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Hand Crimping Tool 69311-1

PROPER USE GUIDELINES

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

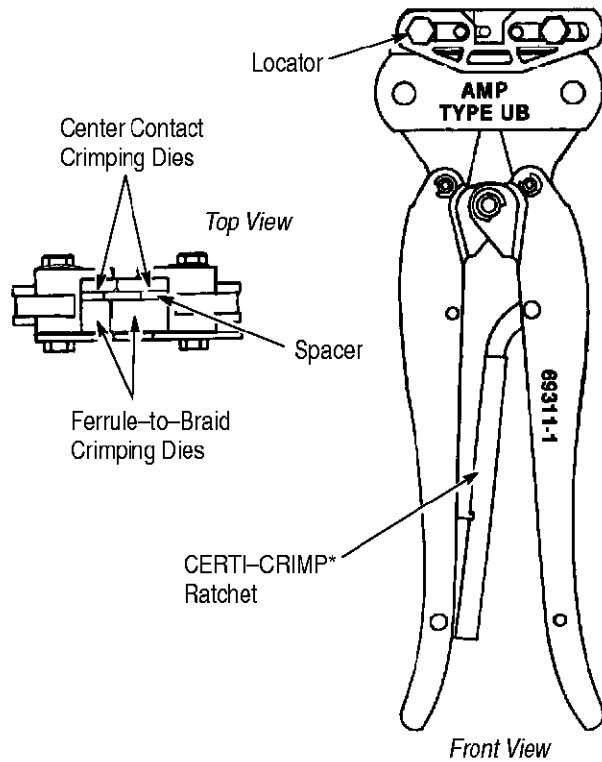


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 69311-1 is designed for crimping the Threaded Type Twin COAXICON* connectors to coaxial cable. See Figure 1. Both the connectors and cable are listed in Figure 2. Read these instructions thoroughly before starting.

NOTE

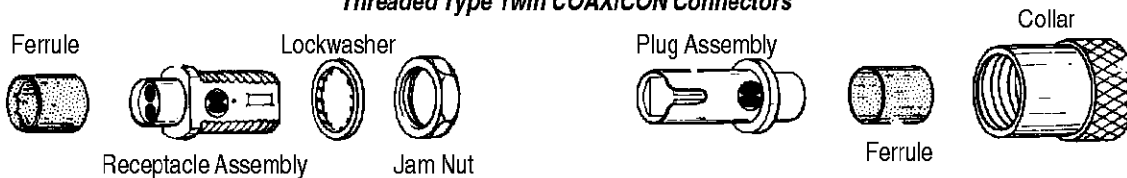
Dimensions on this sheet are in metric units [followed by U.S. customary units in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

Reasons for reissue are provided in Section 7, REVISION SUMMARY.

2. DESCRIPTION

Tool 69311-1 is a straight action, double action hand tool in that its crimping dies close in a straight-line motion. The tool features two sets of crimping dies, a locator, and a CERTI-CRIMP ratchet. One set of crimping dies crimps each stripped conductor to an inner wire barrel and the other crimps the ferrule to the braid. Termination is accomplished with a one-crimp method which simultaneously terminates inner conductors, other braid, and cable support with one cycle of the tool. The locator assists in positioning of the plug or receptacle in the tool head. The CERTI-CRIMP ratchet ensures full crimping of the

Threaded Type Twin COAXICON Connectors



CABLE (RG/U Coaxial Cable Manufactured in Accordance with MIL-C-17-D)	SILVER-PLATED CONNECTORS			SILVER-PLATED CONNECTOR KITS (Kits Include Ferrules)		TARNISH-RESISTANT CONNECTOR† KITS (Kits Include Ferrules)		TOOLING
	CONN NUMBER & INSULATOR COLOR		FERRULE	Plug	Receptacle	Plug	Receptacle	
	Plug	Receptacle						
108U, 108A/U, & Belden 8759	—	—	—	2-329945-1	2-329942-1	225687-2	225689-2	Hand Tool 69311-1 Mod G: Straight Action Double Action Tool Hand Tool 69710: "C" Head Tool Used with Interchange- able Die Set 69410-1 Pneumatic Tool 69365-2: Bench-Mounted Tool Used with Interchange- able Die Set 69410-1
2-3932 MICRODOT 2-3934 MICRODOT	—	—	—	2-329943-1	2-329940-1	—	225689-3	
Belden 8451, 8641 & 8761	—	329941 Natural (White)	329056	2-329944-3	2-329941-3	—	—	
Belden 8762	—	—	—	2-329945-3	2-329942-3	—	—	
Belden 8737 (Spiral-Wrapped Shield)	—	329941 Natural (White)	329960	2-329944-1	2-329941-1	—	—	

† Same insulator color as silver-plated parts.

