

PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.

DESCRIPTION	CONNECTOR				TOOLING		
	RECOMMENDED		PART NUMBER		HAND TOOL 59980-1	LOCATORS	ACCESSORIES
	PANEL THKNS	MOUNTING HOLE	Type RG-405 2.18 [.086] O.D. CABLE	Type RG-402 3.58 [.141] O.D. CABLE			
<p>Panel Plug (BMA-Mount)</p>	4.83 [.190] Max	<p>9.58 ±0.05 [.377 ±.002] 14.22 ±0.10 [.560 ±.004] 2.54 ±0.05 [.100 ±.002] 7.11 ±0.05 [.280 ±.002] 2 Holes</p>	---	5222200-1		<p>313745-1</p>	<p>Die Set (Typ)</p>
<p>Bulkhead Plug (BMB-Mount)</p>	1.27- 3.81 [.050- .150]	<p>9.91 ±0.05 [.390 ±.002]</p>	5222197-1	---			<p>Trimmer Tool 312317-1</p>
<p>Bulkhead Jack (BMA-Mount Truncated Thread)</p>	3.18 [.125] Max	<p>6.15 +0.03/-0.0 [.242 +.001/-0.000]</p>	222194-1	222220-2		<p>Cable Dressing Fixture 311396-1</p>	
<p>Bulkhead Jack (BMB-Mount Regular Thread)</p>	3.18 [.125] Max	<p>6.50 ±0.05 [.256 ±.002]</p>	222196-1	---		<p>Cable Cutoff Fixture 311395-1</p>	

NOTE: Use die set 312253-1 for RG-402 cable 3.58 mm [.141 in.] O.D.), and use die set 312253-2 for RG-405 cable (2.18 mm [.086 in.] O.D.).

Figure 1

1. INTRODUCTION

This instruction sheet covers the use of cable preparation tools and Hand Crimping Tool 59980-1 designed to prepare and terminate RG-402 and RG-405 semi-rigid coaxial cable to the Blind Mate 3.5 mm Connectors listed in Figure 1.

Connector configurations consist of bulkhead jacks for both BMA- and BMB-mount applications, panel plugs, and bulkhead plugs. The connectors are interchangeable, but not intermateable, with BMA-

and BMB- mount products per DESC specification. Read these instructions thoroughly before proceeding.



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

Reason for revision is given in Section 7, REVISION SUMMARY.

2. DESCRIPTION

The 3.5 mm Blind Mate Connectors are high-performance coax connectors that provide module pluggability. Hand Tool 59980-1 accepts Interchangeable Die Set 312253-1 for RG-402 cable (3.58-mm [.141-in.] outer diameter O.D.), and Die Set 312253-2 for RG-405 cable, (2.18-mm [.086-in.] O.D.). Two tool locators are also required, one for jacks and the other for plugs.

The hand tool features a CERTI-CRIMP Hand Crimping Tool Ratchet Control which ensures full crimping of the connector to the cable. Once engaged, the ratchet control will not release until the handles have been fully closed.

The accessories recommended for cable preparation include Cutoff Fixture 311395-1, Cable Dressing Fixture 311396-1, and Trimmer Tool 312317-1. Section 3 discusses cable preparation and how these tools are used.

NOTE *The hand tool and accessories shown and listed in Figure 1 are components of Tool Kit 59981-1 (Instruction Sheet 408-6788); however, the two locators must be purchased separately. Since there are other components in that kit not needed for application of the Blind Mate 3.5 mm Connectors, it may be more desirable to purchase the components separately as well.*

3. CABLE PREPARATION

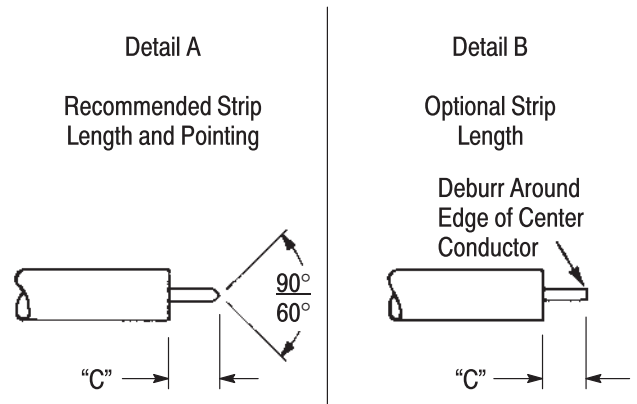
Semi-rigid cable must be properly prepared for termination. Correct use of cable preparation tools (cutoff fixture, dressing fixture, and trimming tool) will give the recommended strip dimensions and pointing, as shown in Figure 2, Detail A. It is recommended that all cable terminated to Blind Mate Connectors be pointed to ensure a sound connection.

