

RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

AS4411

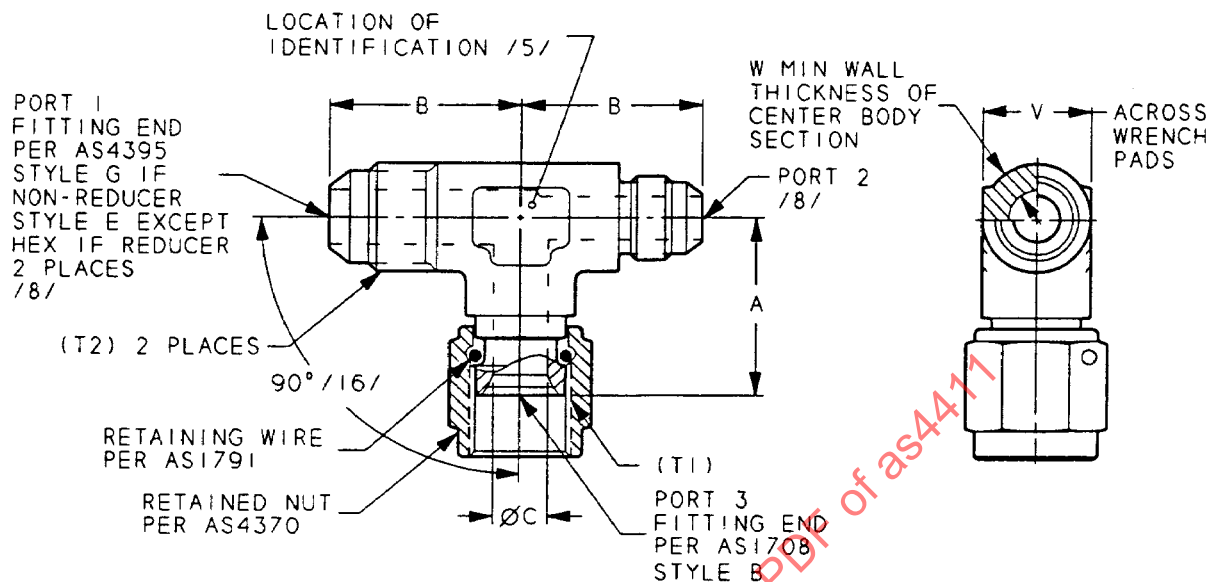


FIGURE 1 - FITTING ASSEMBLY, TEE

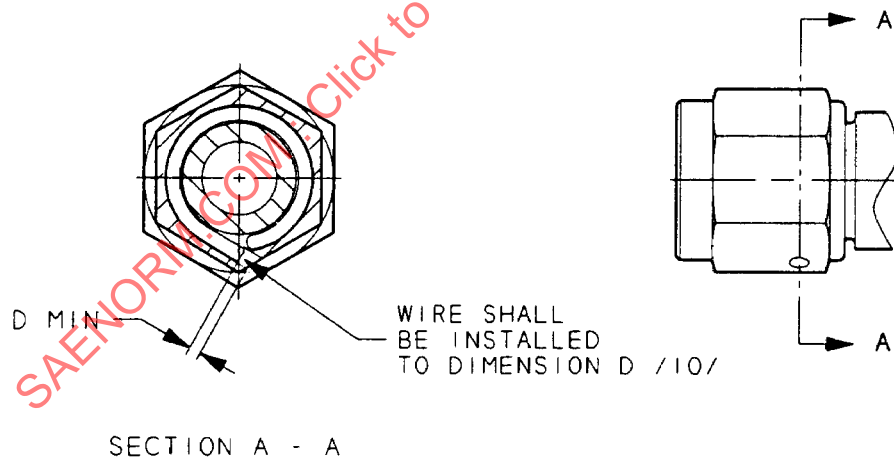
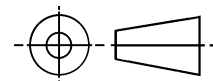


FIGURE 2 - INSTALLATION, RETAINED NUT AND RETAINING WIRE

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MIL-F-5509

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD
FITTING ASSEMBLY, TEE, REDUCER AND NONREDUCER
INTERNAL FLARE ON SIDE TO FLARED TUBE

AS4411
SHEET 1 OF 4

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ISSUED 1995-03 REAFFIRMED 2007-10

TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO. AS4411 /17/ SIZE CODE	(NOMINAL TUBE SIZE)	T1, T2 THREAD PER MIL-S-8879	C	D	V	W	LB/EA MAX ALUM	LB/EA MAX CRES	LB/EA MAX TI
02	.125	.3125-24 UNJF	.065- .058	.045	.313	.090	.022	.063	.036
03	.187	.3750-24 UNJF	.128- .121	.045	.375	.100	.028	.081	.046
04	.250	.4375-20 UNJF	.175- .168	.045	.438	.110	.036	.105	.060
05	.312	.5000-20 UNJF	.237- .230	.045	.500	.120	.045	.132	.076
06	.375	.5625-18 UNJF	.301- .293	.045	.563	.120	.061	.177	.101
08	.500	.7500-16 UNJF	.395- .387	.055	.750	.150	.113	.327	.187
10	.625	.8750-14 UNJF	.488- .480	.063	.875	.170	.155	.449	.257
12	.750	1.0625-12 UNJ	.614- .604	.095	1.063	.185	.280	.814	.466
16	1.000	1.3125-12 UNJ	.851- .839	.125	1.313	.205	.407	1.180	.676
20	1.250	1.6250-12 UNJ	1.086-1.073	.155	1.625	.240	.748	2.170	1.243
24	1.500	1.8750-12 UNJ	1.320-1.307	.180	1.875	.250	.996	2.890	1.655
32	2.000	2.5000-12 UNJ	1.791-1.776	.180	2.563	.350	1.302	3.780	2.165

TABLE 2 - LEG LENGTH A

SIZE OF PORT #3	FORG. SIZE /9/ 02	FORG. SIZE /9/ 03	FORG. SIZE /9/ 04	FORG. SIZE /9/ 05	FORG. SIZE /9/ 06	FORG. SIZE /9/ 08	FORG. SIZE /9/ 10	FORG. SIZE /9/ 12	FORG. SIZE /9/ 16	FORG. SIZE /9/ 20	FORG. SIZE /9/ 24	FORG. SIZE /9/ 32
02	.658	.686	.743	.767	.884	.924	1.100	1.157	1.268	1.521	1.521	2.031
03	--	.672	.555	.587	.649	.743	.838	.931	1.056	1.213	1.338	2.015
04	--	--	.602	.633	.695	.789	.883	.976	1.101	1.258	1.383	1.890
05	--	--	--	.675	.737	.831	.925	1.018	1.143	1.300	1.425	1.937
06	--	--	--	--	.821	.915	1.009	1.102	1.227	1.384	1.509	1.968
08	--	--	--	--	--	1.023	1.117	1.210	1.334	1.491	1.616	2.130
10	--	--	--	--	--	--	1.167	1.260	1.383	1.540	1.665	2.098
12	--	--	--	--	--	--	--	1.224	1.348	1.505	1.630	2.098
16	--	--	--	--	--	--	--	--	1.387	1.524	1.649	2.150
20	--	--	--	--	--	--	--	--	--	1.571	1.696	2.243
24	--	--	--	--	--	--	--	--	--	--	1.776	2.286
32	--	--	--	--	--	--	--	--	--	--	--	2.442

TABLE 3 - LEG LENGTH B

SIZE OF PORT #1 OR #2	FORG. SIZE /9/ 02	FORG. SIZE /9/ 03	FORG. SIZE /9/ 04	FORG. SIZE /9/ 05	FORG. SIZE /9/ 06	FORG. SIZE /9/ 08	FORG. SIZE /9/ 10	FORG. SIZE /9/ 12	FORG. SIZE /9/ 16	FORG. SIZE /9/ 20	FORG. SIZE /9/ 24	FORG. SIZE /9/ 32
02	.757	.789	.789	.843	.946	1.033	1.135	1.232	1.341	1.544	1.685	2.169
03	--	.820	.811	.874	.977	1.064	1.166	1.263	1.372	1.575	1.716	2.200
04	--	--	.882	.945	1.048	1.135	1.237	1.334	1.443	1.646	1.787	2.271
05	--	--	--	.945	1.048	1.135	1.237	1.334	1.443	1.646	1.787	2.271
06	--	--	--	--	1.054	1.141	1.243	1.340	1.449	1.652	1.793	2.277
08	--	--	--	--	--	1.242	1.344	1.441	1.555	1.753	1.894	2.378
10	--	--	--	--	--	--	1.445	1.542	1.651	1.854	1.995	2.479
12	--	--	--	--	--	--	--	1.648	1.757	1.960	2.101	2.585
16	--	--	--	--	--	--	--	--	1.804	2.007	2.148	2.632
20	--	--	--	--	--	--	--	--	--	2.054	2.195	2.679
24	--	--	--	--	--	--	--	--	--	--	2.320	2.804
32	--	--	--	--	--	--	--	--	--	--	--	3.054

