FEDERAL SUPPLY CLASS
5935

RATIONALE

REVISE TO INCLUDE COMMENTS RECEIVED BY THE GOVERNMENT AND INDUSTRY, UPDATE REFERENCES, ALIGN SPECIFICATION WITH SAE GUIDELINES AND RE-WORK ILLEGIBLE DRAWINGS/TABLES, AND REVIEW SPECIFICATION FOR KNOWN TECHNICAL PROBLEMS.

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS81703.

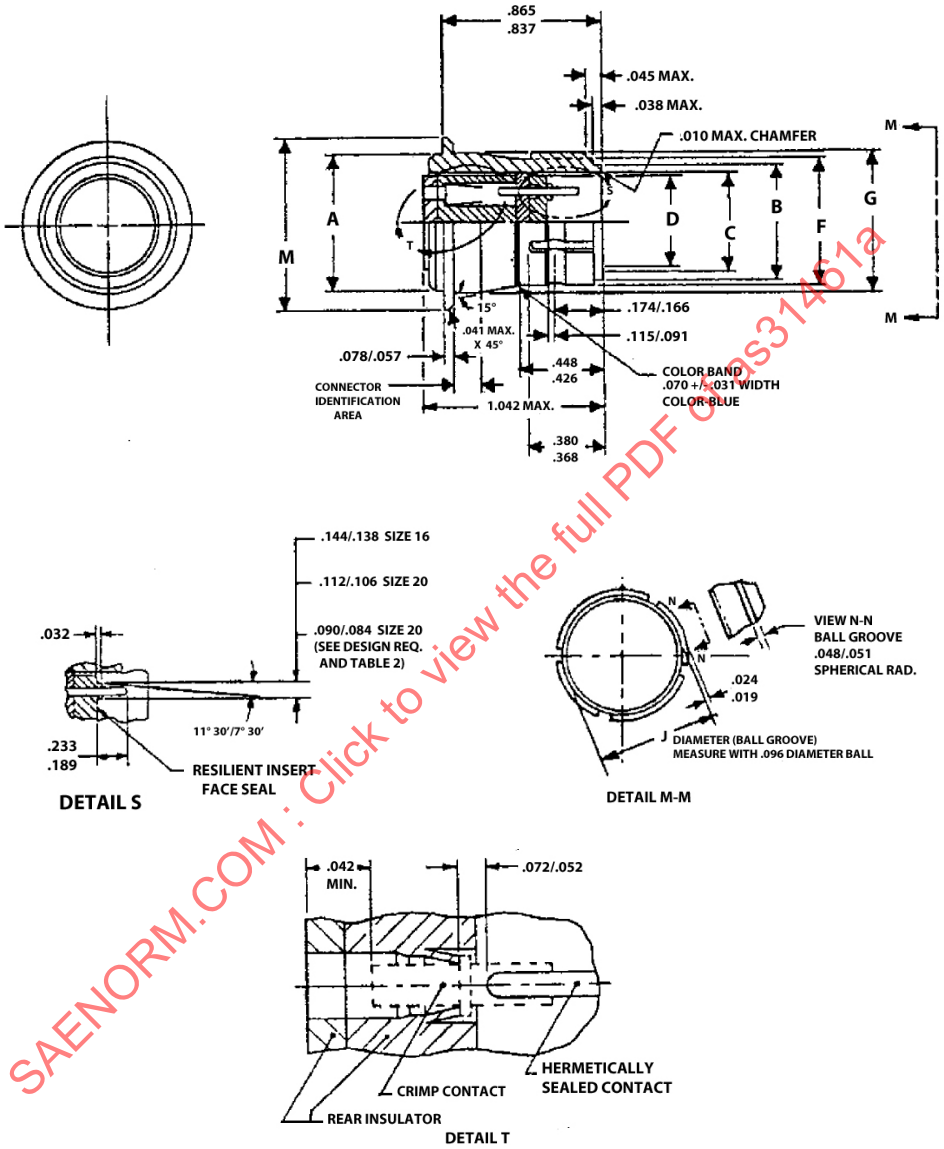

FIGURE 1 – CONNECTOR CONFIGURATIONS AND DIMENSIONS

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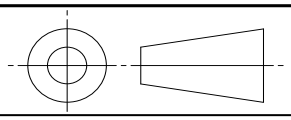
THIRD ANGLE PROJECTION



