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REV.
A

MA2037

FEDERAL SUPPLY CLASS
4730

RATIONALE

MA2037A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

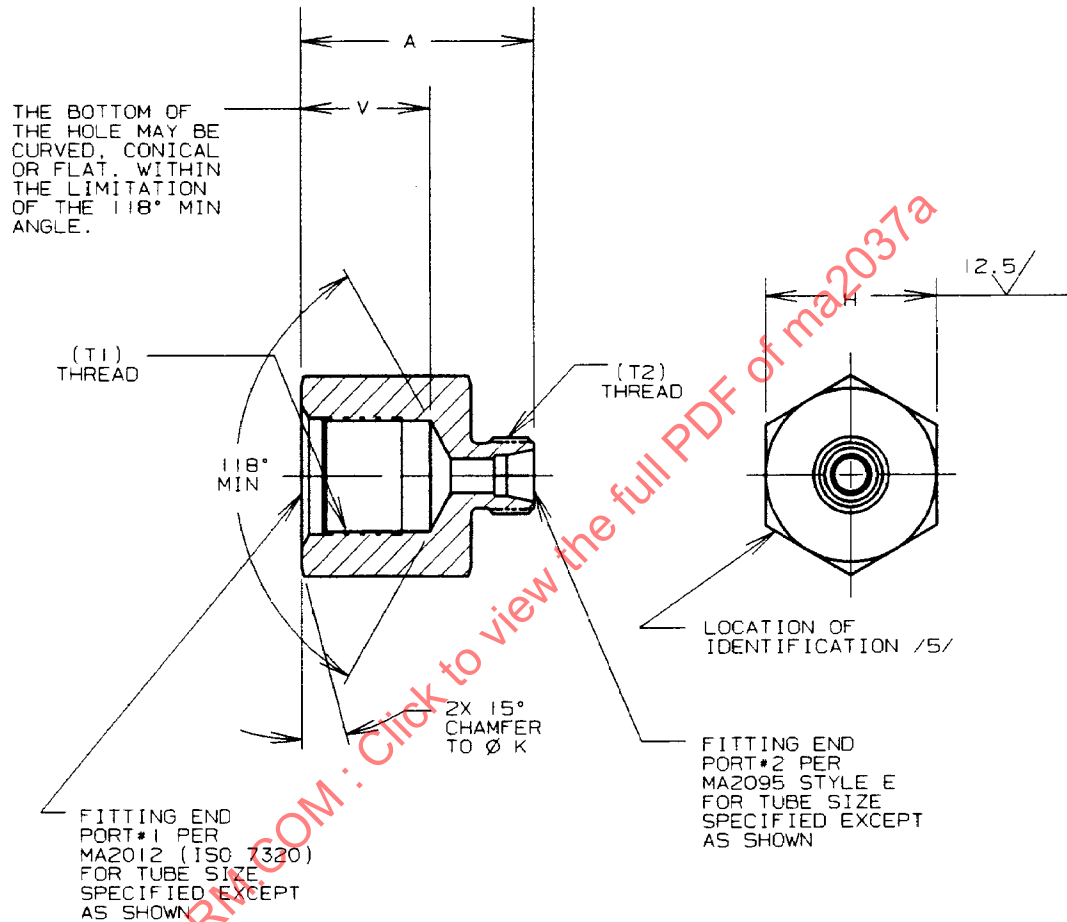
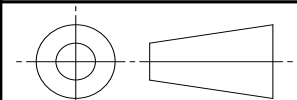


FIGURE 1 - BUSHING

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THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ MA 2005 (ISO 7169)



AEROSPACE STANDARD

BUSHING, SCREW THREAD EXPANDER,
FLARELESS TUBE, METRIC

MA2037
SHEET 1 OF 4

REV.
A

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ISSUED 1986-03 REVISED 1992-12 REAFFIRMED 2015-04

