FEDERAL SUPPLY CLASS
5935

RATIONALE

REVISION IS REQUIRED TO CORRECT THE MAXIMUM GAP REQUIREMENT BETWEEN THE CONTACT HOOD AND THE CONTACT BODY, AN EDITORIAL ERROR IN REVISION C OF THE MILITARY VERSION INCORRECTLY LISTED THE REQUIREMENT AS .10 INSTEAD OF THE CORRECT VALUE OF .010.

NOTICE

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

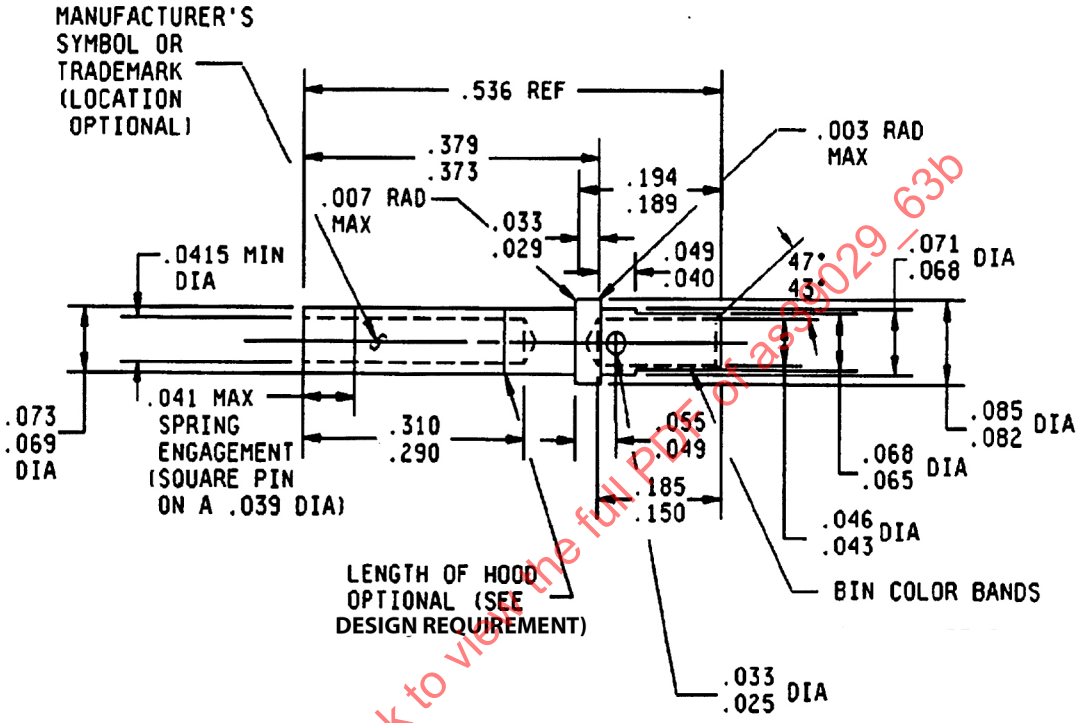


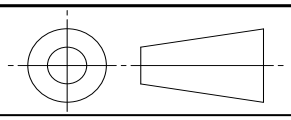

FIGURE 1 - DIMENSIONS AND CONFIGURATION

| INCHES | MM | INCHES | MM | INCHES | MM | INCHES | MM |
|---|---|---|---|---|---|---|---|
| .003 | 0.08 | .0415 | 1.054 | .071 | 1.80 | .290 | 7.37 |
| .007 | 0.18 | .043 | 1.09 | .073 | 1.85 | .310 | 7.87 |
| .025 | 0.64 | .046 | 1.17 | .082 | 2.08 | .373 | 9.47 |
| .029 | 0.74 | .049 | 1.24 | .085 | 2.16 | .379 | 9.63 |
| .033 | 0.84 | .055 | 1.40 | .150 | 3.81 | .536 | 13.61 |
| .039 | 0.99 | .065 | 1.65 | .185 | 4.70 | | |
| .040 | 1.02 | .068 | 1.73 | .189 | 4.80 | | |
| .041 | 1.04 | .069 | 1.75 | .194 | 4.93 | | |



