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REV.  
C

SAE AS650

## RATIONALE

FEDERAL SUPPLY CLASS  
4720

ESTABLISH CUFF DIMENSIONAL REQUIREMENTS FOR INTEGRAL FIRE SLEEVE ON HOSE AND SLEEVE CODE H & J CONFIGURATIONS, FOR STANDARDIZATION PURPOSES.

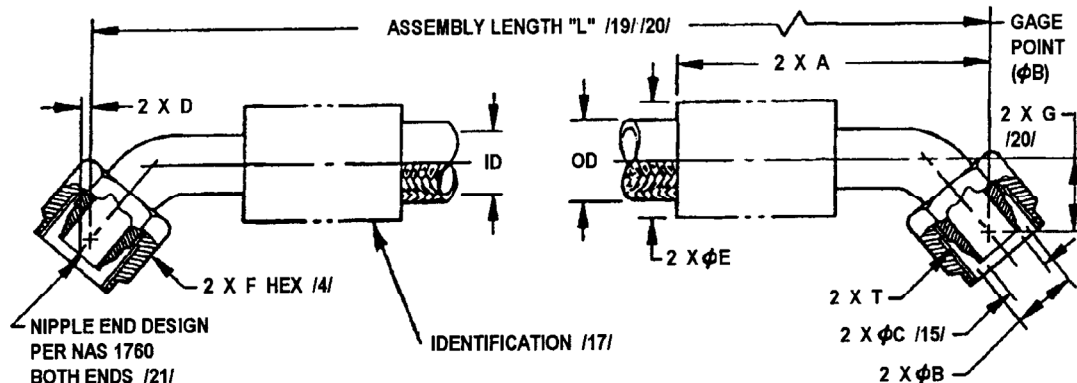


FIGURE 1 – HOSE ASSEMBLY

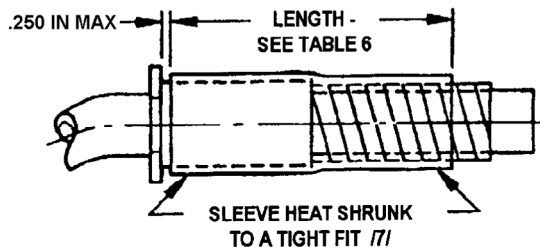


FIGURE 2 – ABRASION SLEEVE ATTACHMENT

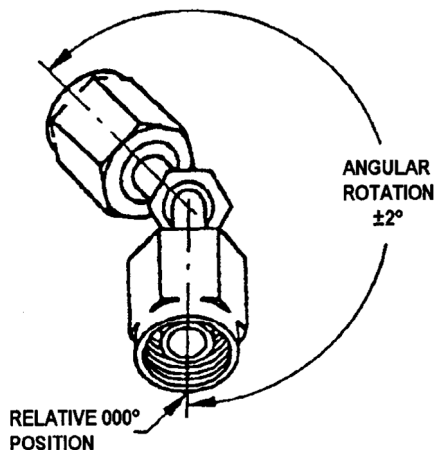
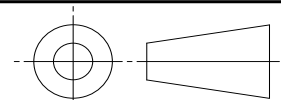


FIGURE 3 – FITTING ANGULAR POSITION /26/

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THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: /14/ AS1946

**SAE Aerospace**  
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## AEROSPACE STANDARD

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, METAL BRAID, MEDIUM PRESSURE, FLARELESS, 45° TO 45°

**SAE AS650**  
SHEET 1 OF 7

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Documents

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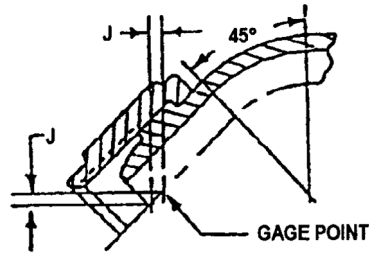


