

REV.  
B

AS897

FEDERAL SUPPLY CLASS  
4730

## RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

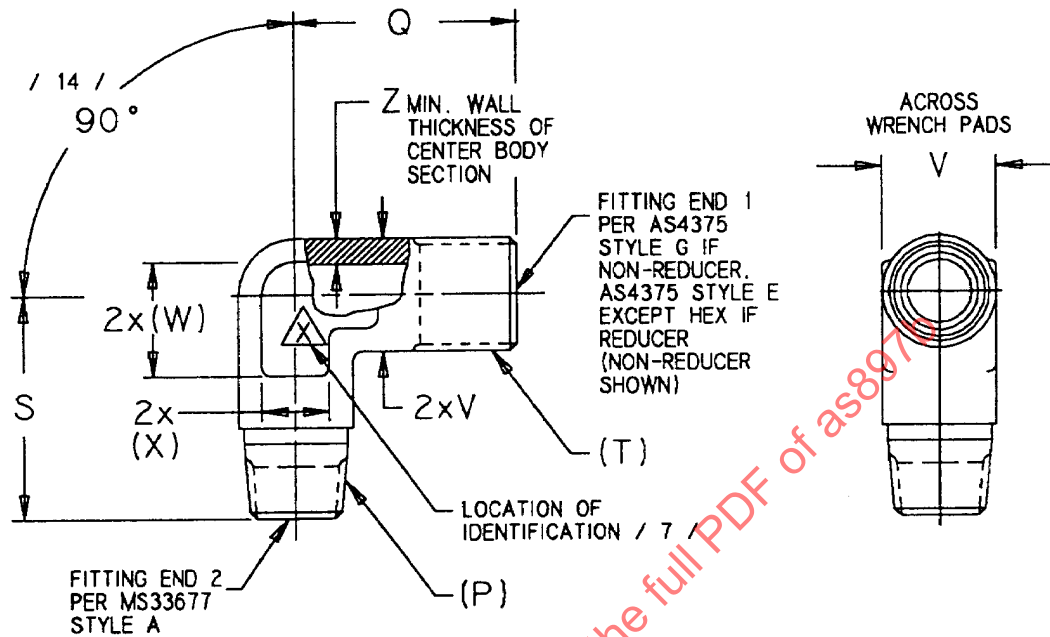
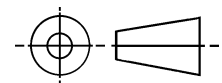
FIGURE 1 - FITTING, ELBOW, 90°, STANDARD AND REDUCER,  
FLARELESS TUBE TO PIPE,  
EXTERNAL THREAD

TABLE 1 - FORGING SIZE /8/

| SIZE OF<br>END 2 | SIZE OF<br>END 1<br>02 | SIZE OF<br>END 1<br>03 | SIZE OF<br>END 1<br>04 | SIZE OF<br>END 1<br>05 | SIZE OF<br>END 1<br>06 | SIZE OF<br>END 1<br>08 | SIZE OF<br>END 1<br>10 | SIZE OF<br>END 1<br>12 | SIZE OF<br>END 1<br>16 | SIZE OF<br>END 1<br>20 | SIZE OF<br>END 1<br>24 | SIZE OF<br>END 1<br>32 |
|------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 02               | 03                     | 03                     | 04                     | 05                     | 06                     | 08                     | 10                     | 12                     | 16                     | 20                     | 24                     | 32                     |
| 04               | 06                     | 06                     | 06                     | 06                     | 06                     | 08                     | 10                     | 12                     | 16                     | 20                     | 24                     | 32                     |
| 06               | 08                     | 08                     | 08                     | 08                     | 08                     | 08                     | 10                     | 12                     | 16                     | 20                     | 24                     | 32                     |
| 08               | 10                     | 10                     | 10                     | 10                     | 10                     | 10                     | 10                     | 12                     | 16                     | 20                     | 24                     | 32                     |
| 12               | 12                     | 12                     | 12                     | 12                     | 12                     | 12                     | 12                     | 12                     | 16                     | 20                     | 24                     | 32                     |
| 16               | 16                     | 16                     | 16                     | 16                     | 16                     | 16                     | 16                     | 16                     | 16                     | 20                     | 24                     | 32                     |
| 20               | 20                     | 20                     | 20                     | 20                     | 20                     | 20                     | 20                     | 20                     | 20                     | 20                     | 24                     | 32                     |
| 24               | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 24                     | 32                     |
| 32               | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     | 32                     |

