all Acquisition Category (ACAT) I and Acquisition Category II programs to include the recording of preventive maintenance tasks.
- AR 750-1. Requires operator-level and leader-level preventive maintenance checks and services (PMCS) instruction is included in all training courses. Additionally, all PMCS, including field-level services, are scheduled and performed as required by the appropriate Technical Manual. Operator and/or crew performing PMCS is the cornerstone of the Army Maintenance System. Finally, PMCS task times will be recorded and maintained in the logistics data repository or other systems, as appropriate.
- DA PAM 750-1. States PMCS is crucial to the success of unit maintenance operations and is required by TMs [printed electronic technical manuals (ETMs) and interactive electronic technical manuals (IETMs)] before, during, and after operating the equipment. Through observation, an operator compares equipment performance and condition against an established technical standard and reports problems before they inhibit equipment performance.

4.27.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: During development, the data is used as the primary building blocks and the starting point for maintenance operations. Equipment performance and condition observation by operators/crews is the basis for PMCS and requires documentation and reporting of findings. The equipment TMs require PMCS before, during, and after operation.

When: SAE TA-STD-0017A, Activity C.1 usually begins in the Definition phase. Activities C.1.6, C.1.7, C.1.8, C.1.9 and C.1.10 may be deferred to the Development phase. During the Production and In-Service phases, Activity C.1 is generally only applicable to design changes.

This summary is often delivered as part of a contract, both as a complete summary and as input to technical manuals. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

How: The data on the LSA-033 summary are outputs of the Reliability-Centered Maintenance activities (SAE TA-STD-0017A and MIL-HDBK-502A, Activity C.1.6, Activity C.1.7, Activity C.1.8, Activity C.1.9, and Activity C.1.10). As part of the RCM process, after consequences are assessed, the next step is to determine any proactive tasks that could be performed to predict, detect potential, prevent, or find failures. List a maintenance task or applicable action when it detects a potential failure, prevents a functional failure, or discovers a hidden functional failure. A maintenance task is considered effective when it reduces the risk of failure to an acceptable level. The consequences of failure must be used to determine task effectiveness. [Department of Defense Manual (DoDM) 4151.22-M]

Why: Preventive maintenance tasks are the output of all RCM programs. PMCS are required in Operator Manuals per MIL-STD-40051-1 and MIL-STD-40051-2. Mature drafts of maintenance manuals are required at Initial Operational Capability/LOG DEMO.

4.27.4 Scope

This summary provides operator/crew and organizational level preventive maintenance task identification and description and equipment availability results.

4.27.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and TM Code

Optional: ALC, Stop LCN, UOC, TM Number, Service Designator Code, and Man Hour Column

4.27.6 Processing/Business Rules

Within the selected range of LCNs/TM Code Tasks, at least one Task Code must be present with a PMCS Indicator (PMCSIDCA) of "Y" in order to produce an LSA-033 summary. All PM tasks must have a PMCS Indicator of "Y" and have a "C" or "O" in the third position of the Task Code to be displayed on this output. If TM Code is selected, display only Task Codes which are associated with selected TM Code on Entity CH. Item Numbers (ITEM NO.) are assigned beginning with 0001 and increase incrementally by 1 as with each new LCN. The LCN Nomenclature is displayed under the column ITEMS TO CHECK/SERVICE

- a. Task Interval values are interpreted as follows: A, BEFORE, D, DURING; H, AFTER; C, DAILY; L, WEEKLY; P, MONTHLY; M, QUARTERLY; N, SEMIANNUALLY; Q, YEARLY; E, PERIODIC Maintenance interval, and asterisk. If the interval is B, SCHEDULED, then the BH entity Maintenance Interval Measurement Base are displayed under the INTERVAL column for the qualified task. The Measurement Base is interpreted on the summary, e.g., S, ROUNDS. If the summary is selected by TM Code, tasks are qualified to the PMCS summary by an associated PMCS indicator (Entity CA). If the summary is selected by LCN range, tasks are further qualified by maintenance level (Task Code third position) of Crew or Organizational). If more than one BH FMI/TASK reference the same PMCS Task Code, then the shortest numeric value Maintenance Interval is documented if all the MB are the same. The MB is interpreted, and an asterisk (*) is placed following the MB. If the MB are different then display the shortest Maintenance Interval for each MB. If the task interval is B and there is no associated BH entity maintenance interval, then the Interval column is completely filled with asterisks.
- b. Man-hour column is optional and may be omitted if there are no lubrication instructions combined with the PMCS.
- c. If there are multiple qualified PMCS Task Codes within a LCN an incremental alphabetic character is assigned prior to displaying all applicable subtask narrative. If a PMCS task has a Task Remark, this is displayed under NOT FULLY MISSION CAPABLE IF: column, directly across from the beginning of the subtask narrative. If this information is exceeds 30 positions, it is carried to the next line of the summary breaking the narrative at a space.

4.27.7 Sequence

The summary is sorted in ascending Task Code Interval in the order shown in Section 4.27.6a, then by ascending LCN. Each LCN is assigned a numeric item number beginning with "0001" (a new item number is assigned if an LCN appears twice, under two qualified tasks with different intervals). An alphabetic sequence code beginning with "A" is assigned to each Task for the same LCN with the same Task Code Interval. If the summary is selected by LCN range and TM Code, a page break is required between output of Operator/Crew level PMCS tasks and Organizational level PMCS tasks.

4.27.8 Data Sources

The data sources listed in Table 30, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 30 – Data Sources for Preventive Maintenance Checks and Services Summary (LSA-033)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
SEQUENCE BY SSC (Selected. Options include: Yes, No)				Optional
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code (matched via XF Entity)	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Optional
TM CODE	Technical Manual Code	CH	5250	Required
TM NUMBER	Technical Manual Number	XI	5280	Optional
MAN HOUR COLUMN (Selected)				Optional
OUTPUT				
[PMCS INDICATOR] (= “Y”)	Preventive Maintenance Checks and Services Indicator Code	CA	3970	Required
ITEM NO (Generated)	Logistics Support Analysis Control Number	XB	2970	Required
	Alternate Logistics Support Analysis Control Number Code	XB	1200	

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
INTERVAL	Task Code	CH	5110	Required
	Maintenance Interval	BH	3020	
	Maintenance Interval Measurement Base	BH	3380	
	Task Type ("P" or "U")	BH	5220	
MAN-HOURS	[Subtask Mean Man Minutes]	CD	3230	Optional (Calculated) 1 st precedence
	[Subtask Person Identifier]	CD	3890	
	[Subtask Number]	CD	4970	
	Measured Mean Man-Hours	CA	3220	Optional, 2 nd precedence
	Predicted Mean Man-Hours			Optional, 3 rd precedence
ITEMS TO CHECK/SERVICE	Logistics Support Analysis Control Nomenclature	XB	2950	Required
[SUBTASK NUMBER]	Subtask Number	CB	4970	Required
WARNING TYPE/CB SEQ NO.	Task Subtask Associated Narrative Type (If "True")	CLL	5200	Optional
	[Subtask Number]	CB	4970	Optional
	[Caution Warning Note Identifier]	CL	1483	Optional
	Task Subtask Associated Narrative	CLL	3510	Optional
DRAWING	Drawing	XT	1980	Optional
[DOCUMENT ID]	Document ID	XT/CLX	1940	Optional
[ORIGINATOR CODE]	Originator Code	XT/CLX	1520	Optional
[ISSUE NUMBER]	Issue Number	XT/CLX	2715	Optional
[SECURITY CLASS]	Security Classification	XT/CLX	4655	Optional
[CAPTION]	Caption	XT	1480	Optional
[DOCUMENT FILE EXTENSION]	Document File Extension	XT	1930	Optional
PROCEDURE	Subtask Description	CB	4960	Optional
NOT FULLY MISSION CAPABLE IF:	Task Remarks	CE	5180	Optional
	Task Remarks Reference Code	CE	5170	

4.27.9 Format

The format shown in Figure 28 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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PREVENTIVE MAINTENANCE CHECKS AND SERVICES (LSA-033)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcn	XB.lcn	XF/XC.uoc	CA.taskcode	CH.tmc	XI.tmn
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	TM CODE	TM NUMBER
REFRIG UNT	REFRIGERATION UNIT	0	00	P			ARMY	TM7	TM 5-4110-296-12

SELECTED

MAN HOURS

(1) GENERATED ITEM NUMBER	(2) BH.mainintv/ BH.mntinmtb INTERVAL	(3) CA.msdmnmhr/ CA.prdmnmhr MAN HOURS	(4) XB.lcn ITEMS TO CHECK/SERVICE	(5) CLL.tastanty CLL.tastasn XT.drw CB.subtdesc PROCEDURE	(6) CE.tskrrcd NOT FULLY MISSION CAPABLE IF:
0001	BEFORE		REFRIGERATION UNIT	A. CHECK FOR EVIDENCE OF LEAKAGE (OIL, FUEL, HYDRAULIC FLUID OR COOLANT) ON OR UNDER THE UNIT. B. CHECK COOLANT PRESSURE. ADD FREON TO APPROXIMATELY 20-22 PSI. C. VISUALLY INSPECT FOR LOOSE, MISSING OR DAMAGED PARTS.	CLASS III LEAKAGE IS EVIDENT (NO FUEL LEAKAGE IS ALLOWED) CLASS II LEAKAGE IS EVIDENT
0002	BEFORE		ENGINE	CHECK OIL LEVEL. ADD OIL UP TO FULL MARK ON	
0003	BEFORE		BELTS	VISUALLY INSPECT ENGINE DRIVE BELTS FOR FRAYED OR DETERIORATED CONDITION.	BELT MISSING OR BROKEN
0004	DURING		DOOR	CHECK FOR PROPER SEAL AND VACUUM.	DOOR DOES NOT REMAIN CLOSED
0005	WEEKLY		FUEL FILTER	DRAIN WATER AND SEDIMENT.	
0006	300 HOURS		ENGINE	DRAIN ENGINE OIL. REFILL CRANKCASE PER LO5-4110-296-12	

Figure 28 – Format for LSA-033, Preventive Maintenance Checks and Services

4.28 Provisioning Requirements Summary (LSA-036)

4.28.1 Introduction

This summary contains the data required for the accomplishment of initial and follow-on provisioning within the DoD. It contains that data required for review at the various provisioning conferences (e.g., Long Lead Time Items conference, provisioning conference, etc.) and is used in the selection procedures to identify repair parts requirements in support of the equipment to be fielded.

LSA-036 may include identification of the system breakdown, design change information, maintenance coding, overhaul rates, roll up quantities, maintenance replacement factors, and associated technical manuals.

The LSA-036, PTD is used by the customer for the identification, selection and determination of initial requirements and cataloging of support items to be procured through the provisioning process. The various types of provisioning lists are automatically produced using the SAE GEIA-STD-0007C, logistics product data software or Logistics Support Analysis Record software. Each service uses the LSA-036 text file for receipt of PTD as inputs to their in-house provisioning automatic data processing (ADP) system.

4.28.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DS-84.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Support System Tradeoffs and Sensitivity (Activities C.3.2 and C.3.3), Level of Repair Analysis (LORA) (Activity C.3.6), Supply Support (Activity D.1.8), Parts Screening (Activity D.1.11), DMSMS Management, Obsolescence Management, and Counterfeit Prevention (Activity E.1). Document the Provisioning Technical Documentation (PTD) in the LPD (SAE GEIA-STD-0007C), or equivalent format approved by the requiring authority. The development and maintenance of the PTD should be scheduled to ensure availability of information for tasks such as Level of Repair Analysis, Life Cycle Cost (LCC) analysis, and the delivery of PTD requirements IAW the Statement of Work (SOW) and contract CDRLs. The PTD contained in the LPD should include all required documentation and topdown/breakdown sequence for assemblies, subassemblies, and components for the system being provisioned.
- AR 700-18. The industry standard, SAE GEIA-STD-0007C provides for the identification and definition of provisioning data and the automated format for delivery of provisioning data (that is, SAE GEIA-STD-0007C XML Schema and LSA-036 Style Sheet format).
- DA PAM 700-127. Specifies PTD is required for all materiel acquired or modified under an Army acquisition program.
- CIM 4105.14. Establishes the provisioning of Coast Guard Equipment. It requires the use of DI-PSSS-81545 for submission of PTD to Interactive Computer Aided Provisioning System (ICAPS), which refers to DS-84.
- DI-SESS-81758A. This DID is required to be placed on contract (Identified in Block 4 of the applicable DD Form 1423 CDRL) to receive the LSA-036.seq PTD data file.
- DI-SESS-81759A. This is the DID to be placed on contract (Identified in Block 4 of the applicable DD Form 1423 CDRL) to receive the individual provisioning reports separately (i.e., ISIL, LLTIL, DCN, etc.).
- DoD 4100.39-M. Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS) provides definitions for cataloging data fields.
- NAVSUP P-719. Provides guidance on SMR coding.
- PSM Guidebook. Requires the PSM to identify, plan for, resource, and implement management actions to acquire repair parts, spares, and all classes of supply to ensure the best equipment and capability is available to support the Warfighter/maintainer when needed, at the lowest possible TOC. Description. Supply support consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. This means having the right spares, repair parts, and all classes of supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as, acquiring, distributing, and replenishing inventories.
- SAE EIA-649. Provides guidance on configuration management.
- DA PAM 738-751. Provides TMFGC guidance for aviation equipment.
- TB 750-93-1. Provides TMFGC guidance for ground equipment.

4.28.3 Tailoring

Who: Users may include: Commercial/Industry, Program Executive Offices, Program Managers and Product Support Managers. Every service requires contractual delivery of the PTD via the LSA-036, if the system procured will be organically supported.

What: Detailed input data for identification of logistics support resource needs is generated by other systems engineering functions; for example, RAM failure rates drive the calculation of the provisioning Maintenance Replacement Rates. Therefore, analysis, documentation requirements, and timing must be coordinated between the systems engineering programs to avoid duplication of effort and to assure availability of required input data.

When: Early in a program, supply support needs can be identified through documentation of only a few data products (e.g., Reference Number, CAGE, Item Name, PCCN, and UOC); later the total range of data products required to accomplish initial provisioning can be documented. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several analyses: Evaluation of Alternatives and Tradeoff Analysis (SAE TA-STD-0017A, Activities C.3.1, C.3.2, C.3.3 and C.3.6), Task Analysis (Activities D.1.8 and D.1.11), and DMSMS Management, Obsolescence Management, and Counterfeit Prevention (Activity E.1).

Why: Many downstream systems import the LSA-036 text file; U.S. Army's LMP, U.S. Navy's Interactive Computer Aided Provisioning System (ICAPS), U.S. Marine Corps' TDM-Catalyst system, Air Force's D220 Provisioning System, etc. It is the first step in provisioning process; material release.

4.28.4 Scope

This summary contains the data required for the accomplishment of initial and follow-on provisioning within the DoD. It contains that data required for review at the various provisioning conferences (e.g., long lead time items conference, provisioning conference, etc.) and is used in the selection procedures to identify repair parts requirements in support of the equipment to be fielded.

4.28.5 Selection Options

Mandatory: PCCN, Provisioning Technical Documentation, UOC

Optional: Multi-Configuration UOCs Assigned, Full Effectivity UOCs Suppress, Start and Stop PLISN Ranges, Provisioning Baselined, Quantity per End Item Calculated, NHA PLISN for overhaul, and Part III reporting

4.28.6 Processing/Business Rules

All records matching the selected PCCN are extracted for LSA-036 processing. They are further qualified by the selected Type of PTD List (refer to DTN 4170 for provisioning summary selections). If the records are disqualified because of no match on either Type of PTD List or UOCs selected, these are counted for the Header page summary and are displayed in the LSA-036, Part II.

- a. The following "header" data required to identify the specified list(s) are not a part of the data but are contained in the LSA-036 summary.
 1. Procurement Instrument Identification (PII). A 19-position alphanumeric entry used to identify a specific contractual document. The PII includes the procurement instrument identification number (PIIN) (13 positions) and the supplementary procurement instruction identification number (SPIIN) (6 positions).
 2. Nomenclature of model or type number. A 21-position alphanumeric entry used to specify the name, model, or type of equipment being provisioned.
 3. Control Data. A ten-position alphanumeric entry used for control information as specified by the requiring authority. This information may consist of such items as identification of provisioning data in SAE GEIA-STD-0007C format or a Weapons System Code.
 4. Prime Contractor's CAGE Code. A five-position alphanumeric entry which identifies the prime contractor for the equipment being provisioned.
 5. Submission Control Code. A five-position numeric entry used to control the submission of provisioning data. The first submission will be 00001 and each subsequent submission is to be numbered sequentially, one greater than the prior submission.
 6. Date list submitted. A six-position, numeric entry used to identify the date of submission. The first two positions will identify the year; the next two will identify the month, and the last two will identify the day.

- b. The summary will display the following provisioning summary control data:
1. Card Sequence Number (CSN). A two-position numeric code which is used to sequence multiple data input cards for a specific card format indicator. The initial card entry is coded 01. Subsequent cards are coded 02 to 99.
 2. Card Format Indicator (CFI). A one-position alphabetic code: A-H, J-M used to identify a card format and content, see Figure 29.
 3. Reference Designation Overflow Code (RDOC). A one-position alphabetic code: A and B used to link a long Reference Designation which exceeds 32 characters. Code "A" is entered against the first 32 characters, and code "B" is entered against the last 32 characters.

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c. Processing of UOCs.

1. Basic UOC display capability. The UOCs (DTN 5790) are selected for summary generation. When a hardware part, assigned a PLISN item, is qualified by basic System End Item PCCN selection, it must be further qualified by matching through Entity HO to at least one selected UOC. The UOCs are then displayed on the LSA-036 summary.
2. Multiple Configuration UOC. A one, two, or three-position alphanumeric code that indicates the configuration(s) of a system/equipment on which the item under analysis is used based on its UOC assignments. For example Entity XC defines the following models and the corresponding UOC:

Model	Usable On Code
1A	A
1B	B
1C	C

A single UOC is assigned to each item's application based on the number of model configurations that the item is used on and defined in Entity HO. Then the following multiple configurations are then assigned by the LSA-036 system.

Multi-models	Usable On Codes
Both 1A and 1B	D
1B and 1C	E
1A and 1C	F
1A, 1B, and 1C	blank

For example, from Entity HO, a LCN with value "X" shows a usage on both models 1A and 1C. Then the UOC contained on the LSA-036 is "F". The generated combinations of model UOCs is shown on the header page of the LSA-036 summary.

3. Full Effectivity UOC Suppression. If the user specifies that when the selected UOCs match a qualified record on every UOC, then no UOC are displayed on the D card. These are matched from Entity HO to the selected UOCs. (For all UOC combinations of a PCCN in XC).
4. Serial Number UOC (DTN 4700) display. If the user documents Serial Numbers for a model and the associated Serial Number UOCs (Entity XD), and also documents each item's relationship to the Serial Number UOCs via Entity HN, then these UOCs are displayed on the "D" card instead of the XC/HO UOCs. On the LSA-036 header page, a display is made of the following:

ITEM DESIGNATOR	SERIAL NUMBER		UOC
(XC)	FROM (XD)	TO	(XD)
C18	SN001	SN015	A
	SN017	SN017	B
	SN062	SN071	C
C18A1	SN016	SN016	E
	SN018	SN061	F

d. Overhaul PLISN and Overhaul Replacement Rate (ORR) Assignment.

1. The overhaul PLISNs may be assigned during the LSA-036 summary preparation based on the item having a P-source code, an ORR entry, and at least one of its higher assembly PLISN having an SMR Code of P--D-. Only those higher assembly PLISNs and with an SMR code of P--D- will be assigned overhaul PLISNs.

NOTE: The Overhaul Replacement Rate (ORR) calculation is not compatible with the Overhaul Replacement Quantity (defined by an overhaul_replacement_indicator of "Q").

2. The ORR is an estimate of the percent of time that a support item will be replaced at the NHA during Overhaul. It is manually entered in Entity HH against its NHA. This base ORR of the item is multiplied by the QPA for each succeeding indenture level, beyond the NHA, using the following approach for assignment:

PLISN	IC	SMR	QPA	NHA PLISN	NHA-IND	ORR
CFFF	F	PADZZ	0002	CEAA	N	005
CEAA	E	PAODD	0002	CDEE	N	002
CDEE	D	PAFDD	0003	CCDD	N	
CCDD	C	PAOHH	0001	CB12	N	003
CB12	B	PAFDD	0002	AAAA	E	006
AAAA	A	PAODD	0001			

For PLISN CFFF, the Overhaul PLISNs and associated ORRs are:

OVERHAUL PLISN	ORR
CEAA	005
CDEE	010 = 0002 (QPA of CEAA) * 005
CB12	030 = 0003 (QPA of CDEE) * 0001 (QPA of CCDD) * 010
AAAA	060 = 0002 (QPA of CB12) * 030

NOTE: In this example, PLISN CEAA is the item's immediate NHA PLISN and, therefore, no calculation is needed. The PLISN CCDD is used in the calculation, but its ORR does not appear in the report because it has SMR code PAOHH. The PLISN CCDD is disqualified because it is SMR coded PAOHH. These Overhaul PLISNs in the HH entity will come out on the same card that contains the items actual NHA having an "N", "B", "C", OR "E" NHA PLISN indicator. If the QPA is a "V" or null, an error message should appear on Part II of this report and ORR processing for that PLISN should quit.

- e. Quantity per End Item may be computed during the LSA-036 summary preparation using the formulas provided in the data definitions and/or SAE GEIA-STD-0007C software.
- f. When there is more than one PLCC list value available for use in the summary, the lowest alphabetic value present will be used. All others will be ignored.
- g. Part II, Standard Edit List.
 1. This section is automatically produced when the summary is produced. The standard section lists those PLISN matching the S/EI PCCN selected which were disqualified or would degrade the provisioning list. This list must be reviewed by the user to ascertain what corrections, if any, are needed to update the parts related data for subsequent update(s) to the provisioning list.
 2. Two optional part III listings are also available. Option 1 provides selectable provisioning data edits for U.S. Army customer use. Option 2 contains U.S. Air Force L card data formats to merge with the basic A-K cards.
- h. PLISN range selection.
 1. The user may select Start and Stop PLISN Ranges for inclusion in the summary.
 2. Both the Start and Stop PLISN and all qualified PLISNs between are included on the summary.
 3. All other PLISNs are excluded.
- i. LSA-036 (PCCN.txt) Update and Design Change Notices.
 1. There are five basic types of LSA-036 updates which can result when logistics product data is added, changed, or deleted affecting provisioning lists (PL) previously delivered. These transactions can be automatically generated by establishing baseline records upon initial submission of the PCCN.txt file. The LSA-036 change transactions are

based upon a comparison of the current logistics product data provisioning-oriented data, and provisioning data baselined by a previous PCCN.txt file submittal. The results of the comparison would be an PCCN.txt change file. The following paragraphs define how each type of change is processed.

- **Standard Data Update.** For each provisioning element affected by data that has been added or changed since the previous provisioning data set delivery or update, mandatory data, i.e., S/EI PCCN, PLISN, CSN, and CFI, an "M" TOCC and the added/changed data only are entered. If data has been deleted, a "G" is entered in the S/EI TOCC and in the left most position of each field deleted. Data deletions and changes/additions must be addressed separately in the Isa036.txt file.
- **When an entire PLISN and related data is deleted,** a delete transaction will be generated consisting of the appropriate S/EI PCCN, PLISN, CAGE, Reference Number, and a "D" TOCC on the 01A card. Also, if the reference designation exists, it is displayed with the S/EI PCCN and PLISN on the 01D card with a "G" TOCC. In addition, if any change authority related information is changed, CFIs "F", "G", and "H" update transactions are also processed.
- **Quantity Data Update.** If a quantity field is updated, mandatory data, a "Q" type of change code, and the updated quantity data field(s) are entered. This will only apply to the following data: QPA, QPEI, Total Quantity Recommended, Allowance Item Quantity, Minimum Replacement Unit (MRU), Recommended Initial System Stock Buy (RISS), Recommended Minimum System Stock Level (RMSSL), Recommended Tender Load List (RTL) Quantity, Quantity Shipped, Quantity Procured, and Prorated Quantity. If quantity data is deleted, a change card is entered with a zero filled quantity and TOCC "Q".
- **Key Data Update.** Certain provisioning data are considered key and associated data elements. Changes to key data requires the submission of both a delete and change for the appropriate key data. The deletion should contain a "G" TOCC and the original key data. The change should contain an "M" Type Of Change Code with new key data and applicable associated data. Deletion of key data will result in deletion of the corresponding associated data.

<u>KEY DATA</u>	<u>ASSOCIATED DATA</u>
(1) CAGE and Additional Reference Number	RNCC and RNVC
(2) NHA PLISN	ORR, NHA IND.
(3) Usable on Code	None
(4) Reference Designation	RDOC RDC
(5) Provisioning List Category Code	None
(6) Change Authority Number	Serial Number Effectivity Prorated ELIN Prorated Qty IC, Replaced or Superseding PLISN, R/S IND, DCN UOC TIC Quantity Shipped Quantity Procured
(7) Serial Number Effectivity	None
(8) DCN UOC	None
(9) TM Code	Figure Number Item Number
(10) TM Code, Figure Number Item Number TM FGC	Basis of Issue TM Change Number, TM Ind Cd Qty Per Fig Provisioning Nomenclature

(11) BOI-CTRL

BOI-QTY-AUTH
BOI-EI, BOI-LVL

- Associated Data Update. Changes to associated data requires the submission of a change card consisting of an "M" TOCC with the changed data and entry of the applicable key data. Deletion of associated data requires the submission of a deletion card with a "G" TOCC, a "G" in the left-most position of the associated data field and entry of the key data.
 - Design Change Notices (DCN). DCN information is not distinguished from other updated data for a particular LSA-036 update using a validated data repository ADP system. DCNs can be processed as a separate and distinguishable summary by specifying that DCN affected data must be processed as an exclusive update, i.e., by performing an LSA-036 update, entering the DCN information into the data repository, and by again running an LSA-036 update. An option to obtain an LSA-036 summary for updated data pertaining to specific Design Change Authority Numbers is provided on the LSA-036 options. DCN information updates are similar to other update transactions with the following exception. When a Change Authority Number and Serial Number Effectivity are entered, an "L" TOCC is entered for the replaced item. If a quantity change occurs on a limited effectivity item, an "L" TOCC is entered in lieu of a "Q".
- j. LSA-036, Part II, Standard Edit List. This section is automatically produced when an LSA-036 is requested. The standard section lists those PLISNs matching the PCCN selected which were disqualified or would degrade the provisioning list. This list must be reviewed by the user to ascertain what corrections, if any, are needed to update the parts data entities for subsequent update(s) to the provisioning list.
- k. Two optional part III listings are also available. Option 1 provides selectable provisioning data edits for U.S. Army customer use. Option 2 contains U.S. Air Force L card data formats to merge with the basic LSA-036 A-K cards.

Table 31 – Standard Edit List

EDIT #	PROVISIONING EDITS
010	* 010 Choose this edit when ensuring Item Names are populated. The Item Name is mandatory for provisioning lists. It is used as a secondary means of item identification and provisioning screening. Item Names are required for items which require new National Stock Numbers assigned.
020	* 020 Choose this edit when ensuring the Unit of Measure and/or the Unit of Measure Price is populated. The Unit of Measure (UM) and UM Price are required for provisioning demand-based and/or sparing to availability models.
030	* 030 Choose this edit to ensure the Usable On Code is exactly three positions. MIL-STD-1388-2B allows the Usable on Code to be a one, two, or three position code. However, LMP dictates that the UOC is a three character, fixed position code. Note: The UOC Suppress must be turned off for Army LSAR-036 runs.
040	* 040 Use this edit to identify any missing Indenture Codes. Indenture Codes help to identify the top-down and lateral descending breakdown of the provisioning data.
050	* 050 Choose this edit to identify missing Reference Number Category Codes (RNCC) or if there are multiple drawings (D), or specifications (C) or (7) RNCCs. All Additional Reference Numbers (ARN) must each have an associated RNCC and for the same HA Reference Number and CAGE combination, HB Alternate Reference Numbers can have no more than one drawing and one specification number Reference Number Category Code. LMP requires identification of specific ARNs associated with drawings and specifications by RNCC in order to place these numbers in the correct "reserved" card sequence number locations in the Provisioning Master Record.
060A	* Use this edit to identify missing Essentiality Codes (EC). EC must be entered for all items. Essentiality Code is used by Sparing to Availability Models to identify items critical to the Systems Operation.
060B	* Use this edit to identify missing Essentiality Codes (EC). This edit requires an Essentiality Code on all items with a SMR Source Code (positions 1 and 2) of PA, PC, or PG. Essentiality Code is used by Sparing to Availability Models to identify items critical to the Systems Operation. Army LMP mandates essentiality codes for all items.
070	* 070 This edit identifies missing any Shelf Life entries.

Table 31 – Standard Edit List, Continued

080	* 080 Use this edit to ensure the National Stock number is exactly thirteen positions. The Federal Supply Classification and National Item Identification Number must either both be blank or both have entries. The National Stock Number is comprised of the National Item Identification Number and Federal Supply Classification Number. NSNs are assigned under the Federal Cataloging Program/North Atlantic Treaty Organization (NATO) codification of equipment system to each approved item. This edit requires that the complete NSN (FSC and NIIN) but not the NSN prefix or suffix data be provided.
085	* 085 This edit is used to identify missing NSN Federal Supply Classifications for items when the SMR Source Code (positions 1 and 2 of the SMR Code) is PA, PC, or PG.
090	* 090 Use this edit to identify missing Unit of Issue, Unit of Issue Price and Unit of Issue Conversion Factor when an item's Source Maintenance, and Recoverability Code (SMR) Source Code (position 1) is P - Procured Item. The UI, UI Price and UI Conversion Factor are required for those items that are procured in order to produce certain reports including the LSAR-036 report (Provisioning Requirements).
100	* 100 Use this edit to identify any missing entries in the field Quantity per Unit Pack (QUP). This field is used for packaging and provisioning requirements.
110	* 110 Use this edit to ensure that the SMR is blank.
120	* 120 Use this edit to identify missing Source, Maintenance, and Recoverability Code (SMR) codes or codes that are not allowed by the Army. This edit ensures the Source Code portion of the SMR (positions 1 and 2) are not MG or AG. This edit also identifies incorrect codes in position 3 (Maintenance Removal) of the SMR. Allowed code in position 3 (Maintenance Repair) are C, O, F, H, K, L, and D. Allowed codes in position 4 are C, O, F, H, K, L, D, Z, and B. Allowed codes in position 5 (Recoverability Code) are C, O, F, H, K, L, D, Z and A. Code G is not allowed in positions 2 - 6. SMR Source Codes (positions 1 and 2) MG and AG are for Navy use only. Code G is not allowed in positions 3 - 6. G is for Navy use only.
130	* 130 Use this edit to evaluate the SMR Maintenance Level Codes SMR (positions 3 and 4) for compatibility. The following combinations of maintenance (remove) 3rd position and maintenance (repair) 4th position of the SMR are invalid: DO, DF, DH, HO, HF, and FO, LO, LF, LH, KO, KF, KH. *This is not an all inclusive list, please refer to AR 700-82/SECNAVINST 4410.23/AFMAN 21-106.
140	* 140 Choose this edit to identify inconsistencies with the Source, Maintenance, and Recoverability Code (SMR) Code. Position 3 of the SMR Code must be D when positions 1 and 2 are K and D, respectively. SMR Source Code (positions 1 and 2) indicate that this is an item of depot repair/overhaul kit a Maintenance Removal Code (position 3) of D indicates that support items that are removed, replaced, used at depot only.
150	* 150 Use this edit to evaluate SMR Code positions, 4 and 5. When option B is selected, this edit indicates where SMR Maintenance Code (position 4) and Recovery Code (option 5) are not equal. Under SMR Edit Option B, the SMR Code position 4 and position 5 must be equal. Or SMR position 4 must be B. Or position 5 must be A.
160	* 160 Choose this edit to show where the SMR Maintenance and Recovery Codes (positions 4 and 5) are not compatible. The following combinations are permitted in positions 4 and 5 of the SMR: B-, -A, OO, OF, OH, OK, OL, OD, FF, FH, FK, FL, FD, HH, HK, HL, HD, KK, KL, LK, KD, LL, LD, DD, and ZZ
170	* 170 Choose this edit to identify when the MTD (Maintenance Task Distribution) is not compatible with positions 3 and 4 of the SMR (Source, Maintenance, and Recoverability Code). The MTD is a mandatory entry for all PA, PC, or PG source coded items (1st and 2nd position of the SMR) when SMR position 4 is not Z or B. Otherwise the MTD should be blank. Allowable SMR values are based on the following order: C, O, F, H, K, L, (or L, K) and D and the SMR 3rd and 4th position range. SMR position 4 must have a comparable MTD subfield entry. When the SMR Code position 4 is K, a value must be entered in the L MTD subfield. When the SMR Code position 4 is C, a value is entered in the O MTD subfield. Additionally, the sum of all MTD subfields must equal 100. The Condemnation Below Depot (CBD) value is entered when position 4 of the SMR is a value other than D and the Condemnation At Depot (CAD) value is entered when position 4 the SMR is equal to D. Code G is not allowed.

Table 31 – Standard Edit List, Continued

180	* 180 Choose this edit to locate Maintenance Task Distribution fields that contain a value when the Source, Maintenance, and Recoverability (SMR) Source Code (positions 1 and 2) are other than PA, PC, or PG. The MTD cannot be blank when the SMR Code Source Code is other than PA, PC, or PG. These Source Codes indicate the item is procured and stocked for later use. The MTD indicates the percentage of a repairable item expected to be repaired and returned to stock by a specified maintenance level. The field is divided into subfields by maintenance level.
190	* 190 Use this edit to identify when the Source, Maintenance, and Recoverability Code (SMR) and Replacement Task Distribution (RTD) are not compatible. For example: all PA, PC, and PG SMR Source Coded items must have an RTD. Otherwise, the RTD should be blank. Allowable SMR values are based on the following order: C, O, F, H, K, L, (OR L, K) and D and the SMR 3rd and 4th position range. The Replacement Task Distribution for items where the 4th position of the SMR is Z allows all subfields greater than the 3rd position of the SMR to be utilized. The 3rd position of the SMR must have a comparable RTD subfield entry. For example, for SMR K, a value is entered in "L RTD" subfield. For SMR C, a value is entered in "O RTD" subfield. G is not allowed. RTD Subfield totals must equal 100 percent. (Global Edit)
200	* 200 Choose this edit to ensure the Replacement Task Distribution (RTD) is not blank when the Source, Maintenance, and Recoverability Code (SMR) positions 1 and 2 are other than PA, PC or PG. Replacement task distribution (RTD) is the estimated percentage of the removals and replacements of an item that will be accomplished at each specified maintenance level. RTD is used in provisioning demand-based requirements computations. SMR Source Codes other than PA, PC, or PG are not considered in the requirements determination process.
210	* 210 Use this edit to locate missing Maintenance Replacement Rates (MRR) One (I), Two (II), and Modifier (MOD) from those items with an SMR Source Code of PA, PC or PG. These Source Codes indicate the item is procured and stocked for later use. The MRR is the replacement rate of the line item. The MRR II Wartime, MRR I Peacetime and MRR Modifier fields must have an entry to determine the rate of replacement for a program.
213	* 213 Choose this edit to identify if an Interchangeability Code (IC) has been selected when Design Change Information (Table HP) data exists for the item. Also, if an IC has been selected, a Replaced or Superseding PLISN must also exist for the item. When an item has design changes, there must be a replaced/superseding PLISN to indicate what items is a replaced or new item from the original design. Also, the Interchangeability Code indicates how the items are interchangeable.
220	* 220 This edit ensures the Maintenance Replacement Rates (MRR) and Modifier are blank except in certain cases. Use this edit to ensure the data conforms to the following scenarios: Correct - MRRs and Modifier - Blank when PAD--, PCD--, or PGD--. - MRRs and Modifier - Have values when PA---, PC---, or PG--- Except when 3rd position is D. - MRRs and Modifier - Blank with all other SMR Codes. If the data does not conform to these scenarios an error is generated on the edit report.
230	* 230 Choose this edit to ensure the Source, Maintenance, and Recoverability Code (SMR) and Demilitarization Code (DEMIL) are either both blank or both have entries. LMP requires that items that are coded with an SMR, must also be coded with a DEMIL code indicating the degree of demilitarization required.
240	* 240 This edit shows where the Production Lead Time is missing for a particular item. Production Lead Times are the computed or expected time interval in months between placement of a new contract and shipment of the first deliverable quantity. This field is used to satisfy DI-ILSS-81285 (Cancelled), Long Lead Times Item List.
250	* 250 Use this edit to identify missing Physical Security and Pilferage Codes. This code indicates the security classification or pilferage control for physical assets.
251	* 251 Use this edit to identify when the Quantity per Assembly field is blank. Quantity per Assembly is not a key field; however, the field plays an important role in provisioning. LMP requires that the quantity per assembly is entered for items. The Quantity per Assembly is the standard value that is displayed in the RPSTL.

Table 31 – Standard Edit List, Continued

260	* 260 Use this edit to identify missing Next Higher Assembly Provisioning List Item Sequence Numbers (NHA PLISN) for items other than Provisioning Indenture Code A or when the NHA PLISN does not have an associated NHA PLISN Indicator of N, B, C, or E. NHA PLISNs must have NHA PLISN Indicator for the Immediate Next Higher Assembly, Major Component, both a NHA and Major Component, or an End Item. *This is not applicable to Army LMP.
261	* 261 Choose this edit to identify where more than one NHA PLISN exists with a Next Higher Assembly Provisioning List Item Sequence Numbers (NHA PLISN Indicator) value of N, B, C, or E. Per this edit only one NHA PLISN can exist when the NHA PLISN Indicator is Immediate Next Higher Assembly, Major Component, both a NHA and Major Component, or an End Item. *This is not applicable to Army LMP.
270	* 270 Choose this edit to identify missing Quantity per Assembly (QPA) or Quantity per End Item (QPEI). The QPA must be greater than zero. Per this edit, both the QPA and the QPEI must be entered for an item. Additionally, the QPA must be greater than zero as the QPA is used in calculations. *Not applicable to Army LMP.
280	* 280 Use this edit to identify where one or more of the MR Rates or Modifiers is missing. When a value is entered for the MRRI, II, or modifier, all three must be entered. The MR Rates and the modifier are used in calculating replacement rates under various conditions and at various levels. MRRI is the peacetime replacement rate factor for the item indicating the number of expected failures. MRRII is the replacement rate of the line item per wartime operating program. The modifier is a series of codes used to modify (multiply) the MRR for environmental conditions by area of system/equipment deployment.
290	* 290 This edit identifies when a Reference Designation Code (RDC) equals A, U, F, C, Z, H, T, R, and S. H, T, or S codes are used for non-Army services. R is used only for items that are not required to be identified with a reference designation.
300	* 300 Use this edit to identify where the Allowance Item Code (AIC) first position is not A or the AIC Quantity is blank except when the 1st and 2nd positions of the AIC are AD. This edit should be used to identify those items that are not Army expendable/durable supplies or materials and there is no AIC quantity associated. The first position of the AIC indicates the type of item. A indicates the item is an Army item. The AIC Quantity is defined by the Allowance Item Code. AIC AD means the item is an Army expendable/durable supply or material.
305	* 305 This edit identifies when the Reference Number Category Code (RNCC) is a value other than the allowed values of 1, 2, 3, 4, 5, 6, 7, 8, A, C, D, E, or blank. RNCC numbers are available in the Cataloging Data and Transaction Standards (CDTS), Volume 10. The RNCC is a code assigned to the reference number to indicate the category or relationship of the number to an NSN or another reference number.
306	* 306 This edit identifies when the Reference Number Variation Code is a value other than the allowed values of 1, 2, 3, or blank. RNVC numbers are available in the Cataloging Data and Transaction Standards (CDTS), Volume 10. The RNVC is a code assigned to a reference number to indicate that the cited number is item identifying, is not item identifying or is a reference number for information only.
307	This edit identifies when the Reference Number Variation Code value is blank. RNVC numbers are available in the Cataloging Data and Transaction Standards (CDTS), Volume 10. The RNVC is a code assigned to a reference number to indicate that the cited number is item identifying, is not item identifying or is a reference number for information only.
310	* 310 Use this edit to identify where the Next Higher Assembly PLISN is alphanumerically (EBCDIC sequence) higher than the PLISN on which it is contained. The Next Higher Assembly PLISN must be alphanumerically lower than the associated PLISN. Extended Binary Coded Decimal Interchange Code (EBCDIC sequence) example; AAAA, AAAJ, AAAJA, ABJAA, AJA1. *For Army LMP, "A" indenture PLISNs must be in the PLISN range of AAAA-AAAHZ.
316	* 316 Choose this edit to identify where the first character of the remarks field is blank. The first character in the remarks field cannot be blank.
318	* 318 This edit identifies missing or unallowable Demilitarization Codes. Allowable Demilitarization Code are A, B, C, D, E, F, G, P, and Q. Applicable codes are identified in DoDM 4160.28-V2 .

Table 31 – Standard Edit List, Continued

320	* 320 Use this edit to ensure Indenture Codes of asterisk (*) are associated with two NHA PLISNs. One NHA PLISN must have an NHA Indicator of N, B, C, or E; and, the other NHA PLISN must have an NHA Indicator of asterisk (*). Codes of F or A are not allowed with this edit. A kit component must be associated to an End Item, Next Higher Assembly, Major Component or an item that is both an NHA and Major Component and a Kit. Fabricated Items and Assembled items are not allowed with Indenture Codes of asterisk (*).
321	* 321 Use of this edit ensure Indenture Codes of asterisk (*) are associated with only one NHA PLISN. The listed NHA PLISN must have an asterisk (*) as the NHA PLISN Indicator Code. Use of this edit also ensures that Indenture Codes of asterisk (*) are only associated with SMR Source Code KF, KB, or KD.
325	* 325 Use this edit to ensure the Maintenance Replacement Rate Modifier contains a valid entry. Valid entries are A, B, C, O, 1, 2, 3, 4, 5, 6, 7, 8, or 9 in each of the first six positions. The seventh position can be W or blank. Other codes are not valid for this edit. (Run as global only)
326	* 326 Choose this edit to check the validity of the Essentiality Code. Valid values are A, B, 1, 3, 5, 6, and 7. Other codes are not valid for this edit.
330	* 330 Use this edit to ensure that when the NHA PLISN Indicator is A, the NHA item must have a Source, Maintenance, and Recoverability Code (SMR) of A (first position). SMR A- indicates the item is assembled at a specific operating level. *This is not applicable to Army LMP, LMP only accepts "N" or "*" (asterisk).
336	* 336 Use this edit to identify where Special Material Content Code values are A, B, E, H, L, M, Y, and 1-4, 6 & 9. Other codes are not allowed. Codes are listed in Cataloging Data and Transaction Standards (CDTS), Volume 10, Table 102.
338	* 338 This edit identifies unacceptable Special Maintenance Item Codes. Acceptable codes are A, B, C, D, F, G, H, or J. Additionally, if the Special Maintenance Item Code is B, then the Repair Cycle Time Contractor field cannot be blank. Of the acceptable Special Maintenance Item Codes, B represents a Factory repairable item. The RCT Contractor field indicates the elapsed of time between when the failed item was received by the contractor and when it was returned to the factory to be repaired. Therefore, for factory repaired items, the RCT Contractor field must indicate that period of time.
339	* 339 This edit validates the Physical Security/Pilferage Code (PS/PC). Allowable codes are A- H, K, L, O, S, T, U, W, and 7 & 9. For more information refer to Cataloging Data and Transaction Standards (CDTS), Volume 10, Table 61.
340	* 340 Use this edit to ensure Assembled item parts are coded with a Source, Maintenance, and Recoverability Code (SMR) of PA or PC. When an Item has an SMR Source Code of A (first position), the parts at the next lower indenture must be SMR Source Coded PA and PC. Due to the nature of the assembled part, stocked for usage and potentially deteriorative, the parts in the assembly must be of the same source code; PA or PC.
345	* 345 Use this edit to ensure only one Next Higher Assembly PLISN exists with a Next Higher Assembly Indicator of A, B, or N. Similarly, edit 261 identifies when Next Higher Assembly Provisioning List Item Sequence Numbers (NHA PLISN) for items other than Provisioning Indenture Code A or when the NHA PLISN does not have an associated NHA PLISN Indicator of N, B, C, or E. With this edit, only one NHA PLISN should exist for an NHA PLISN Indicator when the NHA PLISN Indicator's value is Next Higher Assembly, both a NHA and Major Component, or an Assembled Item.
350	* 350 Choose this edit to check for compatibility between the Source, Maintenance, and Recoverability Code (SMR) for a part and the assembly's parts. If position 4 of the SMR (Maintenance Repair) is not Z or B, then position 3 of the SMR (Maintenance Level) of the next lower indented items cannot be coded with a Maintenance Level that is higher than position 4 of the SMR of the assembly, Example: An assembly with SMR of PAFFF cannot have components with SMR codes of PAHZZ, PADZZ, or PAHHH. Maintenance Levels in ascending order are C, O, F, G, H, K, L, (OR L, K) and D.

Table 31 – Standard Edit List, Continued

360	* 360 Use this edit to locate Indenture Codes of Next Higher Provisioning List Item Sequence Number (NHA PLISNs) that are not one less than the corresponding PLISN. The NHA PLISN must contain an Indenture Code that is alphanumerically (EBCDIC) one less than the Indenture Code of the PLISN Record. There is one exception: when there is an Asterisk for the Indenture Code for the PLISN record. EBCDIC sequence: Extended Binary Coded Decimal Interchange Code example; AAAA, AAAJ, AAAJA, ABJAA, AJA1.
370	* 370 This edit checks the Unit of Measure Price against the Unit of Measure Price of its Next Higher Assembly. The UM Price of an item cannot be more than the UM Price of the Next Higher Assembly when the item and its Next Higher Assembly's Unit of Measure are EA.
380	* 380 Choose this edit to identify a missing Overhaul Replacement Rate for items where the Source, Maintenance, and Recoverability Code (SMR) Source Code (position 1) equals P and a Next Higher Assembly SMR of P - - D -.
381	* 381 Use this edit to ensure the Overhaul Replacement Rate (ORR) exists for any item where the Next Higher Source, Maintenance and Recoverability Code Source Code (positions 1 and 2) is other than PA, PC, or PG. An ORR is required for this edit when the SMR Source Code is other than those items that are Essential. PA - Item procured and stocked for anticipated or known usage, PC - Item procured and stocked and which otherwise PC would be coded PA except that it is deteriorative in nature. PG - Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which because of probable discontinuance or shutdown of production facilities would prove uneconomical to reproduce at a later time.
382	* 382 Use this edit to identify when an Overhaul Replacement Rate is contained for items when the Next Higher Source, Maintenance, and Recoverability (NHA SMR) Maintenance Repair Level (position 4) is not D. An SMR Maintenance Repair Level (position 3) of D indicates the item is repaired at Depot. An ORR is required for all other Maintenance Repair Levels.
390	* 390 This edit identifies discrepancies between Indenture Code (IC) and the PLISN. If the IC is A, then the PLISN must be between AAAA and AAAHZ. If the IC is greater than A, then the PLISN must be greater than AAAHZ.
400	* 400 Choose this edit to ensure the Replaced or Superseding PLISN (R/S PLISN) and Interchangeability Code are either blank or both have entries.
410	* 410 Use this edit when the Source, Maintenance, and Recoverability Code (SMR) Source Code (positions 1 and 2) are AD, AE, AH, AL, AO, KD, MD, MF, MH, ML, or MO. This edit identifies where the SMR Maintenance Level Replace (position 3) is greater than the 2nd position of the source code (SMR position 2).
420	* 420 This edit checks the Source, Maintenance, and Recoverability Code (SMR) Maintenance Repair Code (position 4) and the Recoverability Code (position 5). Positions 4 and 5 of the SMR must be the following combinations: BA, BZ, DA, DD, FA, FD, FF, FH, FL, FK, HA, HD, HH, HL, HK, LA, LD, LL, LK, KK, KA, KL, KD, OA, OD, OF, OH, OL, OK, OO, ZA, or ZZ.
430	* 430 This edit checks the Source, Maintenance, and Recoverability Code (SMR position 1 and 2). If the SMR Source Code (position 1 and 2) is equal to PA, PC, or PG and the SMR Maintenance-level (SMR-3) is equal to C, O, F, L, K, or H, then Maintenance Replacement Rates (MRR) One and Two must be greater than 0 and MRR Modifier must not be blank. This edit used to ensure the data can be used in calculations for reporting purposes.
440	* 440 Use this edit to check the Source, Maintenance, and Recoverability Code (SMR position 1 and 2) against the Maintenance Replacement Rates and Essentiality Code. If the SMR Source Code (positions 1 and 2) are PB then Maintenance Replacement Rates must be blank and the Essentiality Code must not equal 3. An SMR Source Code of PB indicates the item is essential and is therefore stocked for insurance against failure so the Essentiality Code must indicate the part is essential (not Code 3). The two codes cannot conflict.
450	* 450 Use this edit to compare the Source, Maintenance, and Recoverability Code (SMR), positions 1, 2 and 3, to the Maintenance Replacements and Modifiers. If the SMR Source Code (positions 1 and 2) is equal to PA, PC, or PG and the SMR Maintenance-level (position 3) is equal to D, then the Maintenance Replacement Rates (MRR) One and Two and Modifier must be blank.

