

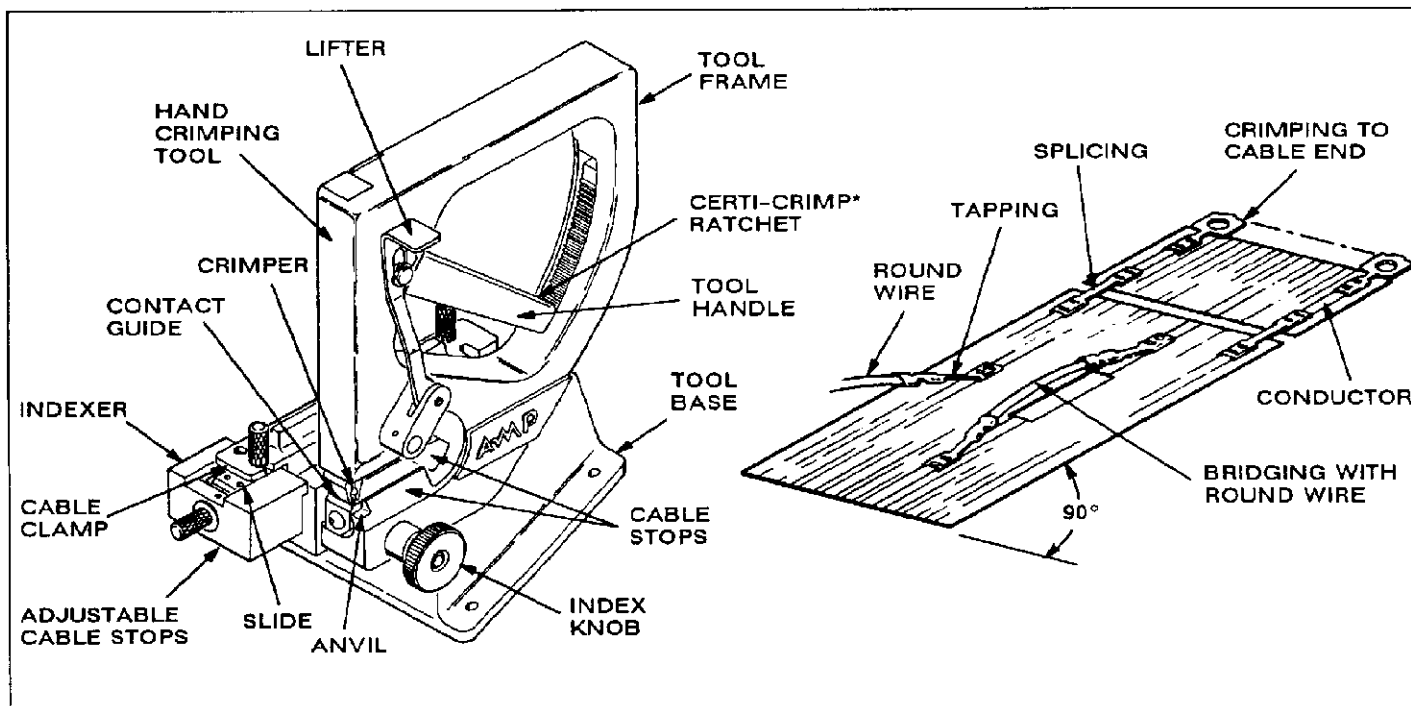


Fig. 1

1. INTRODUCTION

AMP Hand Crimping Tool Assembly 90273-2 is designed to crimp the contacts listed in Figure 2 to Flexible Flat Cable (FFC) having conductors on .100-in. centers. This tool can be used to crimp contacts to a cable end, to tap a circuit (round wire to FFC, FFC to FFC), to bridge over a damaged area, and to splice one cable to another (see Figure 1).

Read these instructions thoroughly before using the tool.

NOTE

All dimensions on this sheet are in inches. Figures and illustrations are for identification only and are not drawn to scale.

2. DESCRIPTION (Figure 1)

The assembly consists of a hand crimping tool, an indexer, and a tool base.

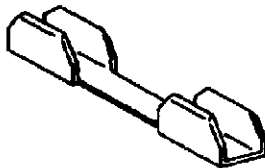
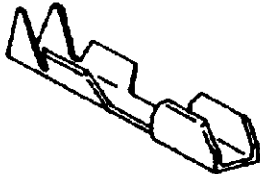
The hand crimping tool features a moving die (crimper), a stationary die (anvil), two anvil spacers, a tool frame, a tool handle, a lifter, a contact guide, two cable stops, and a CERTI-CRIMP ratchet.

