

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

MIL-PRF-55339/45A
 28 February 1979
 SUPERSEDING
 MIL-A-55339/45
 11 January 1977

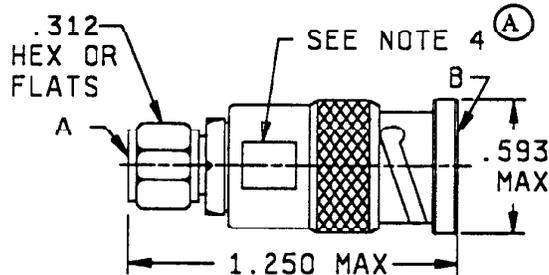
PERFORMANCE SPECIFICATION

(A)

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

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

The complete requirements for procuring the adapter described herein shall consist of this document and the latest issue of Specification MIL-PRF-55339.



Reference	Series	Contact	Figure
A	SMA	Pin	2
B	BNC	Pin	3

Inches	mm
.312	7.92
.593	15.06
1.250	31.75

NOTES:

- Dimensions are in inches
- Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
- All undimensioned pictorial representations are for reference purposes only.
- Wrench flats are to accommodate standard wrench opening per H-28 App. 10.
- Unless otherwise specified, tolerances are $\pm .005$ (.13 mm) on three place decimals and $\pm .010$ (.25 mm) on two place decimals.

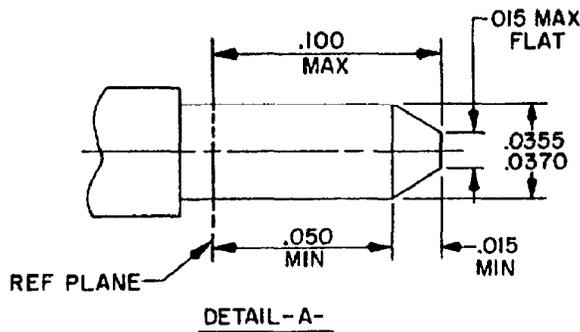
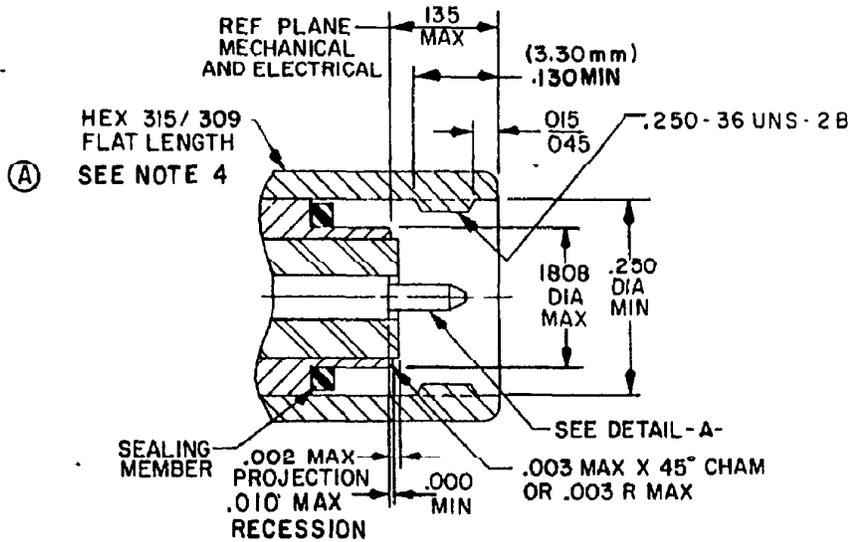
(A)

FIGURE 1. General configuration.

(A)

denotes change

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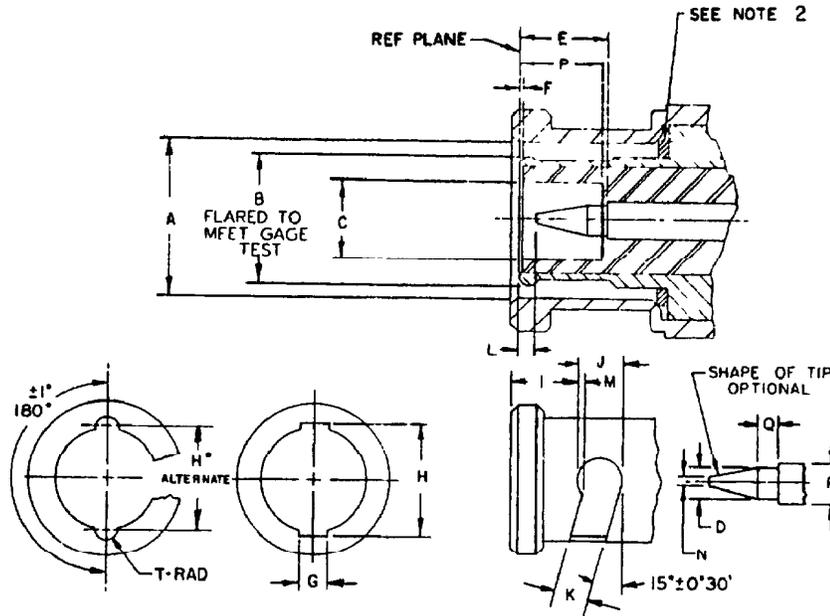


INCHES	MM
.002	.05
.003	.08
.015	.38
.0353	.90
.0370	.94
.045	1.14
.050	1.27
.100	2.54
.125	3.18
.135	3.43
.1808	4.59
.250	6.35
.309	7.85
.315	8.00

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Three holes .016 (.41 mm) minimum diameter, equally spaced, are required for safety wiring after mating. Location on coupling nut optional.
4. 150 minimum across the narrowest part of flat.

