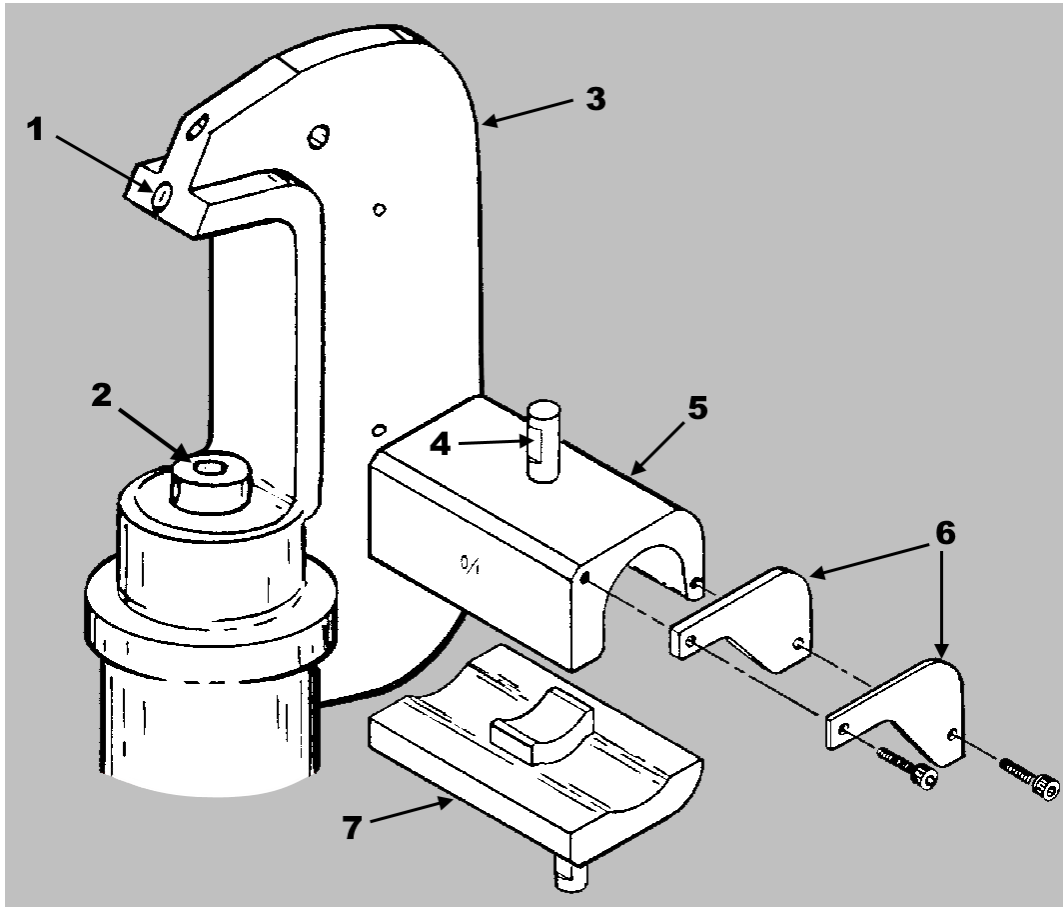


## 1. INTRODUCTION

AMPOWER Crimping Die Assemblies 68361-1, 68253-1, 68304-1, and 59867-1 (shown in Figure 1) are designed for use in DYNA-CRIMP™ Crimping Head 69099, which is hydraulically activated by Hydraulic Power Unit 69120-[ ] or Hydraulic Hand Pump 314979-1.

Figure 1: AMPOWER Crimping Die Assemblies 68361-1, 68253-1, 68304-1, and 59867-1



- |   |                           |
|---|---------------------------|
| <b>1</b> Lock screw                     | <b>5</b> Stationary die   |
| <b>2</b> Ram lock screw                 | <b>6</b> Locator assembly |
| <b>3</b> DYNA-CRIMP crimping head 69099 | <b>7</b> Moving die       |
| <b>4</b> Flat on shank                  |                           |