Table 31 – Standard Edit List, Continued

460	* 460 Use this edit to validate that if the Source, Maintenance, and Recoverability Code (SMR) Source Code (position 1 and 2) is PC, then the Shelf Life is greater than zero. SMR PC indicates that the Item procured and stocked and is deteriorative in nature. Because the item is deteriorative, there is a finite shelf life. Therefore, the Shelf Life cannot be 0.
470	* 470 Use this edit to validate the Essentiality Code to the Line Replaceable Unit. If the Essentiality Code equals 3, then the LRU cannot be Y. Because an LRU is removed and replaced at the field level on the operational equipment, it is considered essential whereas, Essentiality Code 3 - Failure to this part will not render the end item inoperable. (Not essential.)
480	* 480 Use this edit to validate a Provisioning List Item Sequence Number's (PLISN) Quantity per Assembly, Quantity per End Item and Same As PLISN. If a PLISN item's Quantity per Assembly or Quantity Per End Item equals REF, then the Same As PLISN cannot be blank. REF indicates that the total number of uses of the item in the equipment or end item has previously been listed. Therefore, the Same As PLISN must contain a number for calculations. *Army Provisioning database (LMP) business rules don't allow REF, Same as PLISN is not required.
490	* 490 Use this edit to show those PLISNs where the Quantity per Assembly is greater than the Quantity per End Item.
500	* 500 Use this edit to ensure the Maintenance Task Distribution (MTD) and Contractor Repair Cycle Time (RCT) are blank when the SMR Source Code (positions 1 and 2) is PA, PC, or PG and the SMR Maintenance Repair Code (position 4) is B or Z. The MTD and Contractor RCT must be blank when no repairs will be performed on the item. (SMR Maintenance Repair Code B or Z)
510	* 510 This edit identifies those PLISNs where the Next Higher Assembly PLISN does not exist as a PLISN item. Since an item's NHA PLISN provides a reference to the Assembly PLISN on which the item is contained, it needs to be a valid PLISN in the provisioning list.
520	* 520 Choose this edit to identify PLISNs equal to the Next Higher Assembly. The NHA PLISN cannot equal the PLISN item itself. It is illogical for an item to be its own Next Higher Assembly.
525	* 525 Item's Type and Number of UOCs do not match NHA PLISN. Choose this edit to identify those items whose Next Higher Assembly (NHA) items do not have the same type and number of UOCs mapped against it as its NHA.
530	* 530 Use this edit to ensure Indenture Codes of asterisk (*) are associated with at least two NHA PLISNs. One NHA PLISN must have an NHA Indicator of asterisk (*). Other NHA PLISNs must have a code other than asterisk (*). Indenture Codes with a value of asterisk (*) are kits or kit components. Kit components must be part of a kit (NHA PLISN *) and have a NHA PLISN with a value of other than * in the Indenture Code.
540	* 540 Use this edit to ensure the Indenture Code of the PLISN is one lower than the Indenture Code of the NHA PLISN with highest Indenture being A, then B, then C, etc. Note: NHA PLISNs with NHA PLISN Indicators and PLISNs with Indenture Codes of asterisk are ignored. This ensures a "family tree" relationship between the PLISNs and its NHA PLISNs.
550	* 550 Use this edit to ensure the Indenture Code of a given PLISN is Indenture Code of the PLISN is not more than one step lower than the Indenture Code of the NHA PLISN.
560	* 560 This edit identifies items where the Source, Maintenance, and Recoverability Code (SMR) Maintenance Repair Code (position 4) is equal to D, and the NHA PLISN and Overhaul Quantity is blank. SMR Maintenance Repair Code D indicates the item is the lowest maintenance level capable of complete repair of the support item is the depot level. Because the item is a support item and capable of repair at the depot level, the item must have a NHA PLISN and there must be an Overhaul Quantity available. This item may be a planned overhaul candidate.
570	* 570 Use this edit to identify where the Next Higher Assembly (NHA) PLISN Indicator equals E and the NHA PLISN is not of the appropriate range. If the NHA PLISN Indicator equals E, then the NHA PLISN must be between AAAA to AAAHZ. NHA PLISN Indicator of E means that the item is an End Item. With this edit, End Items must have an NHA PLISNs between AAAA and AAAHZ. *Army Provisioning database (LMP) Business Rules only allow N or * (asterisk).

Table 31 – Standard Edit List, Continued

580	* 580 Use this edit to ensure that for a given Provisioning List Item Sequence Number (PLISN), when the Source Maintenance, and Recoverability Code Source Code (position 1) is equal to A, then that PLISN must also appear as a Next Higher Assembly PLISN for the same PCCN.
590	* 590 Choose this edit to ensure the Quantity per Assembly equals the Reference Number and the CAGEC/Manufacturer Part Number has only one appearance. If not, an error displays.
600	* 600 Choose this edit to ensure the Quantity per End Item equals the Reference Number and the CAGEC/Manufacturer Part Number has only one appearance. If not, an error displays.
610	* 610 Choose this edit to ensure the Same-As-PLISN has a value and the CAGEC/Manufacturer Part Number has only one appearance. If not, an error displays.
620	* 620 Use this edit to identify those items where the Special Maintenance Item Code (SMIC) is equal to B, and the Repair Cycle Time Contractor is blank. If the Special Maintenance Item Code is B, then the Repair Cycle Time Contractor field cannot be blank. (See also Edit 338). The Special Maintenance Item Code of B represents a Factory repairable item. The RCT Contractor field indicates the elapse of time between when the failed item was received by the contractor and when it was returned to the factory to be repaired. Therefore, for factory repaired items, the RCT Contractor field must indicate that period of time.
630	* 630 Use this edit to identify those items where the Repair Cycle Time Contractor has an entry and the Special Maintenance Item Code (SMIC) is not equal to B. The RCT Contractor field indicates the elapsed of time between when the failed item was received by the contractor and when it was returned to the factory to be repaired. Therefore, the SMIC should equal B; a Factory repairable item.
640	* 640 Use this edit to identify a Replaced PLISN (R/S PLISN) that is not a PLISN item in the Provisioning Contract Control Number. This is to ensure the R/S PLISN is within the PCCN. This is for report purposes.
641	* 641 Choose this edit to identify those items where the Replaced or Superseding PLISN Indicator (R/S PLISN Indicator) is equal to R and the R/S PLISN is blank. This does not work conversely. The R/S PLISN Indicator may be blank and the R/S PLISN may or may not have an entry. A Replaced or Superseding PLISN (RSPH) must be established in either table HG or XC matching the PCCN of the HP table keys. A Replaced or Superseded PLISN Indicator cannot be entered without a Replaced or Superseded PLISN.
650	* 650 Use this edit to identify Replacing PLISNs that are not PLISN Items in the Provisioning Contract Control Number. (See Edit 640) This is to ensure the R/S PLISN is within the PCCN.
660	* 660 Choose this edit to ensure Indenture code is B or greater for non-model PLISNs. Only model record PLISNs (AAAA-AAAHZ) can have an Indenture Code of A.
670	* 670 Use this edit to ensure only the following SMR Maintenance Replace (position 3) and Maintenance Repair (position 4) combinations are used: CB, CO, CF, CH, CK, CL, CD, CZ, OB, OO, OF, OH, OK, OL, OD, OZ, FB, FF, FH, FK, FL, FD, FZ, HB, HH, HK, HL, HD, HZ, LB, LZ, LK, LL, LD, KL, KB, KZ, KK, KD, DB, DD, and DZ. These are the only code combinations allowed with this edit.
680	* 680 Choose this edit to validate that when Next Higher Assembly Indicator is equal to A, the first position of the SMR Source Code for the Next Higher Assembly PLISN item is also A. (See also, Edit 330). SMR A- indicates the item is assembled at a specific operating level. An NHA PLISN Indicator of A means that the item is an assembly. Therefore, the two should match.
690	* 690 Choose this edit to validate that when Next Higher Assembly PLISN Indicator is equal to F, the first position of the SMR Source Code for the NHA PLISN item is M. NHAPLISN Indicator F indicates a Fabricated item. Position 1 of the SMR equal to M indicates the item is potentially fabricated. Therefore, the two codes should match.
700	* 700 Choose this edit to validate that when Next Higher Assembly Indicator is equal to B or C and the Item's the Source, Maintenance, and Recoverability Code (SMR) Maintenance Level (position 3) is D, then the Overhaul Replacement Rate has an entry. When the NHA PLISN Indicator is B or C (a major component) and the SMR Maintenance Level is D, (Support Items that are removed, replaced, used at Depot only), then the item must have an entry in the ORR. The ORR is a rate that represents an estimate of the percent of time that a particular support item will be replaced in the next higher repairable assembly/end item during overhaul.

Table 31 – Standard Edit List, Continued

710	* 710 Use this edit to ensure that if the Reference Designator Code (RDC) has a value, then the Reference Designator must have a value as well. The RDC indicates which type of data is entered into the Reference Designation field.
720	* 720 Use this edit to ensure that If the Maintenance Task Distribution (MTD) is blank, then the Repair Cycle Time (RCT) must be blank. Both the Maintenance Task Distribution and Repair Cycle Time are used when determining the amount of time it takes to repair an item so that if there is urgency, other spares can be utilized. The Maintenance Task Distribution specifies where the item is during the repair, while the Repair Cycle Time specifies how long it will take for a spare to be returned to service. Together, the MTD and RCT indicate how long it will take for the spare to be returned to service and/or if there is a need for additional spares.
730	* 730 Use this edit to show where the Same As PLISN and Provisioning List Item Sequence Number (PLISN) are equal. The Same As PLISN cannot equal the PLISN item. The Same As PLISN is the first appearance of a Reference Number/CAGE in a PL. Other PLISNs with the identical Reference Number and CAGE are referenced to the first appearance by the Same As PLISN value.
740	* 740 Use this edit to identify items where the CAGE and Reference Number of the Provisioning List Item Sequence Number (PLISN) item are not equal to the CAGE and Reference Number of the Same As PLISN item. The CAGE and Reference Number of the PLISN item must equal the CAGE and Reference Number of the referenced Same As PLISN item. The CAGE and Reference Number identify the item.
750	* 750 This edit indicates that if there is more than one appearance (or PLISN) of the CAGE/Reference Number combination, then the second and all subsequent appearances of that CAGE / Reference Number combination must have a Quantity per End Item equal to 'REF' and a Same As PLISN entry equal to the first appearance PLISN. The first appearance is determined by the lowest value EBCDIC sequence PLISN.
770	* 770 Use this edit to identify where the Quantity Per Assembly is equal to 'REF', and the Qty-Per-Figure is blank and or is not numeric or does not contain the value of 'V'.
780	* 780 Choose this edit to identify blank Provisioning Nomenclature when the Source, Maintenance, and Recoverability first position is M. Blank Provisioning Nomenclature is not allowed when the SMR Source Code (position 1) equals M. Items that are manufactured or fabricated (SMR position 1 code M) cannot have a blank Provisioning Nomenclature field. Provisioning Nomenclature provides additional identification of an item. The Provisioning Nomenclature will identify what the fabricated or manufactured item is made from.
790	* 790 Choose this edit to identify where a model record Provisioning List Item Sequence Number (PLISN) item (PLISN between AAAA and AAAHZ) can only have one Usable on Code (UOC) value. NOTE: LMP dictates that only one UOC per model record PLISN is allowed.
800	* 800 Use this edit to identify where the Provisioning List Item Sequence Number (PLISN) item has a Quantity per Assembly of REF and the Same As PLISN is blank. REF (Reference) indicates that the total number of uses of the item in the equipment or end item has previously been listed. Therefore, the Same As PLISN must have an entry containing this reference location. This edit is no longer valid for LMP which now requires numeric entries only for QPA.
810	* 810 Use this edit to identify where the Provisioning List Item Sequence Number (PLISN) item has a Quantity per End Item of REF and the Same As PLISN is blank. REF indicates that the total number of uses of the item in the equipment or end item has previously been listed. Therefore, the Same As PLISN must have an entry containing this reference location.
820	* 820 A PLISN's true Same as PLISN cannot also be part of the PLISN's higher assembly tree.

Summary Options. Output options are combinations of summaries with headers and/or output file of 80 card column PLISN records.

4.28.7 Sequence

The first record on the LSA-036 summary is the summary header. Following this, the summary is sequenced in ascending PLISN. Within PLISN records are sequenced in ascending CFI. Within CFI records are sequenced in ascending TOCC in the following order: D or G before M, Q, or L. Within TOCC items are sorted in ascending CSN.

4.28.8 Data Sources

The data sources listed in Table 32, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 32 – Data Sources for Provisioning Requirements Summary (LSA-036)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
PCCN	System End Item Provisioning Contract Control Number	XC	4100	Required
UOC	Usable On Code	HO/XC	5790	Required
PIIN/SPIIN (Throughput)				Optional
NOMENCLATURE OF MODEL OR TYPE NUMBER (Throughput)				Optional
CONTROL DATA (Throughput)				Optional
PRIME CAGE (Throughput)				Optional
SUBMITTER CONTROL NUMBER (Generated)				Required
SUBMITTAL DATE (Generated)				Required
MULTI-CONFIG UOCS ASSIGNED (Selected)				Optional
FULL EFFECTIVITY UOC SUPPRESS (Selected)				Optional
CHANGE AUTHORITY NUMBERS	Change Authority Number	HP	1490	Optional
PLISN RANGE (Selected)				Optional
TYPE LISTS (Selected)				Optional
OUTPUT MODE (Selected)				Optional
PROVISIONING BASELINED (Selected)				Optional
QPEI CALCULATED (Selected)				Optional
OVERHAUL PLISNS (Selected)				Optional
PARTS II AND III (Selected)				Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
PLISN TOTALS (Generated)				
PTD LIST (Selected)	Provisioning Technical Documentation			Required
PPL	Provisioning Parts List Provisioning Technical Documentation	HG	4170	Required
SFPPL	Short Form Provisioning Parts List Provisioning Technical Documentation			
LLTIL	Long Lead Time Items List Provisioning Technical Documentation			
RIL	Repairable Items List Provisioning Technical Documentation			
ISIL	Interim Support Items List Provisioning Technical Documentation			
TTEL	Tool And Test Equipment List Provisioning Technical Documentation			
CBIL	Common and Bulk Items List Provisioning Technical Documentation			
PCL	Post Conference List Provisioning Technical Documentation			
SCPL	System Configuration Provisioning Parts List Provisioning Technical Documentation			
ARA	As Required List A Provisioning Technical Documentation			
ARB	As Required List B Provisioning Technical Documentation			
PLISN	Provisioning List Item Sequence Number	HG	4120	Required
	System End Item Provisioning List Item Sequence Number	XC		
TOCC	Type of Change Code	HG	5620	Required
	System End Item Type of Change Code	XC		
IND CD	Indenture Code	HG	2520	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required
REFERENCE NUMBER	Reference Number	HA	4400	Required
ADDITIONAL REFERENCE NUMBERS	Additional Reference Number	HB	1070	Optional
RNCC	Reference Number Category Code	HA	4390	Required by U.S. Army for PBOM
	Additional Reference Number Reference Number Category Code	HB		
RNVC	Reference Number Variation Code	HA	4410	Required by U.S. Army for PBOM
	Additional Reference Number Reference Number Variation Code	HB		
DAC	Document Availability Code	HA	1910	Required
PPSL	Program Parts Selection List	HA	4050	Optional
EC	Essentiality Code	HG	2080	Required
ITEM NAME	Item Name	HA	2790	Required
SL	Shelf Life	HA	4730	Required
SLAC	Shelf Life Action Code	HA	4720	Required by Marine Corps and Navy

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
CSN (Generated)				Optional
CFI (Generated)				Optional
NSN & RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
[PRICE PROVISIONING (= "Y")]	Price Provisioning	HD	4140	Required if UM Price or UI Price selected
UM	Item Unit of Measure	HA	5720	Optional
[PRICE TYPE SELECTION] (= "M")	Price Type Selection	HD	4000	Required
UM PRICE	Unit Price	HD	3990	Required
UI	Item Unit of Issue	HA	5700	Optional
[PRICE TYPE SELECTION] (= "I")		HD	4000	Optional
UI PRICE	Unit Price	HD	3990	Optional
UI CONV	Unit of Issue Conversion Factor	HA	5690	Optional
QUP	Quantity per Unit Pack	HF	4240	Optional
SMR	Source Maintenance and Recoverability Code	HG	4830	Required
DMIL	Demilitarization Code	HA	1820	Required
PLT	Production Lead Time	HA	4020	Required
HCI	Hardness Critical Item	HG	2350	Optional
PSPC	Physical Security Pilferage Code	HA	3920	Required
PMIC	Precious Metals Indicator Code	HA	3940	Optional
ADP EC	Automatic Data Processing Equipment Code	HA	1310	Optional
NHA PLISN	Next Higher Assembly Provisioning List Item Sequence Number	HH	4120	Required
NHA IND	Next Higher Assembly Provisioning List Item Sequence Number Indicator	HH	3580	Required
ORR	Overhaul Replacement Rate Quantity	HH	3790	Optional
QPA	Quantity per Assembly	HG	4190	Required
QPEI	Quantity per End Item	HG	4210	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
MRR-I	Maintenance Replacement Rate I	HG	3060	Required below 'A' indenture
MRR-II	Maintenance Replacement Rate II	HG	3070	
MRR-MOD	Maintenance Replacement Rate Modifier	HG	3080	
TOTAL REC QTY	Total Quantity Recommended	HG	5410	Optional
SAME AS PLISN	Same As Provisioning List Item Sequence Number	HG	4120	Optional
PRIOR PLISN	Prior Item Provisioning List Item Sequence Number	HG	4120	Optional
MAOT	Maximum Allowable Operating Time	HG	3160	Optional
MAC	Maintenance Action Code	HG	3010	Optional
NRTS	Not Repairable This Station	HG	3610	Optional
CSN (Generated)	Card Sequence Number			Automatically generated
CFI (Generated)	Card Format Indicator			Automatically generated
UOC	Usable On Code	HO/XC	5790	Required
UOC	Serial Number Usable On Code	HN/XD	4700	Optional
REFERENCE DESIGNATION	Reference Designation	HJ	4380	Optional
RDOC (Generated)				Automatically generated
RDC	Reference Designation Code	HJ	4370	Optional
SMCC	Special Material Content Code	HA	4900	Optional
PLCC	Authorization Stock List	HA	4110	Optional
	Common and Bulk Item List			
	Government Furnished Item List			
	Installation and Checkout Item List			
	Interim Released Item List			
	Interim Support Item List			
	Long Lead Time Item List			
	Prescribed Load List Item List			
	Recommended Buy List Item List			
	Repairable Item List			
	System Support Package Component List			
	Tools and Test Equipment List			
SMIC	Special Maintenance Item Code	HA	4870	Optional
AIC	Allowance Item Code	HG	1180	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
AIC QTY	Allowance Item Quantity	HG	1190	Required if AIC is populated
MRU	Minimum Replacement Unit	HG	3450	Optional
RMSSL	Recommended Minimum System Stock Level	HG	4330	Optional
RISS BUY	Recommended Initial System Stock Buy	HG	4310	Optional
RTLL QTY	Recommended Tender Load List Quantity	HG	4340	Optional
RSR	Repair Survival Rate	HG	4490	Optional
MAINT TASK DISTRIBU (O, F, H, SRA, D, CB, CA)	Organizational Maintenance Task Distribution	HG	3090	Optional. If entries are made, all fields must equal 100.
	Intermediate Direct Support Maintenance Task Distribution			
	Intermediate General Support Maintenance Task Distribution			
	Special Repair Activity Maintenance Task Distribution			
	Depot Shipyard Maintenance Task Distribution			
	Condemned Below Depot Maintenance Task Distribution			
	Condemned at Depot Maintenance Task Distribution			
REPAIR CYCLE TIME – CON (O, F, H, SRA, D, TAT)	Organizational Repair Cycle Time	HG	4480	Optional
	Intermediate Direct Support Repair Cycle Time			
	Intermediate General Support Repair Cycle Time			
	Special Repair Activity Repair Cycle Time			
	Depot Shipyard Repair Cycle Time			
	Contractor Repair Cycle Time			
REPLACEMENT TASK DIST (O, F, H, SRA, D)	Organizational Replacement Task Distribution	HG	4530	Optional
	Intermediate Direct Support Replacement Task Distribution			
	Intermediate General Support Replacement Task Distribution			
	Special Repair Activity Replacement Task Distribution			
	Depot Shipyard Replacement Task Distribution			
DES REWORK PT ONE TWO	Designated Rework Point Two Designated Rework Point One	HG	1880	Optional
CTIC	Contractor Technical Information Code	HA	1650	Optional
AMC	Acquisition Method Code	HA	1030	Optional
AMSC	Acquisition Method Suffix Code	HA	1040	Optional
IMC	Item Management Code	HA	2770	Optional
RIP	Remain In Place Indicator	HG	4470	Optional
CHANGE AUTHORITY NUMBER	Change Authority Number	HP	1490	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
IC	Interchangeability Code	HP	2670	Optional
SERIAL NUMBER EFFECTIVITY FROM TO	Serial Number From	HQ	4690	Optional
	Serial Number To			
TIC	Total Item Changes	HP	5400	Optional
REP/SUP PLISN	Replaced or Superseding Provisioning List Item Sequence Number	HP	4520	Optional. Mandatory if entry in Interchangeability Code or Change Authority Number
R/S IND	Replaced or Superseding Provisioning List Item Sequence Number Indicator	HP	4510	Optional
QUANTITY SHIPPED	Quantity Shipped	HP	4260	Optional
QUANTITY PROCURED	Quantity Procured	HP	4250	Optional
DCN-UOC	Usable On Code	HR/HO/XC	5790	Required
PRORATED ELIN	Prorated Exhibit Line Item Number	HP	4080	Optional
PRORATED QUANTITY	Prorated Quantity	HP	4090	Optional
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
REMRKS	Provisioning Remarks	HG	4150	Optional
TM CODE	Technical Manual Code	HK	5250	Optional
FIG NO	Figure Number	HK	2290	Optional
ITEM NO	Item Number	HK	2800	Optional
TM CHG	Technical Manual Change Number	HK	5240	Optional
TM IND	Technical Manual Indenture Code	HK	5270	Optional
QTY FIG	Quantity per Figure	HK	4220	Optional
WUC/TM-FGC	Work Unit Code	HG	5920	Optional. If WUC is used, place on the last J Card
	Technical Manual Functional Group Code	HK	5260	
BASIS OF ISSUE				
QTY-A	Authorized Quantity	HM	1300	Optional
EI	End Item Range	HM	2050	Optional
LV	Organizational Level	HM	3780	Optional
CTR	Control	HM	1660	Optional
CC	Criticality Code	HA	1740	Optional
ITEM NAME CODE	Item Name Code	HA	2780	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
LRU	Line Replaceable Unit	HG	2880	Optional
PROVISIONING NOMENCLATURE	Parts Manual Provisioning Nomenclature	HK	4130	Optional
MATERIAL	Material	HA	3150	Optional
PART II (Header)				
PLISN	System End Item Provisioning List Item Sequence Number	XC	4120	Required
	Provisioning List Item Sequence Number	HG		Required
REFERENCE NUMBER	Reference Number	HA	4400	Required
CAGE	Commercial and Government Entity Code	HA	1520	Required
LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
MESSAGE (Generated)				Automatically generated

4.28.9 Format

The format shown in Figure 30 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary. The Provisioning Requirements Summary (LSA-036) can be formatted in text (.txt) file format and is an electronic data exchange version of the Provisioning Technical Documentation. It is the 80-column card version shown in Figure 29. Currently Army LMP and other services only accepts the Provisioning Requirements Summary (LSA-036) in text (.txt) file format. The Standard Edit Summary appearing at the end of the sample LSA-036 below is only one of many possible ways to represent the results of the edit validation.

REQUESTER: M. Lynch

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

PROVISIONING REQUIREMENTS (LSA-036)

XC.seipccn	THROUGHPUT	THROUGHPUT	THROUGHPUT	THROUGHPUT	GENERATED	GENERATED
PCCN	PIIN/SPIIN	NOMENCLATURE OF	PRIME	SUBMITTER	SUBMITTAL	
A90B10	PIIN/SPIIN	MODEL OR TYPE NUMBER	CAGE	CONTROL NO	DATE	
	DAAK-89-1234AALQ123	AN/REF-143	PL-13882B	44940	00001	900301

SELECTED	SELECTED
MULTI-CONFIG	FULL EFFECTIVITY
UOCS ASSIGNED	UOCS SUPPRESS
YES	NO

HO/XC.uoc
SYSTEM/END ITEM USABLE ON CODES SELECTED: DCY, DCX, DCZ

SELECTED
MULTI-CONFIGURATION UOCS ASSIGNED:

DCY: DCY DCX: DCX DCZ: DCZ DCX AND DCY: A DCX AND DCZ: B DCY, DCX, AND DCZ: (BLANK)

HP.can
CHANGE AUTHORITY NUMBERS

FIRST NUMBER	SECOND NUMBER	THIRD NUMBER	FOURTH NUMBER	FIFTH NUMBER	SIXTH NUMBER
NONE					

HG.plisn	HG.plisn	HG.plisn	HG.plisn	HG.plisn	HG.plisn	HG.plisn	HG.plisn	HG.plisn
FIRST RANGE	SECOND RANGE	THIRD RANGE	FOURTH RANGE	FIFTH RANGE				
START-PLISN	STOP-PLISN	START-PLISN	STOP-PLISN	START-PLISN	STOP-PLISN	START-PLISN	STOP-PLISN	STOP-PLISN
A121	A125	F121	F125					

HG.ptd	SELECTED	SELECTED	SELECTED	SELECTED	SELECTED	SELECTED	SELECTED
TYPE LIST(S)	OUTPUT MODE	PROVISIONING BASELINED	QPEI CALCULATED	OVERHAUL PLISNS	PART II	PART III	
PROVISIONING PARTS LIST	TAPE AND SUMMARY WITH HEADERS	YES (INITIAL)	YES (OPTION 1)	NO	STANDARD	OPTION 1	

Figure 30 – Format for LSA-036, Provisioning Requirements

REQUESTER: M. Lynch

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PROVISIONING REQUIREMENTS (LSA-036)

XC.seipccn

PLISN TOTALS FOR PCCN A90B10

CALCULATED EXTRACTED FROM H DATA ENTITIES	CALCULATED NOT SELECTED	CALCULATED EXTRACTED FROM PROV BASELINE	CALCULATED ADDED TO PROV BASELINE	CALCULATED DELETED FROM PROV BASELINE	CALCULATED NEW PROVISIONING BASELINE
10	8	0	2	0	2

XC.seityocc HG.typechgc

PROVISIONING SUMMARY PLISN CARD RECORD TOTALS

	A	B	C	D	E	F	G	H	J	K	M
ADDED (TOCC = SPACE)	8	2	2	4	2	0	0	2	6	4	0
MODIFIED (TOCC = L, M, Q)	0	0	0	0	0	0	0	0	0	0	0
DELETED (TOCC = D, G)	0	0	0	0	0	0	0	0	0	0	0

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

REQUESTER: M. Lynch

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PROVISIONING REQUIREMENTS (LSA-036)

