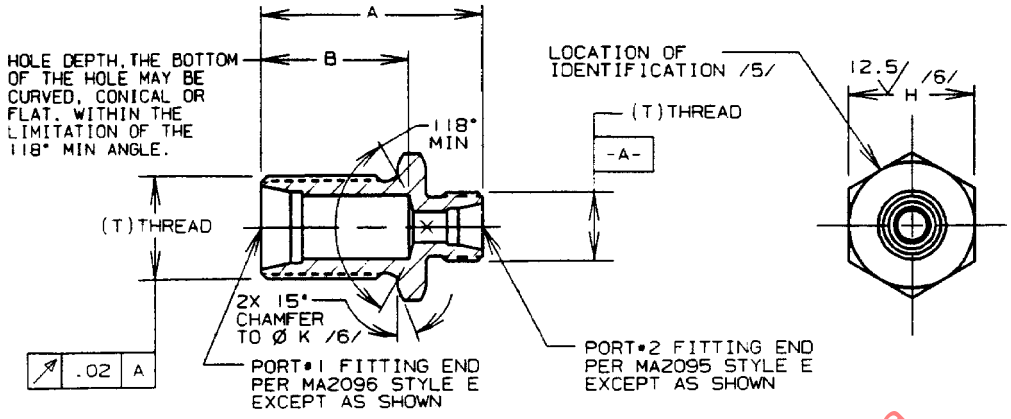

FIGURE 1 - UNION, REDUCER, BULKHEAD, FLARELESS END SHOWN AS REDUCER

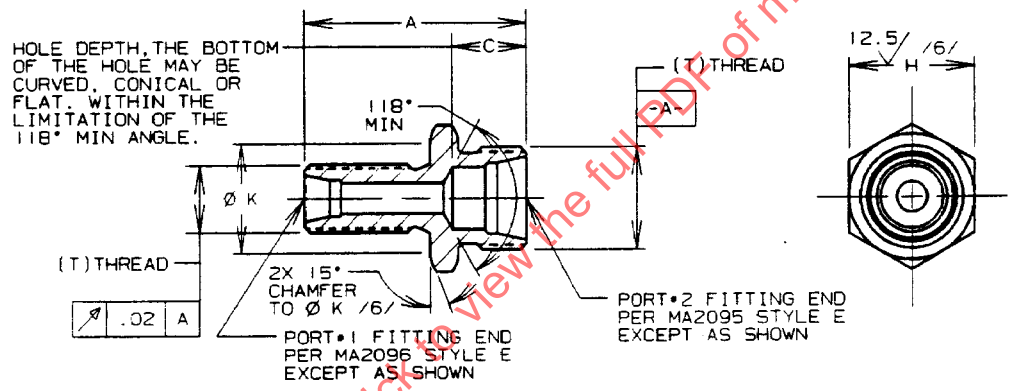

FIGURE 2 - UNION, EXPANDER, BULKHEAD, BULKHEAD END SHOWN AS REDUCER

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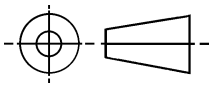
ISSUED 1986-03 REVISED 1992-12 REAFFIRMED 2000-10

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MA2005 (ISO 7169)

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AEROSPACE STANDARD

UNION, REDUCER/EXPANDER BULKHEAD, FLARELESS TUBE, METRIC

MA2058
SHEET 1 OF 5

REV. A

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TABLE 1 - PORT SIZES, CORRESPONDING THREADS AND HEX SIZES

BASIC NO. MA2058 /12/ SIZE CODE	(NOMINAL TUBE SIZE DN) /3/	T PER MA1370	H	K ±0.2
06	06	MJ12X1.25	13.73-14.00	13.71
08	08	MJ14X1.50	16.73-17.00	16.71
10	10	MJ16X1.50	16.73-17.00	16.71
12	12	MJ18X1.50	18.67-19.00	18.65
14	14	MJ20X1.50	21.67-22.00	21.65
16	16	MJ22X1.50	23.67-24.00	23.65
20	20	MJ27X1.50	29.67-30.00	29.65
25	25	MJ33X1.50	35.38-36.00	35.36
32	32	MJ42X2.00	45.38-46.00	45.36
40	40	MJ50X2.00	54.26-55.00	54.24

