

REV.  
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SAE AS1003

# RATIONALE

FEDERAL SUPPLY CLASS  
4730

UPDATES AND GENERAL EDITORIAL CORRECTIONS HAVE BEEN MADE. INACTIVATION FOR NEW DESIGN AND REPLACEMENT BY AS6043.

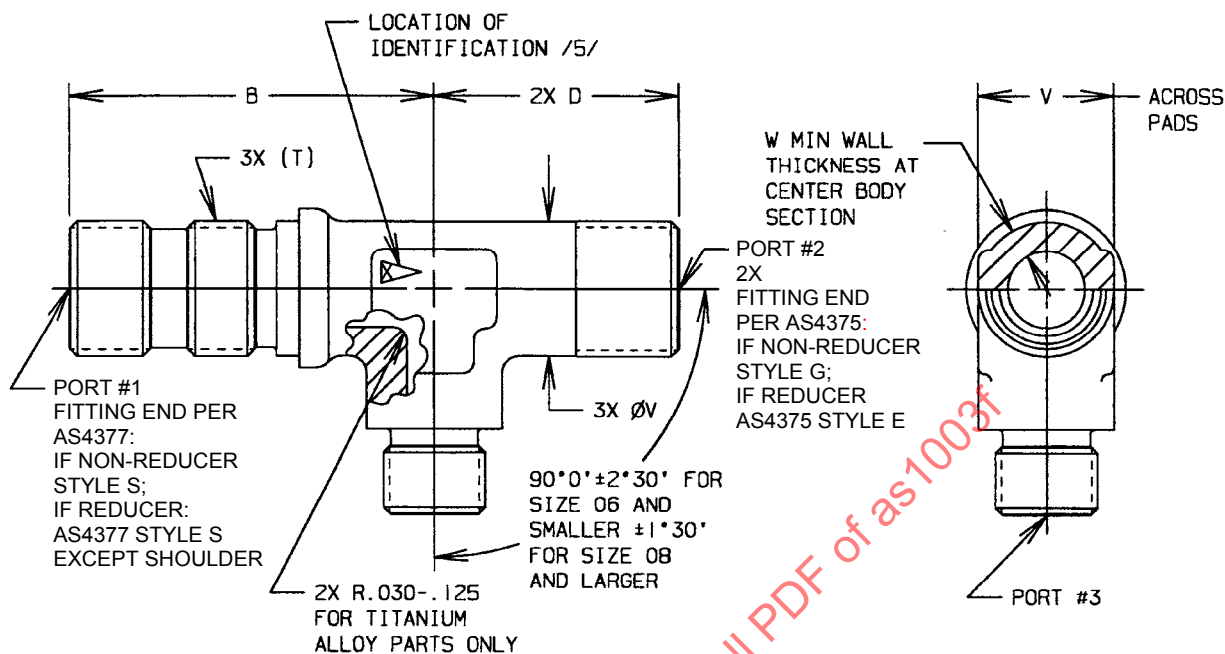


FIGURE 1 - FITTING, TEE, BULKHEAD END FOR OPTIONAL USE IN PORT INSTALLATION, PORT #3 SHOWN AS REDUCER

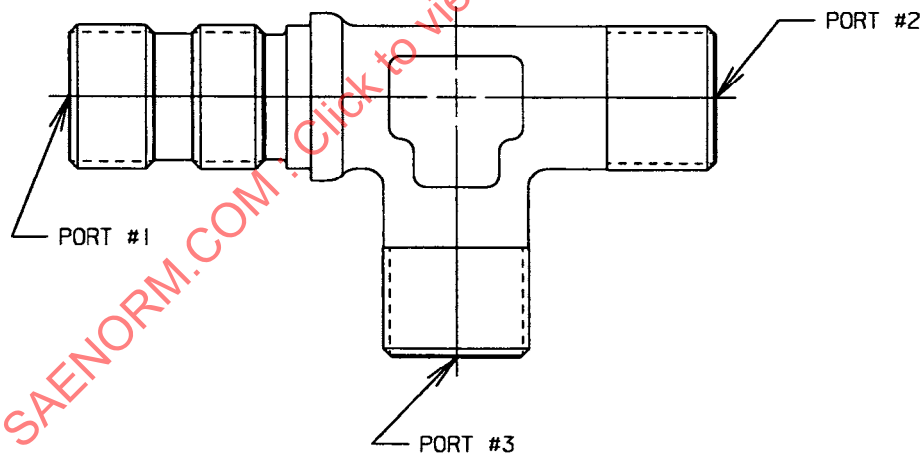
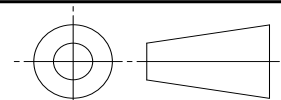