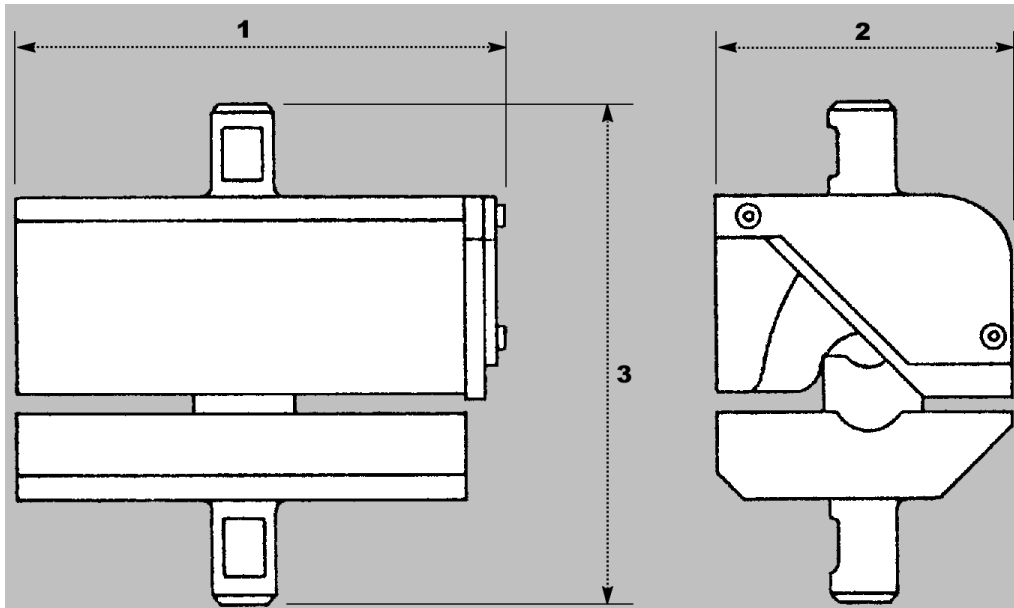
Table 1 lists the dimensions for each die set. The weight is approximately 794 g [1 lb 12 oz].



**NOTE**

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

Figure 2: Dimensions



- 1 Length
- 2 Width
- 3 Height

Table 1: Dimensions by die set

Dimension	Die set			
	68253-1	68304-1	68361-1	59867-1
<b>Length</b>	61.98 [2.440]	71.50 [2.815]	61.98 [2.440]	
<b>Width</b>	41.28 [1.625]			
<b>Height</b>	73.76 [2.904]			

Each die assembly, when installed in the crimping head, crimps AMPPOWER Quick-Disconnect Terminals onto standard wire sizes as listed in Table 3.

These instructions provide specific information regarding the die assemblies and applicable terminals. For information regarding die insertion/removal and general operation, refer to the appropriate series 408 instruction sheet or series 409 customer manual listed in Table 2.

Table 2: Documentation

Product	Document
DYNA-CRIMP Crimping Head	<a href="#">408-2458</a>
Hydraulic Power Unit	<a href="#">409-1950</a>
Hydraulic Hand Pump	<a href="#">409-5860</a>

Read these instructions thoroughly before crimping terminals.

## 2. DESCRIPTION

Each die assembly features a stationary die, a moving die, and a locator assembly (see Figure 1). Both the stationary and moving die have a shank (with a flat), which aligns and secures each die in the crimping head. The locator assembly helps position the terminal in the stationary die.

## 3. INSTALLING AND REMOVING THE DIES

For installation and removal procedures, refer to instruction sheet [408-2458](#).

## 4. CRIMPING



**DANGER**

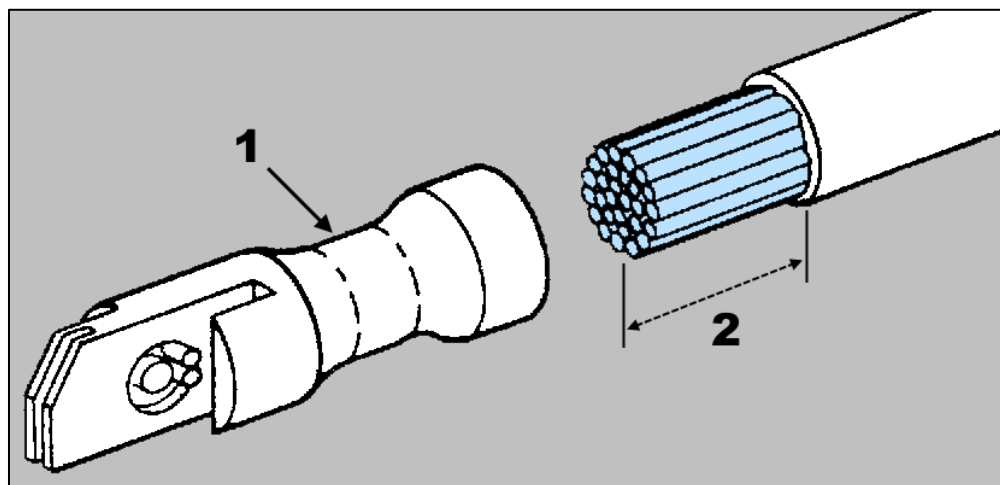
Moving parts can crush and cut. To avoid injury while operating the power unit, exercise caution when holding terminals or wires near the crimping area.

1. Select a wire of the correct size and insulation diameter for the terminal (see Table 3). Verify that the same wire size is stamped on the terminal and the dies.
2. Strip the wire to the length listed in Table 3. **Do not nick or cut wire strands.** See Figure 3.