Each of the tools used for cable preparation have markings that clearly distinguish the area designed for the 2.18 mm [.086 in.] O.D. cable and the are for the 3.58 mm [.141 in.] O.D. cable. It is important that the cable be placed in the correct area to ensure he required strip dimensions and pointing.

NOTE *If the accessories shown in Figure 1 are not going to be used for cable preparation, strip cable to the optional dimensions shown in Figure 2, Detail B. Then deburr around the edge of the center conductor and proceed directly to Section 4, TOOL SETUP PROCEDURE.*

If using the accessories for cable preparation, it is suggested that the preparation be performed in the order listed. Proceed as follows:

Cable Preparation

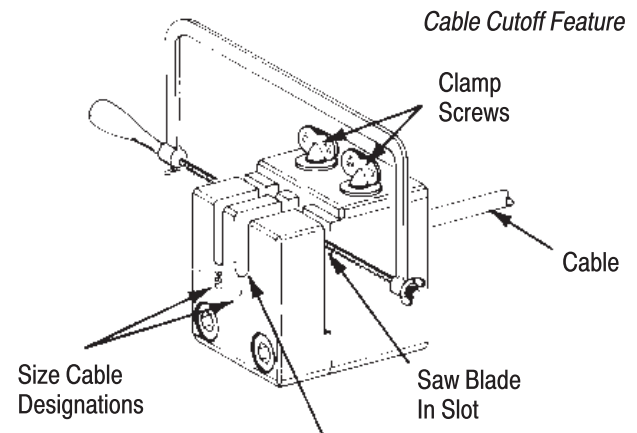


CABLE	"C" DIM. (STRIP LENGTH)
RG-402, RG-405	2.16 ±0.13 [.085 ±.005]

Figure 2

1. Place cable in correct groove of cutoff fixture, and clamp cable to fixture as shown in Figure 3.
2. Using a jeweler's saw with a blade thickness of 0.28 to 0.33 mm [.011 to .013 in.], cut off and square the end of the cable.

NOTE *If preparing preformed cables (cables with 90° or 180° bends), a minimum straight cable length of 12.7 mm [.500 in.] is required for the cable bend to clear the tool head during crimping.*



NOTE *Enter preformed cable from this end of fixture if cut end is desired up to within 12.7 mm [.500 in.] of bend radius of cable. Minimum straight cable length of 12.7 mm [.500 in.] is required for cable bend to clear tool head during crimping.*

Figure 3

3. Place the cable dressing fixture in a vise; then insert the cable into the correct cable-size hole. See Figure 4, Detail A.
4. Using a jeweler's saw with a blade thickness of 0.28 to 0.33 mm [.011 to .013 in.], saw through the cable shield and, at the same time, slowly rotate the cable, maintaining pressure against the fixture.

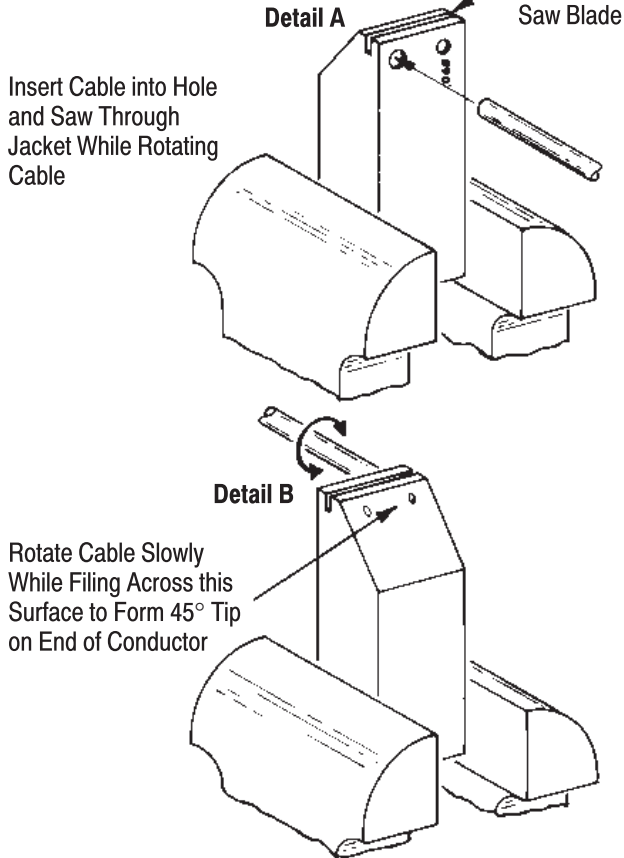
Cable Dressing Feature

Figure 4

5. Remove the cable from the fixture. Use a razor blade to cut through and remove the dielectric to expose the center conductor.



