FEDERAL SUPPLY CLASS
4720

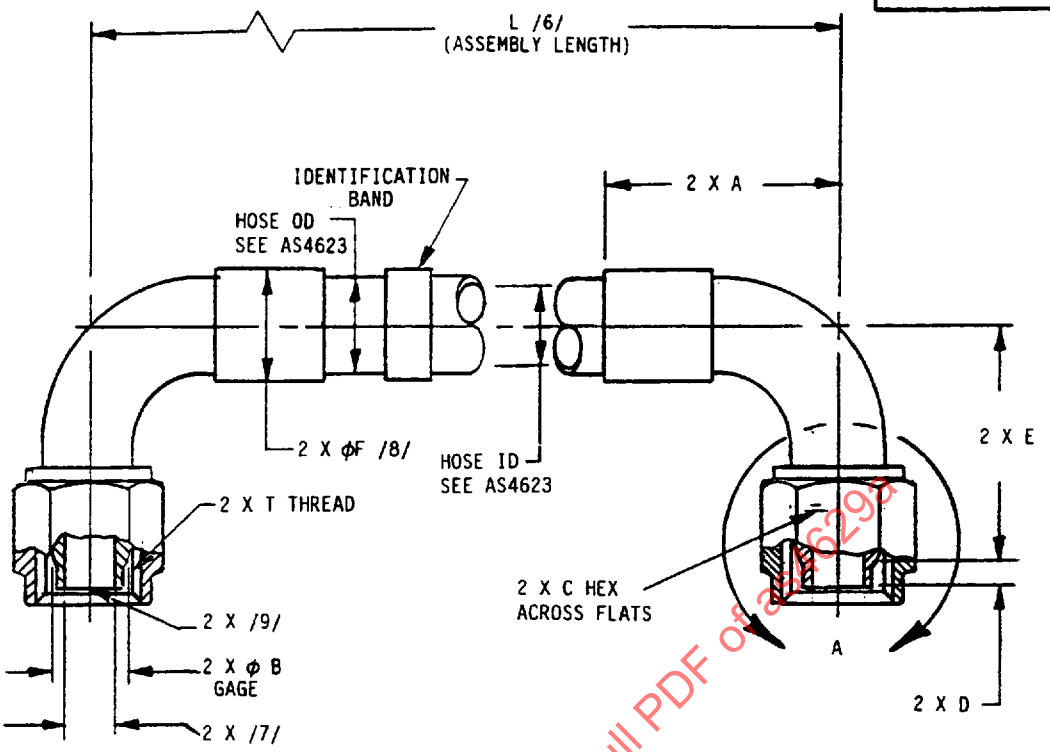

FIGURE 1 - HOSE ASSEMBLY, 90° ELBOW TO 90° ELBOW

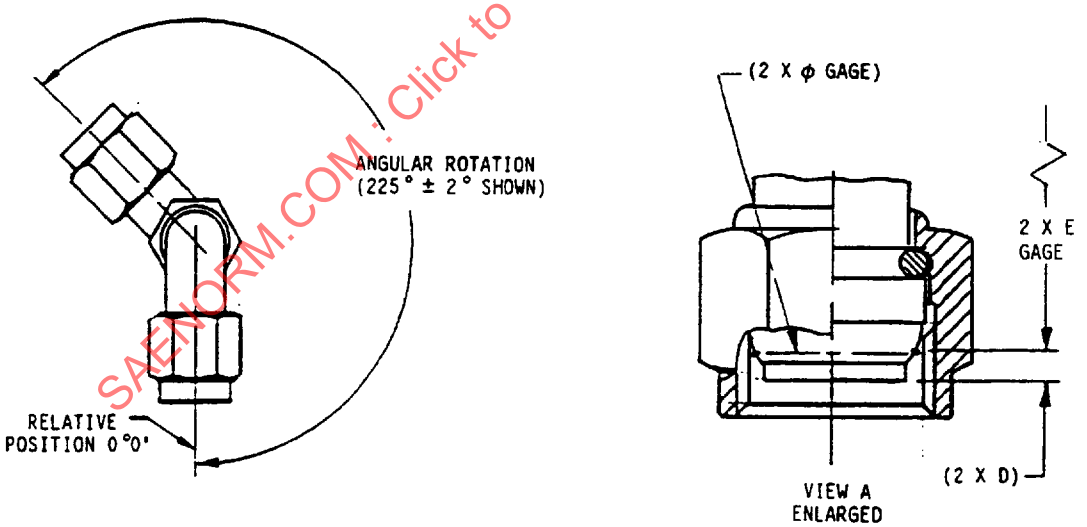

FIGURE 2 - FITTING ORIENTATION

THIRD ANGLE PROJECTION

ISSUED 1992-06-25 REVISED 1993-06-04 (A)

