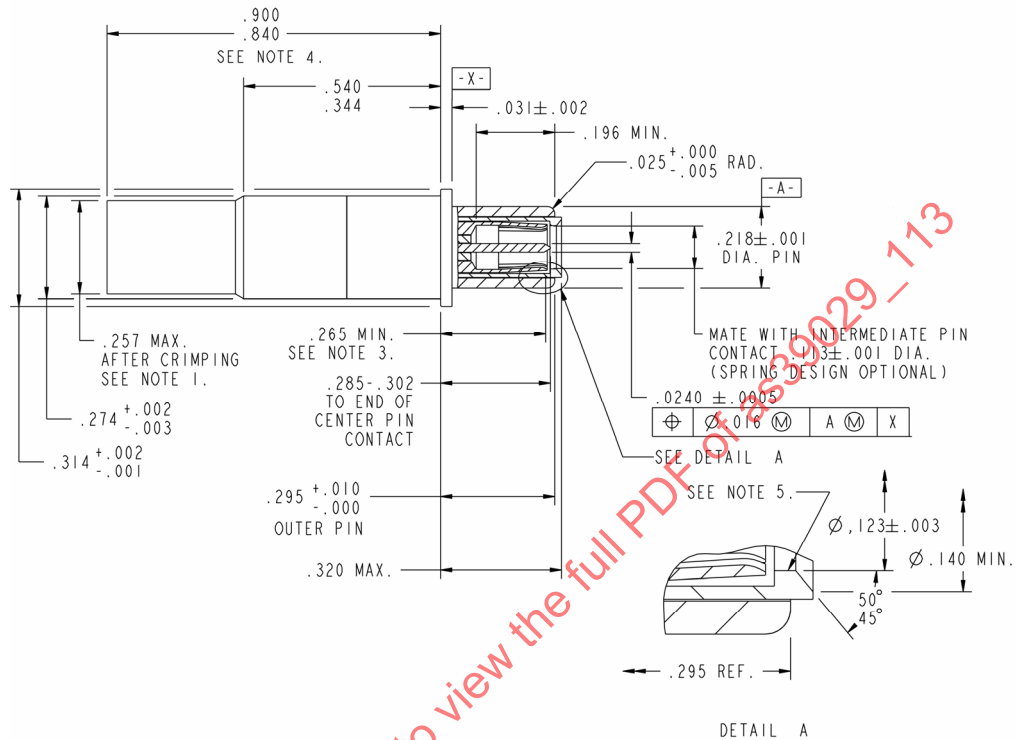


THE AS39029/113 CONTACT IS SUPERSEDING AS39029/90. THE /113 CONTACT INCORPORATES DESIGN CHANGES INTENDED TO IMPROVE RELIABILITY.

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF: SAE AS39029.

AS39029/113

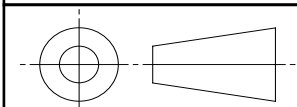


NOTES:

1. Diameter shall not exceed 0.276" (7.01mm) over recovered heat shrink boot. This measurement shall be made after the installation of the boot. (See drawing and Figure 5).
2. The finished dimensions of contact BIN code 625 and contact BIN code 626 are the same. The difference between the two contacts is the tooling required to terminate them. (See Table 8 and Requirement 2).
3. Point at which square ended pin of the same basic diameter as the mating contact first engages the intermediate contact spring. (See Requirement 5) Provisions for clearance hole shall be provided for the test pin. (See drawing and Figure 6).
4. Measurement shall be taken after assembly but before installation of the heat shrink boot. Measurement shall include crimp ferrule. (See drawing).
5. The minimum hardness of the insulator between the intermediate contact and outer contact shall be Rockwell M90 when tested per ASTM D785. For qualification, certification is required.

