

REV.
E

AS1010

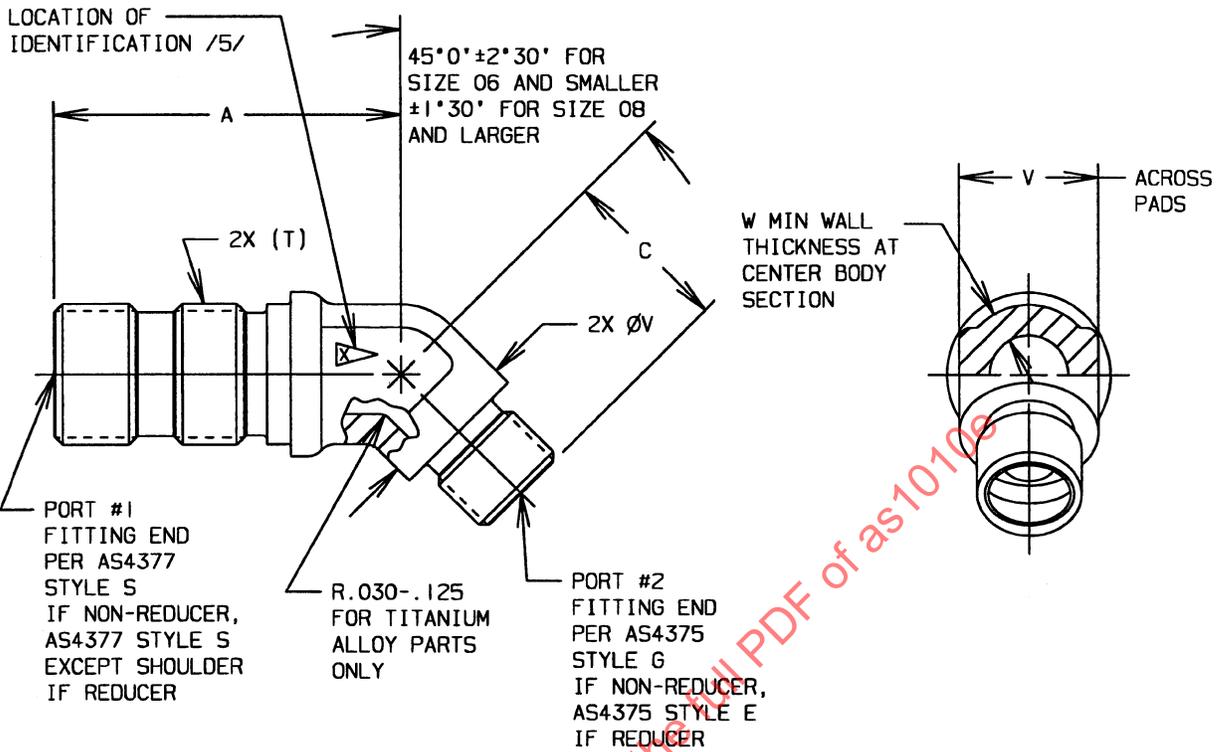


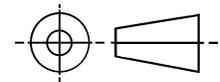
FIGURE 1 - FITTING, ELBOW, 45°, BULKHEAD END FOR OPTIONAL USE IN PORT INSTALLATION, PORT #2 SHOWN AS REDUCER

SAENORM.COM : Click to view the full PDF of as1010

INACTIVE IN PART /22/



THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS18280



AEROSPACE STANDARD
(R) FITTING, ELBOW, 45°,
STANDARD AND REDUCER,
BULKHEAD, FLARELESS

AS1010
SHEET 1 OF 7

**REV.
E**

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 reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

ISSUED 1966-03 REVISED 2001-08 REAFFIRMED 2005-06

REV.
E

AS1010

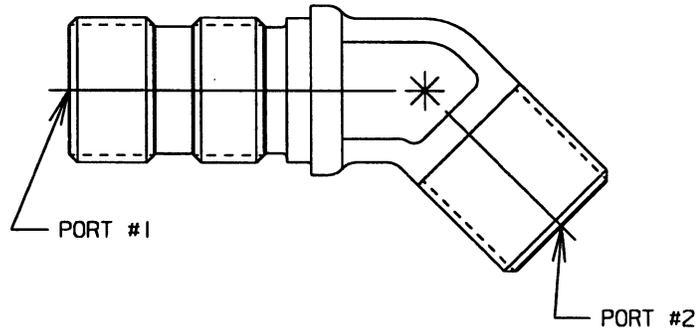


FIGURE 2 - FITTING, ELBOW, 45°, BULKHEAD END FOR OPTIONAL USE
IN PORT INSTALLATION, NON-REDUCER SHOWN, SAME
AS FIGURE 1 EXCEPT AS SHOWN

