

RATIONALE

AS101 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

AS101

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

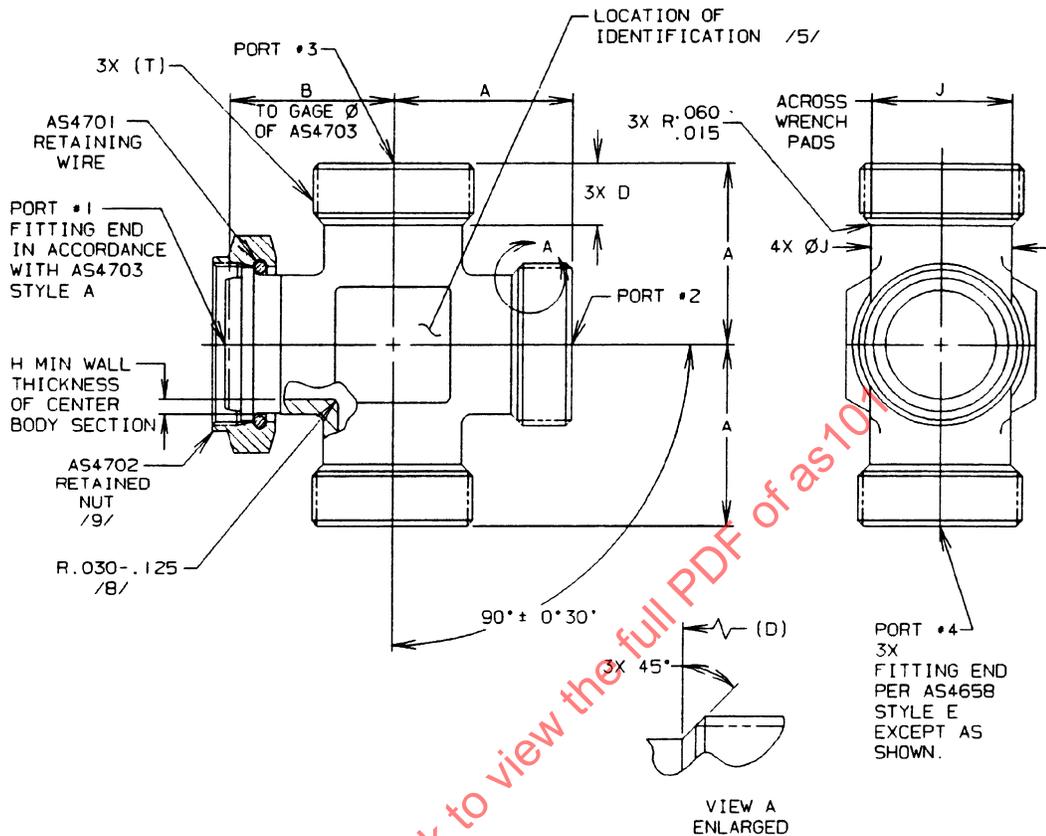


FIGURE 1 - CROSS ASSEMBLY

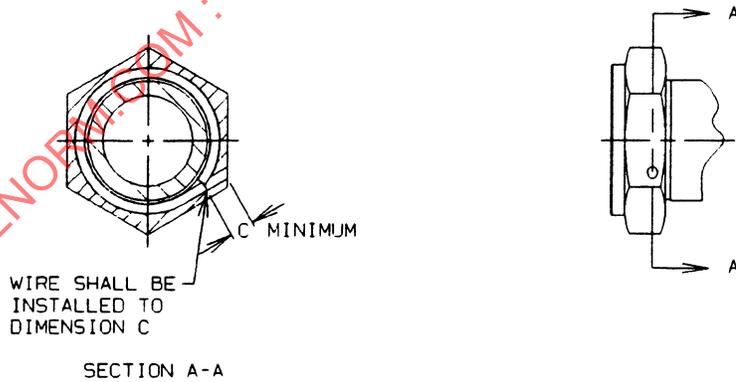
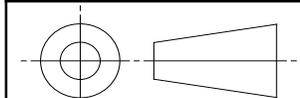


FIGURE 2 - INSTALLATION, RETAINED NUT AND RETAINING WIRE

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS101>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MIL-F-18280



AEROSPACE STANDARD

CROSS ASSEMBLY,  
RETAINED NUT,  
SHORT FLARELESS

AS101  
SHEET 1 OF 4

TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO. AS101 /10/ /16/ SIZE CODE	(NOMINAL TUBE SIZE)	T THREAD PER MIL-S-8879	A	B	C	D	H	J +.005/- .020	LB/EA	LB/EA	LB/EA
									MAX ALUM	MAX CRES	MAX TI
20	1.250	1.5625-12UNJ	1.678	1.603	.155	.517	.124	1.375	.440	1.277	.742
24	1.500	1.8125-12UNJ	1.803	1.756	.180	.614	.156	1.688	.617	1.787	1.132

NOTES:

/1/ MATERIAL:

a. CODE LETTER T:

1. BODY: TYPE 6AL-4V TITANIUM ALLOY PER AMS 4928
2. NUT: CODE LETTER T OF AS4702 REFERENCE (TYPE 6AL-4V TITANIUM ALLOY)
3. WIRE: PER AS4701 REFERENCE (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

b. CODE LETTER V:

1. BODY: TYPE 15-5PH CORROSION RESISTANT STEEL PER AMS 5659
2. NUT: CODE LETTER V OF AS4702 REFERENCE (TYPE 15-5PH CORROSION RESISTANT STEEL)
3. WIRE: PER AS4701 REFERENCE (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

c. CODE LETTER W:

1. BODY: TYPE 7075-T73 ALUMINUM ALLOY FORGING PER AMS 4141 OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124
2. NUT: CODE LETTER W OF AS4702 REFERENCE (TYPE 7075-T73 ALUMINUM ALLOY)
3. WIRE: PER AS4701 REFERENCE (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

2. HEAT TREAT:

a. MATERIAL CODE LETTER T:

1. BODY, NUT, AND WIRE: NONE

b. MATERIAL CODE LETTER V:

1. BODY: HEAT TREAT TO CONDITION H-1075 PER AMS 2759/3
2. NUT: MATERIAL CODE LETTER V OF AS4702 REFERENCE (HEAT TREAT TO CONDITION H-1075)
3. WIRE: NONE

c. MATERIAL CODE LETTER W:

1. BODY, NUT, AND WIRE: NONE

/3/ FINISH:

a. MATERIAL CODE LETTER T:

1. BODY: FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486
2. NUT: CODE LETTER T OF AS4702 OR AS1790 WITH SUFFIX N REFERENCE (FLUORIDE PHOSPHATE CONVERSION COAT AND COAT WITH DRY LUBRICANT ON ID)
3. WIRE: PER AS4701 OR AS1791 REFERENCE (PASSIVATE AND COAT WITH DRY LUBRICANT)

/3/ (Continued):

b. MATERIAL CODE LETTER V:

1. BODY

- a. V CODE PARTS TO BE PASSIVATED ONLY WILL HAVE NO FINISH CODE LETTER AFTER THE PART NUMBER. THE FINISH WILL BE: PASSIVATE PER QQ-P-35, TYPE II OR VIII.
- b. V CODE PARTS TO BE CADMIUM PLATED ONLY WILL HAVE THE FINISH CODE LETTER "P" AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.

2. NUT: CODE LETTER V OF AS4702 OR AS1790 REFERENCE

- a. NO FINISH CODE LETTER AT END OF PART NUMBER: PASSIVATE AND COAT WITH DRY FILM LUBRICANT ON ID
- b. FINISH CODE LETTER P AT END OF PART NUMBER: CADMIUM PLATE

3. WIRE: PER AS4701 OR AS1791 REFERENCE (PASSIVATE AND COAT WITH DRY LUBRICANT)

c. MATERIAL CODE LETTER W:

- 1. BODY: ANODIZE PER AMS 2472 DYED BROWN, SIMILAR TO COLOR 10080 OF FED-STD-595
- 2. NUT: CODE LETTER W OF AS4702 OR AS1790 WITH SUFFIX N REFERENCE (ANODIZE DYED BROWN AND COAT WITH DRY LUBRICANT)
- 3. WIRE: PER AS4701 OR AS1791 REFERENCE. FINISH CODE LETTER P AT END OF PART NUMBER (CADMIUM PLATE)

/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 OR SIMILAR MEANS.

/5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B. MANUFACTURER'S NAME, TRADEMARK OR CAGE CODE, BASIC PART NUMBER AND MATERIAL CODE LETTER.

6. THIS PART IS DESIGNED FOR USE IN SYSTEMS WITH OPERATING PRESSURES AS FOLLOWS:

- a. SIZES -20 AND -24 TITANIUM ALLOY AND CORROSION RESISTANT STEEL AT 3000 psi
- b. SIZES -20 AND -24 ALUMINUM ALLOY AT 600 psi

7. WHEN MACHINED FROM BAR OR OVERSIZED FORGINGS THE CENTER BODY SECTION SHALL CONFORM TO AS1376, TABLE 10.

/8/ RADIUS APPLICABLE FOR TITANIUM PARTS ONLY.

/9/ ASSEMBLE AS4702 RETAINED NUT TO FITTING BODY WITH AS4701 RETAINING WIRE AS SHOWN IN FIGURE 2. THE NUT SHALL BE FREE TO ROTATE AFTER ASSEMBLY.

/10/ THIS IS A NONREDUCER FITTING. ALL PORTS OF ANY GIVEN PART WILL BE THE SAME SIZE. FOR REDUCERS USE AS103.

11. INTERPRETATION OF DRAWING PER ARP4296.

12. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36; REQUIREMENTS PER ANSI/ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 125  $\mu$ in Ra.

13. BREAK EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.

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

15. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: LINEAR DIMENSIONS  $\pm$ .010, ANGULAR DIMENSIONS  $\pm$ 5°.

	<b>AEROSPACE STANDARD</b>	<b>AS101</b> SHEET 3 OF 4	
	CROSS ASSEMBLY, RETAINED NUT, SHORT FLARELESS		