CUSTODIAN: SAE G-3/G-3D

PROCUREMENT SPECIFICATION: /2/ MA4623

SAE INTERNATIONAL
The Engineering Society For Advancing Mobility Land Sea Air and Space
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, PARA ARAMID REINFORCED, HEAVY-DUTY, 275 °F, 3000 psi FLARELESS, TITANIUM FITTINGS, INCLUDING JUMP SIZE, 90° TO 90°

AS4629 REV. A

SHEET 1 OF 5

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TABLE 1 - HOSE AND FITTING DIMENSIONS

BASIC HOSE ASSEMBLY NO. AS4629 SIZE CODE	(SIZE)	(THREAD T) (PER MIL-S-8879)	A MAX	B GAGE BASIC	(C) HEX	D	E MAX	E MIN	F MAX	BALL SIZE MIN THRU /7/ MS19059 DASH NO.	BALL SIZE MIN THRU /7/ IN
E	.250	.4375-20UNJF-3B	1.180	.2930	.56	.11	.770	.645	.69	4807	.109
G	.375	.5625-18UNJF-3B	2.180	.4120	.69	.12	.840	.715	.80	4812	.188
H	.500	.7500-16UNJF-3B	2.538	.5600	.88	.13	.970	.845	.97	4816	.313
J	.625	.8750-14UNJF-3B	3.375	.6730	1.00	.14	1.210	1.085	1.15	4818	.375
K	.750	1.0625-12UNJ-3B	3.940	.8100	1.25	.16	1.400	1.275	1.38	4821	.469
M	1.000	1.3125-12UNJ-3B	4.510	1.0620	1.50	.21	1.625	1.550	1.66	4829	.719
N	1.250	1.5625-12UNJ-3B	5.310	1.3160	1.81	.04	1.825	1.700	2.32	4835	.906

TABLE 2 - HOSE OR SLEEVE OUTSIDE DIAMETERS /10/

SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT °F	HOSE SIZE .250	HOSE SIZE .375	HOSE SIZE .500	HOSE SIZE .625	HOSE SIZE .750	HOSE SIZE 1.000	HOSE SIZE 1.250
-	(-) INDICATES HOSE ONLY NO SLEEVE (SEE AS4623)	275	--	--	--	--	--	--	--
A	FIRESLEEVE (AS1072 SIL-FG) (5 min) /11/ /12/ /13/	275	.930/.730	1.070/.880	1.205/1.015	1.370/1.130	1.590/1.380	1.847/1.677	2.130/1.950
B	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073-CODE B) /20/	275	.620/.540	.770/.690	.917/ .833	1.042/ .948	1.314/1.206	1.623/1.511	1.896/1.784

TABLE 3 - HOSE ASSEMBLY LENGTH TOLERANCES

HOSE ASSEMBLY LENGTH	TOLERANCE
UNDER 18 in	±.125 in
18 THRU 36 in	±.250 in
OVER 36 THRU 50 in	±.500 in
OVER 50 in	±1%

TABLE 4 - MAXIMUM HOSE AND FITTING WEIGHTS

HOSE OR SLEEVE CODE	HOSE PART OR SLEEVE	UNITS	HOSE SIZE .250	HOSE SIZE .375	HOSE SIZE .500	HOSE SIZE .625	HOSE SIZE .750	HOSE SIZE 1.000	HOSE SIZE 1.250
-	HOSE ONLY (SEE AS4623)	LB/IN	--	--	--	--	--	--	--
A	FIRESLEEVE (AS1072 SIL-FG) (5 min) /14/	LB/IN	--	--	--	--	--	--	--
B	ABRASION SLEEVE (AS1073B) /20/	LB/IN	.0018	.0018	.0032	.0032	.0049	.0082	.0082
NONE	FIRESLEEVE CLAMP	LB/EA	.020	.020	.021	.021	.025	.025	.032
NONE	FITTING END (90°) /15/	LB/EA	.077	.121	.176	.297	.560	.947	TBD /9/

NOTES:

1. MATERIALS:
   a. HOSE AND FITTINGS - PER AS4623.
   b. THE COLLARS MAY BE STAINLESS STEEL /15/.
   c. SLEEVES - SEE APPLICABLE STANDARDS, TABLE 2.

/2/ THIS HOSE ASSEMBLY SHALL BE QUALIFIED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION AS4623. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.

3. CONSTRUCTION AND PERFORMANCE PER AS4623. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.

4. OPERATING CHARACTERISTICS PER AS4623.

/5/ MARKING: MARKING SHALL BE PER AS4623 ON A STAINLESS STEEL BAND NOT OVER 1.0 in WIDE OR ON THE COLLAR. THE CHARACTERS SHALL BE A MINIMUM OF .06 in HIGH. THE BAND SHALL BE SO DESIGNED AS TO REMAIN TIGHT ON THE HOSE TO PREVENT RELATIVE MOVEMENT AND RESULTANT CHAFING. IT SHALL BE OF SUFFICIENT STRENGTH TO PREVENT REMOVAL BY HAND. HOSE ASSEMBLY DATE AND "PT" SYMBOL SHALL BE ELECTROETCHED ON THE BAND OR ON AN END FITTING OR A FIRESLEEVE CLAMP. MARKING BAND SHALL BE COVERED WITH TRANSPARENT POLYOLEFIN SHRINK SLEEVE PER AS1073 CODE A.