TABLE 1 - PORT SIZES, CORRESPONDING THREADS AND HEX SIZES

BASIC NO. MA2037 /11/ SIZE CODE	PORT #1 (NOMINAL TUBE SIZE DN) /3/	PORT #1 T1 PER MA1370	V ±0.2	PORT #2 (NOMINAL TUBE SIZE DN) /3/	PORT #2 T2 PER MA1370	H	A ±0.5
0605	06	MJ12X1.25	17.2	05	MJ10X1.00	18.67-19.00	30.4
0805	08	MJ14X1.50	21.2	05	MJ10X1.00	21.67-22.00	34.0
0806	08	MJ14X1.50	21.2	06	MJ12X1.25	21.67-22.00	35.6
1005	10	MJ16X1.50	21.2	05	MJ10X1.00	23.67-24.00	35.1
1006	10	MJ16X1.50	21.2	06	MJ12X1.25	23.67-24.00	36.1
1008	10	MJ16X1.50	21.2	08	MJ14X1.50	23.67-24.00	36.7
1206	12	MJ18X1.50	21.2	06	MJ12X1.25	25.67-27.00	36.9
1208	12	MJ18X1.50	21.2	08	MJ14X1.50	25.67-27.00	37.0
1210	12	MJ18X1.50	21.2	10	MJ16X1.50	25.67-27.00	38.0
1408	14	MJ20X1.50	21.2	08	MJ14X1.50	29.38-30.00	38.0
1410	14	MJ20X1.50	21.2	10	MJ16X1.50	29.38-30.00	39.0
1412	14	MJ20X1.50	21.2	12	MJ18X1.50	29.38-30.00	39.0
1608	16	MJ22X1.50	21.2	08	MJ14X1.50	29.38-30.00	38.1
1610	16	MJ22X1.50	21.2	10	MJ16X1.50	29.38-30.00	39.0
1612	16	MJ22X1.50	21.2	12	MJ18X1.50	29.38-30.00	39.0
1614	16	MJ22X1.50	21.2	14	MJ20X1.50	29.38-30.00	39.0
2010	20	MJ27X1.50	21.2	10	MJ16X1.50	35.38-36.00	40.1
2012	20	MJ27X1.50	21.2	12	MJ18X1.50	35.38-36.00	40.1
2014	20	MJ27X1.50	21.2	14	MJ20X1.50	35.38-36.00	40.1
2016	20	MJ27X1.50	21.2	16	MJ22X1.50	35.38-36.00	40.1
2512	25	MJ33X1.50	21.2	12	MJ18X1.50	40.38-41.00	42.0
2514	25	MJ33X1.50	21.2	14	MJ20X1.50	40.38-41.00	42.0
2516	25	MJ33X1.50	21.2	16	MJ22X1.50	40.38-41.00	42.0
2520	25	MJ33X1.50	21.2	20	MJ27X1.50	40.38-41.00	42.0
3216	32	MJ42X2.00	26.2	16	MJ22X1.50	54.26-55.00	50.0
3220	32	MJ42X2.00	26.2	20	MJ27X1.50	54.26-55.00	50.0
3225	32	MJ42X2.00	26.2	25	MJ33X1.50	54.26-55.00	52.0
4020	40	MJ50X2.00	26.2	20	MJ27X1.50	59.26-60.00	54.0
4025	40	MJ50X2.00	26.2	25	MJ33X1.50	59.26-60.00	54.0
4032	40	MJ50X2.00	26.2	32	MJ42X2.00	59.26-60.00	54.0



AEROSPACE STANDARD

BUSHING, SCREW THREAD EXPANDER,
FLARELESS TUBE, METRICMA2037
SHEET 2 OF 4REV.
A

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 PHOSPHATE 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.

	AEROSPACE STANDARD	MA2037 SHEET 3 OF 4	REV. A
	BUSHING, SCREW THREAD EXPANDER, FLARELESS TUBE, METRIC		