



**Termination Procedure For
"723" Series SolderTacts®
Contacts For Coaxial Cable: D-602-0094, D-602-0095**

1. Scope

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

2. References


2.1 Raychem Specification Control Drawings.


- (1) D-602-0094 Contact, Coaxial Plug, #12, (Inner Socket/Outer Pin).
- (2) D-602-0095 Contact, Coaxial Receptacle, #12, (inner Pin/Outer Socket).
- (3) CTA-0042 Heat Shrinkable Sleeve

2.2 Raychem Instructions

- (1) AA-400 Superheater Instructions
- (2) AD-1319 Holding Fixture Instructions
- (3) IR-550 Two Station Heater Instructions

3. Application Equipment and Tools

Heating Tool	Reflector	Holding Fixture
AA-400 Super Heater (portable, compressed air)	979663 Mini SolderSleeve Reflector	AD-1319 Holding Fixture with AT-1319-19 Adapter (or) AD-1494
Steinel Hot Air Gun® HL1920E / HL2020E  (includes nozzle)	EH0600-000 HL- Solder-Sleeve® Reflector	Holding Fixture

 HL1920E/HL2020E Hot Air Gun replaces CV-5300 heaters. But they still can be used

4. General Information

4.1 Description.

4.1.1 The contacts covered by this engineering standard are designed for use in the following connectors having size 12 cavities:

MIL-C-83723 Series 38

MIL-C-83733

Raychem MTC Coax Connector

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

4.2 Coaxial Cable Accommodation.

CAUTION

USE OF CABLES WITH COVERED STEEL CENTER CONDUCTORS MAY REQUIRE SPECIAL HANDLING DUE TO THERMAL CONDUCTIVITY DIFFERENCE BETWEEN THE CABLE AND THE CONTACT. SPECIFIC APPLICATIONS USING CABLES WITH STEEL CENTER CONDUCTORS SHOULD BE EVALUATED BY SOLDERTACTS® CONTACT TECHNICAL GROUP.

4.2.1 D-602-0094 and D-602-0095 contacts will accommodate coaxial cable of the dimensions shown, when conventionally stripped.

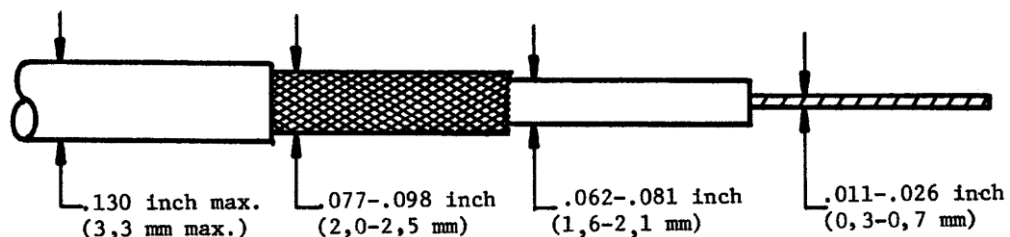


FIGURE 1. COAXIAL CABLE DIMENSIONS FOR D-602-0094 AND D-602-0095 CONTACTS

- 4.2.2 D-602-0094 and D-602-0095 contacts will accommodate RG-178 coaxial cable if the braid is folded back. The jacket is built up with a heat-shrinkable sleeve as shown if an environmental seal is required when used in a MIL-C-83723 or MTC connector.

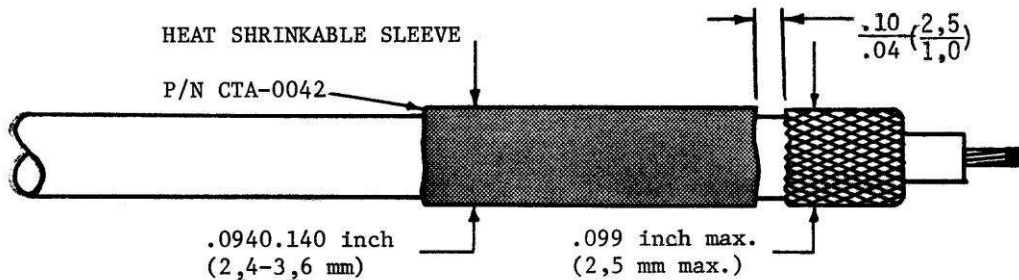


FIGURE 2. RG-COAXIAL CABLE DIMENSIONS FOR D-602-0094 AND D-602-0095 CONTACTS

5. Termination Procedures

5.1 Coaxial Cable Preparation.

- (1A) For cable conforming to 4.2.1--Strip the cable as shown below.