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XC/HG.plisn

xc.uoc

PART I

LISTING FOR PCCN: A90B10 AND MODEL: ANREF-143

```

.....1.....2.....3.....4.....5.....6.....7.....8
A90B10DAAK-89-1234AALQ123AN/REF-143          PL-13882B 4494000001900301
A90B10A123  C44940142-0001                      13  1WIDGET, INTERCONNEC0  01A
A90B10A123  223234321-0098213                    C3                               02A
A90B10A123  4423114321-0987                      D3                               03A
A90B10A123  55523ARN-01234                        53                               04A
A90B10A123  5240010987432      EA0000000995EA000000099500001001PAOZZ A08  01B
A90B10A123  A003 N021000200006000001110000002211111W                      Y01C
A90B10A123  A      REFERENCE-DESIGNATION-W1      RA  AA001                      01D
A90B10A123  EXTRA-LONG-REFERENCE-DESIGNATIONAR                      02D
A90B10A123  -FOR-W2                                B                        03D
A90B10A123  100                                EC  ZY01E
A90B10A123  00202          APPROVED AT LSAR REVIEW 9/12/88                01H
A90B10A123  TMC  4  12  2001002      00001      A100008      C2      01J
A90B10A123  TMC  4  12                      3-84      3                      02J
A90B10A123  TMC  5  14  2001002A      00001      A100008      C2      03J
A90B10A123  TMC  5  14                      3-84      3                      04J
A90B10A123  TMC  4  12TING DEVICE, BRASS                      01K
A90B10A123  TMC  5  14TING DEVICE, BRASS                      SEE FIGURE 4 F02K
A90B10A123  TMC  5  14OR INTERFACE SWITCH CONNECTION TO WIDGET HOLDER.  03K

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Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

A90B10F122	D44940142-0001	13	1WIDGET, INTERCONNECO	01A
A90B10F122	223234321-0098213	C3		02A
A90B10F122	4423114321-0987	D3		03A
A90B10F122	55523ARN-01234	53		04A
A90B10F122	5240010987432	EA00000000995EA00000000995000001001	PAFZZ A08	01B
A90B10F122	F011 N0110001REF	00000123000000231AAAW	A123	Y01C
A90B10F122	B	F01REFERENCE-DESIGNATION-W1	RA AA001	01D
A90B10F122		100	EC Z	01E
A90B10F122	0150103			01H
A90B10F122	TMC 28 10 2	01501 00001	A100008 C2	01J
A90B10F122	TMC 28 10	3-84 3		02J
A90B10F122	TMC 28 10	TING DEVICE, BRASS		01K

.....1.....2.....3.....4.....5.....6.....7.....8

TOTAL 80 CARD COLUMN RECORDS ON LSA-036 (INCLUDING HEADER): 31

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

XC.seityocc	HP.can	HP.intrcan	HQ.snfrom	HQ.snto	HP.ttittmcng	HP.rsplisni	HP.qtypred	HR/XC/HO.uoc	GENERATED								
HP.typechg						HP.rsplisn	HP.qtyshpd										
TO	CHANGE AUTHORITY		SER NUMBER	EFFECTIVITY		REP/SUP	R/S	QUANTITY	QUANTITY								
CC	NUMBER	IC	FROM	TO	TIC	PLISN	IND	SHIPPED	PROCURED								
								DCN-UOC									
	CHG000123		OW	-----	03	AABV	R	000333	000444	---	01	F					
	HP.can	HP.prexlino	HP.protdqty														
TO	CHANGE AUTHORITY	PRORATED	PRORATED								CS	CF					
CC	NUMBER	ELIN	QUANTITY								N	I					
	CHG000123		ELINBB	000400							01	G					
	HG.lcn	HG.alc	HG.premarks														
TO											CS	CF					
CC	LCN	ALC	REMARKS								N	I					
	00202		00	APPROVED AT LPD REVIEW 9/12/19							01	H					
	HK.tmc	HK.itmno	HK.tmid	HG.wuc	HM.authqty	HM.orglvl	HM.authqty	HM.orglvl	HA.critcode	HA.itemnamc	GENERATED						
	HK.figno	HK.tmcn	HK.qtypfig	HK.tmfgc	HM.eir	HM.ctrl	HM.eir	HM.ctrl									
TO	TM	FIG	ITEM	TM	TM	QTY	WUC/	--BASIS OF ISSUE--	--BASIS OF ISSUE--	C	ITEM NAME	CS	CF				
CC	CODE	NO	NO	CHG	IND	FIG	TM-FGC	QTY-A	EI	LV CTR	C	CODE	N	I			
	TMC	4	12	-	2	001	002	00001	A	1	00008	C	2	-	77777	01	J
	HK.tmc	HK.itmno	HK.pmpnom														
	HK.figno																
TO	TM	FIG	ITEM													CS	CF
CC	CODE	NO	NO	PROVISIONING NOMENCLATURE												N	I
	TMC	4	12	TING DEVICE, BRASS	SEE FIGURE 4 FOR INTERFACE SWITCH											01	K

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PART II

STANDARD EDIT SUMMARY FOR PCCN A90B10

HG.plisn/XC.seiplisn	HA.refno	HA.cage	HG.lcn	HG.alc	MESSAGE
PLISN	REFERENCE NUMBER	CAGE	LCN	ALC	
A121	14109-23L	44940	002	00	PLISN DISQUALIFIED, NO MATCH ON UOC
A122	12890A-098/32	33125	00201	00	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT
A123	142-0001	44940	00202	00	PLISN RETAINED ON LSA-036 QPEI NOT CALCULATED, NO TOPDOWN BREAKDOWN
A124	1829180/90	89104	00203	00	PLISN DISQUALIFIED, NO MATCH ON UOC
A125	21290/78-1	21289	00204	00	PLISN DISQUALIFIED, NO MATCH ON UOC
F120	AER-01290	45346	0150101	00	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT
F121	5E23	10990	0150102	00	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT
F122	142-0001	44940	0150103	00	PLISN RETAINED ON LSA-036 QPEI NOT CALCULATED, NO TOPDOWN BREAKDOWN
F123	A99-098TY	10990	0150104	00	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT
F124	89-19092/18965RK 7-PQ	65903	0150104	01	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT
F125	231-IU	55901	0150105	00	PLISN DISQUALIFIED, NO MATCH ON PTD SELECT

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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XC.seipccn

PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

EACH EDIT NUMBER (EDIT NO) IS SEPARATELY SELECTABLE BY THE REQUIRING AUTHORITY.

ERRORS	EDIT	SELECTED	ASSOCIATED ERROR MESSAGES
0002	ITEM NAME	YES	010
0002	UNIT OF MEASURE (UM) AND UM PRICE	YES	020
0000	USABLE ON CODE (UOC)	YES	030
	INDENTURE CODE (IND CD)	NO	040, 390
	ADDITIONAL REFERENCE NUMBER (ARN)	NO	050
0001	ESSENTIALITY CODE (EC) OPTIONS A OR B	OPTION A	060
	SHELF LIFE (SL)	NO	070
	NATIONAL STOCK NUMBER (NSN)	NO	080
	UNIT OF ISSUE (UI) AND UI PRICE	NO	090
	QUANTITY PER UNIT PACK	NO	100
0006	SOURCE MAINTENANCE AND RECOVERABILITY (SMR) CODE	OPTION B	
	OPTION A		110
	OPTION B		120, 130, 140, 150
	OPTION C		120, 130, 140, 160, 170, 180, 210, 220
0000	DEMILITARIZATION CODE (DMIL)	YES	230
0000	PRODUCTION LEAD TIME (PLT)	YES	240
	PHYSICAL SECURITY/PILFERAGE CODE (PS/PC)	NO	250
	NEXT HIGHER ASSEMBLY (NHA) PLISN	NO	260
	QUANTITY PER ASSEMBLY (QPA)	NO	270
	MAINTENANCE REPLACEMENT RATES (MRR)	NO	280
	REFERENCE DESIGNATION CODE (RDC)	NO	290
	ALLOWANCE ITEM CODE (AIC)	NO	300

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

ERRORS	EDIT	SELECTED	ASSOCIATED ERROR MESSAGES
	PLISN AND NHA PLISN	NO	310
	ASTERISK INDENTURE CODE AND NHA PLISN	NO	320
	ASSEMBLED ITEMS AND PARTS AND SMR	NO	330, 340
	SMR ASSEMBLY AND PARTS	NO	350
	ITEM AND NHA ITEM INDENTURE CODE	NO	360
	UM PRICE OF ITEM AND NHA	NO	370
	OVERHAUL REPLACEMENT RATES	NO	380
	INTERCHANGEABILITY CODE (INTCH CD) AND R/S PLISN	NO	400

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

XC.seipccn

PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

NOTE: DATA FIELDS AFFECTED BY THE EDIT ARE DEPICTED BY ENTITY CODE FOLLOWING THE EDIT MESSAGE.

- * 010 MISSING ITEM NAME * HA
- * 020 MISSING UM/UM PRICE * HA, HD
- * 030 UOC NOT 3 POSITIONS * HO
- * 040 INDENTURE CODE MISSING * HG
- * 050 RNCC MISSING, MULTIPLE D & C/7 * HB * ADDITIONAL REFERENCE NUMBERS (ARN) MUST EACH HAVE AN RNCC. IN ADDITION NO MORE THAN ONE DRAWING AND ONE SPECIFICATION NUMBER DESIGNATED BY D AND C OR 7 CAN BE INCLUDED IN ARNS FOR A REFERENCE NUMBER/CAGE COMBINATION.
- * 060 ESSENTIALITY CODE MISSING * HG * OPTION A OF ESSENTIALITY CODE (EC) EDIT REQUIRES THAT EC BE ENTERED FOR ALL PLISNS. OPTION B REQUIRES EC ON RECORDS WITH SMR SOURCE CODE OF PA, PC OR PG.
- * 070 SHELF LIFE MISSING * HA
- * 080 NSN NOT 13 POSITIONS, FIXED * HA * FSC AND NIIN MUST EITHER BOTH BE BLANK OR HAVE ENTRIES.
- * 085 NSN FSC MISSING FOR SMR CODES WITH P (OTHER THAN PC) * HA

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

* 090 MISSING UI/UI PRICE & UI CONVERSION FAC * HD * APPLICABLE ONLY AGAINST "P" SOURCE CODED ITEMS.

* 100 MISSING QUANTITY PER UNIT PACK * HF

* 110 SMR NOT BLANK (OPTION A) * HG

* 120 SMR OTHER THAN ARMY ALLOWED CODES * HG * DATA EDITS FOR OPTIONS B AND C REQUIRE SPECIFIC SUBFIELD EDIT VARIATIONS FROM AR 700-82, JOINT REGULATION GOVERNING USE AND APPLICATION OF SOURCE MAINTENANCE AND RECOVERABILITY CODES, WHICH ARE ESTABLISHED IN THE BASIC EDITS FOR SMR.

A. SOURCE CODE (POSITIONS 1 AND 2). CODES MG AND AG ARE NOT ALLOWED. IN ADDITION TO THE CODES LISTED IN AR 700-82, CODE XD IS PERMITTED.

B. MAINTENANCE REMOVE (POSITION 3). CODES ALLOWED ARE C, O, F, H, AND D. CODES 2 THROUGH 6 AND G ARE NOT ALLOWED.

C. MAINTENANCE REPAIR (POSITION 4). CODES ALLOWED ARE O, F, H, D, L, Z, AND B. CODE G IS NOT ALLOWED.

D. RECOVERABILITY CODE (POSITION 5). CODES ALLOWED ARE O, F, H, D, L, Z AND A. CODE G IS NOT ALLOWED.

* 130 MAINT LEVEL CODES NOT COMPATIBLE (SMR-3/4) * HG * THE FOLLOWING COMBINATIONS OF MAINTENANCE (REMOVE) 3D POSITION AND MAINTENANCE (REPAIR) 4TH POSITION OF THE SMR ARE INVALID: DO, DF, DH, HO, HF, AND FO.

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

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PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

* 140 SMR-3 MUST BE D WHEN SOURCE CODE IS KD * HG

* 150 MAINT/RECOV NOT EQUAL (OPTION B) * HG * UNDER SMR EDIT OPTION B, THE SMR-4 AND SMR-5 MUST BE EQUAL; OR SMR-4 MUST BE B; OR SMR-5 MUST BE A.

* 160 MAINT/RECOV NOT COMPATIBLE (OPT C) * HG * USING SMR EDIT OPTION C, THE FOLLOWING COMBINATIONS OF SMR-4 AND SMR-5 ARE PERMITTED: B-, -A, OO, OF, OH, OL, OD, FF, FH, FL, FD, HH, HL, HD, DD, DL, AND ZZ.

* 170 MTD NOT COMPATIBLE WITH SMR (SMR3/4) * HG. * AN EDIT IS PERFORMED BETWEEN SMR AND MAINTENANCE TASK DISTRIBUTION (MTD). MTD IS

A MANDATORY ENTRY FOR ALL PA, PC, OR PG SOURCE CODED ITEMS WHEN SMR-4 IS NOT Z OR B. OTHERWISE, MTD SHOULD BE BLANK.

A. IF SMR-3 EQUALS O AND SMR-4 IS:

O, THEN MTD-O AND CBD MUST EQUAL 100 PERCENT.

F, THEN MTD-O, MTD-F, AND CBD MUST EQUAL 100 PERCENT AND MTD-F CANNOT BE BLANK.

H, THEN MTD-O, MTD-F, MTD-H, MTD-L, AND CBD MUST EQUAL 100 PERCENT AND MTD-H/L CANNOT BE ZERO.

D, THEN MTD-O, MTD-F, MTD-H, MTD-L, MTD-D AND CAD MUST EQUAL 100 PERCENT AND MTD-D CANNOT BE ZERO.

B. IF SMR-3 EQUALS F AND SMR-4 IS:

F, THEN MTD-F, AND CBD MUST EQUAL 100 PERCENT AND MTD-F CANNOT BE BLANK.

H, THEN MTD-F, MTD-H, MTD-L, AND CBD MUST EQUAL 100 PERCENT AND MTD-H/L CANNOT BE ZERO.

D, THEN MTD-F, MTD-H, MTD-L, MTD-D AND CAD MUST EQUAL 100 PERCENT AND MTD-D CANNOT BE ZERO.

C. IF SMR-3 EQUALS H AND SMR-4 IS:

H, THEN MTD-H, MTD-L, AND CBD MUST EQUAL 100 PERCENT AND MTD-H/L CANNOT BE ZERO.

D, THEN MTD-H, MTD-L, MTD-D AND CAD MUST EQUAL 100 PERCENT AND MTD-D CANNOT BE ZERO.

D. IF SMR-3 EQUALS D THEN SMR-4 MUST EQUAL D AND MTD-D AND CAD MUST EQUAL 100 PERCENT.

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

* 180 MTD NOT BLANK FOR OTHER THAN PA/PC/PG SOURCE * HG

* 190 RTD NOT COMPATIBLE WITH SMR (SMR-3) * HG * AN EDIT IS PERFORMED BETWEEN THE SMR AND THE REPLACEMENT TASK DISTRIBUTION (RTD). RTD IS MANDATORY FOR PA, PC AND PG SOURCE CODED ITEMS. OTHERWISE RTD SHOULD BE BLANK.

A. WHEN SMR-4 EQUALS Z AND SMR-3 IS:

O, THEN RTD-O, RTD-F, RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-O CANNOT BE ZERO.

F, THEN RTD-F, RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-F CANNOT BE ZERO.

H, THEN RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-H AND RTD-L CANNOT BE ZERO.

D, THEN RTD-D MUST EQUAL 100 PERCENT.

B. WHEN SMR-4 EQUALS O SMR-3 MUST EQUAL O AND RTD-O MUST EQUAL 100 PERCENT.

C. WHEN SMR-4 EQUALS F AND SMR-3 IS:

O, THEN RTD-O, AND RTD-F MUST EQUAL 100 PERCENT AND RTD-O CANNOT BE ZERO.

F, THEN RTD-F MUST EQUAL 100 PERCENT.

D. WHEN SMR-4 EQUALS H OR L AND SMR-3 IS:

O, THEN RTD-O, RTD-F, RTD-H, AND RTD-L MUST EQUAL 100 PERCENT AND RTD-O CANNOT BE ZERO.

F, THEN RTD-F, RTD-H, AND RTD-L, MUST EQUAL 100 PERCENT AND RTD-F CANNOT BE ZERO.

H, THEN RTD-H, AND RTD-L, MUST EQUAL 100 PERCENT.

E. WHEN SMR-4 EQUALS D AND SMR-3 IS:

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

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PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

O, THEN RTD-O, RTD-F, RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-O CANNOT BE ZERO.

F, THEN RTD-F, RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-F CANNOT BE ZERO.

H, THEN RTD-H, RTD-L, AND RTD-D MUST EQUAL 100 PERCENT AND RTD-H OR RTD-L CANNOT BE ZERO.

D, THEN RTD-D MUST EQUAL 100 PERCENT.

* 200 RTD NOT BLANK FOR OTHER THAN PA/PC/PG SOURCE CODED ITEM * HG

* 210 MRR MISSING FROM PA/PC OR PG SOURCE CODED ITEM * HG * MAINTENANCE REPLACEMENT RATES I, II, AND MODIFIER MUST NOT BE BLANK FOR SOURCE CODES PA, PC AND PG EXCEPT FOR ITEMS WITH "D" IN 3RD POSITION OF SMR.

* 213 INTERCHANGEABILITY CODE has been SELECTED. RS PLISN must NOT BE BLANK * HP

* 220 MAINT REPL RATES/MOD NOT BLANK * HG * MAINTENANCE REPLACEMENT RATES I, II, AND MODIFIER MUST BE BLANK FOR SOURCE CODES OTHER THAN PA, PC AND PG AND FOR ALL ITEMS WITH SMR-3 OF D.

* 230 DMIL AND SMR NOT BLANK OR BOTH * HG * EITHER THE DEMILITARIZATION CODE AND SMR CODE MUST BOTH BE BLANK OR HAVE ENTRIES.

* 240 PRODUCTION LEAD TIME IS MISSING * HA

* 250 PHYSICAL SECURITY/PILFERAGE CODE MISSING * HA

* 251 QUANTITY PER ASSEMBLY IS BLANK * HG

* 260 NHA PLISN MISSING (NHA IND OF A, B, OR N) * HH * THE NHA PLISN MUST BE IDENTIFIED BY AN NHA PLISN INDICATOR OF A, B, OR N. IF THE INDENTURE CODE FOR THE ITEM IS NOT A, THEN IT MUST HAVE AN NHA PLISN. THERE CAN ONLY BE ONE NHA PLISN INDICATOR OF EITHER N, B OR A; ALL OTHER NHA PLISNS (OVERHAUL/KIT PLISNS) MUST BE EITHER BLANK OR ASTERISK (*). THERE CANNOT BE AN A AND * NHA PLISN INDICATOR FOR THE SAME ITEM.

* 261 MULTIPLE NHA PLISNs with NHA PLISN INDICATOR VALUE OF N, B, C, OR E * HG, HH

* 270 QPEI OR QPA MISSING/QPEI < QPA * HG * THE QUANTITY PER ASSEMBLY MUST BE GREATER THAN ZERO.

* 280 MRRI, MRRII, OR MRR-MOD MISSING * HG * WHENEVER MAINTENANCE REPLACEMENT RATE (MRR) I, II OR MRR MODIFIER ARE ENTERED, THEN ALL MUST BE ENTERED.

* 290 RDC OF H, T, R OR S NOT ALLOWED * HJ.RDCODEHJ

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

* 300 AIC 1ST POS NOT A, AIC QTY BLANK (NOT AD) * HG.ALLOWCHG, HG.ALIQTYHG

* 305 RNCC has other value than 1, 2, 3, 4, 5, 6, 7, 8, A, B, C, D, E, F, G OR BLANK * HG

* 306 RNVC has other value than 1, 2, 3, or BLANK * HG

* 307 RNVC is must NOT BE BLANK * HG

* 310 NHA PLISN > PLISN * HG.PLISNOHG, HH.NHAPLIHH * THE NHA PLISN MUST BE ALPHANUMERICALLY (EBCDIC) LOWER THAN THE PLISN RECORD ON WHICH IT IS CONTAINED.

* 316 PROVISIONING REMARKS must NOT BE BLANK *

* 318 DEMILITARIZATION CODE has other value than A, B, C, D, E, F, G, H, J, K, L, M, N, Q, and X * HG

* 320 NO SECOND NHA PLISN (* IND CD) * HG.INDCODHG, HH.NHAPLIHH, HH.NHAINDHH * WHEN THE INDENTURE CODE IS ASTERISK, THEN THERE MUST BE TWO NHA PLISNS; THE FIRST WITH AN NHA-IND OF EITHER B OR N, AND THE SECOND WITH AN NHA-IND OF *.

* 325 MAINTENANCE REPLACEMENT RATE MODIFIER CAN ONLY CONTAIN A,B,C,1,2,3,4,5,6,7,8 OR 9 IN FIRST SIX POSITIONS AND W OR BLANK IN 7TH

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

XC.seipccn

PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

POSITION * HG

* 326 ESSENTIALITY CODE MUST BE A,B,1,3,5,6 OR 7 * HG

* 330 NHA SMR NOT A- WHEN NHA-IND A * HH.NHAPLIHH, HH.NHAINDHH, HG.SMRCDHG * IF AN NHA PLISN INDICATOR IS A, THEN THE NHA ITEM MUST BE SOURCE CODED "A-".

* 336 SPECIAL MATERIAL CONTENT CODE has other values than A-Z, 9, \$, and * * HA

* 338 SPECIAL MAINTENANCE ITEM CODE has other value than A, B, C, D, F, G, OR H. AND ADDITIONALLY IF SMIC is B then RCTC cannot be BLANK * HA, HG

* 339 PHYSICAL SECURTIY/ PILFERAGE CODE NOT 1-9 OR A-Z * HA

* 340 ASSEMBLED ITEM PIECE PARTS NOT PA/PC SRC * HG * WHEN ITEMS CONTAINED SOURCE CODES OF AO - AD, THE PARTS AT THE NEXT LOWER INDENTURE MUST BE SMR SOURCE CODED PA OR PC.

* 345 IF NHA PISN INDICATOR is A, B, N than one NHA PLISN exists * HH

* 350 SMR ASSY NOT COMPATIBLE WITH SMR PARTS * HG, HH * IF THE SMR MAINTENANCE (REPAIR), 4TH POSITION, IS NOT Z OR B, THEN THE NEXT LOWER INDENTURE ITEMS CANNOT BE SMR MAINTENANCE (REMOVE), 3RD POSITION, CODED WITH A MAINTENANCE LEVEL THAT IS HIGHER THAN THE SMR-4 OF THE ASSEMBLY, E.G., AN ASSEMBLY WITH AN SMR OF PAFFF CANNOT HAVE COMPONENTS WITH SMRS OF PAHZZ, PADZZ, OR PAHHH. MAINTENANCE LEVELS IN ASCENDING ORDER ARE AS FOLLOWS: C, O, F, H, L, AND D.

* 360 IND CD OF NHA PLISN NOT ONE LESS THAN PLISN * HG, HH, XC * THE NEXT HIGHER PLISN RECORD MUST CONTAIN AN INDENTURE CODE THAT IS ALPHANUMERICALLY (EBCDIC) ONE LESS THAN THE INDENTURE CODE OF THE PLISN RECORD. (EXCEPTION IS ASTERISK INDENTURE CODE FOR PLISN RECORD).

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

- * 370 UM PRICE NOT LESS THAN UM PRICE OF NHA * HD, HH *
- * 380 ORR MISSING FOR P SRC WITH NHA SMR OF P--D- * HG, HH
- * 381 If SMR SOURCE CODE is NOT PA, PC, PG then ORR must EXIST * HG, HH
- * 382 IF SMR REPAIR CODE is NOT D then NHA ORR must EXIST * HG, HH
- * 390 IND CD AND PLISN INCONSISTENT * HG, XC * IF THE INDENTURE CODE (IND CD) IS A, THEN THE PLISN MUST BE BETWEEN AAAA AND AAAHZ. IF THE IND CD IS GREATER THAN A THEN THE PLISN MUST BE GREATER THAN AAAHZ.
- * 400 R/S PLISN AND INTCH CD NOT BLANK OR BOTH * HP * EITHER THE REPLACED OR SUPERSEDING (R/S) PLISN AND INTERCHANGEABILITY CODE MUST BOTH BE BLANK OR BOTH BE ENTERED.
- * 410 FOR SOURCE CODES OF AD, AF, AH, AL, AO, KD, MD, ME, MH, ML OR MO THE THIRD POSITION OF THE SMR CODE IS GREATER THAN THE SECOND POSITION * HG
- * 420 POSITIONS 4 AND 5 OF THE SMR CODE ARE NOT ONE OF THE FOLLOWING: BA, BZ, DA, DD, FA, FD, FF, FH, FL, FK, HA, HD, HH, HL, HK, LA, LD, LL, LK, KK, KA, KL, KD, OA, OD, OF, OH, OL, OK, OO, ZA, OR ZZ * HG
- * 430 MAINTENANCE REPLACEMENT RATES I AND II CANNOT BE ZERO FOR SMR CODES WITH POSITION 1 AND 2 OF PA, PC, PG, AND POSITION 3 EQUAL TO C, O, F, K, L, OR H * HG
- * 440 MAINTENANCE REPLACEMENT RATES ARE NOT BLANK AND ESSENTIALITY CODE IS 3 FOR AN SMR CODE FIRST TWO POSITIONS OF PB * HG

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

- * 450 IF SMR SOURCE CODE is PA, PC, or PG and SMR MAINTENANCE CODE is D then MRR and MRR Modifier must be BLANK * HG, HH
- * 460 SHELF LIFE NOT GREATER THAN ZERO FOR AN SMR CODE FIRST TWO POSTIONS OF PB * HA, HG
- * 470 IF ESSENTIALITY CODE is 3 then LRU cannot be Y * HG
- * 480 IF QPA or QPEI is REF then SAMEAS PLISN cannot be BLANK * HG
- * 490 PLISNs QPA > QPEI * HG
- * 500 MAINTENANCE TASK DISTRIBUTION FIELDS AND CONTRACTOR REPAIR CYCLE TIME FIELD NOT BLANK WHEN THE SMR CODE POSITIONS 1 AND 2 ARE PA, PC OR PG AND THE 4th POSITION IS B OR Z * HG
- * 510 NHA PLISN DOES NOT EXIST AS PART OF THE PROVISIONING LIST * HG, HH

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

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PART III

OPTION 1, ARMY EDIT SUMMARY FOR PCCN A90B10

- * 520 PLISN CANNOT EQUAL THE NHA PLISN * HG, HH
- * 525 UOC FOR THE PLSIN ITEM DOES NOT MATCH THE UOC'S ASSOCIATED WITH THE NHA PLSIN * HG, HO, HN
- * 530 INDENTURE CODE OF * NOT ASSOCIATED WITH TWO NHA PLISN'S (I.E., TRUE NHA AND KIT) * HG, HH
- * 540 INDENTURE CODE OF PLISN IS NOT LOWER THAN NHA PLSIN ITEM (DOES NOT APPLY TO KIT ITEMS) * HG, HH
- * 550 INDENTURE CODE OF PLISN IS MORE THAN ONE STEP LOWER THAN NHA PLISN * HG, HH
- * 560 OVERHAUL QUANTITY IS BLANK WHEN THE SMR CODE POSITION 4 IS EQUAL TO D * HG, HH
- * 570 IF NHA PLISN INDICATOR is E then NHA PLISN must be between AAAA - AAAHZ * HH
- * 580 PLISN ITEM DOES NOT APPEAR AS AN NHA PLISN WITHIN A PCCN WHEN THE SMR CODE POSTION 1 IS EQUAL TO A * HG, HH
- * 590 QUANTITY PER ASSEMBLY EQUALS REF BUT THE PLISN ITEM ONLY OCCURS ONCE WITHIN THE PCCN * HG
- * 600 QUANTITY PER END EQUALS REF BUT THE PLISN ITEM ONLY OCCURS ONCE WITHIN THE PCCN * HG

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

- * 610 IF SAME-AS-PLISNs NOT BLANK Then CAGE/REF NO combination only exists ONCE. * HA, HG, HH
- * 620 IF SMIC is B then RCT-CONTRACTOR cannot be BLANK * HA, HG
- * 630 IF RCT-CONTRACTOR is NOT BLANK then SMIC MUST be EQUAL to B * HA, HG
- * 640 IF R/S PLISN is NOT located within PCCN Range * HG, HP, HO
- * 641 R/S PLISN INDICATOR is equal R then R/S PLISN is BLANK * HG, HP
- * 650 R/S PLSIN is NOT IN PCCN Range * HG, HP, HO
- * 660 ONLY MODEL RECORDS WITH PLISN VALUES OF AAAA TO AAAHZ CAN HAVE AN INDENTURE CODE VALUE OF A, ALL OTHERS MUST BE B OR LOWER * HG
- * 670 SMR CODE POSITIONS 3 AND 4 DO NOT CONTAIN THE FOLLOWING VALUES: CB, CO, CF, CH, CL, CK, CD, CZ, OB, OO, OF, OH, OK, OL, OD, OZ, FB, FF, FH, FK, FL, FD, FZ, HB, HH, HK, HL, HD, HZ, LB, LZ, LL, LD, KL, KB, KZ, KK, KD, DB, DD OR DZ * HG

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

- * 680 IF NHA PLISN INDICATOR is equal A then SMR Source for the NHA PLISN is equal to A * HG, HH
- * 690 IF NHA PLISN INDICATOR is equal to F then SMR Source for the NHA PLISN is equal to M * HG, HH
- * 700 IF NHA PLISN INDICATOR is equal B or C and SMR Source is D the ORR must have a value * HG, HH
- * 710 IF REFERENCE DESIGNATOR CODE has a value the REFERENCE DESIGNATOR must have a value * HG, HH
- * 720 REPAIR CYCLE TIME IS NOT BLANK AND MAINTENANCE TASK DISTRIBUTION FIELDS ARE BLANK * HG
- * 730 The Same-AS-PLISN cannot equal the PLISN * HG, HH, HP
- * 740 REFERENCE NUMBER AND CAGE CODE equal of the SAME AS PLISN REFERENCE NUMBER * HG, HH, HP
- * 750 IF THERE EXISTS more than one PLISN with the SAME REFERENCE NUMBER and CAGE CODE then QTY PER END ITEM equal REF * HG, HH
- * 770 QPA equal REF and the QTY PER FIGURE IS BLANK or NOT NUMERIC then does NOT contain V * HG, HK
- * 780 PROVISIONING NOMECLATURE IS BLANK AND THE SMR CODE 1st POSITION EQUALS "M" * HG, HK
- * 790 MODEL PLISN RECORD (I.E., AAAA TO AAAHZ) HAS MORE THAN ONE UOC * HG, HO, HN
- * 800 FOR a particular PLISN, IF QTY PER ASSEMBLY is REF then SAME AS PLISN must NOT be BLANK * HG, HH
- * 810 FOR a particular PLISN, IF QTY PER END ITEM is REF then SAME AS PLISN must NOT be BLANK * HG, HH

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

* 820 SAME AS PLISN IS CONTAINED WITHIN THE SAME ASSEMBLY FOR THE PLISN ITEM * HG

HG/XC.plisn	HA.refno	HA.cage	HG.lcn	HG.alc	EDIT MESSAGE
PLISN	REFERENCE NUMBER	CAGE	LCN	ALC	
A123	142-0001	44940	00202		010 MISSING ITEM NAME 020 MISSING UM/UM PRICE 030 UOC NOT 3 POSITIONS 060 ESSENTIALITY CODE MISSING 120 SMR OTHER THAN ARMY ALLOWED CODES 150 MAINT/RECOV NOT EQUAL (OPTION B) 190 RTD NOT COMPATIBLE WITH SMR
F121	142-0001	44940	0050103		010 MISSING ITEM NAME 020 MISSING UM/UM PRICE 150 MAINT/RECOV NOT EQUAL (OPTION B) 190 RTD NOT COMPATIBLE WITH SMR 200 RTD NOT BLANK FOR OTHER THAN PA/PC/PG SOURCE

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

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PART III

OPTION 2, AIR FORCE L CARD FOR PCCN A90B10

AIR FORCE L CARDS ARE DISPLAYED IN THIS SECTION OF THE SUMMARY FROM A SORTED FILE IN ASCENDING PLISN AND CFI SEQUENCE.
IF THE MERGE
OPTION IS REQUESTED, THE L CARDS ARE MERGED WITH THE LSA-036 A-K RECORDS.

.....1.....2.....3.....4.....5.....6.....7.....8																							
A90B10A123 E 18 0007C1 01L																							
A90B10A123 3220008763125 3218916590/902 02L																							
A90B10A123 95JUN0010AUG0008OCT0013 03L																							
.....1.....2.....3.....4.....5.....6.....7.....8																							
(SUMMARY WITHOUT HEADER OPTION)																							
1-6 7-11 12 13 14 15 16-17 18-19 20-23 24 25 26 27 28-31 32-33 34 35 36 37-39 40-63 64-77 78-79 80																							
XC.seipccn HG/XC.plisn																							
XC.seityocc																							
HG.typechgc																							
PCCN TO MT BL WR WRMC ATC SPRAM HM RN IS MOE PI MO MO PC BL REQUISITION CS CF																							
PLISN CC CH NK WC QTY QTY QTY I J S SI RULE CA S SM A MIE NK NUMBER N I																							
A90B10 A123 - E W 18 -- 0007 C 1 - - ---- -- - - - --- ----- 01 L																							

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

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PROVISIONING REQUIREMENTS (LSA-036)

1-6	7-11	12	13-25	26-27	28-32	33-64	65-77	78-79	80
XC.seipccn	HG/XC.plisn	HA.nsnccgc	HA.nsnmcc	HA.nsnfsc					
	XC.seityocc	HA.nsnniin	HA.nsnmima						
	HG.typechgc	HA.nsnactvc							
PCCN	PLISN	CC	TO SUB NATIONAL STOCK NUMBER	SUBSTITUTE MMAC	SUBSTITUTE CAGE	SUBSTITUTE REFERENCE NUMBER	BLANK	CS N	CF I
A90B10	A123	-	3220008763125	--	32189	16590/902		02	L

1-6	7-11	12	13-14	15-16	17-19	20-23	24-26	27-30	31-33	34-37	38-40	41-44	45-47	48-51	52-54	55-58	59-61	62-65	66-71	72-77	78-79	80
XC.seipccn	HG/XC.plisn																					
	XC.seityocc																					
	HG.typechgc																					
PCCN	PLISN	CC	TO ACT	CODE	YEAR	MONTH	QTY	MONTH	QTY	MONTH	QTY	MONTH	QTY	MONTH	QTY	MONTH	QTY	MONTH	QTY	NATION	ELIN	N I
A90B10	A123	-	--	95	JUN	0010	AUG	0008	OCT	0013	--	----	----	----	----	----	----	----	-----	-----	03	L

(SUMMARY WITH HEADER OPTION)

Figure 30 – Format for LSA-036, Provisioning Requirements (Continued)

4.29 Spares and Support Equipment Identification List (LSA-037)

4.29.1 Introduction

The purpose of the LSA-037, is to provide information that identifies the investment spares (Section A), expense spares (Section B), support equipment (Section C), and tools and test equipment (Section D) required for system support under contractor logistic support.

4.29.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that during P&D the acquiring organization provides the warfighter with the needed capability, to include any required training, spares, technical data, computer software, support equipment, maintenance, or other logistics support necessary for operation. The DoD Components will coordinate with each other and the requiring activity to verify the total number of items required, considering necessary support and spares and training assets for deployed and/or pre-deployment training.
- DoDD 4151.18. This document directs programs to minimize requirements for support equipment including test, measurement, and diagnostic equipment, and to standardize support equipment when it cannot be eliminated.
- MIL-HDBK-2097. States the support equipment (SE) items, quantities, and estimated costs will be furnished to the ordering activity by the acquiring activity. The LSA-037 is the list of support equipment used to fulfill requirement.
- AR 700-18. States that acquisition of PTD will be sufficient to (1) Perform provisioning coding, (2) Accomplish provisioning screening [refer to Federal Logistics Information System (FLIS) Cataloging Data and Transaction Standards (CDTS), Vol. 10], and (3) Select and compute requirements for support items, tools, test equipment, and support equipment.
- NAVSEA S0300-B2-MAN-010. Through Change #22, states that the contractor may be required to deliver Maintenance Planning Summaries IAW DI-SESS-81759 in SAE GEIA-STD-0007C. Referring to summaries, the operations manual also state the summaries may identify preventive and corrective maintenance actions and the required spares and support equipment. These summaries may also be used to provide supporting information that justifies the need for each maintenance action, e.g., elapsed time of maintenance actions, task frequency, failure rate of an item, and mean time to repair an item.
- DI-ILSS-80868. The listing of unique tools and test equipment required for the repair and use of the end item. The listing is intended to be used by the government to determine provisioning requirements for special equipment. This DID requires the delivery of the following data elements: EIAC, End Item CAGE, Contract Number, End Item NSN, End Item Reference Number in the header, and Part CAGE, Part Number, Approved Item Name, Unit Price for the parts.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), RCM analysis (Activity C.1.8), Task inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- PSM Guidebook. The objective of supply support is to identify, plan for, resource, and implement management actions to acquire repair parts, spares, and all classes of supply to ensure the best equipment/ capability is available to support the Warfighter/maintainer when needed, at the lowest possible Total Ownership Cost (TOC). This consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. This means having the right spares, repair parts, and all classes of supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories.

4.29.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary. This summary is often a required delivery for Contractor Logistic Support type contracts.

When: It is not typically delivered as part of a contractual requirement. Instead, this summary should be used during maintenance task development, provisioning efforts, spare and support equipment identification and technical manual development. It should also be used during Logistics Demonstrations and are part of the Product Support Package. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity

C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

What: It provides information that identifies the investment spares (Part A), expense spares (Part B), support equipment (Part C), and tools and test equipment (Part D) required for system support under contractor logistic support.

Why: It is recommended for contractor logistics support regardless of the type of contract, spares, repair parts and other support equipment required to be verified and coordinated prior to deployed and/or pre-deployed testing during Production & Deployment.

4.29.4 Scope

LSA-037 provides an alternate view of support equipment associated with the maintenance and operation of a system. While the format of the summary format is not required by any policy, support equipment identification is an integral part of the acquisition process.

4.29.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: ALC, Stop LCN, Report Parts, and ICC

The additional selection options by ICC and RPT PT consist of:

a. RPT PT:

1. Section A, enter a (y) if Section A of the 037 summary is required, otherwise, leave blank.
2. Section B, enter a (y) if Section B of the 037 summary is required, otherwise, leave blank.
3. Section C, enter a (y) if Section C of the 037 summary is required, otherwise, leave blank.
4. Section D, enter a (y) if Section D of the 037 summary is required, otherwise, leave blank.

b. Enter the ICCs for which the summary parts A to D are required.

1. Section A, Investment Spare (ICC of X, AA) are allowed.
2. Section B, Expense Spare (ICC of Y, Z, 9, AB, AE) are allowed.
3. Section C, Support Equipment (ICC of G, H, 7, AD) are allowed.
4. Section D, Tool and Test Equipment (ICC of D, M, N, P, R, V, 1 through 6, 8, AC) are allowed.

c. If no ICCs are selected for a selected summary Section (A through D) then all of the possible ICCs for that summary Section are output.

Refer to Appendix A of SAE GEIA-STD-0007C for a listing and definitions of the various ICCs. These groupings will only have validity when definitions of the ICCs specified in Appendix A of SAE GEIA-STD-0007C have been adhered to.

d. All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.

4.29.6 Processing/Business Rules

Items qualify for a particular section based on ICCs and the summary part selected. The Manufacturer's Part Number (Reference Number) is wrapped at 16 positions. The MTBFs are depicted by comparative analyzed (C), allocated (A), predicted (P), and measured (M) (Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis) (these come from RAM Indicator Code). The Unit of Measure Price that is used is identified by a "Y" in Price Provisioning.

4.29.7 Sequence

Within each section, the summary is sequenced by ascending manufacturer's part number.

4.29.8 Data Sources

The data sources listed in Table 33, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 33 – Data Sources for Spares and Support Equipment Identification List (LSA-037)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
[TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC (Selected; (matched VIA XF entity to task LCN ICC)	Usable On Code	XF/XC	5790	Required
ICC (Selected)	Item Category Code	HG/EA	2730	Required
RPT PT (Selected)				
OUTPUT				
Section A: INVESTMENT SPARES; REPAIR PARTS AND SUPPLIES (Header)				
MANUFACTURES PART NUMBER	Task Provision Reference Number	CI	4400	Required if Section A required
ITEM NAME	Item Name	HA	2790	Required if Section A required
CAGE (Qualify against ICCs in HG entity)	Task Provision Commercial and Government Entity Code	CI	1520	Required if Section A required
EC	Essentiality Code	HG	2080	Required if Section A required
MTBF	Mean Time Between Failures Technical	BD	3270	Required if Section A required
[RAM IND]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required if Section A required
MB	Mean Time Between Failure Technical Measurement Base	BD	3380	Required if Section A required
QTY/EI	Quantity per End Item	HG	4210	Required if Section A required
QTY/REC	Total Quantity Recommended	HG	5410	Required if Section A required
PLT	Production Lead Time	HA	4020	Required if Section A required
PMIC	Precious Metal Indicator Code	HA	3940	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
DMILC	Demilitarization Code	HA	1820	Optional
SLAC	Shelf Life Action Code	HA	4720	Optional
UNIT OF MEASURE PRICE	Unit Price	HD	3990	Required if Section A required
[PRICE TYPE SELECTION] (= "M")	Price Type Selection	HD	4000	Required
CURR CODE	Currency Code	HD	1745	Required if Section. Price required
UM	Item Unit of Measure	HA	5720	Required if Section A required
Section B: EXPENSE SPARES, REPAIR PARTS AND SUPPLIES (Header)				
MANUFACTURES PART NUMBER	Task Provision Reference Number	CI	4400	Required if Section B required
ITEM NAME	Item Name	HA	2790	Required if Section B required
CAGE (Qualify against ICC's in HG entity)	Task Provision Commercial and Government Entity Code	CI	1520	Required if Section B required
PLT	Production Lead Time	HA	4020	Required if Section B required
LRU	Line Replaceable Unit	HG	2880	Required if Section B required
UNIT OF MEASURE PRICE	Unit Price	HD	3990	Required if Section B required
[PRICE TYPE SELECTION] (= "M")	Price Type Selection	HD	4000	Required
CURR CODE	Currency Code	HD	1745	Required when Price required
UM	Item Unit of Measure	HA	5720	Required if Section B required
Section C: SUPPORT EQUIPMENT (Header)				
MANUFACTURES PART NUMBER	Task Support Reference Number	CG	4400	Required if Section C required
ITEM NAME	Item Name	HA	2790	Required if Section C required
CAGE (Qualify against ICC's SEICCDEA in EA entity)	Task Support Commercial and Government Entity Code	CG	1520	Required if Section C required
QTY REC	Total Quantity Recommended	HG	5410	Required if Section C required
PMIC	Precious Metal Indicator Code	HA	3940	Optional
DMILC	Demilitarization Code	HA	1820	Optional
UNIT OF MEASURE PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "M")	Price Type Selection	HD	4000	Required
CURR CODE	Currency Code	HD	1745	Required when Price required
UM	Item Unit of Measure	HA	5720	Required
Section D: TOOLS AND TEST EQUIPMENT (Header)				
MANUFACTURES PART NUMBER	Task Support Reference Number	CG	4400	Required if Section D required
ITEM NAME	Item Name	HA	2790	Required if Section D required
CAGE (Qualify against ICC's SEICCDEA in EA entity)	Task Support Commercial and Government Entity Code	CG	1520	Required if Section D required
PLT	Production Lead Time	HA	4020	Required if Section D required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
UNIT OF MEASURE PRICE	Unit Price	HD	3990	Required if Section D required
[PRICE TYPE SELECTION] (= "M")	Price Type Selection	HD	4000	Required
CURR CODE	Currency Code	HD	1745	Required when Price required
UM	Item Unit of Measure	HA	5720	Required if Section D required

4.29.9 Format

The format shown in Figure 31 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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SPARES AND SUPPORT EQUIPMENT IDENTIFICATION LIST (LSA-037)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcnomen	XF/XC.uoc	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	ICC SELECTED	RPT PT
REFRIG UNT	REFRIGERATION UNIT	0	00	P	0	DCY	BZQYX	YYYY

SECTION A: INVESTMENT SPARES; REPAIR PARTS AND SUPPLIES

CI.refno	HA.itemname	CI.cage	HG.essntcod	BD.mtbftech (BD.raminced)	BD.mtbfmb	HG.qpei	HG.ttqtyrec	HA.plt	HA.pmicode	HA.demilcd	HA.shflfacc	HD.unitprc	HD.currcod	HA.um
MANUFACTURERS	ITEM NAME	CAGE	EC	MTBF	MB	QTY/EI	QTY/REC	PLT	PMIC	DMILC	SLAC	UNIT OF MEASURE	PRICE	CURR CODE
1240D1	CARD ASSY/DPIO	18655	1	20000.0 (P)	H	2	1	8	A	B	33	1535.00	USD	EA

SECTION B: EXPENSE SPARES, REPAIR PARTS AND SUPPLIES

CI.refno	HA.itemname	CI.cage	HA.plt	HG.lru	HD.unitprc	HD.currcod	HA.um
MANUFACTURERS	ITEM NAME	CAGE	PLT	LRU	UNIT OF MEASURE	CURRCODE	UM
112202-01	LAMP DRIVER	62623	10	Y	541.83	USD	EA

SECTION C: SUPPORT EQUIPMENT

CG.refno	HA.itemname	CG.cage	HG.ttqtyrec	HA.pmicode	HA.demilcd	HD.unitprc	HD.currcod	HA.um
MANUFACTURERS	ITEM NAME	CAGE	QTY REC	PMIC	DMILC	UNIT OF MEASURE	CURRCODE	UM
HP5411D	OSCILLOSCOPE	28480	1	A	B	3150.00	USD	EA

SECTION D: TOOLS AND TEST EQUIPMENT

CG.refno	HA.itemname	CG.cage	HA.plt	HD.unitprc	HD.currcod	HA.um
MANUFACTURERS	ITEM NAME	CAGE	PLT	UNIT OF MEASURE	CURRCODE	UM
P6015	PROBE/TEST	28480	6	176.50	USD	EA

Figure 31 – Format for LSA-037, Spares and Support Equipment Identification List

4.30 Critical and Strategic Item Summary (LSA-039)

4.30.1 Introduction

LSA-039 is a summary of items assigned a Critical Item Code (CIC) or Industrial Materials Analysis of Capacity (IMAC) code. Part I of the summary lists CIC items. Part II of the summary lists IMAC items. This summary can also be an input in developing a Diminishing Manufacturing Sources and Material Shortages (DMSMS) program. Critical items are specially handled for DMSMS.

A report is required to be given to Congress every year on the National Defense Stockpile (NDS). It is critical that these items are reported as required.

4.30.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Code of Federal Regulations (CFR) Title 50. The National Defense Stockpile operates under the authority of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. §98 et seq.), As Amended Through P.L. 114-328, enacted December 23, 2016. The Stock Piling Act provides that strategic and critical materials are stockpiled in the interest of national defense to preclude a dangerous and costly dependence upon foreign sources of supply in times of national emergency. DLA Strategic Materials administers the acquisition, storage, management, and disposal of materials in the NDS.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. The data associated with the LSA-039 is input to the following Product Support Activities: Supportability and Supportability Related Design Factors (Activity B.5). FMECA (Activity C.1.6). Task Inventory (Activity C.1.9). Maintenance Task Analysis (Activity D.1), and Disposal Analysis (Activity E.3).

4.30.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary.

What: This summary identifies special materials and critical items as attributes to a bill of materials.

When: The data elements are developed early in development (Definition Phase, Preliminary Design Review) and are refined throughout system development as part of the provisioning process.

How: The data is then available as critical input to several product support analyses; Supportability and Supportability Related Design Factors (SAE TA-STD-0017A, Activity B.5). FMECA (Activity C.1.6), Task Inventory (Activity C.1.9), Maintenance Task Analysis (Activity D.1), and Disposal Analysis (Activity E.1, Activity E.1.1, and Activity E.3).

Why: This summary should be used for analysis and input in developing a Diminishing Manufacturing Sources and Material Shortages (DMSMS) program.

4.30.4 Scope

LSA-039 is a summary of items assigned a Critical Item Code (CIC) or Industrial Materials Analysis of Capacity (IMAC) code. Part I of the summary lists CIC items. Part II of the summary lists IMAC items. This summary can also be an input in developing a Diminishing Manufacturing Sources and Material Shortages (DMSMS) program. Critical items are handled precisely for DMSMS.

4.30.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type

Optional: ALC, Stop LCN, UOC, Part I: Display Option, LCN, CAGE/Reference Number, Critical Item Codes, Part II: IMAC

4.30.6 Processing/Business Rules

If Part I is selected, a Critical Item Code must be contained against an item within the selected LCN range; if Part II is selected, an IMAC must be contained within the selected LCN range in order to produce an LSA-039 summary.

4.30.7 Sequence

Part I is sequenced in either ascending LCN or by ascending Reference Number and CAGE; Part II is sequenced in ascending LCN.

4.30.8 Data Sources

The data sources listed in Table 34, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 34 – Data Sources for Critical and Strategic Item Summary (LSA-039)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC (Selected; matched VIA HO entity)	Usable On Code	HO/XC	5790	Optional
REPORT PART I				Optional
SEQ PT I (Selected; Options: LCN, Reference Number/CAGE)				Required if Report Part I selected
CRITICAL ITEM CODES (Selected)	Critical Item Code	HA	1730	Required. Default = ALL
REPORT PART II				Optional
IMAC (Selected)	Industrial Materials Analysis of Capacity (1st position)	HA	2530	Required. Default = ALL
OUTPUT				
PART I - CRITICAL ITEM LISTING				
LCN	Logistics Support Analysis Control Number	HG	2970	Required if Part I is required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required if Part I is required
WUC	Work Unit Code	HG	5920	Required if Part I is required
CAGE	Commercial and Government Entity Code	HG	1520	Required if Part I is required
REFERENCE NUMBER	Reference Number	HG	4400	Required if Part I is required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
ITEM NAME	Item Name	HA	2790	Required if Part I is required
UI	Item Unit of Issue	HA	5700	Required if Part I is required
CRIT ITEM CD	Critical Item Code	HA	1730	Optional
QPA	Quantity per Assembly	HG	4190	Optional
PART II - CRITICAL AND STRATEGIC MATERIAL LISTING				
LCN	Logistics Support Analysis Control Number	HG	2970	Required if Part II is required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required if Part II is required
WUC	Work Unit Code	HG	5920	Required if Part II is required
CAGE	Commercial and Government Entity Code	HG	1520	Required if Part II is required
REFERENCE NUMBER	Reference Number	HG	4400	Required if Part II is required
PLISN	Provisioning List Item Sequence Number	HG	4120	Required if Part II is required
	System End Item Provisioning List Item Sequence Number	XC	4120	Required if Part II is required
NHA-PLISN	Next Higher Assembly Provisioning List Item Sequence Number	HH	4120	Required if Part II is required
NHA-IND	Next Higher Assembly Provisioning List Item Sequence Number Indicator	HH	3580	Required if Part II is required
NHA-CAGE	Commercial and Government Entity Code	HH	1520	Required if Part II is required
NHA-REFERENCE-NUMBER	Reference Number	HH	4400	Required if Part II is required
ITEM NAME	Item Name	HA	2790	Required if Part II is required
UI	Item Unit of Issue	HA	5700	Required if Part II is required
MAT-WT	Material Weight	HA	3140	Optional
MAT-LEAD	Material Lead Time	HA	3130	Optional
QPA	Quantity per Assembly	HG	4190	Optional
IMAC	Industrial Materials Analysis of Capacity	HA	2530	Optional

4.30.9 Format

The format shown in Figure 32 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

CRITICAL AND STRATEGIC ITEM SUMMARY (LSA-039)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	SELECTED	SELECTED	SELECTED
EIAC	ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	PARTS	SEQ PT I	SEQ PT II
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	ALL	LCN	LCN

SELECTED
CRITICAL ITEM CODE(S) SELECTED:
ALL

SELECTED
INDUSTRIAL MATERIALS ANALYSIS OF CAPABILITY (1ST POS) SELECTED:
ALL

PART I - CRITICAL ITEM LISTING

HG.lcn	HG.alc	HG.wuc	HG.cage	HG.refno	HA.itemname	HA.ui	HA.crititmc	HG.qpa
LCN	ALC	WUC	CAGE	REFERENCE NUMBER	ITEM NAME	UI	CRIT ITEM CD	QPA
00201	00	04AA	44940	EC1231980	CONNECTION ROD, RST	EA	BCACOFD	0001
0020104	00	04CF	12890	LBAD-123-90/40	BUSHING, CONNECTING	EA	MCALLPQ	0006
0030401	00	05AA	67902	114-0204	RING, RETAINING	EA	PFDSSQ	0006
00402	00	051101	44940	113-153	BEARING, ROD, HALF	PR	PLLPQ	0006

PART II - CRITICAL AND STRATEGIC MATERIAL LISTING

HG.lcn	HG.alc	HG.wuc	XC.seiplisn	HG.plisn	HH.nhaplissn	HH.nhplisni	HA.itemname	HA.ui	HA.materiwt	HA.mtrlldtm	HG.qpa	HA.indmatac
LCN	ALC	WUC	PLISN	NHA-PLISN	NHA-IND	ITEM-NAME	UI	MAT-WT	MAT-LEAD	QPA	IMAC	
002011507	00	0205	AA01	AAAV	N	POWER SUPPLY	EA	001.342	104	0001	EELCT-PT GOLD	
	HG.cage	HG.refno		HH.nhaplissn	HH.nhplisni							
	CAGE	REFERENCE-NUMBER		NHA-CAGE	NHA-REFERENCE-NUMBER							
	10825	145-18902		44940	129A123/4R							
0040106	00	0485	ACYU	AB01	N	BEARING, BALL	EA	000.150	156	0006	MMECH-PT RUTHEN	
	16585	1987-189-543/P6112189-34				33291 1907812-09						
0040515	00	0492	ADAQ	ADWR	N	WIDGET	EA	010.432	052	0001	FFORM PLATNM	
	87091	64D109-23PL2			13126	198/890123						
005120412AA	00	0548	AEAN	AD06	N	POWER SUPPLY	EA	000.539	104	0002	EELCT-PT SILVER	
	54679	12A90			44940	1433-15430						

Figure 32 – Format for LSA-039, Critical and Strategic Item Summary

4.31 Authorization List Items Summary (LSA-040)

4.31.1 Introduction

The LSA-040 comprises the Authorization List Items Summary which includes sections listing end item components, basic issue items, additional authorization items and expendable/durable supplies and materials. These lists are descriptions (usually with pictures), contained in each end item's Technical Manual (TM), of the various parts and equipment which are required for that item to be "complete". Soldiers are issued equipment and repair parts based on the COEI, BIL, and AAL.

4.31.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- MIL-STD-40051-1 and MIL-STD-40051-2, require the use of Logistics Product Data for development of Technical Manuals, including the COEIL, Basic Issue Items List (BIIL), AAL, ESML, and Stockage List Type Three.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Task Analysis (Activity D.1), specifically, Supply Support, Activity D.1.8. Supply support requirements can be identified through documentation of only a few data elements early in a program while later, the total range of data elements required to accomplish initial provisioning (and technical publications) can be documented.
- PSM Guidebook. Equipment Publications are required at Milestone C.
- Marine Corps Order 5215.17D

4.31.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary.

What: Once components are cataloged and NSNs are returned through the DLIS screening process, the data elements associated with the LSA-040 can be completed. The data can then be used as input to technical publications; including the COEIL, BIIL, AAL, ESML, and Stockage List Type Three.

When: The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. Screening takes place in the Definition Phase and thus the data will be fully mature in Development Phase.

How: The data on this summary is an output of several analyses including Evaluation of Alternatives and Tradeoff Analysis (SAE TA-STD-0017A, Activity C.3), Supply Support (Activity D.1.8), and DMSMS/obsolescence analysis (Activity E.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: The data from this summary is used for listing of various authorization/ancillary equipment requirements required for the operator's manual when MIL-STD-40051-1 or MIL-STD-40051-2 is cited.

4.31.4 Scope

This summary is divided into two options. Option 1 consists of four parts: components of end item, basic issue items list, additional authorization list and expendable durable supplies and materials list. These lists are required as source information to prepare an appendix to the operator's manual, or in a combined operator's and maintenance manual. Each summary part is listed in alphabetical sequence by Item Name. Option 2, the Stockage List Type Three, consists of three parts (each selectable); supply system responsibility, using unit responsibility, and collateral equipment.

4.31.5 Selection (Option 1)

Mandatory: EIAC, Start LCN, LCN Type, Display Option (Unit of Issue (default) or Unit of Measure), and Report Selections (Components of End Item, Basic Issue Items List, Additional Authorization List and Expendable Durable Supplies and Materials List)

Optional: ALC, Stop LCN, and UOC

4.31.6 Processing/Business Rules (Option 1)

Option 1 is divided into four sections. Components of end item, basic issue items list, additional authorization list, and expendable durable supplies and materials list are identified by code A in the first position and the appropriate list code in second position of the Allowance Item Code (AIC).

- a. Part I, Components of End Item (COEI) List provides a listing of those items which are part of the end item, but are removed and separately packaged for transportation or shipment. The items are listed in alphabetical sequence of Item

