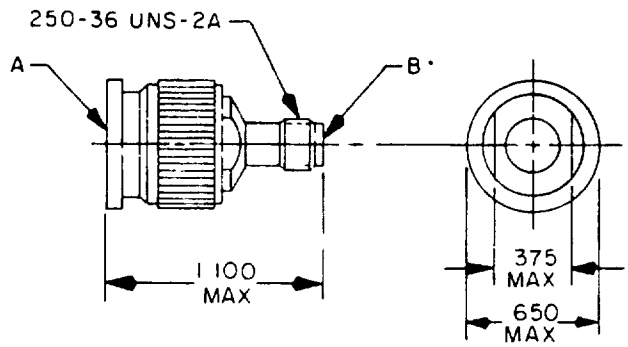
MILITARY SPECIFICATION SHEET

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY, (BETWEEN SERIES SMA (FEMALE) TO SERIES TNC (MALE)), 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 adapter described herein shall consist of this document and the latest issue of Specification MIL-A-55339.



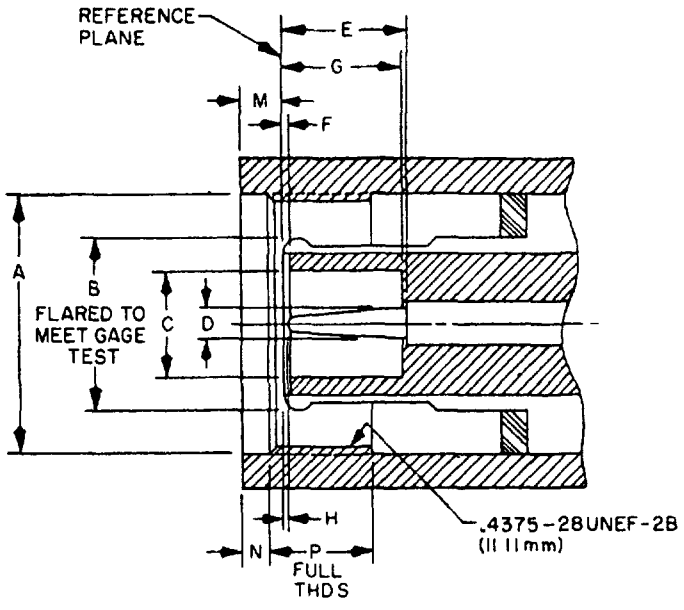
Reference	Series	Contact	Figure
A	TNC	Pin	2
B	SMA	Socket	3

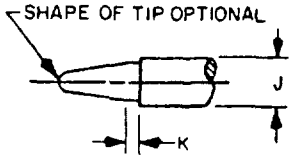
INCHES	MM
250	6 35
.375	9 52
650	16 51
1 100	27 94

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 All undimensioned pictorial representations are for reference purposes only
4 Coupling nut shape optional

FIGURE 1 General configuration

FSC 5935

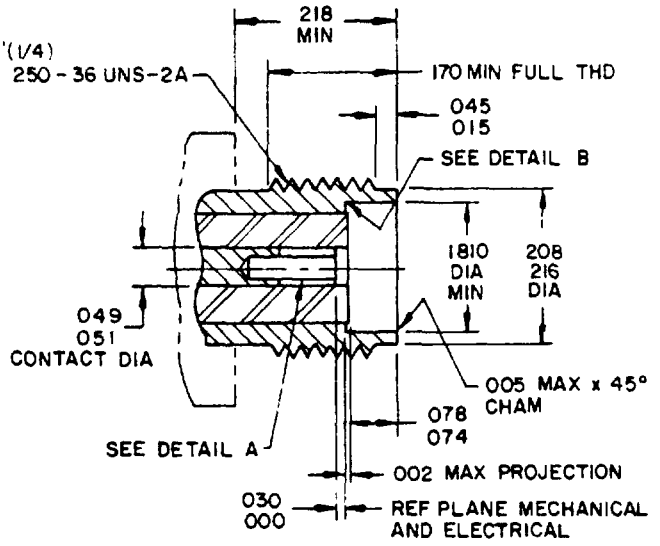


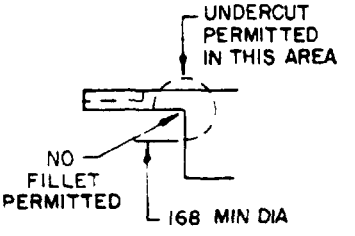


Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.440 (11.18)	
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	.054 (1.37)
E	.210 (5.33)	230 (5.84)
F	.006 (.15)	
G	.208 (5.28)	228 (5.79)
H	003 (.08)	040 (1.02)
J	.081 (2.06)	.087 (2.21)
K	.078 (1.98)	
M		.078 (1.98)
N	.063 (1.60)	
P	.156 (3.96)	