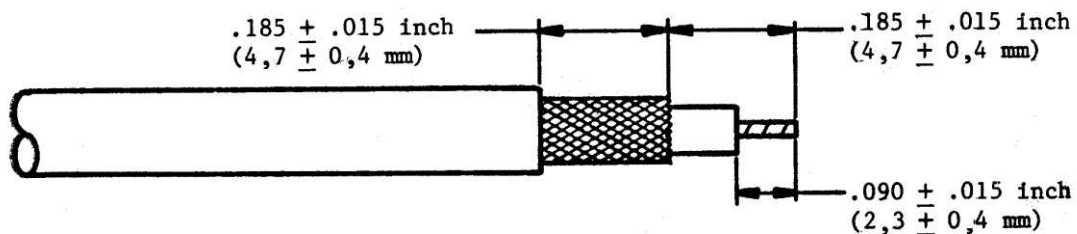


FIGURE 3. COAXIAL CABLE PREPARATION FOR D-602-0094 AND D-602-0095 CONTACTS

- (1B) For cable conforming to 4.2.2--Strip the cable as shown below and shrink a heat-shrinkable sleeve, CTA-0042, over the 'jacket' as shown (if required).

Use any of the portable heating tools listed in Section 3 (without a holding fixture) for shrinking the sleeve.

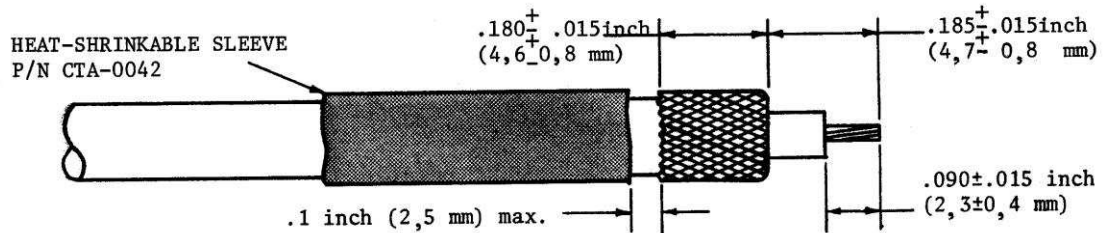


FIGURE4 RG- 178 COAXIAL CABLE DIMENSIONS

- (2) Straighten the center conductor and make sure that stranded center conductor is twisted into its original lay.
- (3) Pre-tin stranded center conductor and unplated solid center conductors with Sn63 solder per QQ-S-571.
- (4) Make sure that the shield braid is trimmed evenly and that no loose strands are extending out across the exposed dielectric.
- (5) Smooth the braid ends flat against the dielectric or cable jacket.

5.2 Inserting Prepared Cable Into Contact.

- (1) Slip the contact carefully over the end of the prepared cable and gently push the contact onto the cable until it stops.

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

- (2) Inspect for proper insertion (see Figure. 5).
 - a. The center conductor must be visible through one of the forward inspection windows.
 - b. The distance from the rear of the contact body to the cable jacket insulation should not exceed 0.1 inch (3 mm).

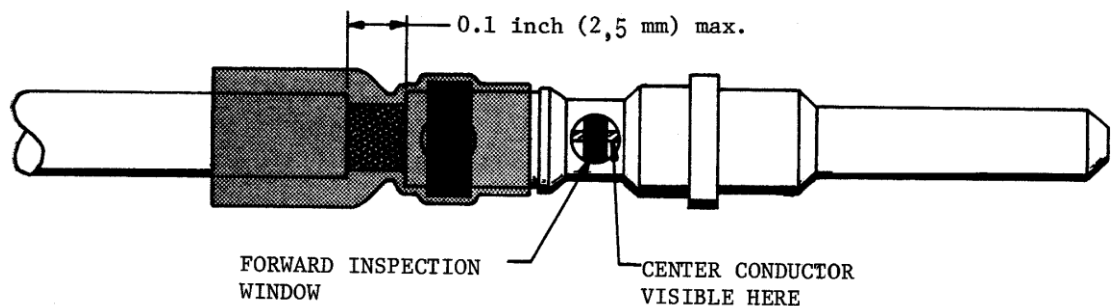


FIGURE 5. PROPER INSERTION INSPECTION

- (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.

