



With AEP SSMB and SSMC series microminiature connectors, having to trade reliability for small size is no longer a design consideration. These rugged little connectors have been tested to 1,000 mating cycles with no change in insertion loss or mating forces. They have also passed all MIL-PRF-39012 qualification parameters for SMB connectors.

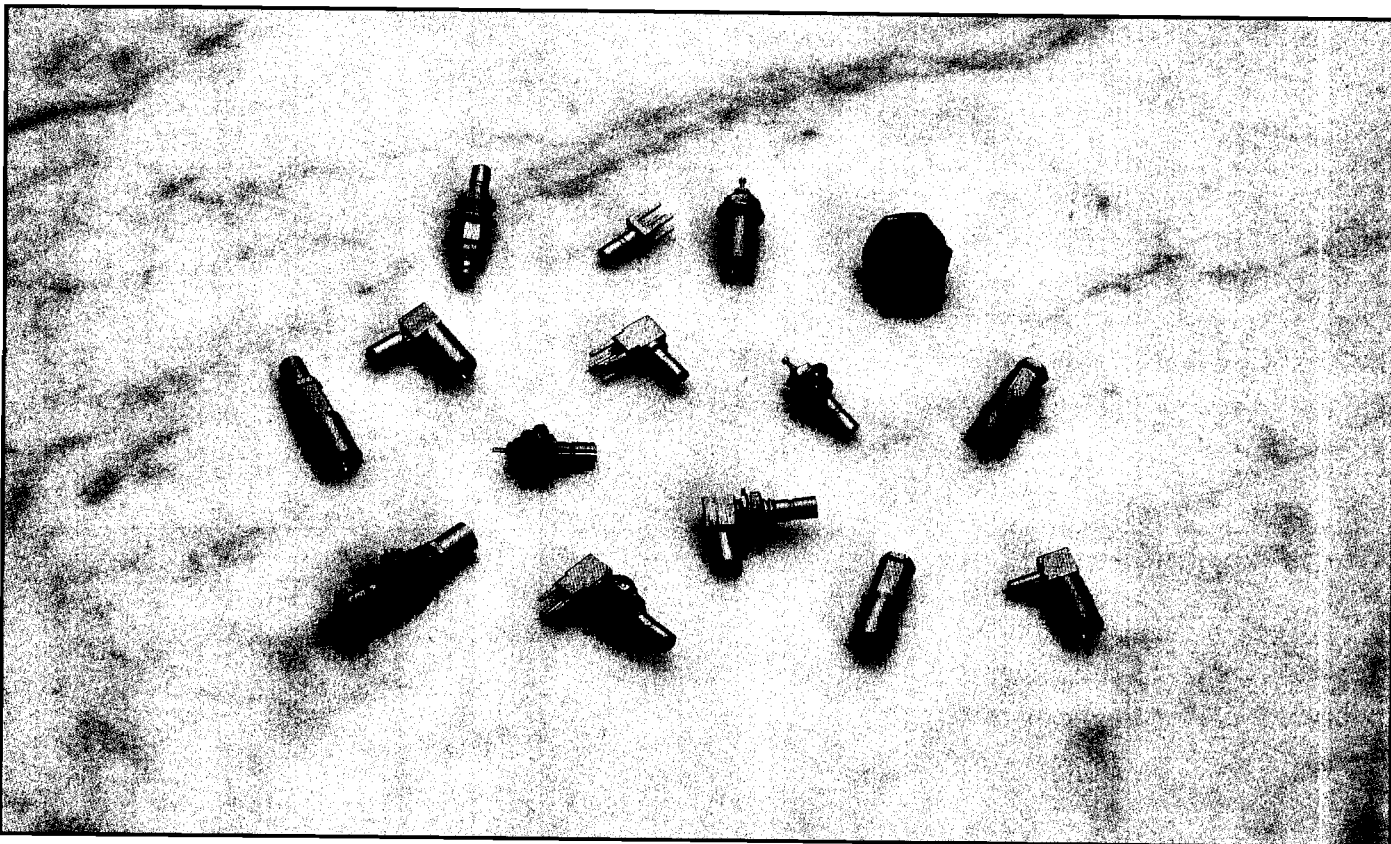
The key to this reliability is our use of beryllium copper outer contacts in plug connectors, and closed entrance female contacts.

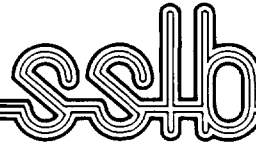
The standard mating design for SSMB and SSMC series connectors are similar to SMB and SMC but with size reduced approximately one-third. This makes them ideal for use in confined areas where the use of wrenches is not practical. Pages 111 and 112 show a group of plugs with slide-on mating for use where multiple connector pairs must be mated simultaneously.

These connectors have gained wide acceptance and usage in military radio systems, where small size is needed for miniaturization but ruggedness and reliability are paramount.

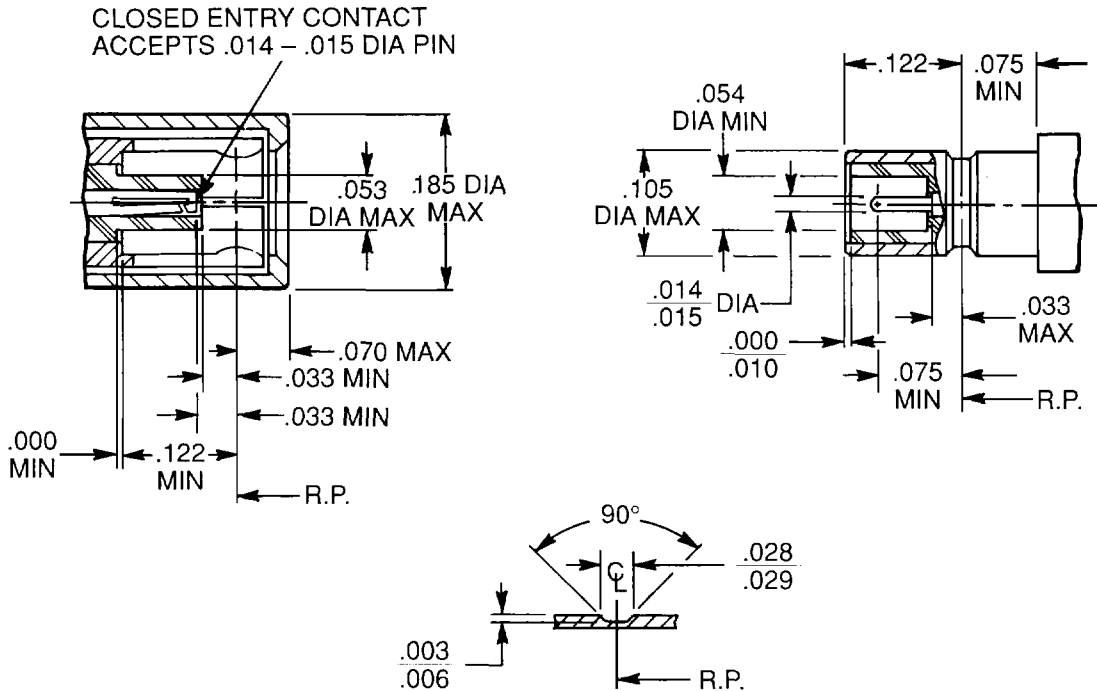
Because of the SSMB and SSMC series' small size and tight tolerance, finishes other than gold plating are not recommended.

