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REV.  
A

AS6193™

FEDERAL SUPPLY CLASS  
4730

#### RATIONALE

REVISE THE FINISH FOR ALUMINUM WIRE BY REPLACING THE DUPLEX SEAL WITH A "NO DUPLEX SEAL" NOTE REQUIREMENT. UPDATE OUTDATED SPECIFICATION CALLOUT TO CURRENT SPECIFICATION. QPL NOTE /4/ REVISED TO REFLECT CURRENT VERBIAGE. REVISION INDICATOR NOTE 17 ADDED. DISPOSITION OF INVENTORIED PARTS MANUFACTURED TO PREVIOUS REVISION NOTE 18 ADDED.

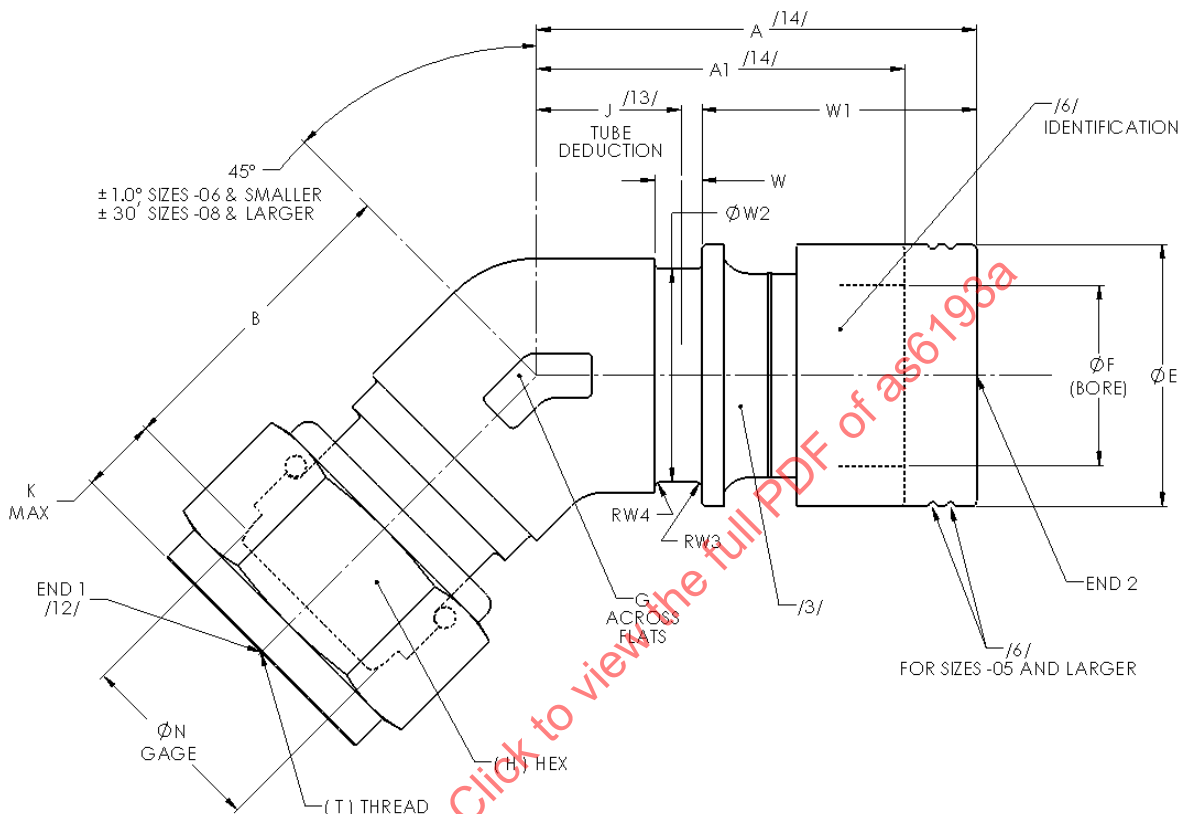
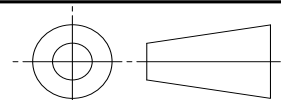


FIGURE 1 - ASSEMBLY, ELBOW, 90°, AXIALLY SWAGED TO FEMALE FLARELESS

For more information on this standard, visit  
<https://www.sae.org/standards/content/AS6193A/>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: AS6116 /4/



#### AEROSPACE STANDARD

FITTING ASSEMBLY, ELBOW, 45°,  
AXIALLY SWAGED, FEMALE FLARELESS,  
HYDRAULIC, UP TO 1500 PSI

AS6193™  
SHEET 1 OF 3

REV.  
A

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ISSUED 2011-08 REVISED 2022-01