Figure 2

connectors. Once engaged, the ratchet will not release until the tool handles have been fully closed.

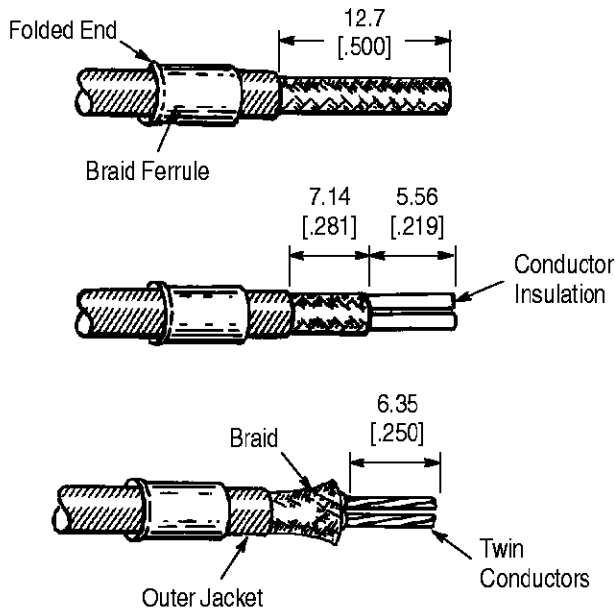
CAUTION *The crimp dies bottom before the CERTI-CRIMP ratchet releases. This design feature ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.*

3. CABLE PREPARATION

Refer to the table in Figure 2, and ensure that the connectors to be crimped match the coaxial cable. Then proceed as follows:

1. If plug assembly is to be crimped, slide retaining collar on cable – knurled end first. Refer to the lower part of Figure 4.
2. Slide ferrule – folded end first – on cable regardless whether a plug assembly or a receptacle assembly is to be crimped. See Figure 3.
3. Strip outer jacket from cable exposing 12.7 [.500] of braid. See Figure 3.
4. Trim 5.56 [.219] from end of braid, then flare braid.
5. Strip cable, exposing 6.35 [.250] of both conductors, as shown in Figure 3.

NOTE *Ensure retaining collar has been placed on cable which will be crimped to plug assembly.*



NOTE: *When using twisted pair cable, first unwind and straighten insulated center conductors. Then cut conductors to dimension shown.*

Figure 3

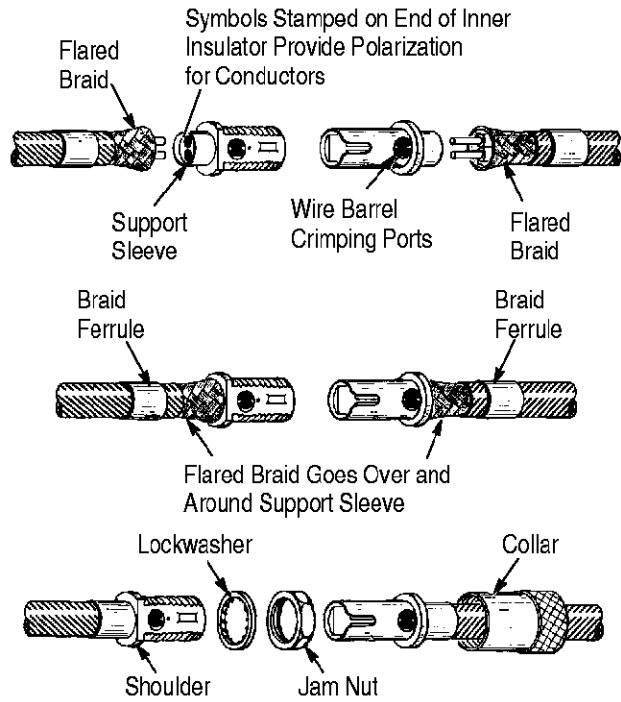


Figure 4

6. Holding the cable, rotate the twin conductors to flare the braid. See lower portion, Figure 3, and upper portion, Figure 4.

