

INCH POUND

MIL-DTL-3655/1C  
18 March 2008  
SUPERSEDING  
MIL-C-3655/1B  
11 April 1980

DETAIL SPECIFICATION SHEET

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

**Inactive for new design  
after 11 April 1980**

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-DTL-3655.

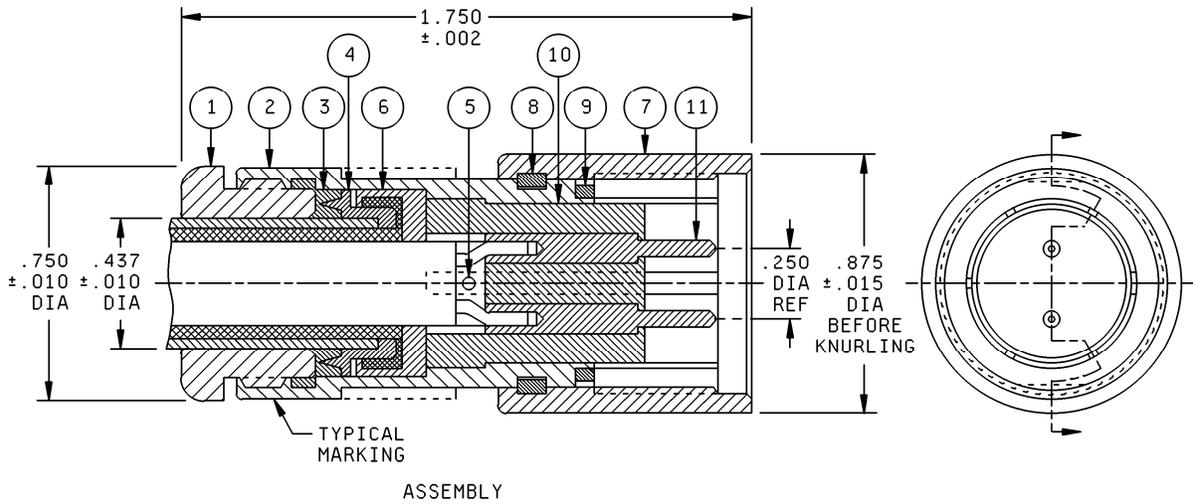


FIGURE 1. Type UG-421B/U, connector, plug, electrical.