ISSUED 2004-06 REVISED 2011-08

CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS81703

SAE Aerospace
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AEROSPACE STANDARD

(R) CONNECTOR, RECEPTACLE, ELECTRIC, HERMETIC, CRIMP TYPE, SOLDER MOUNTING, PUSH-PULL, COUPLING, SERIES 3 (CLASS N)

SAE AS31461

REV. A

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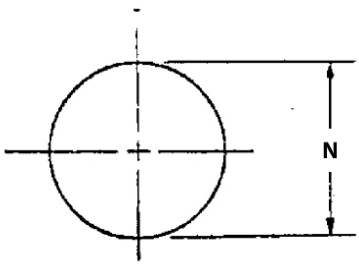
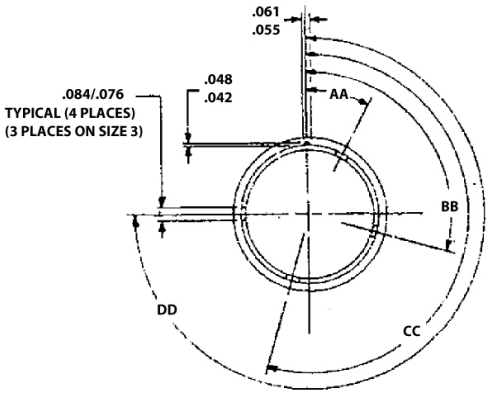


PANEL CUTOUT



KEYWAY POSITIONS

FIGURE 2 – CONNECTOR CONFIGURATIONS AND DIMENSIONS (CONTINUED)

TABLE 1 – FIGURE 1 AND 2 DIMENSIONS

SHELL SIZE DASH NO.	A DIA.	B DIA.	C SHELL I.D.	D MAX. INSERT O.D.	F DIA.	G DIA.	J DIA.	M DIA.	N
-3	.497	.392 .385	.367 .356	.330	.441 .431	.531	.398 .391	.602 .582	.515
-7	.622	.527 .520	.483 .473	.451	.576 .566	.671	.533 .526	.760 .740	.640
-12	.747	.661 .654	.624 .614	.553	.710 .700	.812	.668 .661	.885 .865	.764
-19	.904	.800 .793	.763 .753	.738	.849 .839	.937	.806 .799	1.010 .990	.922
-27	1.060	.955 .948	.918 .908	.854	1.004 .994	1.125	.961 .954	1.192 1.172	1.077
-37	1.153	1.077 1.070	1.040 1.030	.976	1.126 1.116	1.218	1.083 1.076	1.291 1.271	1.171

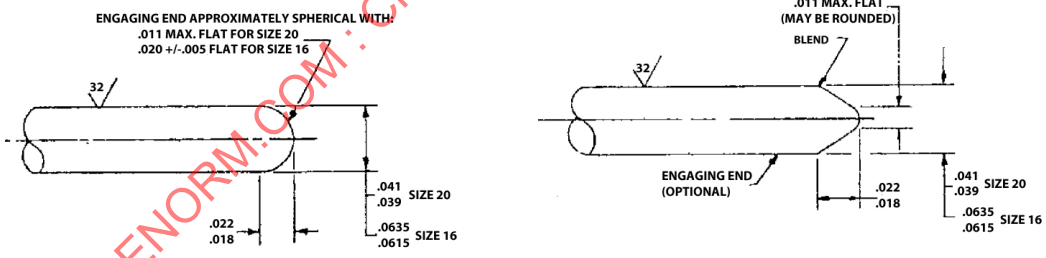


FIGURE 3 – CONTACT CONFIGURATIONS AND DIMENSIONS

TABLE 2 – INSERT ARRANGEMENTS REQUIRING REDUCED DIAMETER SEAL BARRIER

INSERT ARRANGEMENTS REQUIRING REDUCED DIAMETERS FOR PIN CONTACT RAISED SEAL BARRIERS (APPLICABLE TO THE .090/.084 SIZE 20 DIAMETER IN DETAIL S)		
SHELL SIZE	INSERT ARRANGEMENT	CONTACT CAVITIES
12	12-50	5, 6, 8, 9, 11 AND 12

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TABLE 3 – KEYWAY POSITIONS

SHELL SIZE DASH NO.	AA	BB	CC	DD
-3	23 DEGREES	97 DEGREES	187 DEGREES	N/A
-7				277 DEGREES
-12	30 DEGREES	105 DEGREES	195 DEGREES	270 DEGREES
-19				
-27				
-37				

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS81703.

