

MILITARY SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, CLASS I  
(COAXIAL, SERIES TWIN), TYPE UG-421B/U

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

The complete requirements for procuring the connector described herein shall consist of this document and the latest issue of Specification MIL-C-3655.

INACTIVE FOR NEW DESIGN

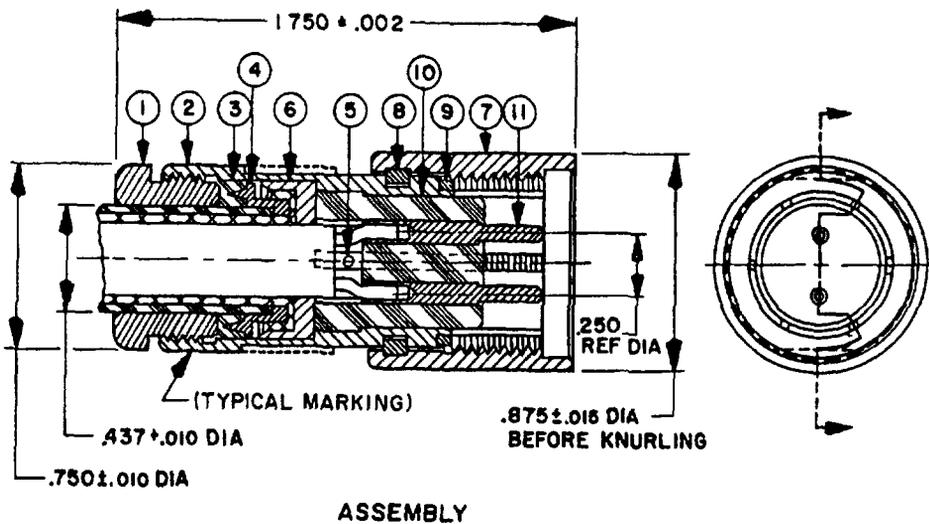


FIGURE 1. Type UG-421B/U electrical plug connector.

MIL-C-3655/1B

Item	Description	Material	Quantity
1	Nut	Brass	1
2	Body	Brass	1
3	Gasket	Silicone rubber	1
4	Clamp	Brass	1
5	Pin	Copper beryllium	1
6	Sleeve	Brass	1
7	Coupling nut	Brass	1
8	Spring	Phosphor bronze	1
9	Gasket	Silicone rubber	1
10	Insulator	Plastic	1
11	Center contact	Brass	2

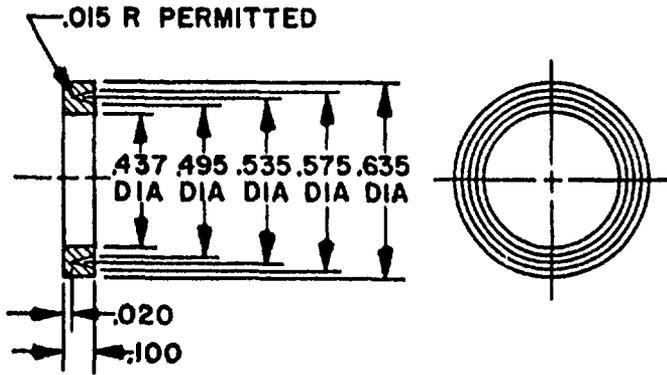
INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.001	.03	.059	1.50	.219	5.56	.535	13.59	.687	17.45
.002	.05	.061	1.55	.229	5.82	.560	14.22	.6875	17.462
.003	.08	.062	1.57	.250	6.35	.565	14.35	.697	17.70
.005	.13	.0625	1.588	.295	7.49	.573	14.55	.699	17.45
.007	.18	.070	1.78	.298	7.55	.575	14.60	.737	18.72
.010	.25	.087	2.21	.350	8.89	.585	14.86	.740	18.80
.015	.38	.092	2.34	.375	9.52	.593	15.06	.750	19.05
.018	.46	.093	2.36	.420	10.67	.600	15.24	.765	19.43
.020	.51	.095	2.41	.437	11.10	.605	15.37	.843	21.41
.025	.64	.109	2.77	.438	11.13	.625	15.88	.875	22.22
.028	.71	.125	3.18	.440	11.18	.628	15.95	1.500	38.10
.030	.76	.138	3.51	.465	11.81	.635	16.13	1.572	39.93
.031	.79	.156	3.96	.495	12.57	.636	16.15	1.750	44.45
.045	1.14	.180	4.57	.500	12.70	.644	16.36		
.053	1.35	.187	4.75	.533	13.54	.670	17.02		

