

**Termination Procedure for "527" Series SolderTacts®  
Contacts for Coaxial Cable: D-602-0093, D-602-0094****1. Scope**

- 1.1 This standard contains the termination procedure, inspection requirements, and rework procedures for the SolderTacts® contacts referenced.

**2. References****2.1 Raychem Specification Control Drawings**

D-602-0093 Contact, Coaxial Pin, #12 (Inner Socket/Outer Pin)

D-602-0094 Contact, Coaxial Socket, #12 (Inner Pin/Outer Socket)



**2.2 Raychem Instructions**


AA-400 Super Heater Instructions

AD-1319 Holding Fixture Instructions

CV-5300 MiniGun® 1 Instructions

**3. Application Equipment and Tools**

Heating Tool	Reflector	Holding Fixture
AA-400 Super Heater (portable, compressed air)	No. 979663 Mini SolderSleeve® Reflector	AD-1319 Holding Fixture With AT-1319-25 Adapter
CV-5300 MiniGun® 1 (portable, electric blower) 	MG-1 SolderSleeve® Reflector 	or AD-1569 Repair Holding Fixture

 CV-5300 MiniGun® 1 and MG-1 replaces CV-5700 MiniGun®3 and MG-7, respectively. Both CV-5300 and CV-5700 can be used, but CV-5300 is preferred over CV-5700.

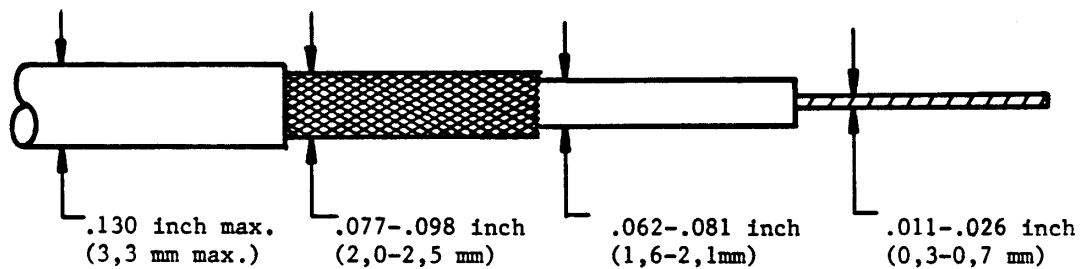
**4. General Information****4.1 Description**

- 4.1.1 The contacts covered by this engineering standard are designed for use in size 12 cavity in a rack and panel connector generally complying to MIL-C-83527.

These single piece contacts solder to coaxial cable by means of preinstalled solder preforms contained by heat-shrinkable insulating sleeves.

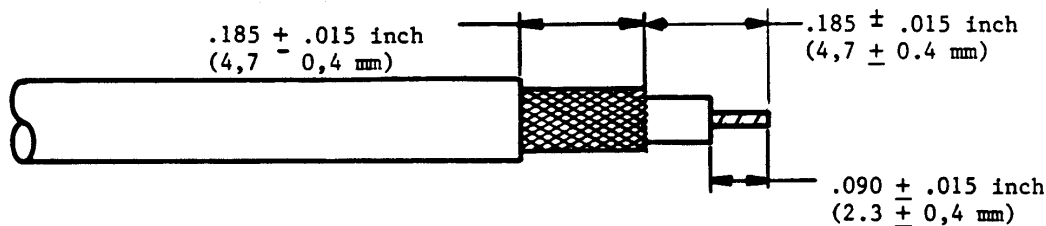
**4.2 Coaxial Cable Accommodation**

- 4.2.1 D-602-0093 and D-602-0094 contacts will accommodate coaxial cable of the dimensions shown in Figure 1.

**FIGURE 1**

**5. Termination Procedures****5.1 Coaxial Cable Preparation**

5.1.1 For cable conforming to 4.2.1--strip the cable as shown in Figure 2.



**FIGURE 2**

5.1.2 Straighten the center conductor, and make sure that stranded center conductor is twisted into its original lay.

5.1.3 Pre-tin stranded center conductor or unplated solid center conductors with Sn63 solder per QQ-S-571.

5.1.4 Make sure that the shield braid is trimmed evenly and that no loose strands are extending out across the exposed dielectric.