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /6/ MIL-F-18280

**SAE Aerospace**  
An SAE International Group**AEROSPACE STANDARD**FITTING, ELBOW, 90°, STANDARD AND REDUCER  
FLARELESS TUBE TO PIPE, EXTERNAL THREAD**AS897**  
SHEET 1 OF 4**REV.  
B**

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ISSUED 1976-01 REVISED 1995-12 REAFFIRMED 2007-08

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TABLE 2 - DIMENSIONS

| BASIC NO.<br>AS897<br>/8/ /15/<br>SIZE CODE | V     | W     | X     | Z    |
|---------------------------------------------|-------|-------|-------|------|
| 03                                          | .375  | .375  | .250  | .090 |
| 04                                          | .438  | .500  | .250  | .110 |
| 05                                          | .500  | .500  | .312  | .120 |
| 06                                          | .562  | .625  | .312  | .120 |
| 08                                          | .750  | .625  | .438  | .150 |
| 10                                          | .875  | .750  | .438  | .170 |
| 12                                          | 1.062 | .875  | .500  | .185 |
| 16                                          | 1.312 | 1.062 | .625  | .205 |
| 20                                          | 1.625 | 1.250 | .750  | .240 |
| 24                                          | 1.875 | 1.438 | .875  | .250 |
| 32                                          | 2.562 | 2.000 | 1.188 | .350 |

TABLE 3 - LEG LENGTH Q, END 1

| FORGING<br>SIZE | SIZE OF<br>END 1<br>02 | SIZE OF<br>END 1<br>03 | SIZE OF<br>END 1<br>04 | SIZE OF<br>END 1<br>05 | SIZE OF<br>END 1<br>06 | SIZE OF<br>END 1<br>08 | SIZE OF<br>END 1<br>10 | SIZE OF<br>END 1<br>12 | SIZE OF<br>END 1<br>16 | SIZE OF<br>END 1<br>20 | SIZE OF<br>END 1<br>24 | SIZE OF<br>END 1<br>32 |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 03              | .789                   | .836                   |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |
| 04              | .820                   | .867                   | .898                   |                        |                        |                        |                        |                        |                        |                        |                        |                        |
| 05              | .883                   | .930                   | .961                   | .961                   |                        |                        |                        |                        |                        |                        |                        |                        |
| 06              | .961                   | 1.008                  | 1.039                  | 1.039                  | 1.055                  |                        |                        |                        |                        |                        |                        |                        |
| 08              | 1.086                  | 1.133                  | 1.164                  | 1.164                  | 1.180                  | 1.273                  |                        |                        |                        |                        |                        |                        |
| 10              | 1.180                  | 1.226                  | 1.258                  | 1.258                  | 1.274                  | 1.367                  | 1.430                  |                        |                        |                        |                        |                        |
| 12              | 1.272                  | 1.320                  | 1.351                  | 1.351                  | 1.367                  | 1.460                  | 1.523                  | 1.586                  |                        |                        |                        |                        |
| 16              | 1.429                  | 1.476                  | 1.507                  | 1.507                  | 1.523                  | 1.616                  | 1.679                  | 1.742                  | 1.742                  |                        |                        |                        |
| 20              | 1.585                  | 1.632                  | 1.663                  | 1.663                  | 1.679                  | 1.772                  | 1.835                  | 1.898                  | 1.898                  | 1.898                  |                        |                        |
| 24              | 1.710                  | 1.757                  | 1.788                  | 1.788                  | 1.804                  | 1.897                  | 1.960                  | 2.023                  | 2.023                  | 2.023                  | 2.023                  |                        |
| 32              | 2.148                  | 2.159                  | 2.226                  | 2.226                  | 2.242                  | 2.335                  | 2.398                  | 2.461                  | 2.461                  | 2.461                  | 2.461                  | 2.461                  |