3. CRIMPING PROCEDURE

Refer to the table in Figure 2 and select FFC that conforms to the dimensions listed. Determine the specific application and select the appropriate contact.

To apply the contacts, proceed as follows:

1. Face the FRONT of the tool and push on the adjustable cable stop until it butts against the mounting block. Loosen, but do NOT remove, the two cable clamp screws and rotate the clamp away from the tool. Refer to Figure 3.
2. Position the cable on the slide and return the clamp to the original position. Do NOT tighten the clamp screws.
3. Grasp the tool frame as shown in Figure 4(A); do NOT grasp the tool handle.
4. Raise the contact guide by depressing the lifter with your thumb. HOLD the lifter in this position. Butt the cable end against the cable stops on the crimping tool, and butt the cable side against the adjustable cable stop on the indexer. Align the first conductor with the guide slot by turning the adjustable cable stop screw and moving the cable accordingly. Refer to Figure 4(A).

TYPICAL CONTACTS					
					
FFC TO FFC		RING TONGUE		ROUND CONDUCTOR TO FFC	
CONTACT DESCRIPTION		FFC DIMENSIONS			
LOOSE PIECE PART NUMBER	TYPE	CABLE THICKNESS	CONDUCTOR WIDTH	CONDUCTOR THICKNESS	SPACING
86774	Splice or Tap (Wire/Cable)	.015 Max.	.059 to .065	.003 to .005	.100 ± .005 Between Centers†
487787	Splice or Tap (Wire/Cable)				
86638	.125 Ring Tongue				

† Non-accumulative over entire width of cable

Fig. 2

5. Hold the cable in position and lower the contact guide onto the cable. Make sure the conductor is centered in the guide slot, then tighten the two clamp screws.

6. Align the contact with the locating chamber as shown in Figure 4(B). Insert the contact straight into the guide until it bottoms.