NOTES:

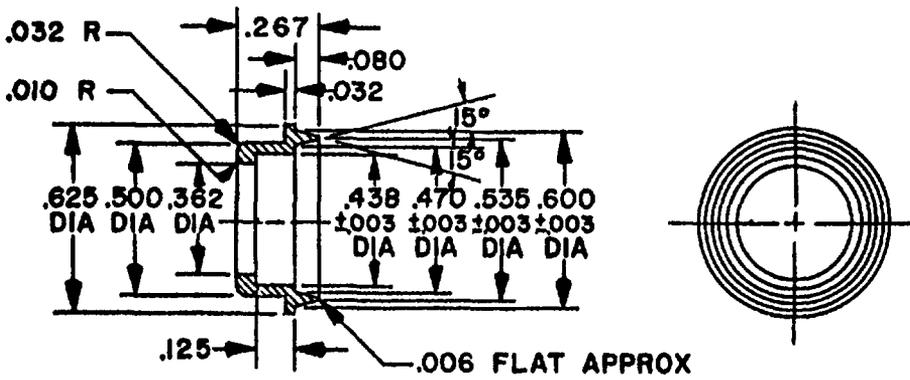
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerance is  $\pm 0.005$  (.13 mm).

FIGURE 1. Type UG-421B/U electrical plug connector - Continued.

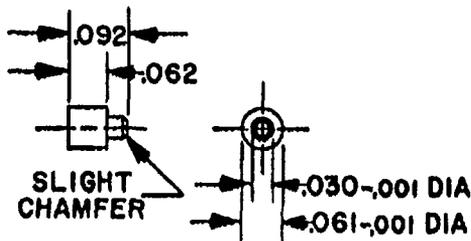




③ GASKET

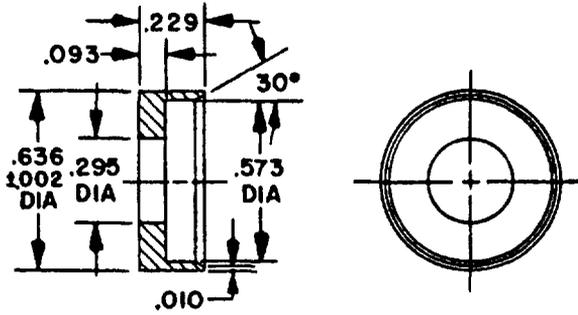


④ CLAMP

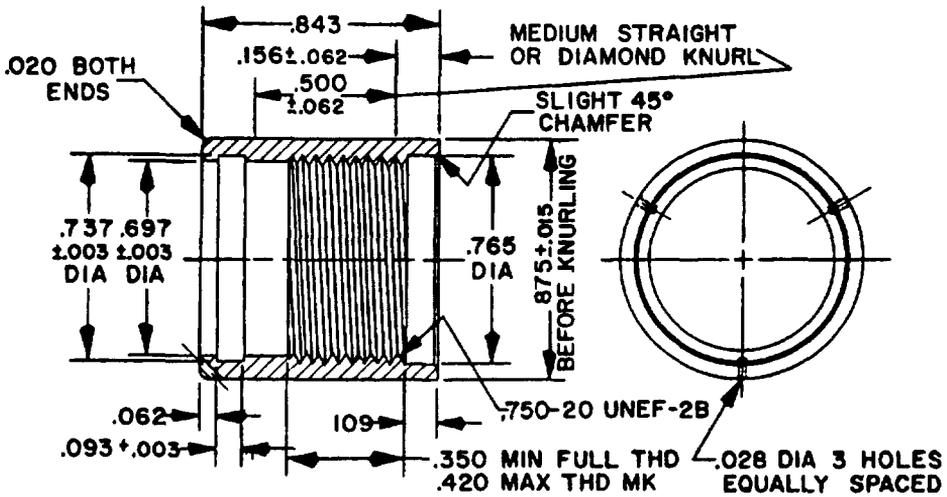


⑤ PIN

FIGURE 1. Type UG-421B/U electrical plug connector - Continued.