FIGURE 2 - FITTING, TEE, BULKHEAD END FOR OPTIONAL USE IN PORT INSTALLATION, NON-REDUCER SHOWN, SAME AS FIGURE 1 EXCEPT AS SHOWN

INACTIVE /22/

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS1003F>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS18280

**SAE Aerospace**  
An SAE International Group

## AEROSPACE STANDARD

FITTING, TEE, STANDARD  
AND REDUCER, BULKHEAD  
ON RUN, FLARELESS

**SAE AS1003**  
SHEET 1 OF 6

REV.  
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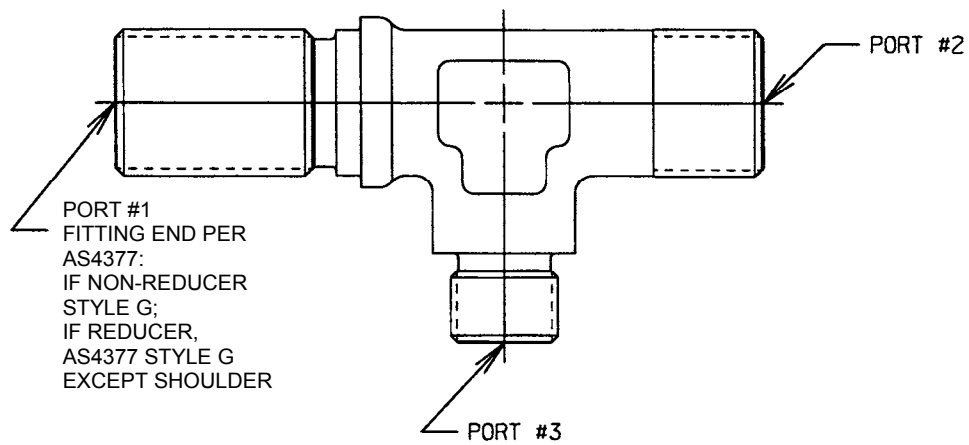


FIGURE 3 - FITTING, TEE, BULKHEAD END NOT FOR USE IN PORT INSTALLATION, PORT #3 SHOWN AS REDUCER, SAME AS FIGURE 1 EXCEPT AS SHOWN