Table 3: Crimping specifications

Wire size	Terminal part number	Die set part number	Strip length	
			Minimum mm [in.]	Maximum mm [in.]
1/0	52594-1	68361-1	29.46 [1.16]	30.99 [1.22]
	52594-2			
	52594-3			
2/0	52595-1	68253-1	29.46 [1.16]	30.99 [1.22]
	52595-3			
3/0	52596-1	59867-1	29.46 [1.16]	30.99 [1.22]
4/0	53631-1	68304-1		

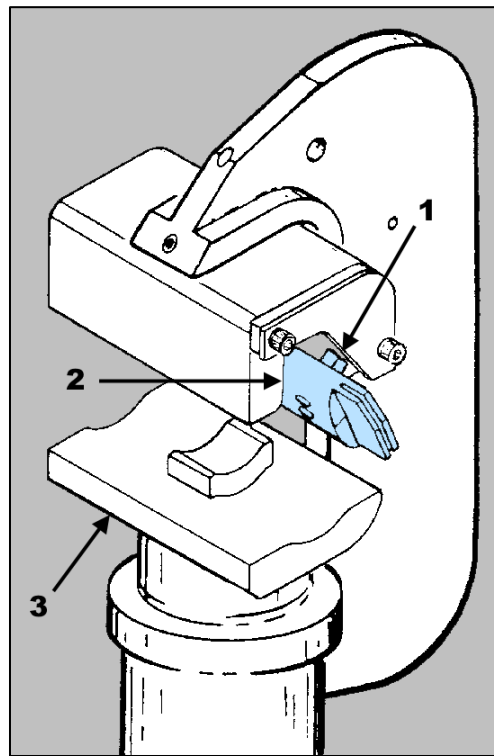
Figure 3: Stripping the wire



- 1 Terminal
- 2 Wire strip length

3. Insert the terminal into the stationary die. Orient it so that the large, flat surface of the terminal is parallel to, and rests against, the angular surface of the locator (Figure 4).

Figure 4: Positioning the terminal



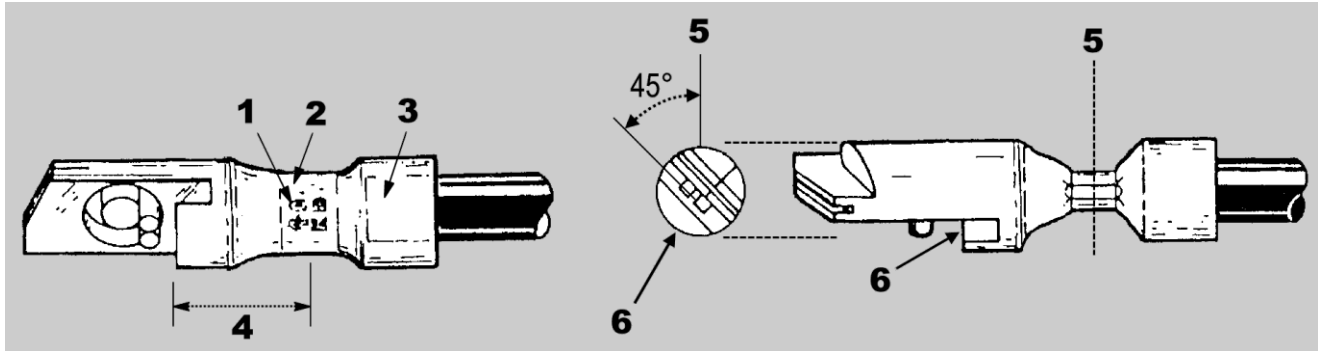
- 1** Flat surface of terminal rests against locator
- 2** Quick-disconnect pins must be on this side of locator
- 3** Moving die

4. While holding the terminal in position, activate the power unit so that the moving die advances just enough to hold the terminal in place. Do not deform the terminal wire barrel.
5. Insert the stripped wire all the way into the terminal wire barrel.
6. While holding the wire in place, activate the power unit through a complete cycle.
7. Allow the dies to open fully.
8. Remove the crimped terminal.

## 5. INSPECTING THE CRIMP

Inspect crimped terminals by comparing to the ones shown in Figure 5 and Figure 6. Use only the terminals that display the features of an acceptable crimp (Figure 5).

