

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

REV.  
F

SAE AS1038

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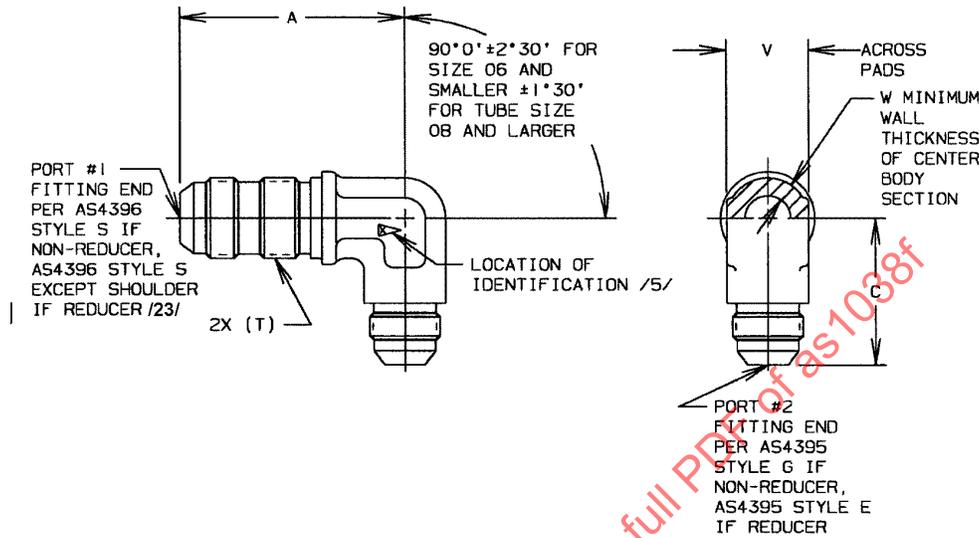


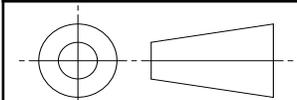
FIGURE 1 - FITTING, ELBOW, 90°, BULKHEAD END FOR OPTIONAL USE IN PORT PORT #2 SHOWN AS REDUCER

INACTIVE IN PART /22/

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THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: AS4841

**SAE Aerospace**  
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**AEROSPACE STANDARD**

FITTING, ELBOW, 90°,  
STANDARD AND REDUCER,  
BULKHEAD, FLARED

**SAE AS1038**  
SHEET 1 OF 6

**REV. F**

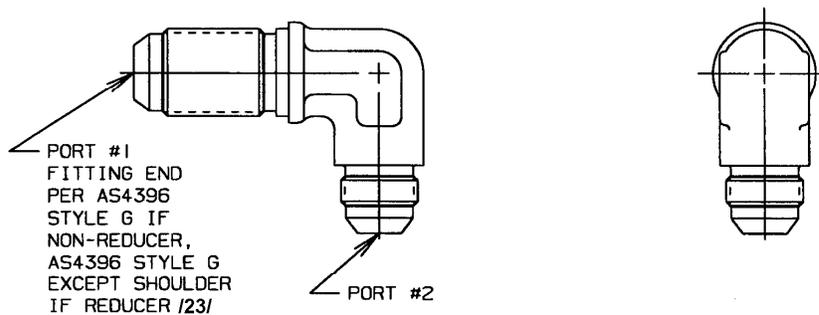


FIGURE 2 - FITTING, ELBOW, 90°, BULKHEAD END NOT FOR USE IN PORT  
 PORT #2 SHOWN AS REDUCER  
 SAME AS FIGURE 1 EXCEPT AS SHOWN

TABLE 1 - DIMENSIONS AND WEIGHTS /13/

BASIC NO. AS1038 /12/ /20/ SIZE CODE	V	W	LB/100 APPROX REF ALUM	LB/100 APPROX REF STEEL	LB/100 APPROX REF TI
02	.297- .314	.090	1.36	3.90	2.15
03	.360- .377	.100	1.93	5.52	3.04
04	.423- .440	.110	2.68	7.69	4.24
05	.485- .502	.120	3.39	9.72	5.38
06	.547- .565	.120	4.35	12.51	6.89
08	.735- .753	.150	9.45	27.09	14.94
10	.860- .878	.170	12.2	34.74	19.17
12	1.047-1.065	.185	22.4	64.3	35.5
16	1.292-1.317	.205	32.5	93.6	51.5
20	1.605-1.630	.240	54.4	155.7	86.1
24	1.855-1.880	.250	72.7	208.8	115.2
28	2.238-2.263	.310	117.8	364.5	187.2
32	2.542-2.572	.350	163	468.9	259.2