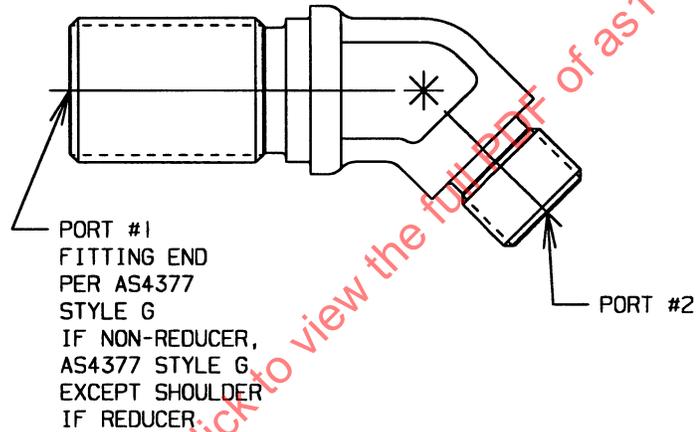


FIGURE 3 - FITTING, ELBOW, 45°, BULKHEAD END NOT FOR USE IN
PORT INSTALLATION, PORT #2 SHOWN AS REDUCER,
SAME AS FIGURE 1 EXCEPT AS SHOWN

REV.
E

AS1010

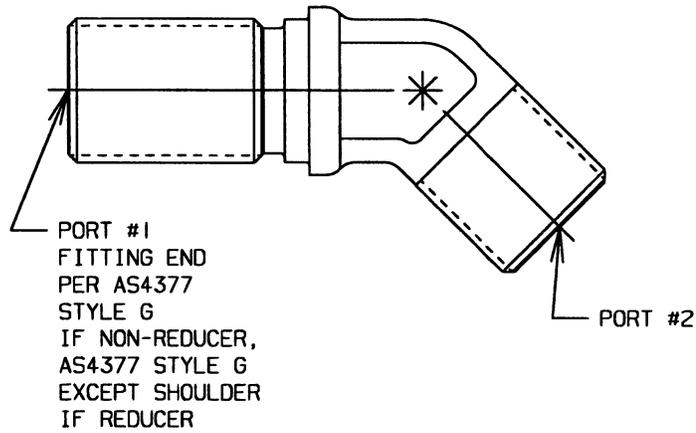


FIGURE 4 - FITTING, ELBOW, 45°, BULKHEAD END NOT FOR USE IN PORT INSTALLATION, NON-REDUCER SHOWN, SAME AS FIGURE 2 EXCEPT AS SHOWN

TABLE 1 - DIMENSIONS AND WEIGHTS /13/

BASIC NO. AS1010 /12/ /21/ SIZE CODE	V	W	LB/EA APPROX REF ALUM	LB/EA APPROX REF STEEL	LB/EA APPROX REF TI
02	.297- .314	.090	.0135	.0315	.0180
03	.360- .377	.100	.0162	.0459	.0261
04	.423- .440	.110	.0243	.0531	.0306
05	.485- .502	.120	.0315	.0882	.0504
06	.547- .565	.120	.0351	.0936	.054
08	.735- .753	.150	.0648	.191	.110
10	.860- .878	.170	.0981	.275	.158
12	1.047-1.065	.185	.157	.363	.256
14	1.173-1.191	.200	-	-	-
16	1.292-1.317	.205	.230	.603	.347
20	1.605-1.630	.240	.369	.990	.571
24	1.855-1.880	.250	-	-	-
32	2.542-2.572	.350	-	-	-

REV.
E

AS1010

TABLE 2 - LEG LENGTH A /14/

FORGING SIZE /12/	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 14	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	1.305	1.305	1.367	1.367	1.430	1.508	1.601	1.695	1.789	1.820	1.852	1.867	1.821
03	-	1.352	1.414	1.414	1.477	1.555	1.648	1.742	1.836	1.867	1.899	1.914	1.868
04	-	-	1.477	1.477	1.540	1.618	1.711	1.805	1.899	1.930	1.962	1.977	1.931
05	-	-	-	1.477	1.540	1.618	1.711	1.805	1.899	1.930	1.962	1.977	1.931
06	-	-	-	-	1.586	1.664	1.757	1.851	1.945	1.976	2.008	2.023	1.977
08	-	-	-	-	-	1.836	1.929	2.023	2.117	2.148	2.180	2.195	2.149
10	-	-	-	-	-	-	2.070	2.164	2.258	2.289	2.321	2.336	2.290
12	-	-	-	-	-	-	-	2.273	2.367	2.398	2.430	2.445	2.399
14	-	-	-	-	-	-	-	-	2.336	2.398	2.430	2.445	2.399
16	-	-	-	-	-	-	-	-	-	2.398	2.430	2.445	2.399
20	-	-	-	-	-	-	-	-	-	-	2.430	2.445	2.399
24	-	-	-	-	-	-	-	-	-	-	-	2.445	2.399
32	-	-	-	-	-	-	-	-	-	-	-	-	2.602