**TABLE 1A - DIMENSIONS A THROUGH J**

| BASIC NO.<br>AS6193 /16/<br>SIZE CODE | NOMINAL<br>TUBE SIZE<br>END 1 | NOMINAL<br>TUBE SIZE<br>END 2 | A<br>MAX | A1<br>MAX | B<br>±.015 | ØE<br>MAX | ØF<br>MIN | G<br>±.015 | (H)   | J /13/<br>TUBE<br>DEDUCTION |
|---------------------------------------|-------------------------------|-------------------------------|----------|-----------|------------|-----------|-----------|------------|-------|-----------------------------|
| 0404                                  | .250                          | .250                          | 1.043    | .885      | .898       | .435      | .253      | .438       | .562  | .350 +.150/-.180            |
| 0505                                  | .3125                         | .3125                         | 1.213    | 1.060     | .949       | .503      | .3155     | .465       | .625  | .390 +.150/-.180            |
| 0606                                  | .375                          | .375                          | 1.402    | 1.170     | 1.055      | .580      | .378      | .563       | .688  | .430 +.150/-.195            |
| 0808                                  | .500                          | .500                          | 1.655    | 1.390     | 1.208      | .755      | .503      | .750       | .875  | .480 +.150/-.210            |
| 1010                                  | .625                          | .625                          | 1.715    | 1.475     | 1.412      | .929      | .629      | .875       | 1.000 | .535 +.150/-.200            |
| 1212                                  | .750                          | .750                          | 1.965    | 1.685     | 1.538      | 1.150     | .754      | 1.063      | 1.250 | .645 +.150/-.245            |
| 1616                                  | 1.000                         | 1.000                         | 2.505    | 2.125     | 1.766      | 1.474     | 1.004     | 1.312      | 1.500 | .815 +.150/-.330            |
| 2020                                  | 1.250                         | 1.250                         | 2.935    | 2.520     | 2.036      | 1.768     | 1.255     | 1.618      | 1.812 | .970 +.150/-.375            |

**TABLE 1B - DIMENSIONS K THROUGH W4 AND WEIGHTS**

| BASIC NO.<br>AS6193 /16/<br>SIZE CODE | NOMINAL<br>TUBE SIZE<br>END 1 | NOMINAL<br>TUBE SIZE<br>END 2 | K<br>MAX | ØN<br>GAGE | (T) THREAD<br>PER AS8879 | W<br>MIN | W1<br>MAX | ØW2<br>±.002 | W3<br>MAX | W4<br>MAX | WEIGHT<br>APPROX<br>LB/EA |
|---------------------------------------|-------------------------------|-------------------------------|----------|------------|--------------------------|----------|-----------|--------------|-----------|-----------|---------------------------|
| 0404                                  | .250                          | .250                          | .248     | .2930      | .4375-20 UNJF-3B         | .185     | .604      | .320         | .020      | .020      | .025                      |
| 0505                                  | .3125                         | .3125                         | .331     | .3500      | .5000-20 UNJF-3B         | .180     | .724      | .371         | .020      | .020      | .030                      |
| 0606                                  | .375                          | .375                          | .302     | .4120      | .5625-18 UNJF-3B         | .195     | .883      | .463         | .020      | .020      | .040                      |
| 0808                                  | .500                          | .500                          | .316     | .5600      | .7500-16 UNJF-3B         | .210     | 1.076     | .595         | .020      | .020      | .075                      |
| 1010                                  | .625                          | .625                          | .424     | .6730      | .8750-14 UNJF-3B         | .225     | 1.076     | .758         | .020      | .020      | .115                      |
| 1212                                  | .750                          | .750                          | .388     | .8100      | 1.0625-12 UNJ-3B         | .235     | 1.201     | .903         | .025      | .025      | .190                      |
| 1616                                  | 1.000                         | 1.000                         | .454     | 1.0620     | 1.3125-12 UNJ-3B         | .260     | 1.566     | 1.196        | .035      | .035      | .320                      |
| 2020                                  | 1.250                         | 1.250                         | .465     | 1.3160     | 1.6250-12 UNJ-3B         | .285     | 1.829     | 1.460        | .035      | .035      | .540                      |

**NOTES:**

**/1/ MATERIALS:**

CODE LETTER "D"

BODY: TYPE 6061-T6 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/8.

RING: TYPE 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9.

NUT: TYPE 7075-T73 ALUMINUM ALLOY BAR PER AMS-QQ-A-225/9.

WIRE: TYPE 302 OR 305, CONDITION A CORROSION RESISTANT STEEL WIRE PER ASTM A580 (SIZES -.04 AND .05).  
TYPE 2024-T4 OR 2024-T351 ALUMINUM ALLOY WIRE PER AMS-QQ-A-225/6 (SIZES -.06 AND LARGER).

**2. FINISH:**

BODY: CHEMICAL CONVERSION COAT PER MIL-DTL-5541 TYPE I CLASS 3.

RING: ANODIZE PER MIL-PRF-8625, TYPE II, CLASS 2, DYED GREEN, SIMILAR TO NO. 14187, 14193, OR 14223 OF AMS-STD-595 AND SHALL BE DUPLEX SEALED.

NUT: ANODIZE PER MIL-PRF-8625 TYPE II, CLASS 2, DYED BROWN SIMILAR TO NO. 10080, OF AMS-STD-595 AND SHALL BE DUPLEX SEALED.

WIRE: TYPE 302 OR 305: PASSIVATE PER AMS2700.  
TYPE 2024-T4 OR 2024-T351: ANODIZE PER MIL-PRF-8625 TYPE II, CLASS 2 (YELLOW) WITH NO DUPLEX SEAL.

**/3/ COATINGS/LUBRICANTS:**

BODY:

- a. DRY FILM LUBRICANT PER AS5272 TYPE I MAY BE APPLIED TO THE OD OF THE AXIALLY SWAGED FITTING END. ADDITIONAL LUBRICANT APPLIED SHALL BE SPECIFIED BY MANUFACTURER. THE LUBRICANTS SHALL NOT BE IN CONTACT WITH THE SYSTEM FLUID.

|                                                                                     |                                                                                                 |                                |                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>                                                                       | <b>AS6193™</b><br>SHEET 2 OF 3 | <b>REV.</b><br><b>A</b> |
|                                                                                     | FITTING ASSEMBLY, ELBOW, 45°,<br>AXIALLY SWAGED, FEMALE FLARELESS,<br>HYDRAULIC, UP TO 1500 PSI |                                |                         |