Factory-built cable assemblies using these connectors are available from AEP. The index listing for each connector shows the appropriate cable assembly instruction. Assembly instructions start on page 142.





INTERFACE DIMENSIONS



SSLB identical to above except without detent.

SPECIFICATIONS MIL-PRF-39012

Materials:

Female body components, center contacts: Beryllium copper per ASTM B196, condition HT, all other metal parts: brass per ASTM B16, alloy 360, 1/2 hard.
Insulators: Teflon TFE per ASTM-D-1710.

Finish:

Center Contacts: Gold plated per MIL-G-45204, Type II, class 1, grade C.
All other parts finished to meet MIL-PRF-39012 corrosion requirements.

Electrical:

Impedance: 50 ohms.
Frequency range: DC-12.4 GHz.
Voltage rating: 250 VRMS, sea level 60 VRMS, 70,000 ft.
Insulation resistance: 1000 megohms minimum.

VSWR:

Straight connector:

RG178: $1.25 + (.020 \times F[\text{GHz}])$
RG316: $1.30 + (.020 \times F[\text{GHz}])$
.085" SR: $1.25 + (.015 \times F[\text{GHz}])$

Right angle connector:

RG178: $1.25 + (.030 \times F[\text{GHz}])$
RG316: $1.30 + (.030 \times F[\text{GHz}])$
.085" SR: $1.25 + (.025 \times F[\text{GHz}])$

Contact resistance:

Center: 4.0 milliohms max initial,
6.0 milliohms max after environment.

Outer contact: 1.0 milliohms max initial,
1.5 milliohms max after environment.
Braid to body: 1.0 milliohms max initial,
N/A after environment.
Corona level: 125V @ 70,000 ft.
RF highpot: 400 VRMS @ 5 MHz.
RF leakage: -70 dB min @ 2-3 GHz.
Insertion loss: .30 dB max @ 1.5 GHz.

Mechanical:

Force to engage:

SSMB: Initial - 6 lbs max engagement,
2 lbs min disengagement.
After 500 matings - 6 lbs max engagement,
1 lb min disengagement.
SSLB: Initial - 3 lbs max engagement,
0.5 lbs min disengagement.

Contact retention: 2 lbs min axial force.

Durability: 500 mating cycles.

Environmental: (per MIL-STD-202)

Temperature rating: -65° C to +165° C.

Corrosion: Method 101, condition B, 5% salt solution.

Vibration: Method 204,

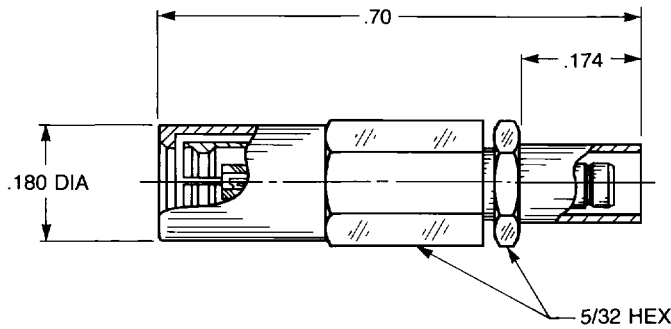
SSMB, condition B (15G).

SSLB, condition A (10G).

Mechanical shock: Method 213,

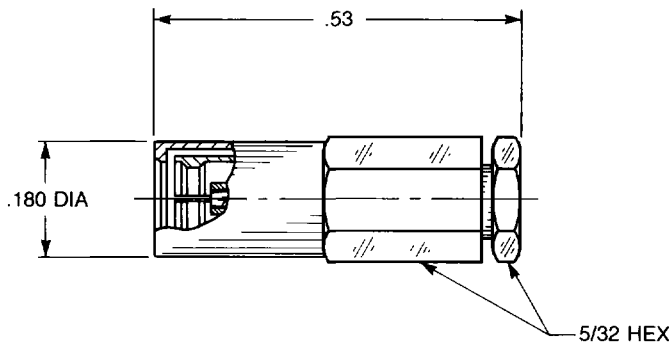
SSMB, condition B; 75 G @ 6 ms @ 1/2 sine.

SSLB, N/A



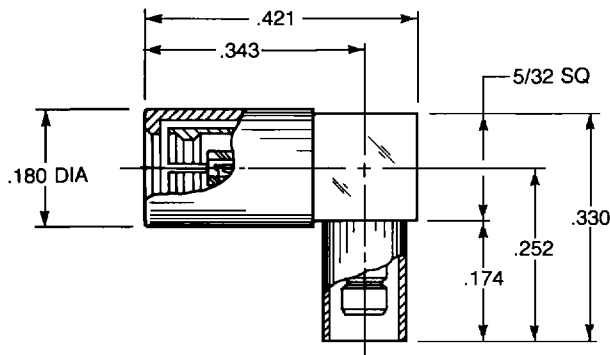
Straight Plug

Crimp type for flexible cable:
7202-1572-0XX



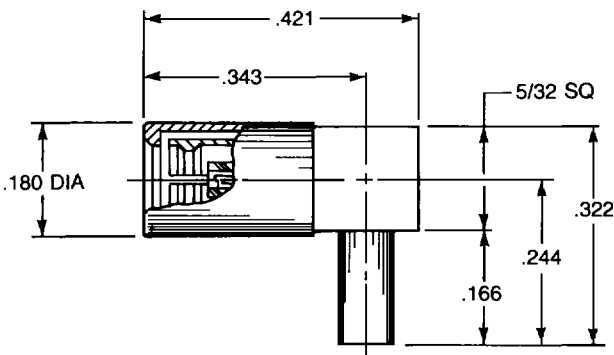
Straight Plug

Solder type for semi-rigid:
7202-1542-0XX



Right Angle Plug

Crimp type for flexible cable:
7405-1521-0XX



Right Angle Plug

Solder type for semi-rigid:
7405-1561-0XX

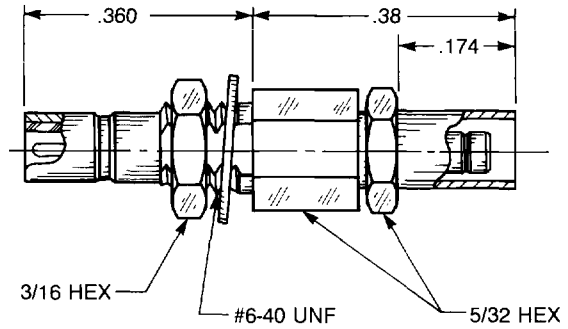
Substitute the appropriate cable group for 'XX':