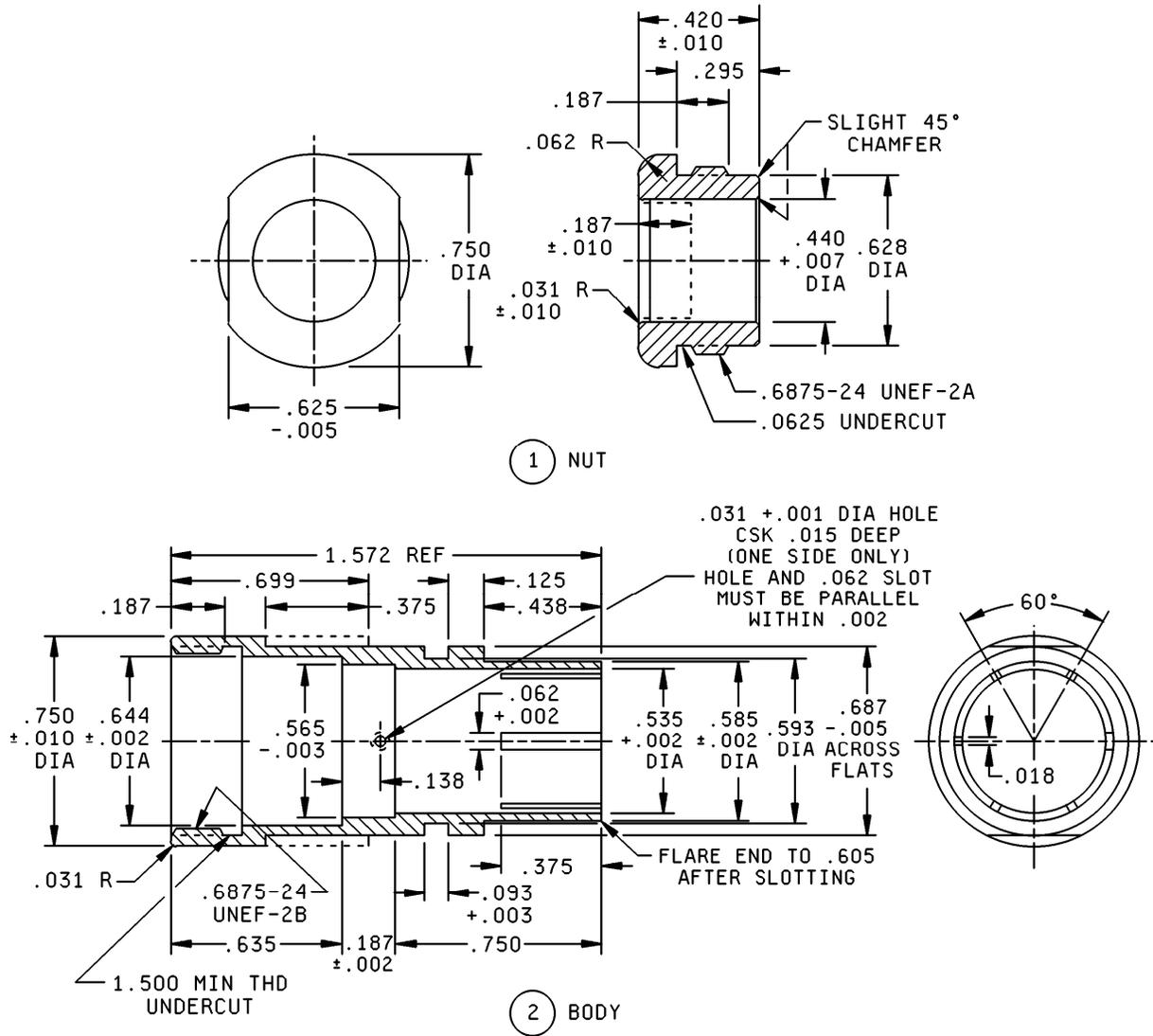


FIGURE 1. Type UG-421B/U, connector, plug, electrical – Continued.

