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REV.  
B

MA2031

FEDERAL SUPPLY CLASS  
4730

#### RATIONALE

MA2031B HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

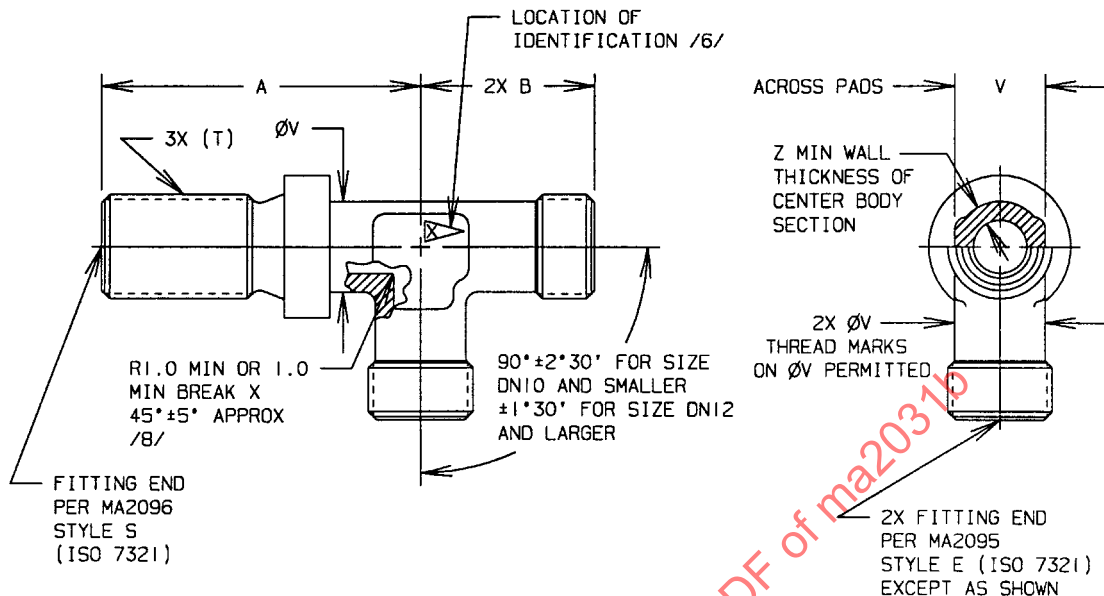


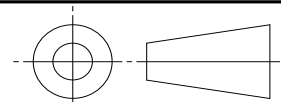
FIGURE 1 TEE, FLARELESS

TABLE 1 - DIMENSIONS AND WEIGHTS

| BASIC NO.<br>MA2031<br>/17/<br>SIZE CODE | (NOMINAL<br>TUBE<br>SIZE DN)<br>/1/ | T THREAD<br>PER MA1370<br>(ISO 5855-3)<br>4g6g | A  | B  | V           | Z   | Kg/100<br>MAX<br>CRES | Kg/100<br>MAX<br>TI |
|------------------------------------------|-------------------------------------|------------------------------------------------|----|----|-------------|-----|-----------------------|---------------------|
| 05                                       | 5                                   | MJ 10 X 1                                      | 36 | 18 | 7.50- 8.06  | 1.3 | 3.43                  | 1.89                |
| 06                                       | 6                                   | MJ 12 X 1.25                                   | 38 | 20 | 9.50-10.06  | 1.8 | 5.42                  | 2.99                |
| 08                                       | 8                                   | MJ 14 X 1.5                                    | 42 | 23 | 11.40-12.06 | 1.8 | 7.41                  | 4.09                |
| 10                                       | 10                                  | MJ 16 X 1.5                                    | 44 | 25 | 13.40-14.06 | 2.0 | 9.57                  | 5.28                |
| 12                                       | 12                                  | MJ 18 X 1.5                                    | 46 | 26 | 15.4 -16.1  | 2.0 | 11.7                  | 6.44                |
| 14                                       | 14                                  | MJ 20 X 1.5                                    | 47 | 27 | 17.4 -18.1  | 2.0 | 14.3                  | 7.87                |
| 16                                       | 16                                  | MJ 22 X 1.5                                    | 49 | 28 | 19.4 -20.1  | 2.0 | 16.7                  | 9.19                |
| 20                                       | 20                                  | MJ 27 X 1.5                                    | 53 | 32 | 23.4 -24.1  | 2.5 | 25.1                  | 13.9                |
| 25                                       | 25                                  | MJ 33 X 1.5                                    | 57 | 36 | 29.4 -30.1  | 2.5 | 39.9                  | 22.0                |
| 32                                       | 32                                  | MJ 42 X 2                                      | 66 | 42 | 38.2 -39.2  | 3.5 | 72.5                  | 40.0                |