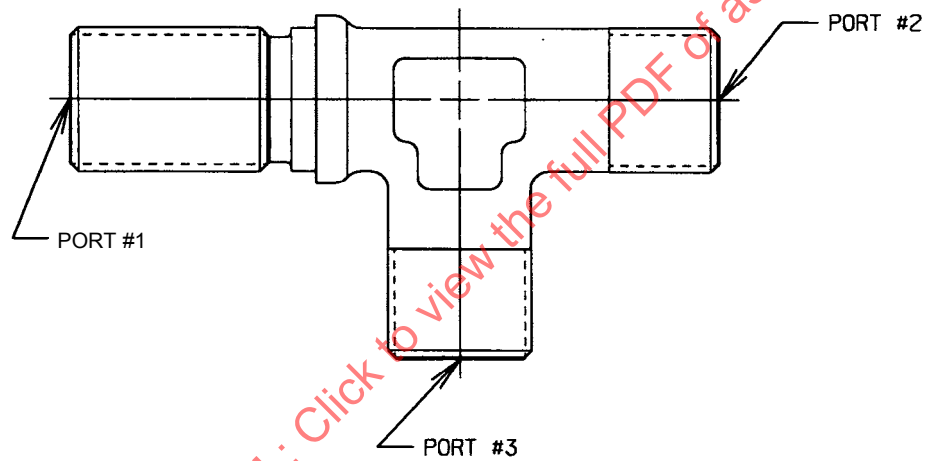


FIGURE 4 - FITTING, TEE, BULKHEAD END NOT FOR USE IN PORT INSTALLATION, NON-REDUCER SHOWN, SAME AS FIGURE 2 EXCEPT AS SHOWN

TABLE 1 - DIMENSIONS AND WEIGHTS /13/

| BASIC NO.<br>AS1003<br>/12/ /21/<br>SIZE CODE | V           | W    | LB/EA<br>APPROX<br>REF<br>ALUM | LB/EA<br>APPROX<br>REF<br>STEEL | LB/EA<br>APPROX<br>REF<br>TI |
|-----------------------------------------------|-------------|------|--------------------------------|---------------------------------|------------------------------|
| 02                                            | .297- .314  | .090 | .0185                          | .0531                           | .0293                        |
| 03                                            | .360- .377  | .100 | .0289                          | .0830                           | .0458                        |
| 04                                            | .423- .440  | .110 | .0373                          | .107                            | .0591                        |
| 05                                            | .485- .502  | .120 | .0498                          | .143                            | .0789                        |
| 06                                            | .547- .565  | .120 | .0612                          | .176                            | .0969                        |
| 08                                            | .735- .753  | .150 | .125                           | .358                            | .198                         |
| 10                                            | .860- .878  | .170 | .162                           | .466                            | .257                         |
| 12                                            | 1.047-1.065 | .185 | .277                           | .798                            | .440                         |
| 14                                            | 1.173-1.191 | .200 | .372                           | 1.07                            | .590                         |
| 16                                            | 1.292-1.317 | .205 | .400                           | 1.15                            | .634                         |
| 20                                            | 1.605-1.630 | .240 | .701                           | 2.01                            | 1.11                         |
| 24                                            | 1.855-1.880 | .250 | .908                           | 2.61                            | 1.44                         |
| 32                                            | 2.542-2.572 | .350 | 1.95                           | 5.60                            | 3.09                         |

TABLE 2 - LEG LENGTH B /14/

| FORGING<br>SIZE<br>/12/ | TUBE SIZE OF PORT #1 |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                         | 02                   | 03    | 04    | 05    | 06    | 08    | 10    | 12    | 14    | 16    | 20    | 24    | 32    |
| 02                      | 1.336                | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 03                      | 1.367                | 1.414 | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 04                      | 1.413                | 1.460 | 1.523 | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 05                      | 1.445                | 1.492 | 1.555 | 1.555 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 06                      | 1.555                | 1.602 | 1.665 | 1.665 | 1.914 | -     | -     | -     | -     | -     | -     | -     | -     |
| 08                      | 1.664                | 1.711 | 1.774 | 1.774 | 1.883 | 1.992 | -     | -     | -     | -     | -     | -     | -     |
| 10                      | 1.804                | 1.851 | 1.914 | 1.914 | 1.960 | 2.132 | 2.273 | -     | -     | -     | -     | -     | -     |
| 12                      | 1.914                | 1.961 | 2.024 | 2.024 | 2.070 | 2.242 | 2.383 | 2.492 | -     | -     | -     | -     | -     |
| 14                      | 2.024                | 2.071 | 2.134 | 2.134 | 2.180 | 2.352 | 2.493 | 2.617 | 2.543 | -     | -     | -     | -     |
| 16                      | 2.039                | 2.086 | 2.149 | 2.149 | 2.195 | 2.367 | 2.508 | 2.617 | 2.617 | 2.617 | -     | -     | -     |
| 20                      | 2.320                | 2.367 | 2.430 | 2.430 | 2.476 | 2.648 | 2.789 | 2.898 | 2.898 | 2.898 | 2.898 | -     | -     |
| 24                      | 2.602                | 2.649 | 2.712 | 2.712 | 2.758 | 2.930 | 3.071 | 3.180 | 3.180 | 3.180 | 3.180 | 3.180 | -     |
| 32                      | 2.992                | 3.039 | 3.102 | 3.102 | 3.148 | 3.320 | 3.461 | 3.570 | 3.570 | 3.570 | 3.570 | 3.570 | 3.773 |