5.1.5 Smooth the braid ends flat against the dielectric or cable jacket.

**5.2 Inserting Prepared Cable Into Contact.**

5.2.1 Slip the contact carefully over the end of the prepared cable, and gently push the contact onto the cable until it stops.

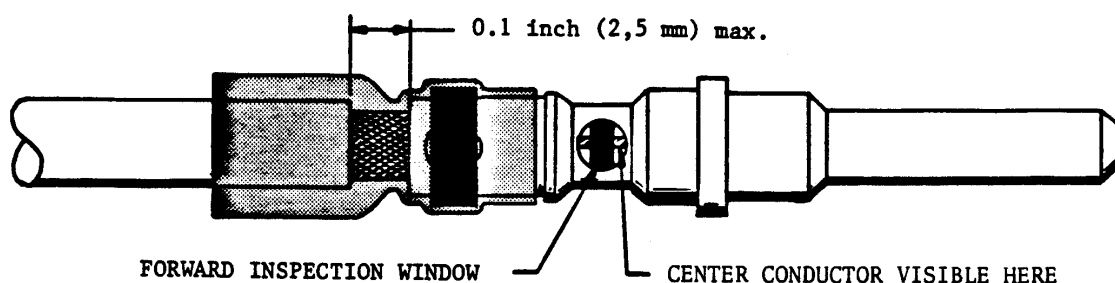
**NOTE**

Rotating the contact slightly during cable insertion will help prevent the braid from catching.

5.2.2 Inspect for proper insertion (see Figure 3).

The center conductor must be visible through one of the forward inspection windows.

The distance from the rear of the contact body to the cable jacket insulation should not exceed 0.1 inch (2,5 mm).



**Figure 3**  
**Proper Insertion Inspection**

- 5.2.3 If the cable cannot be inserted as required, remove the contact from the cable and check for improper strip dimensions, splayed shield braid, or bent center conductor. Restrip if necessary.

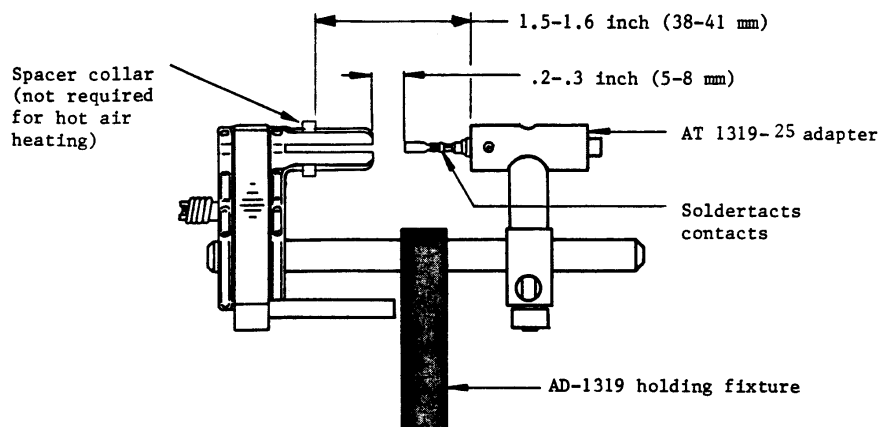
5.3 Setup Procedure--Manually Operated Heating Tools

**NOTE**

Either the AD-1319 holding fixture and adapter or the AD-1569 repair holding fixture must be used to prevent damage to the contacts.

6.2.2 AD-1319 Holding Fixture Initial Setup

- 5.3.1.1 If the AD-1319 holding fixture is to be used, install the AT-1319-25 adapter, insert a contact, and set up the dimensions as shown in Figure 4.
- 5.3.1.2 Make sure that the contact is inserted in the appropriate end of the adapter--outer pin contact into the "P" end and outer socket contact into the "S" end.
- 5.3.1.3 If using a hot air heating tool, the spacer collar is not needed, but may be left in place.