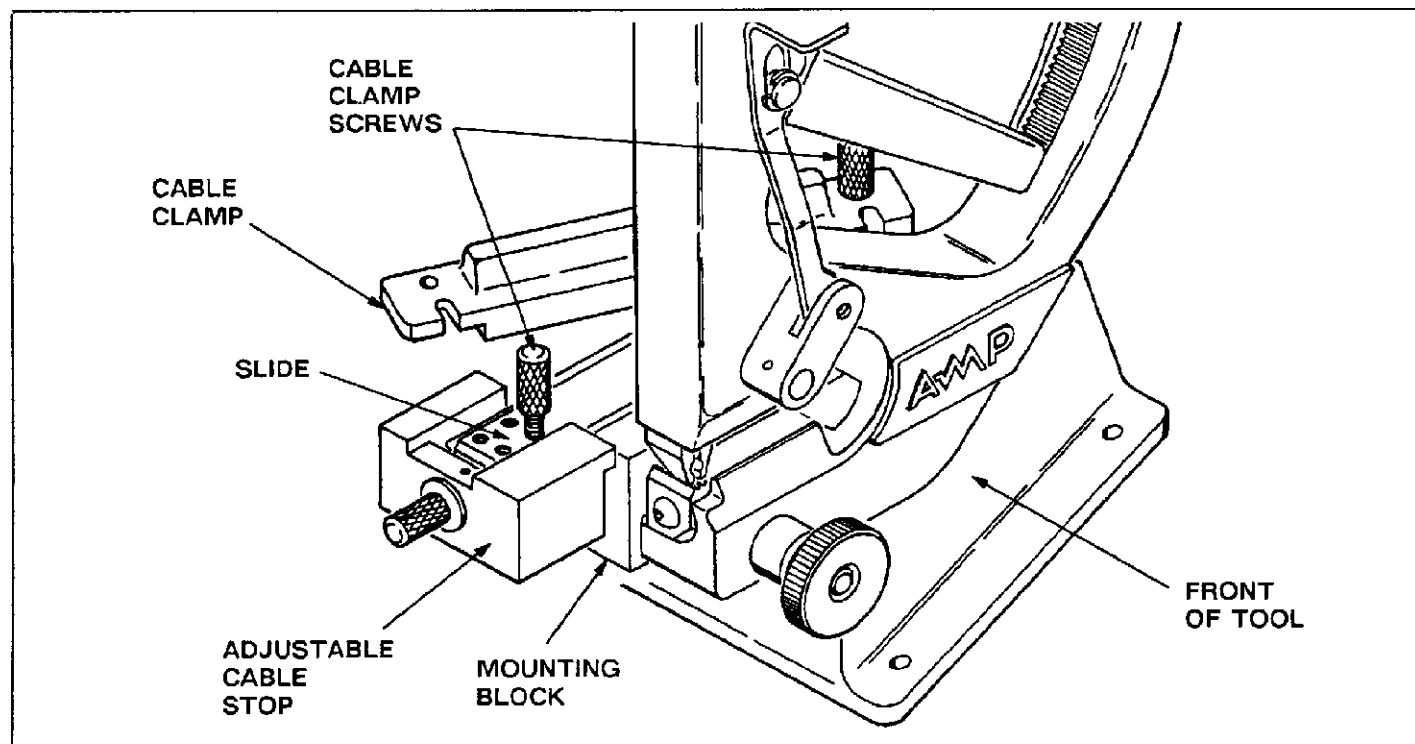


Fig. 3

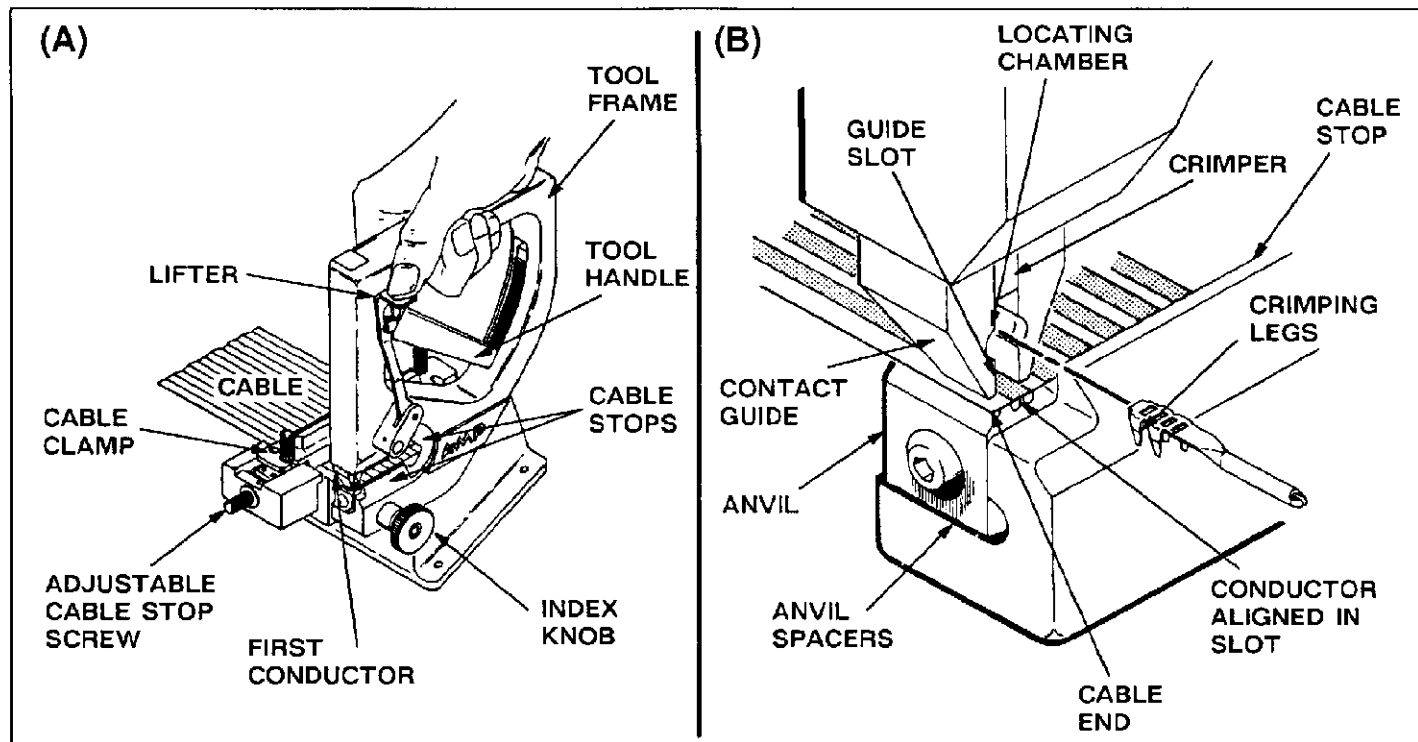


Fig. 4

NOTE

It may be necessary to use a small pair of needle-nose pliers or tweezers to position small contacts in the contact guide.

