

REV. B

SAE AS39029/76

RATIONALE

FEDERAL SUPPLY CLASS 5999

REVISION IS REQUIRED TO CORRECT TABLE 1 DIMENSIONS "F" AND "K" TOLERANCE ERROR FROM A MAXIMUM TO A MINIMUM.

NOTICE

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

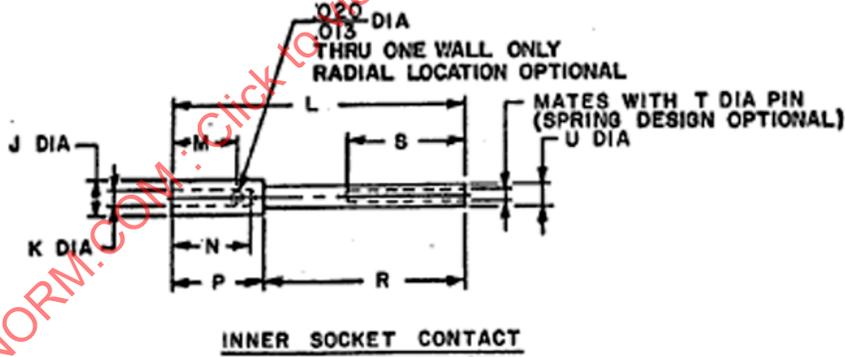
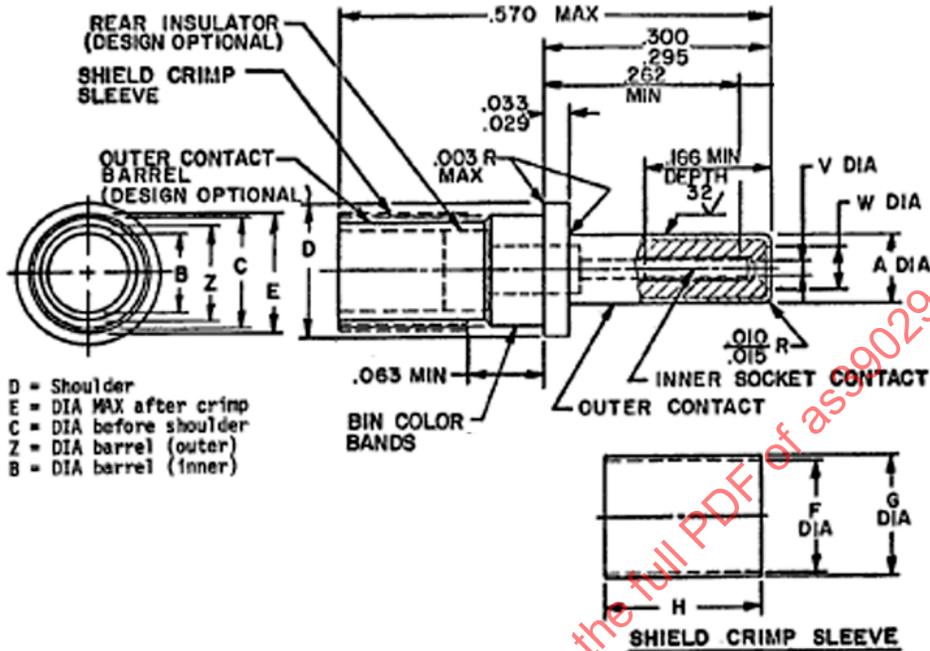
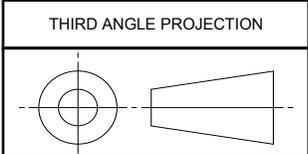


FIGURE 1 – PIN CONTACTS

(SEE DESIGN PARAGRAPH FOR ADDITIONAL DIMENSIONAL DETAILS).

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CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD
CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE, SHIELDED, SIZE 16 (FOR MIL-DTL-38999 SERIES I, II, III, IV CONNECTORS)

SAE AS39029/76
SHEET 1 OF 6

REV. B

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ISSUED 2000-07 REVISED 2012-02

TABLE 1A - CONTACT DIMENSIONS

| BIN CODE | A DIA | B DIA MIN | C DIA | D DIA | E DIA MAX | F DIA MIN | G DIA MAX | H | J DIA MAX | K DIA MIN | L REF |
|----------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 424 | | .0670 (1.70) | | | | .105 (2.67) | | | .046 (1.17) | .0210 (.53) | .392 (9.96) |
| 425 | .0635 (1.61) | .0575 (1.46) | .103 (2.62) | .130 (3.30) | .108 (2.74) | .094 (1.63) | .120 (3.05) | .105 (2.67) | .046 (1.17) | .0210 (.53) | |
| 426 | .0615 (1.56) | .0670 (1.70) | .101 (2.56) | .127 (3.23) | | .105 (2.67) | | .095 (2.41) | .052 (1.32) | .0355 (.90) | |
| 427 | | .0575 (1.46) | | | | .094 (1.63) | | | .046 (1.17) | .0270 (.69) | |