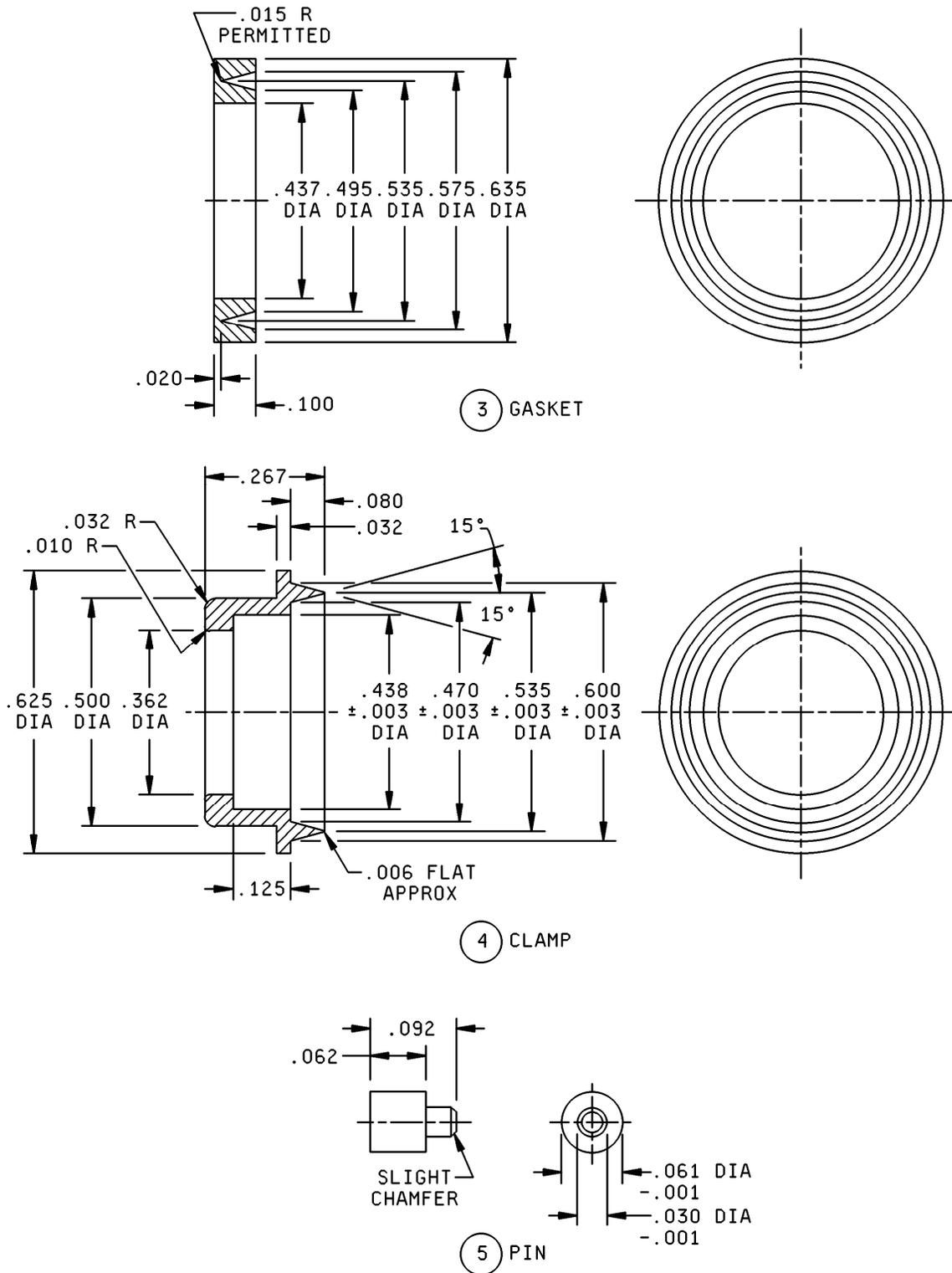


FIGURE 1. Type UG-421B/U, connector, plug, electrical – Continued.