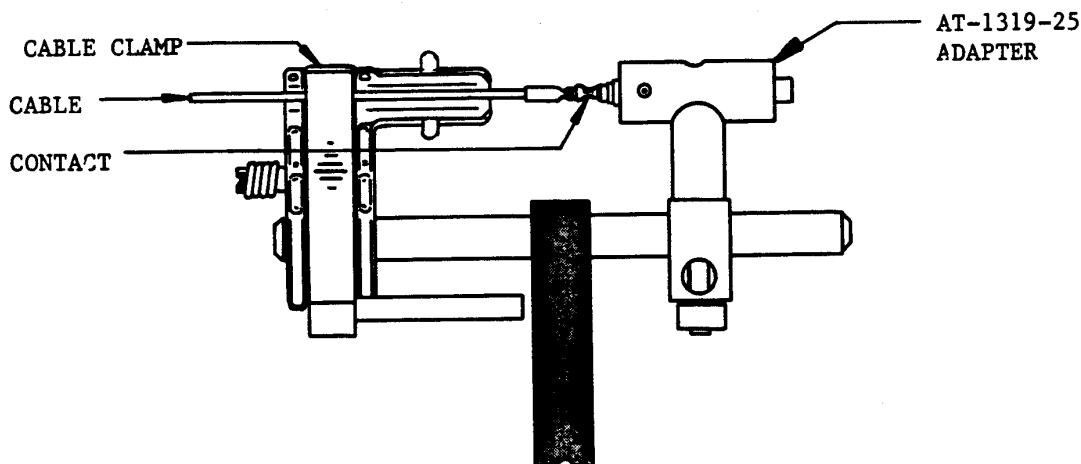
**Figure 4**  
**Setup Dimensions for AD-1319 Holding Fixture**

**5.3.2** Final Preparation for Termination Using AD-1319

- 5.3.2.1** Insert the contact/cable assembly into the appropriate end of the AT-1319-25 adapter or AD-1569 repair holding fixture, as shown in Figure 5.

D-602-0094 contacts (pin): "P" end.

D-602-0093 contacts(socket): "S" end.



**Figure 5**  
**Holding Fixture and AT-1319-25 Adapter with Contact / Cable Assembly**

5.3.2.2 Clamp the coaxial cable in the AD-1319 holding fixture (if used).

**NOTE**

The cable must be fully inserted in the contact (see Section 5.2.2.).

The contact must be fully inserted in the adapter.

The cable must be straight between the contact and the cable clamp.

5.3.3 Usage of AD-1569 Repair Holding Fixture

When it is necessary to heat a contact in a confined area (i.e., during contact replacement on an assembled harness), the AD-1569 repair holding fixture (Figure 5) provides a compact holding device. This fixture does not provide the cable clamping of the AD-1319 and requires that the cable be secured during heating to prevent "cold" solder terminations.



**Figure 6**

**AD-1569 Repair Holding Fixtures With Contact/Cable Assembly**  
(Outer Pin Contact Shown for Reference)

- 5.4 Heating Tool Procedure (Applying heat with hot air heating tool (MiniGun® Heater or Super Heater.)
- 5.4.1 Attach the appropriate reflector to the heating tool. See Section 3 for reflector selection.
- 5.4.2 Turn the heating tool on and allow to warm up. See instructions for tool used.
- 5.4.3 Using one of the required holding fixtures, position the contact in the hot air stream within the reflector.
- 5.4.3.1 Center the forward inspection window in the reflector.

