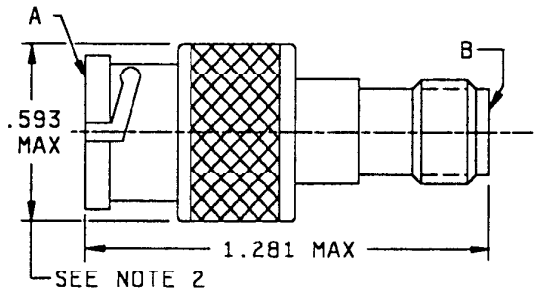
NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

PERFORMANCE SPECIFICATION

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY,
(BETWEEN SERIES BNC TO SERIES TNC), CLASS 2, STRAIGHT PLUG

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

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



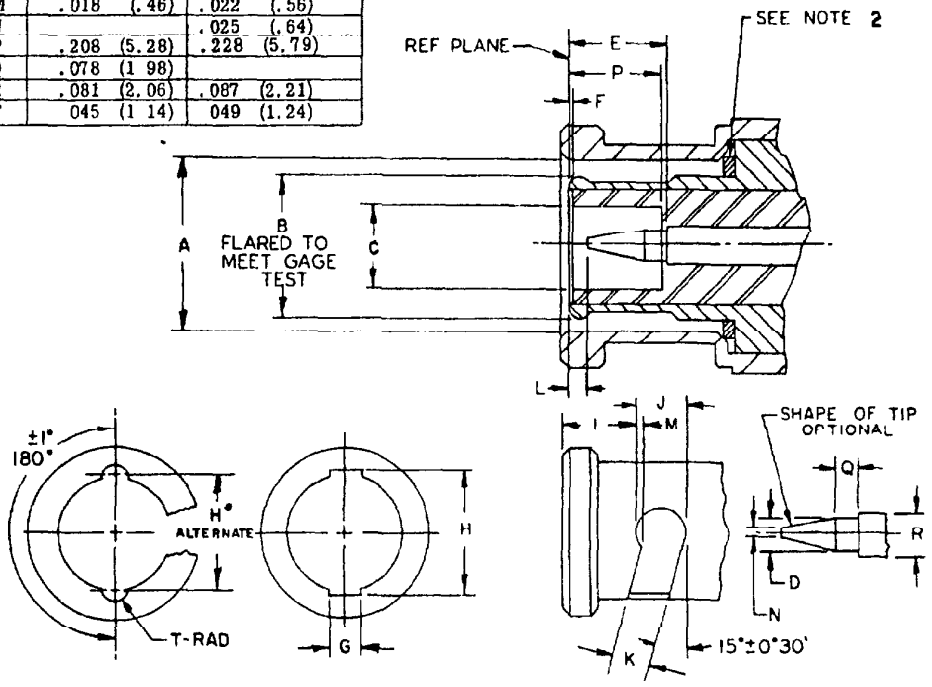
Reference	Series	Contact	Figure
A	BNC	Pin	2
B	TNC	Socket	3

Inches	mm
.381	9.68
.390	9.91
.593	15.06
1.281	32.54

NOTES:
1. Dimensions are in inches
2. This dimension is the largest overall diameter of the connector..
3. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 1. General configuration.

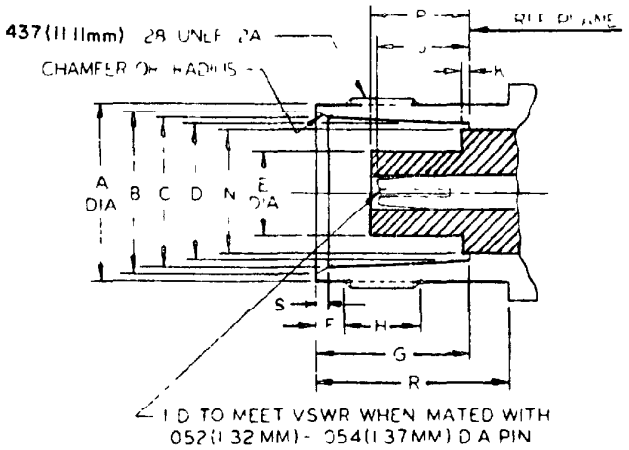
Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.385 (9.78)	.390 (9.91)
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	054 (1.37)
E	.210 (5.33)	.230 (5.84)
F	.006 (.15)	
G	.091 (2.31)	097 (2.46)
H	.463 (11.76)	.473 (12.01)
H*	.394 (10.01)	.400 (10.16)
I	.180 (4.57)	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)