FIGURE 4 – GAGE POINT – SEE TABLE 7 /19/

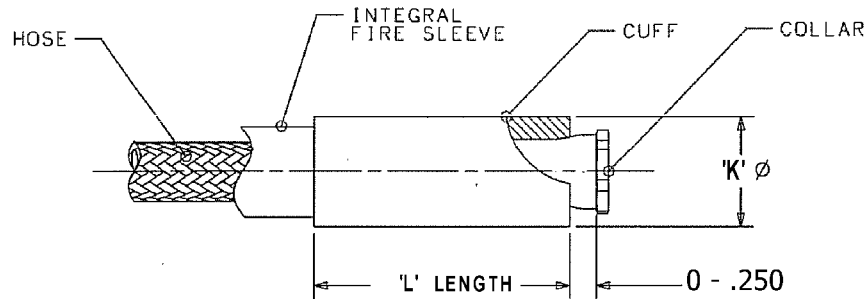


FIGURE 5 – SEE TABLE 8 /27/

TABLE 1 – DIMENSIONS

| Hose Assembly No. & Size /24/ | Hose Size (ref) | Fitting Matl /24/ /25/ | Thread T per AS8879 (ref) | Hose ID Min (ref) | A Max | B Gage Basic | C Dia Min /15/ | Min Ball Dia /15/ | D (ref) | E Max Without Sleeving /16/ | F Hex (ref) | G Min | G Max |
|-------------------------------|-----------------|------------------------|---------------------------|-------------------|-------|--------------|----------------|-------------------|---------|-----------------------------|-------------|-------|-------|
| AS650D (-03)                  | .188            | CRES                   | .3750-24UNJF-3B           | .110              | 1.660 | .2340        | .080           | .068              | .10     | .49                         | .500        | .336  | .477  |
|                               |                 | AL                     | .3750-24UNJF-3B           | .110              | 1.660 | .2340        | .080           | .068              | .10     | .49                         | .500        | .336  | .477  |
|                               |                 | TI                     | .3750-24UNJF-3B           | .110              | 1.660 | .2340        | .080           | .068              | .10     | .49                         | .500        | .336  | .477  |
| AS650E (-04)                  | .250            | CRES                   | .4375-20UNJF-3B           | .173              | 1.730 | .2930        | .132           | .112              | .11     | .55                         | .562        | .350  | .485  |
|                               |                 | AL                     | .4375-20UNJF-3B           | .173              | 1.730 | .2930        | .132           | .112              | .11     | .55                         | .562        | .350  | .485  |
|                               |                 | TI                     | .4375-20UNJF-3B           | .173              | 1.730 | .2930        | .132           | .112              | .11     | .55                         | .562        | .350  | .485  |
| AS650F (-05)                  | .312            | CRES                   | .5000-20UNJF-3B           | .235              | 1.910 | .3500        | .193           | .164              | .11     | .63                         | .625        | .368  | .512  |
|                               |                 | AL                     | .5000-20UNJF-3B           | .235              | 1.910 | .3500        | .193           | .164              | .11     | .63                         | .625        | .368  | .512  |
|                               |                 | TI                     | .5000-20UNJF-3B           | .235              | 1.910 | .3500        | .193           | .164              | .11     | .63                         | .625        | .368  | .512  |
| AS650G (-06)                  | .375            | CRES                   | .5625-18UNJF-3B           | .298              | 2.120 | .4120        | .256           | .218              | .12     | .70                         | .688        | .434  | .589  |
|                               |                 | AL                     | .5625-18UNJF-3B           | .298              | 2.120 | .4120        | .256           | .218              | .12     | .70                         | .688        | .434  | .589  |
|                               |                 | TI                     | .5625-18UNJF-3B           | .298              | 2.120 | .4120        | .256           | .218              | .12     | .70                         | .688        | .434  | .589  |
| AS650H (-08)                  | .500            | CRES                   | .7500-16UNJF-3B           | .391              | 2.380 | .5600        | .340           | .289              | .13     | .83                         | .875        | .497  | .744  |
|                               |                 | AL                     | .7500-16UNJF-3B           | .391              | 2.380 | .5600        | .340           | .289              | .13     | .83                         | .875        | .497  | .744  |
|                               |                 | TI                     | .7500-16UNJF-3B           | .391              | 2.380 | .5600        | .340           | .289              | .13     | .83                         | .875        | .497  | .744  |
| AS650J (-10)                  | .625            | CRES                   | .8750-14UNJF-3B           | .485              | 2.850 | .6730        | .430           | .366              | .14     | .97                         | 1.000       | .576  | .822  |
|                               |                 | AL                     | .8750-14UNJF-3B           | .485              | 2.850 | .6730        | .430           | .366              | .14     | .97                         | 1.000       | .576  | .822  |
|                               |                 | TI                     | .8750-14UNJF-3B           | .485              | 3.743 | .6730        | .430           | .366              | .14     | .97                         | 1.000       | 1.180 | 2.172 |
| AS650K (-12)                  | .750            | CRES                   | 1.0625-12UNJ-3B           | .615              | 3.120 | .8100        | .548           | .466              | .16     | 1.17                        | 1.250       | .582  | .903  |
|                               |                 | AL                     | 1.0625-12UNJ-3B           | .615              | 3.120 | .8100        | .548           | .466              | .16     | 1.17                        | 1.250       | .582  | .903  |
|                               |                 | TI                     | 1.0625-12UNJ-3B           | .615              | 4.270 | .8100        | .548           | .466              | .16     | 1.17                        | 1.250       | 1.210 | 1.400 |
| AS650M (-16)                  | 1.000           | CRES                   | 1.3125-12UNJ-3B           | .851              | 3.500 | 1.0620       | .778           | .661              | .21     | 1.52                        | 1.500       | .648  | .976  |
|                               |                 | AL                     | 1.3125-12UNJ-3B           | .851              | 3.500 | 1.0620       | .778           | .661              | .21     | 1.52                        | 1.500       | .648  | .976  |
|                               |                 | TI                     | 1.3125-12UNJ-3B           | .851              | 5.038 | 1.0620       | .778           | .661              | .21     | 1.52                        | 1.500       | 1.405 | 1.616 |
| AS650N (-20)                  | 1.250           | CRES                   | 1.6250-12UNJ-3B           | 1.101             | 4.070 | 1.3160       | 1.000          | .850              | .21     | 2.00                        | 2.000       | .799  | 1.132 |
|                               |                 | AL                     | 1.6250-12UNJ-3B           | 1.101             | 4.325 | 1.3160       | 1.000          | .850              | .21     | 2.00                        | 2.000       | 1.300 | 1.513 |
|                               |                 | TI                     | 1.6250-12UNJ-3B           | 1.101             | 5.165 | 1.3160       | 1.000          | .850              | .21     | 2.00                        | 2.000       | 1.650 | 1.861 |
| AS650P (-24)                  | 1.500           | CRES                   | 1.8750-12UNJ-3B           | 1.344             | 4.600 | 1.5650       | 1.250          | 1.063             | .26     | 2.28                        | 2.125       | 1.000 | 1.307 |
|                               |                 | AL                     | 1.8750-12UNJ-3B           | 1.344             | 4.966 | 1.5650       | 1.250          | 1.063             | .26     | 2.28                        | 2.125       | 1.500 | 1.729 |
|                               |                 | TI                     | 1.8750-12UNJ-3B           | 1.344             | 5.939 | 1.5650       | 1.250          | 1.063             | .26     | 2.28                        | 2.125       | 1.900 | 2.132 |

