

Figure 1

1. INTRODUCTION

Model MVS-3 Hand Tool Kits 244271-[] include an MVS-3 hand tool assembly (shown in Figure 1), a crimp height gage, a nylon cord, a repair tag, and a carrying case. The hand tool is designed to join cable conductors (wires) using the PICABOND* mini-connectors listed in Figure 2. PICABOND mini-connectors are designed for in-line splicing operations only. Read these instructions thoroughly before using the tool.

The mini-connectors accept copper wire sizes 28 through 19 AWG insulated with plastic (PIC), ribbon-paper, or pulp materials. The mini-connectors have a color-coded stripe for easy identification.

WIRE SIZE RANGE (AWG)	MINI-CONNECTOR	
	PART NUMBER	COLOR-CODED STRIPE
28-24	552466-4	Pink
26-22	552041-4	Blue
24-19	552043-4	Brown

Figure 2



Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.



When engaged, the ratchet will not release until the movable handle has been FULLY closed.

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

The hand tool can be hand held or used in Tool Holder 229755-1. Refer to instruction sheet 408-7655 packaged with the tool holder for operating procedures. Features of the hand tool and their function are as follows.

Anvil (movable die) and crimpers (two fixed dies) — crimp the mini-connectors

Wire support — position and hold the wires in the crimpers (the wire support brackets are black for identification with mini-connectors)

Wire cutter (with in-line wire notch) — locates the mini-connector on the anvil and cuts excess wire during the crimp cycle

Movable handle (with quick take-up lever and ratchet) — pushes the mini-connector into the dies and ensures a highly uniform, finished connection every crimp cycle (the movable handle and quick take-up lever have black handle grips for identification with the mini-connectors)

3. USING THE HAND TOOL

NOTE *No special procedure is required for cable preparation when using this hand tool.*



1. Determine the size and combination of wires to be crimped. Choose the mini-connector according to Figure 1.
2. Refer to Figure 3, and insert the wires as follows:

NOTE *Always start with the cable units to the REAR of the cable opening.*



- a. Take a pair (tip and ring) of wires from one side of the cable opening and separate them far enough so that one wire can be inserted into the wire support.
- b. Lace the wire into the wire support and out between the crimpers. Make sure the wire has sufficient slack, then bottom it in the wire support.
- c. Repeat Steps a and b using a pair of wires from the other side of the cable opening. *Be sure to match tip to tip or ring to ring.*
- d. Insert the mini-connector into the tool making sure that the wire cutter enters the slots in the center of the mini-connector.

CAUTION *There must be sufficient slack in the wires and the tool must be held steady during the crimping procedure; otherwise, the wires could pull out of the mini-connector during crimp cycle.*



3. Hold the tool steady by grasping the front portion of the fixed handle with one hand and use the other hand to close the quick take-up lever and movable handle. See Figure 4.
4. Squeeze the tool handles together until the ratchet releases, then allow the handles to open freely and fully.
5. Remove the crimped mini-connector from the tool.

NOTE *Groups of finished mini-connectors should be arranged along the splice opening in order to build a uniform, compact splice. To do this, move the tool along the splice opening by about 31.75 mm [1.25 in.] after crimping every 25 to 50 pairs or as local practice dictates. Alternate the direction in which the tool is moved, first to one side of the center, then to the other.*

