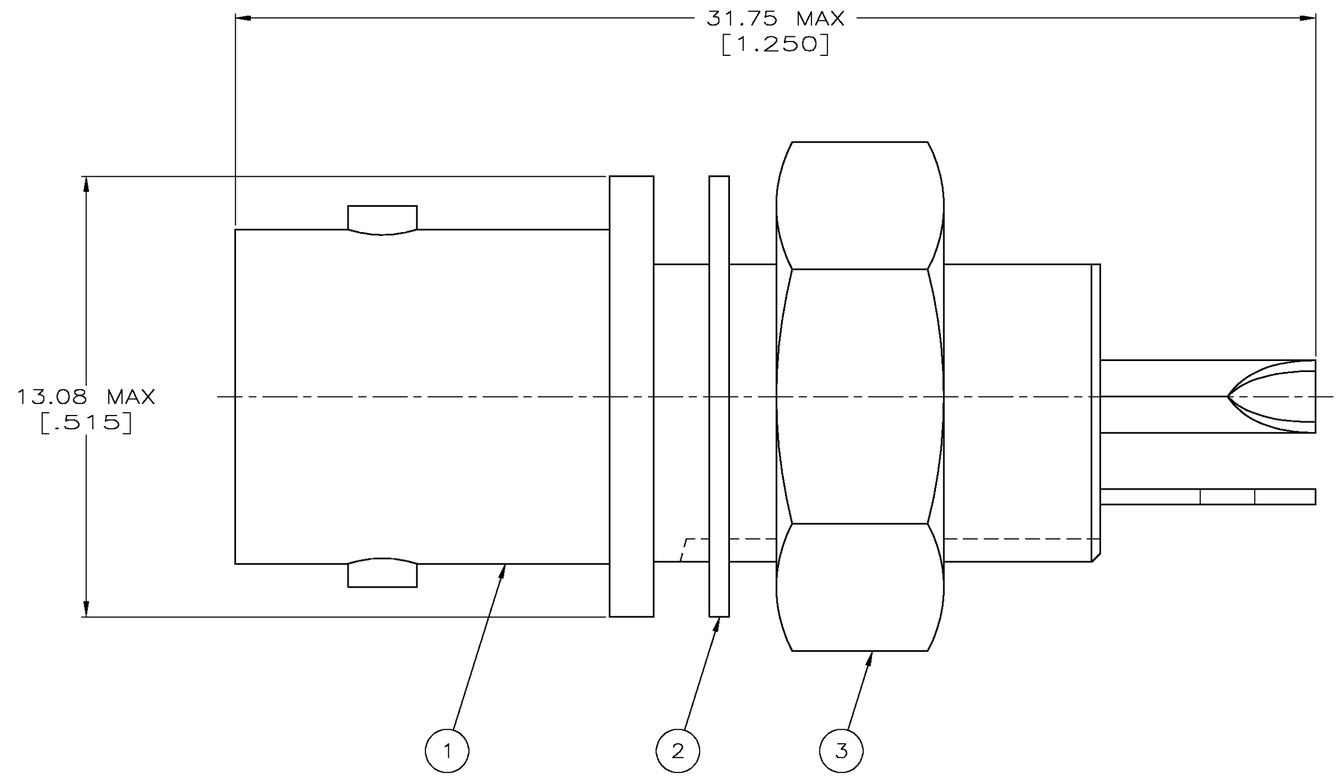
Jameco Part Number 421331

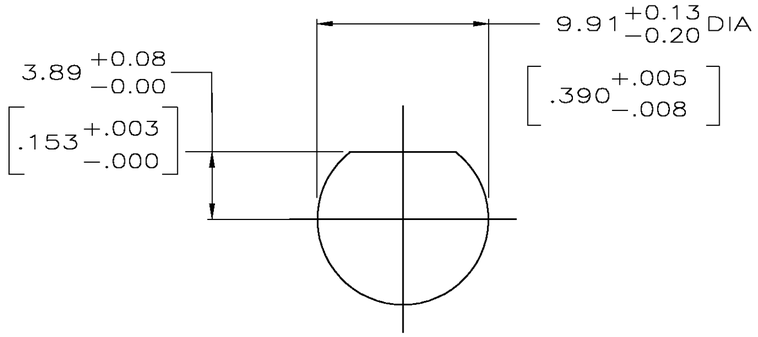
LOC	DIST
AJ	16

REVISIONS

P	LTR	DESCRIPTION	DATE	DWN	APVD
	E	EC PER 0S14-0192-04	12NOV2004	JGH	JL

1. FOR USE IN PANELS UP TO .250 MAXIMUM THICK.





SUGGESTED PANEL CUTOUT
SCALE 4:1

9-414815-0	1-329492-1	227529-3	227726-3
9-414815-0	1-329492-1	227529-2	227726-2
9-414815-0	1-329492-1	227529-1	227726-1
(3) JAM NUT QTY=1	(2) LOCKWASHER QTY=1	(1) JACK ASSY QTY=1	PART NUMBER

THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS: INCHES

TOLERANCES UNLESS OTHERWISE SPECIFIED:
0 PLC ± –
1 PLC ± –
2 PLC ± –
3 PLC ± –
4 PLC ± –
ANGLES ± –

MATERIAL –
FINISH –

DWN J. LIPPERT 5-12-94
CHK D. TAYLOE 5-16-94
APVD D. TAYLOE 5-16-94
PRODUCT SPEC –
APPLICATION SPEC –
WEIGHT .290 OZ EACH

tyco Electronics
Tyco Electronics Corporation
Harrisburg, PA 17105-3608

NAME SOLDER JACK, ISOLATED, 50 OHM, BNC
–

SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
A2	00779	C-227726	–

CUSTOMER DRAWING

SCALE 8:1 SHEET 1 OF 1 REV E

227726

Coaxial BNC Solder Receptacle Connector

1. SCOPE

1.1. Content

This specification covers the performance, tests and quality requirements for the Tyco Electronics coaxial BNC solder receptacle connector.

1.2. Qualification

When tests are performed on the subject product line, the procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. Tyco Electronics Documents

- 109-1: General Requirements for Test Specifications
- 109 Series: Test Specifications as indicated in Figure 1
- 110-12037: Qualification Test Report

2.2. Government Specification

MIL-C-17: Cables, Radio Frequency, Flexible and Semirigid, General Specification for

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2. Material