TABLE 2 - LEG LENGTH A

FORGING SIZE /12/	TUBE SIZE OF PORT #1												
	02	03	04	05	06	08	10	12	16	20	24	28	32
02	1.429	-	-	-	-	-	-	-	-	-	-	-	-
03	1.461	1.461	-	-	-	-	-	-	-	-	-	-	-
04	1.507	1.507	1.601	-	-	-	-	-	-	-	-	-	-
05	1.538	1.538	1.632	1.632	-	-	-	-	-	-	-	-	-
06	1.648	1.648	1.742	1.742	1.820	-	-	-	-	-	-	-	-
08	1.789	1.789	1.883	1.883	1.961	2.117	-	-	-	-	-	-	-
10	1.929	1.929	2.023	2.023	2.101	2.257	2.398	-	-	-	-	-	-
12	2.039	2.039	2.133	2.133	2.211	2.367	2.508	2.679	-	-	-	-	-
16	2.164	2.164	2.258	2.258	2.336	2.492	2.633	2.804	2.804	-	-	-	-
20	2.445	2.445	2.539	2.539	2.617	2.773	2.914	3.085	3.085	3.132	-	-	-
24	2.726	2.726	2.820	2.820	2.898	3.054	3.195	3.366	3.366	3.413	3.429	-	-
28	3.672	3.656	3.609	3.609	3.438	3.297	3.141	3.063	3.063	2.969	2.969	3.828	-
32	3.133	3.133	3.227	3.227	3.305	3.461	3.602	3.773	3.773	3.820	3.836	3.992	4.117

TABLE 3 - LEG LENGTH C

FORGING SIZE /12/	TUBE SIZE OF PORT #2												
	02	03	04	05	06	08	10	12	16	20	24	28	32
02	.851	-	-	-	-	-	-	-	-	-	-	-	-
03	.883	.914	-	-	-	-	-	-	-	-	-	-	-
04	.883	.905	.976	-	-	-	-	-	-	-	-	-	-
05	.937	.968	1.039	1.039	-	-	-	-	-	-	-	-	-
06	.993	1.024	1.095	1.095	1.101	-	-	-	-	-	-	-	-
08	1.158	1.189	1.260	1.260	1.266	1.367	-	-	-	-	-	-	-
10	1.260	1.291	1.362	1.362	1.368	1.469	1.570	-	-	-	-	-	-
12	1.373	1.404	1.475	1.475	1.481	1.582	1.683	1.789	-	-	-	-	-
16	1.482	1.513	1.584	1.584	1.590	1.691	1.792	1.898	1.945	-	-	-	-
20	1.669	1.700	1.771	1.771	1.777	1.878	1.979	2.085	2.132	2.179	-	-	-
24	1.716	1.747	1.818	1.818	1.824	1.925	2.026	2.132	2.179	2.226	2.351	-	-
28	1.899	1.912	1.983	1.983	1.989	2.090	2.191	2.297	2.344	2.391	2.516	2.641	-
32	2.031	2.044	2.115	2.115	2.121	2.222	2.323	2.429	2.476	2.523	2.648	2.773	2.898

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
28	1.750	2.2500-12 UNJ
32	2.000	2.5000-12 UNJ

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 FORGING OR BAR PER AMS6370 OR AMS-S-6758, OR TYPE 4140 STEEL BAR PER AMS6349 OR AMS6382.
- b. CODE LETTER D - TYPE 2014-T6 ALUMINUM ALLOY FORGING PER AMS4133 OR AMS-QQ-A-367; OR 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 FORGING OR BAR PER AMS5639.
- d. CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS5648.
- e. CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS5645.
- f. CODE LETTER S - TYPE 347 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS5646. /22/
- g. CODE LETTER T - 6AL-4V TITANIUM ALLOY FORGING OR BAR PER AMS4928. /21/
- h. CODE LETTER W - 7075-T73 ALUMINUM ALLOY FORGING PER AMS4141 OR AMS-QQ-A-367; OR 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 AMS2700, TYPE 6 OR 7.
- d. MATERIAL CODE LETTER K - PASSIVATE PER AMS2700, TYPE 6 OR 7.
- e. MATERIAL CODE LETTER R - PASSIVATE PER AMS2700, TYPE 6 OR 7.
- f. MATERIAL CODE LETTER S - PASSIVATE PER AMS2700, TYPE 6 OR 7.

 An SAE International Group	<b>AEROSPACE STANDARD</b>	<b>SAE AS1038</b> SHEET 4 OF 6	<b>REV.</b> <b>F</b>
	FITTING, ELBOW, 90°, STANDARD AND REDUCER, BULKHEAD, FLARED		