NOTES:

/1/ MATERIAL:

a. NO CODE LETTER:

- (1) BODY: TYPE 4130 STEEL FORGING OR BAR PER AMS 6370 OR MIL-S-6758
- (2) NUT: CODE LETTER NONE OF AS4370 (TYPE 4130 STEEL)
- (3) WIRE: PER AS1791 (CLASS 302 OR 305 CORROSION RESISTANT STEEL)

b. CODE LETTER D:

- (1) BODY: 2014T6 ALUMINUM ALLOY FORGING PER AMS 4133 OR QQ-A-367; OR 2024T6 ALUMINUM ALLOY BAR PER AMS4112 OR QQ-A-225/6; OR 2024T851 ALUMINUM ALLOY BAR PER QQ-A-225/6
- (2) NUT: CODE LETTER D OF AS4370 (TYPE 2024 ALUMINUM ALLOY)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

c. CODE LETTER J:

- (1) BODY: 30304 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5639 OR 304 CORROSION RESISTANT STEEL PER QQ-S-763
- (2) NUT: CODE LETTER J OF AS4370 (TYPE 304 CORROSION RESISTANT STEEL)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

d. CODE LETTER K:

- (1) BODY: 30316 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5648 OR 316 CORROSION RESISTANT STEEL PER QQ-S-763
- (2) NUT: CODE LETTER K OF AS4370 (TYPE 316 CORROSION RESISTANT STEEL)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

e. CODE LETTER S:

- (1) BODY: 30347 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5646 OR 347 CORROSION RESISTANT STEEL PER QQ-S-763
- (2) NUT: CODE LETTER S OF AS4370 (TYPE 347 CORROSION RESISTANT STEEL)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

f. CODE LETTER T:

- (1) BODY: 6AL-4V TITANIUM ALLOY FORGING OR BAR PER AMS 4928
- (2) NUT: CODE LETTER T OF AS4370 (TYPE 6AL4V TITANIUM)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

g. CODE LETTER W:

- (1) BODY: 7075T73 ALUMINUM ALLOY FORGING PER AMS 4141 OR QQ-A-367; OR 7075T7351 ALUMINUM ALLOY BAR PER AMS 4124; OR 7075T73 ALUMINUM ALLOY BAR PER QQ-A-225/9
- (2) NUT: CODE LETTER W OF AS4370 (TYPE 7075 ALUMINUM ALLOY)
- (3) WIRE: PER AS1791 (TYPE 302 OR 305 CORROSION RESISTANT STEEL)

2. HEAT TREAT PER PROCUREMENT SPECIFICATION.

/3/ FINISH:

a. NO CODE LETTER:

- (1) BODY: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2, DYE BLACK
- (2) NUT: NO CODE LETTER OF AS4370 (CADMIUM PLATE, DYE BLACK)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

b. CODE LETTER D:

- (1) BODY: ANODIZE PER AMS 2472 OR MIL-A-8625, TYPE II, CLASS 2, DYE BLUE, DUPLEX SEAL
- (2) NUT: CODE LETTER D OF AS4370 (ANODIC COATING, DYE BLUE)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

c. CODE LETTER J:

- (1) BODY: PASSIVATE PER QQ-P-35, TYPE VI OR TYPE VII
- (2) NUT: CODE LETTER J OF AS4370 (PASSIVATED)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

d. CODE LETTER K:

- (1) BODY: PASSIVATE PER QQ-P-35, TYPE VI OR TYPE VII
- (2) NUT: CODE LETTER K OF AS4370 (PASSIVATED)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

e. CODE LETTER S:

- (1) BODY: PASSIVATE PER QQ-P-35, TYPE VI OR TYPE VII
- (2) NUT: CODE LETTER S OF AS4370 (PASSIVATED)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

f. CODE LETTER T:

- (1) BODY: FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486
- (2) NUT: CODE LETTER T OF AS4370 (FLUORIDE PHOSPHATE CONVERSION COAT)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)

g. CODE LETTER W:

- (1) BODY: ANODIZE PER AMS 2472 OR MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL
- (2) NUT: CODE LETTER W OF AS4370 (ANODIC COATING, DYE BROWN)
- (3) WIRE: PER AS1791 (PASSIVATE AND COAT WITH DRY FILM LUBRICANT)