Name and are identified by a "C" in the second position of the AIC. ILLUS NO. is generated based on the item sequence. If Section II is also required, then the computer generated ILLUS NO. is not reset to one but continues with the next sequence number.

- b. Part II, Basic Issue Items (BII) List provides a listing of those minimum essential items required to place an equipment in operation, operate it, and perform emergency repairs. The items are listed in alphabetic sequence of Item Name and are identified by "A" in the second position of the AIC.
- c. Part III, Additional Authorization List (AAL) provides a listing of those items which are not issued with an end item and are not listed/identified on the end item engineering drawings as part of the end item configuration. The items are listed in alphabetic sequence by Item Name within each subsection. AAL–MTOE Authorized are identified by AIC of "E" and AAL–Other Authorized are identified by AIC, second position of "F".
- d. Part IV, Expendable/Durable Supplies and Materials List (ESML) provides a listing of those expendable/durable supplies and materials required to operate and maintain the equipment. The items are listed in alphabetic sequence by Item Name and are identified by AIC, second position of "D". ITEM NO is computer generated. Level is determined by the Source Maintenance and Recoverability Code (third position).

4.31.7 Sequence (Option 1)

Alphabetical sequence of Item Name. Secondary Sort on National Stock Number National Item Identification Number.

4.31.8 Selection Options (Option 2)

Mandatory: EAC, Start LCN, LCN Type

Optional: ALC, Stop LCN, UOC, Unit of Issue (default) or Unit of Measure, and LIST

4.31.9 Processing/Business Rules (Option 2)

In order to produce Option 2 of the summary, at least one entry of an AIC of "E" in the first position, and the applicable code for the selected section(s) must be contained within the selected LCN range. "Ref Desig Fig-Key" is only displayed if Reference Designation Code is "F". If item qualifies, but no Reference Designation Code of "F" is found, the Ref Desig Fig-Key field is left blank. Sort blanks first in each section with second sort on National Stock Number National Item Identification Number.

- a. Part I, Supply System Responsibility consists of AIC items coded "A" and "D" in the second position. The items coded "D" will show the Allowance Item Quantity preceding the Item Name in the description column. Items coded "ED" will be indented two spaces and the Allowance Item Quantity displayed preceding Item Name and Parts Manual Provisioning Nomenclature, instead of displaying Quantity per End Item in the "QTY USED IN UNIT" column, as is the case for "EA" coded items and all other items in either section.
- b. Part II, Using unit Responsibility, is determined by Allowance Item Quantity values of "C" in the second position. Part III, Collateral Equipment is determined by Allowance Item Quantity value of "E" in the second position.
- c. ITEM NO. is a computer generated sequence number assigned to each item beginning with 0001. If multiple sections are present, the Item number is NOT reset to one.

4.31.10 Sequence (Option 2)

Items are sequenced in ascending Reference Designation and LCN within each section.

4.31.11 Data Sources

The data sources listed in Table 35, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 35 – Data Sources for the Authorized List Items Summary (LSA-040)

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
DISPLAY OPTION (Selected; Options include UM, UI)				One or the other is required
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC	Usable On Code	HO/XC	5790	Required
AUTH LISTS SELECTED (Selected; Options: COEI, BII, AAL, ESML)	Allowance Item Code	HG	1180	Required
DRAWING (Selected)				
OUTPUT				
PART I - COMPONENTS OF END ITEM LIST				
ILLUS NO (Generated)				Automatically generated
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional. Required when source data for a technical manual.
	National Stock Number National Item Identification Number	HA	3520	
DESCRIPTION, PART NUMBER, CAGE	Item Name	HA	2790	Required
	Parts Manual Provisioning Nomenclature	HK	4130	Optional
	Commercial and Government Entity Code	XH	1520	Required
	Reference Number	HA	4400	Required
[LCN]	Logistics Support Analysis Control Number	HG	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[AIC]	Allowance Item Code (of “C”)	HG	1180	Required
UOC	Usable On Code	HO/XC	5790	Required
UM	Item Unit of Measure	HA	5720	One or the other is required
UI	Item Unit of Issue	HA	5700	
QTY RQR	Allowance Item Quantity	HG	1190	Required

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
DOCUMENT ID	Document ID	XT/HY	1940	Required when Drawing selected
ORIGINATOR CODE	Originator Code	XT/HY	1520	Required when Drawing selected
ISSUE NUMBER	Issue Number	XT/HY	2715	Required when Drawing selected
SECURITY CLASS	Security Classification	XT/HY	4655	Required when Drawing selected
CAPTION	Caption	XT	1480	Optional
DOCUMENT FILE EXTENSION	Document File Extension	XT	1930	Optional
DRAWING	Drawing	XT	1980	Required when Drawing selected
PART II - BASIC ISSUE ITEMS LIST (Header)				
ILLUS NO (Generated)				Automatically generated
NSN	National Stock Number Federal Supply Classification	HA	2280	Optional. Required when source data for a technical manual
	National Stock Number National Item Identification Number	HA	3520	Optional. Required when source data for a technical manual
DESCRIPTION, PART NUMBER, CAGE	Item Name	HA	2790	Required
	Parts Manual Provisioning Nomenclature	HK	4130	Optional. Necessary for clarification.
	Commercial and Government Entity Code	XH	1520	Required
	Reference Number	HA	4400	Required
[LCN]	Logistics Support Analysis Control Number	HG	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[AIC]	Allowance Item Code (of "A")	HG	1180	Required
UOC	Usable On Code	HO/XC	5790	Required
UM	Item Unit of Measure	HA	5720	One or the other is required
UI	Item Unit of Issue	HA	5700	
QTY RQR	Allowance Item Quantity	HG	1190	Required
DOCUMENT ID	Document ID	XT/HY	1940	Required when Drawing selected
ORIGINATOR CODE	Originator Code	XT/HY	1520	Required when Drawing selected
ISSUE NUMBER	Issue Number	XT/HY	2715	Required when Drawing selected
SECURITY CLASS	Security Classification	XT/HY	4655	Required when Drawing selected
CAPTION	Caption	XT	1480	Optional
DOCUMENT FILE EXTENSION	Document File Extension	XT	1930	Optional
DRAWING	Drawing	XT	1980	Required when Drawing selected

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
PART III - ADDITIONAL AUTHORIZATION LIST (Header)				
NSN	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number		3520	
DESCRIPTION, PART NUMBER, CAGE	Item Name	HA	2790	Required
	Parts Manual Provisioning Nomenclature	HK	4130	Required
	Commercial and Government Entity Code	XH	1520	Required
	Reference Number	HA	4400	Required
[LCN]	Logistics Support Analysis Control Number	HG	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[AIC]	Allowance Item Code (of "E" and "F")	HG	1180	Required
USABLE ON CODE	Usable On Code	HO/XC	5790	Required
UM	Item Unit of Measure	HA	5720	One or the other is required
UI	Item Unit of Issue	HA	5700	
QTY RQR	Allowance Item Quantity	HG	1190	Required
PART IV - EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (Header)				
ITEM NO (Generated)				Automatically generated
LEVEL	Source Maintenance and Recoverability Code	HG	4830	Required
NSN	National Stock Number Federal Supply Classification	HA	2280	Required
	National Stock Number National Item Identification Number		3520	
ITEM NAME, DESCRIPTION, PART NUMBER, CAGE	Item Name	HA	2790	Required
	Parts Manual Provisioning Nomenclature	HK	4130	Optional. Necessary for clarification.
	Commercial and Government Entity Code	XH	1520	Required
	Reference Number	HA	4400	Required
[LCN]	Logistics Support Analysis Control Number	HG	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required
[AIC]	Allowance Item Code (of "D")	HG	1180	Required
UM	Item Unit of Measure	HA	5720	One or the other is required
UI	Item Unit of Issue	HA	5700	
STOCKAGE LIST TYPE THREE (Header)				
NOTE: Stockage List Type Three should only be required by the U.S. Marine Corps.				
EIAC	End Item Acronym Code	HG	2040	Required only for USMC
ITEM NAME	Item Name	HA	2790	Required only for USMC
START LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required only for USMC
TYPE	Logistics Support Analysis Control Number Type	HG	2980	Required only for USMC
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC
UOC	Usable On Code	HO/XC	5790	Required only for USMC
DISPLAY OPTION (Selected; Options include UM, UI)				Optional
TM DESIGNATION (Manually Entered)				Optional
LIST OF COMPONENTS REQUIRED	Allowance Item Code	HG	1180	Required only for USMC
PART I - SUPPLY SYSTEM RESPONSIBILITY				
ITEM NO. (Generated)				Automatically generated
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required only for USMC
	National Stock Number National Item Identification Number	HA	3520	Required only for USMC
REF DESIG FIG-KEY [RDC]	Reference Designation	HJ	4380	Required only for USMC
	Reference Designation Code	HJ	4370	Required only for USMC
MODEL	Usable On Code	HO/XC	5790	Required only for USMC
ITEM IDENTIFICATION	Item Name	HA	2790	Required only for USMC
	Parts Manual Provisioning Nomenclature	HK	4130	Required only for USMC
	Commercial and Government Entity Code	HG	1520	Required only for USMC
	Reference Number	HG	4400	Required only for USMC
UM	Item Unit of Measure	HA	5720	One or the other is required only for USMC
UI	Item Unit of Issue	HA	5700	
QTY USED IN UNIT	Quantity per End Item	HG	4210	Required only for USMC
	System End Item Quantity per End Item	XC	4210	Required only for USMC
LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required only for USMC
AIC	Allowance Item Code (of "EA" and "ED")	HG	1180	Required only for USMC
PART II - USING UNIT RESPONSIBILITY				
ITEM NO. (Generated)				Automatically generated
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required only for USMC
	National Stock Number National Item Identification Number	HA	3520	Required only for USMC
REF DESIG FIG-KEY [RDC]	Reference Designation	HJ	4380	Required only for USMC
	Reference Designation Code	HJ	4370	Required only for USMC

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
MODEL	Usable On Code	HO/XC	5790	Required only for USMC
ITEM IDENTIFICATION	Item Name	HA	2790	Required only for USMC
	Parts Manual Provisioning Nomenclature	HK	4130	
	Commercial and Government Entity Code	HG	1520	
	Reference Number	HG	4400	
UM	Item Unit of Measure	HA	5720	One or the other is required only for USMC
UI	Item Unit of Issue	HA	5700	
QTY USED IN UNIT	Quantity per End Item	HG	4210	Required only for USMC
	System End Item Quantity per End Item	XC		Required only for USMC
LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required only for USMC
AIC	Allowance Item Code (of "EC")	HG	1180	Required only for USMC
PART III - COLLATERAL EQUIPMENT				
ITEM NO. (Generated)				Automatically generated
NATIONAL STOCK NUMBER	National Stock Number Federal Supply Classification	HA	2280	Required only for USMC
	National Stock Number National Item Identification Number	HA	3520	Required only for USMC
REF DESIG FIG-KEY [RDC]	Reference Designation	HJ	4380	Required only for USMC
	Reference Designation Code	HJ	4370	Required only for USMC
MODEL	Usable On Code	HO/XC	5790	Required only for USMC
ITEM IDENTIFICATION	Item Name	HA	2790	Required only for USMC
	Parts Manual Provisioning Nomenclature	HK	4130	
	Commercial and Government Entity Code	HG	1520	
	Reference Number	HG	4400	
UM	Item Unit of Measure	HA	5720	One or the other is required only for USMC
UI	Item Unit of Issue	HA	5700	
QTY USED IN UNIT	Quantity per End Item	HG	4210	Required only for USMC
	System End Item Quantity per End Item	XC		Required only for USMC
LCN	Logistics Support Analysis Control Number	HG	2970	Required only for USMC
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Required only for USMC
AIC	Allowance Item Code (of "EE")	HG	1180	Required only for USMC

Element Name	Data Type Number	Entity	Data Type Number	Data Element Requirement
COMMERCIAL AND GOVERNMENT ENTITY (Sub Header)				
CAGE	Commercial and Government Entity Code	HA	1520	Required only for USMC
ADDRESS	Commercial and Government Entity City	XH	1510	Required only for USMC
	Commercial and Government Entity Name		1530	Required only for USMC
	Commercial and Government Entity Nation		1540	Required only for USMC
	Commercial and Government Entity Postal Zone		1550	Required only for USMC
	Commercial and Government Entity State		1560	Required only for USMC
	Commercial and Government Entity Street		1570	Required only for USMC

4.31.12 Format

The format shown in Figure 33 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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AUTHORIZATION LIST ITEMS SUMMARY (LSA-040)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	HG.allwited
EIAC	ITEM NAME	START LCN	ALC TYPE	STOP LCN		UOC	AUTH LISTS SELECTED
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	ALL

PART I - COMPONENTS OF END ITEM LIST

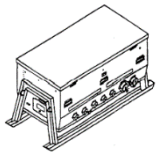
(1)	(2)	(3)	(4)	(5)	(6)
GENERATED	HA.nsnfsc/HA.nsnniin	HA.itemname (HK.pmpnom) HA.refno (HA.cage)	HO/XC.uoc	HA.ui	HG.allwitgt
ILLUS NO	NSN	DESCRIPTION, PART NUMBER, (CAGE)	UOC	UI	QTY RQR
1	4310-00-017-0125	BOX, CONNECTOR (IN MOUNT ON SIDE OF UNIT) 1420-1113/R (05472)	DCY, DCZ	EA	2
					
2	6645-00-089-8842	METER, TIME (IN ELECTRICAL OUTLET ON UNIT SIDE) 561/34K(16476)	DCY	EA	1
					

Figure 33 – Format for LSA-040, Authorized List Items Summary

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AUTHORIZATION LIST ITEMS SUMMARY (LSA-040)

PART II - BASIC ISSUE ITEMS LIST					
(1)	(2)	(3)	(4)	(5)	(6)
GENERATED	HA.nsnfsc/HA.nsnniin	HA.itemname (HK.pmpnom) HA.refno (HA.cage)	HO/XC.uoc	HA.ui	HG.allwitqt
ILLUS NO	NSN	DESCRIPTION, PART NUMBER, (CAGE)	UOC	UI	QTY RQR
3	4930-00-766-7629	LUBRICATING GUN, HAND HIGH PRESSURE (IN TOOL BAG) 102758 (36251)	DCY, DCZ	EA	1



4	8415-00-266-8843	MITTENS, CLOTH PAIR M1942 (IN ODDMENT TRAY) 11655982 (19207)	DCY, DCX, DCZ	PR	1



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AUTHORIZATION LIST ITEMS SUMMARY (LSA-040)

PART III - ADDITIONAL AUTHORIZATION LIST

(1)	(2)	(3)	(4)	(5)
HA.nsnfsc HA.nsnniin NSN	HA.itemname (HK.pmpnom) HA.refno (HA.cage) DESCRIPTION, PART NUMBER, (CAGE)	HO/XC.uoc USABLE ON CODE	HA.ui UI	HG.allwitgt QTY RQR
ADDITIONAL AUTHORIZATION LIST - MTOE AUTHORIZED				
3410-00-145-8795	GENERATOR SET, 5 KW,	DCZ	EA	1
ADDITIONAL AUTHORIZATION LIST - OTHER AUTHORIZED				
2315-00-239-4484	CAN, GASOLINE, 16 GAL	DCY, DCX	EA	1

PART IV - EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1)	(2)	(3)	(4)	(5)
GENERATED ITEM NO	HG.srcmtrcc LEVEL	HA.nsnfsc HA.nsnniin NSN	HA.itemname HK.pmpnom HA.refno (HA.cage) ITEM NAME, DESCRIPTION, PART NUMBER, (CAGE)	HA.ui UI
1	C	2310-00-198-8710	FUEL, DIESEL	GL
2	C	2310-00-178-9800	FUEL, GASOLINE	GL

Figure 33 – Format for LSA-040, Authorized List Items Summary (Continued)

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AUTHORIZATION LIST ITEMS SUMMARY (LSA-040)

STOCKAGE LIST TYPE THREE
SELECTION SUMMARY

HG.eiac
EIAC
REFRIG UNT

HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	
ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	UI/UM
REFRIGERATION UNIT	0	00	P		DCY	UM

TM DESIGNATION LIST OF COMPONENTS REQUIRED

SL-3-88643E	SUPPLY SYSTEM RESPONSIBILITY	YES
	USING UNIT RESPONSIBILITY	YES
	COLLATERAL EQUIPMENT	YES

Figure 33 – Format for LSA-040, Authorized List Items Summary (Continued)

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AUTHORIZATION LIST ITEMS SUMMARY (LSA-040)

STOCKAGE LIST
TYPE THREEMARINE CORPS STOCK LIST
LIST OF COMPONENTS

SL-3-88643E

SUPPLY SYSTEM RESPONSIBILITY

1	2	3	4	5	6	7							
HA.nsnfsc	HA.nsnmcc	HJ.refdes HJ.refdesc	HO/XC.uoc	HA.itemname	HK.pmpnom	HG.cage	HG.refno	HA.um	HG.qpei	XC.seiqpei	HG.lcn	HG.alc	HG.allwitcd
ITEM NO.	NATIONAL STOCK NUMBER	DESIG FIG-KEY	MODEL	ITEM IDENTIFICATION	UM	QTY USED IN UNIT	LCN	ALC	AIC				
1	4420-00-189-3876	002-0001	DCY	COMPRESSOR UNIT	EA	1	005					00	EA

USING UNIT RESPONSIBILITY

1	2	3	4	5	6	7							
ITEM NO.	NATIONAL STOCK NUMBER	DESIG FIG-KEY	MODEL	ITEM IDENTIFICATION	UM	QTY USED IN UNIT	LCN	ALC	AIC				
2	6645-00-089-8842	014-0018	DCY	METER TIME	EA	1	00702					00	EC

COLLATERAL EQUIPMENT

1	2	3	4	5	6	7							
ITEM NO.	NATIONAL STOCK NUMBER	DESIG FIG-KEY	MODEL	ITEM IDENTIFICATION	UM	QTY USED IN UNIT	LCN	ALC	AIC				
3	3410-00-145-8795	036-0004	DCY	GENERATOR SET, 5 KW	EA	1	008					00	EE

COMMERCIAL AND GOVERNMENT ENTITY

HA.cage	XH.cagecity	XH.cagename	XH.cagenatn	XH.cagepost	XH.cagestat	XH.cagestrt	CAGE	ADDRESS
00779		TOLEDO ELECTRONICS					11215	YORK MANUFACTURING
		105 EAST HIGH ST						1324 CHAMBERSBURG ROAD
		TOLEDO, OH 46217						YORK, PA 16189

Figure 33 – Format for LSA-040, Authorized List Items Summary (Continued)

4.32 Nuclear Hardness Critical Item (HCI) Summary (LSA-046)

4.32.1 Introduction

This summary provides a listing of all support items which are coded as nuclear hardness critical. The parts identified by HCI are required to withstand Electromagnetic Pulses.

4.32.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Explains the fundamental purpose of test and evaluation (T&E) is to enable the DoD to acquire systems that work. To that end, T&E provides engineers and decision-makers with knowledge to assist in managing risks, to measure technical progress, and to characterize operational effectiveness, suitability, and survivability. This is done by planning and executing a robust and rigorous T&E program. It requires survivability to be addressed in the TEMP and also testing to verify safety, survivability, and operational performance to be conducted consistent with the urgency of deploying the capability [Director Operational Test and Evaluation (DOT&E), or Live Fire Test and Evaluation (LFT&E)].
- MIL-STD-1766. Requires the identification of Hardness Critical Items which specifies a similar list of data elements including: EIAC, CAGE, Part Num, Item Name, NHA PLISN, Indenture Code, HCI, etc. The data is populated from the LPD among other sources.
- MIL-STD-3023. Specifies the use of the logistics support analysis (now PSA) "Section 5.8. HM/HS (hardness maintenance/hardness surveillance) program requirements and plans. Logistics support analysis for the Hardness Protection Subsystem (HPS) should be performed during the aircraft acquisition phase. The logistics support analysis should define the HPS HM/HS requirements, supply support requirements, training requirements, and technical data requirements. Results of the logistics support analysis shall be documented in an HM/HS plan. Additionally, a HPS, technical manual should be provided. As a minimum, the technical manual should include the following:
 - HPS description and principles of operation.
 - Maintenance and inspection procedures, repair and replacement procedures, and HS test procedures.
 - Supply support requirements.
 - Training requirements.
- MIL-HDBK-817. Describes the activities that must take place for establishing survivability requirements for electromagnetic pulse, nuclear, radiation, or other electronic environment for a Life Cycle Survivability Program.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. The following activities are applicable. Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), DMSMS/obsolescence analysis (Activity E.1), Supply Support Analysis (Activity D.1.8) and Disposal Analysis (Activity E.3, Selective use of this activity (in conjunction with Activity D.1) during TD Phase should be limited to the identification of new/critical resources that contain hazardous materials, wastes or pollutants).
- PSM Guidebook. Electromagnetic Pulse (EMP) and other survivability requirements must be evaluated and tested at specific intervals over the life cycle.

4.32.3 Tailoring

Who: Primarily used by the U.S. Air Force. Delivery of the data may be a contractual requirement. Hardness Critical Item List is required by MIL-STD-1766. The data is delivered via DI-ENVR-80266, Nuclear Hardness and Survivability (NH&S) Design Analysis Report. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: The data from this summary can be used for listing of all support items which are coded as nuclear hardness critical. MIL-STD-3023 prescribes the use of the PSA for a Nuclear Hardness and Survivability Program for ICBM Weapons and for all Military Aircraft, to include requirements for maintenance and test procedures, supply support, training and other data which is documented in the LPD.

How: HCI data element is developed during the design process and noted on either/or detailed design drawings in Survivability Plans. The data is then available as critical input to several product support analyses; Supportability and Supportability Related Design Factors (SAE TA-STD-0017A, Activity B.5), FMECA (Activity C.1.6), Task Inventory (Activity C.1.9), Maintenance Task Analysis (Activity D.1), and Disposal Analysis (Activity E.3).

When: When: The data elements are developed early in development (Definition Phase, Preliminary Design Review) and are refined throughout system development as part of the provisioning process.

Why: Data related to survivability including survivability test plans are required to be documented in the Test and Evaluation Master Plan (TEMP) and used during Operational Tests. The HCI data element is also used in Packaging, Handling, Shipping, & Transportation and Disposal analysis. Additionally, the HCI data is used in Maintenance Plans for the DoD.

4.32.4 Scope

This summary provides a listing of all support items which are coded as nuclear hardness critical. The summary can be prepared for a specific LCN range and is sequenced by either ascending Reference Number/CAGE or PCCN/PLISN.

4.32.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and Sequence Option [PCCN/PLISN, Reference Number/CAGE (default)]

Optional: ALC, Stop LCN, and UOC

4.32.6 Processing/Business Rules

Items are primarily qualified by HCI entries of "Y". In order to produce an LSA-046 summary at least one Hardness Critical Item value of "Y" must be contained within the selected Start and Stop LCN range. If the summary is sequenced by Reference Number and CAGE, then the Reference Number, CAGE, Item Name, and Item Management Code (IMC) are suppressed on the second and subsequent application (PCCN/PLISN) of the same part number.

4.32.7 Sequence

The summary is sequenced in either ascending Reference Number and CAGE or PCCN/PLISN.

4.32.8 Data Sources

The data sources listed in Table 36, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 36 – Data Sources for Nuclear Hardness Critical Item (HCI) Summary (LSA-046)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	HG	2040	Required
ITEM NAME	Item Name	HA	2790	Required
START LCN	Logistics Support Analysis Control Number	HG	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	HG	2980	Required
SEQ OPT (Selected)				Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
STOP LCN	Logistics Support Analysis Control Number	HG	2970	Optional
UOC (Selected; Matched VIA SEQ)	Usable On Code	HO/XC	5790	Optional
[HARDNESS CRITICAL ITEM]	Hardness Critical Item	HG	2350	Required
OUTPUT				
REFERENCE NUMBER	Reference Number	HG	4400	Required
CAGE	Commercial and Government Entity Code	HG	1520	Required
ITEM NAME	Item Name	HA	2790	Required
IMC	Item Management Code	HA	2770	Required
SMR	Source Maintenance and Recoverability Code	HG	4830	Required
PCCN	System End Item Provisioning Contract Control Number	XC	4100	Required
PLISN	System End Item Provisioning List Item Sequence Number	XC	4120	Required
	Provisioning List Item Sequence Number	HG		
IND	Indenture Code	HG	2520	Required
QTY/ASSY	System End Item Quantity per Assembly	XC	4190	Required
	Quantity per Assembly	HG		
QTY/EI	System End Item Quantity per End Item	XC	4210	Required
	Quantity per End Item	HG		

4.32.9 Format

The format shown in Figure 34 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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NUCLEAR HARDNESS CRITICAL ITEM SUMMARY (LSA-046)

HG.eiac	HA.itemname	HG.lcn	HG.alc	HG.lcntype	HG.lcn	HO/XC.uoc	SELECTED			
EIAC	ITEM NAME	START LCN	ALC	TYPE	STOP LCN	UOC	SEQ OPT			
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	REF-NO			
HG.refno	HG.cage	HA.itemname	HA.itmmngmc	HG.srcmtrcc	XC.seipccn	XC.seiplisn	HG.ic	XC.seiqpa	XC.seiqpei	
REFERENCE NUMBER	CAGE	ITEM NAME	IMC	SMR	PCCN	PLISN	IND	QTY/ASSY	QTY/EI	
A5051	41947	NUT, TUBE, COUPLING	A	PAOZZ	A90B10	A034	C	6	14	
					PAFZZ	A90B10	A179	E	4	REF
BC192015	34127	VALVE, SHUTOFF	G	PAOFF	B90134	AACX	B	1	1	
MS27183-123	10855	WASHER, FLAT	A	PAOZZ	A90B10	A031	C	12	22	
					PAFZZ	A90B10	F110	E	6	REF
					PAHZZ	B90134	ACAL	D	4	4
MS18802.35	10855	SCREW, CAP, HEX HD	A	PAOZZ	A90B10	A032	C	12	22	
					PAFZZ	A90B10	F111	E	6	REF
					PAHZZ	B90134	ACAM	D	4	4

Figure 34 – Format for LSA-046, Nuclear Hardness Critical Item Summary

4.33 Reliability-Centered Maintenance Summary (LSA-050)

4.33.1 Introduction

The LSA-050, Reliability-Centered Maintenance (RCM) summary, can be used as source data for a final RCM summary. The RCM summary identifies preventive maintenance tasks by evaluating maintenance required for an item by its reliability characteristics. RCM involves identifying actions that, when taken, will reduce the probability of failure and which are the most cost effective. It seeks the optimal mix of condition-based actions, interval (time-based or cycle-based) actions, failure finding, or run-to-failure. RCM is a continuous process that gathers data from operating systems performance and uses this data to improve design and future maintenance. The process is integrated to optimize facility and equipment operability and efficiency while minimizing life cycle costs. The RCM process will be applied and implemented for systems at the earliest possible phase and across the total life cycle management structure. The life cycle manager for a system is the responsible agent to plan, develop, program, and implement RCM processes and outputs [that is, run-to-failure, failure finding, interval (time- or cycle-) based actions, and condition-based maintenance].

4.33.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Requires the PM to design the maintenance program to minimize total life cycle cost while achieving readiness and sustainability objectives and that maintenance program management shall begin at program initiation.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. The following activities are applicable. RCM analysis (Activity C.1.8), states RCM analysis consists of a systematic approach of analyzing system/equipment reliability and system safety data to determine the feasibility and desirability of preventive maintenance activities, to highlight maintenance problem areas for design review consideration, and to establish the most effective preventive maintenance program for the new system/equipment.
- MIL-STD-3034. This standard provides the procedure to develop corrective, inactive, and preventive equipment maintenance within a planned maintenance management system. It prescribes the use of several worksheets and DIDs to collect data. Much of the data on the worksheets and DIDs is LPD. LPD is defined in SAE GEIA-STD-0007C.
- DI-PSSS-81829. Specifies data which is documented in the LPD including: Nomenclature, Failure modes, Task Description, Mean Time Between Failures (MTBF) and serial numbers. DI-PSSS-81823, DI-PSSS-81829, and DI-SESS-81968, all require the delivery of RCM data, much of which is LPD.
- National Aeronautics and Space Administration (NASA) Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment. Reliability-Centered Maintenance (RCM) integrates Preventive Maintenance (PM), Predictive Testing and Inspection (PT&I), Repair (also called reactive maintenance), and Proactive Maintenance to increase the probability that a machine or component will function in the required manner over its design life cycle with a minimum amount of maintenance and downtime. These principal maintenance strategies, rather than being applied independently, are optimally integrated to take advantage of their respective strengths, and maximize facility and equipment reliability while minimizing life cycle costs. The goal of this approach is to reduce the Life Cycle Cost (LCC) of a facility to a minimum while continuing to allow the facility to function as intended with required reliability and availability.
- AR 20-05. Requires that MATDEVs ensure that reliability-centered maintenance (RCM) is a basic precept in developing the maintenance concept. RCM is the process that the CAPDEVs and MATDEVs use to determine the most effective approach to maintenance.
- PSM Guidebook. Instructs the PSM to Baseline the system collecting the data (or begin data collection for new systems) that will be needed to assess and analyze support decisions, including inputs from Supportability Analysis (e.g., Failure Modes Effects & Criticality Analysis (FMECA), Failure Reporting and Corrective Action System (FRACAS), Level of Repair Analysis (LORA), Maintenance Task Analysis (MTA), Reliability-Centered Maintenance (RCM) analysis, and other key maintenance planning tasks), as well as Reliability, Availability and Maintainability (RAM) and Life Cycle Cost (LCC) analyses. According to DoDI 5000.88 and DoDI 5000.91, baselines are due at each milestone.
- SAE JA-1011. This document is intended to be used to evaluate any process that purports to be an RCM process, in order to determine whether it is a true RCM process. This document supports such an evaluation by specifying the minimum characteristics that a process must have in order to be an RCM process.
- SAE JA-1012. Amplifies and clarifies each of the key criteria listed in SAE JA-1011 and summarized additional issues that must be addressed in order to apply RCM successfully.

4.33.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. Though the formatted summary is not typically delivered as part of a contractual requirement, the data from this summary is critical to developing preventive maintenance tasks.

What: During development, this summary should be used as an Acquisition analysis tool to identify preventive maintenance tasks by evaluating maintenance required for an item by its reliability characteristics LPD is input and output to the RCM process. Additionally, there is some information captured in the summary (or the logistics product data in general) relating to Condition Based Maintenance (CBM). RCM analysis helps determine preventive maintenance tasks and provides the evidence of need for other CBM+ processes and technologies, such as health monitoring or prognostics. RCM provides an understanding of the applicability and effectiveness of proposed CBM+ technologies as well as an analysis of alternatives. DoDI 4151.22 provides the policy for CBM.

When: The timing and depth for performance of Product Support Analysis is governed by the level of design and operation definition and by the program schedule. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Activity C.1.8 is usually performed after critical tasks are identified through FMECA or FTA (or equivalent) processes and repeated as needed at lower indentures, for design changes, and as needed throughout the development cycle.

Why: RCM analysis is a method of identifying preventive maintenance tasks used to mitigate risk of failure of a part, system, or mission.

4.33.4 Scope

This summary is divided into three parts. The first part is the reliability-centered maintenance (RCM) analysis conducted on repairable items of a system by disposition, Task Code, and Safety Hazard Severity Code (SHSC). This part is selectable by SHSC(s) and sequenced by disposition only, disposition by operations/maintenance level, or operations/maintenance level only. The second part of the summary is a management summary showing RAM characteristics of the item, preventive maintenance tasks, both estimated and calculated values for Task Frequencies, and the total man-hours associated with the Skill Specialty Code for a given operations/maintenance level. This part is selectable and sequenced similar to Part I with the addition of a sequence by Skill Specialty Code. The third part is used to evaluate the items that did not have an RCM analysis accomplished against them. It is also selectable by Safety Hazard Severity Code and is sorted by ascending LCN and Failure Mode Indicator (FMI) values.

In Part II, Task Frequency is calculated by using the formula provided for preventive tasks (method 1). The total number of man-hours is the summation of Subtask Mean Man-minutes per Subtask Person Identifier for the identical Skill Specialty Code and operations/maintenance level (Task Code, third position).

When elapsed time and man-hours are reported, each number is preceded by (M) or (P) to designate either measured or predicted values, respectively. Where a measured value has not been defined, the summary will default to the predicted value.

When the Failure Rate is reported, it is preceded by (M), (P), (A), or (C) to indicate measured, predicted, allocated, and comparative analysis values, respectively. Where a measured value has not been entered, the summary will default to the predicted, allocated, and finally comparative analysis.

4.33.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC, Report Part (any combination Part I, II, or III), Display Option (Part I: Maintenance Level; Part II: Maintenance Level or Skill Specialty by Maintenance Level)

Optional: ALC, Stop LCN, Service Designator, Safety Hazard Severity Code (upon selection of Part, I, II, or III), and SSC Description Option

Generation of this summary is bounded by mandatory EIAC, Start LCN, LCN Type and UOC; and optional ALC (default is all ALCs), Stop LCN (default is all LCNs subordinate to, and including, the Start LCN), RPT PT (default is none), and Safety Hazard Severity Code. In general, for all Parts (I, II, and III) of the LSA-050, the Summary Part, Safety Hazard Severity Code and Disposition selections affect processing as follows:

- a. Summary Part: A "Y" indicates that the subject Part (I, II, or III) of the LSA-050 is required.
- b. Safety Hazard Severity Code: Only the Safety Hazard Severity Codes that are of interest to the RCM analysis (1,2,3, and/or 4) are selected for inclusion in the subject Part (I, II, or III) of the LSA-050. If the Safety Hazard Severity Code field is blank, all Safety Hazard Severity Codes are included.

- c. Display option: indicates how the report part will be sequenced. Part I: LCN or Maintenance Level; Part II: LCN, Maintenance Level or Skill Specialty by Maintenance Level)

4.33.6 Processing/Business Rules

- a. Part I – The summary will use the required information from the appropriate entities. Either a Failure Mode Criticality Number or a Failure Probability Level (FPL) may be used in the FM Crit or Fail Prob data element, Failure Mode Criticality Numbers should be used wherever possible. Only preventive maintenance tasks are identified on this summary and they are identified by the second position of the Task Code or by Task Type of "P" or "U". The (P) and (M) preceding the mean elapsed time values on the summary represent predicted (Predicted Mean Elapsed Time) and measured (Measured Mean Elapsed Time), respectively. Measured values should be used wherever possible. The failure rates are depicted by comparative analysis (C), allocated (A), predicted (P), and measured (M) (Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis) (these come from Reliability Availability and Maintainability Indicator Code).
- b. Part II - The summary will use the required information from the appropriate entities, except for:
1. The LCN (Entity AA) and Inherent Availability (Entity AA) are from the system/end item and are based on the end item whether or not it is with the LCN selection.
 2. If the Task Type (Entity BH) is "U" (Usage based) then calculate the Task Frequency (f_t) using the calculation shown in Equation 24:

$$f_t = \frac{r_a \times c}{\text{Maintenance Interval}} \quad (\text{Eq. 24})$$

where:

f_t	=	Task frequency
r_a	=	Annual operating requirement
c	=	Conversion factor

The preventive f_t will be calculated only for the item against which the task is to be performed. The Annual Operating Requirement MB and the Maintenance Interval MB must match in order for the preventive f_t to be calculated.

The Annual Operating Requirement MB and Maintenance Interval MB must match in the calculation and is based on the LCN Annual Operating Requirement from Entity CA via the link between Entity BH (task requirement LCN) and the LCN from Entity CA through the Task Code.

3. If the Task Type is "P", the Task Frequency is obtained from the second position of the Task Code, normally referred to as the Task Interval Code. Task Interval Codes Q, C, P, M, N, and L can be converted directly into a Task Frequency. If the Task Interval Code is B ("schedule"), then the Task Frequency is given by the number of occurrences of the Maintenance Interval Measurement Base in one year, divided by the Maintenance Interval. For example, if the Maintenance Interval Measurement Base were T ("months"), and the Maintenance Interval were 2, the Maintenance Interval Measurement Base is converted to the number of occurrences per year (12) divided by 2, yielding 6. This applies only to the Maintenance Interval Measurement Base codes of D, G, H, T and Y. All other Maintenance Interval Measurement Base codes are usage-based (Task Type of "U"), and do not apply to the calendar time conversion. The total number of man-hours will be summed up for the operations/maintenance level for each of the Skill Specialty Codes used in that operations/maintenance level and output at the bottom of each operations/maintenance level. Man-hours/Skill Specialty Code and operations/maintenance level = Sum of Subtask Mean Man-minutes per Skill Specialty Code and Operations/Maintenance Level divided by 60 to convert to hours.
 4. Either a Failure Mode Criticality Number or a Failure Probability Level may be used in the FM Crit or Fail Prob data element, Failure Mode Criticality Numbers should be used wherever possible. The (P) and (M) preceding the elapsed time and man-hour values on the output represent predicted and measured, respectively. Measured values should be used wherever possible. The Failure Rates are denoted by comparative analysis (C), allocated (A), predicted (P), and measured (M) (Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis) (these come from Reliability Availability and Maintainability Indicator Code).
- c. Part III - The summary will use the required information from the appropriate entities.
1. Either a Failure Mode Criticality Number or a Failure Probability Level may be used in the FM Crit or Fail Prob data element, Failure Mode Criticality Numbers should be used wherever possible.
 2. Data is used from Entity BI where there is a matching BF record with blanks in either the RCM Logic Results or the RCM Disposition data elements.

- d. Each part of the summary should start at the top of a new page.
- e. Part IV lists all SSC or NM SSC that qualifies based on the selection option.

4.33.7 Sequence

a. Part I

- 1. If Display Option of Maintenance level, the summary is sequenced (the first being crew the last depot), then LCN then Task Code.
- 2. Display option Default is LCN then Task Code.

b. Part II

- 1. Display Option default is LCN then Task Code.
- 2. If Display Option of Maintenance level, the summary is sequenced (the first being crew the last depot), then LCN then Task Code.
- 3. If Display Option of Skill Specialty Code is selected, the summary is sequenced by ascending Skill Specialty Code then maintenance level then LCN then Task Code.

- c. Part III - The summary shall be sorted by ascending LCN, Failure Mode Indicator, Mission Phase Code (MPC), and Safety Hazard Severity Code.

4.33.8 Data Sources

The data sources listed Table 37, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 37 – Data Sources for Reliability-Centered Maintenance Summary (LSA-050)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code (via Entity XF)	XF/XC	5790	Required
SERV DES (Selected)				Optional
REPORT PART I (Selected)				Part 1, 2, or 3 is required
SHSC				Optional
DISPLAY OPTIONS				Required
REPORT PART II (Selected)				Part 1, 2, or 3 is required
SHSC				Optional
DISPLAY OPTIONS				Required
REPORT PART III (Selected)				Part 1, 2, or 3 is required
SHSC				Optional
SSC DESCRIPTION OPTION (Selected)				
OUTPUT				
PART I - FAILURE MODES WITH RCM ANALYSIS				
LOGIC UTILIZED	Reliability-Centered Maintenance Logic Utilized	AA	4460	Required
LCN	Logistics Support Analysis Control Number	BA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA	1200	Optional
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
SHSC	Safety Hazard Severity Code	BI	4600	Required
FMI	Failure Mode Indicator	BI	2200	Required
MPC	Mission Phase Code	BI	3460	Required
FM CRIT OR FAIL PROB	Failure Mode Criticality Number	BI	2190	Required
	Failure Probability Level	BI	2220	
LOGIC RESULTS (SUB-HEADER)				
LQ	Reliability-Centered Maintenance Logic Question	BFA	4446	Optional
[RCM LOGIC TYPE = "Q"]	Reliability-Centered Maintenance Logic Type	BFB	4455	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
LR	Reliability-Centered Maintenance Logic Results	BFA	4450	Optional
DISPOSITIONS (SUB-HEADER)				
DN	Reliability-Centered Maintenance Logic Number	BFB	4443	Optional
[RCM LOGIC TYPE = "D"]	Reliability-Centered Maintenance Logic Type	BFB	4455	Optional
LD	Reliability-Centered Maintenance Logic Disposition	BFB	4440	Optional
DISPOSITION	Reliability-Centered Maintenance Logic Question Narrative	BGA	3510	Required
MTBPM	Mean Time Between Preventive Maintenance	BD	3330	Required
MB	Mean Time Between Preventive Maintenance Measurement Base	BD	3380	Required if MTBPM is required
FAILURE RATE	Failure Rate	BD	2240	Required
RAM IC	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
MB	Failure Rate Measurement Base	BD	3380	Required
FMR	Failure Mode Ratio	BF	2210	Required
PREVENTIVE MAINTENANCE (Sub-Header)				
[LCN] (LCN is based on Task Type and the 2nd position of the Task Code)	Task Type	BH	5220	Required
	Task Code (2nd position)	BH	5110	Required
LCN	Logistics Support Analysis Control Number	BH	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
TASK CODE	Task Code	BH	5110	Required
ELAPSED TIME	Measured Mean Elapsed Time	CA	3210	Either one or the other is required when Part I is required
	Predicted Mean Elapsed Time			
RCM DISPOSITION CONCLUSION	Reliability-Centered Maintenance Conclusion Narrative	BF	3510	Optional
RCM REASONING	Reliability-Centered Maintenance Reasoning Narrative	BF	3510	Optional
RCM REDESIGN/NARRATIVE	Reliability-Centered Maintenance Redesign Recommendation Narrative	BF	3510	Optional
RCM AGE EXPLORATION	Reliability-Centered Maintenance Age Exploration Narrative	BF	3510	Optional
PART II - RCM MANAGEMENT SUMMARY (Header)				
LCN	Logistics Support Analysis Control Number	AA	2970	Required if Part II is required
INHERENT AVAILABILITY END ITEM	Required Inherent Availability	AA	2560	Required if Part II is required
MAINTENANCE LEVEL	Task Code (3rd position)	BH	5110	Required if Part II is required
LCN	Logistics Support Analysis Control Number	BH	2970	Required if Part II is required
ALC	Alternate Logistics Support Analysis Control Number Code	BH	1200	Required if Part II is required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required if Part II is required
AOR (based on LCN/AOR link from CA ENTITY via Task Code - Peacetime)	Annual Operating Requirement	AG	1240	Required if Part II is required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MB	Annual Operating Requirement Measurement Base	AG/CA	3380	Required if Part II is required and if AOR is selected
IA	Inherent Availability	BD	2560	Optional
RCM DISPOSITION CONCLUSION	Reliability-Centered Maintenance Conclusion Narrative	BF	3510	Optional
LCN	Task Requirement Logistics Support Analysis Control Number	BH	2970	Optional
ALC	Task Requirement Alternate Logistics Support Analysis Control Number Code	BH	1200	Optional
TASK CODE	Task Code	BH	5110	Optional
TASK FREQ	Task Frequency	CA	5140	Required
TASK FREQ (Calculated)	If task type is P then convert using steps referenced in PART II. If task type is "U" then calculate using formula. AOR and maintenance interval must match, otherwise leave blank. The following data elements are required for the calculation.			
TASK FREQ (Calculated) (USAGE)				Automatically generated
[TASK TYPE = "U"]	Task Type	BH	5220	Required for calculation
[TASK CODE (2nd position = "B")]	Task Code	BH	5110	Required for calculation
[AOR]	Annual Operating Requirement	AG	1240	Required for calculation
[AOR MB]	Annual Operating Requirement Measurement Base	CA/AG	3380	Required for calculation
[CONV FACT]	Conversion Factor	BA	1670	Required for calculation
[MAINTENANCE INTERVAL]	Maintenance Interval	BH	3020	Required for calculation
[MAINTENANCE INTERVAL MB]	Maintenance Interval Measurement Base	BH	3380	Required for calculation
TASK FREQ (Calculated) (CALENDAR)	Task Interval Codes are converted directly into the Task Frequency			Automatically generated
[TASK TYPE = "P"]	Task Type	BH	5220	Required for calculation
[TASK CODE (2nd position)]	TASK CODE (Q, C, P, M, N, L) CONVERT	BH	5110	Required for calculation
TASK FREQ (Calculated) (SCHEDULE)	Task Interval Code "SCHEDULE" (B) is converted to number of occurrences divided by maintenance interval			Automatically generated
[TASK TYPE = "P"]	Task Type	BH	5220	Required for calculation
[TASK CODE (2nd position)]	TASK CODE = "B"	BH	5110	Required for calculation
[MAINTENANCE INTERVAL MB]	MAINTENANCE INTERVAL MEASUREMENT BASE (D,G,H,T,Y) CONVERTED TO A YEAR	BH	3380	Required for calculation
[MAINTENANCE INTERVAL]	Maintenance Interval	BH	3020	Required for calculation
MAN HOURS	Measured Mean Man Hours	CA	3220	One or the other is required
	Predicted Mean Man Hours			
ELAPSED TIME	Measured Mean Elapsed Time	CA	3210	One or the other is required
	Predicted Mean Elapsed Time			
MAINTENANCE INTERVAL	Maintenance Interval	BH	3020	Required
MB	Maintenance Interval Measurement Base	BH	3380	Required if Maintenance Interval selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PERSON ID	Subtask Person Identifier	CD	3890	Required
SSC	Skill Specialty Code	CD	4810	One or the other is required. If using New or Modified SCC, the New or Modified SLC.
	New or Modified Skill Specialty Code			
SL	Skill Level Code	GA	4800	One or the other is required. If using New or Modified SLC, the New or Modified SSC.
	New or Modified Skill Level Code	GB	4800	
MAN-MINUTES	Subtask Mean Man-Minutes	CD	3230	Optional
LCN	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Optional
ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Optional
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FEP	Failure Effect Probability	BI	2170	Optional
MPC	Mission Phase Code	BI	3460	Optional
FMI	Failure Mode Indicator	BI	2200	Optional
FAIL MODE RATIO	Failure Mode Ratio	BF	2210	Optional
FAILURE RATE	Failure Rate	BD	2240	Optional
RAM IC	Reliability Availability and Maintainability Indicator Code	BD	4420	Optional
MB	Failure Rate Measurement Base	BD	3380	Optional
CONV FACT	Conversion Factor	BA	1670	Optional
FM CRIT/FAIL PROB	Failure Mode Criticality Number	BI	2190	One or the other is required
	Failure Probability Level	BI	2220	
SSC (Taken from SSC for that O/M level)	Skill Specialty Code	CD	4810	Optional or one or the other is required
	New or Modified Skill Specialty Code	CD	4810	
TOTAL MAN HOURS (Calculated for that SSC and Maintenance Level; MAN HOURS = Sum of Mean Man-Minutes. Divide by 60)	[Subtask Mean Man Minutes]	CD	3230	(Required for Man-hours calculation)
PART III - FAILURE MODES WITHOUT RCM ANALYSIS (Header)				
SHSC	Safety Hazard Severity Code	BI	4600	Required if Part III is required
MPC	Mission Phase Code	BI	3460	Required if Part III is required
FMI	Failure Mode Indicator	BI	2200	Required if Part III is required
LCN	Logistics Support Analysis Control Number	BI	2970	Required if Part III is required
ALC	Alternate Logistics Support Analysis Control Number Code	BI	1200	Required if Part III is required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required if Part III is required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
FM CRIT/FAIL PROB	Failure Mode Criticality Number	BI	2190	Required if Part III is required
	Failure Probability Level	BI	2220	Required if Part III is required
PART IV - SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If Part IV is selected, qualified SSCs are required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If Part IV is selected, qualified NM SSCs are required
	Skill Specialty Code Description	GB	4815	Optional

4.33.9 Format