TABLE 3 - LEG LENGTH D /14/

| FORGING<br>SIZE<br>/12/ | TUBE SIZE OF PORT #2 OR #3 |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                         | 02                         | 03    | 04    | 05    | 06    | 08    | 10    | 12    | 14    | 16    | 20    | 24    | 32    |
| 02                      | .804                       | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 03                      | .883                       | .930  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 04                      | .883                       | .930  | .961  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 05                      | .977                       | 1.024 | 1.055 | 1.055 | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| 06                      | .992                       | 1.039 | 1.070 | 1.070 | 1.086 | -     | -     | -     | -     | -     | -     | -     | -     |
| 08                      | 1.149                      | 1.196 | 1.227 | 1.227 | 1.243 | 1.336 | -     | -     | -     | -     | -     | -     | -     |
| 10                      | 1.274                      | 1.320 | 1.352 | 1.352 | 1.368 | 1.461 | 1.524 | -     | -     | -     | -     | -     | -     |
| 12                      | 1.335                      | 1.383 | 1.414 | 1.414 | 1.439 | 1.523 | 1.586 | 1.649 | -     | -     | -     | -     | -     |
| 14                      | 1.398                      | 1.445 | 1.476 | 1.476 | 1.492 | 1.585 | 1.648 | 1.742 | 2.023 | -     | -     | -     | -     |
| 16                      | 1.429                      | 1.476 | 1.507 | 1.507 | 1.523 | 1.616 | 1.679 | 1.742 | 1.742 | 1.742 | -     | -     | -     |
| 20                      | 1.710                      | 1.757 | 1.788 | 1.788 | 1.804 | 1.897 | 1.960 | 2.023 | 2.023 | 2.023 | 2.023 | -     | -     |
| 24                      | 1.898                      | 1.945 | 1.976 | 1.976 | 1.992 | 2.085 | 2.148 | 2.211 | 2.211 | 2.211 | 2.211 | 2.211 | -     |
| 32                      | 2.085                      | 2.132 | 2.163 | 2.163 | 2.179 | 2.272 | 2.335 | 2.398 | 2.398 | 2.398 | 2.398 | 2.398 | 2.398 |

TABLE 4 - TUBE SIZE AND CORRESPONDING THREAD

| PORT<br>SIZE | (NOMINAL<br>TUBE<br>SIZE) | T THREAD<br>PER AS8879 |
|--------------|---------------------------|------------------------|
| 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:

## NOTICE

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM'S USE.

## /1/ MATERIAL:

- CODE LETTER DASH (-) - TYPE 4130 LOW ALLOY STEEL FORGING OR BAR PER AMS6370 OR AMS-S-6758 EXCEPT HEAT TREATMENT PER PROCUREMENT SPECIFICATION. /2/
- 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 AMS4133. /2/
- CODE LETTER F - TYPE 4130 LOW ALLOY STEEL FORGING OR BAR PER AMS6370 OR AMS-S-6758 EXCEPT HEAT TREATMENT PER PROCUREMENT SPECIFICATION. /2/

|                                                                                                                   |                                                                      |                                   |                   |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------|-------------------|
| <br>An SAE International Group | <b>AEROSPACE STANDARD</b>                                            | <b>SAE AS1003</b><br>SHEET 4 OF 6 | <b>REV.<br/>F</b> |
|                                                                                                                   | FITTING, TEE, STANDARD<br>AND REDUCER, BULKHEAD<br>ON RUN, FLARELESS |                                   |                   |