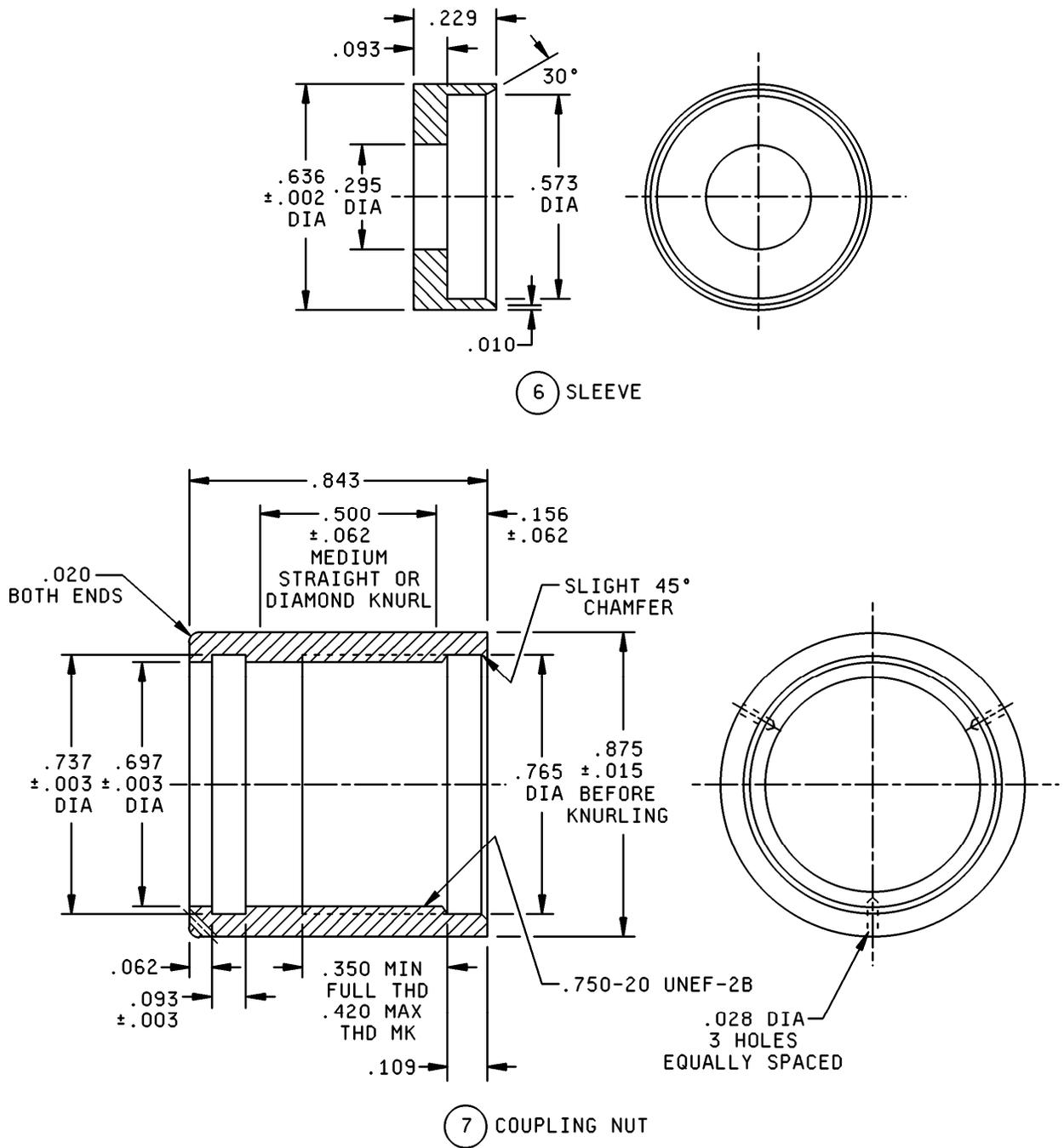


FIGURE 1. Type UG-421B/U, connector, plug, electrical – Continued.

MIL-DTL-3655/1C

