

INCH-POUND

MIL-PRF-55339/44C

28 January 2015

SUPERSEDING

MIL-A-55339/44B

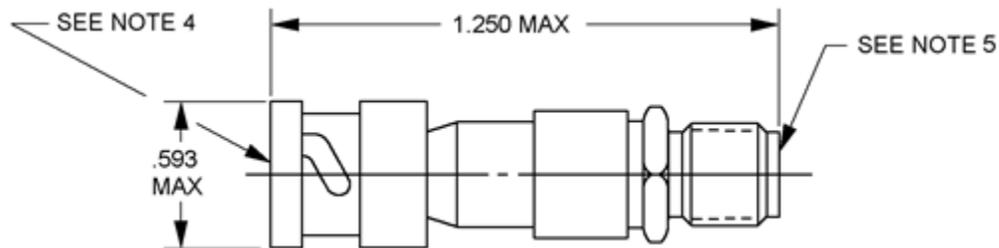
13 July 1987

### PERFORMANCE SPECIFICATION

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY, IN-LINE,  
(BETWEEN SERIES SMA JACK TO SERIES BNC PLUG), CLASS 2

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-55339.



| Inches | mm    |
|--------|-------|
| .593   | 15.06 |
| 1.250  | 31.75 |

#### NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. All undimensioned pictorial representations are for reference purposes only.
4. BNC pin contact interface, in accordance with MIL-STD-348.
5. SMA socket contact, in accordance with MIL-STD-348.

FIGURE 1. General configuration.



ENGINEERING DATA:

Design and construction:

General configuration: See figure 1.

Impedance: 50 ohms, nominal.

Working voltage:

Sea level: 335 V rms.  
70,000 feet: 85 V rms.

Frequency range: 0 to 4 GHz.

Temperature range: -65°C to +165°C.

REQUIREMENTS (installation torque of 4 to 6 inch-pounds).

Series BNC coupling nut shall be nickel plated in accordance with SAE-AMS-QQ-N-290, 200-300 microinches, thickness.

Dimensions: See figure 1 and MIL-STD-348.

|                                 |                |                |
|---------------------------------|----------------|----------------|
| Center contact retention:       | Series BNC     | Series SMA     |
| Axial force: (pounds, minimum): | 6              | 6              |
| Torque: (inch-ounces, minimum): | Not applicable | Not applicable |

|                                       |            |                |
|---------------------------------------|------------|----------------|
| Force to engage and disengage:        | Series BNC | Series SMA     |
| Longitudinal force (pounds, maximum): | 3          | Not applicable |
| Torque: (inch-pounds, maximum):       | 2.5        | 2              |

Mating characteristics:

Series BNC:

Outer contact:

Minimum test pin inner diameter: .319 inch, maximum.  
Pin finish: 16 microinches.  
Insertion force: 5 pounds, maximum.  
Insertion depth: .093 inch, minimum.  
Number of insertions: 1.

Contacts with slotted members:

Shall contact a .324 minimum diameter ring within .031 of their tip ends.

Series SMA:

Center contact (socket):

Oversize test pin diameter: .0375 + .0001.  
Insertion depth: .030/.045 inch, minimum.  
Number of insertions: 3.  
Pin finish: 16 microinches.

Maximum Test pin (insertion force test):  
 Steel test pin diameter: .0370 + .0001.  
 Pin finish: 16 microinches.  
 Insertion force: 3 pounds, maximum.  
 Number of insertions: 3.

Minimum test pin (withdrawal force):  
 Steel test pin diameter: .0355 - .0001.  
 Pin finish: 16.  
 Withdrawal force: 1 ounce, minimum.  
 Number of withdrawals: 1.

Inspection conditions: For each test of threaded coupling connector where the test is performed on mated pairs, the pairs shall be torqued to 7 to 10 inch-pounds.

Permeability: <2.0.

Seal:  
 Pressurized: Not applicable.  
 Weatherproof: Not applicable.

Insulation resistance: 5,000 megohms, minimum.

VSWR: 1.30:1 maximum at .5 to 4 GHz.

RF leakage (total): -55 dB, minimum, 2 to 3 GHz.

RF insertion loss: .2 dB, maximum, 3 GHz ( $.115 \sqrt{F \text{ (GHz)}}$  dB maximum tested at 3 GHz).

Durability: 500 cycles minimum at 12 cycles per minute maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Dielectric withstanding: Test voltage: 1,500 V rms, minimum (sea level).

Contact resistance (milliohms, maximum):

| Contract | Initial           | After          |
|----------|-------------------|----------------|
| Center   | 4.1 <sup>1/</sup> | 6.0            |
| Outer    | 2.2               | Not applicable |

<sup>1/</sup> Two center contacts must be mated to the center conductor under test, therefore doubling “center contact” resistance.

Vibration, high frequency: Method 204, MIL-STD-202, test condition D, interruptions – 1 μs, maximum.

Shock (specified pulse): Method 213, MIL-STD-202, test condition I.

Thermal shock: Method 107, MIL-STD-202, test condition C.

Moisture resistance: 200 megohms, minimum.

Corona level:  
 Voltage: 250 V, minimum.  
 Altitude: 70,000 feet, minimum.

RF high potential withstanding voltage:  
 RF voltage: 670 V rms, minimum.

Frequency: 5 MHz, minimum.

Salt spray (corrosion): Test condition B.

Coupling mechanism retention force:

|                     |                |
|---------------------|----------------|
| Series BNC          | Series SMA     |
| 100 pounds, minimum | Not applicable |

Group qualification: See table I.

TABLE I. Group qualifications.

| Group | Submission and qualification of any of the following connectors | Qualifies the following connectors |
|-------|---|------------------------------------|
| I     | M55339/44-30001<br>M55339/44-50001                              | M55339/44-30001<br>M55339/44-50001 |

Marking: As specified in MIL-A-55339.

Part or Identifying Number (PIN):

M55339/44-30001.  
M55339/44-50001.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents: In addition to MIL-DTL-55339, this document references the following:

MIL-STD-202  
MIL-STD-348  
SAE-AMS-QQ-N-290

CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
DLA – CC

Preparing activity:  
DLA - CC

(Project 5935-2015-023)

Review activities:

Army - AR, AT, MI  
Navy - AS, MC, SH  
Air Force – 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of information above using the ASSIST Online database at <https://assist.dla.mil>.