FIGURE 2. Mating dimensions for male terminations



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.385 (9.78)	.390 (9.91)
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	.054 (1.37)
E	.210 (5.33)	.230 (5.84)
F	.006 (.15)	
G	.091 (2.31)	.097 (2.46)
H	.463 (11.76)	.473 (12.01)
H*	.394 (10.01)	.400 (10.16)
I	.180 (4.57)	.184 (4.67)
J	.124 (3.15)	
K	.091 (2.31)	.097 (2.46)
L	.003 (.08)	.040 (1.02)
M	.018 (.46)	.022 (.56)
N		.025 (.64)
P	.208 (5.28)	.228 (5.79)
Q	.078 (1.98)	
R	.081 (2.06)	.087 (2.21)
T	.045 (1.14)	.049 (1.24)

(A)

NOTES

- 1 Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.
2. In the mated condition the longitudinal force of the spring of the coupling mechanism shall exceed the pressure exerted by the sealing gasket by an amount necessary to insure butting of the outer contacts at the reference plane.

FIGURE 3. Mating dimensions for pin terminations.

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DESIGN AND CONSTRUCTION:

General configuration: See figure 1.

Impedance: 50 ohms, nom.

(A) Working voltage: Sea level - 335 Vrms.
70,000 feet - 85 Vrms.

Frequency range: 0 to 4 GHz.

Temperature range: -65° to +165°C.

PERFORMANCE (installation torque 7 to 10 in. lbs).

Dimensions: See figures 1, 2, and 3.

Center contact retention:	Axial force - (lb, min)	<u>Series SMA</u> 6	<u>Series BNC</u> 6
	Torque -	Not applicable	Not applicable

Force to engage and disengage:	Longitudinal force -	<u>Series SMA</u> Not applicable	<u>Series BNC</u> 3
	Torque - (in. lb, max)	2	2.5

Coupling proof torque:	<u>Series SMA</u> 15 in. lbs, min.	<u>Series BNC</u> Not applicable
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Mating characteristics:

Series SMA - Not applicable

Series BNC

Outer contact:

Min test ID - .319 in., max.

Pin finish - 16 microinches.

Insertion force - 5 lb. max.

Insertion depth - .093 in., min

No. of insertions - 1.

Contacts with slotted members: Shall contact a .324 minimum diameter ring within .031 of their tip ends.

Permeability: <2.0.

Seal:

Pressurized - Not applicable.

Weatherproof - Not applicable.

Insulation resistance: 5,000 megohms, min.

VSWR: 1.30 max at .5 to 4 GHz.

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

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

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

Dielectric withstanding: Test voltage - 1,500 Vrms, min (sea level).

Contact resistance (milliohms, max)

<u>Contact</u>	<u>Initial</u>	<u>After</u>
Center	4.1 <u>1/</u>	6.0
Outer	2 2	Not applicable

Vibration, high frequency. Interruptions - 1 μ s, max. Test condition D

Shock: Test condition I.

Thermal shock: Test condition C

Moisture resistance 200 megohms, min

Corona level: Voltage - 250 V, min.

Altitude - 70,000 feet, min.

RF high potential withstanding voltage: RF voltage - 670 Vrms, min.
Frequency - 5 MHz, min.

Salt spray (corrosion): Test condition B.

	<u>Series BNC</u>	<u>Series SMA</u>
Coupling mechanism retention force:	100 lb, min.	60 lbs, min.

MARKING: As specified in MIL-A-55339.

- (A) Part No. M55339/45-30001 With safety wire holes, 30101 without safety wire holes.
M55339/45-50001 With safety wire holes, 50101 without safety wire holes.

1/ Two center contacts must be mated to the center conductor under test, therefore doubling "center contact" resistance.

NOTE: For logistics purposes, only adapters with safety wire hole will be stocked.

Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:

Army - CR

Agent:

DLA - ES

Review activities

Army - AR, MI
Navy - SH, OS
Air Force - 11, 99
DLA - ES

(Project 5935-3057-15)

User activities:

Army - AT
Navy - AS, MC, SH
Air Force - 19

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MIL -A -55339/45A

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HQ, USA CORADCOM
ATTN DRDCO-CM-DM
Fort Monmouth, NJ 07703

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

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A GIVE PARAGRAPH NUMBER AND WORDING

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