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<http://www.sae.org/technical/standards/MA2031B>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /5/ MA3005 (ISO 7169)



#### AEROSPACE STANDARD

(R) FITTING, TEE, THIN WALL,  
BULKHEAD ON RUN, FLARELESS, METRIC

MA2031  
SHEET 1 OF 3

REV.  
B

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ISSUED 1985-08 REVISED 1997-09 REAFFIRMED 2015-04

NOTES:

- /1/ DN = NOMINAL TUBE OUTSIDE DIAMETER.
- /2/ MATERIAL:
- CODE LETTER J - TYPE 304 CORROSION RESISTANT STEEL PER AMS 5639 OR QQ-S-763.
  - CODE LETTER K - TYPE 316 CORROSION RESISTANT STEEL PER AMS 5648 OR QQ-S-763.
  - CODE LETTER R - TYPE 321 CORROSION RESISTANT STEEL PER AMS 5645 OR QQ-S-763.
  - CODE LETTER T - TYPE 6AL-4V TITANIUM ALLOY PER AMS 4928.
3. HEAT TREATMENT: NONE.
4. FINISH
- MATERIAL CODE LETTERS J, K, AND R - PASSIVATE PER QQ-P-35, TYPE VI OR VII.
  - MATERIAL CODE LETTER T - ANODIZE PER AMS 2488 OR FLUORIDE PHOSPHATE CONVERSION COAT PER AMS 2486.
- /5/ PROCUREMENT SPECIFICATION: MA2005 (ISO 7169) 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.
- /6/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C OR METHOD 7A3, 15A3, OR 15B.
- FOR SIZES DN10 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, MATERIAL CODE LETTER AND PRESSURE RATING (EXAMPLE: 28K = 28,000 kPa).
  - FOR SIZES DN12 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER, MATERIAL CODE LETTER AND PRESSURE RATING (EXAMPLE: 28K = 28,000 kPa).
7. THIS PART IS DESIGNED FOR USE IN SYSTEMS AT TYPE II TEMPERATURE (-55 TO 135 °C) WITH OPERATING PRESSURE AS FOLLOWS:
- SIZES DN05 THROUGH DN25 AT 28,000 kPa.
  - SIZE DN32 AT 14,000 kPa.
- /8/ RADIUS OR BREAK APPLICABLE FOR TITANIUM PARTS ONLY.
9. WHEN MACHINED FROM BAR OR OVERSIZED FORGING, THE CENTER BODY SECTION SHALL CONFORM TO MA2023, TABLE 2.
10. THE CHANGE BAR ( I ) LOCATED IN THE LEFT MARGIN IS FOR THE CONVENIENCE OF THE USER IN LOCATING AREAS WHERE TECHNICAL REVISIONS, NOT EDITORIAL CHANGES, HAVE BEEN MADE TO THE PREVIOUS ISSUE OF THIS DOCUMENT. AN (R) SYMBOL TO THE LEFT OF THE DOCUMENT TITLE INDICATES A COMPLETE REVISION OF THE DOCUMENT.
11. INVENTORIED PARTS CONFORMING TO THE PREVIOUS "LETTER CHANGE" MAY BE USED TO DEPLETION.
12. INTERPRETATION OF DRAWING PER MAP4296.
13. SURFACE TEXTURE: SYMBOLS PER ASME Y14.36M; REQUIREMENTS PER ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 3.2  $\mu$ m Ra. FORGED SURFACES MAY BE 6.3  $\mu$ m Ra.
14. BREAK EDGES 0.1 TO 0.4 UNLESS OTHERWISE SPECIFIED.
15. DIMENSIONING AND TOLERANCING: ASME Y14.5M-1994.

|                                                                                     |                                                                    |                               |                         |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>                                          | <b>MA2031</b><br>SHEET 2 OF 3 | <b>REV.</b><br><b>B</b> |
|                                                                                     | (R) FITTING, TEE, THIN WALL,<br>BULKHEAD ON RUN, FLARELESS, METRIC |                               |                         |