Do NOT nick or score center conductor with the blade.

6. Use trimmer tool to smooth copper shield and dielectric. Slip tool over the end of the cable as shown in Figure 5.

7. Next, push lightly against the cable and, at the same time, revolve tool clockwise two or three complete revolutions.

8. Remove tool and clean any chips from the end of the cable.

9. Re-insert cable into the cable dressing fixture. Obtain a small pillar or mill file. Keep pressure against the fixture and revolve cable slowly and, at the same time, file on the 45° surface, as shown in Figure 4, Detail B. Continue filing until the center conductor offers no resistance to the file.

10. After removing the cable from the tool, brush off the end of the cable to remove any remaining chips.

Trimmer Tool

After Slipping Trimmer Over Cable, Rotate Trimmer (As Shown) Two or Three Revolutions to Smooth Copper Shield and Dielectric

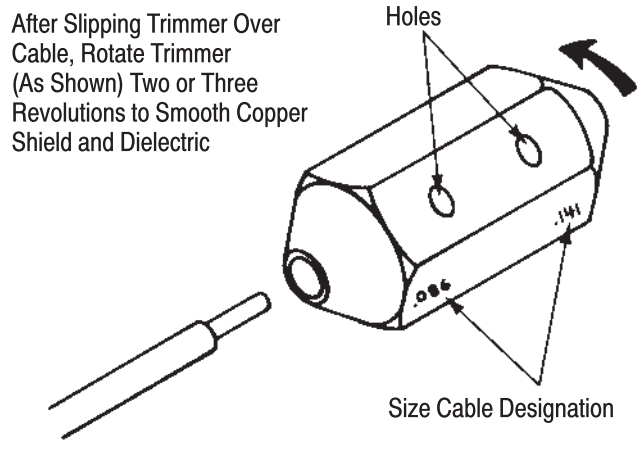


Figure 5

4. TOOL SETUP PROCEDURE

Before a connector can be applied to the cable, the tool must be set up with the appropriate locator and crimping dies. Select the correct locator and die set for the connector and cable, using Figure 1. Then proceed as follows:

1. Loosen locator locking screw and insert plug locator into the cavity of the tool head, making sure locator bottoms in cavity. See Figure 6, Detail A. then retighten locking screw.

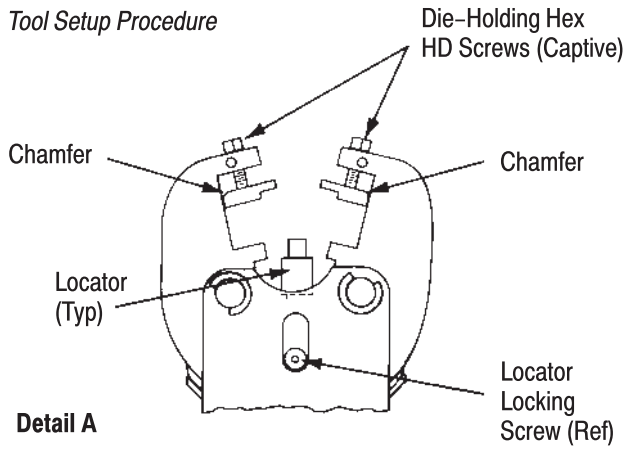
2. Select the proper crimping die set for either 3.58 mm [.141 in.] or 2.18 mm [.086 in.] O.D. cable (Figure 1). Position each die on respective tool jaw, making sure that the chamfer is oriented as shown in Figure 6, Detail A.



If the chamfers are not positioned as shown, an unacceptable crimp will result.

3. Fasten dies to jaws with screws, but do not tighten.

4. Align the dies by placing the cable inside the locator and squeezing the tool handles to close the tool (the CERTI-CRIMP hand tool ratchet control of the tool will not release until the tool jaws have bottomed). Check for even alignment of dies; then tighten screws to secure dies. When certain dies are aligned, release tool handles. See Figure 6, Detail B.