TABLE 2 – TOLERANCES

| HOSE ASSEMBLY LENGTH  | TOLERANCE |
|-----------------------|-----------|
| UNDER 18 IN           | ±.125     |
| 18 TO 36 IN EXCLUSIVE | ±.250     |
| 36 TO 50 IN EXCLUSIVE | ±.500     |
| 50 IN AND OVER        | ±1%       |

TABLE 3 – HOSE AND SLEEVE CODES

| HOSE<br>OR<br>SLEEVE<br>CODE | SLEEVE MATERIAL                                             | TEMP.<br>LIMIT<br>°F |
|------------------------------|-------------------------------------------------------------|----------------------|
| -                            | (-) INDICATES HOSE ONLY, NO SLEEVE (AS639)                  | 450                  |
| A                            | ABRASION SLEEVE TUBULAR (PTFE - AS1291 - CODE B) /6/        | 450                  |
| B                            | ABRASION SLEEVE COIL (NYLON AS1294) /7/                     | 275                  |
| C                            | FIRE SLEEVE (AS1072 SIL-FG) (15 MIN) /8/ /9/ /13/           | 450                  |
| E                            | ABRASION SLEEVE SHRINK-ON (FEP) /11/                        | 350                  |
| F                            | ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) /11/ | 275                  |
| G                            | FIRE SLEEVE (AS1072 SIL-FG) (5 MIN) /8/ /9/ /12/            | 450                  |
| H                            | FIRE SLEEVE INTEGRAL SILICONE (AS1723) (15 MIN) /13/ /27/   | 450                  |
| J                            | FIRE SLEEVE INTEGRAL SILICONE (5 MIN) /12/ /27/             | 450                  |
| K                            | INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER /10/           | 300                  |
| L                            | ABRASION SLEEVE COIL (PTFE - AS1293) /7/                    | 450                  |