TABLE 1B - CONTACT DIMENSIONS (CONTINUED)

| BIN CODE | M | N MIN | P | R | S MIN | T | U | V DIA | W DIA | Z DIA MAX |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|
| 424 | | | | | | | | | | .085 (2.16) |
| 425 | .094 (2.39) | .103 (2.62) | .125 (3.18) | .271 (6.88) | .156 (3.96) | .0155 (.39) | .030 (.76) | .022 (.56) | .041 (1.04) | .076 (1.93) |
| 426 | .087 (2.21) | | .119 (3.02) | .269 (6.83) | | .0145 (.37) | .028 (.71) | .018 (.46) | .038 (.97) | .085 (2.16) |
| 427 | | | | | | | | | | .076 (1.93) |

TABLE 2 - MARKING AND DESIGN CHARACTERISTICS

| BIN CODE | COLOR BANDS | | | CABLE ACCOMMODATED | CONTACT CAVITY SIZE | TYPE | CLASS |
|----------|-----------------|-----------------|-----------------|---|---------------------|------|-------|
| | 1 ST | 2 ND | 3 RD | | | | |
| 424 | YELLOW | RED | YELLOW | M17/119-RG174 M17/113-RG316 M17/094-RG179 1/ 2/ TIMES AA3248 1/ 2/ TELEDYNE 11299 1/ 2/ THERMAX 75-738-BCCWXE 1/ 2/ TENSOLITE 30888/L707YX-1 1/ 2/ HAVEG 8100207 | 16 | D | B |
| 425 | YELLOW | RED | GREEN | M17/093-RG178 | | | |
| 426 | YELLOW | RED | BLUE | 1/ HAVEG 61-02051 1/ REVERE WH95623 (RED SHEILDDED) | | | |
| 427 | YELLOW | RED | VIOLET | 1/ HAVEG 30-00761 1/ HAVEG 30-02024 1/ HAVEG 30-02033 1/ TENSOLITE 24713/A955KK1 1/ TENSOLITE 26723/A955KK1 | | | |

TABLE 3 - TOOLS

| BIN CODE | INNER CONTACT | | OUTER CONTACT | | INSTALLING TOOL | REMOVAL TOOL |
|--------------------|---------------------|-------------|---------------------|-------------|-----------------------------------|-----------------------------------|
| | BASIC CRIMPING TOOL | POSITIONER | BASIC CRIMPING TOOL | POSITIONER | | |
| 424, 425, 426, 427 | M22520/2-01 | M22520/2-35 | M22520/4-01 | M22520/4-02 | M81969/8-07 OR M81969/14-03 | M81969/8-08 OR M81969/14-03 |

TABLE 4 – CONTACT ENGAGEMENT AND SEPARATION FORCES

| TEST PIN DIAMETER (INCH) | MINIMUM SEPARATION FORCE (OUNCES) | | MAXIMUM ENGAGEMENT FORCE (OUNCES) | | MAXIMUM AVERAGE ENGAGEMENT FORCE (OUNCES) | |
|--|-----------------------------------|--------------------|-----------------------------------|--------------------|---|--------------------|
| | INITIAL | AFTER CONDITIONING | INITIAL | AFTER CONDITIONING | INITIAL | AFTER CONDITIONING |
| .0155 (0.39) +.0002 (0.01) -.0000 (0.00) | N/A | N/A | 12 | 14 | N/A | N/A |
| .0145 (0.37) +.0000 (0.00) -.0002 (0.01) | 0.5 | 0.4 | N/A | N/A | N/A | N/A |

TABLE 5 – CONTACT RESISTANCE

| BIN CODE | CABLE ACCOMMODATED | MAXIMUM VOLTAGE DROP (MILLIVOLTS) | | | | | |
|---------------------|---------------------------------|-----------------------------------|-------|------------------|-------|----------------|--------|
| | | 25° +3°, -0°C | | 25° +3°, -0°C 2/ | | 200° +3°, -0°C | |
| | | INNER | OUTER | INNER | OUTER | INNER | OUTER |
| 424 | 5/ M17/119-RG174 | 55 | 85 | 66 | 102 | 94 4/ | 145 4/ |
| | M17/113-RG316 | 55 | 75 | 66 | 90 | 94 | 128 |
| | M17/094-RG179 | 120 | 70 | 66 | 84 | 204 | 119 |
| | 1/ 3/ TIMES AA3248 | 170 | 150 | 144 | 180 | 290 | 255 |
| | 1/ 3/ TELEDYNE 11299 | 170 | 150 | 204 | 180 | 290 | 255 |
| | 1/ 3/ THERMAX 75-738-BCCWXE | 170 | 150 | 204 | 180 | 290 | 255 |
| | 1/ 3/ TENSOLITE 30888/L707YX-1 | 170 | 150 | 204 | 180 | 290 | 255 |
| 1/ 3/ HAVEG 8100207 | 170 | 150 | 204 | 180 | 290 | 255 | |
| 425 | M17/093-RG178 | 120 | 110 | 144 | 132 | 204 | 187 |
| 426 | 1/ HAVEG 61-02051 | 65 | 100 | 78 | 120 | 111 | 170 |
| | 1/ REVERE WH95623 (RE SHIELDED) | 65 | 100 | 78 | 120 | 111 | 170 |
| 427 | 1/ HAVEG 30-00761 | 120 | 110 | 144 | 132 | 204 | 187 |
| | 1/ HAVEG 30-02024 | 120 | 110 | 144 | 132 | 204 | 187 |
| | 1/ HAVEG 30-02033 | 120 | 110 | 144 | 132 | 204 | 187 |
| | 1/ TENSOLITE 24713/A955KK1 | 55 | 100 | 66 | 120 | 94 | 170 |
| | 1/ TENSOLITE 26723/A955KK1 | 65 | 100 | 78 | 120 | 111 | 170 |