7. Hold the contact in position and squeeze the tool handle until the contact starts into the guide slot. Check to be sure that both crimping legs have entered the guide slot. Squeeze the tool handle until the ratchet disengages, then HOLD the handle in this position.

8. Depress and hold the lifter with your thumb to remove the crimped contact from the guide slot.

9. Release the handle and allow it to swing open. Do NOT release the lifter.

10. With the lifter still depressed, carefully turn the index knob COUNTERCLOCKWISE until the slide advances to the next position (one click, or .100). Lower the contact guide and check that the conductor is centered in the guide slot as shown in Figure 4(B).

11. Repeat Steps 6 through 10 until all conductors have been crimped, then loosen the two cable clamp screws and rotate the slotted end of the clamp away from the tool. Depress the lifter and remove the cable from the tool.

4. SPECIAL APPLICATION**4.1. Crimping Contacts to Cable Center Section**

To tap or bridge circuits in the center section of a cable:

1. Remove the slide and clamp assembly by pulling outward on the adjustable cable stop.

2. Depress the lifter and insert the cable. If necessary, roll the cable around the throat of the tool as shown in Figure 5.

3. Hold the cable in position and lower the contact guide. Make sure that the conductor to be applied is centered in the guide slot and is parallel to the tool anvil.

4. Crimp the contact as instructed in Section 3, Steps 6 through 9.

5. Depress the lifter and remove the cable from the tool.

NOTE

When crimping a series of contacts in this manner, a guideline can be drawn on the cable with a soft marker. Do NOT cut, scrape, or otherwise damage the insulation on the FFC.