Materials used in the construction of this product shall be as specified on the applicable product drawing.

3.3. Ratings

- Current Rating: 500 volts AC RMS
- Operating Temperature: -65 to 165°C
- Nominal Impedance: 50 or 75 ohms
- Frequency Range: 0 to 4 GHz for 50 ohm product, 0 to 2 GHz for 75 ohm product

3.4. Performance and Test Description

Product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of product.	Meets requirements of product drawing.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Termination resistance.	Contact Type / Resistance Milliohms Maximum Initial / Final Center Gold 2.0 2.5 Silver 2.5 3.5 Tin 2.75 4.75 Outer Gold 1.0 1.6	AMP Spec 109-25. Measure potential drop of mated contacts at 1 ampere maximum. See Figure 3.
Insulation resistance.	5000 megohms minimum initial.	AMP Spec 109-28-4. Test between center contact and outer shell of unmated samples.
Dielectric withstanding voltage.	1500 volts AC (rms) between center conductor and outer shell. 1 minute hold with no evidence of breakdown or flashover.	AMP Spec 109-29-1. Test between center contact and outer shell.
RF high potential.	1000 volts (rms) at 5 MHz. No breakdown or flashover. 1 minute hold.	AMP Spec 109-29-1, except 5 MHz. Subject mated samples to 1000 volts instantaneously applied between center contact and outer shell.
Corona.	No evidence of sustained corona discharge in excess of 5 picocoulombs with 375 volts (rms) and 60 Hz applied.	AMP Spec 109-40. Place mated samples in a vacuum chamber at a simulated altitude of 70,000 feet for 10 minutes. Use cable shields on exposed cable ends. At the end of this period, and while still at 70,000 feet, a 60 Hz test voltage shall be increased until the detector indicates a sustained corona discharge.
Permeability.	Shall not exceed 2µ.	AMP Spec 109-88. Measure magnetic permeability using 2µ pellet.