1. DESIGN:

   CONNECTORS AND ACCESSORIES SHALL BE DESIGNED IN ACCORDANCE WITH FIGURES 1 THROUGH 3 AND TABLES 1 AND 2. DIMENSIONS ARE IN INCHES AND APPLY AFTER PLATING. UNLESS OTHERWISE SPECIFIED, TOLERANCES SHALL BE .XX ± .010 AND .XXX ± .005. ANGULAR TOLERANCES SHALL BE X DEGREES ± 1 DEGREE AND X DEGREES X MINUTES ± 30 MINUTES. DIMENSIONS LOCATING TRUE POSITION ARE BASIC. TRUE POSITION TOLERANCES SPECIFIED ARE IN ACCORDANCE WITH ASME-Y14.5 -DIMENSIONING AND TOLERANCING. IN FIGURE 2 KEYWAY POSTIONS, FOUR KEYWAYS (MMC) AND INSERT SHALL BE LOCATED WITHIN .004 INCHES EITHER SIDE OF (TP) RELATIVE TO MASTER KEYWAY (MMC) AND SHELL O.D. (MMC). THE .090/.084 DIMENSION OF DETAIL S IN FIGURE 1 IS AT THE BASE OF THE BARRIER. THE COLOR BAND SHOWN IN FIGURE 1 MUST BE SUCH THAT IT IS VISIBLE WHEN MOUNTED. MAXIMUM WIRE DIAMETER ALLOWED IN .074 INCHES FOR SIZE 20 CONTACTS AND .105 INCHES FOR SIZE 16 CONTACTS. CONTACT FOR WIRE TERMINATIONS-AS39029/22.

2. CONTACT REQUIREMENTS:

   FINISH-THE EXTERNAL PLATED SURFACE DIAMETERS OF THE CONTACT BODY (SIZE 12 AND SMALLER) SHALL BE GOLD PLATED IN ACCORDANCE WITH ASTM B 488, TYPE II, CODE C, 0.000050 INCH MINIMUM THICKNESS. THE ENTIRE SURFACE OF THE CONTACT BODY SHALL HAVE A NICKEL UNDERPLATE PER AMS-QQ-N-290, CLASS 2, 0.00003 TO 0.00015 INCH THICK.

   SURFACE ROUGHNESS SHALL BE 63RA PER ANSI B46.1-78.

   REMOVE ALL BURRS AND SHARP EDGES .003 TO .005 RADIUS.

   DIAMETERS TO BE CONCENTRIC WITHIN .004 TIR. DIAMETERS IN THE SAME CROSS-SECTIONAL PLANE TO BE CONCENTRIC WITH EACH OTHER WITHIN .003 TIR.

3. MATERIALS:

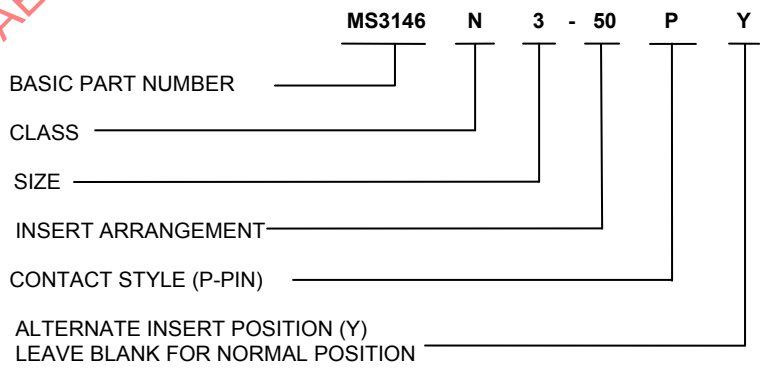
   CONNECTOR SHELL MATERIAL SHALL BE COLD ROLLED STEEL PER ASTM A108.

4. FINISH:

   CONNECTOR SHELL FINISH SHALL BE .0001 TIN PER ASTM-B545/ASTM-B339, OVER NICKEL UNDERPLATE PER AMS-QQ-N-290.

5. THE PART NUMBERS SHALL BE AS SHOWN IN THE EXAMPLE BELOW:

   CONNECTOR PART NUMBER:



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