FIGURE 1 - CONCENTRIC TWINAX FINAL ASSEMBLY (SEE REQUIREMENT 2)

THIRD ANGLE PROJECTION



CUSTODIAN: SAE AE-8/AE-8C1

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

CONTACT, ELECTRICAL CONNECTOR,
CONCENTRIC TWINAX, PIN, SIZE 8, MIL-DTL-38999
SERIES I, III, AND IV

AS39029/113
SHEET 1 OF 10

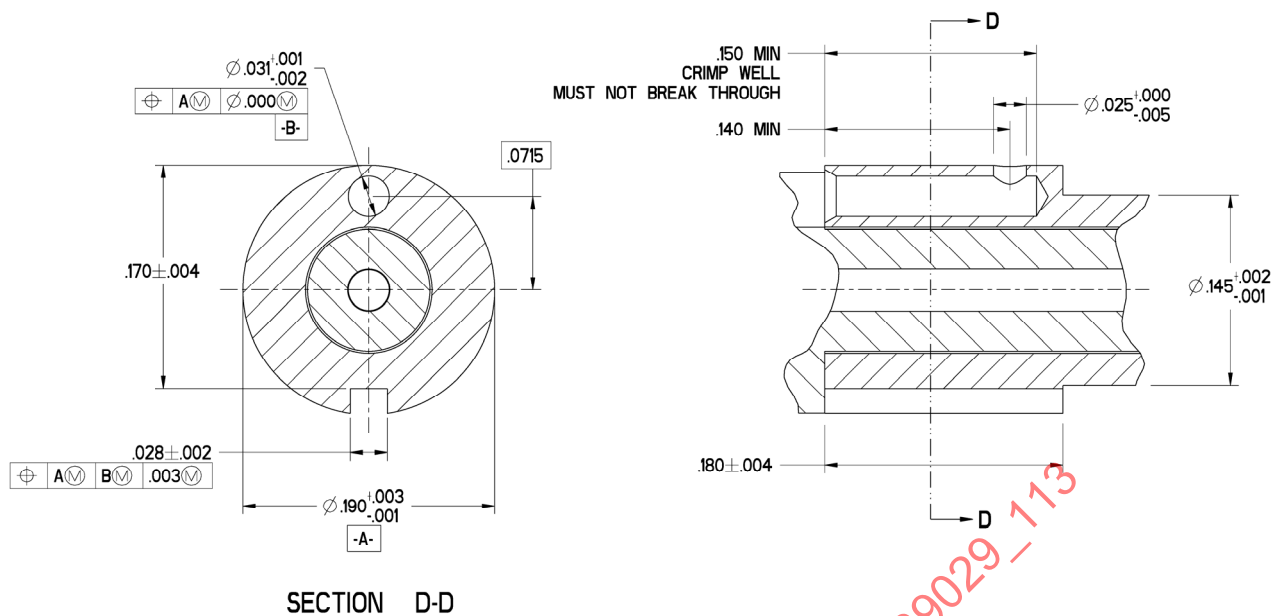


FIGURE 2 - BIN CODE 625: UNASSEMBLED CONCENTRIC TWINAX INTERMEDIATE CONTACT PIECE PART
(SEE REQUIREMENT 2)