Figure 1 (cont)

Test Description	Requirement	Procedure
	MECHANICAL	
Solderability.	Samples shall have a solder coverage of 95% minimum.	AMP Spec 109-11-1. Subject samples to solderability.
Vibration.	No discontinuities greater than 1 microsecond. See Note.	AMP Spec 109-21-3. Subject mated samples to 15 G's, 10-2000 Hz with 100 milliampere current applied.
Physical shock.	No discontinuities greater than 1 microsecond. See Note	AMP Spec 109-26-9. Subject mated samples to 100 G's sawtooth in 6 milliseconds. 3 shocks in each direction applied along the 3 mutually perpendicular planes. Total 18 shocks.
Durability.	Meets requirements of subsequent tests.	AMP Spec 109-27. Mate and unmate samples for 500 cycles at a maximum rate of 12 cycles per minute.
Contact retention.	No movement or dislodging of contact.	AMP Spec 109-30. Apply axial load of 10 pounds to the center contact in the direction in which the mating plug would be inserted and hold for 10 seconds.
Contact engaging force.	32 ounces maximum.	AMP Spec 109-35. Measure force necessary to engage Gage 1 to a depth of 0.125 inch. See Figure 4.
Contact separating force.	2 ounces minimum.	AMP Spec 109-35. Size 3 times using Gage 1, insert Gage 2 and measure force necessary to separate from a depth of 0.125 inch.
Mating/unmating force.	3 pounds maximum longitudinal force. 2.5 inch pounds maximum torque.	Measure force necessary to initiate mating of coupling nut of the plug. Also measure torque required to fully couple and uncouple the sample.
	ENVIRONMENTAL	
Thermal shock.	Dielectric withstanding voltage. Termination resistance. No physical damage.	AMP Spec 109-22. Subject unmated samples to 5 cycles between -65 and 165°C.
Humidity-temperature cycling.	200 megohms minimum final insulation resistance tested within 5 minutes after removal from humidity. Dielectric withstanding voltage after 24 hours drying at ambient.	AMP Spec 109-23-3, Condition B. Subject mated samples to 10 cycles between 25 and 65°C at 95% R.H.

Figure 1 (cont)

Test Description	Requirement	Procedure
Salt spray corrosion.	No base metal exposure on the interface or mating surface of the receptacle.	AMP Spec 109-24, Condition B. Subject unmated samples to 5% salt concentration for 48 hours.

NOTE *Shall remain mated and show no evidence of damage, cracking or chipping.*

Figure 1 (end)

Test or Examination	Test Group (a)			
	1	2	3	4
	Test Sequence (b)			
Examination of product	1	1	1	1
Termination resistance		7,11,14		
Insulation resistance	7,9	6,16	6	
Dielectric withstanding voltage	10	8,13,17		
RF high potential		19		
Corona		18		
Permeability	6	5	5	
Solderability				2
Vibration		9		
Physical shock		10		
Durability	8			
Contact retention	5			
Contact engaging force	3,12	3	3	
Contact separating force	4,13	4	4	
Mating/unmating force	2,11	2,20	2,8	
Thermal shock		12		
Humidity-temperature cycling		15		
Salt spray corrosion			7	

NOTE
(a) See paragraph 4.1.A.
(b) Numbers indicate sequence in which tests are performed.

Figure 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Sample Selection

Samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Each test group shall consist of 3 receptacles. All receptacles shall be tested uncabled. Standard mating plugs shall be terminated to 11 inch lengths of RG-58 c/u coaxial cable conforming to MIL-C-17. Current equalizers shall be placed from the back of the connector, 10 inches on the braid and 10.5 inches on the center conductor as shown in Figure 3.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 2.

4.2. Requalification Testing

If changes significantly affecting form, fit, or function are made to the product or the manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality, and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup, or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

| The applicable quality inspection plan will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