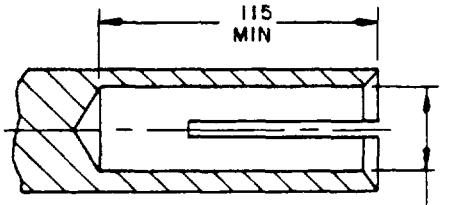
NOTES
1. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
2. Three holes .027 (.69 mm) minimum diameter equally spaced for safety wiring. Location on coupling nut optional.
3. All undimensioned pictorial configurations are for reference purposes only.

FIGURE 2. Mating dimensions for male terminations.





DETAIL B



DETAIL A

INCHES	MM
002	05
003	08
005	13
015	38
030	76
0355	902
0370	940
045	1 14
049	1 24
051	1 30
074	1 88
078	1 98
115	2 92
168	4 27
170	4 32
1810	4 597
208	5 28
216	5 49
218	5 54
.250	6 35

NOTES
1. Dimensions are in inches
2. Slitting of inner contact optional
3. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm

FIGURE 3 Mating dimensions for socket termination

ENGINEERING DATA

Nominal impedance 50 ohms.
Frequency range 0 to 11 GHz.
Voltage rating 335 volts rms maximum working voltage at sea level, 85 volts rms at 70,000 feet.
Temperature range -65° to +165°C.

REQUIREMENTS

Dimensions and configurations: See figures 1, 2, and 3

Center contact retention
Axial force - 6 pounds minimum.

Force to engage and disengage
Longitudinal force - Not applicable.
Torque - 2 inch-pounds maximum.

Coupling proof torque
Series SMA - Not applicable.
Series TNC - 15 inch-pounds.

Inspection conditions
Coupling torque - Series SMA, N/A, Series TNC, 4 to 6 inch-pounds.

Mating characteristics
Series TNC
See figure 2 for dimensions.
Outer contact
Test ring ID .319 maximum, 16 microinch finish.
Insertion force 5 pounds maximum when inserted a minimum of .093.
Contacts with slotted members Shall contact a .324 minimum diameter ring within .031 of their tip ends.

Series SMA
See figure 3 for dimensions.
Center contact (socket)
Oversize test pin .0375+.0001.
Insertion depth - .030/.045.
Number of insertions - 3.

Insertion force test Steel test pin diameter .0370+.0001.
Test pin finish - 16 microinches.
Insertion force - 3 pounds maximum.
Insertion depth - .050/.075.

Withdrawal force Steel test pin diameter .0355 -.0001
Withdrawal force 1 ounce minimum.
Test pin finish 16 microinches.
Insertion depth .050/.075.

Permeability Not to exceed 2.

Insulation resistance 5,000 megohms minimum.

Voltage standing wave ratio (VSWR) 1 15±.015 F(GHz) at .5 to 11 GHz.

RF leakage -60 dB minimum tested at a frequency of 2 to 3 GHz.

RF insertion loss .06 $\sqrt{F(GHz)}$dB maximum at 6 GHz.

Durability 500 cycles minimum at 12 cycles per minute maximum.

Dielectric withstanding voltage 1,000 volts rms minimum at sea level.

Contact resistance In milliohms maximum.

	Initial	After environment
Center contact	4.5 1/	6.0
Outer contact	2.2	---

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 - 375 volts minimum.
Altitude - 70,000 feet minimum.

RF high potential withstanding voltage
RF voltage - 1,000 volts rms minimum.
Frequency - 5 to 7.5 MHz.

Salt spray (corrosion) Method 101, MIL-STD-202, test condition B

Coupling mechanism retention force
Series TNC - 100 pounds.
Series SMA - Not applicable.

Part number M55339/42-50001

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians
Army - EL
Navy - EC
Air Force - 85

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

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

Preparing activity
Army - EL

Agent
DLA - ES

(Project 5935-3029-3)

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

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OMB Approval
No 22 R255

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DOCUMENT IDENTIFIER AND TITLE MIL-A-55339/42A ADAPTER ,CONNECTOR,COAXIAL,RADIO FREQUENCY,(BETWEEN SERIES SMA(FEMALE) TO SERIES TNC (MALE)),CLASS 2 STRAIGHT PLUG

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1 HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A GIVE PARAGRAPH NUMBER AND WORDING

B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2 COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID

3 IS THE DOCUMENT RESTRICTIVE?

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4 REMARKS

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