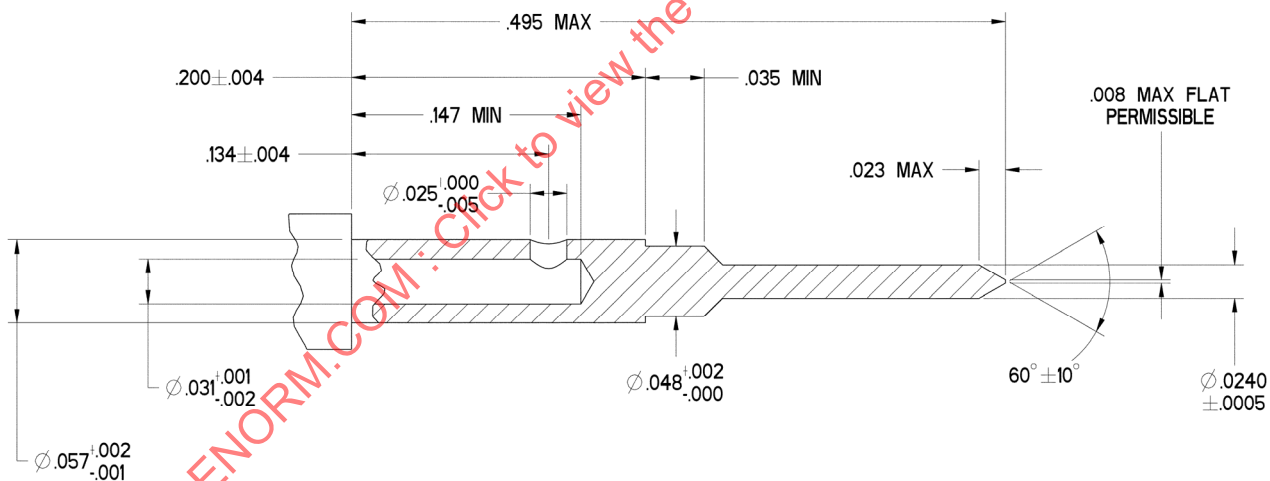
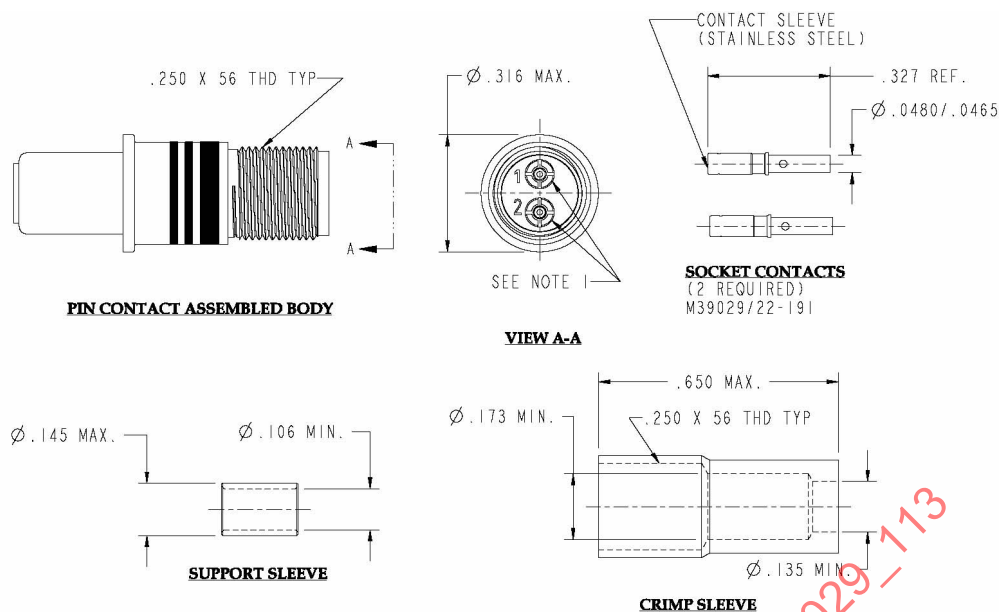


FIGURE 3 - BIN CODE 625: UNASSEMBLED CONCENTRIC TWINAX CENTER CONTACT PIECE PART
(SEE REQUIREMENT 2)

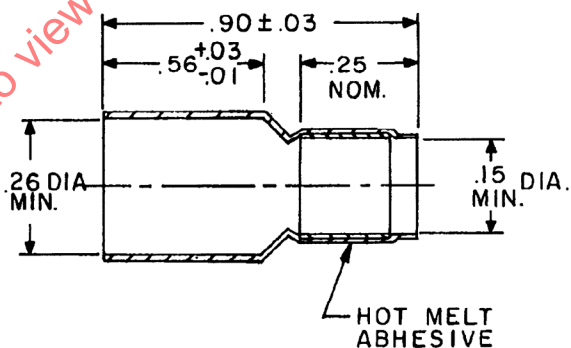


NOTES:

1. Cavity marked "1" connects to inner contact. Cavity marked "2" connects to intermediate contact.
2. Contacts may be inserted by hand. Contacts may be removed using MIL-I-81969/14-1 insertion/extraction tool.

FIGURE 4 - BIN CODE 626: UNASSEMBLED CONCENTRIC TWINAX PIECE PARTS
(SEE REQUIREMENT 2)

INCHES	MM
.00	0.
.010	0.25
.03	0.8
.15	3.8
.25	6.4
.56	14.2
.90	22.9



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. One boot shall be provided with each assembly (Figure 1). Replacement boots may be ordered by the part number specified in Table 9.

FIGURE 5 - HEAT SHRINK BOOT

REQUIREMENTS:

1. QUALIFICATION: CONTACTS SHALL COMPLY WITH THE REQUIREMENTS OF AS39029. CONTACTS SHALL BE QUALIFIED USING THE TOOLING DEFINED IN TABLE 8.