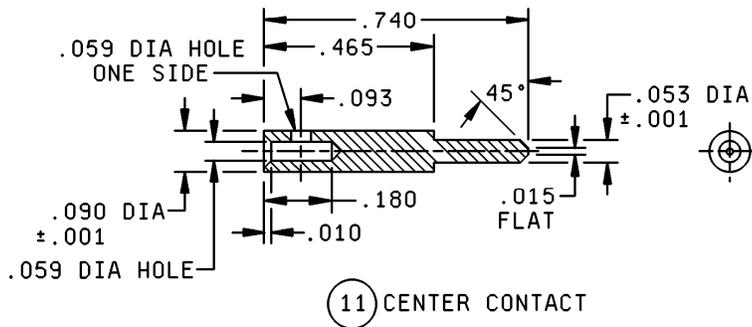
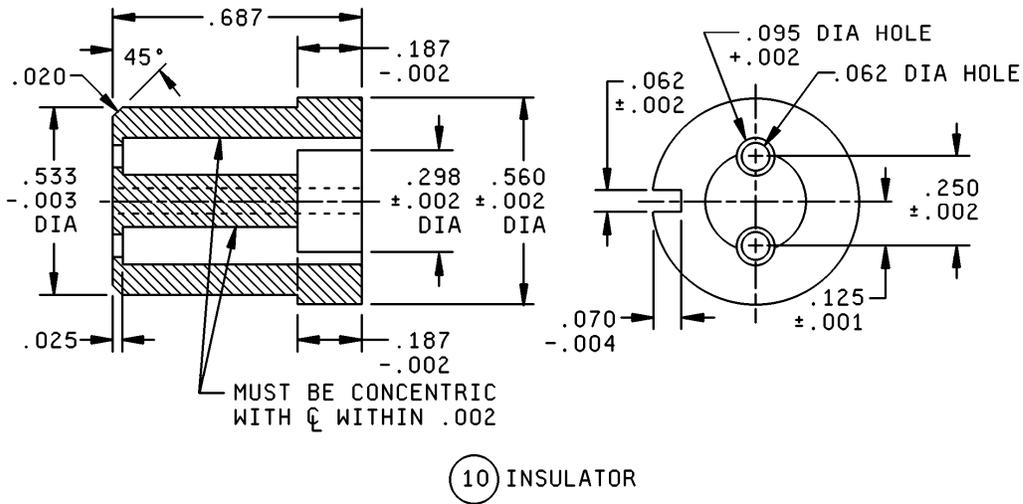
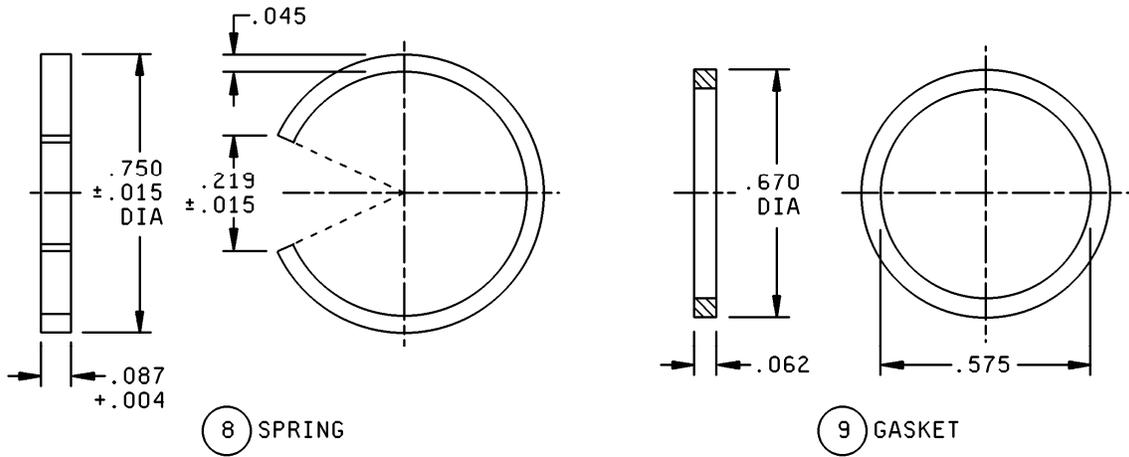