02	RG178, RG196, M17/93, M17/169	10	.085" semi-rigid, RG405, M17/133
03	RG174, RG179, RG316, M17/113, M17/119, M17/172, M17/173	11	.047" semi-rigid, M17/151
05	RG178DS, RG196DS	19	RG174DS, RG316DS, M17/152, Times RD316
		21	.056" semi-rigid

CABLE JACKS *semb*

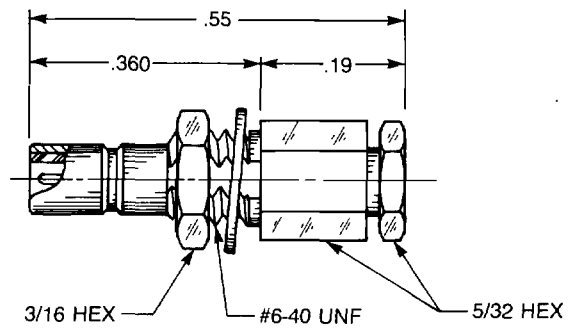
Straight Bulkhead Jack

Crimp type for flexible cable:
7203-1571-0XX



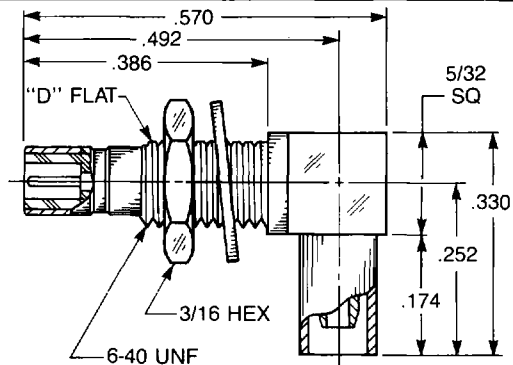
Straight Bulkhead Jack

Solder type for semi-rigid:
7203-1541-0XX



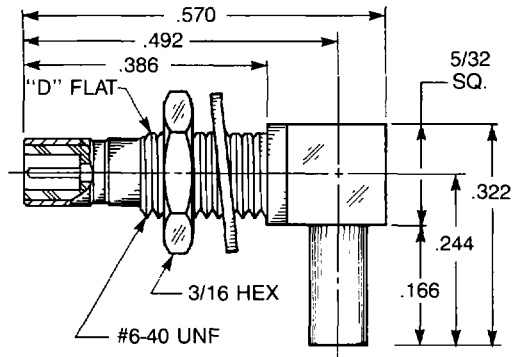
Right Angle Bulkhead Jack

Crimp type for flexible cable:
7406-1521-0XX



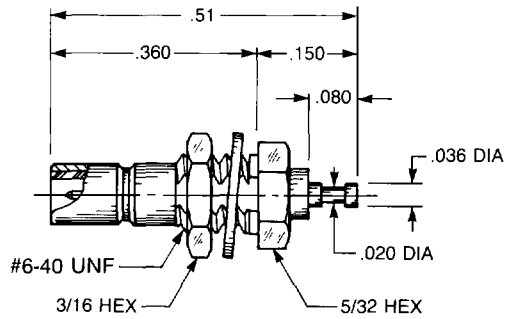
Right Angle Bulkhead Jack

Solder type for semi-rigid:
7406-1561-0XX



Substitute the appropriate cable group for 'XX':

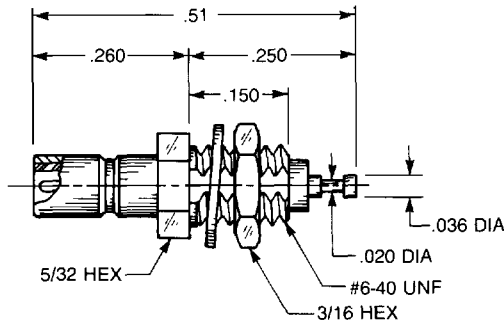
02	RG178, RG196, M17/93, M17/169	10	.085" semi-rigid, RG405, M17/133
03	RG174, RG179, RG316, M17/113, M17/119, M17/172, M17/173	11	.047" semi-rigid, M17/151
05	RG178DS, RG196DS	19	RG174DS, RG316DS, M17/152, Times RD316
		21	.056" semi-rigid



