

AS4139

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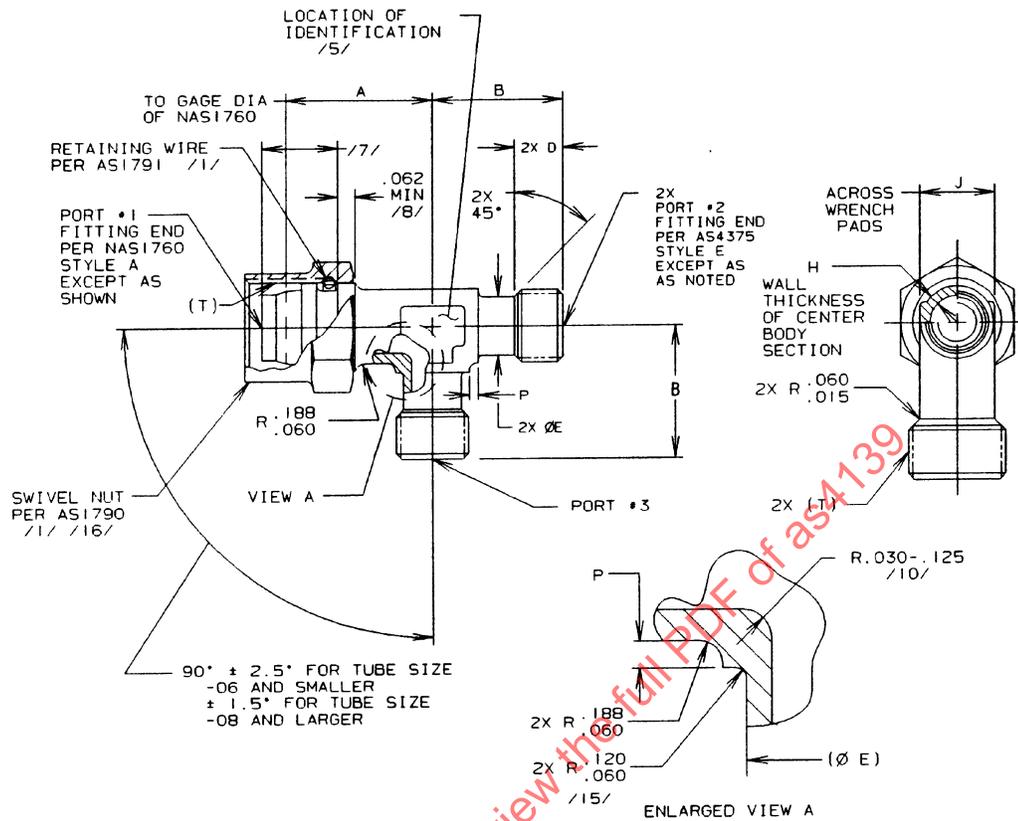


FIGURE 1 - TEE, SWIVEL ON RUN, REDUCED BODY, FLARELESS

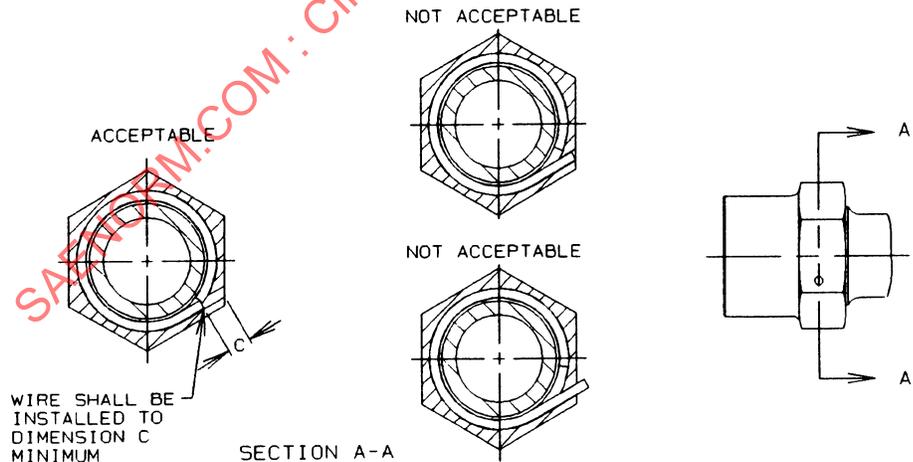
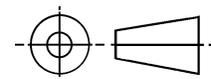


FIGURE 2 - INSTALLATION, SWIVEL NUT RETAINING WIRE

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MIL-F-18280

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

**AEROSPACE STANDARD**

TEE, SWIVEL ON RUN, REDUCED BODY,  
FLARELESS

**AS4139**  
SHEET 1 OF 5

ISSUED 1992-11 REAFFIRMED 2000-06

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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 MIL-S-8879	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

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 REFERENCE (TYPE 304 CORROSION RESISTANT STEEL)
3. WIRE: PER AS1791 REFERENCE (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 REFERENCE (TYPE 6AL4V TITANIUM ALLOY)
3. WIRE: PER AS1791 REFERENCE (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 REFERENCE (TYPE 15-5PH CORROSION RESISTANT STEEL)
3. WIRE: PER AS1791 REFERENCE (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 REFERENCE (HEAT TREAT TO CONDITION H-1075)
3. WIRE: NONE

/3/ FINISH:

a. MATERIAL CODE LETTER J:

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

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b. MATERIAL CODE LETTER T:

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

c. MATERIAL CODE LETTER V:

1. BODY:
  - a. NO SUFFIX FINISH CODE LETTER; PASSIVATE PER QQ-P-35, TYPE II OR TYPE VIII AND DRY FILM LUBRICANT PER MIL-L-46010 TYPE I /7/
  - b. SUFFIX FINISH CODE LETTER P; CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2
2. NUT:
  - a. NO SUFFIX FINISH CODE LETTER; CODE LETTER V AND SUFFIX CODE N OF AS1790 REFERENCE (PASSIVATE AND COAT WITH DRY FILM LUBRICANT ON ID)
  - b. SUFFIX FINISH CODE LETTER P; CODE LETTER V SUFFIX CODE LETTER P OF AS1790 REFERENCE (CADMIUM PLATE)
3. WIRE: PER AS1791 REFERENCE (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

- /4/ PROCUREMENT SPECIFICATION: MIL-F-18280 EXCEPT AS SPECIFIED ON THIS STANDARD. THIS PART SHALL BE QUALIFIED TO THE PROCUREMENT SPECIFICATION AS APPLICABLE IN A COMPLETE ASSEMBLY. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.
- /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-STD-1655. IN ADDITION, 1.5% 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.
18. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36; REQUIREMENTS PER ANSI/ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 125 µin Ra.