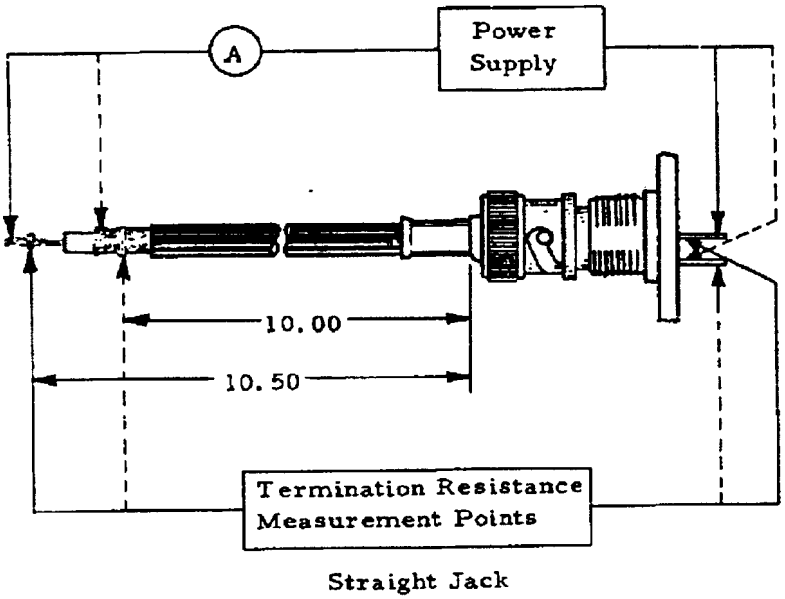
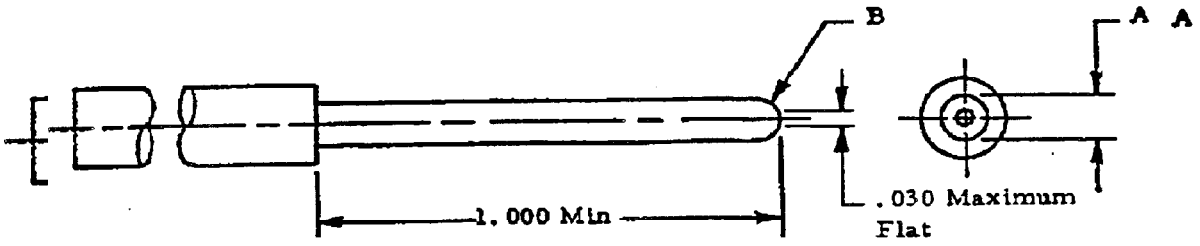