The format shown in Figure 35 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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LOGISTICS PRODUCT DATA

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RELIABILITY-CENTERED MAINTENANCE SUMMARY (LSA-050)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF.uoc	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SHSC	SERV DES
REFRIG UNT	REFRIGERATION UNIT	0	00	P	00602	DCY	2	
SELECTED	SELECTED	SELECTED						
RPT PT	SELECT DISP	SSC DESCRIPTION OPTION: NO						
YYY	A							

PART I - FAILURE MODES WITH RCM ANALYSIS

AA.rcmlu
LOGIC UTILIZED: MSG-3

BA.lcn	BA.alc	XB.lcnomen	BI.safhazsc	BI.fmindctr	BI.msnph	BI.fmcritno/BI.fproblvl
LCN	ALC	LCN NOMENCLATURE	SHSC	FMI	MPC	FM CRIT OR FAIL PROB
0	00	REFRIGERATION UNIT	2	FAAB	B	418.78

LOGIC RESULTS

BFA.rcmlqsi	BFA.rcmlr
LQ	LR
1	Y
2	Y
5A	N
5B	N
5C	N
5E	N

DISPOSITIONS

BFB.rcmln	BFB.rcmld	BGA.rcmlqn
DN	LD	DISPOSITION:
G	Y	REDESIGN IS MANDATORY

BD.mtbprevm	BD.mtbprmb	BD.failrate	BD.failrcmb	BF.fmratio
BD.ramined	MB	BD.ramined	MB	FMR
MTBPM	H	FAILURE RATE	H	.607
7.2 (P)		.0006667 (P)		

PREVENTIVE MAINTENANCE

BH.lcn	BH.alc	BH.taskcode	CA.msdmnelt/CA.prdmnelt
LCN	ALC	TASK CODE	ELAPSED TIME
0	00	ABCACAA	.27 (P)

BF.rcmponn
RCM DISPOSITION CONCLUSION:

BF.rcmrsgn
RCM REASONING: LOGIC RESULT OF 01 IS (Y) BECAUSE THE ITEM HAS A SHSC OF (2).

BF.rcmredrn
RCM REDESIGN/NARRATIVE: ADD A FAULT LIGHT THAT IS VISIBLE TO OPERATORS, SHOWING TEMPERATURE IS TOO HIGH.

BF.rcmageen
RCM AGE EXPLORATION NARRATIVE: NOT APPLICABLE.

Figure 35 – Format for LSA-050, Reliability-Centered Maintenance Summary

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LOGISTICS PRODUCT DATA

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RELIABILITY-CENTERED MAINTENANCE SUMMARY (LSA-050)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SHSC	RPT PT	SELECT DISP
REFRIG UNT	REFRIGERATION UNIT	0	00	P	00602	DCY	2	YYY	A

PART II - RCM MANAGEMENT SUMMARY

AA.lcn	AA.reginhav
LCN	INHERENT AVAILABILITY END ITEM
0	95.000000

BH.taskcode
MAINTENANCE LEVEL: CREW

BH.lcn	BH.alc	XB.lcn	AG.annopreq	AG.anoprqmb	BD.inhav
LCN	ALC	LCN NOMENCLATURE	AOR	MB	IA
00602	00	PISTON ASSEMBLY	7200	H	95.000000

RCM DISPOSITION CONCLUSION:

BH.lcn	BH.alc	BH.taskcode	CA.tskfreq	CALCULATED	CA.prdmmnhr	CA.prdmnelt	BH.mainintv	BH.mntintmb		
LCN	ALC	TASK	TASK	TASK	MAN	ELAPSED	MAINTENANCE	MB		
		CODE	FREQ	FREQ	HOURS	TIME	INTERVAL			
00602	00	FBCAGAA	45.0000	43.8000	.35 (M)	.35 (M)	200.0	H		
		CD.stprsnid	CD.skspc	GA.skvlc	CD.subtmmmn					
		PERSON ID	CD.nomskspc	GB.nomsklvc	MAN-MINUTES					
		A	76J10AAA1	B	0.15					
		B	36C20AAA1	B	0.20					
BH.lcn	BH.alc	BI.safhazsc	BI.fefferb	BI.msfcps	BI.fmindctr	BF.fmratio	BD.ramined	BD.failrtmb	BA.convfact	BI.fproblvl
LCN	ALC	SHSC	FEP	MPC	FMI	FAIL MODE	BD.failrate	MB	CONV	BI.fmcritno
						RATIO	FAILURE	FACT	FM CRIT/	
00602	00	2	.60	A	FAAA	1.000	.0006667 (P)	H	20050	358.95
		3		B						40.20
CD.skspc	CD.subtmmmn									
CD.nomskspc	TOTAL MAN-HOURS									
SSC										
76J10AAA1	.25									
36C20AAA1	.33									

Figure 35 – Format for LSA-050, Reliability-Centered Maintenance Summary (Continued)

REQUESTER: J. Colson

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

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RELIABILITY-CENTERED MAINTENANCE SUMMARY (LSA-050)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SHSC	RPT PT
REFRIG UNT	REFRIGERATION UNIT	0	00	P	00602	DCY	2	YYY

PART III - FAILURE MODES WITHOUT RCM ANALYSIS

BI.safhazsc	BI.msnphc	BI.fmindctr	BI.lcn	BI.alc	XB.lcnomen	BI.fmcritno	BI.fproblvl
SHSC	MPC	FMI	LCN	ALC	LCN NOMENCLATURE	FM CRIT/FAIL	PROB
3	A	FAAA	00201	00	UNIT	21.25	
3	B	FAAB				21.25	

Figure 35 – Format for LSA-050, Reliability-Centered Maintenance Summary (Continued)

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4.34 RCM Logic Tree Summary (LSA-051)

4.34.1 Introduction

The LSA-051, Reliability-Centered Maintenance Logic Tree summary lists all logic tree questions, their answers, final dispositions, and reasoning for an item under analysis. This summary is used when a preventive maintenance task analysis program has used one of the available RCM methodologies (i.e., MSG-3, MIL-STD-3034A, etc.). This summary provides an insight into the step-by-step process for identifying a preventive maintenance candidate.

4.34.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Requires the PM to design the maintenance program to minimize total life cycle cost while achieving readiness and sustainability objectives and that maintenance program management shall begin at program initiation.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. The following activities are applicable. RCM analysis (Activity C.1.8), states RCM analysis consists of a systematic approach of analyzing system/equipment reliability and system safety data to determine the feasibility and desirability of preventive maintenance activities, to highlight maintenance problem areas for design review consideration, and to establish the most effective preventive maintenance program for the new system/equipment.
- MIL-STD-3034A. This standard describes the Reliability-Centered Maintenance (RCM) (see 3.16.9) methodology used for the determination of maintenance requirements. It applies to all levels of system or equipment grouping, and to all scheduled maintenance, whether equipment is in use, ready for use, or in standby or lay-up condition. RCM addresses the total scheduled maintenance program for an enterprise; that is, organizational, intermediate, and depot level maintenance, regardless of the maintenance echelon possessing the capability to perform the maintenance. RCM methodology provides the foundation for a Condition Based Maintenance (CBM) program. The relationship between RCM and CBM+ technologies is included in Appendix F. This standard provides the procedure to develop corrective, inactive, and preventive equipment maintenance within a planned maintenance management system. Specific maintenance procedures may be developed, after the application of the RCM procedure outlined in this standard, for inclusion in class maintenance plans, and depot, intermediate, and organizational maintenance systems. Maintenance (corrective, inactive, and preventive) (see 3.15.3, 3.16.5, and 3.16.8, respectively) is the action of performing tasks (condition-directed, failure-finding, lubrication, servicing, and time-directed) (see 3.28.2, 3.28.4, 3.28.5, 3.28.6, and 3.28.7, respectively) at periodicities (periodic, situational, and unscheduled) to ensure the item's functions (active, evident, hidden, and passive) (see 3.13.1, 3.13.2, 3.13.3, and 3.13.4) are available when required. For the purpose of this standard, the term "ship" refers to submarines, surface ships, aircraft carriers, and craft.
- DI-SESS-80994A. The RCM Functional Block Diagram shall contain all of the information specified in paragraph 5.1.1.3 of MIL-STD-3034. The format of the functional block diagram shall be orderly but unrestrictive. When approved by the Maintenance Coordinating Activity, system schematics or line drawings reproduced from appropriate technical manuals or ship information books may be used with applicable additions and annotations.

4.34.3 Tailoring

Who: Users may include Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. Though the formatted summary is not typically delivered as part of a contractual requirement, the data from this summary is critical to developing preventive maintenance tasks.

What: During development, this summary should be used as an Acquisition analysis tool to identify preventive maintenance tasks by evaluating maintenance required for an item by its reliability characteristics LPD is input and output to the RCM process. Additionally, there is some information captured in the summary (or the logistics product data in general) relating to Condition Based Maintenance (CBM). RCM analysis helps determine preventive maintenance tasks and provides the evidence of need for other CBM+ processes and technologies, such as health monitoring or prognostics. RCM provides an understanding of the applicability and effectiveness of proposed CBM+ technologies as well as an analysis of alternatives. DoDI 4151.22 provides the policy for CBM.

When: The timing and depth for performance of Product Support Analysis is governed by the level of design and operation definition and by the program schedule. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Activity C.1.8 is usually performed after critical tasks are identified through FMECA or FTA (or equivalent) processes and repeated as needed at lower indentures, for design changes, and as needed throughout the development cycle.

Why: RCM analysis is a method of identifying preventive maintenance tasks used to mitigate risk of failure of a part, system, or mission.

4.34.4 Scope

This Summary has the capability to display the Logic Diagram used in the analysis. It lists the Item under analysis, basic reliability and failure information about the item. It identifies the RCM Logic used during the analysis. It identifies the final disposition and reasoning about the item. It also provides the logic path taken by the product support analyst before moving on to the next item under analysis meeting all of the selection criteria.

4.34.5 Selection Options

Mandatory: EIAC, Start LCN, and LCN Type

Optional: ALC, UOC, Stop LCN, Safety Hazard Severity Code, Service Designator, and Failure Mode Indicator

4.34.6 Processing/Business Rules

- a. Required RCM logic (AA Entity) will be for the Start LCN only.
- b. Service Designator from AA is used to identify the Required RCM logic, no other data is affected by the Serv. Des.
- c. The summary can be selected for one SHSC (1, 2, 3, or 4), default is ALL
- d. The Summary can be selected for one specific FMI, default is ALL.
- e. Item list questions that have no "Yes" or "No" corresponding answers are not populated.

4.34.7 Sequence

The sort sequence for the LSA-051 summary is LCN, ALC, FMI. For each qualifying Item, list the question logic path taken starting with first question that has an answer, then follow the tree to its conclusion.

The data sources listed in Table 38, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

4.34.8 Data Sources

The data sources listed Table 37, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary. The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity. The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary. Element Names required to generate the summary, but do not appear in the summary, are shown in brackets []. Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 38 – Data Sources for RCM Logic Tree Summary (LSA-051)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Service Designator Code	AA	4710	Optional
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FMI	Failure Mode Indicator	BF	2200	Optional
OUTPUT				
REQUIRED RCM LOGIC	Reliability-Centered Maintenance Logic Utilized	AA	4460	Optional
RCM LOGIC UTILIZED (SUB-HEADER)				
RCM LOGIC USED	RCM Logic Utilized	BG	4460	Required
RCM LOGIC UTILIZATION REASONING	RCM Logic Utilized Reasoning Narrative	BG	3510	Optional
LOGIC DIAGRAM (SUB-HEADER)				
CAPTION	Caption	XT	1480	Optional
DRAWING	Drawing	BGB/XT	1980	Optional
LCN	Logistic Support Analysis Control Number	BF	2970	Required
ITEM FAILURE INFORMATION (SUB-HEADER)				
ALC	Alternate Logistics Support Analysis Control Number Code	BF	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
FMI	Failure Mode Indicator	BF	2200	Required
FMR	Failure Mode Ratio	BF	2210	Optional
MTBPM	Mean Time Between Preventive Maintenance	BD	3330	Optional
RAM INDICATOR CODE	Reliability Availability and Maintainability Indicator Code	BD	4420	If MTBPM required, RAM IC selected
MB	Mean Time Between Preventive Maintenance Measurement Base	BD	3380	If MTBPM required, MB selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
FAILURE RATE	Failure Rate	BD	2240	Optional
RAM INDICATOR CODE	Reliability Availability and Maintainability Indicator Code	BD	4420	If Failure Rate required, RAM IC selected
MB	Failure Rate Measurement Base	BD	3380	If Failure Rate required, MB selected
FM CRIT	Failure Mode Criticality Number	BI	2190	Optional
FPL	Failure Probability Level	BI	2220	Optional
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FAILURE MODE	Failure Damage Mode Narrative	BF	3510	Optional
FAILURE CAUSE	Failure Cause Narrative	BF	3510	Optional
FAILURE MODE DETECTION METHOD	Failure Mode Detection Method Narrative	BF	3510	Optional
RCM DISPOSITION CONCLUSION	RCM Conclusion Narrative	BF	3510	Required
RCM REASONING	RCM Reasoning Narrative	BF	3510	Optional
RCM AGE EXPLORATION	RCM Age Exploration Narrative	BF	3510	Optional
RCM REDESIGN RECOMMENDATIONS	RCM Redesign Recommendations Narrative	BF	3510	Optional
DISPOSITION TREE (SUB-HEADER)				
DISP	RCM Logic Number	BFB	4443	Required
[RCM LOGIC TYPE ="D"]	RCM Logic Type	BFB	4455	Required
LR	RCM Logic Disposition	BFB	4440	Required
DISPOSITION/RESULTS	Reliability Centered Maintenance Logic Question Narrative	BGA	3510	Required
LOGIC PATH (SUB-HEADER)				
QN	RCM Logic Number	BFB	4443	Required
[RCM LOGIC TYPE ="Q"]	RCM Logic Type	BFB	4455	Required
LR	RCM Logic Result	BFA	4450	Required
LOGIC QUESTION	RCM Logic Question Narrative	BGA	3510	Required
LOGIC REASON	RCM Logic Result Narrative	BFA	3510	Required

4.34.9 Format

The format shown in Figure 36 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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RCM LOGIC TREE SUMMARY (LSA-051)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	AA.serdesc	BI.safhazsc	BF.fmindctr
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SHSC	FMI
REFRIG UNT	REFRIGERATION UNIT	A	00	F		AAA	ARMY	2	ALL

AA.rcmlu
Required RCM LOGIC: MIL-STD-3034A

RCM LOGIC UTILIZED

BG.rcmlu

RCM LOGIC USED: MSG-3

BG.rcmlut

RCM LOGIC UTILIZATION REASON: MSG-3 UTILIZED DUE TO A JOINT SERVICE SUPPORTED PROGRAM

LOGIC DIAGRAM

XT.caption
MSG-3 LOGIC DIAGRAM WITH DISPOSITION IDENTIFIERS ASSIGNED FOR REFRIG-UNIT RCM.

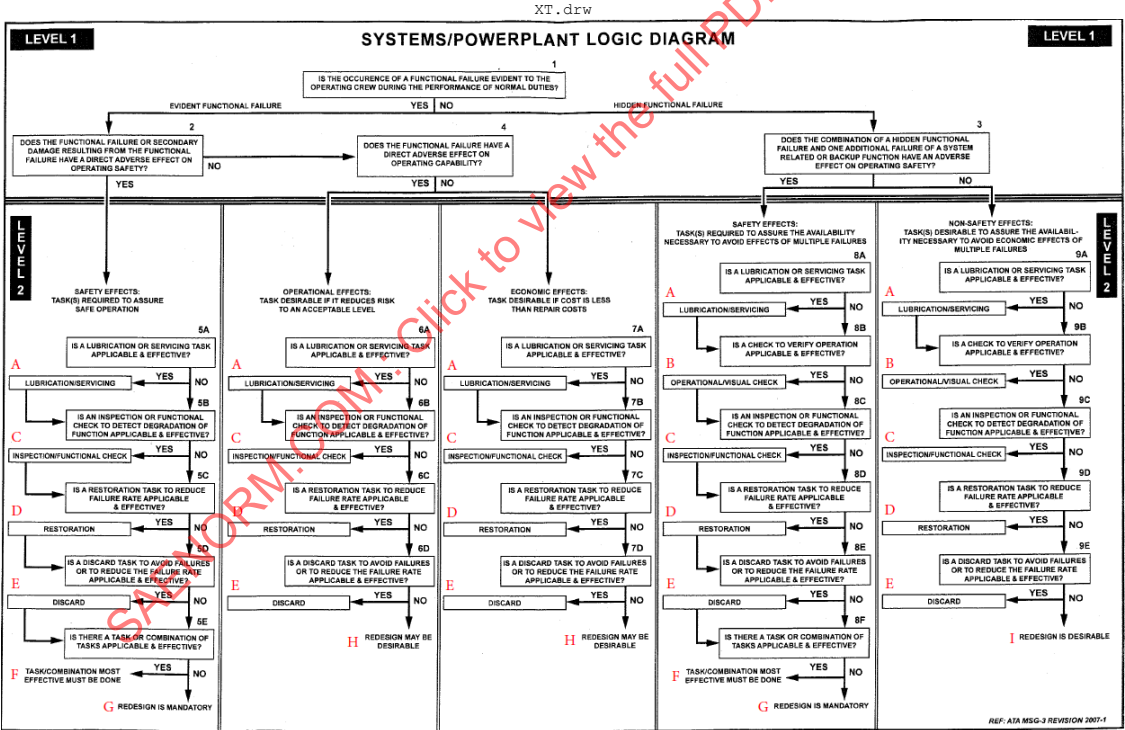


Figure 36 – Format for LSA-051, RCM Logic Tree Summary

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RCM LOGIC TREE SUMMARY (LSA-051)

ITEM FAILURE INFORMATION

BF.lcn	BF.alc	XB.lcnomen	BF.fmindctr	BF.fmratio	BD.ramined BD.mtbprevm	BD.mtbprmb	BD.ramined BD.failrate	BD.failrtmb	BI.fmcritno	BI.fproblvl	BI.safhazsc
LCN	ALC	LCN NOMENCLATURE	FMI	FMR	MTBPM	MB	FAILURE RATE	MB	FM CRIT	FPL	SHSC
A	00	REFRIG UNIT	FAAA	.607	7.2 (P)	M	.0006667 (P)	H	418.78	A	2

BF.fdmgmn
FAILURE MODE: POOR PERFORMANCE, TEMP WARM

BF.fcausen
FAILURE CAUSE: DUE TO FAULTY THERMOSTAT

BF.fmdetmn
FAILURE MODE DETECTION METHOD: OBSERVANCE OF OPERATIONAL CHARACTERISTICS - HUMAN DETECTION - FOOD WARM

BF.rcmconn
RCM DISPOSITION CONCLUSION:
REDESIGN IS MANDATORY, A FAILURE OF THE COOLING SYSTEM WOULD BE EVIDENT, BUT FOOD SAFETY HAS A PRIORITY.

BF.rcmconn
RCM REASONING:
THE REFRIG UNIT COULD BE INSPECTED PERIODICALLY, VIA TEMPERATURE GAGE, BUT THIS METHOD COULD BE BYPASSED BY A SIMPLE IDIOT LIGHT THAT TELLS THE CREW THE REFRIG UNIT HAS MALFUNCTIONED.

BF.rcmageen
RCM AGE EXPLORATION: NONE

BF.rcmredrn
RCM REDESIGN RECOMMENDATION: ADD A FAULT LIGHT THAT IS VISABLE TO OPERATORS, SHOWING TEMPERATURE IS TOO HIGH

DISPOSITION TREE

BFB.rcmlt
BFB.rcmln BFB.rcmld BGA.rcmlqn

DISP	LR	DISPOSITION/RESULT
G	Y	REDESIGN IS MANDATORY

Figure 36 – Format for LSA-051, RCM Logic Tree Summary (Continued)

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RCM LOGIC TREE SUMMARY (LSA-051)

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LOGIC PATH

BFB.rcmlt BFB.rcmln QN 1	BFA.rcmlr LR YES	BGA.rcmlqn LOGIC QUESTION IS THE OCCURRENCE OF A FUNCTIONAL FAILURE EVIDENT TO THE OPERATING CREW DURING THE PERFORMANCE OF NORMAL DUTIES? BFA.rcmlrsn LOGIC REASON THE OPERATING CREW WILL NOTICE THE INCREASE IN STOREROOM OR FOOD TEMPERATURE.
QN 2	LR YES	LOGIC QUESTION DOES THE FUNCTIONAL FAILURE OR SECONDARY DAMAGE RESULTING FROM THE FUNCTIONAL FAILURE HAVE A DIRECT ADVERSE EFFECT ON OPERATING SAFETY? LOGIC REASON SPOILAGE OF FOOD. POSSIBLE POISONING
QN 5A	LR NO	LOGIC QUESTION IS A LUBRICATION OR SERVICING TASK APPLICABLE & EFFECTIVE? LOGIC REASON THERMOSTAT IS LUBRICATION-FREE.
QN 5B	LR NO	LOGIC QUESTION IS AN INSPECTION OR FUNCTIONAL CHECK TO DETECT DEGRADATION OF FUNCTION APPLICABLE & EFFECTIVE? LOGIC REASON STORE ROOM TEMPERATURE INSPECTION IS A POSSIBILITY, BUT HOW OFTEN BEFORE FOOD IS WASTED OR SPOILED.
QN 5C	LR NO	LOGIC QUESTION IS A RESTORATION TASK TO REDUCE FAILURE RATE APPLICABLE & EFFECTIVE? LOGIC REASON THERMOSTAT IS HERMETICALLY SEALED AND CANNOT BE RESTORED.
QN 5D	LR NO	LOGIC QUESTION IS A DISCARD TASK TO AVOID FAILURES OR TO REDUCE THE FAILURE RATE APPLICABLE & EFFECTIVE? LOGIC REASON THERMOSTAT FOLLOWS A CONSTANT (RANDOM) FAILURE DISTRIBUTION.
QN 5E	LR NO	LOGIC QUESTION IS THERE A TASK OR COMBINATION OF TASKS APPLICABLE & EFFECTIVE? LOGIC REASON AN INSPECTION TASK IS APPLICABLE BUT NOT EFFECTIVE.

Figure 36 – Format for LSA-051, RCM Logic Tree Summary (Continued)

4.35 Failure Mode to Task Comparison (LSA-055)

4.35.1 Introduction

This summary provides a cross reference of the maintenance tasks to failure mode. The summary can be used to identify failure that have maintenance actions, failures that have yet to have a corresponding maintenance action, and those maintenance action that affect no failure at all. This summary is comparing data across two functional area FMECA and MTA.

4.35.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Code of Federal Regulations (CFR) Title 10. Performance assessments and root cause analyses. The senior official designated under subsection (a) shall be responsible for Conducting root cause analyses for major defense acquisition programs. And defines Root Cause Analysis as: Root Cause Analyses. a root cause analysis with respect to a major defense acquisition program is an assessment of the underlying cause or causes of shortcomings in cost, schedule, or performance of the program.
- DoDI 5000.88 and DoDI 5000.91. States Program managers for Major Defense Acquisition Program (MDAP) will designate a government test agency to serve as the lead Development Testing and Evaluation (DT&E) organization IAW 10 U.S.C. 139b. A robust DT&E program includes a number of key activities to provide the data and assessments for decision making. The DT&E program will: (1) Verify achievement of critical technical parameters and the ability to achieve key performance parameters, and assess progress toward achievement of critical operational issues, (2) Assess the system's ability to achieve the thresholds prescribed in the capabilities documents, (3) Provide data to the Program Manager to enable root cause determination and to identify corrective actions.
- MIL-STD-3034. Contains a description of the RCM process including FMEA and Criticality Analysis, among other analyses. It specifies data and alludes to logistics data, though it does not specify the LSA-056 as its format.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Activity C.1.6, FMECA. FMECA requirements for a system should be developed in conjunction with the PSA program requirements due to the necessity of having FMECA results to conduct some PSA activities. Activity D.1, Task Analysis
- ANSI/AIAA S-102.2.4-2015. Describes FMECA the determination and documentation of a product's failure modes, and their effects and criticality (i.e., the relative measure of the consequences of the failure modes and their frequency of occurrences) through a systematic analysis of the design.
- PSM Guidebook. Instructs the PSM to Baseline the system collecting the data (or begin data collection for new systems) that will be needed to assess and analyze support decisions, including inputs from Supportability Analysis [e.g., Failure Modes Effects & Criticality Analysis (FMECA), Failure Reporting and Corrective Action System (FRACAS), Level of Repair Analysis (LORA), Maintenance Task Analysis (MTA), Reliability-Centered Maintenance (RCM) analysis, and other key maintenance planning tasks], as well as Reliability, Availability and Maintainability (RAM) and Life Cycle Cost (LCC) analyses]. According to DoDI 5000.88 and DoDI 5000.91, baselines are due at each milestone.
- DoDI 5000.88 and DoDI 5000.91. System designs will minimize or eliminate system characteristics that require excessive cognitive, physical, or sensory skills; entail extensive training or workload-intensive tasks; result in mission-critical errors; or produce safety or health hazards.
- MIL-STD-46855. Establishes and defines the requirements for applying human engineering to the design, development, and acquisition of military systems, equipment, and facilities. These requirements include the work to be accomplished in conducting a human engineering effort integrated with the total system engineering and development effort. These requirements are the basis for including human engineering in proposals; system, equipment, software and associated user interfaces, and facility analysis, design and test; and documentation and reporting.
- MIL-STD-882. This standard identifies the DoD approach for identifying hazards, and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defense systems.

4.35.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. The data from this summary is used to identify Failures that have no maintenance action to repair the failure and identify maintenance actions that affect no documented failures and the reason why the maintenance action should exist for your program. Delivery of the data may be a contractual requirement.

What: Logistics product data is input to and output from the FMECA and MTA processes. In particular, the FMECA provides the basis for built-in and external test specification and evaluation. This coordination should consider the timing of the FMECA, level of detail, documentation requirements and MTA results.

When: The timing and depth for performance of Product Support Analysis is governed by the level of design and operation definition and by the program schedule. For the U.S. Army, Activity C.1.6 is required for identifying failure modes later used in critical tasks, prior to LOG DEMO, and Activity D.1 Maintenance Task Analysis as required by AR 700-127. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Activity C.1.6 from SAE TA-STD-0017A prescribes the activity which produces the data. The data is then used in RCM analysis to determine preventive tasks which mitigate risk, if the risk cannot be designed out. (Refer to Activity C.1.8 for information regarding RCM analysis). If you can not design the failure out, then you must be able to repair the failure through the MTA process in Activity D.1.

Why: Critical tasks are required to be performed during the Logistics Demonstration (PSM Guidebook). For the U.S. Army, critical tasks are identified using the FMECA methodolog and their repairs identified by following the MTA. FMECA and MTA are required by AR 700-127 and DA PAM 700-127 as specified in SAE TA-STD-0017A, Activity C.1.6 & D.1.

4.35.4 Scope

This summary contains four parts. The first part is the metric of the data, how many failure modes, how many tasks, etc. The second part is matching failure modes to maintenance tasks. For each Failure mode there may be multiple maintenance actions. The third part is identifying the maintenance tasks that do not affect any failure mode. The fourth part is the failure modes which have no maintenance actions. This summary should be used to analyze your ability to repair any failure that occur within your system.

4.35.5 Selection Options

Mandatory: EIAC, Start LCN, and LCN Type

Optional: ALC, UOC, Stop LCN, Failure Mode Indicator, Task Function, Task Indicator, Task Interval (Type), Maintenance Level, Service Desgnator, and Report Part

4.35.6 Processing/Business Rules

Part I: Metrics

- Number of Failure Modes: Count the number of failure modes documented in the BF entity
- Number of Maintenance Tasks: Count the number of Task Codes in Entity CA
- Number of Matching FM to Tasks: Count the number of BH Entities
- Number of Failure modes with No Task Associated: Subtract Metric C from Metric A.
- Number of Tasks with No Matching Failure Mode: Subtract Metric C from Metric B

Part II: Matching Failure Modes to Maintenance Task

List the Failure Modes and the associated Maintenance actions that are done to correct or prevent the failure mode from happening.

Part III: Maintenance Tasks – That do not affect Failure Mode

List the maintenance tasks that do not affect any Failure Modes. Identify CA Entities that do not have a corresponding entry in BH entity.

Part IV: Failure Modes with no corresponding maintenance action

List all the Failure Modes that do not have a corresponding maintenance action. Identify BF entities that do not have a corresponding entry in the BH Entity.

4.35.7 Sequence

Part II is sequenced by LCN, ALC, and FMI, then sort task codes. Part III is sequenced by LCN, ALC, and Task Code. Part IV is sequenced by LCN, ALC, and FMI.

4.35.8 Data Sources

The data sources listed in Table 39, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed

by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 39 – Data Sources for Failure Mode to Task Comparison (LSA-055)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN	Logistics Support Analysis Control Number	XB	2970	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
LCN TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
UOC	Usable On Code	XF/XC	5790	Optional
FMI	Failure Mode Indicator (1st position of FMI)	BF	2200	Optional
TASK FUNCTION	Task Code (1st position)	CA	5110	Optional
TASK INTERVAL	Task Code (2nd position)	CA	5110	Optional
TYPE (= “P” or “U”)	Task Type	BH	5220	Optional
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Optional
SERV DES (Selected)	Task Code (4th position)	CA	5110	Optional
RPT PT (Selected)				Optional
OUTPUT				
PART I: METRICS (Header)				
NUMBER of (BF) FAILURE MODES (Calculated)				Automatically generated
NUMBER of (CA) MAINTENANCE TASKS (Calculated)				Automatically generated
NUMBER of (BH) MATCHING FM to TASKS (Calculated)				Automatically generated
NUMBER of (BF) FM w. no TASK (Calculated)				Automatically generated
NUMBER of (CA) TASKS w. no MATCHING FM (Calculated)				Automatically generated

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PART II: MATCHING FAILURE MODE TO MAINTENANCE TASK (Header)				
FAILURE MODE (Sub Header)				
LCN	Logistics Support Analysis Control Number	BH/BF	2970	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BH/BF	1200	Required
FMI	Failure Mode Indicator	BH/BF	2200	Required
FMR	Failure Mode Ratio	BF	2210	Optional
FAILURE DAMAGE MODE NARRATIVE	Failure Damage Mode Narrative	BF	3510	Optional
MAINTENANCE TASK (Sub Header)				
LCN	Logistics Support Analysis Control Number	BH/CA	2970	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BH/CA	1200	Required
TASK CODE	Task Code	BH/CA	5110	Required
TYPE	Task Type	BH	5220	Required only if Task Interval selected
TASK ID	Task ID	CA	5150	Required
PART III: MAINTENANCE TASKS - THAT DO NOT AFFECT A FAILURE MODE (Header)				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
LCN NOMENCLATURE	LCN Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
TASK CODE	Task Code	CA	5110	Required
TASK ID	Task ID	CA	5150	Required
PART IV: FAILURE MODES W. NO CORRESPONDING MAINTENANCE ACTION (Header)				
LCN	Logistics Support Analysis Control Number	BF	2970	Required
LCN NOMENCLATURE	LCN Nomenclature	XB	2950	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BF	1200	Required
FMI	Failure Mode Indicator	BF	2200	Required
FMR	Failure Mode Ratio	BF	2210	Optional
FAILURE DAMAGE MODE NARRATIVE	Failure Damage Mode Narrative	BF	3510	Optional

4.35.9 Format

The format shown in Figure 37 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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FAILURE MODE TO TASK COMPARISON (LSA-055)

XB.eiac	XB.lcn	XB.lcnomen	XB.alc	XB.lcntype	XB.lcn	XC.uoc	BF.fmindctr	BH.tasktype
EIAC	LCN	LCN NOMENCLATURE	ALC	TYPE	STOP LCN	UOC	FMI	TYPE
CH-47	M106	ROTOR ASSEMBLY	00	F			F	C

CA.taskcode	CA.taskcode	CA.taskcode	CA.taskcode	SELECTED
TASK FN	TASK INT	(3rd position)	(4th position)	RPT PT
REPAIR	UNSCHEDULED	MAINT LEVEL	SERV DES	YYYY
		ORG	ARMY	

PART I - METRICS

CALC

NUMBER OF (BF) FAILURE MODES:	200
NUMBER OF (CA) MAINTENANCE TASKS:	215
NUMBER OF (BH) MATCHING FM TO TASKS:	154
NUMBER OF (BF) FM W. NO TASK:	46
NUMBER OF (CA) TASKS W. NO MATCHING FM:	59

PART II - MATCHING FAILURE MODES TO MAINTENANCE TASK

FAILURE MODE

BH/BF.lcn	XB.lcnomen	BH/BF.alc	BH/BF.fmindctr	BF.fmratio	BF.fdmgm
LCN	LCN NOMENCLATURE	ALC	FMI	FMR	FAILURE DAMAGE MODE NARRATIVE
M106	ROTOR ASSEMBLY	00	F001	.70	ROTOR ASSY. FAILURE

MAINTENANCE TASK

BH/CA.lcn	XB.lcnomen	BH/CA.alc	BH/CA.taskcode	BH.tasktype	CA.taskid
LCN	LCN NOMENCLATURE	ALC	TASK CODE	TYPE	TASK ID
M106	ROTOR ASSEMBLY	00	HGOAEAA	C	REMOVE/REPLACE ROTOR ASSY.
			JGDAEAA		REPAIR ROTOR ASSY.

FAILURE MODE

BH.lcn	XB.lcnomen	BH.alc	BH.fmindctr	BF.fmratio	BF.fdmgm
LCN	LCN NOMENCLATURE	ALC	FMI	FMR	FAILURE DAMAGE MODE NARRATIVE
M106	ROTOR ASSEMBLY	00	F002	.20	ROTOR ASSY. BEARINGS NO LUBE

Figure 37 – Format for LSA-055, Failure Mode to Task Comparison

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FAILURE MODE TO TASK COMPARISON (LSA-055)

MAINTENANCE TASK

BH.lcn	XB.lcn nomen	BH.alc	BH/CA.taskcode	BH.tasktype	CA.taskid
LCN	LCN NOMENCLATURE	ALC	TASK CODE	TYPE	TASK ID
M106	ROTOR ASSEMBLY	00	ACOACAA	P	INSPECT FOR LUBRICATION
			PCOACAA		LUBRICATE ROTOR ASSEMBLY

PART III - MAINTENANCE TASKS - THAT DO NOT AFFECT FAILURE MODE

CA.lcn	XB.lcn nomen	CA.alc	CA.taskcode	CA.taskid
LCN	LCN NOMENCLATURE	ALC	TASK CODE	TASK ID
M106	ROTOR ASSY	00	JGOAEAA	REMOVE AND REPLACE ROTOR ASSY. LUBE FITTING
M106	ROTOR ASSY	00	JGCACAA	REMOVE AND REPLACE GUN TURRET

PART IV - FAILURE MODES W. NO CORRESPONDING MAINTENANCE ACTION

BF.lcn	XB.lcn nomen	BF.alc	BF.fmindctr	BF.fmratio	BF.fdmgnm
LCN	LCN NOMENCLATURE	ALC	FMI	FMR	FAILURE DAMAGE MODE NARRATIVE
M106	ROTOR ASSY	00	F003	.10	ROTOR ASSY. OUT OF ALIGNMENT

Figure 37 – Format for LSA-055, Failure Mode to Task Comparison (Continued)

4.36 Failure Mode, Effects, and Criticality Analysis (FMECA) Summary (LSA-056)

4.36.1 Introduction

Failure Modes, Effects and Criticality Analysis (FMECA) Summary should be used to identify the effects and results of a potential failure on the system. The first part contains FMECA, maintainability information, Damage Mode and Effects Analysis, (DMEA) and minimum equipment listing information. The second part is the Criticality Analysis, which is a listing in descending order of each item's computed criticality number or failure mode criticality number, with probability and failure mode ratios by safety hazard severity code.

The FMECA is a systematic methodology that is used to evaluate the effects on systems and interfaces caused by the failure modes of functional, physical, or logical components. It supports estimating the criticality or risk of each failure mode in terms of its end-effects, and evaluates the appropriate failure compensation methods for safety-critical, mission-critical, and maintenance-critical failure modes. A FMECA defines the functions, failures, effects of the failures, detection methods and compensating provisions to mitigate the failure and includes the Criticality Analysis. It can be performed functionally or using the physical hardware breakdown.

4.36.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Code of Federal Regulations (CFR) Title 10. Performance assessments and root cause analyses. The senior official designated under subsection (a) shall be responsible for Conducting root cause analyses for major defense acquisition programs. And defines Root Cause Analysis as: Root Cause Analyses. a root cause analysis with respect to a major defense acquisition program is an assessment of the underlying cause or causes of shortcomings in cost, schedule, or performance of the program.
 - Root Cause Analysis includes such methods as Fault Tree Analysis and Failure Modes and Effect Analysis (Comparison of Common Root Cause Analysis Tools and Methods, NASA).
- DoDI 5000.88 and DoDI 5000.91. States Program managers for Major Defense Acquisition Program (MDAP) will designate a government test agency to serve as the lead Development Testing and Evaluation (DT&E) organization IAW 10 U.S.C. 139b. A robust DT&E program includes a number of key activities to provide the data and assessments for decision making. The DT&E program will:
 - (1) Verify achievement of critical technical parameters and the ability to achieve key performance parameters, and assess progress toward achievement of critical operational issues.
 - (2) Assess the system's ability to achieve the thresholds prescribed in the capabilities documents.
 - (3) Provide data to the Program Manager to enable root cause determination and to identify corrective actions.
- DI-SESS-81495. This summary provides an analysis of independent single item failures and the resulting potential impact on mission success, performance, personnel safety and maintainability. While the DID is still Active, the MIL-STD to which the data for the summary is developed is cancelled. The format and data on the worksheets referred to in the DID can be found in MIL-STD-1629 (Cancelled).
- DI-PSSS-80980. Specifies the delivery of data via worksheets. The worksheet format and data is discussed in MIL-STD-3034.
- MIL-STD-3034. Contains a description of the RCM process including FMEA and Criticality Analysis, among other analyses. It specifies data and alludes to logistics data, though it does not specify the LSA-056 as its format.
- MIL-STD-1629 (Cancelled).
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Activity C.1.6, FMECA. FMECA requirements for a system should be developed in conjunction with the PSA program requirements due to the necessity of having FMECA results to conduct some PSA activities.
- ANSI/AIAA S-102.2.4-2015. Describes FMECA the determination and documentation of a product's failure modes, and their effects and criticality (i.e., the relative measure of the consequences of the failure modes and their frequency of occurrences) through a systematic analysis of the design.
- SAE AIR4845.
- PSM Guidebook. Instructs the PSM to Baseline the system collecting the data (or begin data collection for new systems) that will be needed to assess and analyze support decisions, including inputs from Supportability Analysis [e.g., Failure Modes Effects & Criticality Analysis (FMECA), Failure Reporting and Corrective Action System (FRACAS), Level of Repair Analysis (LORA), Maintenance Task Analysis (MTA), Reliability-Centered Maintenance (RCM) analysis, and other key maintenance planning tasks], as well as Reliability, Availability and Maintainability

(RAM) and Life Cycle Cost (LCC) analyses]. According to DoDI 5000.88 and DoDI 5000.91, baselines are due at each milestone.

4.36.3 Tailoring

Who: The FMECA is predominantly performed by the reliability and maintainability engineering community. Depending on the type of FMECA performed, input may be required from other disciplines such as software or supportability to ensure comprehensive analysis.

What: The purpose of the FMECA is to influence design to improve reliability, supportability and safety. For every failure mode identified, there should be a corrective maintenance task. Failure Rates can be used to assist in determination of SMR codes when a LORA is performed. Failure Rates and Failure Mode Ratios are used in Task Frequency calculation, which are in turn used in initial sparing calculations. The Criticality Analysis Safety Hazard Severity Codes can be used to identify Critical Safety and Critical Application Items (CAI/CSI). The data from this summary is also used in the Reliability-Centered Maintenance Process to develop preventive or on-condition maintenance tasks. The FMECA is the foundation for LPD development.

When: The timing and depth for performance of Product Support Analysis is governed by the level of design and operation definition and by the program schedule. For the U.S. Army, Activity C.1.6 is required for identifying failure modes later used in critical tasks, prior to LOG DEMO, as required by AR 700-127. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: Activity C.1.6 from SAE TA-STD-0017A prescribes the activity which produces the data. The data is then used in RCM analysis to determine preventive tasks which mitigate risk, if the risk cannot be designed out. (See Activity C.1.8 for information regarding RCM analysis).

Why: Critical tasks are required to be performed during the Logistics Demonstration (PSM Guidebook). Part II of this summary summarizes critical tasks and can be used during a LOG Demo. For the U.S. Army, critical tasks are identified using the FMECA methodology. FMECA is required by AR 700-127 and DA PAM 700-127 as specified in SAE TA-STD-0017A, Activity C.1.6.

4.36.4 Scope

- a. This summary contains three parts. The first part contains FMECA, criticality analysis, maintainability information, damage mode and effects analysis, and minimum equipment listing information. The second part is the criticality analysis information which should be used to identify candidates for RCM analysis or design reviews. The third part is the failure mode analysis summary which consists of the failure modes and failure rates of each repairable item. The summary should be used to identify failure modes which impact item criticality number and Safety Hazard Severity Code assignment.
- b. If Part I of this summary is selected, enter the Safety Hazard Severity Code (1, 2, 3, 4) of the failure modes (Failure Damage Mode Narrative) which are of interest. If the Safety Hazard Severity Code field is left blank, then only Safety Hazard Severity Codes 1 and 2 will be considered. A selection must be made for either minimum Failure Probability Level or minimum Failure Mode Criticality Number. If both are selected, Failure Probability Level will be disregarded.
- c. Parts I and III, Reliability, Availability and Maintainability Item Criticality Number (C_r) is calculated using formulas contained in Data Type Number 2740 and 2190 (Failure Mode Criticality Number).
- d. In Part III, an edit check is made on this summary to ensure that the sum of the Failure Mode Ratio (FMR) never exceeds 1.00 for a given LCN. If this occurs, "****" will be displayed out under the Failure Mode Ratio header.
- e. When Failure Rate is reported, it is preceded by Reliability Availability and Maintainability Indicator Code values of M, P, A, or C to indicate measured, predicted, allocated, and comparative analysis values, respectively. Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis. In Part II, overflows of Reference Number exceeding 16 positions are displayed on the next line immediately below the first position of the Reference Number.
- f. Items from the LORA are utilized in part to determine SMR codes.

4.36.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, UOC, and Service Designator

Optional: ALC, Stop LCN, Report Part, Safety Hazard Severity Code (Part I, II, or III), and Failure Mode Criticality or Failure Probability Level (Part II)

The summary part selections consist of the following:

a. Part I

Part I is an optional selection for the report. If Part I has been selected then enter only those Safety Hazard Severity Codes (1, 2, 3, 4) of the failure modes which are of interest. If the Safety Hazard Severity Code field has been left blank, data involving only Safety Hazard Severity Codes of 1 and 2 will be reported.

b. Part II

1. Part II is an optional selection for the report. If Part II has been selected then enter only those Safety Hazard Severity Codes (1, 2, 3, 4) of the failure modes which are of interest. If the Safety Hazard Severity Code field has been left blank, data involving only Safety Hazard Severity Codes of 1 and 2 will be reported.
2. Enter the lowest values of a Failure Mode Criticality Number to be included in the summary. If an entry is made in Failure Probability Level then leave this field blank.
3. Enter the lowest value of a Failure Probability Level to be include in the summary. An entry must be made in either Failure Mode Criticality Number or in this field. If an entry is made in both blocks, Failure Probability Level is disregarded.

c. Part III

1. Part III is an optional selection for the report. If Part III has been selected then enter only those Safety Hazard Severity Codes (1, 2, 3, 4) of the failure modes which are of interest. If the Safety Hazard Severity Code field has been left blank, data involving only Safety Hazard Severity Codes of 1 and 2 will be reported.
2. Item Criticality Number is calculated using DTN 3670, Operating Units, which is limited by the following accepted time measurement base (3380) type definitions as shown in Table 40.

Table 40 – Item Criticality Number Time Calculations

Days	D
Flight Hours	F
Minutes	G
Hours	H
Operating Hours	O
Underway Steaming Hours	U
Months	T
Years	Y

4.36.6 Processing/Business Rules

- a. Part I -The summary will use the information from the appropriate entities, except for:
- b. Calculated Item Criticality Number (Reliability Availability and Maintainability Item Criticality Number), is stated as shown in Equation 25:

$$C_r = \sum_{i=1}^n (C_m)_i \quad i = 1, 2, 3 \dots n \quad (\text{Eq. 25})$$

where:

C_r	=	Criticality number for the item
C_m	=	Failure mode criticality number
i	=	The number of failure modes in the items that fail under a particular severity classification/mission phase combination (index)
n	=	Last failure mode in the item under the severity classification/mission phase combination (index limit)

- c. Calculated Failure Mode Criticality Number (Failure Mode Criticality Number), is stated as shown in Equation 26:

$$C_m = (\beta \times \alpha \times \lambda \times t)(1,000,000) \quad (\text{Eq. 26})$$

where:

C_m	=	Failure Mode Criticality Number
β	=	Failure Effect Probability
α	=	Failure Mode Ratio
λ	=	Failure Rate
t	=	Operating Units

NOTE: Failure Mode Criticality Number is computed for each LCN/ALC and Failure Mode Indicator combination.

This summary will display a Part I for each LCN that falls within the LCN select range. The Failure Rates are depicted by Reliability Availability and Maintainability Indicator Codes of comparative analysis, (C), allocated, (A), predicted, (P), and measured, (M). Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis. If LCN Type is (F), the Reference Number and CAGE Code may not appear on summary. Use the second position of the Task Code for identifying corrective maintenance tasks.

- d. Part II – The summary will use information from the appropriate entities. Reference Number is wrapped at 16 positions.
- e. Part III – The summary will use information from the appropriate entities, except for calculated Failure Mode Criticality Number.

$$C_m = (\beta \times \alpha \times \lambda \times t)(1,000,000) \quad (\text{Eq. 27})$$

where:

C_m	=	Failure Mode Criticality Number
β	=	Failure Effect Probability
α	=	Failure Mode Ratio
λ	=	Failure Rate
t	=	Operating Units

NOTE: Failure Mode Criticality Number is computed for each LCN /ALC and Failure Mode Indicator combination.

The Failure Mode Ratio(s) for a LCN should be added up (TOTAL) and placed on the summary. An edit check should be made against this total to make sure it never exceeds 1.00. If the total of the Failure Mode Ratios is greater than 1.00, then "****" should appear.

$$\sum_{j=1}^n \alpha \quad (\text{Eq. 28})$$

where:

α	=	Failure Mode Ratio
n	=	Last <i>Failure Mode Indicator</i> in the LCN/ALC combination
j	=	Failure modes indicator that falls under a particular LCN/ALC and <i>Failure Mode Indicator</i> combination

The failure rates are depicted by comparative analysis, (C), allocated, (A), predicted, (P), and measured, (M) (Where a measured value has not been entered, the summary will default to the predicted, then allocated, and finally comparative analysis).

- f. Each part of the summary should start at the top of a new page.

4.36.7 Sequence

The summary is sequenced by:

- Part I - The summary is sequenced by ascending values of LCN then Failure Mode Indicator then Mission Phase Code then Safety Hazard Severity Code. Part I will be produced once for each LCN/ALC combination which falls within the select range.
- Part II - The summary is sequenced by ascending values of Failure Probability Level or descending values of Failure Mode Criticality Number for a Logistics Support Analysis Control/ALC and Failure Mode Indicator.
- Part III - The summary is sequenced by ascending values of LCN, ALC, Failure Mode Indicator, and Mission Phase Code.

4.36.8 Data Sources

The data sources listed in Table 41, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 41 – Data Sources for the Failure Mode, Effects, and Criticality Analysis Summary (LSA-056)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES (Selected)	Task Code (4th position)	BH/CA	5110	Required
RPT PR 1 (Selected)				
SHSC (Selected)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
RPT PR 2				
SHSC (Selected)				
FAILURE MODE CRITICALITY NUMBER (Selected)				
FAILURE PROBABILITY LEVEL (Selected)				
RPT PR 3				
SHSC (Selected)				
OUTPUT				
PART I - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS (FMECA)				
LCN	Logistics Support Analysis Control Number	BA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BA	1200	Required
LCN TYPE	Logistics Support Analysis Control Number Type	BA	2980	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
FAILURE RATE	Failure Rate	BD	2240	Optional
FR MB	Failure Rate Measurement Base	BD	3380	Required if Failure Rate selected
RAM IC	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
FAIL RATE SOURCE	Failure Rate Data Source	BA	2230	Optional
DRAWING NUMBER				
REFERENCE NUMBER (RNCC of "D")	Reference Number (Drawing Number)	HA	4400	Optional
	(Reference Number Category Code)		4390	
ADDITIONAL REFERENCE NUMBER (RNCC of "D")	Additional Reference Number (Drawing Number)	HB	1070	Optional
	(Reference Number Category Code)		4390	
REFERENCE NUMBER	Reference Number	HG	4400	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Optional
CRIT MPC	Mission Phase Code	BL/BK	3460	Required
CRIT SHSC	Reliability Availability and Maintainability Safety Hazard Severity Code	BK	4600	Required
ITEM CRIT NO	Reliability Availability and Maintainability Item Criticality Number	BK	2740	Optional
CALCULATED ITEM CRIT NO (= sum calculated FM CRIT NO)				Automatically generated
[CALCULATED FM CRIT NO (Calc. from data elements listed)]				Automatically Generated
[F-E PROB]	Failure Effect Probability	BI	2170	Required for calculation
[FM-RATIO]	Failure Mode Ratio	BF	2210	Required for calculation
[FAILURE RATE]	Failure Rate	BD	2240	Required for calculation
[FR MB]	Failure Rate Measurement Base	BD	3380	Required for calculation

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[RAM IC]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required for calculation
[OPER TIME]	Operating Units	BI	3670	Required for calculation
[OT MB]	Operating Units Measurement Base	BI	3380	Required for calculation
[SAFETY HAZARD SEVERITY CODE]	Safety Hazard Severity Code	BI	4600	Required for calculation
[RAM SAFETY HAZARD SEVERITY CODE]	RAM Safety Hazard Severity Code	BK	4600	Required for calculation
[MISSION PHASE CODE]	Mission Phase Code	BL	3470	Required for calculation
MINIMUM EQUIPMENT LIST NARRATIVE	Reliability Availability and Maintainability Minimum Equipment List Narrative	BA	3510	Optional
LOGISTICS CONSIDERATION (Header)				
ACCESSIBILITY (Sub Header)				
LOG CON CD	Logistics Considerations Accessibility	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Accessibility Narrative	BA	3510	Optional
	Logistics Consideration Accessibility Narrative			
CONNECTORS (Sub Header)				
LOG CON CD	Logistics Considerations Connectors	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Connectors for Ease of Removal Narrative	BA	3510	Optional
	Logistics Considerations Connectors for Ease of Removal Narrative			
CORROSION RUST CONTROL (Sub Header)				
LOG CON CD	Logistics Considerations Corrosion Rust Control	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Corrosion and Rust Control Narrative	BA	3510	Optional
	Logistics Considerations Corrosion and Rust Control Narrative			
DESIGN FOR SELF PROTECTION (Sub Header)				
LOG CON CD	Logistics Considerations Design for Self Protection	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign for Self Protection Narrative	BA	3510	Optional
	Logistics Considerations Design for Self Protection Narrative			
FAULT LOCATION (Sub Header)				