**SAE values your input. To provide feedback on this Technical Report, please visit**
**http://www.sae.org/technical/standards/AS39029/63B**

THIRD ANGLE PROJECTION



ISSUED 2000-07 REAFFIRMED 2006-10 REVISED 2012-11

CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS39029

SAE Aerospace
An SAE International Group

# AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP REMOVABLE (FOR MIL-DTL-24308 CONNECTORS)

TABLE 1 - DESIGN CHARACTERISTICS

| BIN CODE | COLOR BANDS | | | MATING END SIZE | WIRE BARREL SIZE | TYPE | CLASS |
|---|---|---|---|---|---|---|---|
| | 1ST | 2ND | 3RD | | | | |
| 368 | ORANGE | BLUE | GRAY | 20 | 20 | A | A |
| 656 1/ | BLUE | GREEN | BLUE | 20 | 20 | A | A |

1/ FINISH SHALL BE GOLD PLATING IN ACCORDANCE WITH ASTM B 488, TYPE II, CODE C, CLASS 1.27 OVER A SUITABLE UNDERPLATE. SILVER AND NICKEL SHALL NOT BE USED AS AN UNDERPLATE ON CLASSES M & N. THIS FINISH IS INTENDED FOR USE WITH MIL-DTL-24308 NON-MAGNETIC CONNECTORS, CLASS M AND N ONLY.

TABLE 2 - TOOLS

| BIN CODE | BASIC CRIMPING | POSITIONER | INSTALLING AND REMOVAL TOOLS |
|---|---|---|---|
| 368, 656 | M22520/2-01 | M22520/2-08 | M81969/39-01 OR M81969/1-02 |

TABLE 3 - PART NUMBER

| BIN CODE | PART NUMBER | SUPERSEDED PART NUMBER |
|---|---|---|
| 368 | M39029/63-368 | M24308/10-1 |
| 656 | M39029/63-656 | ---- |



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 AND TABLE 1. DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY. DIMENSIONS SHOWN APPLY AFTER PLATING. OPERATING TEMPERATURE RANGE: -65 °C (-85 °F) TO 200 °C (392 °F). MACHINED SURFACES TO HAVE 63 (RA) OR BETTER PER USASI B46.1 UNLESS OTHERWISE SPECIFIED. REMOVE ALL BURRS AND SHARP EDGES .003 (0.08 MM) MAXIMUM UNLESS OTHERWISE SPECIFIED. ALL DIAMETERS TO BE CONCENTRIC WITH EACH OTHER WITHIN .004 (0.10 MM) TIR. THE MECHNICAL PRESSURE MEMBER SHALL BE SHROUDED. HOODS, IF USED, SHALL CONFORM TO THE REQUIREMENTS SPECIFIED HERIN. MAXIMUM ALLOWABLE GAP BETWEEN HOOD AND BODY OF CONTACT IS .010 INCH (0.254 MM).

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO THE WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 2.

3. PART NUMBERS:

CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 3. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

OUTGASSING REQUIREMENT:

PART NUMBER M39029/63-656 SHALL MEET THE OUTGASSING REQUIREMENTS OF ASTM E 595. THE REQUIREMENT MAY BE VERIFIED BY CERTIFICATION. CONTACT THE QUALIFYING ACTIVITY FOR DETAILS CONCERNING THE CERTIFICATION PROCESS.

RESIDUAL MAGNETISM REQUIREMENT:

PART NUMBER M39029/63-656 SHALL ALSO MEET THE RESIDUAL MAGNETISM. CONTACT HOODS MAY BE OF AN ALTERNATE MATERIAL TO MEET THE RESIDUAL MAGNETISM REQUIREMENT, HOWEVER THE CONTACTS MUST MEET ALL OTHER REQUIREMENTS OF AS39029 AND THIS DETAIL SHEET. WHEN TESTED WITH THE APPLICABLE MIL-DTL-24308 CONNECTOR, THE RESIDUAL MAGNETISM SHALL NOT EXCEED 200 GAMMA. THE FOLLOWING DETAILS SHALL APPLY:

ACCEPTABLE TEST METHOD.

