

REV. A

AS4139

FEDERAL SUPPLY CLASS  
4730

NOTE

THIS DOCUMENT INCLUDES CADMIUM AS A PLATING MATERIAL. THE USE OF CADMIUM HAS BEEN RESTRICTED AND/OR BANNED FOR USE IN MANY COUNTRIES DUE TO ENVIRONMENTAL AND HEALTH CONCERNS. THE USER SHOULD CONSULT WITH LOCAL OFFICIALS ON APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS REGARDING ITS USE.

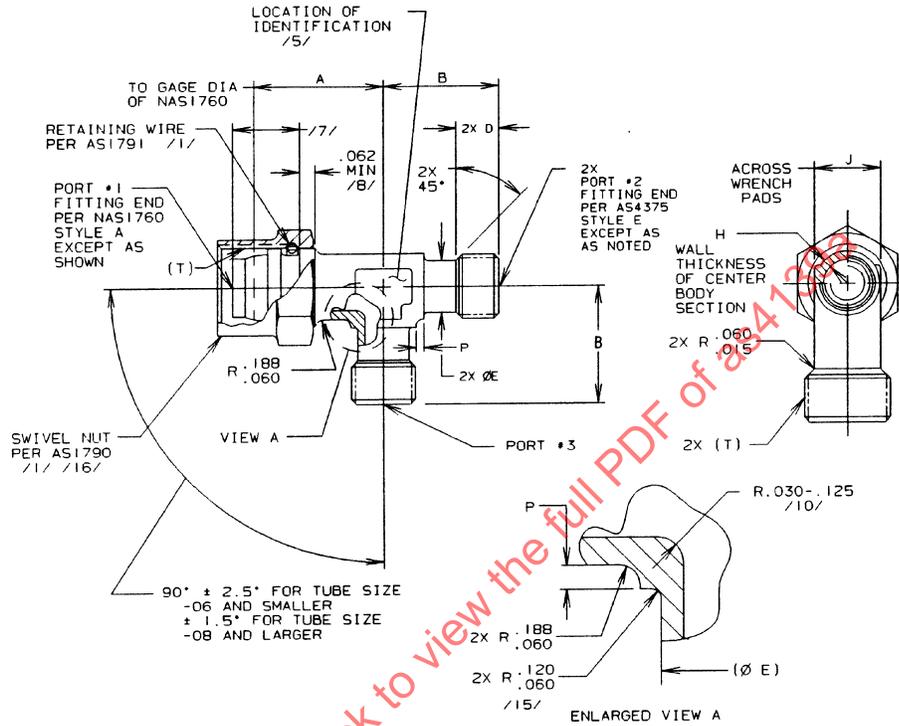


FIGURE 1 - TEE, SWIVEL ON RUN, REDUCED BODY, FLARELESS

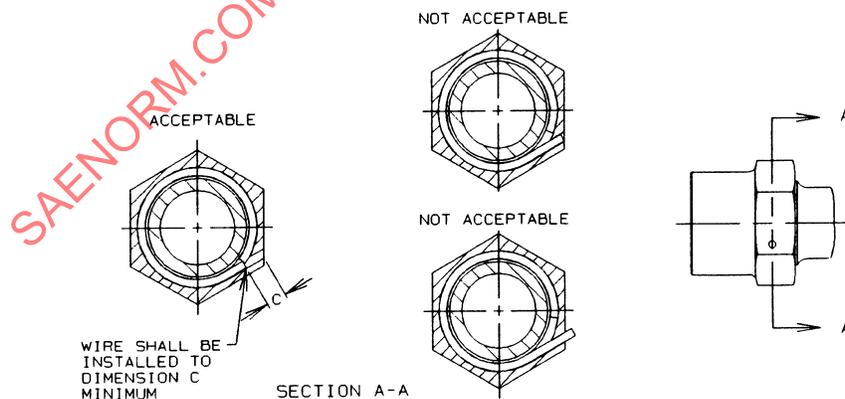


FIGURE 2 - INSTALLATION, SWIVEL NUT RETAINING WIRE

THIRD ANGLE PROJECTION



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CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS18280

**SAE Aerospace**  
An SAE International Group

**AEROSPACE STANDARD**

TEE, SWIVEL ON RUN, REDUCED BODY,  
FLARELESS

**AS4139**  
SHEET 1 OF 5

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ISSUED 1992-11 REVISED 2004-01