TABLE 4 – HOSE AND SLEEVE OUTSIDE DIAMETERS

| HOSE<br>OR<br>SLEEVE<br>CODE | TOLERANCE | HOSE<br>SIZE<br>/5/<br>.188 | HOSE<br>SIZE<br>/5/<br>.250 | HOSE<br>SIZE<br>/5/<br>.313 | HOSE<br>SIZE<br>/5/<br>.375 | HOSE<br>SIZE<br>/5/<br>.500 | HOSE<br>SIZE<br>/5/<br>.625 | HOSE<br>SIZE<br>/5/<br>.750 | HOSE<br>SIZE<br>/5/<br>1.000 | HOSE<br>SIZE<br>/5/<br>1.250 | HOSE<br>SIZE<br>/5/<br>1.500 |
|------------------------------|-----------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|
| -                            | MAX       | .285                        | .343                        | .406                        | .469                        | .585                        | .687                        | .812                        | 1.140                        | 1.390                        | 1.707                        |
|                              | MIN       | .234                        | .304                        | .367                        | .430                        | .546                        | .641                        | .766                        | 1.078                        | 1.328                        | 1.637                        |
| A                            | MAX       | .390                        | .473                        | .524                        | .620                        | .715                        | .818                        | .955                        | 1.295                        | 1.550                        | 1.841                        |
|                              | MIN       | .320                        | .393                        | .454                        | .515                        | .645                        | .748                        | .870                        | 1.210                        | 1.450                        | 1.771                        |
| B                            | MAX       | .339                        | .409                        | .472                        | .535                        | .669                        | .767                        | .896                        | 1.224                        | 1.474                        | 1.807                        |
|                              | MIN       | .260                        | .330                        | .393                        | .456                        | .590                        | .681                        | .810                        | 1.122                        | 1.372                        | 1.681                        |
| C                            | MAX       | .692                        | .692                        | .780                        | .840                        | .970                        | 1.090                       | 1.220                       | 1.590                        | 1.900                        | 2.190                        |
|                              | MIN       | .533                        | .533                        | .598                        | .658                        | .778                        | .908                        | 1.038                       | 1.288                        | 1.658                        | 1.898                        |
| E                            | MAX       | .301                        | .375                        | .438                        | .507                        | .635                        | .749                        | .887                        | 1.288                        | 1.440                        | 1.761                        |
|                              | MIN       | .248                        | .320                        | .383                        | .452                        | .578                        | .679                        | .811                        | 1.146                        | 1.358                        | 1.667                        |
| F                            | MAX       | .341                        | .411                        | .474                        | .547                        | .663                        | .769                        | .904                        | 1.244                        | 1.482                        | 1.823                        |
|                              | MIN       | .278                        | .348                        | .411                        | .484                        | .600                        | .699                        | .834                        | 1.158                        | 1.396                        | 1.729                        |
| G                            | MAX       | .692                        | .692                        | .780                        | .840                        | .970                        | 1.090                       | 1.220                       | 1.590                        | 1.900                        | 2.190                        |
|                              | MIN       | .533                        | .533                        | .598                        | .658                        | .778                        | .908                        | 1.038                       | 1.288                        | 1.658                        | 1.898                        |
| H                            | MAX       | .641                        | .641                        | .704                        | .766                        | .891                        | 1.016                       | 1.141                       | 1.454                        | 1.704                        | 2.016                        |
|                              | MIN       | .537                        | .594                        | .657                        | .719                        | .844                        | .949                        | 1.074                       | 1.394                        | 1.649                        | 1.957                        |
| J                            | MAX       | .641                        | .641                        | .704                        | .766                        | .891                        | 1.016                       | 1.141                       | 1.454                        | 1.704                        | 2.016                        |
|                              | MIN       | .537                        | .594                        | .657                        | .719                        | .844                        | .949                        | 1.074                       | 1.394                        | 1.649                        | 1.957                        |
| K                            | MAX       | .378                        | .430                        | .499                        | .559                        | .665                        | .772                        | .887                        | 1.210                        | 1.460                        | 1.782                        |
|                              | MIN       | .320                        | .390                        | .450                        | .510                        | .625                        | .726                        | .841                        | 1.148                        | 1.398                        | 1.712                        |
| L                            | MAX       | .375                        | .445                        | .508                        | .571                        | .687                        | .789                        | .914                        | 1.242                        | 1.492                        | 1.809                        |
|                              | MIN       | .267                        | .333                        | .407                        | .470                        | .586                        | .681                        | .828                        | 1.138                        | 1.388                        | 1.697                        |