LOG CON CD	Logistics Considerations Fault Location	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Fault Location Narrative	BA	3510	Optional
	Logistics Considerations Fault Location Narrative			
LABELING (Sub Header)				
LOG CON CD	Logistics Considerations Labeling	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Labeling Narrative	BA	3510	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
	Logistics Considerations Labeling Narrative			
MAINTENANCE EASE (Sub Header)				
LOG CON CD	Logistics Considerations Maintenance Ease	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Maintenance Ease Narrative	BA	3510	Optional
	Logistics Considerations Maintenance Ease Narrative			
PACKAGING AND TRANSPORTATION (Sub Header)				
LOG CON CD	Logistics Considerations Packaging and Transportation	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Packaging and Transportation Narrative	BA	3510	Optional
	Logistics Considerations Packaging and Transportation Narrative			
SAFETY (Sub Header)				
LOG CON CD	Logistics Considerations Safety	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Safety Narrative	BA	3510	Optional
	Logistics Considerations Safety Narrative			
SKILLS (Sub Header)				
LOG CON CD	Logistics Considerations Skills	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Skills Narrative	BA	3510	Optional
	Logistics Considerations Skills Narrative			
STANDARDIZATION (Sub Header)				
LOG CON CD	Logistics Considerations Standardization	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Standardization Narrative	BA	3510	Optional
	Logistics Considerations Standardization Narrative			
TEST POINTS (Sub Header)				
LOG CON CD	Logistics Considerations Test Points	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Test Points Narrative	BA	3510	Optional
	Logistics Considerations Test Points Narrative			
TRAINING (Sub Header)				
LOG CON CD	Logistics Considerations Training	BA	2910	Optional
LOGISTICS CONSIDERATIONS/ SYSTEM REDESIGN	System Redesign Training Narrative	BA	3510	Optional
	Logistics Considerations Training Narrative			
FMI (Must begin with F)	Failure Mode Indicator	BF	2200	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
FM-RATIO	Failure Mode Ratio	BF	2210	Optional
EFM-MTBF	Engineering Failure Mode Mean Time Between Failure	BF	2060	Optional
MB	Engineering Failure Mode Mean Time Between Failure Measurement Base	BF	3380	Required if the EFMMTBF selected
ITEM FUNCTION	Reliability Availability and Maintainability Item Function Narrative	BB/BC	3510	Optional
FAILURE MODE	Failure Damage Mode Narrative	BF	3510	Optional
FAILURE CAUSE	Failure Cause Narrative	BF	3510	Optional
FAILURE EFFECTS - LOCAL	Failure Damage Mode Effect Local Narrative	BF	3510	Optional
FAILURE EFFECTS - NEXT HIGHER	Failure Damage Mode Effect Next Higher Narrative	BF	3510	Optional
FAILURE EFFECTS - END EFFECT	Failure Damage Mode Effect End Effect Narrative	BF	3510	Optional
FAILURE DETECTION METHOD	Failure Mode Detection Method Narrative	BF	3510	Optional
FAILURE PREDICTABILITY	Failure Mode Predictability Narrative	BF	3510	Optional
REMARKS	Failure Mode Remarks Narrative	BF	3510	Optional
CORRECTIVE MAINTENANCE TASKS FOR:				
LCN	Logistics Support Analysis Control Number (based on 2nd position of task code or on task type of "C" for corrective maintenance tasks)	BH	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
FMI	Failure Mode Indicator	BH	2200	Required
TASK-LCN	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required
TASK-ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
TASK CODE	Task Code	BH	5110	Required
FMI	Failure Mode Indicator	BI	2200	Required
MPC	Mission Phase Code	BI	3460	Required
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FAIL PROB LVL	Failure Probability Level	BI	2220	Optional
F-E PROB	Failure Effect Probability	BI	2170	Optional
OPER TIME	Operating Units	BI	3670	Optional
MB	Operating Units Measurement Base	BI	3380	Required if Operating Units selected
ENTITY BI FM CRIT NO	Failure Mode Criticality Number	BI	2190	Optional
CALCULATED FM CRIT NO (Calc. from data elements listed)				Automatically Generated
[F-E PROB]	Failure Effect Probability	BI	2170	Required
[FM-RATIO]	Failure Mode Ratio	BF	2210	Required
[FAILURE RATE]	Failure Rate	BD	2240	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[FR MB]	Failure Rate Measurement Base	BD	3380	Required
[RAM IC]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
[OPER TIME]	Operating Units	BI	3670	Required
[OT MB]	Operating Units Measurement Base	BI	3380	Required
MISSION PHASE/OPERATIONAL MODE	Mission Phase Operational Mode	BL	3470	Optional
COMPENSATING DESIGN PROVISIONS	Failure Mode Indicator Mission Characteristics Compensating Design Provisions Narrative	BI	3510	Optional
COMPENSATING OPERATOR ACTION PROVISIONS	Failure Mode Indicator Mission Characteristics Compensating Operator Action Provisions Narrative	BI	3510	Optional
SYSTEM REDESIGN	Failure Mode Redesign Recommendations Narrative	BF	3510	Optional
DAMAGE MODE AND EFFECTS ANALYSIS (Header)				
DMI (FMI must begin with "D")	Failure Mode Indicator	BF	2200	Required
FAILURE MODE	Failure Damage Mode Narrative	BF	3510	Optional
DAMAGE EFFECTS				
LOCAL	Failure Damage Mode Effect Local Narrative	BF	3510	Optional
NEXT HIGHER	Failure Damage Mode Effect Next Higher Narrative	BF	3510	Optional
END EFFECT	Failure Damage Mode Effect End Effect Narrative	BF	3510	Optional
REMARKS	Failure Mode Remarks Narrative	BF	3510	Optional
PART II - CRITICALITY ANALYSIS SUMMARY (OPTIONAL)				
PART II - SELECTION OPTIONS/HEADER				
FM CRIT (Selected) or FAIL PROB (Selected)	Failure Mode Criticality Number	BI	2190	Required when Part II is required
	Failure Probability Level	BI	2220	Required when Part II is required
PART II - OUTPUT				
FPL	Failure Probability Level	BI	2220	Required when Part II is required
LCN	Logistics Support Analysis Control Number	BA	2970	Required when Part II is required
ALC	Alternate Logistics Support Analysis Control Number Code	BA	1200	Required when Part II is required
FMI	Failure Mode Indicator	BF	2200	Required when Part II is required
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
REFERENCE NUMBER	Reference Number	HG	4400	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Optional
FAIL RATE SOURCE	Failure Rate Data Source	BA	2230	Optional
PART III - FAILURE MODE ANALYSIS SUMMARY (OPTIONAL)				
LCN	Logistics Support Analysis Control Number	BI	2970	Required when Part III is required
ALC	Alternate Logistics Support Analysis Control Number Code	BI	1200	Required when Part III is required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PART F-RATE	Failure Rate	BD	2240	Optional
[RAM IC]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required when Failure Rate selected
MB	Failure Rate Measurement Base	BD	3380	Required when Failure Rate selected
OP TIME	Operating Units (only for MB of: D,F,G,H,O,U,T,Y)	BI	3670	Optional
MB	Operating Units Measurement Base	BI	3380	Required when OP TIME selected
MPC	Mission Phase Code	BI	3460	Required when Part III is required
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FMI	Failure Mode Indicator	BI	2200	Required when Part III is required
FEP	Failure Effect Probability	BI	2170	Optional
F-M RATIO	Failure Mode Ratio	BF	2210	Optional
FM CRIT	Failure Mode Criticality Number	BI	2190	Optional
FM CRIT (Calculated)				Automatically generated
[FEP]	Failure Effect Probability	BI	2170	Required
[F-M RATIO]	Failure Mode Ratio	BF	2210	Required
[PART F-RATE]	Failure Rate	BD	2240	Required
[MB]	Failure Rate Measurement Base	BD	3380	Required
[RAM I C OF PART F-RATE]	Reliability Availability and Maintainability Indicator Code	BD	4420	Required
[OPER TIME]	Operating Units; (only for MB of: D,F,G,H,O,U,T,Y)	BI	3670	Required
[MB]	Operating Units Measurement Base	BI	3380	Required
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional

4.36.9 Format

The format shown in Figure 38 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS (FMECA) SUMMARY (LSA-056)

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	RPT PR	SHSC
REFRIG UNIT	REFRIGERATION UNIT	0	00	F		DCY	NAVY	YYY	1234

PART I - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

BA.lcn	BA.alc	BA.lcntype	XB.lcn	BD.failrate	BD.failrtmb	BD.ramincl	BA.failrtds
LCN	ALC	TYPE	LCN NOMENCLATURE	FAILURE RATE	FR MB	RAM IC	FAIL RATE SOURCE
0	00	F	REFRIGERATION UNIT	0.002346100 (M)	O	P	GIDEP

HG.refno (where RNCC=D)
DRAWING NUMBER
1451-109832

HG.refno
REFERENCE NUMBER

HG.cage
CAGE

BL.msnphc	BK.ramshzsc	BK.ramitcno	CALCULATED	BL.msnphc	BK.ramshzsc	BK.ramitcno	CALCULATED
CRIT	CRIT	ITEM CRIT NO	CALCULATED	CRIT	CRIT	ITEM CRIT NO	CALCULATED
MPC	SHSC		ITEM CRIT NO	MPC	SHSC		ITEM CRIT NO
A	2	354.4	300.2				

BA.rammneln
MINIMUM EQUIPMENT LIST NARRATIVE:
NOT APPLICABLE.

LOGISTICS CONSIDERATIONS:

ACCESSIBILITY

BA.lognsac	BA.sysrdacn	BA.logcfacn
LOG CON CD	LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:	
Y	RECOMMEND REDESIGN OF REFRIGERATION UNIT IN ORDER TO IMPROVE ACCESSIBILITY TO COMPRESSOR ASSEMBLY.	

CONNECTORS

BA.lognsacn	BA.sysrcern	BA.logcfcer
LOG CON CD	LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:	
N		

CORROSION RUST CONTROL

BA.logncrc	BA.sysrcrcn	BA.logcfrcr
LOG CON CD	LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:	
N		

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary

DESIGN FOR SELF PROTECTION

BA.logcndsp BA.sysrfsfn BA.logcfdsp
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

FAULT LOCATION

BA.logcnftl BA.sysrdfln BA.logcfln
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

LABELING

BA.logcnlbl BA.sysrdlbn BA.logcflbn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

MAINTENANCE EASE

BA.logcnmte BA.sysrdmen BA.logcfmen
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

PACKAGING AND TRANSPORTATION

BA.logcnpkt BA.sysrdptn BA.logcfptn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

SAFTETY

BA.logcnsft BA.sysrdsfn BA.logcfsfn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

SKILLS

BA.logcnskl BA.sysrdskn BA.logdfskn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

STANDARDIZATION

BA.logcnstd BA.sysrdstn BA.logcfstn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary (Continued)

TEST POINTS

BA.logentep BA.sysrdtpn BA.logcftpn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

TRAINING

BA.logcntrn BA.sysrdtrn BA.logcfttrn
LOG CON CD LOGISTICS CONSIDERATIONS/SYSTEM REDESIGN:
N

BF.fmindctr	BF.fmratio	BF.efmntbfbf	BF.efmtbfbmb
FMI	FM-RATIO	EFM-MTBF	MB
FAAA	0.182	2341.975222	O

- BB.ramitfn
1. ITEM FUNCTIONS: PROVIDES REFRIGERATED AIR FOR AN ENCLOSED SPACE, MAINTAINING A TEMPERATURE BETWEEN 0 AND 50 DEGREES F (-18 AND 10 DEGREES C) .
- BF.fdmgmn
2. FAILURE MODE:
POOR PERFORMANCE.
- BF.fcausen
3. FAILURE CAUSE:
DUE TO INSUFFICIENT COOLING.
4. FAILURE EFFECTS: BF.fdmeln LOCAL: INSUFFICIENT COOLING.
 BF.fdmehhn NEXT HIGHER: MISSION DEGRADATION
 BF.fdmeeen END EFFECT: MISSION DEGRADATION
5. FAILURE DETECTION METHOD:
 BF.fmdetmn OBSERVANCE OF OPERATIONAL CHARACTERISTICS - HUMAN DETECTION.

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary (Continued)

REQUESTER: J. Doe

FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS (FMECA) SUMMARY (LSA-056)

BF.fmpredn

CORRECTIVE MAINTENANCE TASKS FOR LCN 0 , ALC 00 , FMI FAAA:

BI.lcn	BI.alc	BI.taskcode	BI.lcn	BI.alc	BI.taskcode
TASK-LCN	TASK-ALC	TASK CODE	TASK-LCN	TASK-ALC	TASK CODE
0	00	NGFNAAA	0	00	JGFNAAA
BI.fmindctr	BI.msnphc	BI.fproblvl	BI.oppunits	BI.oprumb	BI.fmcritno
	BI.safhazsc				
		FAIL PROB		OT	
FMI	MPC	SHSC	LVL	F-E PROB	OPER TIME
FAAA	A	2	B	0.83	0001.00
					0
					354.4
					300.2

BL.msnphopm

FAILURE OCCURS DURING SYSTEM COOLING PHASE.

BI.fmimcdpn

NONE

BI.fmimcoap

OPERATOR PROCEDURES MONITORING UNIT PERFORMANCE AND ROOM TEMPERATURE

BF.fmredrn

NONE

----- DAMAGE MODE AND EFFECTS ANALYSIS -----

BF.fdmgmn

DA01 1. DAMAGE MODE:
RUST AND CORROSION DETERIORATING THE SYSTEM OPERATION.

2. DAMAGE EFFECTS: LOCAL:

BF.fdmennh NEXT HIGHER:

BE: Fatmeen END EFFECT: INCREASED SUSCEPTIBILITY TO CORROSION, AND IN THE EVENT THAT INTERNAL COMPONENTS ARE EXPOSED, THE UNIT WILL BE MORE SUSCEPTIBLE TO DAMAGE AND MAY PRESENT A SAFETY HAZARD. THIS DAMAGE MODE IS RELATED TO ONE OR MORE OF THE FOLLOWING FAILURE MODES: AAC, AAE, AAF AND AAG.

3. REMARKS:

A FINE RUST LAYER NEAR THE CONDENSATION DRIP PIPE IS ACCEPTABLE.

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary (Continued)

REQUESTER: J. Doe

LOGISTICS PRODUCT DATA

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DATE: 2020/01/07

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PART II - CRITICALITY ANALYSIS SUMMARY

XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	SELECTED	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	RPT PR	SHSC
REFRIG UNT	REFRIGERATION UNIT	0	00	F		DCY	NAVY	YYY	1234
SELECTED BI.fmcritno	SELECTED BI.fproblvl								
FM CRIT	FAIL PROB								
	B								
BI.fproblvl	BA.lcn	BA.alc	BF.fmindctr	XB.tmfgc	XB.lcn	HG.refno	HG.cage	BA.failrtds	
FPL	LCN	ALC	FMI	TM FGC	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	FAIL RATE SOURCE	
A	00607	00	FAAB	0603	Main Control Board	142-0431	44940	GIDEP	
FPL	LCN	ALC	FMI	TM FGC	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	FAIL RATE SOURCE	
B	006	00	FAAA	06	Condenser Assy	CCKA-MS/3834J	44940	GIDEP	
FPL	LCN	ALC	FMI	TM FGC	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	FAIL RATE SOURCE	
B	00602	00	FAAA	0602	Condenser Fan Motor	110-1860	44940	GIDEP	
FPL	LCN	ALC	FMI	TM FGC	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	FAIL RATE SOURCE	
B	00607	00	FAAA	0603	Evap Fan Motor	142-0431	44940	GIDEP	

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary (Continued)

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XB.eiac	XB.lcn	XB.lcn	XB.alc	XB.lcn	XF/XC.uoc	SELECTED	SELECTED	SELECTED					
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	RPT PR SHSC					
REFRIG UNT	REFRIGERATION UNIT	0	00	F		DCY	NAVY	YYY 1234					
BI.lcn	BI.alc	BD.failrate	BD.failrtmb	BI.oprunits	BI.msnphe	BI.fmindctr	BI.fefferpb	BF.fmratio	BI.fmcritno	CALCULATED	SELECTED		
				OP	BI.oprumb	BI.safhzasc							
LCN	ALC	PART F-RATE	MB	TIME	MB	MPC	SHSC	FMI	FEP	F-M RATIO	FM CRIT	FM CRIT	TM FGC
0	00	.001250 (P)	H	.23	H	B	3	FAAA	.95	.80	218.50	218.50	05
									TOTAL	.80			
00501	00	.0000500 (P)	H	.23	H	B	3	FAAA	.75	1.00	8.63	8.63	0501
									TOTAL	1.00			
006	00	.0012024 (M)	H	.23	H	B	3	FAAA	.30	.42	110.34	110.34	06
				.23	H	A	2	FAAB	1.00	.03	8.30	8.30	06
			H	.23	H	B	2	FAAB	.00	.03	8.30	8.30	06
									TOTAL	.45			
00602	00	.0006667 (M)	H	.23	H	B	3	FAAA	.70	1.00	107.34	107.34	0602
									TOTAL	1.00			

Figure 38 – Format for LSA-056, Failure Mode, Effects and Criticality Analysis (FMECA) Summary (Continued)

4.37 Reliability and Maintainability Analysis Summary (LSA-058)

4.37.1 Introduction

The LSA-058 summary can be used as source information for any type of Reliability and Maintainability (R&M) summary. It also can be used as a quick overview of most of the R&M type information.

4.37.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- 10 United States Code (USC) 2430. Requires the military departments- to collect and retain data from operational and developmental testing and evaluation on the reliability and maintainability of major weapon systems; and to use such data to inform system design decisions, provide insight into sustainment costs, and inform estimates of operating and support costs for such systems. Additionally, it requires the military departments to ensure that sustainment factors are fully considered at key life cycle management decision points and that appropriate measures are taken to reduce operating and support costs by influencing system design early in development, developing sound sustainment strategies, and addressing key drivers of costs.
- DoDI 5000.88 and DoDI 5000.91. States the Program Manager will formulate a comprehensive R&M program using an appropriate strategy to ensure reliability and maintainability requirements are achieved. The R&M program is an integral part of the systems engineering process.
- DI-SESS-81968. Requires the delivery of R&M data via a contractor formatted report. The LSA-058 summary can provide an overview of the data or may be submitted as part of the R&M Allocations Summary.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Task inventory (Activity C.1.9). Task inventory is identified using three analysis techniques: (1) Failure Analysis (FMECA and FTA), (2) RCM analysis, and (3) a detailed review of the system/equipment functional requirements.
- Defense Acquisition Guidebook. Reliability and Maintainability Engineering. To ensure a successful R&M engineering program, the Systems Engineer should integrate the activities across the program's engineering organization and processes, including ensuring R&M engineering is fully integrated into SE activities, Integrated Product Teams, and other stakeholder organizations [i.e., Logistics, Test, and Environment, Safety, and Occupational Health (ESOH)].
- PSM Guidebook. Instructs the PSM to Baseline the system collecting the data (or begin data collection for new systems) that will be needed to assess and analyze support decisions, including inputs from Supportability Analysis [e.g., Failure Modes Effects & Criticality Analysis (FMECA), Failure Reporting and Corrective Action System (FRACAS), Level of Repair Analysis (LORA), Maintenance Task Analysis (MTA), Reliability-Centered Maintenance (RCM) analysis, and other key maintenance planning tasks], as well as Reliability, Availability and Maintainability (RAM) and Life Cycle Cost (LCC) analyses].

4.37.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary.

What: The purpose of Reliability and Maintainability (R&M) engineering (Maintainability includes accessibility, modularity and testability) is to influence system design in order to increase mission capability and availability, and decrease logistics burden and cost over a system's life cycle. Properly planned, R&M engineering reduces cost and schedule risks by preventing or identifying R&M deficiencies early in development. This early action results in increased acquisition efficiency and higher success rates during operational testing, and can even occur in the development process as early as the Preparation Phase.

When: Baseline the system collecting the data (or begin data collection for new systems) that will be needed to assess and analyze support decisions, including inputs from Supportability Analysis. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle. According to DoDI 5000.88 and DoDI 5000.91, baselines are due at each milestone. These analyses are required during the Preparation Phase with the final output being the R&M Analysis Summary. Late in Preparation Phase/early Definition Phase RCM analysis (Activity C.1.8) and Task Inventory (Activity C.1.9) are performed with the results of FMECA and FTA.

How: R&M Analysis, includes activities such as FMECA (SAE TA-STD-0017A, Activity C.1.6) and Fault Tree Analysis (FTA) (Activity C.1.7) and includes: Activities A.1.1, B.3.3, B.5.1, and C.3.3. Many systems engineering software programs that can produce an R&M summary from detailed analysis results. Data elements such as Mission Phase Code, Safety Hazard Severity Code, Failure Mode Indicator, Failure Criticality Number, Failure Probability Level, Failure Damage Mode Narrative, Failure Cause Narrative, and Failure Mode Redesign Recommendations Narrative may be developed by a comprehensive systems engineering program and provided to the Product Support Community for further analysis and development of a

comprehensive Maintenance Programs including data elements such as Logistics Consideration information and Maintenance Task information; Task Codes, task requirements and task performance data. The data may be also used as inputs to the R&M Allocation Summary.

Why: 10 USC 2430 requires the military departments to collect and retain data from operational and developmental testing and evaluation on the reliability and maintainability of major weapon systems; and to use such data to inform system design decisions, provide insight into sustainment costs, and inform estimates of operating and support costs for such systems.

4.37.4 Scope

This summary consists of two parts. The first part is the reliability summary redesign which provides a narrative description for an item on which a redesign is proposed. This part should be used to review potential candidates for redesign. The second part details the level of repair to be performed on an item for all maintenance levels. This part is used to review the reliability and maintainability factors for the repair time of an item. In Part I of the summary, Failure Mode Criticality Number or Failure Probability Level may be used. However, Failure Mode Criticality Number should be used whenever possible. Also, if the LCN Type of subject LCN is functional, then the Reference Number and CAGE may not appear. In Part II, the (P) or (M) preceding the elapsed time values represent predicted and measured, respectively. Measured values take precedence.

4.37.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: ALC, Stop LCN, Report Part, Selections (Part I: None, Failure Modes and Causes, System Redesign Recommendations, Logistics Considerations, or Logistics Considerations Narrative)

The summary selections consist of:

- a. Summary Part: A "Y" indicates Part I is required. Note that Part I is required in order for Part II to be output.
- b. Part I Selections: The following components of Part I may be individually selected:
 1. Failure Modes and Causes: A "Y" indicates that failure modes and causes are required.
 2. System Redesign Recommendations: A "Y" indicates that system redesign recommendations resulting from the analysis of the failure modes and causes are required.
 3. Logistics Considerations: A "Y" indicates that Logistics Considerations are required.
 4. RAM Logistics Considerations Narrative: A "Y" indicates that the narrative resulting from the analysis of the logistic considerations and failure modes is required.
- c. Part II Selections: There are no options for Part II output.

4.37.6 Processing/Business Rules

- a. Part I, The summary will use the required information from the appropriate entities (BA, BG, BH, BI). In the 'FM CRIT OR FAIL PROB LVL' summary element, Failure Mode Criticality Numbers will be used if available; otherwise Failure Probability Levels will be used.
- b. Part II, The summary will use the required information from the appropriate entities (BH, BI).
- c. The (P) or (M) preceding the elapsed time values on the output represent predicted and measured, respectively. Measured values are reported wherever possible.
- d. Each part of the 058 summary should start at the top of a new page.

4.37.7 Sequence

The summary is sequenced by:

- a. Part I, The summary will be sequenced by ascending RAM LCNs then FMIs.
- b. Part II, The summary will be sequenced by ascending LCNs then FMIs then MPC for each Maintenance Level, the first being crew and the last being depot.

4.37.8 Data Sources

The data sources listed in Table 42, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed

by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 42 – Data Sources for Reliability and Maintainability Summary (LSA-058)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
RPT PT (Selected)				
SELECTION (Selected)				
OUTPUT				
PART I - RELIABILITY SUMMARY - REDESIGN (Header)				
RAM LCN	Logistics Support Analysis Control Number	BI	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	BI	1200	Required
FMI	Failure Mode Indicator	BI	2200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
REFERENCE NUMBER	Reference Number	HG	4400	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Optional
MPC	Mission Phase Code	BI	3460	Optional
SHSC	Safety Hazard Severity Code	BI	4600	Optional
FM CRIT NO or FAIL PROB LVL	Failure Mode Criticality Number	BI	2190	Optional
	Failure Probability Level	BI	2220	

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
FAILURE/DAMAGE MODE	Failure Damage Mode Narrative	BF	3510	Optional
FAILURE CAUSE	Failure Cause Narrative	BF	3510	Optional
SYSTEM REDESIGN	Failure Mode Redesign Recommendations Narrative	BF	3510	Optional
LOGISTICS CONSIDERATIONS (Header)				
STANDARDIZATION	Logistics Considerations Standardization	BA	2910	Optional
ACCESSIBILITY	Logistics Considerations Accessibility	BA	2910	Optional
MAINTENANCE EASE	Logistics Considerations Maintenance Ease	BA	2910	Optional
SAFETY	Logistics Considerations Safety	BA	2910	Optional
TEST POINTS	Logistics Considerations Test Points	BA	2910	Optional
SKILLS	Logistics Considerations Skills	BA	2910	Optional
TRAINING	Logistics Considerations Training	BA	2910	Optional
CONN REMOVAL	Logistics Considerations Connectors	BA	2910	Optional
PKG AND TRANSP	Logistics Considerations Packaging And Transportation	BA	2910	Optional
FAULT LOCATION	Logistics Considerations Fault Location	BA	2910	Optional
LABELING	Logistics Considerations Labeling	BA	2910	Optional
DAMAGE PROTECT	Logistics Considerations Design for Self Protection	BA	2910	Optional
CORR AND RUST CONT	Logistics Considerations Corrosion Rust Control	BA	2910	Optional
RAM LOGISTICS CONSIDERATIONS NARRATIVE (All that are available)	Logistics Considerations for Accessibility Narrative	BA	3510	Optional
	Logistics Considerations for Connectors for Ease of Removal Narrative			
	Logistics Considerations for Corrosion and Rust Control Narrative			
	Logistics Considerations for Design for Self Protection Narrative			
	Logistics Considerations for Fault Location Narrative			
	Logistics Considerations for Labeling Narrative			
	Logistics Considerations for Maintenance Ease Narrative			
	Logistics Considerations for Packaging And Transportation Narrative			
	Logistics Considerations for Safety Narrative			
	Logistics Considerations for Skills Narrative			
	Logistics Considerations for Standardization Narrative			
	Logistics Considerations for Test Points Narrative			
Logistics Considerations for Training Narrative				
PART II - MAINTAINABILITY SUMMARY - LEVEL OF REPAIR (Header)				
LCN	Failure Mode Task Logistics Support Analysis Control Number	BH	2970	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ALC	Failure Mode Task Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
M/L	Task Code (3rd position)	BH	5110	Required
FMI	Failure Mode Task Failure Mode Indicator	BH	2200	Required
MPC	Mission Phase Code	BI	3460	Optional
SHSC	Safety Hazard Severity Code	BI	4600	Optional
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
TASK LCN	Task Requirement Logistics Support Analysis Control Number	BH	2970	Required
TASK ALC	Task Requirement Alternate Logistics Support Analysis Control Number Code	BH	1200	Required
TASK CODE	Task Code	BH	5110	Required
ELAPSED TIME	Measured Mean Elapsed Time	CA	3210	Optional
	Predicted Mean Elapsed Time			
FM CRIT NUMBER	Failure Mode Criticality Number	BI	2190	Optional

4.37.9 Format

The format shown in Figure 39 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

TIME: 14:20

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RELIABILITY AND MAINTAINABILITY ANALYSIS (LSA-058)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	SELECTED	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	RPT PT	SELECTION
REFRIG UNT	WIRE HARNESS ASSY	002	00	P	002	DCY	YY	YYYY

PART I RELIABILITY SUMMARY - REDESIGN

BI.lcn	BI.alc	BI.fmindctr	XB.lcnomen	HG.refno	HG.cage	BI.msnphc	BI.safhazsc	BI.fmcritno	BI.fproblvl
RAM LCN	ALC	FMI	LCN NOMENCLATURE	REFERENCE NUMBER	CAGE	MPC	SHSC	FM CRIT NO/	FAIL PROB LVL
002	00	FAAA	WIRE HARNESS ASSY	BR549-0076666TG	94833	A	3	599.96	
						B	2	78.00	

BF.fdmgmn

FAILURE/DAMAGE MODE:

WIRE HARNESS ASSEMBLY FAILURE.

BF.fcausen

FAILURE CAUSE:

DEGRADED CONDITION OF THE WIRES.

BF.fmredrn

SYSTEM REDESIGN:

LOGISTICS CONSIDERATIONS:

BA.logcnstd	BA.logcnsac	BA.logcnmte	BA.logcnsft	BA.logcntep	BA.logcnskl	BA.logcntrn
STANDARDIZATION	ACCESSIBILITY	MAINTENANCE EASE	SAFETY	TEST POINTS	SKILLS	TRAINING
Y	Y	Y	Y	N	Y	Y
BA.logcnscl	BA.logcnpkt	BA.logcnftl	BA.logcnlbl	BA.logcndsp	BA.logcnrc	
CONN REMOVAL	PKG AND TRANSP	FAULT LOCATION	LABELING	DAMAGE PROTECT	CORR AND RUST CONT	
N	Y	Y	N	Y	Y	

BA.logcfacn	BA.logcfcer	BA.logcfrc	BA.logcfdsp	BA.logcffln	BA.logcfllbn	BA.logcfmen	BA.logcfptn	BA.logcfsfn	BA.logcfskn	BA.logcfstn	BA.logcftpn	BA.logcftrn

RAM LOGISTICS CONSIDERATIONS NARRATIVE:

RECOMMEND REDESIGN OF REFRIGERATION UNIT IN ORDER TO IMPROVE ACCESSIBILITY TO COMPRESSOR ASSEMBLY

Figure 39 – Format for LSA-058, Reliability and Maintainability Analysis

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PART II - MAINTAINABILITY SUMMARY - LEVEL OF REPAIR

Figure 39 – Format for LSA-058, Reliability and Maintainability Analysis (Continued)

4.38 Manpower Requirements Criteria (MARC) Summary (LSA-065)

4.38.1 Introduction

The data elements on the LSA-065 summary assist management in making decisions and developing the required manpower summaries. The Manpower Estimate is approved by the DoD Component Manpower Authority and serves as the authoritative source for reporting manpower in other program documentation.

For the U.S. Army, LSA-065, Manpower Requirements Criteria (MARC) summary, will satisfy the requirements for a MARC summary.

4.38.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

Manpower Estimates are required by statute and implemented by each of the DoD Components. They are submitted with other program documentation.

- DoDI 5000.88 and DoDI 5000.91. States the Program Manager will, in conjunction with designated DoD Component HSI staff, define the human performance characteristics of the user population based on the system description, projected characteristics of target occupational specialties, and recruitment and retention trends. The Program manager will also Develop complete resource estimates for T&E (DAG CH 8–3.6.1.) to include: test articles, test sites and instrumentation, test support equipment, threat representations and simulations, test targets and expendables, support for operational forces used in test (both friendly and threat), models and simulations, testbeds, joint mission environment, distributed test networks, funding, manpower and personnel, training, federal/state/local requirements, range requirements, and any special requirements (e.g., explosive ordnance disposal requirements or corrosion prevention and control).
- DoDD 1100.4. Requires DoD Components to minimize system support costs by addressing manpower affordability early in the acquisition process. If appropriate, manpower goals and parameters shall be established to ensure programs do not exceed what the Component is able to invest for operating, maintaining, and supporting the system. Manpower estimates of defense acquisition systems shall be developed to support both acquisition milestone decision reviews and strategic planning of manpower resources.
- MIL-STD-1472. States design shall optimize personnel, training, and skill requirements within the limits of time, cost, and performance tradeoffs. Design shall optimize system manpower by identifying the minimum number of personnel required consistent with system performance requirements, human performance, workload and safety requirements, and reliability, affordability, and risk constraints.
- AR 700-127. States the MATDEV shall develop the Basis of Issue Plan Feeder Data (BOIPFD), which includes Manpower Requirements Criteria (MARC) for a new system within 60 days from receipt of a DA approved developmental line item number (ZLIN).
- AR 71-32. Requires the materiel developer (MATDEV) to produce the basis of issue plan (BOIP) feeder data (BOIPFD). The BOIPFD is based on concept of employment/basis of issue guidance from the Joint Capabilities Integration and Development System (JCIDS), capability document, or capability production document (CPD) describing operational attributes of a materiel solution. U.S. Army Training and Doctrine Command (TRADOC) uses the JCIDS process and analysis of alternatives to determine requirements for materiel solutions; the CDD/CPD is submitted to Headquarters, Department of the Army (HQDA) for staffing and Army Requirements Oversight Council approval.
- OPNAVINST 1000.16.
- AFPD 38-2.
- AFI 38-201.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Activity D.1, Task Analysis.
- PSM Guidebook. Indicates the LCSP should be written and approved, to include supply chain performance requirements, manpower, information technology infrastructure, support equipment plans, logistics risks and mitigation plans, preliminary support strategies, and preliminary product support arrangement strategies. The LCSP is developed at Milestone B and mature at Milestone C.

4.38.3 Tailoring

Who: The U.S. Army is the primary user. Other users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary.

What: Manpower is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the Manpower Requirements as required by statute (10 USC 115a: Annual Defense Manpower Requirements Report). The data elements on the LSA-065 summary assist management in making decisions and in developing the required Manpower Summaries. The approved Manpower Estimate is the authoritative source for reporting manpower in other program documentation. The Manpower Requirements Criteria (MARC) summary, will satisfy the U.S. Army's requirements.

When: Manpower requirements are also required to be documented in the LCSP. The LCSP is required at Milestone B and mature at Milestone C. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data is developed as an output of Task Analysis (SAE TA-STD-0017A, Activity D.1). The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via CDRL. The data should be delivered as part of a LPD file as the contract specifies.

Why: Manpower requirements are required to be documented in the TEMP. A draft update is due for the Development RFP Release Decision Point and approved at Milestone B. DOT&E will approve the TEMP for DOT&E Oversight programs [10 U.S.C. 2399 (Reference (g))]; Deputy Assistant Secretary of Defense (Developmental Test and Evaluation) will also approve the TEMP for Major Defense Acquisition Program (MDAP) and Major Automated Information System (MAIS) programs and Under Secretary of Defense for Acquisition, Technology, and Logistics [USD (AT&L)] designated special interest programs [10 U.S.C. 139b, Reference (g)]; the DoD Component equivalent will approve the plan for other programs.

4.38.4 Scope

Used to identify skill specialty requirements and applicable task man-hours per specific skill specialty, LSA-065, Manpower Requirements Criteria provides man-hour summary information by each task.

4.38.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and Service Designator

Optional: ALC, Stop LCN, UOC, Skill Specialty Code, and SSC Description Option

4.38.6 Processing/Business Rules

In order to produce an LSA-065 summary, qualified tasks have subtask mean man-minutes per person ID must be contained within the selected LCN range.

- a. The following formula applies for Mean Time Between Task Maintenance Actions (MTBTMA) for all Task Interval codes except Q, C, P, M, N, and L. The exceptions have MTBMA calculated by dividing 365 days by the Task Frequency. Therefore, the MB for these exceptions is always "D".

$$MTBTMA_i = \frac{r_a}{f_{ti}} \quad (\text{Eq. 29})$$

where:

r_a	=	Annual operating requirement
f_{ti}	=	Task Frequency for task i

- b. The following formula is used to calculate -HR PER PERS ID.

$$\overline{t_p} = \sum_{i=1}^n \frac{(\text{subtask})\overline{t_{pi}}}{60} \quad (\text{Eq. 30})$$

where:

$\overline{t_p}$	=	Mean man-hours (per Person ID)
n	=	Number of Subtasks of <i>Task Code</i> with Mean Minutes per Person Identifier (PID)
$\overline{t_{pi}}$	=	Mean man-minutes (per Person ID)

- c. The summary displays the system/component Reference Number. Within each Reference Number, tasks are displayed by unscheduled/on equipment (Task Interval Codes F, G, and J, and Task Operability Codes A, B, C, D, and E); unscheduled/off equipment (Task Interval Codes F, G, and J, and Task Operability Code G); and scheduled (all Task Interval Codes except F, G, J, and Y).
- d. The Skill Specialty Code Description section lists all SSC or NM SSC that qualifies based on the selection option.

4.38.7 Sequence

The summary is sequenced by ascending Reference Number/CAGE. Within Reference Number/CAGE by On Equipment Tasks, Off equipment corrective tasks, and Scheduled Tasks. Within Tasks lines of summary data are sorted in ascending SSC/PERS ID.

4.38.8 Data Sources

The data sources listed in Table 43, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 43 – Data Sources for Manpower Requirements Criteria (MARC) Summary (LSA-065)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Required
SSC	Skill Specialty Code	CD	4810	Optional
	New Or Modified Skill Specialty Code	CD	4810	
SSC DESCRIPTION OPTION (Selected)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
OUTPUT				
LCN	Logistics Support Analysis Control Number	CD	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CD	1200	Required
REFERENCE NUMBER	Reference Number	HG	4400	Optional
CAGE	Commercial And Government Entity Code	HG	1520	Optional
NATIONAL STOCK NO	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code	HA	3550	Optional
	National Stock Number Federal Supply Classification	HA	2280	Optional
	National Stock Number National Item Identification Number	HA	3520	Optional
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code	HA	3560	Optional
	National Stock Number Activity Code	HA	3530	Optional
ITEM NAME	Item Name	HA	2790	Optional
SSC	Skill Specialty Code	CD	4810	Optional, NMSSC 1st Precedence
	New or Modified Skill Specialty Code			
PERSON ID	Subtask Person Identifier	CD	3890	Required
M-HR PER PERS ID (Calculated)				Automatically generated
[SUBTASK MEAN MAN-MINUTES]	Subtask Mean Man-Minutes	CD	3230	Required for calculation
TASK CODE	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TASK FREQ	Task Frequency	CA	5140	Required
MB	Task Annual Operating Requirements Measurement Base	CA	3380	Required if Task Frequency selected
MTBMA (Calculated)				Automatically generated
[ANNUAL OPERATING REQUIREMENTS]	Annual Operating Requirements	AG/CA	1240	Required for calculation
[TASK FREQ]	Task Frequency	CA	5140	Required for calculation
TASK CRIT	Task Criticality Code	CA	5130	Optional
SKILL SPECIALTY CODE DESCRIPTION (Header)				
SSC AND DESCRIPTION	Skill Specialty Code	CD	4810	If SSC is selected, qualified SSCs required
	Skill Specialty Code Description	GA	4815	Optional
NEW OR MODIFIED SSC AND DESCRIPTION	New or Modified Skill Specialty Code	CD	4810	If NM SSC is selected, qualified NM SSCs required
	Skill Specialty Code Description	GB	4815	Optional

4.38.9 Format

The format shown in Figure 40 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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MANPOWER REQUIREMENTS CRITERIA (MARC) (LSA-065)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	CD.skspc CD.nomskspc
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SSC
REFRIG UNT	REFRIGERATION UNIT	0	00	P		DCY	ARMY	

SELECTED

SSC DESCRIPTION OPTION: NO

CA/CD.lcn	CA/CD.alc	HG/HA.refno	HG/HA.cage	HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc	HA.itemname
LCN	ALC	REFERENCE NUMBER	CAGE	NATIONAL STOCK NO.	ITEM NAME
0	00	F10000RG-2	44940	4110-01-074-5175	REFRIGERATION UNIT

UNSCHEDULED ON-EQUIPMENT MAINTENANCE

CD.skspc CD.nomskspc	CD.stprsnid	CD.subtmnmn	CA.taskcode	CA.taskid	CA.tsksfreq	CA.taannormb	CALC	CA.tsksritc
	PERSON	M-HR PER	TASK			M		TASK
	ID	PERS ID	CODE	TASK IDENTIFICATION	TASK FREQ	B	MTBMA	CRIT
SSC	AAA	0.33	JGFAAAA	REPAIR REFRIGERATION UNIT	0.2720	O	26470.6	Y

UNSCHEDULED OFF-EQUIPMENT MAINTENANCE

	PERSON	M-HR PER	TASK			M		TASK
	ID	PERS ID	CODE	TASK IDENTIFICATION	TASK FREQ	B	MTBMA	CRIT
SSC	ACH	1.42	JGFAGAA	REPAIR COOLANT CONTAINER	0.2720	O	26470.6	Y
SSC	ACI	0.71	JGFAGAA	REPAIR COOLANT CONTAINER	0.2720	O	26470.6	Y
SSC	ALQ	3.54	JGFAGAA	REPAIR MOTOR LINKAGE	0.0330	O	2.182E+5	Y

SCHEDULED MAINTENANCE

	PERSON	M-HR PER	TASK			M		TASK
	ID	PERS ID	CODE	TASK IDENTIFICATION	TASK FREQ	B	MTBMA	CRIT
SSC	ADC	0.22	ANFAAAA	INSPECT REFRIGERATION UNIT	2.000	O	3600.0	Y
SSC	LPR	0.05	APFAAAA	INSPECT FOR COOLING CONDITION	12.000	O	600.0	Y

Figure 40 – Format for LSA-065, Manpower Requirements Criteria

4.39 Task Code to SMR Code Verification Summary (LSA-068)

4.39.1 Introduction

This summary provides a cross reference of the SMR codes assigned to repair and spare parts identified in each of the maintenance tasks. The summary can be used to verify that the levels of maintenance for replace and repair within the SMR code matches to the maintenance task that identifies the usage of the repair or spare part. This will assist in assuring that the right parts are stocked to support the maintenance procedures contained in the interactive electronic technical manuals or hardcopy technical manuals.

4.39.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- SAE TA-STD-0017A and MIL-HDBK-502A. The following analyses are applicable: Supportability and Supportability Related Design Factors (Activity B.5), FMECA (Activity C.1.6), Task Inventory (Activity C.1.9), Maintenance Task Analysis (Activity D.1), and Disposal Analysis (Activity E.3).

4.39.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is an analysis summary and not a typical deliverable.

What: This summary will assist in assuring that the right parts are stocked to support the maintenance procedures contained in the interactive electronic technical manuals or hardcopy technical manuals.

When: The data elements are developed early in development (Definition Phase, Preliminary Design Review) and are refined throughout system development as part of the provisioning process. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data is critical input/output (iterations) to several product support analyses; Supportability and Supportability Related Design Factors (SAE TA-STD-0017A, Activity B.5), FMECA (Activity C.1.6), Task Inventory (Activity C.1.9), and Maintenance Task Analysis (Activity D.1). Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies.

Why: Used in support of the provisioning process for spare and repair parts as required for maintenance procedures in technical manuals.

4.39.4 Scope

This summary displays a list of maintenance tasks and their associated repair and spare parts (Entity CI) for each LCN in the range. The summary can be used to verify that the levels of maintenance for replace and repair within the SMR code matches to the maintenance task that identifies the usage of the repair or spare part.

4.39.5 Selection Options

Mandatory: EIAC

Optional: Service Designator Code (Task Code, fourth position)

4.39.6 Processing/Business Rules

Generation of this summary is bounded by mandatory EIAC. A LCN qualifies by having a Task Code with Entity CI support items for the EIAC. The Entity CI support item is matched to Entity HG where the Source, Maintenance, and Recoverability Codes are extracted and displayed.

4.39.7 Sequence

The summary is sorted by LCN/Alternate LCN, then by Entity CA Task Codes within each LCN and then by Entity CI provisioned items.

4.39.8 Data Sources

The data sources listed in Table 44, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 44 – Data Sources for the Task Code to SMR Verification Summary (LSA-068)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
OUTPUT				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
[LCN TYPE (“P” = Physical)]	Logistics Support Analysis Control Number Type	CA	2980	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TASK CODE	Task Code	CA	5110	Required
TASK ID	Task Identification	CA	5150	Required
SMR CODE	Source Maintenance and Recoverability Code	HG	4830	Required
TASK PROV LCN	Task Provision Logistics Support Analysis Control Number	CI	2970	Required
TASK PROV ALC	Task Provision Alternate Logistics Support Analysis Control Number Code	CI	1200	Required
[TASK PROV LCN TYPE (“P” = Physical)]	Task Provision Logistics Support Analysis Control Number Type	CI	2980	Required
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Provision Reference Number	CI	4400	Optional
CAGE	Task Provision Commercial and Government Entity Code	CI	1520	Optional

4.39.9 Format

The format shown in Figure 41 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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TASK CODE TO SMR VERIFICATION (LSA-068)

XB.eiac
EIAC
REFRIG UNT

CA.taskcode
SERV DES
ARMY

CA.lcn	CA.alc	CA.lcntype	XB.lcnomen
LCN	ALC	TYPE	LCN NOMENCLATURE
0	00	P	ENGINE ASSEMBLY

CA.taskcode	CA.taskid
TASK CD	TASK IDENTIFICATION
RGFAGAA	REMOVE ENGINE ASSEMBLY

HG.srctroc	CI.lcn	CI.alc	HA.itemname	CI.refno	CI.cage
SMR CODE	LCN	ALC	ITEM NAME	REFERENCE NUMBER	CAGE
PAFDD	0	00	ENGINE ASSEMBLY	143-0431	44940
PAFZZ	01	00	BOLT, STRAIGHT	MS-2423378	23251
PAFZZ	02	00	SPACER	MS-54423	33252

TASK CD	TASK IDENTIFICATION
JGHAGAA	REPAIR ENGINE BY R/R GASKET

SMR CODE	LCN	ALC	ITEM NAME	REFERENCE NUMBER	CAGE
PAHDD	0A	00	GASKET, HEAD	254-0431	44940
PAHZZ	0A01	00	BOLT, STRAIGHT	MS-2423666	23251
PAHZZ	0C	00	SEALANT	MS-54LL2589Y79	33444
PAOZZ	0BLK	00	SOLVENT	MA-280U80	56789

LCN	ALC	LCN NOMENCLATURE
0A	00	ENGINE ELECTRONIC CONTROL

TASK CD	TASK IDENTIFICATION
HGFAGAA	REPLACE ELECT CONTROL

SMR CODE	LCN	ALC	ITEM NAME	REFERENCE NUMBER	CAGE
PAFHH	0N	00	ELECT CONTROL	EE-125-0431	44940

Figure 41 – Format for LSA-068, Task Code to SMR Code Verification Summary

4.40 Support Equipment Recommendation Data Summary (SERD) (LSA-070)

4.40.1 Introduction

The SERD is the contractor's recommendation for SE to support the contract end article. SERDs are recorded in several parts. These parts provide key narrative and quantitative data used to propose and validate SE needs.

A narrative approach is used, along with engineering data, to define the contractor's description of a function requiring support and the recommendation of tools or equipment to satisfy this need. Quantitative methods are also used to provide availability, logistics support, and acquisition-type data regarding the Item of SE being recommended. The completed SERD is intended to support overall systems management action for SE development, acquisition, and optimum standardization within and among systems.

4.40.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States that during P&D the acquiring organization provides the warfighter with the needed capability, to include any required training, spares, technical data, computer software, support equipment, maintenance, or other logistics support necessary for operation.
 - DoD Components will ensure that the capability and required support (e.g., field service representatives, training) are deployed by the most expeditious means possible and tracked through to their actual delivery to the user.
- The DoD Components will coordinate with each other and the requiring activity to verify the total number of items required, considering necessary support and spares and training assets for deployed and/or pre-deployment training.
- DI-ILSS-80454.
- UDI-L-21594.
- SAE GEIA-HB-649A. Provides guidance on configuration management for support equipment.
- DI-SESS-80294. Requires the delivery of data for maintenance test and support equipment (MT&SE) requirements. The delivered list identifies the test parameter requirements for maintenance, test, alignment, and calibration, to support all echelons of maintenance during the operational life cycle of a system or equipment. This list also identifies the unique and special tools, materials, and test equipment required to support all echelons of maintenance.
- MIL-HDBK-2097. Prescribes Requirements for design, development, test and initial order of SE which shall be used to establish each SE end item through contractor submission of the SERD and approval by the technical authority. SE requirements identified on the SERD should be traceable to the analytical PSA process described by SAE TA-STD-0017A and documented IAW SAE GEIA-STD-0007. Changes in design concept or logistic support data, if required, will be indicated on the SERD returned by the Government to the contractor.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Support System Standardization (Activity B.2), Task inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- AFMCI 21-100, AFMCI 21-101, AR 700-127, MCO 4790.21, and OPNAVINST 4790.14 State: Depot Source of Repair (DSOR) Decision Process and Procedures. Logistics Product Data (LPD) can be utilized to satisfy many of the data requirements for DMI studies and provides a vehicle for the government to obtain data from contractors necessary for logistics planning purposes. Submission of contractor-developed data products is encouraged both for economy and accuracy.