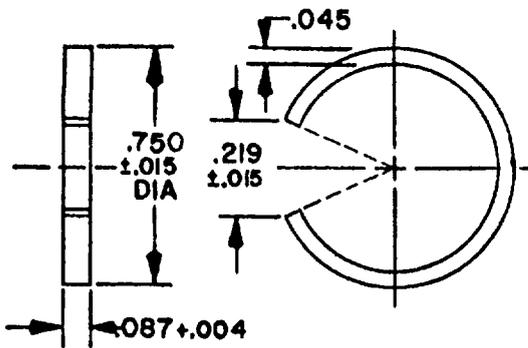


⑥ SLEEVE

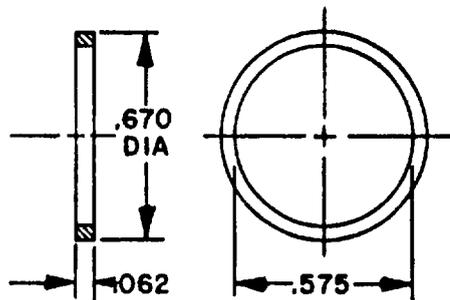


⑦ COUPLING NUT

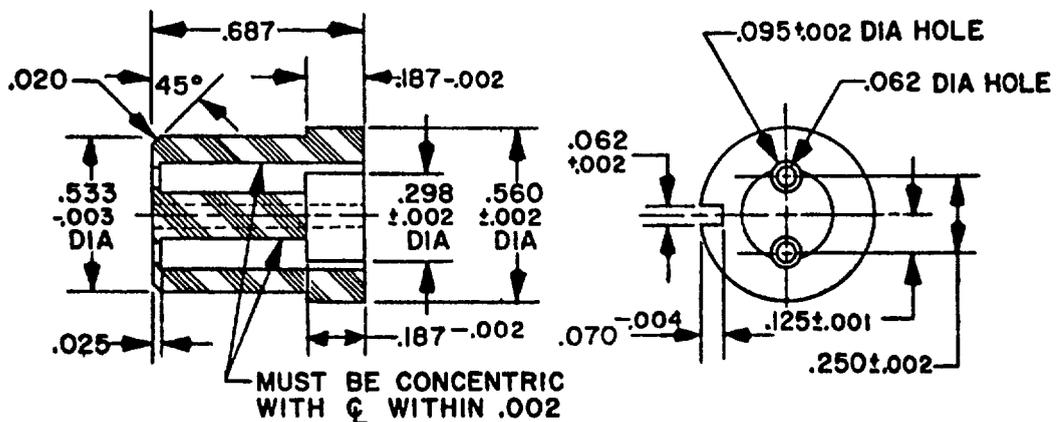
FIGURE 1. Type UG-421B/U electrical plug connector - Continued