2. DESIGN AND CONSTRUCTION:

THE MAXIMUM NUMBER OF PIECE PARTS IN THE ASSEMBLED CONTACT (FIGURE 1), EXCLUDING THE HEAT SHRINK BOOT, SHALL NOT EXCEED FIVE. THE CONTACT SHALL BE PROVIDED AS UNASSEMBLED PIECE PARTS IN ONE OF TWO DIFFERENT CONFIGURATIONS (BIN CODE 625 OR 626). BOTH CONFIGURATIONS ARE INTERCHANGEABLE IN THE FINAL ASSEMBLY (FIGURE 1). SOME PIECE PARTS OF BIN CODE 625 (FIGURES 2 AND 3) AND BIN CODE 626 (FIGURE 4) REQUIRES DIFFERENT CRIMP TOOLS PRIOR TO FINAL ASSEMBLY (SEE TABLE 8). SEE TABLE 1 FOR DESIGN CHARACTERISTICS.

ALL DIMENSIONS SHOWN AS INCHES AND APPLY AFTER PLATING

TABLE 1 - DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			CONTACT CAVITY SIZE	CABLE ACCOMMODATED	TYPE	CLASS
	1ST	2ND	3RD				
625	BLUE	RED	GREEN	8	M17/176-00002	D	B
626	BLUE	RED	BLUE	8	M17/176-00002	D	B

ASSEMBLY PROCEDURE: MANUFACTURER'S RECOMMENDED ASSEMBLY INSTRUCTIONS, INCLUDING AN EXPLODED VIEW OF THE ASSEMBLY, SHALL BE SHIPPED WITH UNIT PACKAGE.

3. MATERIAL:

HEAT SHRINK BOOT: SHALL BE IN ACCORDANCE WITH SAE-AMS-DTL-23053/8.

4. ELECTRICAL:

LOW SIGNAL LEVEL CONTACT RESISTANCE (CENTER AND INTERMEDIATE CONTACTS ONLY): SEE TABLE 2.

TABLE 2 - LOW SIGNAL LEVEL CONTACT RESISTANCE (CENTER AND INTERMEDIATE CONTACTS ONLY)

BIN CODE	CABLE ACCOMMODATED	MAXIMUM CONTACT RESISTANCE (MILLIOHMS)	
		INITIAL	AFTER CONDITIONING
ALL	M17/176-00002	55	66

CONTACT RESISTANCE: SEE TABLE 3.

TABLE 3 - CONTACT RESISTANCE

BIN CODE	CONTACT	CABLE ACCOMMODATED	TEST CURRENT (AMPERES)	MAXIMUM VOLTAGE DROP (MILLIVOLTS)		
				25 °C, +3 °C, -0 °C		+175 °C, +3 °C, -0 °C
				INITIAL	AFTER CONDITIONING	AFTER CONDITIONING
ALL	CENTER	M17/176-00002	1.0	55	66	94
ALL	INTERMEDIATE	M17/176-00002	1.0	55	66	94
ALL	OUTER	M17/176-00002	12.0	75	90	128

DIELECTRIC WITHSTANDING VOLTAGE: SHALL BE AS SPECIFIED IN TABLE 4.

TABLE 4 - DIELECTRIC WITHSTANDING VOLTAGE

CONTACTS	TEST VOLTAGE (AC RMS)	
	SEA LEVEL	70000 FEET
CENTER TO INTERMEDIATE	1000	250
INTERMEDIATE TO OUTER	500	250

5. MECHANICAL:

CONTACT ENGAGEMENT AND SEPARATION FORCE: THE ENGAGEMENT AND SEPARATION FORCES SHALL BE TESTED WITH TEST PINS INSERTED A MINIMUM OF 0.070 INCH. THE TEST PINS SHALL BE IN ACCORDANCE WITH FIGURE 6. ENGAGEMENT AND SEPARATION FORCES SHALL BE AS SPECIFIED IN TABLE 5.