1/ OR EQUIVALENT

2/ AFTER CONDITIONING

3/ HIGH TENSILE STRENGTH COPPER ALLOY WIRE

4/ 85° C +3°, -0°

5/ M17/119-RG174 PVC NOT FOR NAVY USE

| | | | |
|---|--|---------------------------------------|-------------------------|
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| | CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE, SHIELDED, SIZE 16 (FOR MIL-DTL-38999 SERIES I, II, III, IV CONNECTORS) | | |

TABLE 6 – LOW SIGNAL LEVEL CONTACT RESISTANCE (INNER CONTACT ONLY) AND TENSILE STRENGTH

| BIN CODE | CABLE ACCOMMODATED | MAXIMUM CONTACT RESISTANCE (MILLIOHMS) | | TENSILE LOAD (POUNDS MINIMUM) | |
|----------|----------------------------------|--|--------------------|-------------------------------|---------------|
| | | INITIAL | AFTER CONDITIONING | INNER CONTACT | OUTER CONTACT |
| 424 | M17/119-RG174 | 55 | 66 | 15.0 | 15.0 |
| | M17/113-RG316 | 55 | 66 | 10.0 | 15.0 |
| | M17/094-RG179 | 120 | 144 | 3.5 | 15.0 |
| | 1/ 2/ TIMES AA3248 | 170 | 204 | 7.0 | 35.0 |
| | 1/ 2/ TELEDYNE 11299 | 170 | 204 | 7.0 | 35.0 |
| | 1/ 2/ THERMAX 75-738-BCCWXE | 170 | 204 | 7.0 | 35.0 |
| | 1/ 2/ TENSOLITE 30888/L707YX-1 | 170 | 204 | 7.0 | 35.0 |
| | 1/ 2/ HAVEG 8100207 | 170 | 204 | 7.0 | 35.0 |
| 425 | M17/093-RG178 | 120 | 144 | 3.5 | 10.0 |
| 426 | 1/ HAVEG 61-02051 | 65 | 78 | 15.0 | 15.0 |
| | 1/ REVERE WH95623 (RE SHEILDDED) | 65 | 78 | 15.0 | 15.0 |
| 427 | 1/ HAVEG 30-00761 | 120 | 144 | 4.0 | 10.0 |
| | 1/ HAVEG 30-02024 | 120 | 144 | 4.0 | 10.0 |
| | 1/ HAVEG 30-02033 | 120 | 144 | 4.0 | 10.0 |
| | 1/ TENSOLITE 24713/A955KK1 | 55 | 66 | 4.0 | 10.0 |
| | 1/ TENSOLITE 26723/A955KK1 | 65 | 78 | 4.0 | 10.0 |

1/ OR EQUIVALENT

2/ HIGH TENSILE STRENGTH COPPER ALLOY WIRE

TABLE 7 – PART NUMBER AND BIN CODE

| PART NUMBER | BIN CODE | SUPERSEDED |
|---------------|----------|---------------|
| M39029/76-424 | 424 | M39029/76-16A |
| M39029/76-425 | 425 | M39029/76-16B |
| M39029/76-426 | 426 | M39029/76-16C |
| M39029/76-427 | 427 | M39029/76-16D |

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS39029.

1. DESIGN:

CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1, TABLES 1 AND 2. DIMENSIONS ARE IN INCHES, METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY. DIMENSIONS SHOWN APPLY AFTER PLATING. THE .262 MIN DIMENSION IS THE POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE INNER CONTACT SPRING. PROVISION FOR CLEARANCE HOLE SHALL BE PROVIDED. CRIMP DEFORMATION: THE MAXIMUM DIAMETER OVER THE CRIMPED PORTION OF THE SHIELD CRIMP SLEEVE SHALL NOT EXCEED E DIAMETER.

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO THE WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 3.

3. PART NUMBERS:

CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 7. SUPERSEDING PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

| | | | |
|---|--|---------------------------------------|------------------|
|  An SAE International Group | AEROSPACE STANDARD | SAE AS39029/76 SHEET 4 OF 6 | REV. B |
| | CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE, SHIELDED, SIZE 16 (FOR MIL-DTL-38999 SERIES I, II, III, IV CONNECTORS) | | |