Straight Bulkhead Jack Receptacle

- Turret contact
- Rear mount

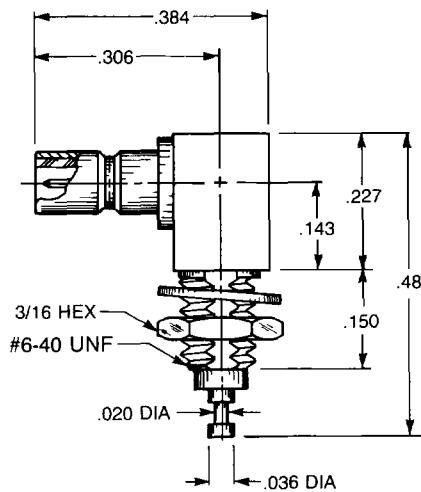
7204-1511-000



Straight Bulkhead Jack Receptacle

- Turret contact
- Front mount

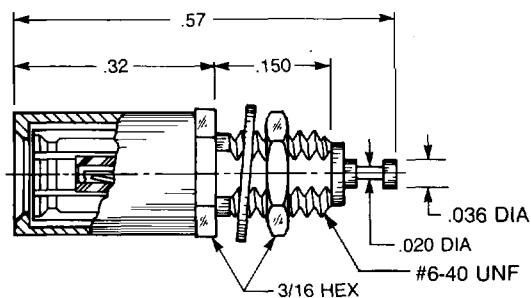
7219-1511-000



Right Angle Bulkhead Jack Receptacle

- Turret contact
- Front mount

7212-1511-000



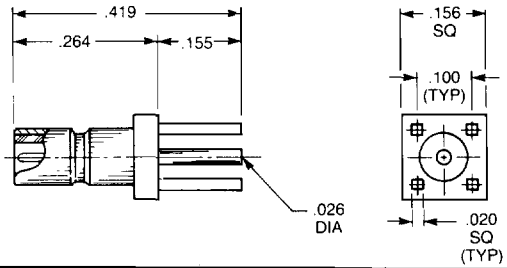
Straight Bulkhead Plug Receptacle

- Turret contact
- Front mount

7217-1512-000

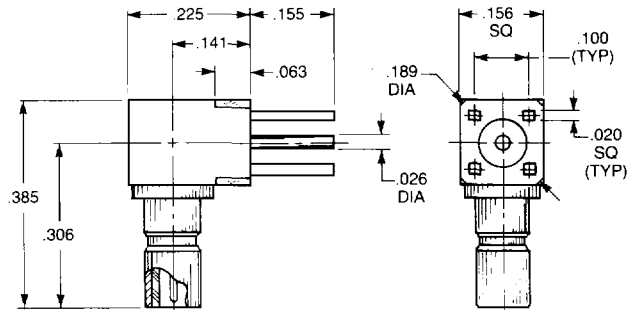
Straight Jack

7209-1511-000



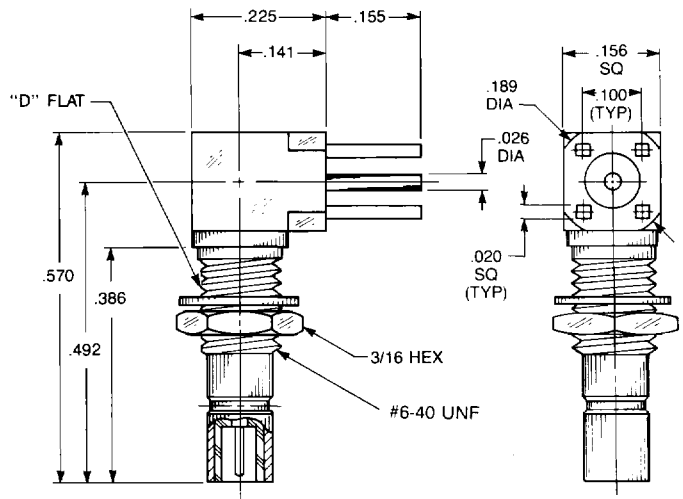
Right Angle Jack

7210-1511-000



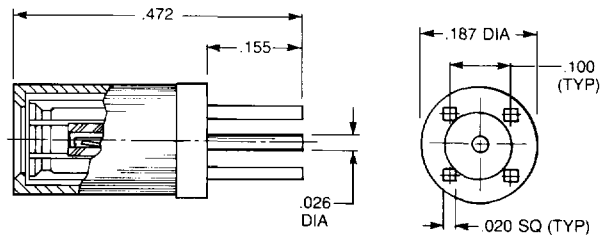
Right Angle Bulkhead Jack

7410-1511-000



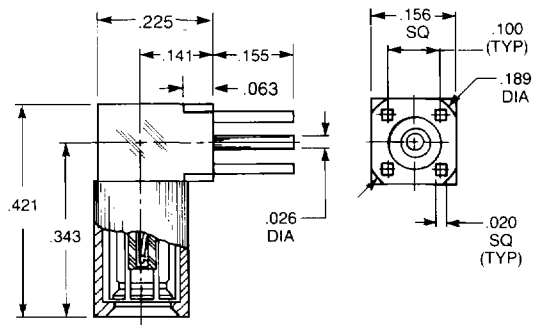
Straight Plug

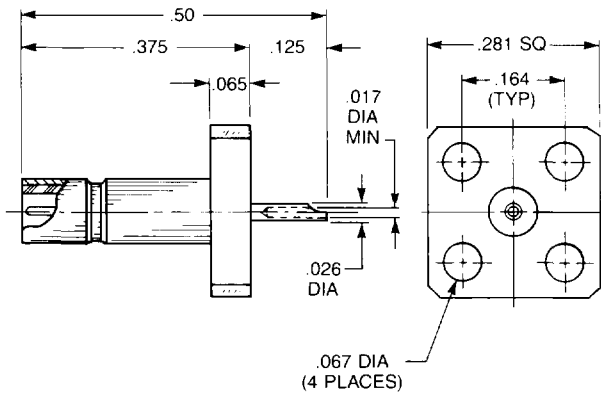
7225-1512-000



Right Angle Plug

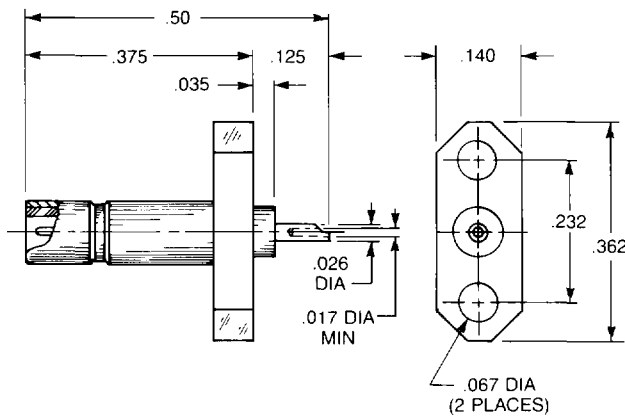
7242-1511-000




Straight Panel Receptacle

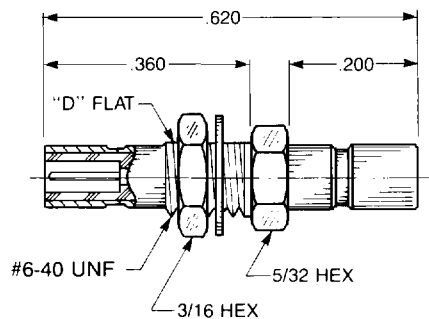
- Solder pot contact
- Stainless steel body

Square flange:
7498-1513-000


Straight Panel Receptacle

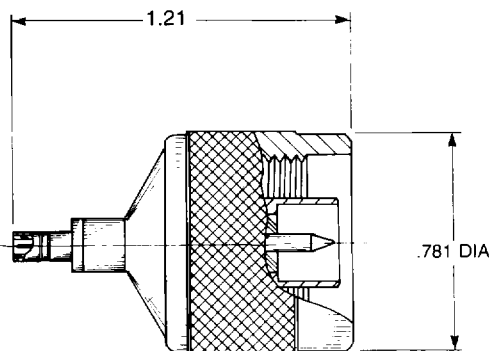
- Solder pot contact
- Stainless steel body