7. Insert conductors into plug assembly or receptacle assembly as far as they will go. Braid passes over and around support sleeve. Symbols formed on end of inner insulator provide polarization for conductors. See Figure 4.

8. Slide braid ferrule forward and over braid until ferrule bottoms against shoulder on connector. See Figure 4. Assembly is now ready to be crimped.

4. CRIMPING PROCEDURE

When the cable has been assembled properly, the contact can be crimped to the cable. Proceed as follows:

1. Pick up the hand tool and squeeze the handles together until the ratchet releases. This will allow the tool handles to open FULLY. Note that once the ratchet is engaged, the handles cannot be opened until they are fully closed.
2. Place the assembled connector between the crimping dies as shown in Figure 5. Align the wire barrel crimping port with the upper wire barrel crimping dies.
3. Push the assembled connector down so that the lower wire barrel crimping dies enter the wire barrel crimping port. The center contacts will bottom on the lower crimping dies.

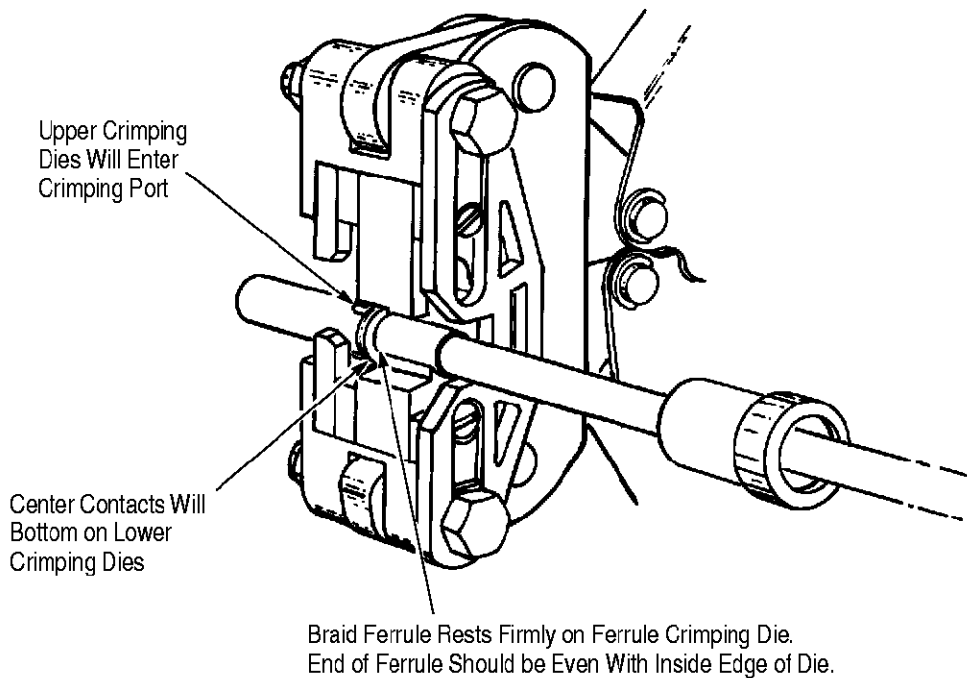


Figure 5

4. Ensure that the braid ferrule is now bottomed against the lower braid ferrule crimping die. The end of the ferrule should not extend beyond the inside edge of braid and insulation crimping die. See Figure 5.

5. Ensure that the upper wire barrel crimping dies are aligned with the crimping port on the assembled connector. Then hold the connector in place and close the handles until the ratchet releases to complete the crimps.

6. Allow tool handles to open FULLY and remove crimped connector assembly from tool.

7. The tool is now ready for further crimping.

5. MAINTENANCE AND INSPECTION PROCEDURE

AMP recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. Though recommendations call for at least one inspection a month, frequency of inspection depends on:

1. The care, amount of use, and handling of the hand tool.
2. The presence of abnormal amounts of dust and dirt.
3. The degree of operator skill.
4. Your own established standards.

