

AS4686

FEDERAL SUPPLY CLASS
4730

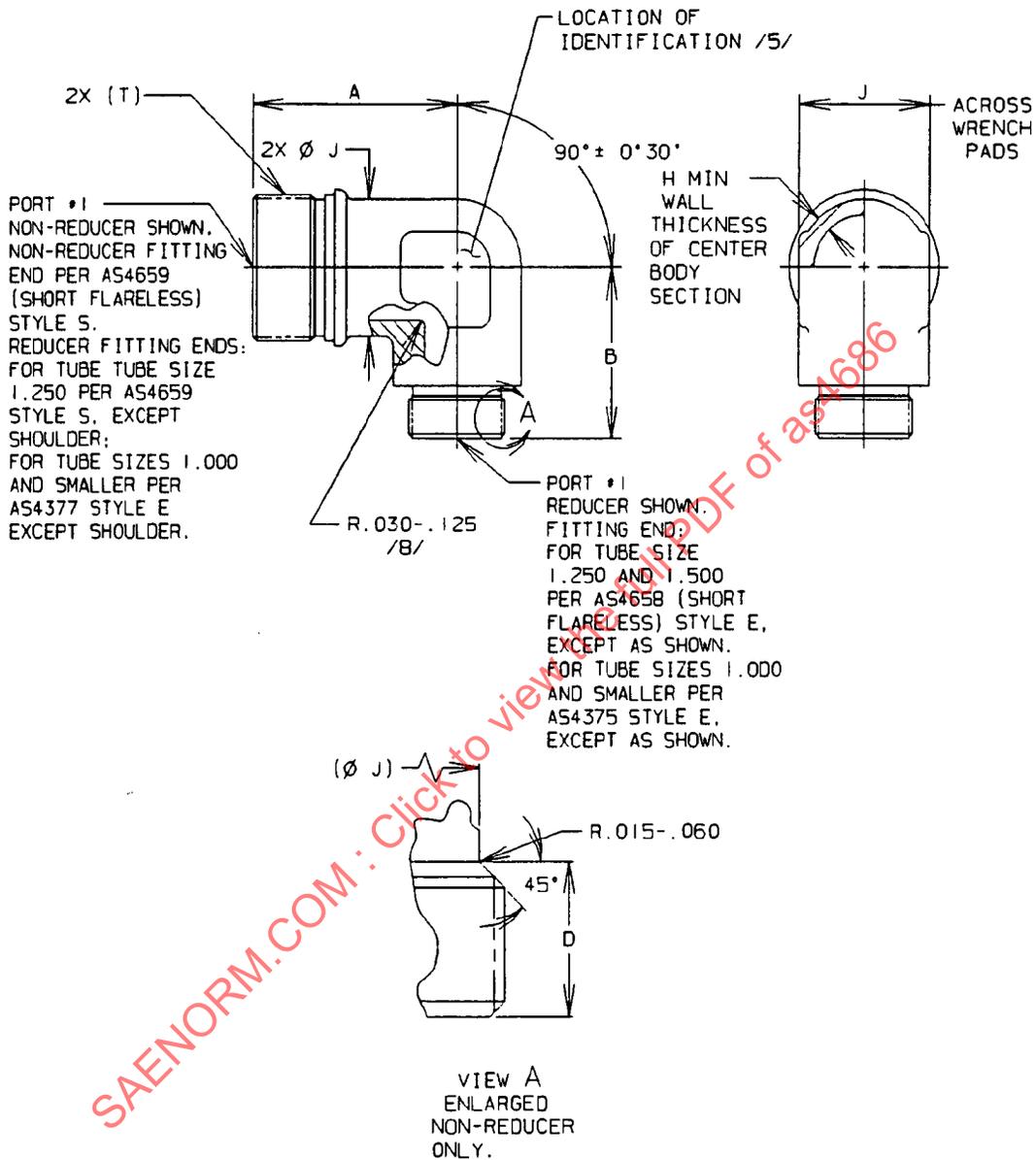
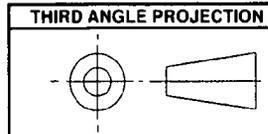


FIGURE 1 - ELBOW, 90°, REDUCER



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.

CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MIL-F-18280

SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space
INTERNATIONAL

AEROSPACE STANDARD

AS4686

400 Commonwealth Drive, Warrendale, PA 15096-0001

ELBOW, 90°,
REDUCER, BULKHEAD,
FLARELESS AND SHORT FLARELESS

SHEET 1 OF 4

AS4686

TABLE 1 - DIMENSIONS AND WEIGHTS

BASIC NO.				LB/EA	LB/EA	LB/EA
AS4684				MAX	MAX	MAX
/9/ /15/	J			ALUM	CRES	TI
SIZE CODE	D	H	+ .005/- .020			
20	.517	.124	1.375	.409	1.134	.648
24	.614	.156	1.688	.617	1.711	.978

TABLE 2 - LEG LENGTH A

SIZE OF PORT	FORGING SIZE /9/ 20	FORGING SIZE /9/ 24
02	2.320	2.602
03	2.367	2.649
04	2.430	2.712
05	2.430	2.712
06	2.476	2.758
08	2.648	2.930
10	2.789	3.071
12	2.989	3.180
14	2.989	3.180
16	2.989	3.180
20	2.686	2.968
24	--	2.968

TABLE 3 - LEG LENGTH B

SIZE OF PORT	FORGING SIZE /9/ 20	FORGING SIZE /9/ 24
02	1.710	1.898
03	1.757	1.945
04	1.788	1.976
05	1.788	1.976
06	1.804	1.992
08	1.879	2.085
10	1.960	2.148
12	2.023	2.211
14	2.023	2.211
16	2.023	2.211
20	1.798	1.986
24	--	1.986

TABLE 4 - TUBE SIZE AND CORRESPONDING THREADS

PORT SIZE	(NOMINAL TUBE SIZE)	T THREAD PER MIL-S-8879
02	.125	.3125-24UNJF
03	.188	.3750-24UNJF
04	.250	.4375-20UNJF
05	.312	.5000-20UNJF
06	.375	.5625-18UNJF
08	.500	.7500-16UNJF
10	.625	.8750-14UNJF
12	.750	1.0625-12UNJ
14	.875	1.1875-12UNJ
16	1.000	1.3125-12UNJ
20	1.250	1.5625-12UNJ
24	1.500	1.8125-12UNJ

NOTES:

- /1/ MATERIAL:
- CODE LETTER T: TYPE 6AL-4V TITANIUM ALLOY PER AMS 4928
 - CODE LETTER V: TYPE 15-5PH CORROSION RESISTANT STEEL PER AMS 5659
 - CODE LETTER W: TYPE 7075-T73 ALUMINUM ALLOY FORGING PER AMS 4141 OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124
2. HEAT TREATMENT:
- MATERIAL CODE LETTER T: NONE
 - MATERIAL CODE LETTER V: HEAT TREAT TO CONDITION H-1075 PER AMS 2759/3
 - MATERIAL CODE LETTER W: NONE
- /3/ FINISH:
- MATERIAL CODE LETTER T: FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486
 - MATERIAL CODE LETTER V:
 - V CODE PARTS TO BE PASSIVATED ONLY WILL HAVE NO FINISH CODE LETTER AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: PASSIVATE PER QQ-P-35, TYPE II OR VIII.
 - 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.
 - MATERIAL CODE LETTER W: ANODIZE PER AMS 2472 DYED BROWN SIMILAR TO COLOR 10080 OF FED-STD-595
- /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 SHEET 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:
- SIZES -20 AND -24 TITANIUM ALLOY AND CORROSION RESISTANT STEEL AT 3000 psi
 - SIZES -20 AND -24 ALUMINUM ALLOY AT 600 psi
- LARGEST PORT DETERMINES PRESSURE RATING.
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.