2-hole flange:
7499-1513-000


**Bulkhead Mounted
Jack To Jack Adapter**

- Connects two plugs

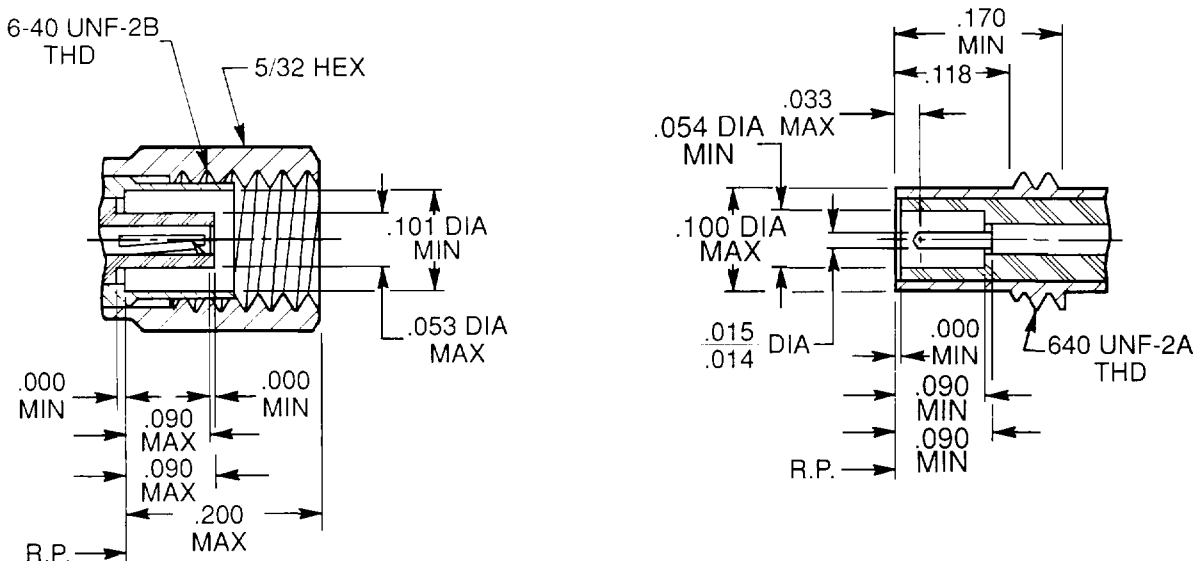
7222-1501-000


**Precision Type N Plug To
SSMB Series Jack Adapter**

5011-1503-000



INTERFACE DIMENSIONS



SPECIFICATIONS MIL-PRF-39012

Materials:

Female body components, center contacts: Beryllium copper per ASTM B196, condition HT, all other metal parts: brass per ASTM B16, alloy 360, 1/2 hard.
Insulators: Teflon TFE per ASTM-D-1710.

Finish:

Center Contacts: Gold plated per MIL-G-45204, Type II, class 1, grade C.
All other parts finished to meet MIL-PRF-39012 corrosion requirements.

Electrical:

Impedance: 50 ohms.
Frequency range: DC-12.4 GHz.
Voltage rating: 250 VRMS, sea level 60 VRMS, 70,000 ft.
Insulation resistance: 1000 megohms minimum.

VSWR:

Straight connector:

RG178: $1.20 + (.020 \times F[\text{GHz}])$
RG316: $1.25 + (.020 \times F[\text{GHz}])$
.085" SR: $1.20 + (.015 \times F[\text{GHz}])$

Right angle connector:

RG178: $1.20 + (.030 \times F[\text{GHz}])$
RG316: $1.25 + (.030 \times F[\text{GHz}])$
.085" SR: $1.20 + (.025 \times F[\text{GHz}])$

Contact resistance:

Center: 4.0 milliohms max initial,
6.0 milliohms max after environment.
Outer contact: 1.0 milliohms max initial,
1.5 milliohms max after environment.
Braid to body: 1.0 milliohms max initial,
N/A after environment.

Corona level: 125V @ 70,000 ft.

RF highpot: 400 VRMS @ 5 MHz.

RF leakage: -50 dB min @ 2-3 GHz.

Insertion loss: .30 dB max @ 1.5 GHz.

Mechanical:

Force to engage: 16 inch-ounces torque max.
Mating Torque 28-32 inch-ounces.
Contact retention: 2 lbs min axial force.
Coupling nut pulloff resistance: 25 lbs min.
Durability: 500 mating cycles.

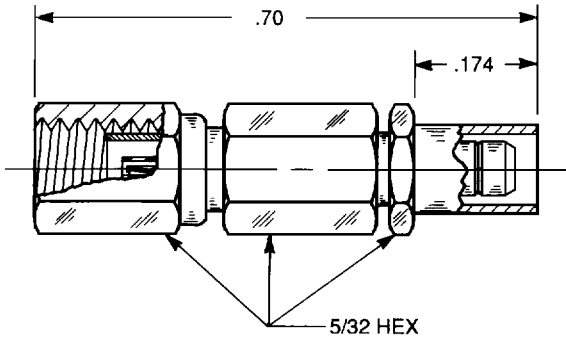
Environmental: (per MIL-STD-202)

Temperature rating: -65° C to +165° C.

Corrosion: Method 101, condition B, 5% salt solution.

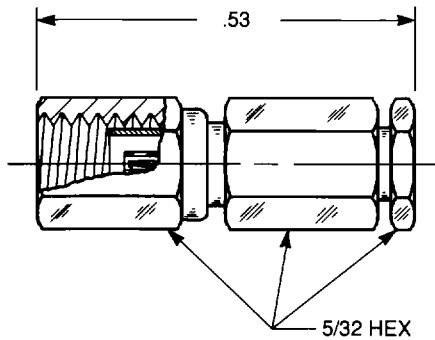
Vibration: Method 204, condition D (20 G)

Mechanical shock: Method 213, condition B;
75 G @ 6 ms @ 1/2 sine.



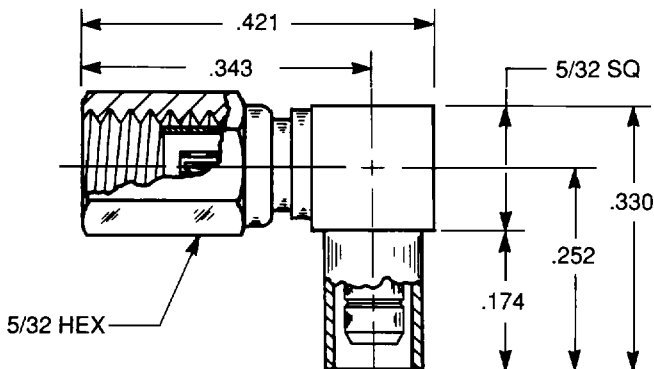
Straight Plug

Crimp type for flexible cable:
7002-1571-0XX



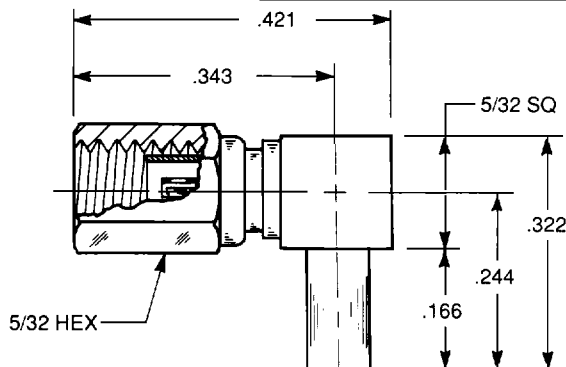
Straight Plug

Solder type for semi-rigid:
7002-1541-0XX



Right Angle Plug

Crimp type for flexible cable:
7105-1521-0XX



Right Angle Plug

Solder type for semi-rigid:
7105-1561-0XX

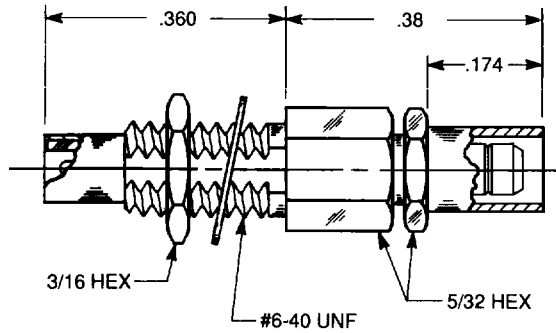
Substitute the appropriate cable group for 'XX':