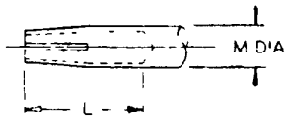
NOTES:

1. Metric equivalents (to the nearest .01 mm) 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 2. Mating dimensions for male terminations.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses (see note)		
	Minimum		Maximum
A	.378	(9.60)	.381 (9.68)
B	.345	(8.76)	.356 (9.04)
C	.327	(8.31)	.333 (8.46)
D	.319	(8.10)	.321 (8.15)
E			.186 (4 72)
F	.068	(1.73)	.088 (2.24)
G	.329	(8 36)	.333 (8.46)
H	.187	(4.75)	
J	186	(4 72)	.206 (5.23)
K			.006 (.15)
L	.195	(4.95)	
M	.081	(2 06)	.087 (2.21)
N			.256 (6.50)
P	188	(4 78)	.208 (5.28)
R	.415	(10.56)	
S	.015	(.38)	030 (.76)



*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder for reference plane) by dimension K

NOTES
1. Metric equivalents (to the nearest 01 mm) are given for general information only and are based upon 1 inch = 25 4 mm
2 All undimensioned pictorial configurations are for reference purposes only

FIGURE 3 Mating dimensions for socket terminations

DESIGN AND CONSTRUCTION:

General configuration: See figure 1.

Impedance: 50 ohms, nom

Working voltage. Sea level - 500 Vrms.
70,000 feet - 125 Vrms.

Frequency range: 0 to 4 GHz.

Temperature range· -65° to +165°C

PERFORMANCE (installation torque is not applicable).

Dimensions: See figures 1, 2, and 3.

Center contact retention· Axial force - 6 lb, min.
Torque - Not applicable.

		BNC series	TNC series
Force to engage and disengage.	Longitudinal force	3 lb, max	Not applicable
	Torque	2 in. lbs max	

Mating characteristics
Center contact (socket) Series TNC
Oversize test pin dia - .057 in., min
Insertion depth - 125 in , min
No. of insertions - 1.
Max test pin (insertion force test)
Steel test pin dia - .054 in., min.
Pin finish - 16 microinches.
Insertion force - 2 lb, max
No of insertions - 1.
Min test pin (withdrawal force)
Steel test pin dia - .052 in , max
Pin finish - 16 microinches
Withdrawal force - 2 oz, min.
No of withdrawals - 1.
Outer contact. Series BNC
Min test ring ID - .319 in., max
Pin finish - 16 microinches
Insertion force - 5 lb, max
Insertion depth - .093 in , min
No. of insertions - 1
Max test ring ID - .324 in., min
Test ring finish - 16 microinches
Insertion depth - .031 in., max of their tip end.
No. of insertions - 1.

Permeability <2 0

Seal·
Pressurized - Not applicable
Weatherproof - Not applicable.

Insulation resistance: 5,000 megohms, min.

VSWR 1 25 1, 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 V $\sqrt{F(GHz)}$ 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)

Contact	Initial	After
Center	2 0	2 5
Outer	0.2	Not applicable

Vibration, high frequency Interruptions - 1 us, max.

Shock Test condition I

Thermal shock Test condition C

Moisture resistance 200 megohms, min

Corona level Voltage - 375 V, min.
Altitude - 70,000 feet, min.

RF high potential withstanding voltage RF voltage - 1,000 Vrms, min.
Frequency - 5 MHz, min.

Salt spray (corrosion) Test condition B.

	Series BNC	Series TNC
Coupling mechanism retention force	100 lb, min	Not applicable

MARKING: As specified in MIL-A-55339.
Part No. M55339/38-00001

Custodians
Army - EL
Navy - EC
Air Force - 85

Review activities
Army - MU, MI, EL, AT
Navy - SH
Air Force - 11, 99
DSA - ES

User activities.
Army - AT, MU
Navy - AS, MC
Air Force - 19

Preparing activity
Army - EL

Agent
DSA - ES

(Project 5935-2017-14)

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5 PROBLEM AREAS

a. Paragraph Number and Wording

b Recommended Wording

c Reason/Rationale for Recommendation

6. REMARKS

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