- Support Equipment Recommendation Data (SERD) and Test Requirements Document (TRD). When candidate depots are required to identify SE or test program sets as part of the DSP, the acquiring Service shall submit appropriate requirement specifications or descriptive data as part of the supporting program and technical data package (TDP). SERDs and TRDs should be prepared IAW approved requirements documents.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program

managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new SE and giving more attention to the use of existing government or commercial equipment.

- AFH23-123V3.

4.40.3 Tailoring

Who: All DoD Services, especially U.S. Navy. Other users may include: Commercial/Industry, Program Executive Offices, Program Managers and Product Support Managers.

What: Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of SE. A summary describing requirements for and identification of one piece of support equipment. This summary includes administrative data, description of equipment, allocation data, design data, and IPS requirements as specified by MIL-HDBK-2097.

When: There are several DIDs that require the delivery of SERD data which is derived from the PSA and documented in the LPD; DI-ILSS-80454, UDI-L-21594, DI-SESS-80294. Alternately, the data or summary may be delivered IAW DI-SESS-81759A/DI-SESS-81758A via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on The SERD Summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).

Why: This summary is specified as a deliverable in MIL-HDBK-2097. SERDs are required to be delivered to ensure the government is not procuring different versions of equipment it already owns. It can also conserve funds by procuring COTS or modified COTS equipment rather than designing something new. This helps to standardize equipment used and minimize the logistics footprint aboard ship and in the shops. It is extensively used by the U.S. Navy, U.S. Air Force, and some by the U.S. Army aviation community.

4.40.4 Scope

A summary describing requirements for and identification of one piece of recommended support equipment as specified by MIL-HDBK-2097. This summary will include Section I: Description of Requirements, Section II: Administrative data (which includes identification of Articles Requiring Support), Section III: Supersedure/Deletion/Distribution Data, Section IV: Design Data, Section V: Integrated Product Support (IPS) and Section VI: UUT Parameters and UUT Related Information.

4.40.5 Selection Options

Mandatory: EIAC, Reference Number, CAGE

Optional: N/A

4.40.6 Processing/Business Rules

To produce the summary, the selected SE Reference Number and SE CAGE Code must have an exact match with an entry in Entity EA. This summary is used to describe only the selected piece of SE and the Unit Under Test (UUT) that it supports. EIAC is needed to link the SE to the correct Weapon System/End Item and its subordinate UUTs.

- The E-CAGE/PN code ("Y" or "N") in Section 2 is generated based on whether or not the SE Reference Number and SE CAGE Code has equivalent Reference Number and CAGE Code. This is determined by searching Entity HB for Additional Reference Numbers and ARN CAGE Code for the SE Reference Number and SE CAGE Code. If any are found, they are to be displayed out in Section 2, Administrative Data (following Section 2, Articles Requiring Support), under the heading Equivalent Reference Numbers and CAGE Codes.
- In Section 2, only the latest Revision should be selected for output.
- All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.
- Under the Price Data header in Section 2, the Design Data and Integrated Logistics Support (ILS) values must equal the total Design Data Price and total ILS Price that are calculated in Sections 4 and 5, respectively. Use Total Design Data and ILS values from Sections 4 and 5 and place here in Section 2. The Nonrecurring Total in Section 2 is computed by adding up the Hardware Device, Design Data, Pass Thru, and ILS prices. Recurring Cost is the individual hardware cost of the recommended article of SE.

- e. Under Section 2, Articles Requiring Support (ARS), the SE Item Designator should be used from Entity XC for an exact match against the ARS LCN and ALC only.
- f. Section 3, the Allowance Range numbers identified in Allocation Data are based on the number of end articles requiring the SE at a given site, and the number to be entered is the required amount of SE per allotted number of end items.
- g. The total Design Data Price and total ILS Price (Sections 4 and 5, respectively) are computed by summing the estimated price values for each of their respective category requirements, respectively.
- h. In Section 6, SE Parameters and UUT Related Information, there may be multiple parameters that the SE can measure or calibrate and multiple UUTs that the SE can support. The Support Equipment Parameter Group Code for the SE will distinguish between the different parameters that the SE can measure/calibrate and will be matched against the Unit Under Test Parameter Group Code to associate the SE and UUT. For UUT Parameters, use from Entity HD where Provisioning Price Used Code = Y.
- i. Page breaks are required between each section of the summary. Also, an option should exist to allow for the footers to be displayed out for the whole summary even if some sections may not contain data.

4.40.7 Sequence

Section 2, SE Required, will be sequenced by ascending Reference Number and CAGE Code. Section 2, Articles Requiring Support, and Section 6, UUT Related Information, will be sequenced by ascending LCN. Section 6, (Operational Test Programs, Test Program Instructions, and Additional Interconnecting Devices) will be sequenced by ascending UUT LCN, then ascending Reference Number and CAGE Code within each UUT LCN.

4.40.8 Data Sources

The data sources listed in Table 45, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as “Selection Options” and “Output.” Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 45 – Data Sources for the Support Equipment Recommendation Data Summary (LSA-070)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XA	2040	Required
MANUFACTURER'S PART NUMBER	Support Equipment Reference Number	EA	4400	Required
MANUFACTURER'S CAGE CODE	Support Equipment Commercial and Government Entity Code	EA	1520	Required
OUTPUT				
FOOTER - SUPPORT EQUIPMENT DESCRIPTION (Repeated at the bottom of every page)				
SERD NO	Support Equipment Recommendation Data Number	EF	5030	Required
REV	Support Equipment Recommendation Data Revision	EF	4580	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
REV DT	Support Equipment Recommendation Data Date of Revision Submission	EF	4570	Optional
STATUS	Support Equipment Recommendation Data Status	EF	5050	Optional
SE ITEM NAME	Support Equipment Full Item Name	EA	5010	Optional
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Required
MFR'S PART NUMBER	Support Equipment Reference Number	EA	4400	Required
SECTION 1 - DESCRIPTION OF RQMTS (Header)				
FUNCTIONAL ANALYSIS	Support Equipment Functional Analysis Narrative	EA	3510	Optional
DESCRIPTION AND FUNCTION	Support Equipment Description and Function Narrative	EA	3510	Optional
SE NON-PROLIFERATION EFFORT	Support Equipment Nonproliferation Effort Narrative	EA	3510	Optional
CHARACTERISTICS OF SE	Support Equipment Characteristics Narrative	EA	3510	Optional
INSTALLATION FACTORS OR OTHER FACILITIES	Support Equipment Installation Factors or Other Facilities Narrative	EA	3510	Optional
ADDITIONAL SKILLS AND SPECIAL TRAINING REQUIREMENTS	Support Equipment Additional Skills and Special Training Requirements Narrative	EA	3510	Optional
SECTION 2 - ADMINISTRATIVE DATA (Header)				
LCN	Logistics Support Analysis Control Number	HG	2970	Optional
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
PREPARING ACTIVITY	Preparing Activity	EA	3950	Optional
ORIG DT	Support Equipment Recommendation Data Date of Initial Submission	EF	1790	Optional
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Required
MFR'S PART NUMBER	Support Equipment Reference Number	EA	4400	Required
E-CAGE/PN (Generated)				Automatically generated
[ARN CAGE CODE]	Additional Reference Number Commercial and Government Entity Code	HB	1520	Optional
[ADDITIONAL REFERENCE NUMBER]	Additional Reference Number	HB	4400	Optional
SERD NO	Support Equipment Recommendation Data Number	EF	5030	Required
REV	Support Equipment Recommendation Data Revision	EF	4580	Required
REV DT	Support Equipment Recommendation Data Date of Revision Submission	EF	4570	Optional
STATUS	Support Equipment Recommendation Data Status	EF	5050	Optional
EA DESIGNATOR	End Article Item Designator	EA	2750	Optional
EA NAME	Item Name	HA	2790	Optional
ACTION DATE	Support Equipment Recommendation Data Date of Government Disposition	EF	1790	Optional
SE ITEM NAME	Item Name	HA	2790	Optional
GOVT DESIGNATOR	Government Designator	EA	2330	Optional
SE FULL ITEM NAME	Support Equipment Full Item Name	EA	5010	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SIASCN	Standard Interservice Agency Serial Control Number	EA	4940	Optional
SKETCH	Sketch	EA	4780	Optional
NATIONAL STOCK NUMBER	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
	National Stock Number Activity Code		3530	
ALT NSN (Generated)	Alternate National Stock Number Federal Supply Classification	EH	2280	Optional
	Alternate National Stock Number National Item Identification Number		3520	
CONTRACT NUMBER	Support Equipment Contract Number	EA	1630	Optional
RESPONSIBLE AGENCY (Sub Header)				
NAME	Acquisition Decision Office	EA	1020	Optional
CODE	Logistics Decision Office	EA	2930	Optional
PE	Program Element	EA	4040	Optional
PSICP	Program Support Inventory Control Point	EA	4060	Optional
ICC	Support Equipment Item Category Code	EA	2730	Optional
CFE/GFE	Contractor Furnished Equipment Government Furnished Equipment	EA	1640	Optional
CAL ITEM	Calibration Item	EA	1390	Optional
CAL REQD	Calibration Required	EA	1450	Optional
SER	Support Equipment Service Designator	EA	4710	Optional
USER	Using Service Designator Code	EA	5800	Optional
CTIC	Contractor Technical Information Code	HA	1650	Optional
SMR	Support Equipment Source Maintenance Recoverability Code	EA	4830	Optional
TEC	Type Equipment Code	EA	5600	Optional
TECHEVAL	Technical Evaluation Priority Code	EA	5230	Optional
TECH MANUAL CODES	Technical Manual Required Code	EA	5290	Optional
PROD LEAD TIME	Production Lead Time	HA	4020	Optional
1st ARTICLE	Date of First Article Delivery	EA	1790	Optional
SPCL MGT	Special Management Code	EA	4880	Optional
MGT PLAN	Management Plan	EA	3100	Optional
USABLE ON CODES	Usable On Code	HO/XC	5790	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
PHYSICAL DATA (Sub Header)				
DIMENSIONS				
OPERATING LN	Operating Length	EA	2890	Optional
OPERATING WD	Operating Width	EA	2890	Optional
OPERATING HT	Operating Height	EA	2890	Optional
OPERATING UM	Operating Dimensions Unit of Measure	EA	5720	Required if Operating Length, Width, Height selected
STORAGE LN	Storage Length	EA	2890	Optional
STORAGE WD	Storage Width	EA	2890	Optional
STORAGE HT	Storage Height	EA	2890	Optional
STORAGE UM	Storage Dimensions Unit Of Measure	EA	5720	Required if Storage Length, Width, Height selected
SHIPPING LN	Support Equipment Shipping Length	EA	2890	Optional
SHIPPING WD	Support Equipment Shipping Width	EA	2890	Optional
SHIPPING HT	Support Equipment Shipping Height	EA	2890	Optional
SHIPPING UM	Support Equipment Shipping Dimensions Unit of Measure	EA	5720	Required if Shipping Length, Width, Height selected
WEIGHT				
OPERATING WT	Operating Weight	EA	5830	Optional
OPERATING WT UM	Operating Weight Unit of Measure	EA	5720	Required if Operating Weight selected
STORAGE WT	Storage Weight	EA	5830	Optional
STORAGE WT UM	Storage Weight Unit of Measure	EA	5720	Required if Storage Weight selected
SHIPPING WT	Support Equipment Shipping Weight	EA	5830	Optional
SHIPPING WT UM	Support Equipment Shipping Weight Unit of Measure	EA	5720	Required if Shipping Weight selected
SHIPPING MODES TRANSPORTED END ITEM NARRATIVE	Transported End Item Transported Other Equipment Narrative	JC	3510	Optional
PRICE DATA (Sub Header)				
HDWR DEV	Hardware Development Price	EA	3990	Optional
DESIGN DATA (Calculated)				Automatically generated
PASS THRU	Pass Thru Price	EA	3990	Optional
ILS (Calculated)				Automatically generated
NONRECURRING TOTAL (Calculated)				Automatically generated
RECURRING	Recurring Cost	EA	1700	Optional
CURR CD	Support Equipment Cost Price Currency Code	EA	1745	Required if any cost or price field selected
SECTION 2. ADMINISTRATIVE DATA (Header)				
SYSTEM EQUIPMENT REQUIRED (GFAE) (Sub Header)				

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
LCN	Logistics Support Analysis Control Number	HG	2970	Optional
ALC	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
CAGE	System Equipment Commercial and Government Entity Code	EM	1520	Optional
MFR'S PART NUMBER	System Reference Number	EM	4400	Optional
WORK UNIT CODE	Work Unit Code	HG	5920	Optional
NATIONAL STOCK NUMBER	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
UNIT PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "I")		HD	4000	Required if Unit Price selected
CURR CD	Currency Code	HD	1745	Required if Unit Price selected
GFAE DESIGNATOR	System Equipment Item Designator	EM	2750	Optional
GFAE NAME	Item Name	HA	2790	Optional
QUANTITY	System Equipment Quantity per Test	EM	5100	Optional
SECTION 2 - ADMINISTRATIVE DATA (Header)				
ARTICLES REQUIRING SUPPORT (ARS) (Sub Header)				
LCN	Unit Under Test Logistics Support Analysis Control Number	UA	2970	Optional
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UA	1200	Optional
TASK CODE	Task Code	CG	5110	Optional
MAINTENANCE PLAN	Unit Under Test Maintenance Plan Number	UA	3030	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Optional
MFR'S PART NUMBER	Reference Number	HG	4400	Optional
NATIONAL STOCK NUMBER	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
SMR	Support Equipment Source Maintenance Recoverability Code	HG	4830	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
ARS DESIGNATOR	System End Item Designator Code	XC	2750	Optional
ARS NAME	Logistics Support Analysis Control Number Nomenclature	XB	2950	Optional
MTBF	Mean Time Between Failures Technical	BD	3270	Optional
MB	Mean Time Between Failure Technical Measurement Base	BD	3380	Required if MTBF selected
Ai	Inherent Availability	BD	2560	Optional
CMRS	Unit Under Test Calibration Measurement Requirement Recommended Code	UB	1400	Optional
WORK UNIT CODE	Work Unit Code	HG	5920	Optional
ALLOWANCE	Unit Under Test Allowance	UA	1170	Optional
WORK PKG REF	Unit Under Test Work Package Reference	UA	5760	Optional
SECTION 2. ADMINISTRATIVE DATA (Header)				
E-CAGE/PN	Additional Reference Number Item Reference Number	HB	4400	Optional
	Additional Reference Number Item Commercial and Government Entity Code		1520	
ALTERNATE NSN(S)	Alternate National Stock Number Federal Supply Classification	EH	2280	Optional
	Alternate National Stock Number National Item Identification Number		3520	
REVISION REMARKS	Support Equipment Recommendation Data Revision Remarks	EF	5040	Optional
EXPLANATION	Support Equipment Explanation Narrative	EA	3510	Optional
SECTION 3. SUPERSEDEURE/ DELETION/DISTRIBUTION DATA (Header)				
SUPERSEDEURE DATA (Sub Header)				
SERDS SUPERSEDED BY THIS SERD (Sub Header)				
SUPERSEDE TYPE	Supersede Type	EK	4980	Optional
SERD NO	Supersedeure Support Equipment Recommendation Data Number	EK	5030	Optional
REASON FOR SUPERSEDEURE	Reason for Supersedeure Deletion	EK	4290	Optional
CAGE	Supersedeure Commercial and Government Entity Code	EK	1520	Optional
MFR'S PART NUMBER	Supersedeure Reference Number	EK	4400	Optional
SE ITEM NAME	Supersedeure Item Name	EK	2790	Optional
IC	Supersedeure Interchangeability Code	EK	2670	Optional
REASON FOR DELETION	Reason for Supersedeure Deletion	EK	4290	Optional
ALLOCATION DATA (Sub Header)				
ALLOWANCE	Allowance Document Number	EB	1170	Optional
SIDN	Allocation Station Identification Code	EB	1160	Optional
MLF	Allocation Maintenance Level Function	EB	1140	Optional
LVC	Allocation Land Vessel Code	EB	1130	Optional
CUST CODE	Custody Code	EA	1770	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
DESIG DESCRIP	Allocation Designation Description	EB	1110	Optional
ALLOWANCE RANGE	Allocation Range 1 (1-4 end items supported)	EB	1150	Optional
	Allocation Range 2 (5-8 end items supported)			
	Allocation Range 3 (9-12 end items supported)			
	Allocation Range 4 (13-16 end items supported)			
	Allocation Range 5 (17-24 end items supported)			
	Allocation Range 6 (25-32 end items supported)			
	Allocation Range 7 (33-64 end items supported)			
	Allocation Range 8 (65-125 end items supported)			
	Allocation Range 9 (126-250 end items supported)			
	Allocation Range 10 (251-450 end items supported)			
EXT RNG	Allocation Extended Range	EB	1120	Optional
MOBILE FACILITY	Mobile Facility Code	EA	3480	Optional
SPARE FACTOR	Spare Factor	EA	4850	Optional
REVOLVING ASSETS	Revolving Assets	EA	4590	Optional
SPECIFIC AUTHORIZATIONS (Sub Header)				
NUMBER OF ACTIVITIES	Number of Activities	ED	3620	Optional
TYPE OF ACTIVITY	Type of Activity	ED	5610	Optional
NAME/ LOCATION OF ACTIVITY	Activity Name Location	ED	1050	Optional
QUANTITY PER ACTIVITY	Support Equipment Quantity per Activity	ED	4180	Optional
SECTION 4. DESIGN DATA (Header)				
REQUIREMENTS (Sub Header)				
SE STANDARDIZATION	DDCC (A)	EJ	1870	Optional
SE SPECIFICATION	DDCC (B)			
DESIGN ENGINEERING	DDCC (C)			
CONFIGURATION CONTROL	DDCC (D)			
RELIABILITY	DDCC (E)			
MAINTAINABILITY	DDCC (F)			
QUALITY ASSURANCE	DDCC (G)			
SAFETY	DDCC (H)			
HUMAN ENGINEERING	DDCC (I)			
TEST & EVALUATION	DDCC (J)			
COMPUTER RESOURCES	DDCC (K)			

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SE ILLUSTRATION	DDCC (L)			
OTHER	DDCC (M)			
CONTRACTOR RECOMMENDED	Design Data Category Code Contractor Recommended	EJ	1840	Optional
GOVERNMENT REQUIRED	Design Data Category Code Government Required	EJ	1850	Optional
ESTIMATED PRICE	Design Data Category Code Estimated Price	EJ	3990	Optional
CURR CD	Design Data Category Code Estimated Price Currency Code	EJ	1745	Required if Estimated Price selected
SCOPE	Design Data Category Code Scope	EJ	1860	Optional
DESIGN DATA PRICE (Calculated)				Automatically Generated
CURR CD	Design Data Category Code Estimated Price Currency Code	EJ	1745	Required if Estimated or Design Data Price selected
SECTION 5. ILS DATA (Header)				
REQUIREMENTS (Sub Header)				
ILS PLAN	IRCC (A)	EL	2660	Optional
LSA	IRCC (B)			
MAINTENANCE PLAN	IRCC (C)			
SUPPORT MATERIALS LIST	IRCC (D)			
REPAIR OF REPAIRABLES	IRCC (E)			
PROV TECH DOC	IRCC (F)			
MASTER INDEX REP	IRCC (G)			
CMRS	IRCC (H)			
FACILITIES	IRCC (I)			
TECHNICAL MANUALS	IRCC (J)			
MRCS	IRCC (K)			
ICPS	IRCC (L)			
PHASED SUPPORT PLAN	IRCC (M)			
CPR/R	IRCC (N)			
REWORK STANDARD	IRCC (O)			
NEW START	IRCC (P)			
TRAINING	IRCC (Q)			
CETS	IRCC (R)			
PHS&T	IRCC (S)			
OTHER	IRCC (T)			
CONTRACTOR RECOMMENDED	Integrated Logistics Support Requirement Category Code Contractor Recommended	EL	1840	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
GOVERNMENT REQUIRED	Integrated Logistics Support Requirement Category Code Government Required	EL	1850	Optional
ESTIMATED PRICE	Integrated Logistics Support Requirement Category Code Estimated Price	EL	3990	Optional
SCOPE	Integrated Logistics Support Requirement Category Code Scope	EL	1860	Optional
ILS PRICE (Calculated)				Automatically Generated
CURR CD	Integrated Logistics Support Requirement Category Code Estimated Price Currency Code	EL	1745	Required if Estimated or ILS Price selected
SECTION 6. SE PARAMETERS AND UUT RELATED INFORMATION (Header)				
SE PARAMETERS (Sub Header)				
PGC	Support Equipment Parameter Group Code	EC	3820	Optional
I/O	Support Equipment Parameter Input or Output Code	EC	3830	Optional
PARAMETER	Support Equipment Parameter	EC	3870	Optional
RANGE FROM	Support Equipment Parameter Range From	EC	3850	Optional
RANGE TO	Support Equipment Parameter Range To	EC	3850	Optional
ACCURACY	Support Equipment Parameter Accuracy	EC	3810	Optional
R/V	Support Equipment Parameter Range or Value Code	EC	3840	Optional
CALIBRATION PROCEDURE	Calibration Procedure	EC	1440	Optional
UUT RELATED INFORMATION (Sub Header)				
UUT INFORMATION (Sub Header)				
LCN	Unit Under Test Logistics Support Analysis Control Number	UB	2970	Optional
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UB	1200	Optional
CAGE	Commercial and Government Entity Code	HG	1520	Optional
MANUFACTURER'S PART NUMBER	Reference Number	HG	4400	Optional
ITEM NAME	Item Name	HA	2790	Optional
MAINTENANCE PLAN NUMBER	Unit Under Test Maintenance Plan Number	UA	3030	Optional
TRD	Unit Under Test Test Requirements Document Number	UA	5350	Optional
CMRS STAT	Unit Under Test Calibration Measurement Requirement Summary Status	UB	1430	Optional
CMRS RECMD	Unit Under Test Calibration Measurement Requirement Recommended Code	UB	1400	Optional
ALLOWANCE	Unit Under Test Allowance	UA	1170	Optional
WORK PKG REF	Unit Under Test Work Package Reference	UA	5760	Optional
CONV FACT	Conversion Factor	BA	1670	Optional
MTBF	Mean Time Between Failures Technical	BD	3270	Optional
MB	Mean Time Between Failure Technical Measurement Base	BD	3380	Required if MTBF selected
PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "I")	Price Type Selection	HD	4000	Required if Unit Price selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
CURR CD	Currency Code	HD	1745	Required if Unit Price selected
UUT PARAMETERS (Sub Header)				
PGC	Unit Under Test Parameter Group Code	UG	3820	Optional
I/O	Unit Under Test Parameter Input Output Code	UG	3830	Optional
PARAMETER	Unit Under Test Parameter	UG	3870	Optional
RANGE FROM	Unit Under Test Parameter Range From	UG	3850	Optional
RANGE TO	Unit Under Test Parameter Range To	UG	3850	Optional
ACCURACY	Unit Under Test Parameter Accuracy	UG	3810	Optional
R/V	Unit Under Test Parameter Range Value Code	UG	3840	Optional
TASK CODE	Task Code	CG	5110	Optional
CMRSP	Unit Under Test Calibration Measurement Requirement Summary Parameter Code	UG	1410	Optional
TAR DES	Unit Under Test Parameter Test Accuracy Ratio Desired	UG	3860	Optional
TAR ACT	Unit Under Test Parameter Test Accuracy Ratio Actual	UG	3860	Optional
FAULT ISOLATED REPLACEABLE UNITS (Sub Header)				
CAGE	Task Provision Commercial and Government Entity Code	UH	1520	Optional
MFR'S PART NUMBER	Task Provision Reference Number	UH	4400	Optional
ITEM NAME	Item Name	HA	2790	Optional
TRD IND	Unit Under Test Fault Isolated Replaceable Unit Test Requirements Document Indicator	UH	5740	Optional
AMGR	Unit Under Test Fault Isolated Replaceable Unit Ambiguity Group 1	UH	2260	Optional
PCT	Unit Under Test Fault Isolated Replaceable Unit Percent Failure 1		2270	
AMGR	Unit Under Test Fault Isolated Replaceable Unit Ambiguity Group 2	UH	2260	Optional
PCT	Unit Under Test Fault Isolated Replaceable Unit Percent Failure 2		2270	
UUT LCN	Unit Under Test Logistics Support Analysis Control Number	UD	2970	Optional
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UD	1200	Optional
CAGE	Operational Test Program Commercial and Government Entity Code	UC	1520	Optional
MFR'S PART NUMBER	Operational Test Program Reference Number	UC	4400	Optional
SERD NO	Operational Test Program Support Equipment Recommendation Data Number	UC	5030	Optional
ITEM NAME	Full Item Name	HA	2790	Optional
APPORTIONED UNIT COST NONRECURRING	Operational Test Program Apportioned Unit Cost Nonrecurring	UC	5680	Optional
APPORTIONED UNIT COST RECURRING	Operational Test Program Apportioned Unit Cost Recurring	UC	5680	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
CURR CD	Operational Test Program Apportioned Unit Cost Nonrecurring Recurring Currency Code	UC	1745	Required if Unit Cost Nonrecurring/ Recurring selected
STAN COMP	Operational Test Program Standards for Comparison	UC	3730	Optional
CTP	Operational Test Program Coordinated Test Plan	UC	3720	Optional
TEST PROGRAM INSTRUCTIONS (Sub Header)				
UUT LCN	Unit Under Test Logistics Support Analysis Control Number	UD	2970	Optional
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UD	1200	Optional
CAGE	Operational Test Program Commercial and Government Entity Code	UE	1520	Optional
MFR'S PART NUMBER	Operational Test Program Reference Number	UE	4400	Optional
SERD	Operational Test Program Support Equipment Recommendation Data Number	UE	5030	Optional
ITEM NAME	Item Name	HA	2790	Optional
APPORTIONED UNIT COST NONRECURRING	Test Program Instruction Apportioned Unit Cost Nonrecurring	UE	5680	Optional
APPORTIONED UNIT COST RECURRING	Test Program Instruction Apportioned Unit Cost Recurring	UE	5680	Optional
CURR CD	Test Program Instruction Apportioned Unit Cost Nonrecurring Recurring Currency Code	UE	1745	Required if Unit Cost Nonrecurring/ Recurring selected
TDP	Test Program Instruction Technical Data Package	UE	5340	Optional
SELF TEST	Test Program Instruction Self Test	UE	4670	Optional
ADAPTER/CABLE SET/INTERCONNECTING DEVICE (Sub Header)				
UUT LCN	Unit Under Test Logistics Support Analysis Control Number	UJ	2970	Optional
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UJ	1200	Optional
CAGE	Adapter Interconnector Device Commercial And Government Entity Code	UI	1520	Optional
MFR'S PART NUMBER	Adapter Interconnector Device Reference Number	UI	4400	Optional
SERD NO	Adapter Interconnector Device Support Equipment Recommendation Data Number	UI	5030	Optional
ITEM NAME	Item Name	HA	2790	Optional
APPORTIONED UNIT COST NONRECURRING	Adapter Interconnector Device Apportioned Unit Cost Nonrecurring	UI	5680	Optional
APPORTIONED UNIT COST RECURRING	Adapter Interconnector Device Apportioned Unit Cost Recurring	UI	5680	Optional
CURR CD	Adapter Interconnector Device Apportioned Unit Cost Nonrecurring Recurring Currency Code	UI	1745	Required if Unit Cost Nonrecurring/ Recurring selected
COMMON UUT	Adapter Interconnector Device Common Unit Under Test	UI	1580	Optional
ATE TEST STATION (Sub Header)				
CAGE	Automatic Test Equipment Commercial and Government Entity Code	UK	1520	Optional
MFR'S PART NUMBER	Automatic Test Equipment Reference Number	UK	4400	Optional
ITEM NAME	Item Name	HA	2790	Optional
GOVERNMENT DESIGNATOR	Automatic Test Equipment Government Designator	UK	2330	Optional
UUT RELATED REMARKS	Unit Under Test Explanation	UA	5730	Optional

4.40.9 Format

The format shown in Figure 42 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SELECTION SUMMARY

XA.eiac

END ITEM ACRONYM CODE: F14

EA.refno

MANUFACTURER'S PART NUMBER: A31U14200-5

EA.cage

MANUFACTURER'S CAGE CODE: 26512

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary

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REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 01

SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 1. DESCRIPTION OF REQUIREMENTS

EA.sefunann

FUNCTIONAL ANALYSIS:

A requirement exists at the intermediate maintenance level to test, troubleshoot and fault isolate to the SRU level and to perform serviceability tests after repair of the H-60 aircraft LRUs. Support Equipment is required to provide the necessary test interface, stimulus, and measurement capability for the following LRU and SRU requirements:

PARAMETER		RANGE	ACCURACY
DC Voltage	3A maximum	10 mV to 10VDC	+/- 1%
AC Voltage	15A maximum	1, 10, 100 VAC	+/- 3%
Resistance		1, 10, 100 ohms	+/- 1%
Frequency		0 to 18 GHz	+/- 0.5%
RF Power		0 to 100 dB	+/- 1 dB
Wave Form (sine, square, triangle, and ramp)		1mHz to 50 MHz	+/- .5% of selected value
Phase		45 to 90 Degrees	+/- 2 Degrees
Phase		90 to 315 Degrees	+/- 5 Degrees

EA.sedsfunn

DESCRIPTION AND FUNCTION:

The RADCOM ATE II Test Station, NSN 4920-01-211-2823 is recommended to fulfill the functional requirements. The test station is comprised of the following elements: signal switch section; digital input/output; interface panel; power supplies; signal generators; measurement devices; MIL-STD-1553 bus test unit; RF interface unit; and Control and mass storage elements. The RADCOM ATE II Test Station will perform end-to-end and fault isolation tests of airborne UUTs. The Test Station also provides support requirements for analog/hybrid/RF WRAs and SRAs.

Critical or limiting characteristics: The RADCOM ATE II Test Station is designed for operation in a temperature and humidity controlled environment. This limitation must be considered before substitution is considered.

EA.senonpen

SE NON-PROLIFERATION EFFORT:

All applicable DoD and commercial documents were reviewed. Documentation review included: MIL-HDBK-2097, MIL-STD-1364, MIL-HDBK-300N (SE TIF), NAVSEA ST000-AG-IDX-010, DI-E-7098, NAVAIR 16-1-525, and NAVAIR 19-1-127. The RADCOM ATE II Test Station is the only test station that will satisfy the requirements.

EA.secharan

CHARACTERISTICS OF SE:

See Section 6 for characteristics/parametric data.

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno	
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER	PAGE 1
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5	

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 1. DESCRIPTION OF REQUIREMENTS

EA.seiffofn

INSTALLATION FACTORS OR OTHER FACILITIES:

None

EA.seasstrn

ADDITIONAL SKILLS AND SPECIAL TRAINING REQUIREMENTS:

None

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 2. ADMINISTRATIVE DATA

HG.lcn	HG.alc	EA.prepactv	EF.serddois	EA.cage	EA.refno	GENERATED
LCN	ALC	PREPARING ACTIVITY	ORIG DT	CAGE	MFR'S PART NUMBER	E-CAGE/PN
		Grumman Aerospace Corp.	280284	26512	A31U14200-5	Y

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.endartid	HA.itemname	EF.serddogd
SERD NO.	REV	REV DT	STATUS (G)	END ARTICLE DESIGNATOR	EA NAME	ACTION DATE (G)
0000005162	BB	020585	A	H-60	Aircraft	250685

HA.itemname	EA.govtdsgn	EA.seqfitnm	EA.stdiasecn	EA.sketch
SE ITEM NAME	GOVT DESIGNATOR	SE FULL ITEM NAME	SIASCN (G)	SKETCH
RADCOM ATE II	AN/USM-467	Test Station, RADCOM, ATE II		Y

HA.nsnccgc	HA.nsnmcc	HA.nsnfsc	EH.ansnfsc	EA.seconno	EA.acqdecof	EA.logdecof	EA.progelem	EA.psincnpt	EA.seqicc	EA.cfegfe
HA.nsnniin	HA.nsnmima	HA.nsnactvc	EH.ansnniin		RESPONSIBLE	AGENCY (G)		PSICP (G)	ICC	CFE/GFE
NATIONAL STOCK NUMBER (NSN)	ALT NSN	CONTRACT NUMBER		NAME	CODE	PE				
PREFIX FSC NIIN SUFFIX										
6RX 4920-01-211-2823 EE	N	N00019-81-C-0172		NAEC52A51				KE	1	G

EA.caliitem	EA.calireqd	EA.segsrvd	EA.ussrvdsc	HA.ctic	EA.seqshpwd	EA.typeqmtc	EA.tevprtyc
CAL ITEM	CAL REQD	SER	USER	CTIC	SMR (G)	TEC (G)	TECHEVAL (G)
N	Y	N	N		PEGGE	GHUW	

EA.tmreqod	HA.plt	EA.datlstad	EA.spcmgmtc	EA.mgmtplan
TECH MANUAL CODES	PROD LEAD TIME	1ST ARTICLE	SPCL MGT (G)	MGT PLAN (G)
08, 12, 16	48	250688	A	Y

HO/XC.uoc
USABLE ON CODES:

PHYSICAL DATA

	 DIMENSIONS					... WEIGHT ...	
	LN	WD	HT	UM		WT	UM
	EA.oplength	EA.opwidth	EA.opheight	EA.opdimum		EA.opweight	EA.opwgtum
OPERATING:	092.0	034.0	077.5	IN		02800.0	LB
	EA.strglgth	EA.strgwidth	EA.strghght	EA.strdimum		EA.strgwght	EA.strgwtum
STORAGE:	092.0	034.0	077.5	IN		02800.0	LB
	EA.seqshplt	EA.seqshpwd	EA.seqshght	EA.seqsdum		EA.seqshpwt	EA.seqswtum
SHIPPING (G) :							
JC.treitoen							
SHIPPING MODES (G) :	Air, sea, land transportable. Wooden shoring required for air transportation.						

PRICE DATA

EA.hwdevprc	
HDWR DEV:	
CALCULATED	
DESIGN DATA:	111,711
EA.pasthrpr	
PASS THRU:	
CALCULATED	
ILS:	127,737
CALCULATED	
NONRECURRING	
TOTAL:	
EA.reccost	
RECURRING:	1,300,000
CURR CD:	USD
EA.secsprcc	

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno	
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER	PAGE 3
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5	

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 2. ADMINISTRATIVE DATA

SYSTEM EQUIPMENT REQUIRED (GFAE)

HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY
HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY
HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY
HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY
HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY
HG.lcn LCN	HG.alc ALC	EM.cage CAGE	EM.refno MFR'S PART NUMBER	HG.wuc WORK UNIT CODE
HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc NATIONAL STOCK NUMBER PREFIX FSC NIIN SUFFIX		HD.unitprc HD.currcode UNIT PRICE CURR CD	EM.sysitdes GFAE DESIGNATOR	HA.itemname GFAE NAME
				EM.syseqqpt QUANTITY

EF.serdatno SERD NO.	EF.serdatrv REV	EF.serddors REV DT	EF.serdatst STATUS (G)	EA.seqfitnm SE ITEM NAME	EA.cage CAGE	EA.refno MFR'S PART NUMBER	PAGE 4
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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 2. ADMINISTRATIVE DATA

ARTICLES REQUIRING SUPPORT (ARS)						
UA.lcn	UA.alc	CG.taskcode	UA.uutmpno	HG.cage	HG.refno	
LCN	ALC	TASK CODE	MAINTENANCE PLAN	CAGE	MFR'S PART NUMBER	
006	00	QLNGAA	MP-PSE-0462:EK	26512	A34U11800-1	
HA.nsnccgc HA.nsnmcc HA.nsnfsc		HG.srcmtrcc	XC.seidesc	XB.lcnomen		
HA.nsnniin HA.nsnmima HA.nsnactvc						
NATIONAL STOCK NUMBER						
PREFIX	FSC	NIIN	SUFFIX	SMR	ARS DESIGNATOR	
2VX5895-01-279-4288				PEGGD	J-4429/USM-467	
					ARS NAME	
					Amplifier Control	
BD.mtbftech	BD.mtbfmb	BD.inhavl	UB.uutcmrcc	HG.wuc	UA.uutallow	
MTBF	MB	Ai	CMRS	WORK UNIT CODE	ALLOWANCE	
20000.0	H	80.000000	N	72TEB00	R5466	
					UA.uutwpref	
					WORK PKG REF	
UA.lcn	UA.alc	CG.taskcode	UA.uutmpno	HG.cage	HG.refno	
LCN	ALC	TASK CODE	MAINTENANCE PLAN	CAGE	MFR'S PART NUMBER	
HA.nsnccgc HA.nsnmcc HA.nsnfsc		HG.srcmtrcc	XC.seidesc	XB.lcnomen		
HA.nsnniin HA.nsnmima HA.nsnactvc						
NATIONAL STOCK NUMBER						
PREFIX	FSC	NIIN	SUFFIX	SMR	ARS DESIGNATOR	
					ARS NAME	
BD.mtbftech	BD.mtbfmb	BD.inhavl	UB.uutcmrcc	HG.wuc	UA.uutallow	
MTBF	MB	Ai	CMRS	WORK UNIT CODE	ALLOWANCE	
					UA.uutwpref	
					WORK PKG REF	
UA.lcn	UA.alc	CG.taskcode	UA.uutmpno	HG.cage	HG.refno	
LCN	ALC	TASK CODE	MAINTENANCE PLAN	CAGE	MFR'S PART NUMBER	
HA.nsnccgc HA.nsnmcc HA.nsnfsc		HG.srcmtrcc	XC.seidesc	XB.lcnomen		
HA.nsnniin HA.nsnmima HA.nsnactvc						
NATIONAL STOCK NUMBER						
PREFIX	FSC	NIIN	SUFFIX	SMR	ARS DESIGNATOR	
					ARS NAME	
BD.mtbftech	BD.mtbfmb	BD.inhavl	UB.uutcmrcc	HG.wuc	UA.uutallow	
MTBF	MB	Ai	CMRS	WORK UNIT CODE	ALLOWANCE	
					UA.uutwpref	
					WORK PKG REF	
EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 2. ADMINISTRATIVE DATA

HB.cage HB.arn

EQUIVALENT CAGE/PN(S):

N = No equivalent CAGES/PNs available.

EH.ansnfsc EH.ansnniin

ALTERNATE NSN(S):

N = No alternate NSNs available.

EF.serdrvmk

REVISION REMARKS:

(REVISION, REVISION DATE, ACTION DATE (G), REVISION REMARKS)

BB, 020585, 250685, system improvements resulting from ECP 999.

AA, 020584, 250684, station reconfiguration. Parametric data summations.

EA.seexplnn

EXPLANATION:

The following information expands/clarifies data element data:

1. LCN/ALC-TBD due to SE and related data keying off CAGE/PN in LSAR.
2. WUC of ATE II Test Station is 72TCO for planning purposes.

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno	
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER	PAGE 6
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5	

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 3. SUPERSEDURE/DELETION/DISTRIBUTION DATA

SUPERSEDURE DATA

EK.suptype
SUPERSEDE TYPEEK.supsrdrn
SERD NO.
0000005161EK.rsnsupdr
REASON FOR SUPERSEDURE
F3EK.cage
CAGE
26512EK.refno
MFR'S PART NUMBER
A31U14150-1EK.supitmnm
SE ITEM NAME
RADCOM ATE IEK.supintcc
ICEK.suptype
SUPERSEDE TYPEEK.supsrdrn
SERD NO.
0000005161EK.rsnsupdr
REASON FOR SUPERSEDURE
F3EK.cage
CAGE
26512EK.refno
MFR'S PART NUMBER
A31U14150-1EK.supitmnm
SE ITEM NAME
RADCOM ATE IEK.supintcc
ICEK.rsnsupdr
REASON FOR DELETION:

ALLOCATION DATA

EB.alldocno	EB.allstidc	EB.allmlvlf	EB.alllndvc	EA.custcode	EB.alldsgds	EB.allrng1	EB.allrng2	EB.allrng3	EB.allrng4	EB.allrng5	EB.allrng6	EB.allrng7	EB.allrng8	EB.allrng9	EB.allrng10	EB.allexrng
ALLOWANCE	SIDN	MLF	LVC	CUST.	DESIG	1	5	9	13	17	25	33	65	126	251	EXT RNG
(G)	(G)	(G)	(G)	CODE (G)	DESCRIP. (G)	4	8	12	16	24	32	64	125	250	450	(G)
R5466		I	B			001	001	001	001	001	001	001	001	001	001	X
EA.msprcmh				EA.sparfctr												
MOBILE FACILITY (G)				SPARE FACTOR (G)												
X				Q000												

SPECIFIC AUTHORIZATIONS

ED.numbactv	ED.typeactv	ED.actnmloc	ED.seqtact
NUMBER OF ACTIVITIES (G)	TYPE OF ACTIVITY (G)	NAME/LOCATION OF ACTIVITY (G)	QTY PER ACTIVITY (G)
1	6	NADEP Pensacola, FL	001

EF.Serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 4. DESIGN DATA

REQUIREMENTS	EJ.dsgdcate DDCC	EJ.dsgdccc CONTRACTOR RECOMMENDED	EJ.dssdccgr GOVERNMENT REQUIRED	EJ.dsgdccep ESTIMATED PRICE	EJ.dsgccep CURR CD	EJ.dsgccsc SCOPE
SE STANDARDIZATION		N				
SE SPECIFICATION		N				
DESIGN ENGINEERING		Y		111711	USD	Level 3 drawings
CONFIGURATION CONTROL		N				
RELIABILITY		N				
MAINTAINABILITY		N				
QUALITY ASSURANCE		N				
SAFETY		N				
HUMAN ENGINEERING		N				
TEST & EVALUATION		N				
COMPUTER RESOURCES		N				
OTHER		N				

CALCULATED
DESIGN DATA PRICE
111711

EJ.dsgccep
CURR CD
USD

EF.Serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno	
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER	PAGE 8
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Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 5. ILS DATA

REQUIREMENTS	EL.ilsreqcc IRCC	EL.ilsrcccr CONTRACTOR RECOMMENDED	EL.ilsrccgr GOVERNMENT REQUIRED	EL.ilsrcccp ESTIMATED PRICE	EL.ilscepc CURR CD	EL.ilsrccsc SCOPE
ILS PLAN		N				
LSA		N				
MAINTENANCE PLAN		Y		112636	USD	IAW DI-ILSS-80119
SUPPORT MATERIALS LIST		Y		1942	USD	IAW UDI-V-21042
REPAIR OF REPAIRABLES		N				
PROV TECH DOC		Y		13159	USD	IAW DI-V-7002
MASTER INDEX REP		N				
CMRS		N				
FACILITIES MANUALS		N				
TECHNICAL MANUALS		N				
MRCs		N				
ICPs		N				
PHASED SUPPORT PLAN		N				
CPR/R		N				
REWORK STANDARD		N				
NEW START		N				
TRAINING		N				
CETS		N				
PHS&T		N				
OTHER						

CALCULATED	EL.ilscepc
ILS PRICE	CURR CD
127737	USD

EF.serdatno	EF.serdatrv	EF.serddors	EF.serdatst	EA.seqfitnm	EA.cage	EA.refno	
SERD NO.	REV	REV DT	STATUS (G)	SE ITEM NAME	CAGE	MFR'S PART NUMBER	PAGE 9
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5	

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 6. SE PARAMETERS AND UUT RELATED INFORMATION

SE PARAMETERS

EC.separagc PGC	EC.separioc I/O	EC.separamt PARAMETER	EC.separrrfr RANGE FROM	EC.separrrto RANGE TO	EC.separacc ACCURACY	EC.separovc R/V	EC.caliprcd CALIBRATION PROCEDURE
AA	O	Hertz	DC	18 E+9	□5%	R	17-20AW-92 (12)

UUT RELATED INFORMATION

UUT INFORMATION

UB.lcn LCN	UB.alc ALC	HG.cage CAGE	HG.refno MANUFACTURER'S PART NUMBER
006	00	26512	A34U118001

EA.seqfitnm ITEM NAME	UA.uutmpno MAINTENANCE PLAN NUMBER	UA.uutwpref TRD
Amplifier Control	MP-PSE-0462:EK	

UB.uutcmrsc CMRS STAT	UB.uutcmrcc CMRS RECMD	UA.unitszwd ALLOWANCE	UA.uutwpref WORK PKG REF	BA.convfact CONV FACT	BD.mtbfttech MTBF	BD.mtbftmb MB	HD.unitprc PRICE	HD.currccode CURR CD
N	N	R5466			20000.0	H	16,000	USD

UUT PARAMETERS

UG.uutpargc PGC	UG.uutpioc I/O	UG.uutparam PARAMETER	UG.uutprfrm RANGE FROM	UG.uutprto RANGE TO	UG.uutparaa ACCURACY	UG.uutprvc R/V	CG.taskcode TASK CODE	UG.uutcmrsp CMRSP	UG.uutptard: UG.uutptara TAR DES ACT
AA	I	18 GHz			(+-) 5%	V	QLGNGAA	N	1:1

FAULT ISOLATED REPLACEABLE UNITS

UH.cage CAGE	UH.refno MFR'S PART NUMBER	HA.itemname ITEM NAME	UH.uutfrudi TRD IND	UH.uutfrua1 FAULT ISO	UH.uutfrup1 PCT	UH.uutfrua2 FAULT ISO	UH.Uutfrup2 PCT
				AMGR	PCT	AMGR	PCT

EF.serdatno SERD NO.	EF.serdatrv REV	EF.serddors REV DT	EF.serdatst STATUS (G)	EA.seqfitnm SE ITEM NAME	EA.cage CAGE	EA.refno MFR'S PART NUMBER	PAGE 10
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Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

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SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) (LSA-070)

SECTION 6. SE PARAMETERS AND UUT RELATED INFORMATION

OPERATIONAL ATE/TMDE TEST PROGRAM

UD.lcn UUT LCN	UD.alc ALC	UC.cage CAGE	UC.refno MFR'S PART NUMBER	UC.otpserdn SERD NO.	HA.itemname ITEM NAME	UC.otpaucnr NONRECURRING	UC.otpaucr UNIT COST RECURRING	UC.otpaucnc CURR CD	UC.otpstdep STAN COMP	UC.otpctp CTP
005	00	26512	TPD(R) 127165-1-*	0000005061	TPD, RR		446	USD		

TEST PROGRAM INSTRUCTIONS

UD.lcn UUT LCN	UD.alc ALC	UE.cage CAGE	UE.refno MFR'S PART NUMBER	UE.tpiserdn SERD NO.	HA.itemname ITEM NAME	UE.tpiaucnr NONRECURRING	UE.tpiaucre UNIT COST RECURRING	UE.tpiaucnc CURR CD	UE.tpitchdp TDP	UE.tpislfte SELF TEST
005	00	26512	TPI(R) 127165-1-*	0000005062	TRI, RR		272	USD		

ADAPTER/CABLE SET/INTERCONNECTING DEVICE

UJ.lcn UUT LCN	UJ.alc ALC	UI.cage CAGE	UI.refno MFR'S PART NUMBER	UI.aidserdn SERD NO.	HA.itemname ITEM NAME	UI.aidaucnr NONRECURRING	UI.aidaucr UNIT COST RECURRING	UI.aidaucnc CURR CD	UI.aidcmuut COMMON UUT
005	00	26512	123SAV57030-1	0000005064	CABLE SET, RX		28085	USD	

ATE TEST STATION

UK.cage CAGE	UK.refno MFR'S PART NUMBER	HA.itemname ITEM NAME	UK.ategovds GOVERNMENT DESIGNATOR

UA.uutexpln
UUT RELATED REMARKS

1. SE/UUT parametric data for RF attenuation f's within a range of 0 to 100 dBs. Reference Serd Number 0000005161 for all test station parametric values.
2. Daily usage = 19.2 hrs. Service life > 20 yrs.
3. UUT requires 260-6XLP (55820) and 2336-YA (80009) or equivalents for support.
4. FIRU, data requirements - N/A.

EF.Serdatno SERD NO.	EF.serdatr REV	EF.serddors REV DT	EF.serdattst STATUS (G)	EA.seqfitnm SE ITEM NAME	EA.cage CAGE	EA.refno MFR'S PART NUMBER	PAGE
0000005162	BB	020585	A	RADCOM ATE II	26512	A31U14200-5	11

Figure 42 – Format for LSA-070, Support Equipment Recommendation Data Summary (Continued)

4.41 Support Equipment Candidate List Summary (LSA-071)

4.41.1 Introduction

The LSA-071, Support Equipment Candidate List (SECL), provides a consolidated list of the support equipment candidates which were accepted and rejected. This summary aids in the development of the PSA Strategy, maintenance plan and Support Equipment Requirements Data (SERD) summary. Approved SECL items should become part of the SERD.

4.41.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. Requires the identification of support equipment and to provide the warfighter with all necessary equipment and support including support equipment.
- MIL-HDBK-2097. States the SECL shall be prepared and delivered IAW the CDRL to present a forecast and record of SE requirements. These requirements may be based on experience, intuitive judgment, or LSA. The approval of listed SE candidates by the approving authority will lead to development of SERDs. SECL revisions should be submitted when any previously approved data element is changed.
- MIL-HDBK-2097. Indicates the SECL shall be approved before a SERD is prepared and submitted. A SERD shall be prepared and submitted for each item of SE required to satisfy functional requirements identified in the approved SECL. Initial SERDs shall be submitted IAW CDRL after the LSA process or approved SECL for the end article identifies the need for SE. Contractor preparation for meetings: All technical data, including SERDs, specifications, MPs (Maintenance Plans), and drawings available for the contractor furnished equipment (CFE) items of SE to include items on the SECL, shall be available for the meeting.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following Activities apply: Support System Standardization (Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.41.3 Tailoring

Who: All Services, especially U.S. Navy. Other users may include: Commercial/Industry, Program Executive Offices, Program Managers and Product Support Managers.

What: Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of support equipment. A summary describing requirements for and identification of one piece of support equipment. This summary includes administrative data, description of equipment, allocation data, design data, and IPS requirements as specified by MIL-HDBK-2097.

When: This summary is specified as a deliverable in MIL-STD-2079. It is extensively used by the U.S. Navy and some by the U.S. Army aviation community. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on The SERD Summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: This summary is used to forecast and identify support equipment to be used in support of a system. This summary is direct input into the SERD.

4.41.4 Scope

This summary provides a consolidated listing of support equipment (SE) requirements divided into two sections. Section I contains active SE candidates and Section II contains disapproved SE candidates. Section I is sequenced by end article LCN and Section II is sequenced by ascending Support Equipment Reference Number.

4.41.5 Selection Options

Mandatory: EIAC, Start LCN, UOC, and, Initial/Reissue List Selection

Optional: ALC, Stop LCN, and Service Designator Code(Task Code, fourth position).

4.41.6 Processing/Business Rules

- a. Generation of this summary is bounded by mandatory EIAC, Start LCN, UOC, and Initial/Reissue List (User must decide whether this is an initial or reissue Candidate List); and optional ALC, Stop LCN and Service Designator Code (Task Code, fourth position).
- b. Items qualifying through Entity CG in the specified LCN range, must exist and have a match between the Entity CG Task Support Reference Number and Task Support CAGE Code and Entity EA Support Equipment Reference Number and Support Equipment CAGE Code. Items are further qualified by Item Category Codes of 7, 8, M, D, 1, H, 5, 2, G, P, 3, AD, AF. Task Codes are qualified by matching on the selected Service Designator Codes (Task Code, fourth position).
- c. Part I items with a Support Equipment Recommendation Data Status of A, C, G, R, "BLANK", or U.
- d. Part II Disapproved Support Equipment Candidates are further qualified by matching against a Support Equipment Recommendation Data Status of "X".
- e. All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.
- f. Initial or Reissue (whichever is selected) will be displayed out on the summary selection header line.

4.41.7 Sequence

Part I of this summary is sequenced by Support Equipment Recommendation Data Status and ascending Support Equipment Reference Number. All applicable Tasks for that piece of SE will be listed by ascending LCN then Task Code. Part II is sequenced by ascending Support Equipment Reference Number.

4.41.8 Data Sources

The data sources listed in Table 46, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 46 – Data Sources for the Support Equipment Candidate List Summary (LSA-071)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number	XB	1200	Optional
[TYPE ("P" = Physical)]	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
INITIAL/REISSUE LIST (Selected)				
OUTPUT				
PART I - SUPPORT EQUIPMENT CANDIDATES (Header)				
SERD STATUS (= A,C,G,R, "BLANK", or U)	Support Equipment Recommendation Data Status	EF	5050	Required
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
TASK CD	Task Code	CA	5110	Required
TASK IDENTIFICATION	Task Identification	CA	5150	Required
TM FGC	Technical Manual Functional Group Code	XB	5260	Optional
[EIAC]	End Item Acronym Code	CG	2040	Required
[LCN]	Logistics Support Analysis Control Number	CA/CG	2970	Required
[ALC]	Alternate Logistics Support Analysis Control Number Code	CA/CG	1200	Required
[LCN TYPE]	Logistics Support Analysis Control Number Type	CA/CG	2980	Required
[TASK CODE]	Task Code	CA/CG	5110	Required
[REFERENCE NUMBER]	Support Equipment Reference Number	EA/CG	4400	Required
[CAGE]	Support Equipment Commercial and Government Entity Code	EA/CG	1520	Required
[ICC]	Support Equipment Item Category Code	EA	2730	Required
SE REFERENCE NUMBER	Support Equipment Reference Number	EA	4400	Required
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Required
SE ITEM NAME	Support Equipment Full Item Name	EA	5010	Optional
UNIT PRICE	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "I")	Price Type Selection	HD	4000	Required if Unit Price selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirements
[PP] (= Y)	Price Provisioning	HD	4140	Required if Unit Price selected
CURR CD	Currency Code	HD	1745	Required if Unit Price selected
SE NSN	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
SMR CODE	Support Equipment Source Maintenance and Recoverability Code	EA	4830	Optional
DESCRIPTION AND FUNCTION OF SE	Support Equipment Description and Function Narrative	EA	3510	Optional
PART II - DISAPPROVED SE CANDIDATES (Header)				
SERD STATUS (= X or D)	Support Equipment Recommendation Data Status	EF	5050	Required
SE REFERENCE NUMBER	Support Equipment Reference Number	EA	4400	Optional
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Optional
SE ITEM NAME	Support Equipment Full Item Name	EA	5010	Optional
SERD NUMBER	Support Equipment Recommendation Data Number	EF	5030	Optional
DATE OF GOVT DISPOSITION	Support Equipment Recommendation Data Date of Government Disposition	EF	1790	Optional

4.41.9 Format

The format shown in Figure 43 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

REQUESTER: S. Forbes

LOGISTICS PRODUCT DATA

TIME: 14:20

DATE: 2020/01/07

PAGE: 1

SUPPORT EQUIPMENT CANDIDATE LIST (LSA-071)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	SELECTED