TABLE 2 - DIMENSIONS, OVERALL LENGTH

PORT #2 SIZE	A PORT #1 SIZE 05	A PORT #1 SIZE 06	A PORT #1 SIZE 08	A PORT #1 SIZE 10	A PORT #1 SIZE 12	A PORT #1 SIZE 14	A PORT #1 SIZE 16	A PORT #1 SIZE 20	A PORT #1 SIZE 25	A PORT #1 SIZE 32	A PORT #1 SIZE 40
05	-	35.0	37.0	39.0	39.0	40.0	40.0	40.0	41.0	44.0	46.0
06	36.0	-	38.0	40.0	40.0	41.0	41.0	41.0	42.0	45.0	47.0
08	37.0	37.0	-	41.0	41.0	42.0	42.0	42.0	43.0	46.0	48.0
10	39.0	39.0	41.0	-	42.0	43.0	43.0	43.0	44.0	47.0	49.0
12	39.0	39.0	41.0	42.0	-	43.0	43.0	43.0	44.0	47.0	49.0
14	40.0	40.0	42.0	43.0	43.0	-	43.0	43.0	44.0	47.0	49.0
16	40.0	40.0	42.0	43.0	43.0	43.0	-	43.0	44.0	47.0	49.0
20	40.0	40.0	42.0	43.0	43.0	43.0	43.0	-	44.0	47.0	49.0
25	41.0	41.0	43.0	44.0	44.0	44.0	44.0	44.0	-	48.0	50.0
32	42.0	42.0	44.0	45.0	45.0	45.0	45.0	45.0	46.0	-	51.0
40	44.0	44.0	46.0	47.0	47.0	47.0	47.0	47.0	48.0	51.0	-

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TABLE 3 - DIMENSIONS, HOLE DEPTH

PORT #2 SIZE	B +0/-0.5 PORT #1 SIZE 05	B +0/-0.5 PORT #1 SIZE 06	B +0/-0.5 PORT #1 SIZE 08	B +0/-0.5 PORT #1 SIZE 10	B +0/-0.5 PORT #1 SIZE 12	B +0/-0.5 PORT #1 SIZE 14	B +0/-0.5 PORT #1 SIZE 16	B +0/-0.5 PORT #1 SIZE 20	B +0/-0.5 PORT #1 SIZE 25	B +0/-0.5 PORT #1 SIZE 32	B +0/-0.5 PORT #1 SIZE 40
05	-	24.0	25.5	26.5	26.0	26.6	26.0	25.0	25.0	26.0	25.5
06	12.0	-	26.0	26.5	26.0	26.5	26.0	25.5	25.0	26.0	26.0
08	12.5	13.0	-	27.0	26.5	27.0	26.5	26.0	25.5	26.5	26.5
10	13.5	13.5	14.0	-	27.0	27.5	27.0	26.5	26.0	27.0	27.0
12	13.0	13.0	13.5	14.0	-	28.0	27.5	27.0	26.5	27.5	27.5
14	13.5	13.5	14.0	14.5	15.0	-	28.0	27.5	27.0	28.5	28.0
16	13.0	13.0	13.5	14.0	14.5	15.0	-	28.0	27.5	29.0	28.0
20	12.0	12.5	13.0	13.5	14.0	14.5	15.0	-	28.0	30.0	29.5
25	12.0	12.0	12.5	13.0	13.5	14.0	14.5	16.0	-	31.0	31.0
32	11.0	11.0	11.5	12.0	12.5	13.5	14.0	15.0	17.00	-	34.0
40	10.5	11.0	11.5	12.0	12.5	13.0	13.0	14.5	16.0	18.0	-