5.4.3.2 For optimum heating, position the contact as shown.

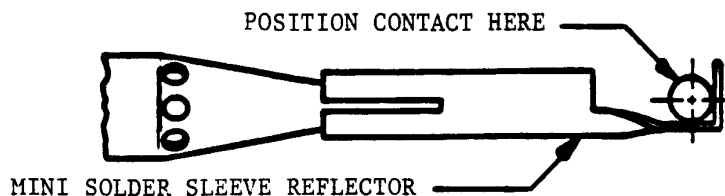
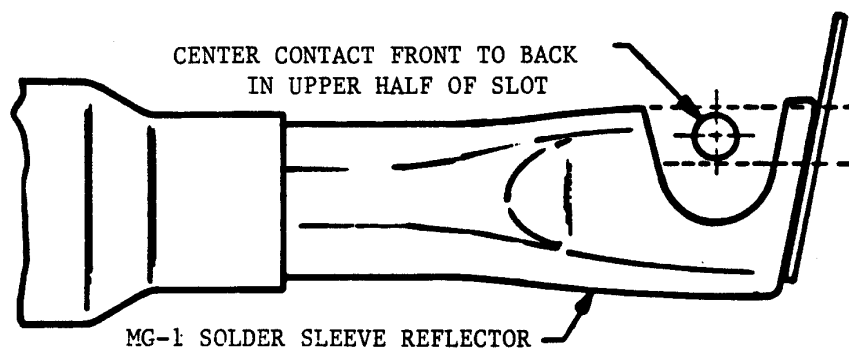


FIGURE 7

**CONTACT POSITIONING USING MINI SOLDER SLEEVE REFLECTOR**



**Figure 8**

**Contact Positioning Using MG-7 Solder Sleeve Reflector**

- 5.4.4 Continue to direct hot air around the contact until the small solder preform in the forward inspection window has melted and flowed. The large solder preform in the rear inspection window should have melted and flowed by this time; if it has not, direct hot air around the rear inspection window until it does.
- 5.4.4.1 Be sure to allow the solder to solidify before removing the contact from the holding fixture.
- 5.4.5 After the termination has cooled at least 10 seconds, remove it from the holding fixture.
- 5.4.6 Inspect the completed termination according to Section 6 of this standard.

**6. Inspection****6.1 Assembly Inspection.**

Inspect the completed termination for correct assembly according to the following criteria:

- 6.1.1 The distance from the rear end of the contact body to the cable jacket insulation should not exceed 0.1 inch (2,5 mm).
- 6.1.2 The center conductor must be visible through one of the forward inspection windows.
- 6.1.3 The shield braid must be visible through the rear inspection windows.

**6.2 Heating Inspection**

Visually inspect the completed termination for proper heating according to the following criteria:

- 6.2.1 The small solder preform in the forward inspection windows must be melted and flowed so that:  
Preform shows no trace of its original form (underheated condition), over the solder cup opening in the inner contact.  
Solder fillet is visible between center conductor and inner contact soldering interface.

**NOTE**

Insufficient visible solder indicates  
overheated condition.

- 6.2.2 The large solder preform in the rear inspection window must be melted and flowed so that:

Preform shows no trace of its original form (underheated condition).

Solder fillet is visible between braid and contact body.

**NOTE**

Insufficient visible solder indicates  
overheated condition.

- 6.2.3 The insulating sleeve must be shrunk over the area of braid visible between the cable jacket and the contact (insulating sleeve may remain flared at end).



6.2.4 The insulating sleeve must not be darkened so as to obscure the solder joints or hinder inspection (overheated condition).

6.2.5 The coaxial cable insulation must not show signs of damage or overheating outside of the insulating sleeve.

## **7. Repair and Rework**

### **7.1 Underheated Terminations**

Reheat as directed in paragraph 5.3, and reinspect per Section 6.

### **7.2 Overheated or Improperly Assembled Terminations**

7.2.1 Remove the contact from the cable as directed in paragraph 7.3.

7.2.2 Check the cable for damage and incorrect stripping.

#### **NOTE**

If the cable is damaged, cut off the damaged portion and restrip per Section 5.1.

If stripping is incorrect, restrip as required (Section 5.1).

7.2.3 Install a new contact (paragraphs 5.2 and 5.3).

### **7.3 Removing Contacts From Cable.**

7.3.1 Use a sharp knife or razor blade to score the insulating sleeve full length on opposite sides of the contact.

#### **CAUTION**

Avoid cutting into cable jacket.

7.3.2 Holding the contact with pliers, heat the contact until the solder melts, and quickly pull the heated contact off the cable.