The hand tool is inspected before being shipped; however, AMP recommends that the tool be inspected immediately upon arrival to ensure that the tool has not been damaged during shipment.

5.1. Daily Maintenance

1. Hand tool should be immersed (handles partially closed) in a reliable commercial degreasing compound to remove accumulated dirt, grease, and foreign matter. When degreasing compound is not available, tool may be wiped clean with a soft, lint-free cloth. Do NOT use hard or abrasive objects that could damage the tool.
2. Make certain that the retaining pins are in place and that they are secured with retaining rings.
3. All pins, pivot points, and bearing surfaces should be protected with a THIN coat of any good SAE 20 motor oil. Do not oil excessively.
4. When the tool is not in use, keep handles closed to prevent objects from becoming lodged in the crimping jaws. Store the tool in a clean, dry area.

5.2. Periodic Inspection

A. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with SAE 20 motor oil as follows:

- Tool used in daily production – lubricate daily
- Tool used daily (occasional) – lubricate weekly
- Tool used weekly – lubricate monthly

Wipe excess oil from tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.

B. Visual Inspection

1. Close tool handles until ratchet releases and then allow them to open freely. If they do not open quickly and fully, the spring is defective and must be replaced. See Section 6, REPLACEMENT AND REPAIR.
2. Inspect head assembly for worn, cracked, or broken jaws. If damage is evident, return the tool to AMP for evaluation and repair. See Section 6, REPLACEMENT AND REPAIR.

C. Gaging the Crimping Chambers

These inspections require the use of a plug gage conforming to the dimensions provided in Figure 6. AMP does not manufacture or market these gages. For wire barrel dies, proceed as follows:

1. Close tool handles until it is evident that the tool handles have bottomed. Then hold in this position. Do not force the jaws beyond initial contact.
2. Align the GO element with the wire barrel crimping chamber. Push the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber as shown in Figure 6.
3. Now align the NO-GO element and try to insert it straight into the same chamber. The NO-GO element may start entry but must not pass completely through as shown in Figure 6.
4. Repeat Steps 2 and 3 for each crimp section listed in the chart.

This procedure is recommended to gage the braid and insulation dies:

1. Close tool handles until crimping jaws bottom. Do not apply additional force to handles.
2. With crimping dies bottomed, hold gage in alignment with braid and insulation die closure and carefully insert the GO element. Do not force. See Figure 6. The GO element must pass completely through the crimping die closure.
3. Next, try to insert the NO-GO element into the braid and insulation crimping die closure. The NO-GO element may enter the closure partially but must not pass completely through the die closure.

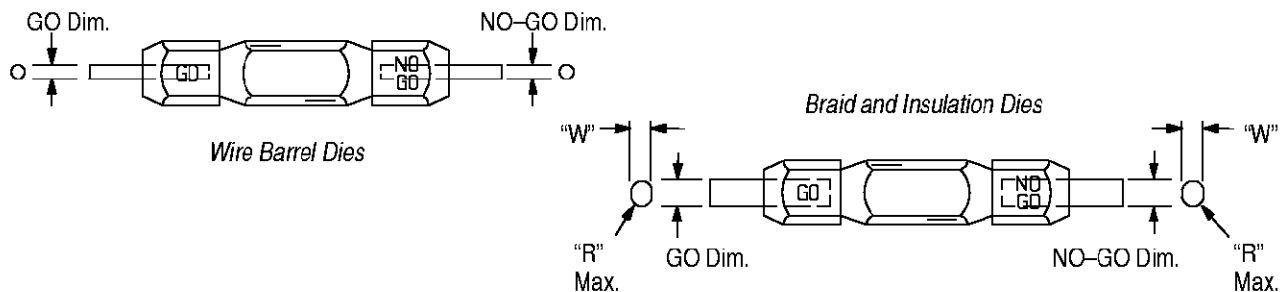
If crimping chambers conform to gage inspection, the tool is considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, refer to Section 6, REPLACEMENT AND REPAIR for customer repair service.