TABLE 4 - PORT SIZE, HOLE DEPTH

PORT #1 SIZE	C +0/-0.5 PORT #2 SIZE 05	C +0/-0.5 PORT #2 SIZE 06	C +0/-0.5 PORT #2 SIZE 08	C +0/-0.5 PORT #2 SIZE 10	C +0/-0.5 PORT #2 SIZE 12	C +0/-0.5 PORT #2 SIZE 14	C +0/-0.5 PORT #2 SIZE 16	C +0/-0.5 PORT #2 SIZE 20	C +0/-0.5 PORT #2 SIZE 25	C +0/-0.5 PORT #2 SIZE 32	C +0/-0.5 PORT #2 SIZE 40
05	-	12.0	12.5	13.5	13.0	13.5	13.0	12.0	12.0	11.0	10.5
06	-	-	13.0	13.5	13.0	13.5	13.0	12.5	12.0	11.0	11.0
08	-	-	-	14.0	13.5	14.0	13.5	13.0	12.5	11.5	11.5
10	-	-	-	-	14.0	14.5	14.0	13.5	13.0	12.0	12.0
12	-	-	-	-	-	15.0	14.5	14.0	13.5	12.5	12.5
14	-	-	-	-	-	-	15.0	14.5	14.0	13.5	13.0
16	-	-	-	-	-	-	-	15.0	14.5	14.0	13.0
20	-	-	-	-	-	-	-	-	16.0	15.0	14.5
25	-	-	-	-	-	-	-	-	-	17.0	16.0
32	-	-	-	-	-	-	-	-	-	-	18.0

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NOTES:

/1/ MATERIAL:

a. NO CODE LETTER (USE HYPHEN): TYPE 1137 STEEL BAR PER ASTM A 108 OR TYPE 4130 STEEL BAR PER MIL-S-6758
b. CODE LETTER D: TYPE 2024-T6 ALUMINUM ALLOY BAR PER AMS 4112 OR TYPE 2024-T851 ALUMINUM ALLOY BAR PER QQ-A-225/6
c. CODE LETTER J: TYPE 304 CORROSION RESISTANT STEEL BAR PER QQ-S-763, CLASS 304
d. CODE LETTER K: TYPE 316 CORROSION RESISTANT STEEL BAR PER QQ-S-763, CLASS 316
e. CODE LETTER R: TYPE 321 CORROSION RESISTANT STEEL BAR PER QQ-S-763, CLASS 321
f. CODE LETTER S (INACTIVE FOR USE): TYPE 347 CORROSION RESISTANT STEEL BAR PER QQ-S-763, CLASS 347
g. CODE LETTER T: TYPE 6AL-4V TITANIUM ALLOY BAR PER AMS 4928
h. CODE LETTER W: TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS 4124
i. CODE S MATERIAL MAY BE USED UNTIL STOCK IS DEPLETED, CODE R MATERIAL MAY BE SUBSTITUTED WHENEVER CODE S MATERIAL IS SPECIFIED.

2. FINISH:

a. NO MATERIAL CODE LETTER (HYPHEN): CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2. DIP IN OIL PER MIL-H-6083 OR MIL-H-46170.
b. MATERIAL CODE LETTER T: FLUORIDE PHOSHATE CONVERSION COAT PER AMS 2486.
c. MATERIAL CODE LETTER D AND W: ANODIZE PER AMS 2471.
d. MATERIAL CODE LETTER J, K, R, AND S: PASSIVATE PER QQ-P-35, TYPE VI OR VII.

/3/ DN = NOMINAL TUBE OUTSIDE DIAMETER

/4/ PROCUREMENT SPECIFICATION: MA2005 (ISO 7169) 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:

a. MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B.
b. MANUFACTURER'S NAME, TRADEMARK OR CAGE CODE, BASIC PART NUMBER, AND MATERIAL CODE LETTER.

/6/ THE LARGEST PORT DETERMINES THE HEX SIZE.

7. THIS PART IS DESIGNED FOR USE IN SYSTEMS AT TYPE II TEMPERATURE (-55 TO 135 °C) WITH OPERATING PRESSURES AS FOLLOWS:

a. ALL SIZES TITANIUM ALLOY AND CORROSION RESISTANT STEEL AND SIZES -05 THROUGH -20 ALUMINUM ALLOY AT CLASS E (21 000 kPa)
b. SIZES -25 AND -32 ALUMINUM ALLOY AT CLASS B (10 500 kPa)
c. SIZE -40 ALUMINUM ALLOY AT CLASS A (4000 kPa)
d. TYPE AND CLASSES PER MA2001 (ISO 6771)

8. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36; REQUIREMENTS PER ANSI/ASME B46.1. UNLESS OTHERWISE SPECIFIED, SURFACES TO BE 3.2 µm Ra.

9. BREAK EDGES 0.1 TO 0.4 UNLESS OTHERWISE SPECIFIED.

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