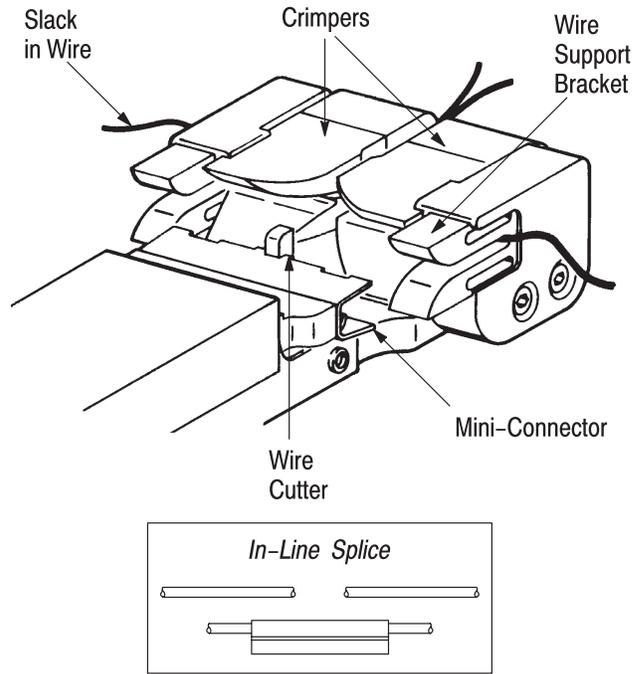


Figure 3

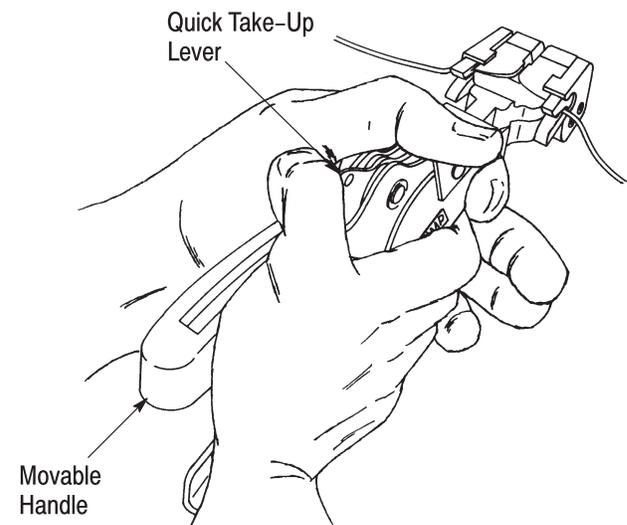


Figure 4

4. INSPECTING THE CRIMP

Inspect the mini-connector on the first connection and again on the last connection (or as local practice dictates) according to the following:

4.1. Gaging

1. Match the color-coded stripe of the mini-connector with the color dot on the crimp height gage, and insert the mini-connector into the gage. See Figure 5. Make sure that both ends of the mini-connector are flush with the edges of the gage.

2. Hold the wire and slide the gage off the mini-connector — there should be little or no drag. If the mini-connector sticks in the gage, make two sample crimps with scrap wire. Gage the samples immediately. If they stick in the gage, submit the crimp height gage for evaluation according to Section 6.

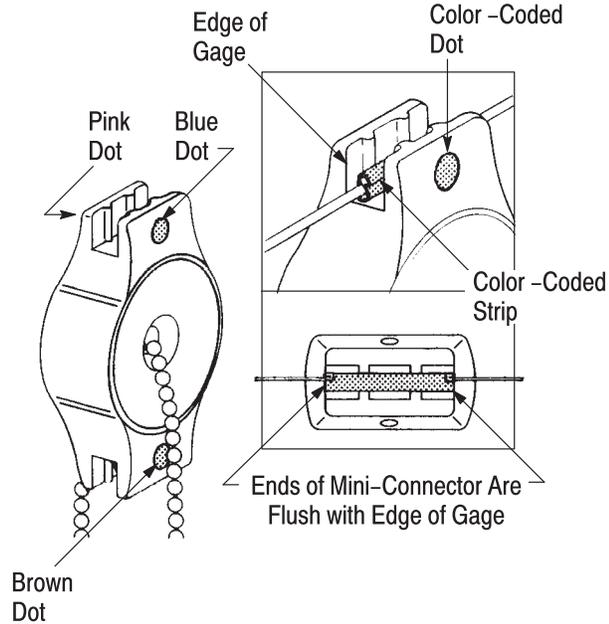


Figure 5

4.2. Visual Inspection (Refer to Figure 6)

1. Check to see if the corner of the insulation of the mini-connector has been peeled back. If this is the case, replace the mini-connector. This condition can be caused by too much slack between the wire supports and wire or it can be the result of the hand tool moving during the crimp cycle.

Also, check the mini-connector for untucked insulation. If this is apparent, check the wire supports of the hand tool, and adjust them if necessary. If untucked insulation persists, submit the hand tool for evaluation according to Section 6.

2. Check to see if there is wire protruding from the center of the mini-connector. If this is the case, replace the connection. If this problem occurs frequently, submit the hand tool for evaluation according to Section 6.

3. Check the insulation of the mini-connector for cuts or score marks. If any are present, look for foreign matter or burrs on the dies of the hand tool. Remove the foreign matter. If foreign matter can NOT be removed, or if burrs are present, submit the hand tool for evaluation according to Section 6.

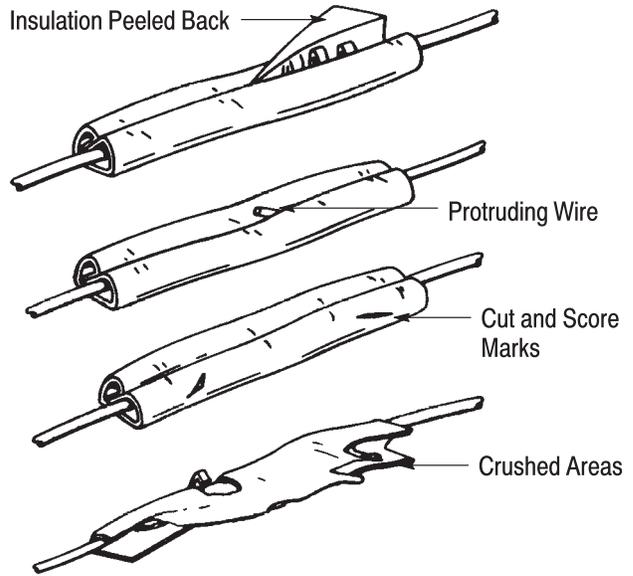


Figure 6

4. Check for crushed or distorted areas on the mini-connector. If any are present, make sure that the mini-connector was properly placed in the hand tool. Also, check for foreign matter or burrs on the anvil or crimpers. Remove the foreign matter. If foreign matter can NOT be removed, or if burrs are present, submit the hand tool for evaluation according to Section 6.