TABLE 3 - LEG LENGTH C /14/

FORGING SIZE /12/	TUBE SIZE OF PORT #2 OR #3 02	TUBE SIZE OF PORT #2 OR #3 03	TUBE SIZE OF PORT #2 OR #3 04	TUBE SIZE OF PORT #2 OR #3 05	TUBE SIZE OF PORT #2 OR #3 06	TUBE SIZE OF PORT #2 OR #3 08	TUBE SIZE OF PORT #2 OR #3 10	TUBE SIZE OF PORT #2 OR #3 12	TUBE SIZE OF PORT #2 OR #3 14	TUBE SIZE OF PORT #2 OR #3 16	TUBE SIZE OF PORT #2 OR #3 20	TUBE SIZE OF PORT #2 OR #3 24	TUBE SIZE OF PORT #2 OR #3 32
02	.649	.633	.633	.664	.742	.805	.836	.960	1.023	1.054	1.148	1.242	1.523
03	-	.680	.680	.711	.789	.852	.883	1.007	1.070	1.101	1.195	1.289	1.570
04	-	-	.711	.742	.820	.883	.914	1.038	1.101	1.132	1.226	1.320	1.601
05	-	-	-	.742	.820	.883	.914	1.038	1.101	1.132	1.226	1.320	1.601
06	-	-	-	-	.836	.899	.930	1.054	1.117	1.148	1.243	1.336	1.617
08	-	-	-	-	-	.992	1.023	1.147	1.210	1.241	1.335	1.429	1.710
10	-	-	-	-	-	-	1.086	1.210	1.273	1.304	1.398	1.492	1.773
12	-	-	-	-	-	-	-	1.273	1.336	1.367	1.461	1.555	1.836
14	-	-	-	-	-	-	-	-	1.305	1.367	1.461	1.555	1.836
16	-	-	-	-	-	-	-	-	-	1.367	1.461	1.555	1.836
20	-	-	-	-	-	-	-	-	-	-	1.461	1.555	1.836
24	-	-	-	-	-	-	-	-	-	-	-	1.555	1.836
32	-	-	-	-	-	-	-	-	-	-	-	-	1.836

SAE Aerospace
An SAE International Group

(R)

AEROSPACE STANDARD

FITTING, ELBOW, 45°,
STANDARD AND REDUCER,
BULKHEAD, FLARELESS

AS1010
SHEET 4 OF 7

REV.
E

REV.
E

AS1010

TABLE 4 - TUBE SIZE AND CORRESPONDING THREAD

PORT SIZE	(NOMINAL TUBE SIZE)	T THREAD PER AS8879 CLASS A
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
14	.875	1.1875-12 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

NOTES:

/1/ MATERIAL:

- a. NO CODE LETTER - TYPE 4130 LOW ALLOY STEEL FORGING OR BAR PER AMS 6370 OR AMS-S-6758 EXCEPT HEAT TREATMENT PER PROCUREMENT SPECIFICATION. /2/
- b. CODE LETTER D - TYPE 2024-T6 OR -T851 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/6 OR TYPE 2014-T6 ALUMINUM ALLOY FORGING PER AMS 4133. /2/ /22/
- c. CODE LETTER F - TYPE 4130 LOW ALLOY STEEL FORGING OR BAR PER AMS 6370 OR AMS-S-6758 EXCEPT HEAT TREATMENT PER PROCUREMENT SPECIFICATION. /2/ /22/
- d. CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5639 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION. /2/
- e. CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5648 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION. /2/
- f. CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5645 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION. /2/
- g. CODE LETTER S - TYPE 347 CORROSION RESISTANT STEEL FORGING OR BAR PER AMS 5646 OR AMS-QQ-S-763 EXCEPT HARDNESS PER PROCUREMENT SPECIFICATION. /2/ /22/
- h. CODE LETTER T - TYPE 6AL-4V TITANIUM ALLOY FORGING OR BAR PER AMS 4928.
- i. CODE LETTER W - TYPE 7075-T73 ALUMINUM ALLOY FORGING PER AMS 4141 OR AMS-QQ-A-367; OR 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124; OR 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9. /2/

/2/ HEAT TREATMENT:

- a. NO CODE LETTER AND MATERIAL CODE LETTER F - HARDNESS SHALL BE 92 HRB TO 40 HRC PER PROCUREMENT SPECIFICATION.
- b. MATERIAL CODE LETTERS D AND W - ELECTRICAL CONDUCTIVITY AND HARDNESS PER PROCUREMENT SPECIFICATION.
- c. MATERIAL CODE LETTERS J, K, R AND S - HARDNESS SHALL BE Rb 80 MINIMUM PER PROCUREMENT SPECIFICATION.
- d. OTHER MATERIAL CODES - NONE.