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	INITIAL/REISSUE LIST
REFRIG UNT	REFRIGERATION UNIT	005	00	P	00599	DCY	ALL	INITIAL

PART I - SUPPORT EQUIPMENT CANDIDATES

SERD STATUS "A" = APPROVED

CA.lcn	CA.alc	XB.lcnomen	CA.taskcode	CA.taskid	XB.tmfgc
LCN	ALC	LCN NOMENCLATURE	TASK CD	TASK IDENTIFICATION	TM FGC
005	00	COMPRESSOR, RING	HGDAAA	REMOVE AND REPLACE COMPRESSOR ASSY	05

EA.refno	EA.cage	EA.seqfitnm	HD.unitprc	HD.currcode	HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmimma HA.nsnactvc	EA.seqsmrc
SE REFERENCE NUMBER	CAGE	SE ITEM NAME	UNIT PRICE	CURR CD	SE NSN	SMR CODE
5D43-139-A	10855	COMPRESSOR ASSY	100.00	USD	5480001239876	PAFZZ

EA.sedsfunn

DESCRIPTION AND FUNCTION OF SUPPORT EQUIPMENT: BAND TYPE SLEEVE WITH A MECHANICAL LEVERAGE MECHANISM TO FACILITATE EASY REDUCTION OF RING RADII.

SERD STATUS "C" = PENDING FURTHER INFORMATION FROM THE CONTRACTOR

SERD STATUS "G" = PENDING FURTHER GOVERNMENT EVALUATION

SERD STATUS "R" = CONTRACTOR RECOMMENDED

SERD STATUS "U" = SERD WILL BE APPROVED WHEN FUNDING IS AVAILABLE

SERD STATUS "BLANK" = NOT AVAILABLE, NEEDS EVALUATION

PART II - DISAPPROVED SUPPORT EQUIPMENT CANDIDATES

SERD STATUS "X" = DISAPPROVED

EA.refno	EA.cage	EA.seqfitnm	EF.serdatno	EF.serddogd
SE REFERENCE NUMBER	CAGE	SE ITEM NAME	SERD NUMBER	DATE OF GOVT DISPOSITION

SERD STATUS "D" = DELETED

Figure 43 – Format for LSA-071, Support Equipment Candidate List Summary

4.42 Test, Measurement, and Diagnostic Equipment Requirements Summary (LSA-072)

4.42.1 Introduction

This summary provides a two part summary of Test, Measurement, and Diagnostic Equipment (TMDE) requirements and technical descriptions to verify the applicability of the test equipment for use on the weapon system/end item. LSA-072, TMDE Requirements Summary, may be used to propose entry of a new item of TMDE into a service TMDE Register.

4.42.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- Office of the Secretary of Defense (OSD). The DoD has created an executive directorate for the acquisition of Automatic Test Systems (ATS), <https://www.acq.osd.mil/log/MPP/ats.html>. Policy and handbooks found at this site include:
- Policy memo, Under Secretary of Defense, DoD Policy for Automatic Test Systems, https://www.acq.osd.mil/log/MPP/ATS/ats_library.html/2017_DoD_ATS_Master_Plan.pdf
- Automatic Test Systems Joint Memorandum of Agreement Among Service Acquisition Executives, subject: Automatic Test Systems Acquisition Procedures, https://www.acq.osd.mil/log/MPP/ATS/ats_library.html/5_2004_Joint_ATS_MOA.pdf
- Each of the DoD Services' maintains a Test, Measurement and Diagnostic Equipment (TMDE) or Metrology and Calibration (METCAL) organization to service its equipment.
 - U.S. Air Force AFMETCAL: <https://www.wpafb.af.mil/afmetcal/>
 - U.S. Army TMDE: <https://pd-tmde.us.army.mil/>
 - U.S. Marine Corps TMDE: <https://www.candp.marines.mil/Programs/Focus-Area-4-Modernization-Technology/Part-6-Hybrid-Logistics/TMDE/>
 - U.S. Navy METCAL: <https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Corona/What-We-Do/Measurement-Science-Department/>
 - The mission areas of the DoD Component TMDE/METCAL organizations generally fall into the following areas listed below:
 - Automatic Test Systems;
 - Test Equipment Modernization;
 - Calibration Reference Standards or Calibration Sets;
 - Foreign Military Sales.
 - PSMs should become knowledgeable of how their respective Service manages TMDE programs. Many Service specific tools are available for planning and management functions.
- DoDI 5000.88 and DoDI 5000.91. States the PM with the support of the PSM will minimize unique automatic test equipment (ATE) by utilizing designated DoD automatic test system families for all ATE hardware and software in DoD field and depot operations. This requirement must be an integral element of the capability requirements and acquisition process from inception, across the Life Cycle.
- DoDD 4151.18. Requires programs to minimize requirements for support equipment including test, measurement, and diagnostic equipment. When the use of support equipment may not be eliminated, standardize support equipment design for the broadest possible range of applications, consistent with maintenance concepts. Maintenance programs for military materiel shall utilize diagnostics, prognostics and health management techniques in embedded and off-equipment applications when feasible and cost-effective. Maintenance programs shall provide the organic maintenance workforce with the range of technological tools necessary to enhance capabilities (e.g., interactive technical manuals, portable maintenance aids, access to technical information), properly equip the workforce, and provide adequate technical and managerial training.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable: Support System Standardization (Activity B.2), RCM analysis (Activity C.1.8), Task inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- MIL-HDBK-2097.

- DI-SESS-80294. Requires delivery of a list identifies the test parameter requirements for maintenance, test, alignment, and calibration, to support all echelons of maintenance during the operational life cycle of a system or equipment. This list also identifies the unique and special tools, materials, and test equipment required to support all echelons of maintenance. This requirements list provides the basis for the using activity to determine if existing general purpose test equipment can be utilized, which in many cases will eliminate procurement requirements. The unique and special tools, materials, and test equipment list provides the information for the acquisition and subsequent support of each item. Most of the data elements listed on this DID are LPD.
- OPNAVINST 3960.16. Requires the USN/USMC to sponsor and maintain a research and development program for TMDE, Automatic Test Systems (ATS), and METCAL to address current needs and emerging technologies.
- NAVSEA ST000-AG-IDX-010.
- Army Regulation 750-43. Requires the equipment design and the logistic support analysis will take into consideration alternative approaches such as—
 - Embedded diagnostics (ED)/embedded prognostics (EP).
 - Built-in test (BIT)/built-in test equipment (BITE).
 - Automatic or manual TMDE.
 - Existing, augmented, or new TMDE.
 - Additionally, the AR requires that all new TMDE requirements be entered into the TMDE register. PM TMDE is responsible for the TMDE register.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.42.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of TMDE.

When: TMDE and calibration and repair support requirements are addressed early in materiel acquisition and equipment life cycle, and provide for TMDE considerations during program reviews as well as type classification and reclassification. For the U.S. Army, data may be required as a deliverable as input in the TMDE Register and as a list of items to be acquired in support of the system. TMDE data is also direct input into Technical Manuals. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indeture level over time.

Why: Under Secretary of Defense (for Acquisition, Technology, and Logistics) [USD(AT&L)] memorandum of 28 July 2004 states the following ATS policy: "To minimize the life cycle cost of providing automatic test systems for weapon systems support at DoD field, depot, and manufacturing operations, and to promote joint service automatic test systems interoperability, Program Managers shall use approved DoD ATS Families as the preferred choice to satisfy automatic testing support requirements. Commercial off the Shelf (COTS) solutions that comply with the DoD ATS Technical Architecture should only be used if the Milestone Decision Authority concurs that an approved DoD ATS Family will not satisfy the requirement. Automatic Test System selection shall be based on a cost and benefit analysis over the system life cycle."

DoDD 4151.18. States that the maintenance programs shall minimize total life cycle cost of ownership, minimize footprint, and use standardized support equipment.

AR 750-43, Army Test, Measurement, and Diagnostic Equipment. For the U.S. Army, all new/unique TMDE is required to be added to the TMDE register at <https://pd-tmde.us.army.mil/>.

4.42.4 Scope

This summary provides a two part summary of TMDE requirements and technical descriptions to verify the applicability of the test equipment for use on the weapon system/end item.

4.42.5 Selection Options

LCN

Mandatory: EIAC, Start LCN, LCN Type

Optional: Stop LCN, ALC, UOC, and Service Designator

CAGE/Reference Number

Mandatory: EIAC, CAGE, Reference Number

4.42.6 Processing/Business Rules

Generation of this summary is bounded by either the SE Reference Number and SE CAGE Code of the piece of TMDE equipment desired, or a range of LCN can be used and the TMDE that qualify under this range are output.

- a. If the SE Reference option is used, the selected values must have an exact match with a SE Reference Number and SE CAGE from Entity EA. If an LCN range is selected, at least one value in Entity UB must exist and have a match on EIAC, UUT LCN, UUT ALC, and UUT LCN Type within the selected LCN range. The Support Equipment(s) will be used from qualified Entity UB entries.
- b. The Part I header "TMDE Item Selected By" will show the SE Reference Number and SE CAGE Code selected if the SE Reference Number option is chosen, or it will show the LCN, ALC combination(s) which requires the piece of support equipment, if the other option is chosen.
- c. Part II Quantity is calculated by multiplying the values for Number of Activities by the SE Quantity per Activity.
- d. Manual entries can be made at the end of Part II for Estimated Type Classification Date, Prepared By, and the Date.
- e. All Currency Codes must match to calculate/display the currency. If qualified records have mismatched Currency Codes, the currency will be suppressed.
- f. Page breaks are required between Part I and Part II.

4.42.7 Sequence

If the Reference Number selection option is used, the summary will only produce output for the one SE Reference Number. If the LCN range option is used, the summary will sequence by qualified ascending LCN first, then by ascending SE Reference Numbers within each LCN.

4.42.8 Data Sources

The data sources listed in Table 47, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 47 – Data Sources for the TMDE Requirements Summary (LSA-072)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
SELECTION OPTION (Selected. Options include: LCN, CAGE/Reference Number)				Required
REPORT OPTION - LCN				
EIAC	End Item Acronym Code	CG/XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	CG/XB	2950	Required
START LCN	Logistics Support Analysis Control Number	CG/XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CG/XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	CG/XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	CG/XB	2970	Optional
UOC	Usable On Code	XF/HO/XC	5790	Optional
SERV DES	Task Code (4th position)	CA	5110	Optional
REPORT OPTION – CAGE/REFERENCE NUMBER				
EIAC	End Item Acronym Code	XB	2040	Required
SE REFERENCE NUMBER	Support Equipment Reference Number	EA	4400	Required
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	
OUTPUT				
PART I - TMDE TECHNICAL DESCRIPTION (Header)				
TMDE ITEM SELECTED BY (Sub Header)				Automatically generated
LCN OPTION				
[EIAC]	End Item Acronym Code	XB/UB	2040	Required based on report input selection
[LCN]	Logistics Support Analysis Control Number	XB/UB	2970	Required based on report input selection
[ALC]	Alternate Logistics Support Analysis Control Number Code	XB/UB	1200	Required based on report input selection
[LCN TYPE]	Logistics Support Analysis Control Number Type	XB/UB	2980	Required based on report input selection
CAGE/REFERENCE NUMBER OPTION				
SE REFERENCE NUMBER	Support Equipment Reference Number	EA	4400	Required
CAGE	Support Equipment Commercial and Government Entity Code	EA	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
FULL ITEM NAME	Support Equipment Full Item Name	EA	5010	Optional
DESCRIPTION AND FUNCTION OF SE	Support Equipment Description and Function Narrative	EA	3510	Required
I/O	Support Equipment Parameter Input or Output Code	EC	3830	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
PARAMETER	Support Equipment Parameter	EC	3870	Optional
RANGE FROM	Support Equipment Parameter Range From	EC	3850	Required if RANGE TO is required
RANGE TO	Support Equipment Parameter Range To	EC	3850	Required if RANGE FROM is required
RANGE ACCURACY	Support Equipment Parameter Accuracy	EC	3810	Optional
DEPTH	Operating Length	EA	2890	Optional
WIDTH	Operating Width	EA	2890	Optional
HEIGHT	Operating Height	EA	2890	Optional
UM	Operating Dimensions Unit of Measure	EA	5720	Required if Operating Height is selected
WEIGHT	Operating Weight	EA	5830	Optional
UM	Operating Weight Unit of Measure	EA	5720	Required if Operating Weight is selected
VOLTS MIN	Input Power Source Operating Range Minimum	EI	2620	Either none or both are required
VOLTS MAX	Input Power Source Operating Range Maximum	EI	2620	
AC/DC	Input Power Source AC DC	EI	2600	Optional
FREQUENCY MAX	Input Power Source Frequency Range Maximum	EI	2610	Either none or both are required
FREQUENCY MIN	Input Power Source Frequency Range Minimum	EI	2610	
PHASE	Input Power Source Phase	EI	2640	Optional
WATTS	Input Power Source Watts	EI	2650	Optional
PERCENT MAX RIPPLE	Input Power Source Percent Maximum Ripple	EI	2630	Optional
ITEMS THIS WILL REPLACE (Sub Header)				
SUPERCEDED REFERENCE NUMBER	Supersede Reference Number	EK	4400	Optional
CAGE	Supersede Commercial And Government Entity Code	EK	1520	Optional
SKILL SPECIALTY CODE FOR SE	Skill Specialty Code for Support Equipment Operator	EA	4810	Optional
PUBLICATIONS	Operators Manual	EA	3760	Optional
MAINT LEVEL	Support Equipment Repair Operations Maintenance Level	EA	3750	Optional
TMDE RAM CHARACTERISTICS (Sub Header)				
MTBF	Support Equipment Mean Time Between Failures	EA	3270	Optional
MTTR	Support Equipment Mean Time to Repair	EA	3360	Optional
CAL TIME	Calibration Time	EA	1470	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
NSN AND RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
TYPE CLASS	Type Classification	EA	5590	Optional
LIN	Line Item Number	HA	2870	Optional
LOG CONTROL CODE	Logistics Control Code	EA	2920	Optional
SELF TESTING	Self Test Code	EA	4670	Optional
CAL INTERVAL	Calibration Interval	EA	1380	Optional
LIFE CYCLE STATUS	Life Cycle Status	EA	2850	Optional
UNIT COST	Unit Price	HD	3990	Optional
[PRICE TYPE SELECTION] (= "I")	Price Type Selection	HD	4000	Required if Unit Price selected
[PP (= Y)]	Price Provisioning	HD	4140	Required if Unit Price selected
CURR CD	Currency Code	HD	1745	Required if Unit Price is selected
END ITEM NSN AND RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
SE MANAGING COMMAND	Managing Command Agency	EA	3110	Optional
SE REMARKS	Support Equipment Explanation Narrative	EA	3510	Optional
DESCRIPTION OF OPERATING PROCEDURE (Manual entry)				
PART II - TMDE REQUIREMENTS REVIEW (Header)				
SUPPORTED LCN	Unit Under Test Logistics Support Analysis Control Number	UB	2970	Required if Part II is required
ALC	Unit Under Test Alternate Logistics Support Analysis Control Number Code	UB	1200	Required if Part II is required
SUPPORTED NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Optional
TMDE NON-PROLIFERATION SEARCH	Support Equipment Nonproliferation Effort Narrative	EA	3510	Optional
SSC	Skill Specialty Code for Support Equipment Operator	EA	4810	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
MAINT LVL	Support Equipment Repair Operations Maintenance Level	EA	3750	Optional
TMDE REG NO	Test Measurement and Diagnostic Equipment Register Index Number	EA	5320	Optional
TMDE CODE	Test Measurement and Diagnostic Equipment Register Code	EA	5310	Optional
JUSTIFICATION	Support Equipment Justification Narrative	EA	3510	Optional
QUANTITY OF TMDE ITEMS TO BE PROCURED (Sub Header)				
QUANTITY (Calculated)				Automatically generated
[NUMBER OF ACTIVITIES]	Number of Activities	ED	3620	Required for calculation
[QUANTITY PER ACTIVITY]	Support Equipment Quantity per Activity	ED	4180	Required for calculation
DATE REQUIRED	Date of First Article Delivery	EA	1790	Optional
ESTIMATED TOTAL COST	Extended Unit Price	EA	3990	Optional
CURR CD	Support Equipment Cost Price Currency Code	EA	1745	Required if Extended Unit Price selected
ITEM NAME	Item Name	HA	2790	Optional
NATIONAL STOCK NUMBER	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
	CHARACTERISTICS TO BE MEASURED/STIMULUS REQUIRED (Sub Header)			
I/O	Unit Under Test Parameter Input Output Code	UG	3830	Optional
PARAMETER	Unit Under Test Parameter	UG	3870	Optional
RANGE FROM	Unit Under Test Parameter Range From	UG	3850	Either none or both are required
RANGE TO	Unit Under Test Parameter Range To	UG	3850	
RANGE ACCURACY	Unit Under Test Parameter Accuracy	UG	3810	Optional
INTERFACE ADAPTERS/ SIGNAL CONDITIONING CIRCUITRY (Sub Header)				
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Adapter Interconnector Device Reference Number	UJ	4400	Optional
CAGE	Adapter Interconnector Device Commercial and Government Entity Code	UJ	1520	Optional
RECURRING APPORTIONED UNIT COST	Adapter Interconnector Device Apportioned Unit Cost Recurring	UI	5680	Optional
NONRECURRING APPORTIONED UNIT COST	Adapter Interconnector Device Apportioned Unit Cost Nonrecurring	UI	5680	Optional
CURR CD	Adapter Interconnector Device Apportioned Unit Cost Nonrecurring Recurring Currency Code	UI	1745	Required if Unit Cost Nonrecurring/ Recurring selected

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ATE SOFTWARE REQUIRED (Sub Header)				
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Operational Test Program Reference Number	UD	4400	Optional
CAGE	Operational Test Program Commercial And Government Entity Code	UD	1520	Optional
RECURRING APPORTIONED UNIT COST	Operational Test Program Apportioned Unit Cost Recurring	UC	5680	Optional
NONRECURRING APPORTIONED UNIT COST	Operational Test Program Apportioned Unit Cost Nonrecurring	UC	5680	Optional
CURR CD	Operational Test Program Apportioned Unit Cost Recurring Nonrecurring Currency Code	UC	1745	Required if Unit Cost Nonrecurring/ Recurring selected
TEST PLAN	Operational Test Program Coordinated Test Plan	UC	3720	Optional
UNIT UNDER TEST REMARKS	Unit Under Test Explanation	UA	5730	Optional
ESTIMATED TYPE CLASSIFICATION DATE (Manual entry)				
PREPARED BY (Manual entry)				
DATE (Manual entry)				

4.42.9 Format

The format shown in Figure 44 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT REQUIREMENTS SUMMARY (LSA-072)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF.uoc	CA.taskcode	EA.refno	EA.cage
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	SE REFERENCE NUMBER	CAGE
REFRIG UNIT	REFRIGERATION UNIT		P			N/A	N/A	5D43-139-A	10855

SELECTED

SSC DESCRIPTION OPTION: NO

TMDE ITEM SELECTED BY REFERENCE NUMBER/CAGE: 5D43 139 A

10855

PART I - TMDE TECHNICAL DESCRIPTION

EA.refno	EA.cage	HA.itemname	EA.seqfitnm
SE REFERENCE NUMBER	CAGE	ITEM NAME	FULL ITEM NAME
5D43-139-A	10855	COMPRESSOR, RING	COMPRESSOR, RING, CIRCUMFERENTIAL, BAND

EA.sedsfunn

DESCRIPTION AND FUNCTION OF SUPPORT EQUIPMENT: A BAND TYPE SLEEVE WITH A MECHANICAL LEVERAGE MECHANISM TO FACILITATE EASY REDUCTION OF RING RADII.

EC.separioc	EC.separamt	EC.separrrf	EC.separrrto	EC.separacc
I/O	PARAMETER	RANGE FROM	RANGE TO	RANGE ACCURACY
	DIAMETER IN. 2		5	RANGE IS IN INCHES

EA.oplength	EA.opwidth	EA.opheight	EA.opdimum	EA.opweight	EA.opwghtum	EA.inpsormx	EA.inpsacdc	EA.inpsfrmx	EA.inpsphas	EA.ipswatts	EA.inpspmxr
DEPTH	WIDTH	HEIGHT	UM	WEIGHT	UM	VOLTS	AC/DC	FREQUENCY	PHASE	WATTS	PERCENT MAX RIPPLE
4.0	5.0	5.0	IN	3.5	LB	MIN MAX		MAX MIN			
						10 110					

ITEMS THIS WILL REPLACE:

EK.refno	EK.cage
SUPERCEDED REFERENCE NUMBER	CAGE
BR549	99665

EA.skspcseo	EA.opmanual	EA.seqropml	EA.segmtbf	EA.segmttr	EA.calitime	HA.nsnniin	HA.nsnmimma	HA.nsnactvc
SKILL SPECIALTY	PUBLICATIONS	MAINT LEVEL	TMDE RAM	CHARACTERISTICS		NSN AND RELATED DATA		
CODE FOR SE			MTBF	MTTR	CAL TIME			
52C20AAA1			300.0	.50	1			5820-003478650

EA.typeclss	HA.lin	EA.logcntlc	EA.slftestc	EA.caliintv	EA.lifcycst	HD.unitprc	HD.currcode
TYPE CLASS	LIN	LOG CONTROL CODE	SELF TESTING	CAL INTERVAL	LIFE CYCLE STATUS	UNIT COST	CURR CD
		T	N	720	D	75.75	USD

HA.nsnccgc HA.nsnmcc HA.nsnfsc
HA.nsnniin HA.nsnmimma HA.nsnactvcEND ITEM NSN AND RELATED DATA
4110-010745175

EA.mngcomag

SE MANAGING COMMAND
LDAC

EA.seexplnn

SE REMARKS: ACCURACY IS NOT APPLICABLE TO THE RING COMPRESSOR

MANUAL ENTRY

DESCRIPTION OF OPERATING PROCEDURE:

Figure 44 – Format for LSA-072, TMDE Requirements Summary

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TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT REQUIREMENTS SUMMARY (LSA-072)

PART II - TMDE REQUIREMENTS REVIEW

UB.lcn SUPPORTED LCN	UB.alc ALC	XB.lcnomen SUPPORTED NOMENCLATURE	EA.senonpen TMDE NON-PROLIFERATION SEARCH:
005		INTERNAL COMPRESSOR	THE PROPOSED RING COMPRESSOR IS OF SUFFICIENT CAPACITY TO COMPLY WITH ALL PRESENT DESIGN CRITERIA AND FOR THOSE CRITERIA FORE-SEEABLE IN THE NEAR FUTURE.

EA.skspcseo SSC	EA.segropml MAINT LVL	EA.tmdergin TMDE REG NO	EA.tmderegc TMDE CODE	EA.sejustfn JUSTIFICATION:
52C20AAA1		IAJ3114	E	

QUANTITY OF TMDE ITEMS TO BE PROCURED

ED.numbactv ED.segtpact	EA.datlstad	EA.extuntpr	EA.secsproc	HA.itemname	NA.nsnccgc HA.nsnfsc HA.nsnmcc HA.nsnniin HA.nsnmimma HA.nsnactvc
QUANTITY	DATE REQUIRED	ESTIMATED TOTAL COST	CURR CD	ITEM NAME	NATIONAL STOCK NUMBER
20	901231			COMPRESSOR, RING	5820-003478650

CHARACTERISTICS TO BE MEASURED/STIMULUS REQUIRED

UG.uutpioc	UG.uutparam	UG.uutprfrm	UG.uutprto	UG.uutparaa
I/O	PARAMETER	RANGE FROM	RANGE TO	RANGE ACCURACY
	DIAMETER IN.	32	45	NOT APPLICABLE
	DIAMETER	32	42	NOT APPLICABLE

INTERFACE ADAPTERS/SIGNAL CONDITIONING CIRCUITRY

HA.itemname	UJ.refno	UJ.cage	UI.aidaucr	UI.aidaucnr	UI.aidaucnc
ITEM NAME	REFERENCE NUMBER	CAGE	APPORTIONED UNIT COST		CURR CD
			RECURRING	NONRECURRING	

ATE SOFTWARE REQUIRED

HA.itemname	UD.refno	UD.cage	UC.otpaucr	UC.otpaucnr	UC.otpaucnc	UC.otpcttp
ITEM NAME	REFERENCE NUMBER	CAGE	APPORTIONED UNIT COST		CURR CD	TEST PLAN
			RECURRING	NONRECURRING		

UA.uutexpln
UNIT UNDER TEST REMARKS: THE RANGE CRITERIA ARE GIVEN IN INCHES.

ESTIMATED TYPE CLASSIFICATION DATE: / /

PREPARED BY:

DATE: / /

Figure 44 – Format for LSA-072, TMDE Requirements Summary (Continued)

4.43 Support Equipment Tool List Summary (LSA-074)

4.43.1 Introduction

LSA-074, Support Equipment Tool List, provides a four-part summary of all stock listed, commercial, modified or developmental tools required. It provides a list of tools currently in the inventory and tools that are not in the inventory, but need to be developed.

This summary provides a listing of support equipment (i.e., tools and test equipment) consisting of four sections, each selectable by a set group of Item Category Codes. This summary should be used to verify support equipment needed for the system or a range of LCNs.

4.43.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- DoDI 5000.88 and DoDI 5000.91. States the Program Manager will ensure resources are programmed and necessary IP deliverables and associated license rights, tools, equipment, and facilities are acquired to support each of the levels of maintenance that will provide product support; and will establish necessary organic depot maintenance capability in compliance with statute and the LCSP.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), RCM Analysis (Activity C.1.8), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- MIL-HDBK-2097. Requires new or special hand tools to be identified and acquired by means of the PSA process. It also requires a list of Standard/Modified Hand Tools (LSMHT). This list permits work planning for the required hand tools (both powered and non-powered) which are applicable to systems and equipment.
- DI-SESS-80294. Requires delivery of a list which identifies the test parameter requirements for maintenance, test, alignment, and calibration, to support all echelons of maintenance during the operational life cycle of a system or equipment. This list also identifies the unique and special tools, materials, and test equipment required to support all echelons of maintenance. This requirements list provides the basis for the using activity to determine if existing general purpose test equipment can be utilized, which in many cases will eliminate procurement requirements. The unique and special tools, materials, and test equipment list provides the information for the acquisition and subsequent support of each item. Most of the data elements listed on this DID are LPD.
- PSM Guidebook. Requires the PSM to identify, plan, resource and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC. Description: Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.43.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers. This is a management/analyst review summary, though the data may be required as a deliverable or as input in determining SE development and training needs.

What: Support equipment is one of the 12 IPS elements required to be addressed in DoDI 5000.88 and DoDI 5000.91. This summary is important in identifying the usage and therefore justification of SE.

When: Though the formatted summary is not typically delivered as part of a contractual requirement, the data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). The data should be delivered as part of a LPD file as the contract specifies. These analyses, beginning in the definition phase, are iterative activities performed throughout the acquisition life cycle.

How: The data on this summary is an output of several analyses including Support System Standardization (SAE TA-STD-0017A, Activity B.2), Task Inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1). These analyses are iterative activities performed throughout the development cycle where the level of system detail available is provided at a lower and lower indenture level over time.

Why: This summary displays a list of tools required to perform maintenance for the program. It identifies whether the tools are inventory or to be developed. The goal is to use non-peculiar tools where possible. During the acquisition of systems,

program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

4.43.4 Scope

This summary provides a listing consisting of four sections: tools currently in inventory; tools in inventory but not assigned to gaining unit; modified hand tools; and, peculiar tools requiring development. Each section can be selected by a limited number of ICCs. Part I is limited to Group B ICCs; Part II is limited to Group C ICCs; Part III is limited to ICC of AC only, and, Part IV is limited to Group A ICCs.

4.43.5 Selection Options

Mandatory: EIAC, LCN Type, Start LCN, and UOC

Optional: ALC, Service Designator, Stop LCN, and ICC

Selectable ICCs are limited to Group B (H, 4, 5, 6, 2) for ICC-1, Group C (G, N, P, R, 3) for ICC-2, code AC for ICC-3, and Group A (7, 8, M, D, 1) for ICC-4. If ICCs are not selected, then each part of the summary will default to all allowable ICCs, respectively.

4.43.6 Processing/Business Rules

The same qualifying criteria is used for all parts of the summary. As a minimum, there must be at least one LCN within the selected range of LCNs with a Task Code qualifying against the selected Service Designator (qualified by fourth position of the Task Code). LCNs are further qualified by requiring at least one CG entity entry where the Support Equipment identified by Reference Number and CAGE matches against the selected ICCs (Support Equipment Reference Number and Support Equipment CAGE on Entity CG are matched against SE Reference Number and Support Equipment CAGE on Entity EA in order to access the ICC).

- Part III, Modified Hand Tools, assumes that a breakdown of the tool exists within the LPD. This part of the summary can only be produced if an LCN, EIAC, and ALC exist in the LPD for the tool and for subordinate items. If so, "Make From" items will include those which are subordinate to the tool in LCN structure and which have an Indenture Code greater than that of the tool (e.g., Tool Indenture Code +1).
- Within each part of the summary, the support equipment item should only be listed once. If more than one qualified entry per part occurs for a piece of support equipment, then all information must be consolidated.
- Page breaks are required between each part of the summary.

4.43.7 Sequence

Each part of this summary is sequenced by ascending Reference Numbers.

4.43.8 Data Sources

The data sources listed in Table 48, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include "Throughput" – an entry in a field that will appear on the summary, or "Manually Entered" – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 48 – Data Sources for Support Equipment Tool List Summary (LSA-074)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
ICC - 1 (Selected)(Group 'B' ICCs)	Support Equipment Item Category Code	EA	2730	One or more of these required
ICC - 2 (Selected) (Group 'C' ICCs)	Support Equipment Item Category Code	EA	2730	
ICC - 3 (Selected) (ICC Code 'AC' only)	Support Equipment Item Category Code	EA	2730	
ICC - 4 (Selected) (Group 'A' ICCs)	Support Equipment Item Category Code	EA	2730	
OUTPUT				
PART I - TOOLS IN INVENTORY (Sub Header)				
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
ACQ DEC OFFICE	Acquisition Decision Office	EA	1020	Optional
SERD NUMBER	Support Equipment Recommendation Data Number	EF	5030	Optional
NSN AND RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
	MAINT LEVEL		Task Code (3rd position)	
ICC	Support Equipment Item Category Code	EA	2730	Required
PART II - TOOLS IN INVENTORY BUT NOT ASSIGNED TO A GAINING UNIT (Sub Header)				
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ACQ DEC OFFICE	Acquisition Decision Office	EA	1020	Optional
SERD NUMBER	Support Equipment Recommendation Data Number	EF	5030	Optional
SIASCN	Standard Interservice Agency Serial Control Number	EA	4940	Optional
SKETCH	Sketch	EA	4780	Optional
MAINT LEVEL	Task Code (3rd position)	CG	5110	Optional
ICC	Support Equipment Item Category Code	EA	2730	Required
PART III - MODIFIED HAND TOOLS (Sub Header)				
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required
ITEM NAME	Item Name	HA	2790	Optional
ACQ DEC OFFICE	Acquisition Decision Office	EA	1020	Optional
SERD NUMBER	Support Equipment Recommendation Data Number	EF	5030	Optional
SIASCN	Standard Interservice Agency Serial Control Number	EA	4940	Optional
SKETCH	Sketch	EA	4780	Optional
MAINT LEVEL	Task Code (3rd position)	CG	5110	Optional
ICC	Support Equipment Item Category Code	EA	2730	Required
MAKE FROM (Sub Header)				
ITEM NAME	Item Name	HA	2790	Optional
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Commercial and Government Entity Code	CG	1520	Required
[EIAC]	End Item Acronym Code	HG	2040	Optional
[TOOL LCN AND SUBORDINATE LCNs]	Logistics Support Analysis Control Number	HG	2970	Optional
[ALC]	Alternate Logistics Support Analysis Control Number Code	HG	1200	Optional
[INDENTURE CODE]	Indenture Code	HG	2520	Optional
NSN AND RELATED DATA	National Stock Number Cognizance Code	HA	3540	Optional
	National Stock Number Materiel Control Code		3550	
	National Stock Number Federal Supply Classification		2280	
	National Stock Number National Item Identification Number		3520	
	National Stock Number Special Materiel Identification Code Materiel Management Aggregation Code		3560	
	National Stock Number Activity Code		3530	
PART IV - PECULIAR TOOLS REQUIRING DEVELOPMENT (Sub Header)				
REFERENCE NUMBER	Task Support Reference Number	CG	4400	Required
CAGE	Task Support Commercial and Government Entity Code	CG	1520	Required

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
ITEM NAME	Item Name	HA	2790	Optional
ACQ DEC OFFICE	Acquisition Decision Office	EA	1020	Optional
SERD NUMBER	Support Equipment Recommendation Data Number	EF	5030	Optional
SIASCN	Standard Interservice Agency Serial Control Number	EA	4940	Optional
SKETCH	Sketch	EA	4780	Optional
MAINT LEVEL	Task Code (3rd position)	CG	5110	Optional
ICC	Support Equipment Item Category Code	EA	2730	Required

4.43.9 Format

The format shown in Figure 45 is a recommended view of the data. The performing activity may be able to provide an alternate view of the same or similar data. Check with the performing activity for the most cost effective method of producing a similar summary.

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SUPPORT EQUIPMENT TOOL LIST (LSA-074)

XB.eiac	XB.lcnomen	XB.lcn	XB.alc	XB.lcntype	XB.lcn	XF/XC.uoc	CA.taskcode	EA.segicc	EA.segicc	EA.segicc	EA.segicc
EIAC	LCN NOMENCLATURE	START LCN	ALC	TYPE	STOP LCN	UOC	SERV DES	ICC-1	ICC-2	ICC-3	ICC-4
REFRIG UNT	DOOR-SCREEN ASSY	00510		P	00520	DCY	ARMY	N	4	*	8

PART I - TOOLS CURRENTLY IN INVENTORY

CG.refno	CG.cage	HA.itemname	EA.acqdecocf	EF.serdatno	HA.nsnccgc HA.nsnmcc HA.nsnfsc HA.nsnniin HA.nsnmima HA.nsnactvc	CG.taskcode	EA.segicc
REFERENCE NUMBER	CAGE	ITEM NAME	ACQ DEC OFFICE	SERD NUMBER	NSN AND RELATED DATA	MAINT LEVEL	ICC
AA123C	13579	TORQUE WRENCH	USAAMCCOM	6018123456		H D	N
A135	44940	SCREWDRIVER	USAAMCCOM	6015123456	5120-00-278-1273	C O F H L D	N
CB9234569	44940	DOLLIE, 4WH	USATROSCOM	6010123456		O	N
KT024683N2	44940	SCISSORS	USATROSCOM	6020123456		O F D	N

PART II - TOOLS IN INVENTORY BUT NOT ASSIGNED TO GAINING UNIT

CG.refno	CG.cage	HA.itemname	EA.acqdecocf	EF.serdatno	EA.stdiascn	EA.sketch	CG.taskcode	EA.segicc
REFERENCE NUMBER	CAGE	ITEM NAME	ACQ DEC OFFICE	SERD NUMBER	SIASCN	SKETCH	MAINT LEVEL	ICC
A24	34521	WRENCH, SOCKET	USAAMCCOM	6016123456	MAR-098	N		4
A610	12345	EXT, SOCKET WRENCH	USATROSCOM	6006123456	N45098X			4
B25	44940	TONGS, 7 IN	USATROSCOM	6008123456	N1389XX		F	4
45021	44940	WELDER	USATROSCOM	6019123456	N453-0X	N		4

Figure 45 – Format for LSA-074, Support Equipment Tools List

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SUPPORT EQUIPMENT TOOL LIST (LSA-074)

PART III - MODIFIED HAND TOOLS

CG.refno	CG.cage	HA.itemname	EA.acqdecof	EF.serdatno	EA.stdiascn	EA.sketch	CG.taskcode	EA.seqicc
REFERENCE NUMBER	CAGE	ITEM NAME	ACQ DEC OFFICE	SERD NUMBER	SIASCN	SKETCH	MAINT LEVEL	ICC
E3727	44940	SHIM, 1/4 CM	USATROSCOM	6012123456	N129(2)	N	O	*

MAKE FROM	HA.itemname	CG.refno	CG.cage	HA.nsnccgc	HA.nsnmcc	HA.nsnfsc	HA.nsnniin	HA.nsnmimma	HA.nsnactvc
	ITEM NAME	REFERENCE NUMBER	CAGE	NSN AND RELATED DATA					
	SLEEVE, CHOKE COVER	142-205	44940						
	DISK, VALVE	142-0055	44940	2910-00-358-5618					

REFERENCE NUMBER	CAGE	ITEM NAME	ACQ DEC OFFICE	SERD NUMBER	SIASCN	SKETCH	MAINT LEVEL	ICC
SN517832105	44940	VOLTMETER, 1/3AMP	USACECOM	6003123456	G-CE2/9	Y		*

MAKE FROM	ITEM NAME	REFERENCE NUMBER	CAGE	NSN AND RELATED DATA
	ARMATURE	191-1088	44940	
	SLEEVE, CHOKE COVER	142-2054	44940	
	SPRING SET	191-0984	44940	
	SPRING	142-0035	44940	5360-01-066-3450

PART IV - PECULIAR TOOLS REQUIRING DEVELOPMENT

CG.refno	CG.cage	HA.itemname	EA.acqdecof	EF.serdatno	EA.stdiascn	EA.sketch	CG.taskcode	EA.seqicc
REFERENCE NUMBER	CAGE	ITEM NAME	ACQ DEC OFFICE	SERD NUMBER	SIASCN	SKETCH	MAINT LEVEL	ICC
AT503	44940	WRENCH, ADJUSTABLE		6014123456	MAR-023	N	F	8
A26	44940	WRENCH, SOCKET	USAAMCCOM	6017123456	MAR-005	Y		8
B2502	44940	SET, SOCKET	USATROSCOM	6009123456	NR123XX	Y	F H	8
CC586T3692	44940	DITMCO STATION	USATROSCOM	6004123456	N3987XX	N	O	8
FC1036921	44940	BRUSH, WIRE	USATROSCOM	6013123456	N238/2X	Y	H	8

Figure 45 - Format for LSA-074, Support Equipment Tools List (Continued)

4.44 Consolidated Manpower, Personnel and Training Summary (LSA-075)

4.44.1 Introduction

LSA-075 provides a depiction of critical manpower and personnel data by maintenance level and new/modified skill requirements needed as a baseline for performing hardware-manpower requirements analysis.

This summary summarizes manpower and personnel needs and new/modified skill and training requirements needed as a baseline for performing hardware-manpower requirements analysis. The LSA-075 summary can be used as the Human Systems Integration report as required by AR 602-2, Human Systems Integration in the System Acquisition Process.

4.44.2 Associated Statutes, Regulations, Policy, Standards, Handbooks, and Data Item Descriptions

- 10 USC 2441, Independent cost estimates; operational manpower requirements. Requires that: the manpower estimate include an estimate of the total number of personnel required to operate, maintain, and support the program upon full operational deployment; and to train personnel to carry out the activities.
- DoDI 5000.88 and DoDI 5000.91. Mandates Manpower Estimates/Updates due at Milestones, B & C, and at Full Rate Production.
- AR 602-2. Data from the Human Systems Integration Plan (HSIP) (for example, HSI issues and manpower, personnel, and training constraints) will be used in developing requirements documents, test plans, and contractual documents.
- OPNAVINST 1500.76. Establishes the policy Job Duty Task Analysis to develop data for identification of training needs.
- NETCINST 1510.4. Provides a user guide for performing Job Duty Task Analysis which includes developing manpower and training requirements for acquisition of new systems.
- SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), RCM analysis (Activity C.1.8), Task inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).
- DOT&E and TEMP Guidebook. Manpower/personnel and training requirements and limitations are required to be documented in the TEMP. A draft update is due for the Development RFP Release Decision Point and approved at Milestone B. DOT&E will approve the TEMP for DOT&E Oversight programs [10 U.S.C. 2399 (Reference (g))]; Deputy Assistant Secretary of Defense (DASD) Developmental Test and Evaluation (DT&E) will also approve the TEMP for Major Defense Acquisition Programs (MDAP) and Major Automated Information System (MAIS) programs and Under Secretary of Defense for Acquisition, Technology, and Logistics USD (AT&L) designated special interest programs [10 U.S.C. 139b, Reference (g)]; the DoD Component equivalent will approve the plan for other programs.
- PSM Guidebook. Requires PSMS to plan, resource, and implement a cohesive integrated strategy early in the development process to train military and civilian personnel to maximize the effectiveness of the doctrine, manpower and personnel, to fight, operate, and maintain the equipment throughout the life cycle.

4.44.3 Tailoring

Who: Users may include: Commercial/Industry, All Armed Services, Program Executive Offices, Program Managers and Product Support Managers.

What: This is a management/analyst review summary, though the data may be required as a deliverable summary, as an input to a Human Systems Integration report, training plans, and for milestone approval.

When: Manpower/Personnel and Training requirements and limitations are documented in the TEMP. Specify manpower/personnel and training requirements and limitations that affect test and evaluation execution. Identify how much training will be conducted with modelling and simulation. The data should be delivered as part of a LPD file as the contract specifies. The data or summary may be delivered IAW DI-SESS-81758/DI-SESS-81759 via Contract Data Requirements List (CDRL). These analyses, beginning in the development phase, are iterative activities performed throughout the acquisition life cycle.

How: SAE TA-STD-0017A and MIL-HDBK-502A. The following activities are applicable. Support System Standardization (Activity B.2), RCM analysis (Activity C.1.8), Task inventory (Activity C.1.9), Support System Alternatives (Activity C.2), Evaluation of Alternatives and Tradeoff Analysis (Activity C.3), and Maintenance Task Analysis (Activity D.1).

Why: This summary may reveal gaps in required skill sets by comparing manpower and personnel needs vs. new/modified skills. This summary can also provide training requirements for the new or modified skill sets.

4.44.4 Scope

This summary summarizes manpower and personnel needs and new/modified skill and training requirements needed as a baseline for performing hardware-manpower requirements analysis. The additional information recorded in the "G" entities are used by IPS element managers/training specialists to prepare Qualitative and Quantitative Personnel Requirements Information (QQPRI), Individual and Collective Training Plans (ICTP), and resultant training documentation.

4.44.5 Selection Options

Mandatory: EIAC, Start LCN, LCN Type, and UOC

Optional: Stop LCN, ALC, Service Designator Code, Maintenance Level, Skill Specialty Code, Operational Requirements Indicator (Wartime/Peacetime) Indicator, and SSC Description Option

4.44.6 Processing/Business Rules

The same qualifying criteria is used for both Parts I and II. Task Codes are qualified by matching on selected Service Designator Codes (Task Code, fourth position) and on selected maintenance levels (Task Code, third position). As a minimum, there must be an exact match in Entity XB with the selected EIAC, LCN, and ALC (default = 00). If a Skill Specialty Code or New or Modified Skill Specialty Code is selected, an exact match must be made in Entity GA or GB. Operational Requirements Indicator defaults to "Peacetime".

- a. Part I, Manpower and Personnel Summary, requires at least one existing skill specialty in Entity GA/GB and Entity CD.
- b. Available Man-Hours of 0.00 are significant as opposed to null values which depicts no data being on file for that element. If actual man-hours can be calculated, then the Available Man-Hours will be displayed even if it is blank.
- c. Actual man-hours are calculated by summing all Subtask Mean Man-minutes for a given Skill Specialty Code/ New or Modified Skill Specialty Code at a given maintenance level (Task Code, third position) across all applicable tasks at the Start LCN and all subordinate LCNs, then dividing by 60. New or Modified Skill Specialty Codes in Entity CD take precedence over Skill Specialty Codes.
- d. Actual Quantity of an Skill Specialty Code/ New or Modified Skill Specialty Code at a given maintenance level (Task Code, third position) can only be calculated correctly if a unique Subtask Person Identifier has been assigned to each maintenance person and that relationship is carried out for all tasks throughout the system at or subordinate to the Start LCN. If so, it is simply a matter of counting the different number of Subtask Person Identifiers for a given Skill Specialty Code at a given maintenance level (Task Code, third position). If not, the same Subtask Person Identifier could be assigned to two different personnel in different tasks, or the same person could be assigned different Subtask Person Identifiers from task to task.
- e. Part II requires at least one set of values in Entity GB.
- f. A page break is required between sections.
- g. Part III lists all SSC or NM SSC that qualifies based on the selection option.

4.44.7 Sequence

Section I is sequenced by ascending Skill Specialty Code, then by maintenance level (Task Code, third position) within each Skill Specialty Code. Section II is sequenced by ascending Original Skill Specialty Code, then by ascending New or Modified Skill Specialty Code.

4.44.8 Data Sources

The data sources listed in Table 49, include those data elements which appear on the summary and those which are needed to generate the summary (for instance, those data elements used in calculations). The data source listings were developed by viewing each summary in a left-to-right, top-to-bottom sequence. The table can be used both as a map to the location of the data in the summary and as a list of predefined data elements which display on the summary.

The Data Table is organized in two major segments defined as "Selection Options" and "Output." Data Elements are listed in the position they appear on the Summary and may appear more than once, including those from the same entity.

The Element Name column contains the data element names as listed on the summary, headers for the data, and data elements necessary to process the summary. The Data Element Name column lists the matching data element from SAE GEIA-STD-0007C. The Data Type Number column can be used to locate the definition of the data element in SAE GEIA-STD-0007C. The Data Element Requirement column indicates whether that data element is required or optional and contains more specific guidance as necessary.

Additional information related to the Element Name is shown in parentheses (). Examples may include “Throughput” – an entry in a field that will appear on the summary, or “Manually Entered” – an entry in a field, i.e., decision point, that may not appear on the summary.

Element Names required to generate the summary, but do not appear in the summary, are shown in brackets [].

Note that not all data may be required to generate the summary and not all parts of the summary are necessary. See the tailoring section of this summary and the Data Element Requirement column for specific guidance.

Table 49 – Data Sources for the Consolidated Manpower, Personnel, and Training Summary (LSA-075)

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
SELECTION OPTIONS/HEADER				
EIAC	End Item Acronym Code	XB	2040	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
START LCN	Logistics Support Analysis Control Number	XB	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	XB	1200	Optional
TYPE	Logistics Support Analysis Control Number Type	XB	2980	Required
STOP LCN	Logistics Support Analysis Control Number	XB	2970	Optional
UOC	Usable On Code	XF/XC	5790	Required
SERV DES	Task Code (4th position)	CA	5110	Optional
MAINT LVLS (Selected)				
SSC (Selected)				
PEACE/WAR (Selected)				
SSC SELECTION OPTON (Selected)				
OUTPUT				
PART I - MANPOWER AND PERSONNEL SUMMARY (Header)				
LCN	Logistics Support Analysis Control Number	CA	2970	Required
ALC	Alternate Logistics Support Analysis Control Number Code	CA	1200	Required
LCN NOMENCLATURE	Logistics Support Analysis Control Number Nomenclature	XB	2950	Required
SSC	Skill Specialty Code	CD	4810	Required. 1st precedence = NM SSC
	New or Modified Skill Specialty Code			
MAINTENANCE LEVEL	Task Code (3rd position)	CA	5110	Required
AVAIL M-H	Available Man-Hour	AE	1320	Required
[OPERATIONAL REQUIREMENTS INDICATOR]	Operational Requirements Indicator	AB	3710	Required
ACTUAL M-H (Calculated)				Automatically generated
[SUBTASK MEAN MAN MINUTES]	Subtask Mean Man Minutes	CD	3230	Required for calculation
[TASK CODE (3 RD POSITION)]	Task Code	CD	5110	Required for calculation
[SUBTASK PERSON ID]	Subtask Person ID	CD	3890	Required for calculation
[SKILL SPECIALTY CODE]	Skill Specialty Code	CD	4810	Required for calculation

Element Name	Data Element Name	Entity	Data Type Number	Data Element Requirement
[NEW OR MODIFIED SKILL SPECIALTY CODE]	New or Modified Skill Specialty Code	CD	4810	Required for calculation;first precedence
AVAIL QTY	Available Quantity	AE	1330	Required
ACTUAL QTY (Calculated)				Automatically generated
[TASK CODE (3 RD POSITION)]	Task Code	CD	5110	Required for calculation
[SUBTASK PERSON ID]	Subtask Person ID	CD	3890	Required for calculation
[SKILL SPECIALTY CODE]	Skill Specialty Code	CD	4810	Required for calculation
[NEW OR MODIFIED SKILL SPECIALTY CODE]	New or Modified Skill Specialty Code	CD	4810	Required for calculation;first precedence
PART II - NEW OR MODIFIED SKILL AND TRAINING REQUIREMENTS (Header)				
ORIGINAL SSC	Skill Specialty Code	GA	4810	Either SSC or NM SSC is required
ORIGINAL SLC	Skill Level Code	GA	4800	Optional
NEW/MOD SSC	New or Modified Skill Specialty Code	GB	4810	Either SSC or NM SSC is required
NEW/MOD SLC	New or Modified Skill Level Code	GB	4800	Optional
DUTY POSITION REQUIRING NEW/MOD SKILL	Duty Position Requiring a New or Revised Skill	GB	2000	Optional
REC RANK/RATE MIL RANK	Recommended Military Rank Rate	GB	4320	Optional
REC GRADE CIVIL GRADE	Recommended Civilian Grade	GB	4300	Optional
SECURITY CLEARANCE	Security Clearance	GB	4660	Optional
TEST SCORE	Test Score	GB	5360	Optional
NEW OR MODIFIED SKILL REQUIREMENTS	New or Modified Skill Additional Requirements Narrative	GB	3510	Optional
EDUCATION QUALIFICATIONS	New or Modified Skill Educational Qualifications Narrative	GB	3510	Optional
SKILL JUSTIFICATION	New or Modified Skill Justification Narrative	GB	3510	Optional
ADDITIONAL TRAINING REQUIREMENTS	New or Modified Skill Additional Training Requirements Narrative	GB	3510	Optional
PHYSICAL AND MENTAL REQUIREMENTS (Header)				
LCN	Logistics Support Analysis Control Number	GE	2970	Optional
ALC	Alternate Logistics Support Analysis Control Number Code	GE	1200	Optional
TASK CD	Task Code	GE	5110	Optional
SUBTASK NO	Subtask Number	GE	4970	Optional
PERSON ID	Subtask Person Identifier	GE	3890	Optional
NARRATIVE	Physical And Mental Requirements Narrative	GE	3510	Optional