FIGURE 1. Type UG-421B/U, connector, plug, electrical – Continued.

MIL-DTL-3655/1C

Item	Description	Material	Quantity
1	Nut	Brass	1
2	Body	Brass	1
3	Gasket	Silicone Rubber	1
4	Clamp	Brass	1
5	Pin	Beryllium copper	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

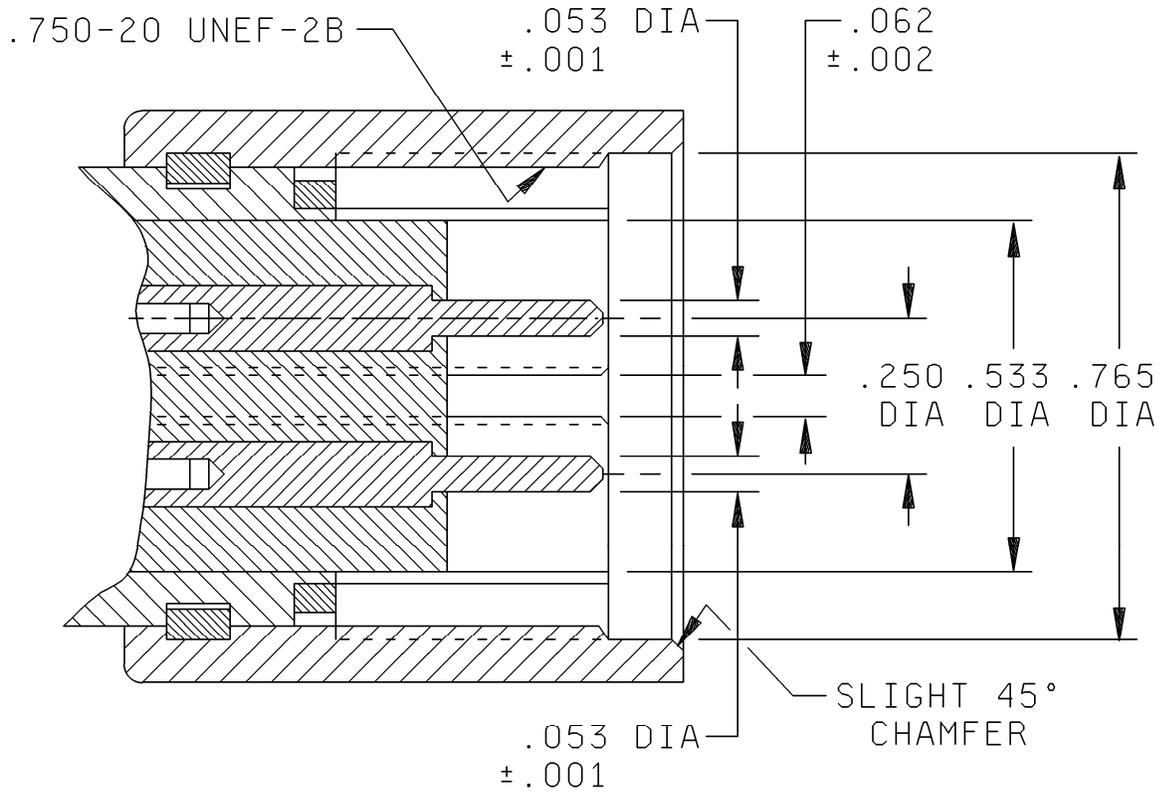
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.03	.059	1.50	.219	5.56	.535	3.59	.687	17.45
.002	0.05	.061	1.55	.229	5.82	.560	14.22	.6875	17.46
.003	0.08	.062	1.57	.250	6.35	.565	14.35	.697	17.70
.005	0.13	.0625	1.59	.295	7.49	.573	14.55	.699	17.75
.007	0.18	.070	1.78	.298	7.57	.575	14.61	.737	18.72
.010	0.25	.087	2.21	.350	8.89	.585	14.86	.740	18.80
.015	0.38	.092	2.34	.375	9.53	.593	15.06	.750	19.05
.018	0.46	.093	2.36	.420	10.67	.600	15.24	.765	19.43
.020	0.51	.095	2.41	.437	11.10	.605	15.37	.843	21.41
.025	0.64	.109	2.77	.438	11.13	.625	15.88	.875	22.23
.028	0.71	.125	3.18	.440	11.18	.628	15.95	1.500	38.10
.030	0.76	.138	3.51	.465	11.81	.635	16.13	1.572	39.93
.031	0.79	.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 information only.
3. Wrench flats are to accommodate standard wrench openings in accordance with FED-STD-H28, appendix 10.
4. Unless otherwise specified, the tolerance is  $\pm .005$  (0.13 mm).
5. All undimensioned pictorial configurations are for reference purposes only.

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

MIL-DTL-3655/1C



Inches	mm	Inches	mm
.001	0.03	.250	6.35
.002	0.05	.533	13.54
.005	0.13	.750	19.05
.053	1.35	.765	19.43
.062	1.57		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances shall be .005 inch.

FIGURE 2. Interface mating requirements.

MIL-DTL-3655/1C

ENGINEERING DATA

Nominal impedance: 95 ohms (balanced line not matched).

Frequency range: DC to 500 MHz, maximum.

Voltage rating: 500 V peak, maximum 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.

Center contact shall be plated in accordance with MIL-DTL-3655. All other metal parts shall be silver plated to a minimum thickness of .0002 inch in accordance with ASTM-B700.

Force to engage/disengage:

Torque: Not applicable.

Longitudinal force: Not applicable.

Coupling proof torque: 15 inch-pounds, minimum.

Mating characteristics (see figure 1 and 2 for dimensions):

Outer contact:

Test ring Inner diameter: 0.583 inch diameter, maximum.

Test pin finish: 16 microinches.

Insertion depth: .125 inch, minimum.

Insertion force: 15 pounds, maximum.

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

Number of insertions: One.

Permeability: Applicable.

Hermetic seal: Not applicable.

MIL-DTL-3655/1C

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 V rms, minimum, at sea level.

Vibration, high frequency: Applicable.

Shock (specified pulse): Not applicable.

Temperature cycling: Applicable.

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.

Part or Identifying Number (PIN): M3655/1-0421.

First article shall apply as follows: First article test inspection shall be performed in accordance with the requirements outlined in the latest revision of MIL-DTL-3655.

MIL-DTL-3655/1C

Changes from previous issue. 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-3655, this document references the following:

ASTM-B700  
FED-STD-H28

CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force – 11  
DLA – CC

Preparing activity:

DLA - CC

(Project 5935-2007-014)

Review activities:

Army – AT, AV, MI  
Navy – AS, MC, OS, 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 the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.