Figure 3
Termination Resistance Measurement Points

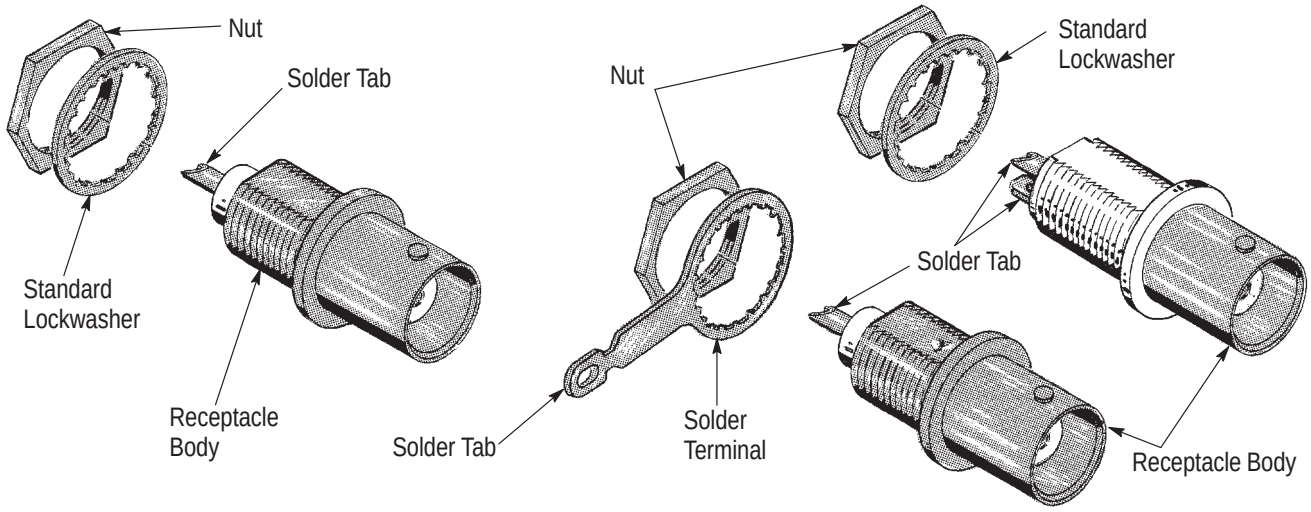


Gage Number	"A" Dimension
1	.0540 +.0000/-.0001
2	.0520 +.0001/-.0000

Figure 4
Engaging & Separating Gages

Series BNC Solder Receptacle Jacks

Instruction Sheet
408–2858
(was IS 2858)
01 JUL 04 Rev A



ASSEMBLIES	PART NUMBER	CENTER CONTACT PLATING	DIELECTRIC
STANDARD RECEPTACLE WITH STANDARD LOCKWASHER AND NUT	227169–1, 227754–1	TIN	POLYESTER
	227169–3, 227754–2	GOLD	POLYESTER
	227754–3	SILVER	POLYESTER
	227169–4, 227715–3	GOLD	TEFLON†
STANDARD RECEPTACLE WITH LOCKWASHER TERMINAL, AND NUT	227169–5, 227755–1	TIN	POLYESTER
	227169–7, 227755–2	GOLD	POLYESTER
	227755–3	SILVER	POLYESTER
	227169–8, 227716–3	GOLD	TEFLON
INSULATED RECEPTACLE WITH STANDARD LOCKWASHER AND NUT	227726–1	TIN	POLYESTER
	227726–2	SILVER	POLYESTER
	227726–3	GOLD	POLYESTER
SEALED RECEPTACLE	227426–1	GOLD	POLYPROPYLENE EPOXY

Figure 1

1. INTRODUCTION

Standard and Insulated Series BNC Solder and Receptacle Jacks are used in panel–mount applications. They are available with the combinations of dielectric material and center contact platings as shown in the table in Figure 1.

The assemblies containing a solder tab on the lockwasher are used with coaxial cables. For installations requiring ground isolation, the use of the insulated receptacle is recommended. Ground isolation can also be obtained with the standard receptacles by use of the insulating bushings as shown in Figure 3.

Sealed BNC Solder Receptacle Jacks are installed as described in Paragraph 2.1 and Figure 4.

NOTE

Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are for reference only and are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 3, REVISION SUMMARY.

2. INSTALLATION PROCEDURES

2.1. Solder Receptacle Jacks

1. First determine mounting requirements. Panel cut–out dimensions are shown in Figure 2.

2. Insert the threaded portion of the jack through the cut–out.

3. Slip on the lockwasher and thread on and tighten the nut.

4. Solder the wire to the tab as required.

5. Terminate the tab:
   (a) On the solder terminal (lockwasher) where this style assembly is used.
   (b) On insulated receptacle when this style assembly is used.

2.2. Panel Insulating Bushings

1. For installation requiring insulating bushings, use the panel cut–out as shown in Figure 3.

2. Assemble one bushing on each side of panel.

3. Insert the threaded portion of the jack through the bushings.

4. Slip on the solder terminal (lockwasher), and thread on and tighten the nut.

5. Solder the wire to the tab.

6. Terminate the tab on the solder terminal as required.

2.3. Sealed BNC Solder Receptacle Jacks

1. First determine mounting requirements and panel cut–out dimensions as shown in Figure 4.

2. Assemble the gasket to the receptacle flange.

3. Insert the threaded portion of the jack through the cut–out.

4. Slip on the lockwasher, and thread on and tighten the nut.

5. Solder the wire to the center contact solder cup as required.

6. Terminate the solder tab as required.

3. REVISION SUMMARY

Per EC 0990–0811–04

- Updated document to corporate requirements
- Deleted obsolete part numbers and added new part numbers to table in Figure 1

