FEDERAL SUPPLY CLASS
4730

RATIONALE

OPERATING PRESSURES FOR ALUMINUM FITTINGS CLARIFIED. NADCAP-QML REQUIREMENT HAS BEEN ADDED. MATERIAL AND FINISH SPECIFICATION NUMBERS HAVE BEEN UPDATED. OTHER CLARIFICATIONS AND UPDATES.

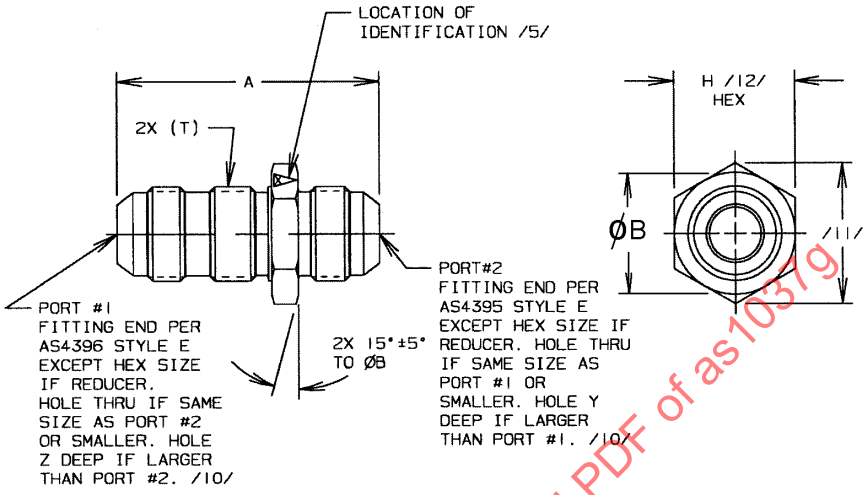


FIGURE 1 - FITTING, UNION, BULKHEAD END FOR OPTIONAL USE IN PORT NON-REDUCER

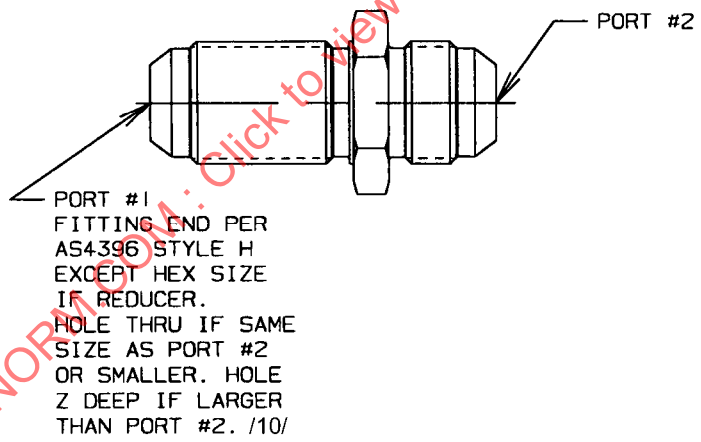
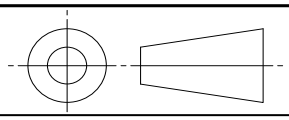


FIGURE 2 - FITTING, UNION, BULKHEAD END NOT FOR USE IN PORT NON-REDUCER, SAME AS FIGURE 1 EXCEPT AS SHOWN /20/

INACTIVE IN PART /22/

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS1037G

THIRD ANGLE PROJECTION



ISSUED 1962-08 REVISED 2010-03

CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS4841

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

FITTING, UNION,
STANDARD AND REDUCER,
BULKHEAD, FLARED

SAE AS1037

REV. G

TABLE 1 - OVERALL LENGTH A

TUBE SIZE OF PORT #2	TUBE SIZE OF PORT #1 02	TUBE SIZE OF PORT #1 03	TUBE SIZE OF PORT #1 04	TUBE SIZE OF PORT #1 05	TUBE SIZE OF PORT #1 06	TUBE SIZE OF PORT #1 08	TUBE SIZE OF PORT #1 10	TUBE SIZE OF PORT #1 12	TUBE SIZE OF PORT #1 16	TUBE SIZE OF PORT #1 20	TUBE SIZE OF PORT #1 24	TUBE SIZE OF PORT #1 32
02	1.526	1.641	1.758	1.758	1.924	2.057	2.222	2.428	2.428	2.459	2.491	2.756
03	1.672	1.557	1.789	1.789	1.955	2.088	2.257	2.459	2.459	2.490	2.522	2.787
04	1.766	1.766	1.753	1.860	2.026	2.159	2.324	2.530	2.530	2.561	2.593	2.858
05	1.766	1.766	1.860	1.753	2.026	2.159	2.324	2.530	2.530	2.561	2.593	2.858
06	1.860	1.860	1.954	1.954	1.837	2.165	2.330	2.536	2.536	2.558	2.599	2.864
08	1.938	1.938	2.032	2.032	2.110	2.126	2.431	2.637	2.637	2.668	2.700	2.965
10	2.063	2.063	2.157	2.157	2.235	2.391	2.430	2.738	2.738	2.769	2.801	3.066
12	2.204	2.204	2.298	2.298	2.376	2.532	2.673	2.769	2.844	2.875	2.907	3.172
16	2.251	2.251	2.345	2.345	2.423	2.579	2.720	2.891	2.879	2.922	2.954	3.219
20	2.469	2.469	2.376	2.376	2.454	2.610	2.751	2.922	2.922	2.973	3.001	3.266
24	2.423	2.423	2.517	2.517	2.595	2.751	2.892	3.063	3.063	3.110	3.177	3.391
32	2.657	2.657	2.751	2.751	2.829	2.985	3.126	3.297	3.297	3.344	3.360	3.708