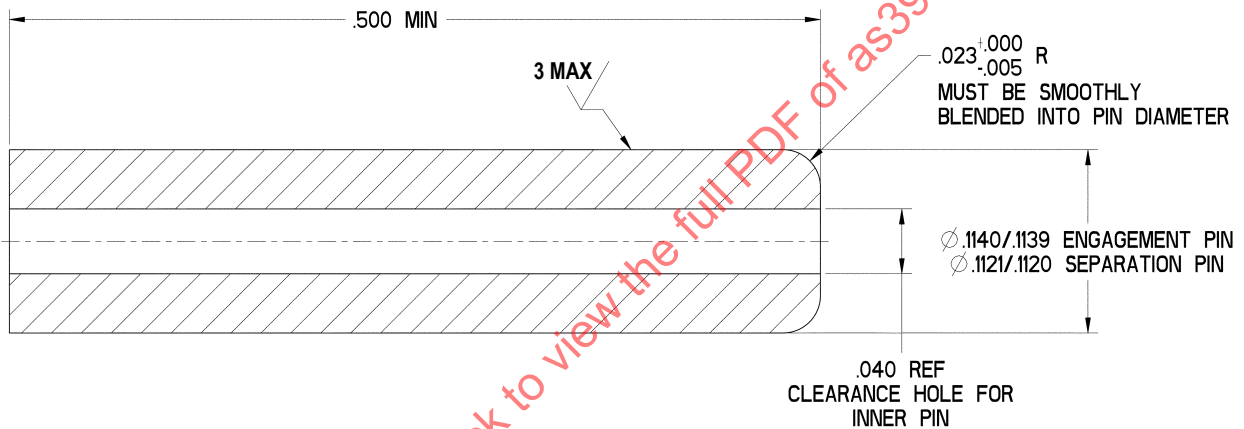


FIGURE 6 - ENGAGEMENT AND SEPARATION TEST PIN DIMENSIONS

TABLE 5 - CONTACT ENGAGEMENT AND SEPARATION FORCE

TEST PIN DIAMETER (INCH)	MINIMUM SEPARATION FORCE (OUNCES)		MAXIMUM ENGAGEMENT FORCE (OUNCES)		MAXIMUM AVERAGE ENGAGEMENT FORCE
	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING	
.1140 $^{+.0000}_{-.0001}$	NA	NA	18	22	NA
.1120 $^{+.0001}_{-.0000}$	0.5	0.4	NA	NA	NA

CRIMP TENSILE STRENGTH (CENTER, INTERMEDIATE, AND OUTER CONTACT CRIMP JOINT): SEE TABLE 6.

TABLE 6 - CRIMP TENSILE STRENGTH (AT AMBIENT)

BIN CODE	CABLE ACCOMMODATED	AXIAL LOAD (POUNDS, MINIMUM)		
		CENTER CONTACT	INTERMEDIATE CONTACT	OUTER CONTACT
625	M17/176-00002	8	8	25
626	M17/176-00002	8	8	25

6. VIBRATION: THE VIBRATION SHALL BE IN ACCORDANCE WITH 39029 EXCEPT TEST CONDITION IV SHALL BE TEST CONDITION V. USE THE VIBRATION ENVELOPE SHOWN IN FIGURE 7.