02	RG178, RG196, M17/93, M17/169	10	.085" semi-rigid, RG405, M17/133
03	RG174, RG179, RG316, M17/113, M17/119, M17/172, M17/173	11	.047" semi-rigid, M17/151
05	RG178DS, RG196DS	19	RG174DS, RG316DS, M17/152, Times RD316
		21	.056" semi-rigid



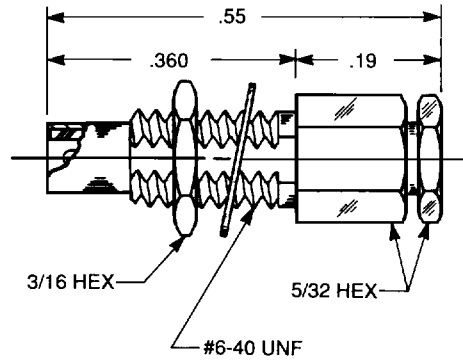
Straight Bulkhead Jack

Crimp type for flexible cable:
7003-1572-0XX



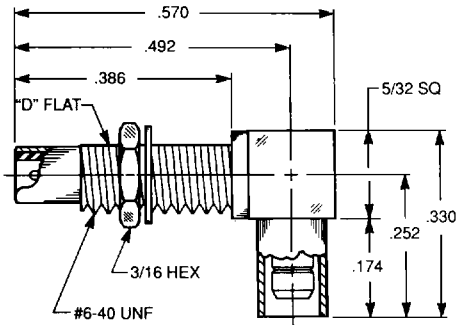
Straight Bulkhead Jack

Solder type for semi-rigid:
7003-1542-0XX



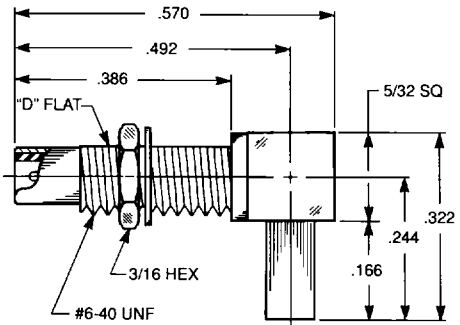
Right Angle Bulkhead Jack

Crimp type for flexible cable:
7106-1521-0XX



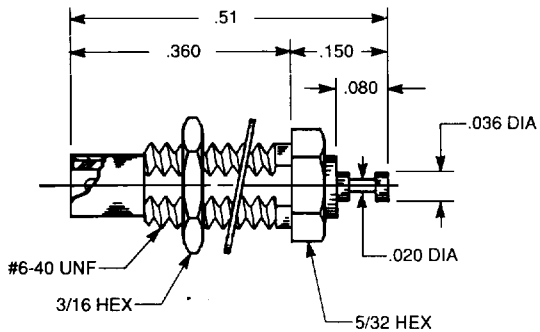
Right Angle Bulkhead Jack

Solder type for semi-rigid:
7106-1561-0XX



Substitute the appropriate cable group for 'XX':

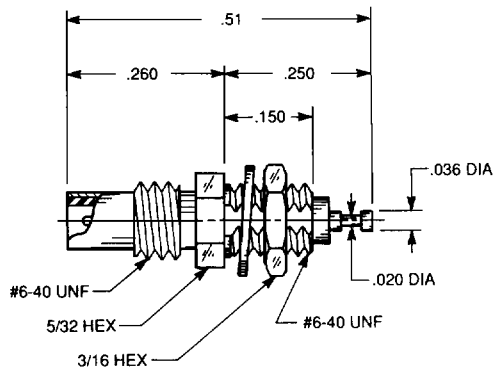
02	RG178, RG196, M17/93, M17/169	10	.085" semi-rigid, RG405, M17/133
03	RG174, RG179, RG316, M17/113, M17/119, M17/172, M17/173	11	.047" semi-rigid, M17/151
05	RG178DS, RG196DS	19	RG174DS, RG316DS, M17/152, Times RD316
		21	.056" semi-rigid