TABLE 2 - HOLE DEPTH Y

TUBE SIZE OF PORT #2	TUBE SIZE OF PORT #1 02	TUBE SIZE OF PORT #1 03	TUBE SIZE OF PORT #1 04	TUBE SIZE OF PORT #1 05	TUBE SIZE OF PORT #1 06	TUBE SIZE OF PORT #1 08	TUBE SIZE OF PORT #1 10	TUBE SIZE OF PORT #1 12	TUBE SIZE OF PORT #1 16	TUBE SIZE OF PORT #1 20	TUBE SIZE OF PORT #1 24
03	.510	-	-	-	-	-	-	-	-	-	-
04	.581	.581	-	-	-	-	-	-	-	-	-
05	.581	.581	.581	-	-	-	-	-	-	-	-
06	.587	.587	.587	.587	-	-	-	-	-	-	-
08	.688	.688	.688	.688	.688	-	-	-	-	-	-
10	.789	.789	.789	.789	.789	.789	-	-	-	-	-
12	.895	.895	.895	.895	.895	.895	.895	-	-	-	-
16	.942	.942	.942	.942	.942	.942	.942	.942	-	-	-
20	.989	.989	.989	.989	.989	.989	.989	.989	.989	-	-
24	1.114	1.114	1.114	1.114	1.114	1.114	1.114	1.114	1.114	1.114	-
32	1.364	1.364	1.364	1.364	1.364	1.364	1.364	1.364	1.364	1.364	1.364

TABLE 3 - HOLE DEPTH Z

TUBE SIZE OF PORT #1	TUBE SIZE OF PORT #2 02	TUBE SIZE OF PORT #2 03	TUBE SIZE OF PORT #2 04	TUBE SIZE OF PORT #2 05	TUBE SIZE OF PORT #2 06	TUBE SIZE OF PORT #2 08	TUBE SIZE OF PORT #2 10	TUBE SIZE OF PORT #2 12	TUBE SIZE OF PORT #2 16	TUBE SIZE OF PORT #2 20	TUBE SIZE OF PORT #2 24
03	.859	-	-	-	-	-	-	-	-	-	-
04	.953	.953	-	-	-	-	-	-	-	-	-
05	.953	.953	.953	-	-	-	-	-	-	-	-
06	1.032	1.032	1.032	1.032	-	-	-	-	-	-	-
08	1.219	1.219	1.219	1.219	1.219	-	-	-	-	-	-
10	1.360	1.360	1.360	1.360	1.360	1.360	-	-	-	-	-
12	1.531	1.531	1.531	1.531	1.531	1.531	1.531	-	-	-	-
16	1.532	1.532	1.532	1.532	1.532	1.532	1.532	1.532	-	-	-
20	1.578	1.578	1.578	1.578	1.578	1.578	1.578	1.578	1.578	-	-
24	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	-
32	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875	1.875

TABLE 4 - TUBE SIZE AND CORRESPONDING THREAD

PORT SIZE	(NOMINAL TUBE SIZE)	T THREAD PER AS8879 CLASS 3A
02	.125	.3125-24 UNJF
03	.188	.3750-24 UNJF
04	.250	.4375-20 UNJF
05	.312	.5000-20 UNJF
06	.375	.5625-18 UNJF
08	.500	.7500-16 UNJF
10	.625	.8750-14 UNJF
12	.750	1.0625-12 UNJ
16	1.000	1.3125-12 UNJ
20	1.250	1.6250-12 UNJ
24	1.500	1.8750-12 UNJ
32	2.000	2.5000-12 UNJ

TABLE 5 - HEX DIMENSIONS AND WEIGHTS /13/

BASIC NO. AS1037 /20/ SIZE CODE	LARGEST PORT SIZE	B ±.010	H	LB/100 APPROX REF ALUM	LB/100 APPROX REF STEEL	LB/100 APPROX REF TI
02	02	.542	.552- .565	.561	1.61	.899
03	03	.605	.615- .628	.433	1.24	.686
04	04	.668	.678- .691	.706	2.03	1.11
05	05	.730	.740- .753	.655	1.88	1.04
06	06	.782	.792- .815	.651	1.87	1.03
08	08	.980	.990-1.003	3.06	8.78	4.84
10	10	1.103	1.113-1.128	5.52	15.9	8.75
12	12	1.353	1.363-1.380	10.9	31.2	17.2
16	16	1.603	1.613-1.630	16.6	47.7	26.3
20	20	1.853	1.863-1.880	25.7	73.7	40.7
24	24	2.099	2.109-2.135	36.3	104	57.6
32	32	2.724	2.734-2.760	76.6	220	121

NOTICE:

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM'S USE.