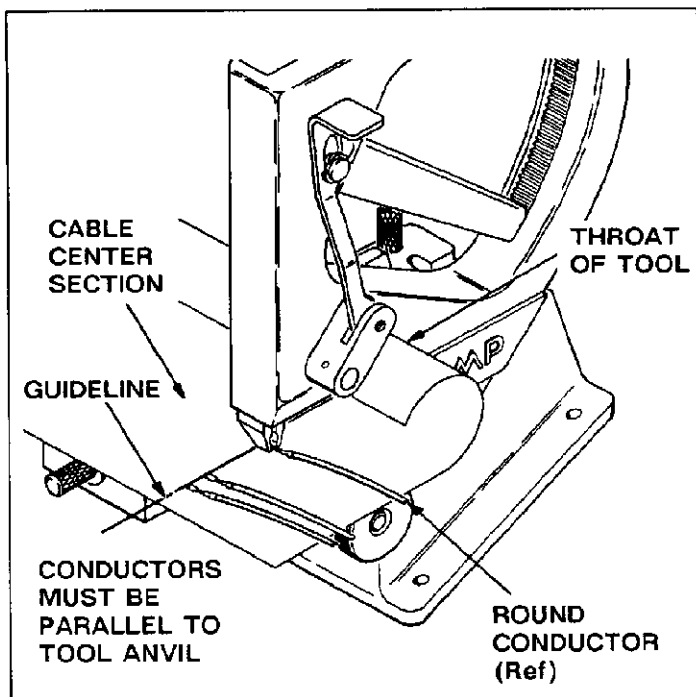


Fig. 5

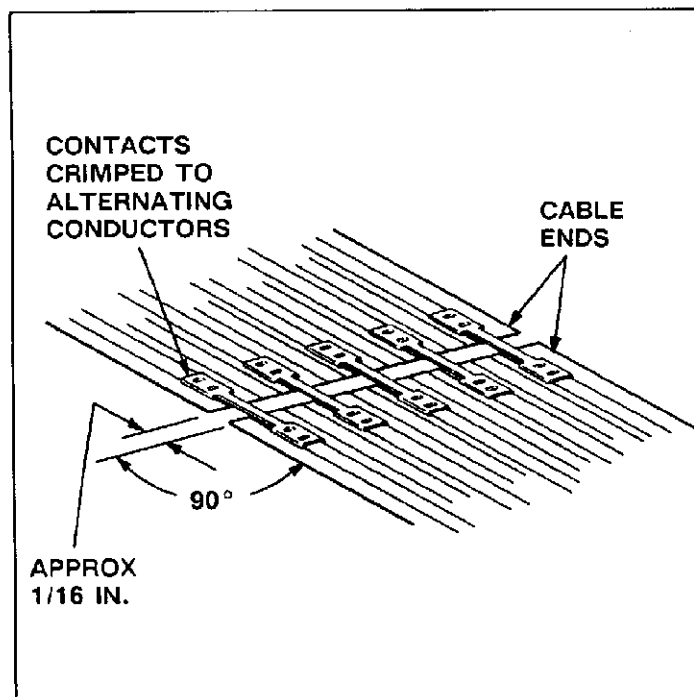


Fig. 6

4.2. Splicing Cable End to Cable End

To splice one cable end to another:

1. Cut both cable ends at a 90° angle to the cable edge.
2. Insert one of the cable ends into the tool, align the first conductor with the guide slot, and crimp the contact according to Section 3, Steps 1 through 9.
3. With the lifter still depressed, turn the index knob COUNTERCLOCKWISE until the slide advances two positions (two clicks, or .200).
4. Lower the contact guide and crimp another contact to the cable. Repeat this procedure until each alternating conductor is crimped, as shown in Figure 6.
5. Depress the lifter, loosen the cable clamp, and remove the crimped cable.
6. Position the end of the second cable in the tool according to Section 3, Steps 1 through 5. Align the crimped cable end with the cable end in the tool.
7. Insert the FIRST crimped contact into the contact guide. Make certain that the contact is bottomed in the guide, then crimp the contact according to Section 3, Steps 6 through 9.
8. With the lifter depressed, carefully turn the index knob COUNTERCLOCKWISE until the slide

advances two positions (two clicks, or .200), making sure that the next contact is not deformed by the contact guide.

9. Check that the contact and conductor are centered in the guide slot, and that equal space is maintained between the cable ends.
10. Release the lifter, making certain that the contact enters the guide slot, and crimp the contact.
11. Repeat Steps 8 through 10 until alternating conductors are crimped as shown in Figure 6.
12. Remove the cable from the cable clamp, then crimp the contacts to the uncrimped conductors as instructed in Section 4.1., Crimping Contacts to Cable Center Section.

5. INSPECTION/MAINTENANCE

5.1. Daily Maintenance

Remove all foreign particles with a clean, soft brush, or a clean, soft, lint-free cloth. Make sure the proper retaining pins are in place, and secured with the proper retaining rings.

Make certain all pivot points and bearing surfaces are protected with a THIN coat of any good SAE No. 20 motor oil. Do NOT oil excessively. When the tool is not in use, store it in a clean, dry area.