CONNECTOR SHALL BE FULLY ASSEMBLED BEFORE TESTING. THE RESIDUAL MAGNETISM TEST SHALL BE PERFORMED IN A MAGNETICALLY QUIET AREA, I.E., WHERE MACHINES, ELECTRONIC EQUIPMENT, VEHICLES, AND PERSONNEL TRAFFIC ARE RESTRICTED. REFER TO THE TEST ARRANGEMENT OF FIGURE 2 BELOW AND PROCEED AS FOLLOWS:

A. WARM UP THE MILLIAMMETER OR FLUX METER FOR A MINIMUM OF 15 MINUTES

B. MOUNT THE MAGNETOMETER PROBE IN A NON-MAGNETIC STAND IN A HORIZONTAL POSITION AT FULL CABLE LENGTH FROM THE MILLIAMMETER.

C. WITH THE METER PRESET TO THE APPROPRIATE SCALE, ALIGN THE PROBE IN A MAGNETIC E-W DIRECTION OR ORIENT TO OBTAIN A ZERO READING ON THE METER.

D. PASS THE CONNECTOR SPECIMEN THREE TIMES BETWEEN THE POLES OF A MAGNET WITH A FIELD STRENGTH OF 5000 GAUSS ± 5%. THE CONNECTOR SHALL NOT CONTACT THE POLE PIECES.

E. IMMEDIATELY PLACE THE CONNECTOR TO WITHIN ONE-EIGHT (1/8) INCH OF THE PROBE TIP AND ORIENT THE SPECIMEN FOR A MAXIMUM MAGNETISM READING. THE MEASUREMENT UNIT SHALL BE IN GAMMA, WHERE ONE GAMMA IS EQUIVALENT TO 1 X $10^{-5}$ GAUSS.

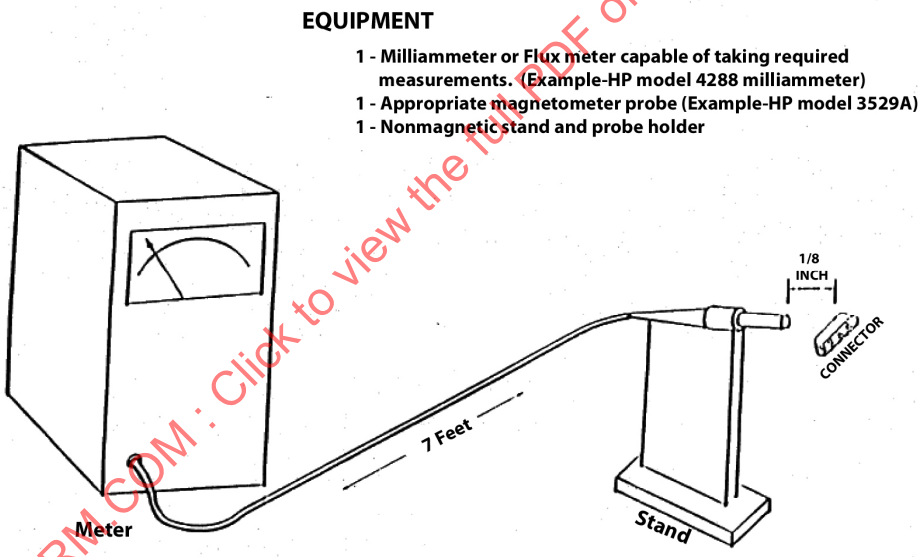



FIGURE 2 - RESIDUAL MAGNETISM TEST ARRANGEMENT

AN ALTERNATIVE RESIDUAL MAGNETISM TEST METHOD MAY BE USED WITH APPROVAL FROM THE QUALIFYING ACTIVITY.

5. MECHANICAL:

MECHANICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

6. ELECTRICAL:

ELECTRICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

7. ENVIRONMENTAL:

ENVIRONMENTAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.