NOTES:

/1/ MATERIAL:

a. DASH AS CODE LETTER - TYPE 4130 STEEL BAR PER AMS 6370 OR AMS-S-6758, OR TYPE 4140 STEEL BAR PER AMS6349 OR AMS6382.

b. CODE LETTER D - TYPE 2024-T6 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6, OR 2024-T851 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6. /22/

c. CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL BAR PER AMS5639.

d. CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL BAR PER AMS5648.

e. CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL BAR PER AMS5645.

f. CODE LETTER S - TYPE 347 CORROSION RESISTANT STEEL BAR PER AMS5646. /22/

g. CODE LETTER T - 6AL-4V TITANIUM ALLOY BAR PER AMS4928. /21/

h. CODE LETTER W - TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS4124, OR 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9.

2. HEAT TREATMENT:

a. DASH AS CODE LETTER - HARDNESS SHALL BE 92 HRB TO 40 HRC PER PROCUREMENT SPECIFICATION.

b. OTHER MATERIAL CODE LETTERS - NONE.

3. FINISH:

a. DASH AS CODE LETTER - CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2, DYE BLACK.

b. MATERIAL CODE LETTER D:

1. ANODIZE PER AMS2472 OR MIL-A-8625, TYPE II, CLASS 2, DYE BLUE, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.

2. D CODE PARTS TO BE COATED WITH HIGH PURITY ALUMINUM ONLY WILL HAVE THE FINISH CODE LETTER "V" PLACED AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: COAT WITH HIGH PURITY ALUMINUM PER MIL-DTL-83488, CLASS 3, TYPE II, WITH MAXIMUM COATING THICKNESS OF .0005. GLASS BEAD PEEN PRESSURE SHALL BE 25 psi MAXIMUM. /20/ SEE PROCUREMENT SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

c. MATERIAL CODE LETTER J - PASSIVATE PER AMS 2700, TYPE 6 OR 7.

d. MATERIAL CODE LETTER K - PASSIVATE PER AMS 2700, TYPE 6 OR 7.

e. MATERIAL CODE LETTER R - PASSIVATE PER AMS 2700, TYPE 6 OR 7.

f. MATERIAL CODE LETTER S - PASSIVATE PER AMS 2700, TYPE 6 OR 7.

g. MATERIAL CODE LETTER T - ANODIZE PER AMS 2488, TYPE 2 OR FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486.

h. MATERIAL CODE LETTER W:

1. ANODIZE PER AMS 2472 OR MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.

2. W CODE PARTS TO BE COATED WITH HIGH PURITY ALUMINUM ONLY WILL HAVE THE FINISH CODE LETTER "V" PLACED AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: COAT WITH HIGH PURITY ALUMINUM PER MIL-DTL-83488, CLASS 3, TYPE II, WITH MAXIMUM COATING THICKNESS OF .0005. GLASS BEAD PEEN PRESSURE SHALL BE 25 psi MAXIMUM. /20/ SEE PROCUREMENT SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

/4/ PROCUREMENT SPECIFICATION: AS4841 EXCEPT AS SPECIFIED ON THIS STANDARD. PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE MANUFACTURED BY AN ACCREDITED MANUFACTURER LISTED IN THE NATIONAL AEROSPACE AND DEFENSE CONTRACTORS ACCREDITATION PROGRAM (NADCAP) QUALIFIED MANUFACTURER LIST FOR THIS PRODUCT TYPE. THE QML IS AVAILABLE AT WWW.EAUDITNET.COM.

/5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR D, OR METHOD 7A3, 15A3 OR 15B.

a. FOR SIZE 06 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, LETTERS "AS", AND MATERIAL CODE LETTER FOR CORROSION RESISTANT STEEL, TITANIUM AND ALUMINUM AND NO MATERIAL CODE LETTER FOR ALLOY STEEL.

b. FOR SIZE 08 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER AND MATERIAL CODE LETTER FOR CORROSION RESISTANT STEEL, TITANIUM AND ALUMINUM AND NO MATERIAL CODE LETTER FOR ALLOY STEEL.

6. INVENTORIED PARTS CONFORMING TO THE PREVIOUS "LETTER CHANGE" MAY BE USED TO DEPLETION.