TABLE 4 - LEG LENGTH S  $\pm 0.031$ , END 2

| FORGING<br>SIZE | SIZE OF<br>END 2<br>02 | SIZE OF<br>END 2<br>04 | SIZE OF<br>END 2<br>06 | SIZE OF<br>END 2<br>08 | SIZE OF<br>END 2<br>12 | SIZE OF<br>END 2<br>16 | SIZE OF<br>END 2<br>20 | SIZE OF<br>END 2<br>24 | SIZE OF<br>END 2<br>32 |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 03              | .727                   |                        |                        |                        |                        |                        |                        |                        |                        |
| 04              | .789                   |                        |                        |                        |                        |                        |                        |                        |                        |
| 05              | .789                   |                        |                        |                        |                        |                        |                        |                        |                        |
| 06              | .898                   | 1.085                  |                        |                        |                        |                        |                        |                        |                        |
| 08              | .993                   | 1.196                  | 1.211                  |                        |                        |                        |                        |                        |                        |
| 10              | 1.087                  | 1.290                  | 1.305                  | 1.477                  |                        |                        |                        |                        |                        |
| 12              | 1.179                  | 1.382                  | 1.397                  | 1.569                  | 1.585                  |                        |                        |                        |                        |
| 16              | 1.368                  | 1.571                  | 1.586                  | 1.758                  | 1.774                  | 1.961                  |                        |                        |                        |
| 20              | 1.758                  | 1.961                  | 1.976                  | 2.148                  | 2.164                  | 2.351                  | 2.383                  |                        |                        |
| 24              | 1.883                  | 2.086                  | 2.101                  | 2.273                  | 2.289                  | 2.476                  | 2.508                  | 2.524                  |                        |
| 32              | 2.337                  | 2.540                  | 2.555                  | 2.727                  | 2.743                  | 2.930                  | 2.962                  | 2.977                  | 3.008                  |

TABLE 5 - TUBE SIZE AND CORRESPONDING THREAD

| END<br>SIZE | NOMINAL<br>TUBE<br>SIZE | T THREAD<br>PER MIL-S-8879 | P THREAD<br>PER MIL-P-7105 |
|-------------|-------------------------|----------------------------|----------------------------|
| 02          | .125                    | .3125-24 UNJF              | .125-27 ANPT               |
| 03          | .188                    | .3750-24 UNJF              | —                          |
| 04          | .250                    | .4375-20 UNJF              | .250-18 ANPT               |
| 05          | .312                    | .5000-20 UNJF              | —                          |
| 06          | .375                    | .5625-18 UNJF              | .375-18 ANPT               |
| 08          | .500                    | .7500-16 UNJF              | .500-14 ANPT               |
| 10          | .625                    | .8750-14 UNJF              | —                          |
| 12          | .750                    | 1.0625-12 UNJ              | .750-14 ANPT               |
| 16          | 1.000                   | 1.3125-12 UNJ              | 1.000-11.5 ANPT            |
| 20          | 1.250                   | 1.6250-12 UNJ              | 1.250-11.5 ANPT            |
| 24          | 1.500                   | 1.8750-12 UNJ              | 1.500-11.5 ANPT            |
| 32          | 2.000                   | 2.5000-12 UNJ              | 2.000-11.5 ANPT            |