5.3 Set-Up Procedure--Manually Operated Heating Tools.

NOTE

Either the AD-1319 holding fixture and adapter or the AD-1494 repair holding fixture must be used, to prevent damage to the contacts.

(1) AD-1319 Holding Fixture Initial Set-Up.

If the AD-1319 holding fixture is to be used, install the AT-1319-19 adapter, insert a contact, and set up the dimensions as shown.

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.

If using a hot-air heating tool, the spacer collar is not needed, but may be left in place.

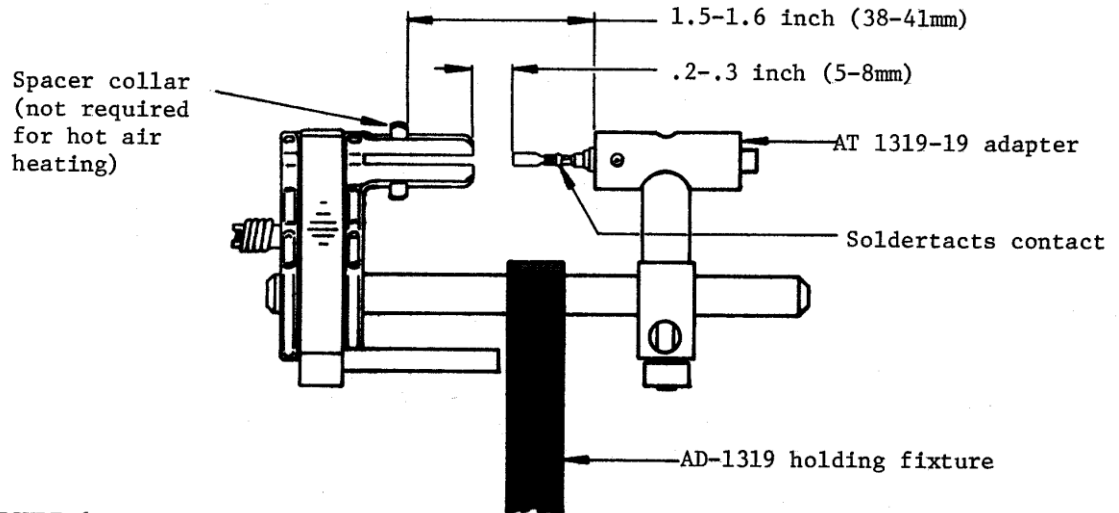


FIGURE 6. SET-UP DIMENSIONS FOR AD-1319 HOLDING FIXTURE

(2) Final Preparation for Termination Using AD-1319.

(A) Insert the contact/cable assembly into the appropriate end of the AT-1319-19 adapter or AD-1494 repair holding fixture, as shown.

D-602-0094 contacts (Pin) -- "P" end.

D-602-0095 contacts (Socket) --"S" end.

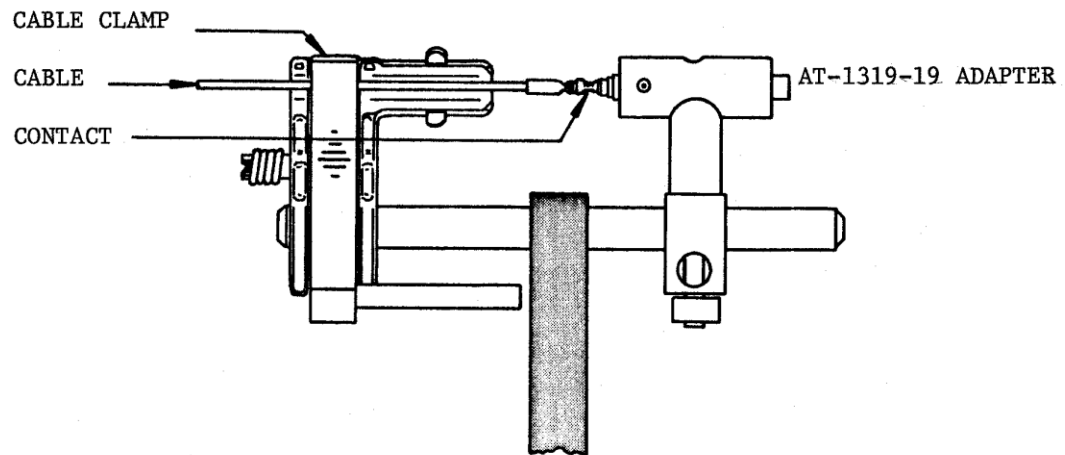


FIGURE 7. HOLDING FIXTURE AND AT-1319-19 ADAPTER WITH CONTACT/CABLE ASSEMBLY

(B) Clamp the coaxial cable in the AD-319 holding fixture (if used).