Straight Bulkhead Jack Receptacle

- Turret contact
- Rear mount

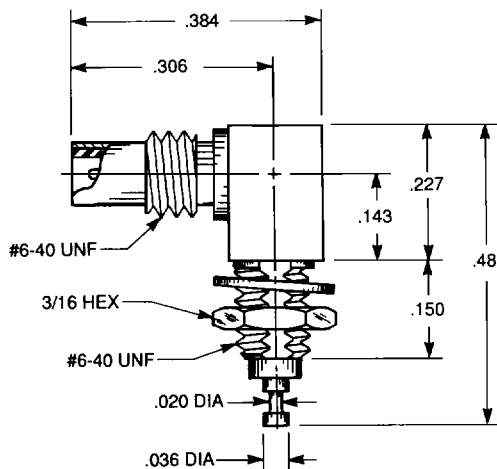
7004-1512-000



Straight Bulkhead Jack Receptacle

- Turret contact
- Front mount

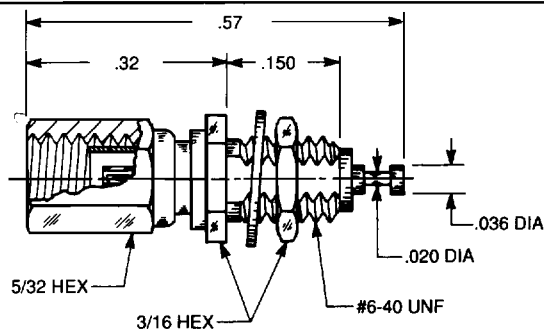
7119-1512-000



Right Angle Bulkhead Jack Receptacle

- Turret contact
- Front mount

7012-1511-000



Right Angle Bulkhead Jack Receptacle

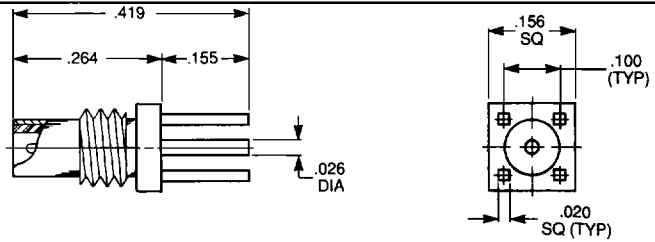
- Turret contact
- Front mount

7017-1512-000



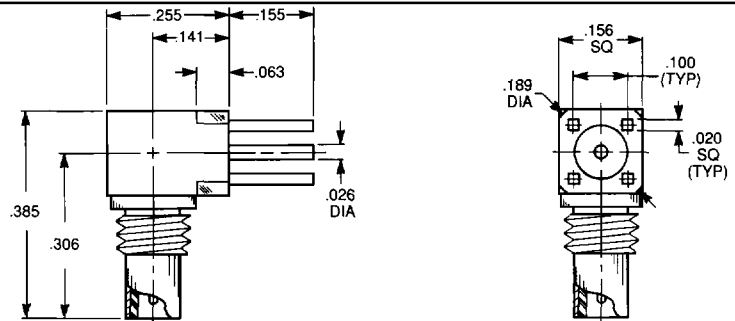
Straight Jack

7009-1512-000



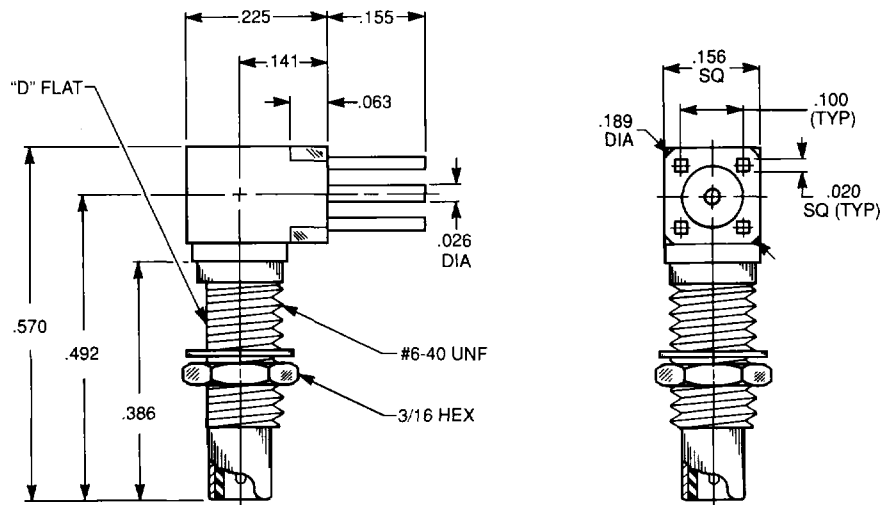
Right Angle Jack

7010-1511-000



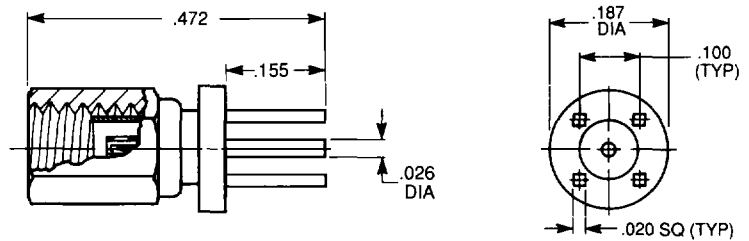
Right Angle Bulkhead Jack

7110-1511-000



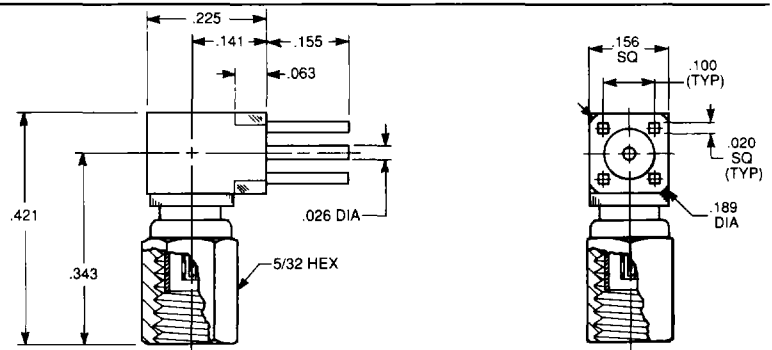
Straight Plug

7025-1512-000

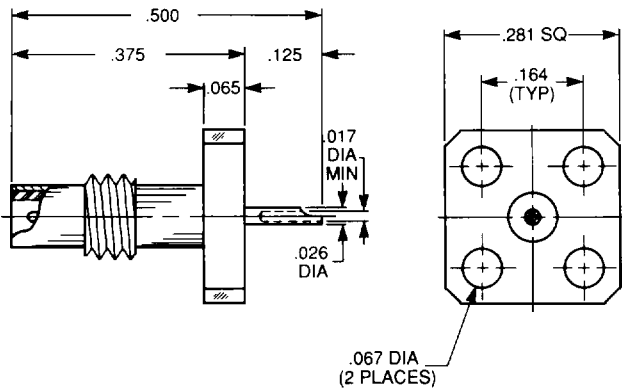


Right Angle Plug

7042-1511-000



Straight Panel Receptacle

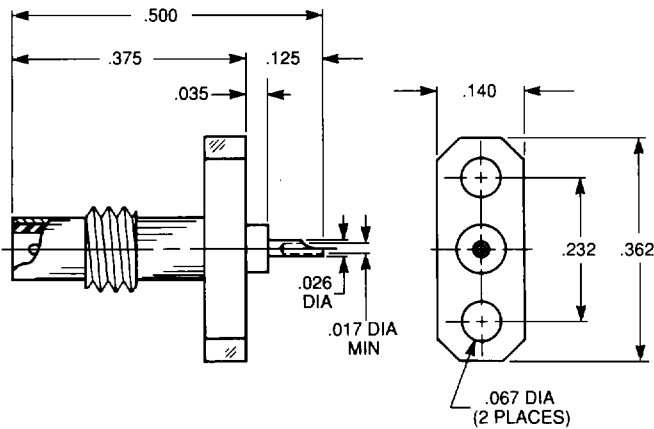


- Solder pot contact
- Stainless steel body

Square flange:

7198-1513-000

Straight Panel Receptacle



- Solder pot contact
- Stainless steel body

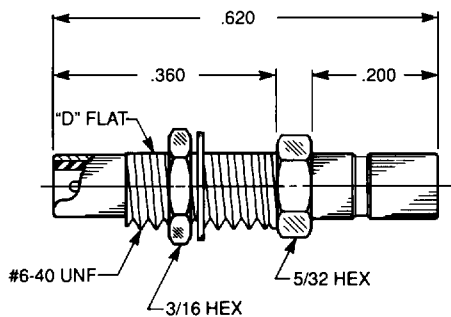
2-hole flange:

7100-1513-000

Bulkhead Mounted SSMC Jack to SSMB Jack Adapter

- Connects SSMB plug and SSMC plug

7022-1502-000



AEP SSMB series snap-on connectors were designed to provide the highest practical mating and unmating forces in microminiature size, making them the most rugged and reliable microminiature coaxial connectors available. This high mating force can, however, cause damage to bulkheads or P.C. boards when the connectors are mated in multiple pairs in rack and panel or blind-mate applications.