/6/ HOSE LENGTH: LENGTH "L" IS A THREE DIGIT NUMBER OF WHICH THE FIRST TWO DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE THIRD DIGIT, THE FRACTION OF AN INCH IN EIGHTHS. LENGTH "L" IS MEASURED FROM "GAGE DIAMETER" TO "GAGE DIAMETER". FOR LENGTH INCREMENTS AND TOLERANCES SEE TABLE 3. "END TO END" LENGTH MEASUREMENTS ARE THE SAME AS THE "GAGE DIAMETER" TO "GAGE DIAMETER" BECAUSE BOTH ENDS ARE 90° ELBOWS.

/7/ A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE FITTING I.D. HOWEVER, THE APPLICABLE BALL DIAMETER LISTED IN TABLE 1 MUST BE CAPABLE OF PASSING THROUGH THE HOSE ASSEMBLY.

/8/ DISTANCE ACROSS CORNERS OF THE COUPLING NUT MAY EXCEED THIS DIMENSION.

/9/ FITTING ENDS SIZE -4 THRU -16 MUST COMPLY TO NAS1760; FITTINGS FOR HOSE SIZE -20 AND LARGER TO COMPLY WITH AS4703. FITTINGS SHALL MATE WITH MS33514 FOR SIZES THRU -16 AND WITH AS4658 OR AS4659 IN SIZES -20 AND LARGER. -20 AND LARGER NUTS SHALL CONFORM TO AS4660 OR AS4702. STANDARD COUPLING NUTS SHALL BE IN ACCORDANCE WITH OR EQUIVALENT TO AS1790 OR AS1792.

/10/ CLAMP DIAMETERS: DIAMETERS ARE LISTED FOR CLAMP SELECTION. TUBULAR SLEEVES MAY NOT BE A PERFECT ROUND AND SHALL BE MEASURED WITH A DIAMETER TAPE RULE (OFTEN REFERRED TO AS A PI-TAPE).

/11/ SLEEVE DIAMETERS: THE TABLE 2 SLEEVE DIAMETERS FOR AS1072 SLEEVES APPLY WHEN THE SLEEVE IS COMPRESSED, OR CLAMPED TO CONTACT THE HOSE, IN THIS CASE, A WRINKLE MAY OCCUR OVER APPROXIMATELY 10% OF THE SLEEVE CIRCUMFERENCE.

/12/ FIRESLEEVE: THE CUT ENDS OF THE FIRESLEEVE SHALL BE COATED WITH RTV SILICONE RUBBER PRIOR TO INSTALLATION TO PREVENT WICKING OF FLUIDS. THE FIRESLEEVE ENDS SHALL BE SECURED TO THE HOSE ASSEMBLY END FITTINGS WITH CORROSION RESISTANT STEEL BANDS. AFTER INSTALLATION, CRACKS OR VOIDS IN THE FIRESLEEVE, WHICH EXPOSE THE FIBERGLASS, SHALL BE COATED WITH RTV SILICONE RUBBER.

/13/ IDENTIFICATION MARKING: ADD "AS1055 TYPE IIB CLASS A-S/P" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE RESISTANT 275 °F (5 min), WITH AS1072."

/14/ WHEN FIRESLEEVES ARE REQUIRED, WEIGHT LIMITS SHALL BE DEFINED BY THE PROCURING AUTHORITY.

/15/ TITANIUM PARTS MAY BE REPLACED WITH STAINLESS STEEL IF MAXIMUM WEIGHT FOR FITTING IS NOT EXCEEDED.

16. DIMENSIONING AND TOLERANCING: ANSI Y14.5M.

17. LOCKWIRE HOLES LOCATION AND DIAMETER PER AS1043 CODED AS FOLLOWS:
   a. U = TWO HOLES 180° APART
   b. W = THREE HOLES 120° APART

18. THIS PART STANDARD TAKES PRECEDENCE IN CASES OF CONFLICT.

/19/ THE FITTING'S ORIENTATION DASH NUMBER IS A THREE DIGIT NUMBER DEFINING THE RELATIVE POSITION OF THE END FITTINGS IN 1° INCREMENTS (EXAMPLE: 090 = 90°). FITTING ORIENTATION SHALL BE MEASURED COUNTERCLOCKWISE FROM THE NEAREST END FITTING WHICH SHALL BE IN THE RELATIVE 000° POSITION (SEE FIGURE 2). WHEN END FITTINGS ARE POINTED IN THE SAME DIRECTION, THIS DASH NUMBER SHALL BE 000.

/20/ THE SHRINK-ON POLYOLEFIN SLEEVE WILL COVER THE ENTIRE HOSE AND A MINIMUM OF 50% OF THE COLLAR ON BOTH ENDS OF THE ASSEMBLY.