The cable must be fully inserted in the contact. (See Step 2 of Paragraph 5.2.)

The contact must be fully inserted in the adapter.

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

(3) Usage of AD-1494 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-1494 repair holding fixture (Figure 8) 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.

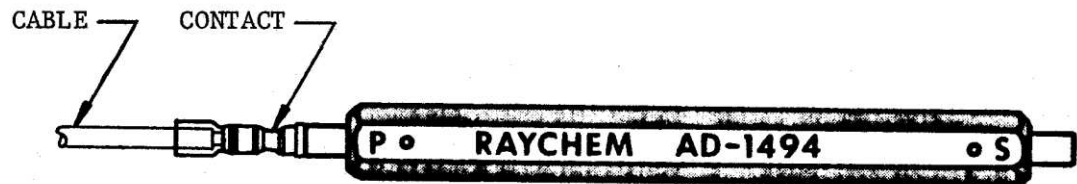


FIGURE 8 AD-1494 REPAIR HOLDING FIXTURES WITH CONTACT/CABLE ASSEMBLY
(OUTER PIN CONTACT SHOWN FOR REFERENCE)

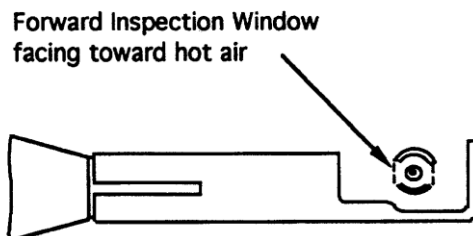
5.4 Applying heat with hot air heating tool.

Attach the appropriate reflector to the heating tool (see Section 3 for reflector selection)

Turn the heating tool on and allow to warm up. (see instructions for tool used)
Steinel settings: 700°F ± 50°F, setting Air Flow Stage II, Duration-20 to 30 Secs

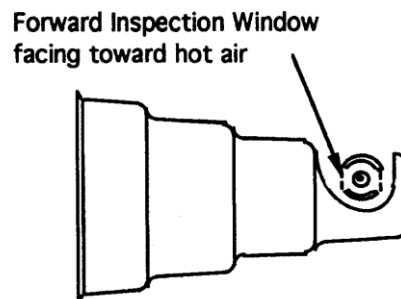
Using one of the required holding fixtures, position the contact in the hot air stream within the reflector.

For optimum heating, position the contact as shown in Figure 9 or 10. Center the forward inspection window in the reflector. Position the forward inspection window toward the hot air stream such that the inner solder preform is still visible during termination.



Mini solder Sleeve Reflector
for SuperHeater

FIGURE 9



Steinel Nozzle

FIGURE 10



- d. 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.

Be sure to allow the solder to solidify before removing the contact from the holding fixture.

- (2) After the termination has cooled at least 10 seconds, remove it from the holding fixture.
- (3) 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:

- (1) The distance from the rear end of the contact body to the cable jacket insulation should not exceed 0.1 inch (3 mm).
- (2) The center conductor must be visible through one of the forward inspection windows
- (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:

- (1) The small solder preform in the forward inspection windows must be melted and flowed so that:
 - a. Preform shows no trace of its original form (underheated condition).



- b. Solder fillet is visible between center conductor and inner contact soldering surface.

Insufficient visible solder indicates overheated condition.

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

- a. Preform shows no trace of its original form (underheated condition).
- b. Solder fillet is visible between braid and contact body.

Insufficient visible solder indicates overheated condition.

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

- (1) Remove the contact from the cable as directed in Paragraph 7.3.
- (2) Check the cable for damage and incorrect stripping.

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

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



(3) Install a new contact (Paragraphs 5.2 and 5.3).

7.3 Removing Contacts From Cable

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

<p style="text-align: center;">CAUTION Avoid cutting into cable jacket</p>

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