D. CERTI-CRIMP Ratchet Inspection

The CERTI-CRIMP ratchet feature on AMP hand tools should be checked to ensure that the ratchet does not release prematurely, allowing the jaws to open before they have fully bottomed. Obtain a 0.025 [.001] shim that is suitable for checking the clearance between the bottoming surfaces of the crimping jaws. Proceed as follows:

1. Select a connector, cable (maximum size center conductor), and the designated crimp section for the center conductor you are using. See Figure 6.
2. Position the connector and wire between the crimping dies, as described in Section 4, CRIMPING PROCEDURE.

Suggested Plug Gage Designs



WIRE BARREL GAGE DIMENSIONS		BRAID AND INSULATION GAGE DIMENSIONS			
GO	NO-GO	GO	NO-GO	W	R
1.016 - 1.024 [.0400 - .0403]	1.090 - 1.092 [.0429 - .0430]	6.515 - 6.523 [.2565 - .2568]	6.640 - 6.642 [.2614 - .2615]	6.40 [.252]	3.20 [.126]

Figure 6

3. Hold the wire in place and squeeze the handles until the CERTI-CRIMP ratchet releases. Hold the handles in this position, maintaining just enough tension to keep the jaws closed.

4. Check the clearance between the bottoming surfaces of the crimping jaws. If the clearance is 0.025 [.001] or less, the ratchet is satisfactory. If clearance exceeds 0.025 [.001], the ratchet is out of adjustment and must be repaired. See Section 6, REPLACEMENT AND REPAIR.

If the tool conforms to these inspection procedures, lubricate it with a THIN coat of any good SAE 20 motor oil and return it to service.

6. REPLACEMENT AND REPAIR

Replacement parts are listed in Figure 7. Parts other than those listed in Figure 7 should be replaced by AMP to ensure quality and reliability of the tool. Order replacement parts through your AMP representative,

or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

CUSTOMER SERVICE (38-35)
AMP INCORPORATED
P.O. BOX 3608
HARRISBURG, PA 17105-3608

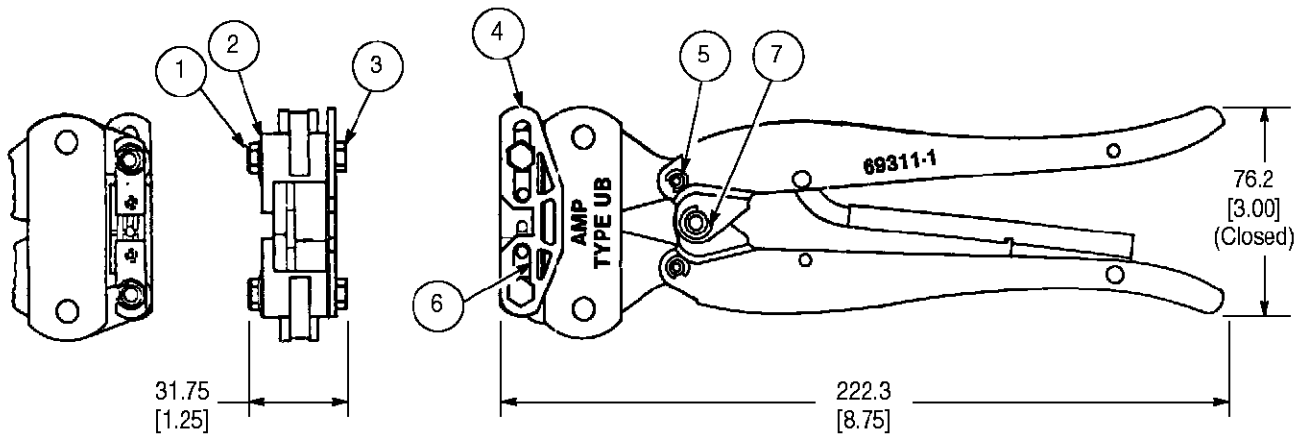
For tool repair service, please contact an AMP representative at 1-800-526-5136.

7. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

Per EC 0990-1374-99

- Updated document to corporate requirements
- Changed tool repair service information in Section 6, REPLACEMENT AND REPAIR
- Changed document title



NOTE: Not to Scale

REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21022-2	NUT, Self Locking	2
2	23911-7	DISC, Sprint	2
3	307087-5	SCREW, Shoulder	2
4	307089-1	LOCATOR	1
5	21045-3	RING, Retaining	4
6	307339-1	SPACER	2
7	21045-6	RING, Retaining	2

Figure 7