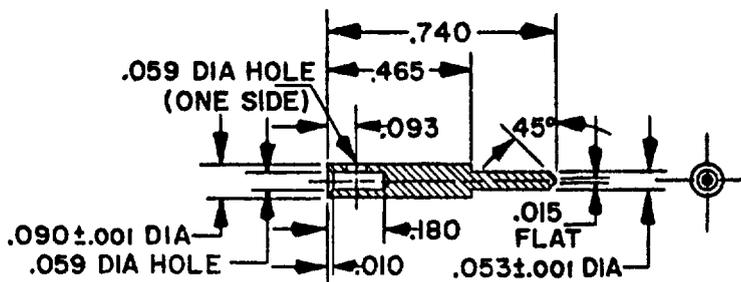
⑧ SPRING



⑨ GASKET

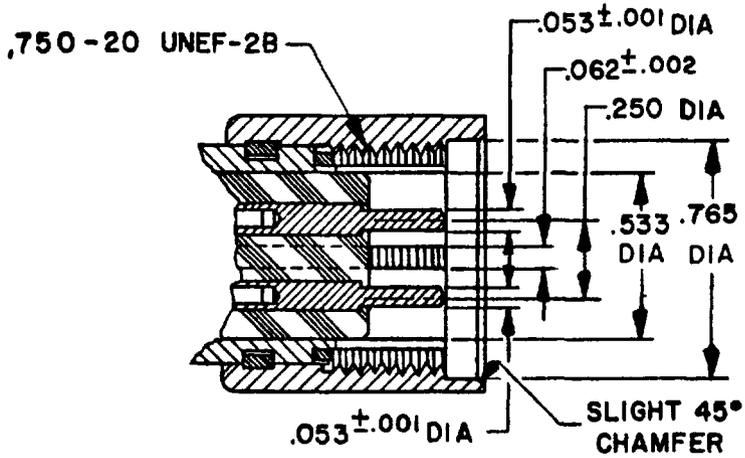


⑩ INSULATOR



⑪ CENTER CONTACT

FIGURE 1., Type UG-421B/U electrical plug connector - Continued.



INCHES	MM	INCHES	MM
.001	.03	.250	6.35
.002	.05	.533	13.54
.005	.13	.750	19.05
.053	1.35	.765	19.43
.062	1.57		

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. Unless otherwise specified, tolerance is  $\pm .005$  (.13 mm) on decimals, and  $\pm 1/2^\circ$  on angles.

FIGURE 2. Visual mating requirements.

Ⓑ ENGINEERING DATA.

Nominal impedance 95 ohms (balanced line not matched).

Frequency range: DC to 500 MHz, maximum.

Voltage rating: 500 volts peak at sea level.

Mating connector: M3655/2-0422.

Intended use: Type M3655/1-0421 electrical connector is designed for use with radio-frequency cable M17/15-RG22.

Ⓑ REQUIREMENTS:

Design and construction: See figures 1 and 2.

Metal parts: All metal parts shall have silver plating of not less than 0.0002 inch thickness and of sufficient smoothness and density to withstand the salt spray (corrosion) test. Silver plating shall be in accordance with QQ-S-365.

Force to engage/disengage:

Torque: Not applicable.

Longitudinal force: Not applicable.

Coupling proof torque: 15 inch-pounds, minimum.

Mating characteristics (see figures 1 and 2 for dimensions)

Outer contact:

Test ring I.D.: .583 maximum, 16 microinch finish.

Insertion force test

Insertion depth .125 inch, minimum.

Insertion force: 15 pounds, maximum.

Contacts with slotted members: Shall contact a .605 inch minimum diameter ring within .031 inch of their tip ends.

Permeability. Applicable.

Hermetic seal: Not applicable.

Leakage: Not applicable.

Insulation resistance:  $5 \times 10^9$  ohms, minimum.

Contact insulator captivation Not applicable.

Salt spray (corrosion): Applicable.

Connector durability: Applicable.

Contact resistance (milliohms, maximum):

	<u>Initial</u>	<u>After environment</u>
Inner conductor contacts:	2.67	3.50
Outer conductor contacts:	.38	Not applicable
Braid to body:	.20	Not applicable

Dielectric withstanding voltage 1,500 Vrms, minimum, at sea level.

Vibration, high frequency: Applicable.

Shock (specified pulse) Not applicable.

Temperature cycling: Applicable.

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Humidity: Applicable, but no measurement shall be made at high humidity.  
Insulation resistance shall be at least  $2 \times 10^8$  ohms within 5 minutes  
after removal from the humidity chamber.

Cable retention force: 75 pounds, minimum.

Coupling nut retention: Applicable.

Marking: In accordance with MIL-C-3655.  
Part number M3655/1-0421.

Qualification. Not required.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Review activities:

Army - MI  
Navy - OS  
Air Force - 11, 17, 99  
DLA - ES

User activities:

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

Preparing activity:

Army - CR

Agent:

DLA - ES

(Project 5935-3086-1)

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