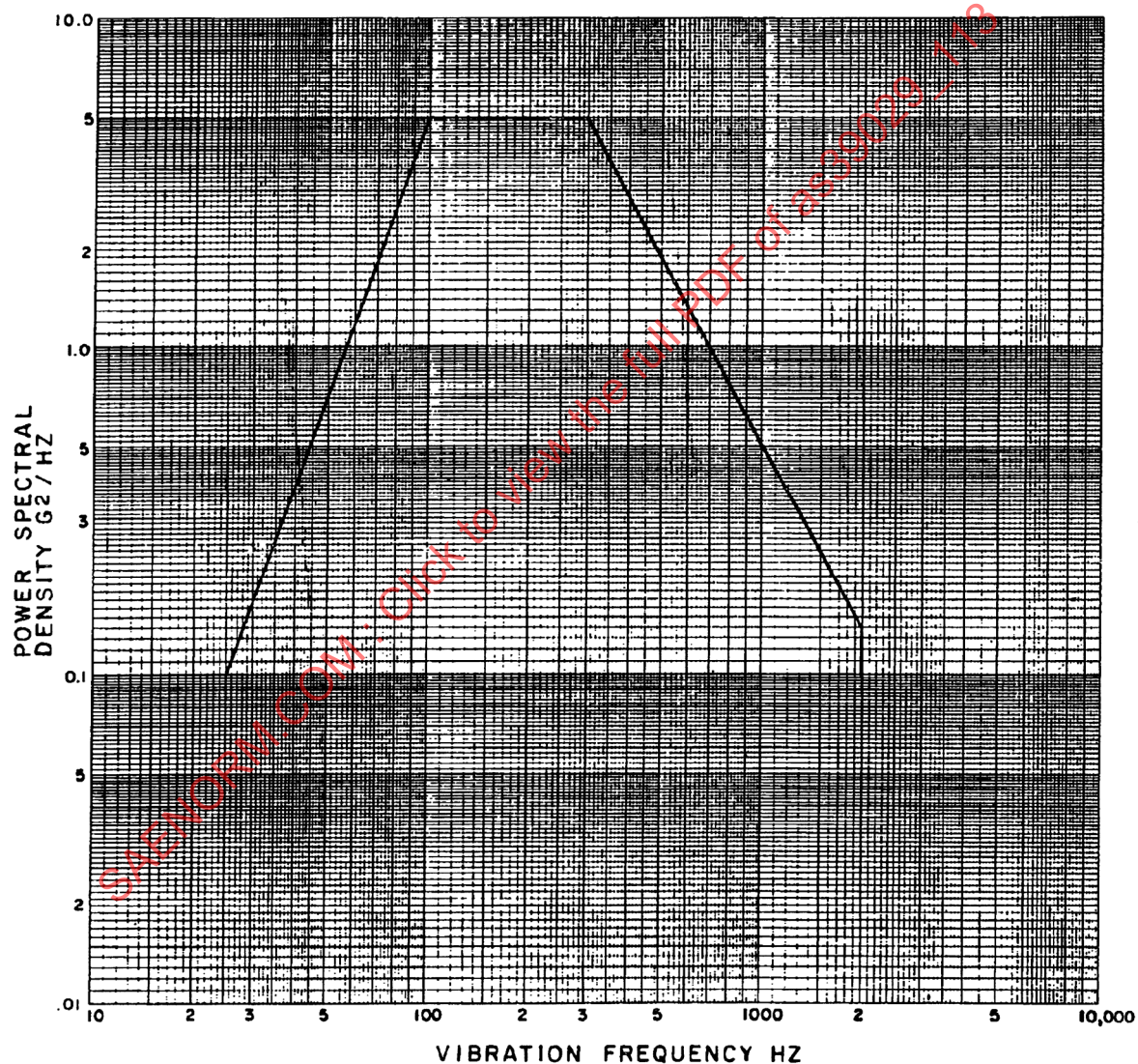


FIGURE 7 - VIBRATION ENVELOPE

7. SHOCK: THE SHOCK TEST SHALL BE RUN PER THE REQUIREMENTS OF MIL-DTL-38999 FOR SERIES III CONNECTORS. THE TEST SHALL BE RUN USING A MATED CONNECTOR PAIR WITH 25-20 INSERTS PER MIL-STD-1560. ALL THREE SIZE 8 CAVITIES ON THE PIN SIDE OF THE INTERFACE SHALL CONTAIN AS39029/113 CONTACTS AND ALL THREE SIZE 8 CAVITIES ON THE SOCKET SIDE OF THE INTERFACE SHALL CONTAIN AS39029/114 CONTACTS. AT LEAST 80% OF THE REMAINING CONTACTS MUST BE WIRED.
8. TOOLS: SHALL BE AS SPECIFIED IN TABLES 7 AND 8.

TABLE 7 - TOOLS (INSTALLING AND REMOVAL)

BIN CODE	INSTALLING AND REMOVAL TOOL
ALL	M81969/14-12

TABLE 8 - TOOLS (CRIMPING)

BIN CODE	CENTER CONTACT TOOLING		INTERMEDIATE CONTACT TOOLING		OUTER CRIMP SLEEVE TOOLING	
	BASIC CRIMPING TOOL	CONTACT POSITIONER	BASIC CRIMPING TOOL	DIE PART NO.	BASIC CRIMPING TOOL	DIE PART NO.
625	M22520/2-01	M22520/2-37 ¹	M22520/5-01	M22520/5-105 ²	M22520/5-01	M22520/5-105 ²

BIN CODE	WIRE CONTACT TOOLING		CRIMP SLEEVE TOOLING	
	BASIC CRIMPING TOOL	CONTACT POSITIONER	BASIC CRIMPING TOOL	DIE PART NO.
626	M22520/2-01	M22520/2-38 ³	M22520/5-01	M22520/5-106 ⁴

NOTES:

- SEE FIGURE 8 FOR GRAPHIC OF M22520/2-37 (REFERENCE K709 OR EQUIVALENT) POSITIONER.
- SEE FIGURE 9 FOR GRAPHIC OF M22520/5-105 (REFERENCE Y631 OR EQUIVALENT) DIE.
- SEE FIGURE 10 FOR GRAPHIC OF M22520/2-38 POSITIONER.
- SEE FIGURE 11 FOR GRAPHIC OF M22520/5-106 DIE.
- TOOL POSITIONERS AND DIES ARE NOT REQUIRED TO BE QUALIFIED TO MIL-DTL-22520.