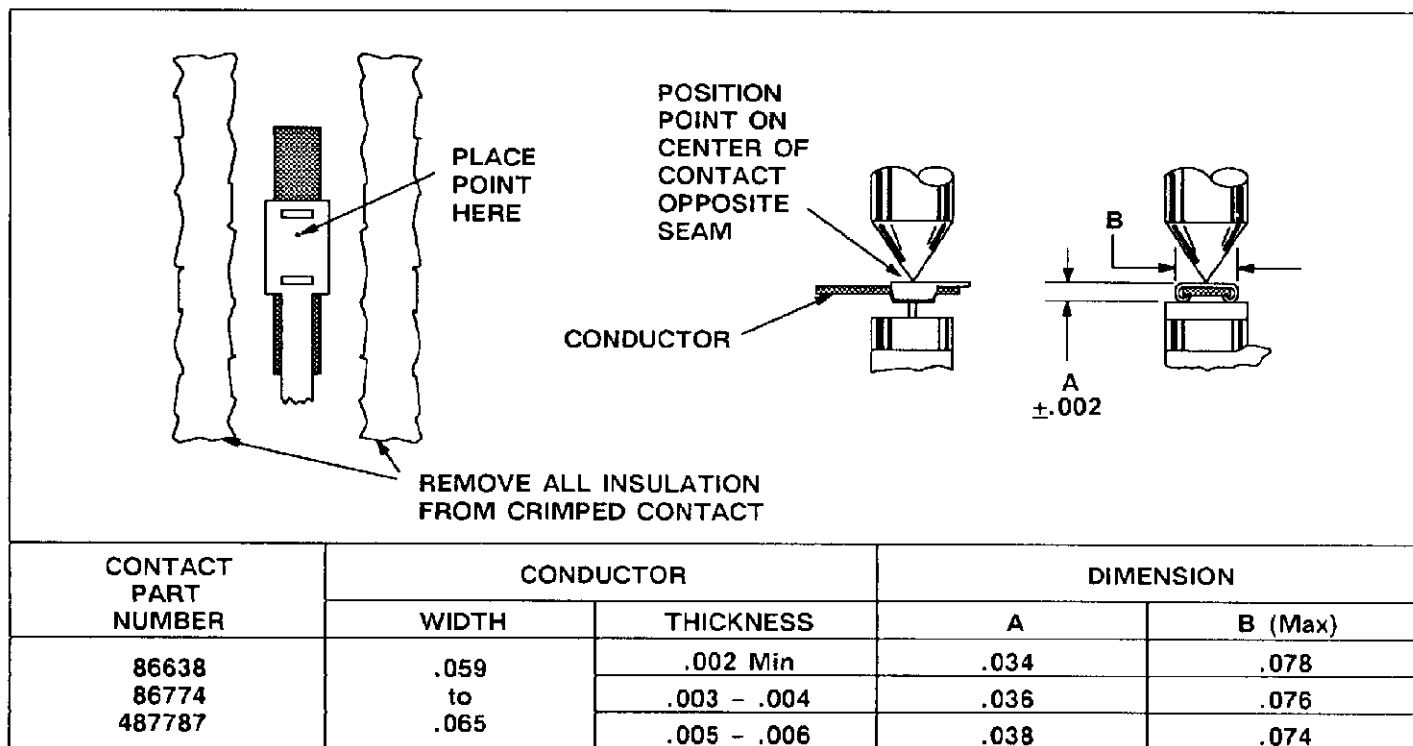


Fig. 7

5.2. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool and/or be supplied to supervisory personnel responsible for the tool. Though recommendations call for at least one inspection a month, the inspection frequency should be based on the amount of use, ambient working conditions, operator training and skill, and established company standards. These inspections should be performed in the following sequence:

A. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the tool (handle partially closed) in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make certain the retaining pin, retaining rings, and thumb screws are in place. If replacements are necessary, refer to the parts list in Figure 8.
3. Close the tool handle until the ratchet releases, then allow the handle to open freely. If it does not open quickly and fully, the spring is defective and must be replaced (refer to Section 6, REPAIR/REPLACEMENT).
4. Inspect the crimping dies for flattened, chipped, cracked, worn, or broken areas. If

damage is evident, return the tool to AMP for evaluation and repair.

B. Crimp Height Inspection

This inspection incorporates the use of a micrometer with a modified anvil, as shown in Figure 7. AMP recommends the modified micrometer (Crimp Height Comparator RS-1019-5L), which can be purchased from:

York Machinery & Supply Co.	VALCO
20 North Penn Street	1410 Stonewood Drive
York, PA 17401-1014	Bethlehem, PA 18017-3527

To inspect the contact, proceed as follows:

1. Refer to the table in Figure 2 and select a sample cable strip and one sample contact from each contact type.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contacts accordingly.
3. Cut all insulation away from the crimped contact, as indicated in Figure 7.
4. Using a crimp height comparator, measure each wire barrel crimp height as shown in Figure 7. If the crimp height conforms to the dimensions provided, then the tool is considered dimensionally correct. If not, return the tool to AMP for evaluation and repair (refer to Section 6, REPAIR/REPLACEMENT). For additional informa-

tion concerning the use of the crimp height comparator, refer to AMP Instruction Sheet IS 7424.

AMP Incorporated
P.O. Box 3608
Harrisburg, PA 17105-3608

NOTE

Refer to AMP Application Specification 114-16002 and Instruction Sheets IS 7424 and IS 7554 for additional inspection procedures.

or a wholly owned subsidiary of AMP Incorporated.