Tool Setup Procedure

Cable Used to Align Dies

Slip Cable in Locator Between Dies. Tighten Screws While Cable Holds Dies in Proper Alignment

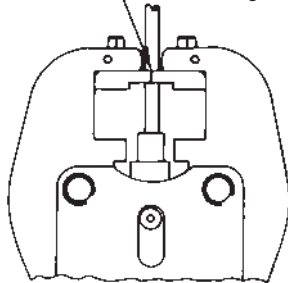
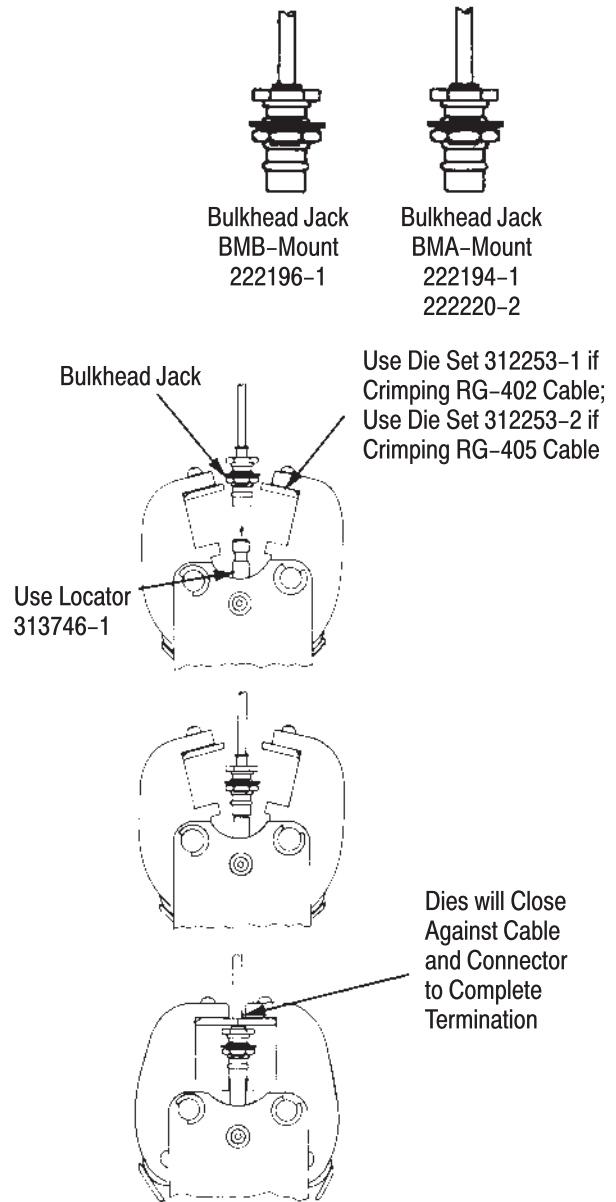


Figure 6

5. APPLYING CONNECTOR TO CABLE

The steps listed herein are recommended to apply the connector to the cable. Refer to Figure 7 if terminating either of the bulkhead jack connectors; refer to Figure 8 if terminating the panel plug or the bulkhead plug. A bulkhead jack connector and compatible locator is shown in Figure 7. Proceed as follows:

1. Slide bulkhead jack connector over cable, flange-end first, as shown.
2. Place connector and cable on locator of tool, making sure the locator enters the front of the connector. When terminating plugs, the center conductor of the plug must enter hole in locator.
3. Check to make sure connector is seated squarely on locator.
4. Support the cable-connector assembly and squeeze the tool handles together until the ratchet releases, completing the crimp.

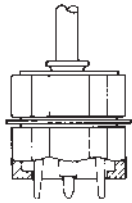
Crimping Procedure**6. TOOL MAINTENANCE**

Use Instruction Sheet 408-6788 for information on Hand Tool 59980-1 and accessories.

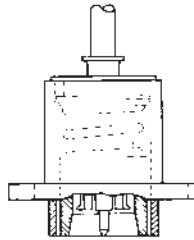
7. REVISION SUMMARY

- Updated document to corporate requirements
- Deleted "Snap-In Plug" information in all instances
- Changed part numbers in Figure 1

*Crimping Connectors
with Retractable Collars*



Bulkhead Plug
5222197-1



Panel Plug
5222200-1

Use Die Set 312253-1 if
Crimping RG-402 Cable;
Use Die Set 312253-2 if
Crimping RG-405 Cable

Center Conductor
of Connector
Must Enter Hole
in Locator

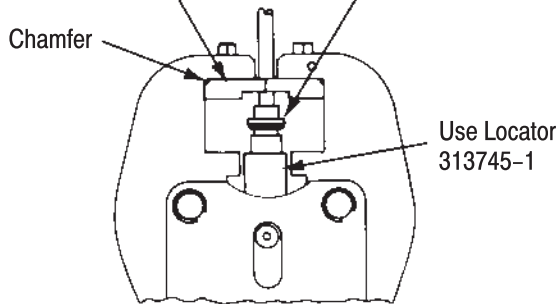


Figure 8