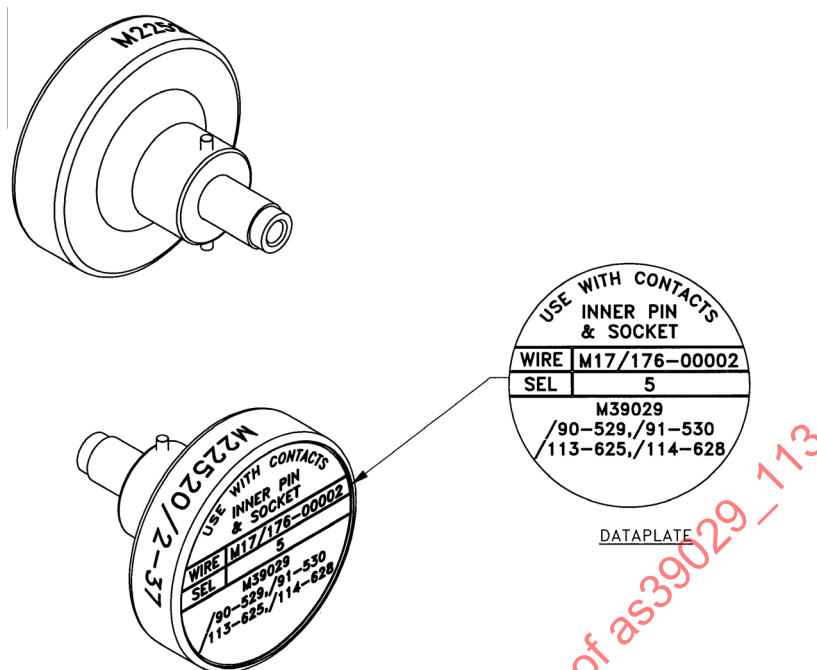


FIGURE 8 - GRAPHIC OF M22520/2-37 POSITIONER

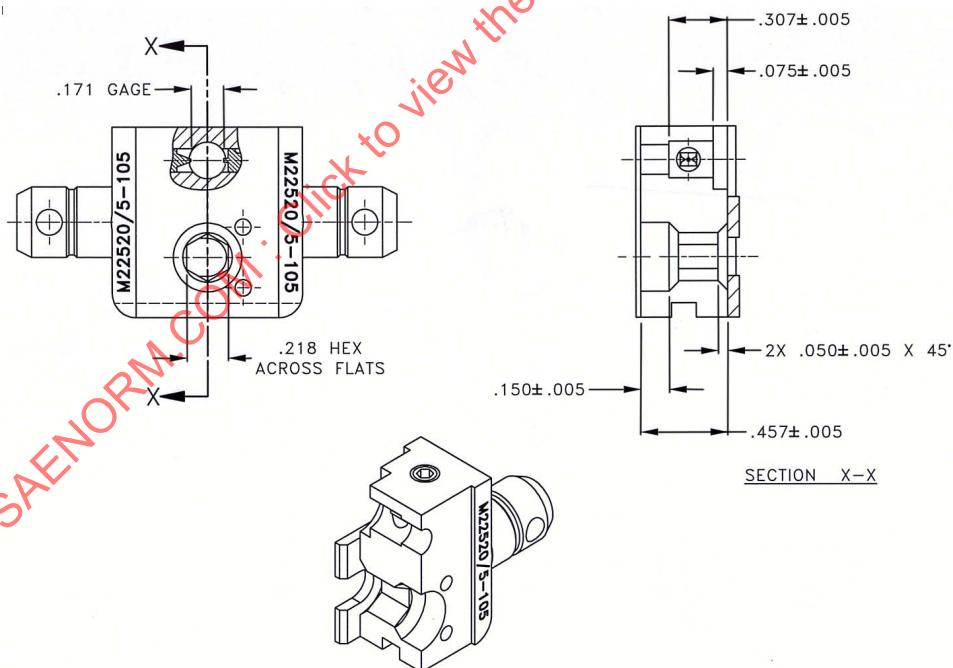


FIGURE 9 - GRAPHIC OF M22520/5-105 DIE