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AS4139

TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO. AS4139 /22/ SIZE CODE	H MIN	J	P ±.030	LB/EA MAX CRES	LB/EA MAX TI
04	.050	.390	.030	.076	.042
05	.050	.453	.159	.098	.055
06	.050	.453	.137	.120	.067
08	.050	.577	.140	.220	.124
10	.070	.702	.157	.346	.197
12	.080	.890	.166	.529	.297
16	.090	1.140	.174	.781	.438
20	.110	1.390	.071	1.263	.709
24	.130	1.640	---	1.767	.992

TABLE 2 - FITTING END

SIZE CODE	TUBE OD	T THREAD PER AS8879	C /16/	D	E
04	.250	.4375-20UNJF	.045	.371	.350
05	.313	.5000-20UNJF	.045	.371	.412
06	.375	.5625-18UNJF	.055	.379	.453
08	.500	.7500-16UNJF	.063	.461	.577
10	.625	.8750-14UNJF	.063	.511	.702
12	.750	1.0625-12UNJ	.095	.556	.890
16	1.000	1.3125-12UNJ	.125	.556	1.140
20	1.250	1.6250-12UNJ	.155	.556	1.390
24	1.500	1.8750-12UNJ	.180	.556	1.640

TABLE 3 - LEG LENGTH A

FORGING SIZE	04	05	06	08	10	12	16	20	24
04	.745	---	---	---	---	---	---	---	---
05	.790	.842	---	---	---	---	---	---	---
06	.847	.899	.960	---	---	---	---	---	---
08	.932	.984	1.045	1.143	---	---	---	---	---
10	1.057	1.109	1.170	1.268	1.348	---	---	---	---
12	1.119	1.171	1.232	1.330	1.410	1.398	---	---	---
16	1.244	1.296	1.357	1.454	1.533	1.522	1.590	---	---
20	1.401	1.453	1.514	1.611	1.690	1.679	1.727	1.810	---
24	1.526	1.578	1.639	1.736	1.815	1.804	1.852	1.935	2.112

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## AEROSPACE STANDARD

TEE, SWIVEL ON RUN, REDUCED BODY,  
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TABLE 4 - LEG LENGTH B

FORGING SIZE	04	05	06	08	10	12	16	20	24
04	.883	---	---	---	---	---	---	---	---
05	.799	.914	---	---	---	---	---	---	---
06	.861	.861	1.003	---	---	---	---	---	---
08	.955	.955	.971	1.204	---	---	---	---	---
10	1.049	1.049	1.065	1.158	1.380	---	---	---	---
12	1.142	1.142	1.158	1.251	1.314	1.560	---	---	---
16	1.267	1.267	1.283	1.376	1.439	1.502	1.684	---	---
20	1.424	1.424	1.440	1.533	1.596	1.659	1.659	1.903	---
24	1.549	1.549	1.565	1.658	1.721	1.784	1.784	1.784	2.028

## NOTES:

## /1/ MATERIAL:

## a. CODE LETTER J.

1. BODY: TYPE 304 CORROSION RESISTANT STEEL PER AMS 5639
2. NUT: CODE LETTER J OF AS1790 (TYPE 304 CORROSION RESISTANT STEEL)
3. WIRE: PER AS1791 (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

## b. CODE LETTER T:

1. BODY: TYPE 6AL4V TITANIUM ALLOY PER AMS 4928
2. NUT: CODE LETTER T OF AS1790 (TYPE 6AL4V TITANIUM ALLOY)
3. WIRE: PER AS1791 (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

## c. CODE LETTER V:

1. BODY: TYPE 15-5PH CORROSION RESISTANT STEEL PER AMS 5659
2. NUT: CODE LETTER V OF AS1790 (TYPE 15-5PH CORROSION RESISTANT STEEL)
3. WIRE: PER AS1791 (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

## 2. HEAT TREATMENT:

## a. MATERIAL CODE LETTER J:

1. BODY, NUT AND WIRE: NONE

## b. MATERIAL CODE LETTER T:

1. BODY, NUT AND WIRE: NONE

## c. MATERIAL CODE LETTER V:

1. BODY: HEAT TREAT TO CONDITION H-1075 PER AMS 2759/3
2. NUT: MATERIAL CODE LETTER V OF AS1790 (HEAT TREAT TO CONDITION H-1075)
3. WIRE: NONE