6. REPAIR/REPLACEMENT

Replaceable parts are listed in Figure 8. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. When parts are needed, order by part number and description. Parts can be ordered from:

Parts other than those specified in Figure 8 must be replaced by AMP to ensure correct operation of the tool. When repair is necessary, return the tool with a written description of the problem to:

AMP Incorporated
Customer Repair
1523 North 4th Street
Harrisburg, PA 17102-1604

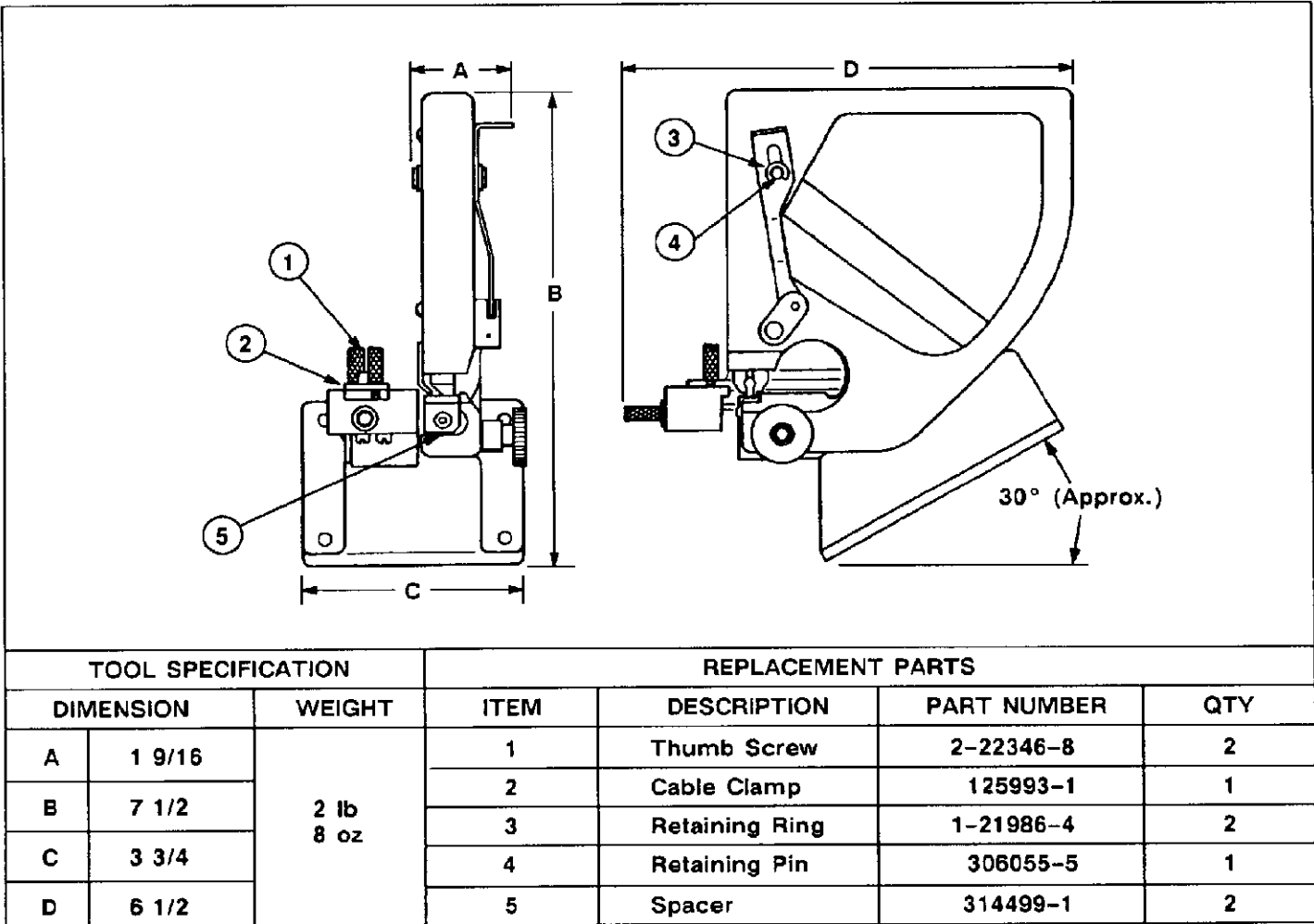


Fig. 8