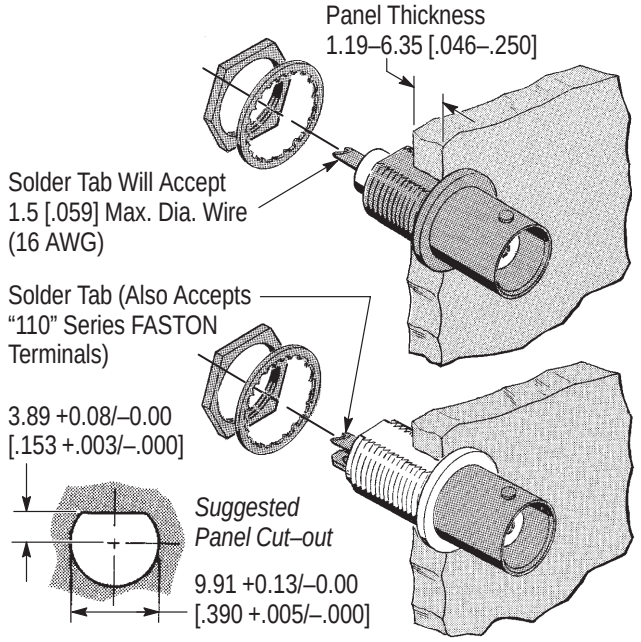
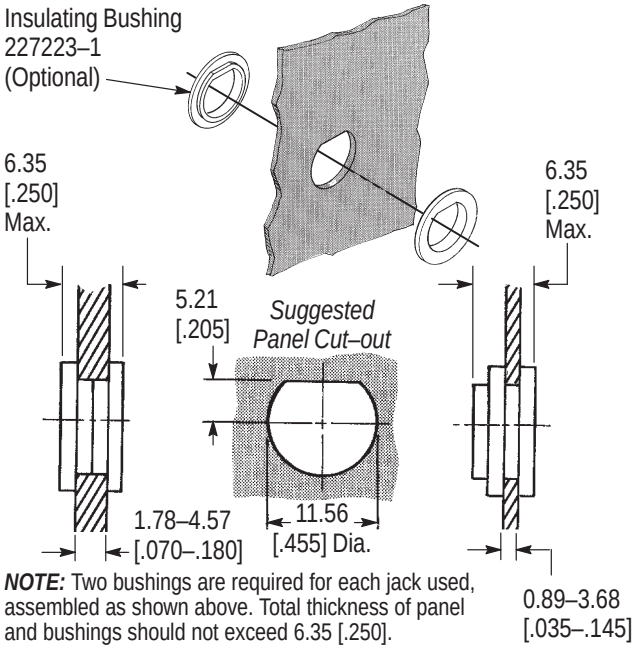


Figure 2



NOTE: Two bushings are required for each jack used, assembled as shown above. Total thickness of panel and bushings should not exceed 6.35 [.250].

Figure 3

Sealed BNC Solder Receptacle Jack 227426–1

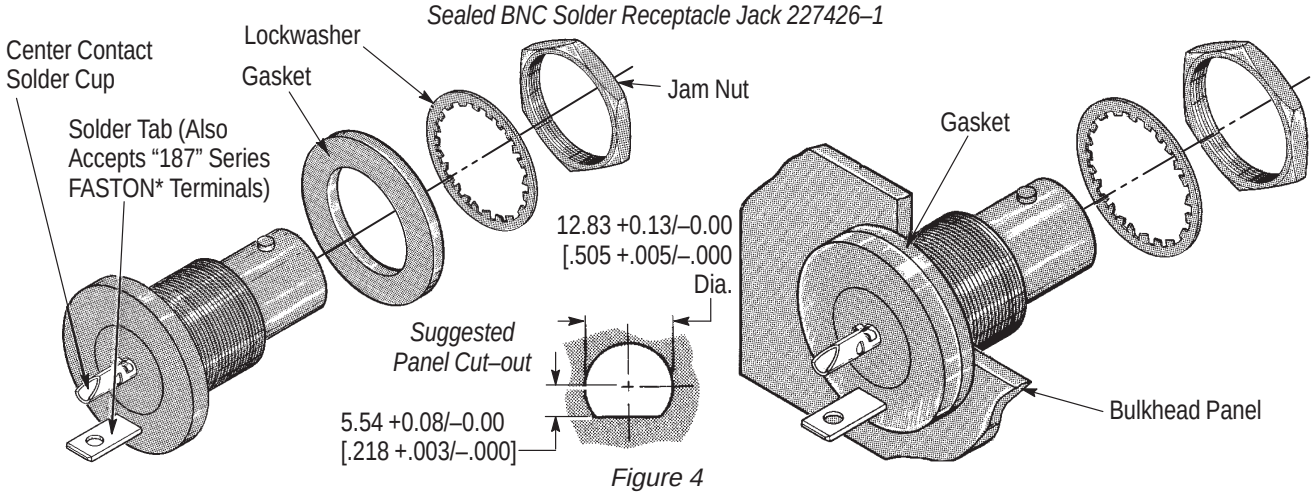


Figure 4