DO NOT use defective or damaged mini-connectors.

5. MAINTENANCE AND INSPECTION

The hand tool is inspected before shipment, and should be inspected immediately upon arrival at your facility to ensure that the hand tool has not been damaged in transit. A record of scheduled inspections should remain with each tool. Though recommendations call for at least one inspection a month, the frequency should be based on:

- care, amount of use, and handling of hand tool
- degree of operator training and skill
- ambient working conditions (abnormal amounts of dust, dirt, and temperature changes will necessitate more frequent inspection)
- established company standards

5.1. General Cleaning

Clean and lubricate the tool as local practice dictates. Use a telephone company-approved solvent cleaner or equivalent to clean the tool and a lubricant such as WD-40 for lubricating the tool.

Cleaning Kit 229333-1 is recommended for cleaning the tool.

NOTE
 The cleaning kit consists of a bristle brush for general purpose cleaning, a tube cleaner for cleaning the dies, and a tube brush for cleaning inside the tool. Refer to 408-7534 for cleaning procedure.

5.2. Periodic Inspection

1. Inspect the wire support brackets. If they are damaged, replace them using Wire Support Bracket Repair Kit 229188-2.

NOTE
 The repair kit contains all the parts, including a wrench, to replace the wire support brackets. Refer to 408-7474 for replacement procedure.

2. Inspect the dies for foreign matter or burrs. If foreign matter can NOT be removed, or if burrs are present, submit the hand tool for evaluation according to Section 6.

6. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 7. A complete inventory should be stocked and controlled to prevent lost time when replacement of

parts is necessary. Parts other than those listed should be replaced by Tyco Electronics Corporation to ensure quality and reliability. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

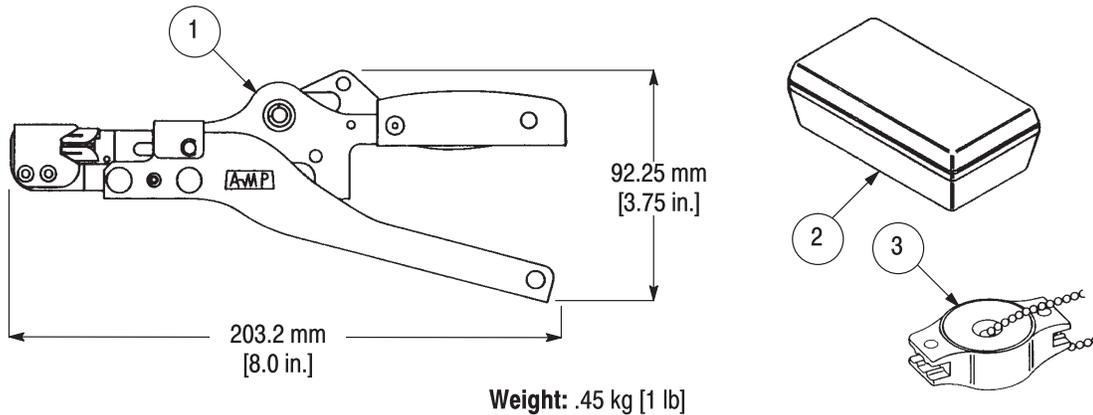
CUSTOMER SERVICE (038-035)
 TYCO ELECTRONICS CORPORATION
 PO BOX 3608
 HARRISBURG PA 17105-3608

The hand tool assembly and crimp height gage assembly can be submitted for evaluation and repair. For customer repair service, call 1-800-526-5136.

7. REVISION SUMMARY

Revisions to this instruction sheet include:

- Updated document to corporate requirements
- Removed “and lubricate” from Paragraph 4.1 (cleaning kit does not contain a lubricant) and added reference to instruction sheet
- Removed tool holder from Figure 7 and replaced wire support bracket repair kit in Figure 7 with NOTE in Paragraph 5.2
- Added Section 6, and replaced address for repair service with phone number



REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL KIT	
			244271-3	244271-7
1	230971-2	HAND TOOL ASSEMBLY	1	1
2	229200-1	CARRYING CASE	1	1
3	229640-1	CRIMP HEIGHT GAGE ASSEMBLY	1	—
	229640-2	CRIMP HEIGHT GAGE ASSEMBLY	—	1

Figure 7