## /3/ FINISH:

## a. MATERIAL CODE LETTER J:

1. BODY: PASSIVATE PER AMS-QQ-P-35, TYPE VI OR TYPE VII AND COAT WITH DRY FILM LUBRICANT PER MIL-PRF-46010, TYPE I /7/
2. NUT: CODE LETTER J SUFFIX CODE N OF AS1790 (PASSIVATE WITH DRY FILM LUBRICANT ON ID)
3. WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

- b. MATERIAL CODE LETTER T:
1. BODY: FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486 AND DRY FILM LUBRICANT PER MIL-PRF-46010 TYPE I /7/
  2. NUT: CODE LETTER T WITH SUFFIX CODE N OF AS1790 (FLUORIDE PHOSPHATE CONVERSION COAT AND DRY FILM LUBRICANT ON ID)
  3. WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

c. MATERIAL CODE LETTER V:

1. BODY:
    - a. NO SUFFIX FINISH CODE LETTER; PASSIVATE PER AMS-QQ-P-35, TYPE II OR TYPE VIII AND DRY FILM LUBRICANT PER MIL-PRF-46010 TYPE I /7/
    - b. SUFFIX FINISH CODE LETTER P; CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2
  2. NUT:
    - a. NO SUFFIX FINISH CODE LETTER; CODE LETTER V AND SUFFIX CODE N OF AS1790 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT ON ID)
    - b. SUFFIX FINISH CODE LETTER P; CODE LETTER V SUFFIX CODE LETTER P OF AS1790 (CADMIUM PLATE)
  3. WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)
- /4/ USERS OF THIS STANDARD SHALL PROCURE THE PRODUCT FROM ACCREDITED MANUFACTURERS OR ACCREDITED DISTRIBUTORS AS LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED PRODUCTS LIST PRI-QPL-AS18280 FOR THIS STANDARD. SEE <http://www.pri.sae.org/QPL/as18280.pdf> FOR CURRENT QPL ONLINE. NOTE THAT MANUFACTURERS ARE ACCREDITED BY PART NUMBER, SIZE AND MATERIALS ON PRI-QPL-AS18280.
- /5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B.
- a. FOR SIZES 06 (.375 OD TUBE SIZE) AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, LETTERS "AS", MATERIAL CODE LETTER AND FORGING MANUFACTURER'S IDENTIFICATION WHEN MADE FROM FORGING
  - b. FOR SIZES 08 (.500 OD TUBE SIZE) AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER, MATERIAL CODE LETTER AND FORGING MANUFACTURER'S IDENTIFICATION WHEN MADE FROM FORGING
6. THIS PART IS INTENDED FOR USE IN SYSTEMS WITH OPERATING PRESSURES AS FOLLOWS:
- a. SIZES -04 THRU -16 AT 4000 psi
  - b. SIZES -20 AND -24 AT 2000 psi
- /7/ THIS AREA SHALL BE DRY FILM LUBRICATED ON EXTERNAL SURFACES /3/.
- /8/ THIS DIMENSION APPLIES TO SIZE 06 AND LARGER NONREDUCER SWIVELS. ALL OTHERS, MACHINE "L1" DIAMETER OF NAS1760 TO WITHIN P DIMENSION OF ADJACENT FORGING DIAMETER.
9. WHEN MACHINED FROM BAR OR OVERSIZED FORGING, THE CENTER BODY SECTION SHALL CONFORM TO AS1376, TABLE 2.
- /10/ RADIUS APPLICABLE TO TITANIUM PARTS ONLY.
11. INSPECTION: CLASSIFICATION OF DEFECTS AS SPECIFIED FOR EQUIVALENT PARTS IN MIL-HDBK-1655. IN ADDITION, .5% AQL FOR THE .030 TO .125 RADIUS AT BORE INTERSECTION.
12. THIS PART IS A REDUCED BODY VERSION OF NAS1763.
- /13/ SPECIFY END SIZES IN THIS ORDER: SWIVEL NUT END ON RUN FIRST, OPPOSITE END ON RUN SECOND, SIDE PORT THIRD.
14. LARGEST END DETERMINES FORGING SIZE.
- /15/ APPLICABLE ONLY TO REDUCERS AND SIZE 04 AND 05 NONREDUCERS.
- /16/ ASSEMBLE NUT TO THE BODY OF THE FITTING WITH RETAINING WIRE PER FIGURE 2. NUT SHALL BE FREE TO SWIVEL AFTER ASSEMBLY.
17. INTERPRETATION OF DRAWING PER ARP4296.