The slide-on plugs shown here were designed to reduce mating forces from 6 pounds maximum to 3 pounds maximum per pair, and unmating forces from 2 pounds minimum to 1/2 pound minimum per pair. These forces are high enough to ensure consistent outer conductor grounding, but low enough to allow the connectors to be used in multiple mating arrays.

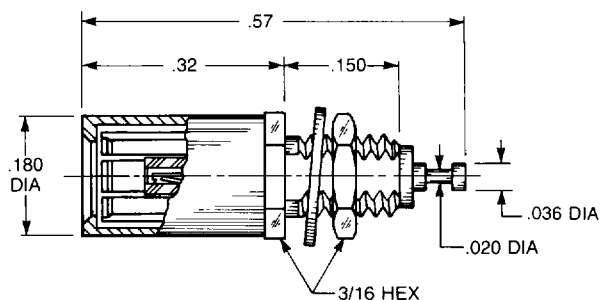
The use of external actuators, such as levers or jackscrews, should be considered in applications requiring the simultaneous mating of multiple connector pairs, especially when one side is P.C. board mounted.

These slide-on plugs will mate with any SSMB series snap-on jack.

SSLB Series Slide-On Bulkhead Plug Receptacle

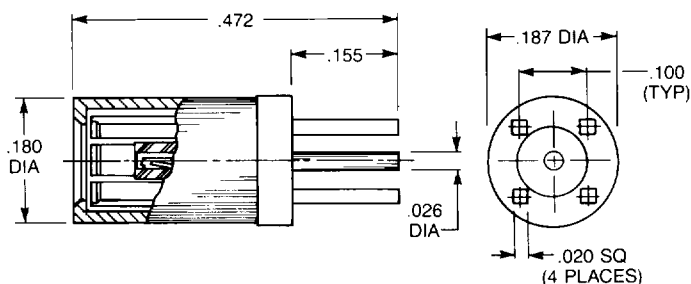
- Turret contact
- Front mount

7317-1512-000



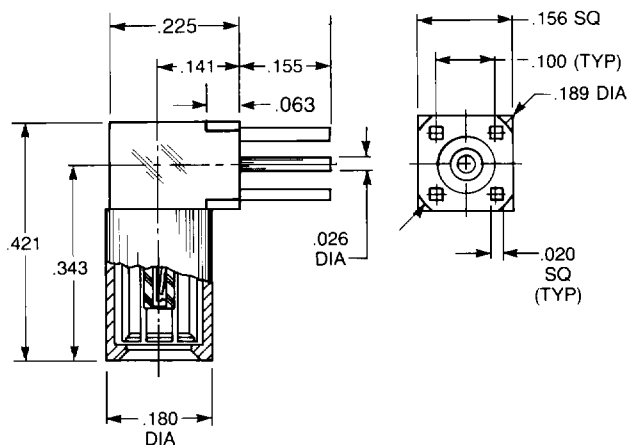
SSLB Series Slide-On Straight P.C. Board Plug

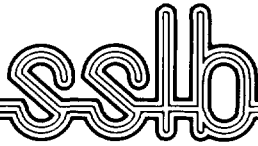
7325-1512-000



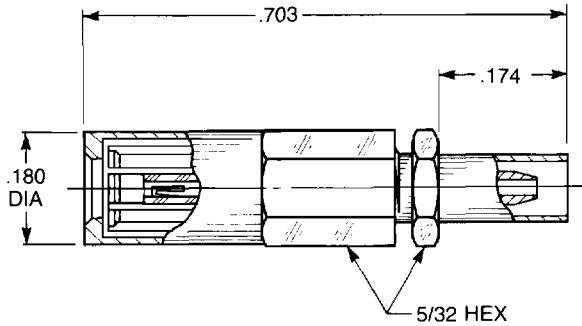
SSLB Series Slide-On Right Angle P.C. Board Plug

7342-1511-000



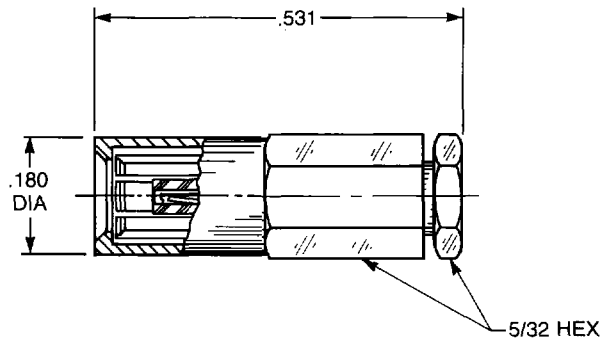


SLIDE-ON CABLE PLUGS



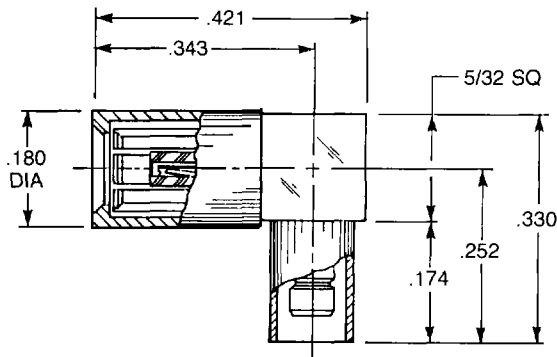
Straight Plug

Crimp type for flexible cable:
7302-1572-0XX



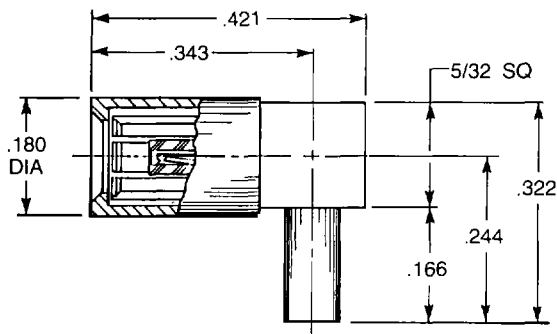
Straight Plug

Solder type for semi-rigid:
7302-1542-0XX



Right Angle Plug

Crimp type for flexible cable:
7305-1521-0XX



Right Angle Plug

Solder type for semi-rigid:
7305-1561-0XX

Substitute the appropriate cable group for 'XX':

02	RG178, RG196, M17/93, M17/169	10	.085" semi-rigid, RG405, M17/133
03	RG174, RG179, RG316, M17/113, M17/119, M17/172, M17/173	11	.047" semi-rigid, M17/151
		19	RG174DS, RG316DS, M17/152, Times RD316
05	RG178DS, RG196DS	21	.056" semi-rigid