## NOTES:

- /1/ MATERIAL CODE:
- "." = 4130 STEEL FORGING OR BAR PER MIL-S-6758 OR AMS 6370
  - "D" = 2014-T6 ALUMINUM ALLOY FORGING PER QQ-A-367 OR AMS 4133 OR 2024-T6 OR -T851 ALUMINUM ALLOY BAR PER QQ-A-225/6 OR AMS 4112
  - "J" = 304 CRES BAR PER QQ-S-763 OR AMS 5639
  - "K" = 316 CRES BAR PER QQ-S-763 OR AMS 5648
  - "R" = 321 CRES BAR PER QQ-S-763 OR AMS 5645
  - "S" = 347 CRES BAR PER QQ-S-763 OR AMS 5646 /4/
  - "W" = 7075-T73 ALUMINUM ALLOY FORGING PER QQ-A-367 OR AMS 4141 OR 7075-T73 OR -T7351 ALUMINUM ALLOY BAR PER QQ-A-225/9 OR AMS 4124
2. FINISH:
- "." = CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2
  - "D" = ANODIZE PER MIL-A-8625 TYPE II, CLASS 2 OR AMS 2472, DYE GREEN, SIMILAR TO COLOR 14187 OF FED-STD-595
  - "J" = PASSIVATE PER QQ-P-35, TYPE VI OR VII
  - "K" = PASSIVATE PER QQ-P-35, TYPE VI OR VII
  - "R" = PASSIVATE PER QQ-P-35, TYPE VI OR VII
  - "S" = PASSIVATE PER QQ-P-35, TYPE VI OR VII /4/
  - "W" = ANODIZE PER MIL-A-8625, TYPE II, CLASS 2 OR AMS 2472, DYE BROWN. SIMILAR TO COLOR 10080 OF FED-STD-595
- /3/ INTENDED USE: OXYGEN SYSTEMS AND GROUND SUPPORT EQUIPMENT ONLY. PARTS FOR OXYGEN SYSTEMS SHALL BE IDENTIFIED IN THE PART NUMBER AS CODE "A" AND SHALL BE FURNISHED CLEANED, PACKAGED, AND LABELED IN ACCORDANCE WITH AIR1176, TO A PROCESS APPROVED BY THE USER.
- /4/ 347 CRES INACTIVE FOR DESIGN AND PROCUREMENT. FOR REPLACEMENT USE PARTS CODED "R". PARTS CODED "S" MAY BE ISSUED FROM STOCK UNTIL DEPLETED.
5. WHEN MACHINED FROM BAR STOCK OR OVERSIZED FORGINGS THE CENTER BODY DIMENSIONS SHALL CONFORM TO AS1376, TABLE 1.
- /6/ PROCUREMENT SPECIFICATION: MIL-F-18280 EXCEPT AS SPECIFIED ON THIS STANDARD. THIS PART SHALL BE QUALIFIED TO THE PROCUREMENT SPECIFICATION IN A COMPLETE ASSEMBLY. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.
- /7/ IDENTIFICATION: MARK PER AS478 CLASS C OR D OR METHOD 7A3, 15A3, OR 15B.
- FOR SIZES 06 (.375 OD TUBE SIZE) AND SMALLER: MANUFACTURER'S NAME, TRADEMARK OR CAGE CODE, LETTERS "AS" AND MATERIAL CODE LETTER
  - FOR SIZES 08 (.500 OD TUBE SIZE) AND LARGER: MANUFACTURER'S NAME, TRADEMARK OR CAGE CODE, BASIC PART NUMBER AND MATERIAL CODE LETTER
- /8/ FORGING SIZE IS DETERMINED BY CORRESPONDING END SIZES IN TABLE 1.
9. INVENTORIED PARTS CONFORMING TO THE PREVIOUS "LETTER CHANGE" MAY BE USED TO DEPLETION.
10. INTERPRETATION OF DRAWING PER ARP4296.
11. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36; REQUIREMENTS PER ANSI/ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 125  $\mu$ in Ra.
12. BREAK ALL SHARP EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.
13. DIMENSIONS AND TOLERANCING: ANSI Y14.5M-1982