Figure 5: Features of an acceptable crimp



- 1 Embossed wire size matches size stamped on terminal and CMA of wire.
- 2 Crimp is located on wire barrel as shown (Table 4).
- 3 Insulation enters insulation barrel.
- 4 Distance from edge of terminal feature to center of crimp (Table 4).
- 5 Vertical centerline of crimp.
- 6 Large slot (45° off vertical centerline)

Table 4: Location of crimp on wire barrel

Die set	Size	Distance from edge of terminal feature to center of crimp mm [in.]	
		Minimum	Maximum
68361-1	1/0	26.16 [1.03]	27.69 [1.09]
68253-1	2/0		
59867-1	3/0	30.99 [1.22]	32.51 [1.28]
68304-1	4/0		

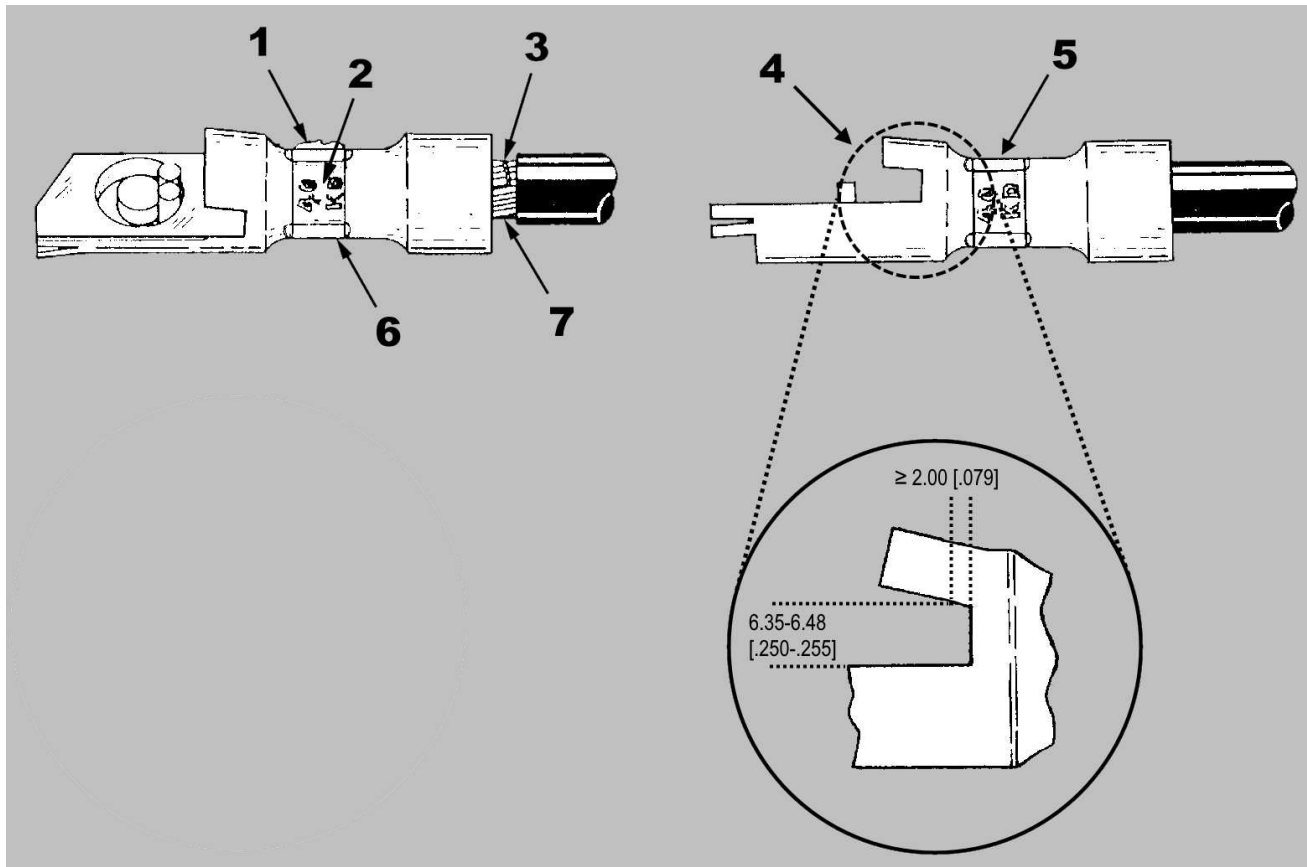
Figure 6 shows problems that mean a crimp should be rejected. Most of these are the caused by a terminal that is not properly aligned with the dies. Avoid unacceptable crimps by carefully following the procedures in section 4 and performing regular tool maintenance (section 6).

As shown in Figure 6, the large slot in the terminal must meet the following requirements:

- The height of the slot must be 6.35 to 6.48 mm [.250 to .255 in.].
- At least 2.00 mm [.079 in.] of slot flat must exist.

If the slot is spread open too far, you can correct this by squeezing it in a vise.

Figure 6: Reasons to reject a crimp



- 1** Excessive flash. Damaged dies or wrong wire, terminal, or tooling combination was used.
- 2** Embossed wire size does not match size stamped on terminal or CMA of wire.
- 3** Strands are nicked or missing.
- 4** Large slot is deformed (spread open).
- 5** Incorrect crimp orientation.
- 6** Crimped too far off center, causing large slot to spread open.
- 7** Wire was not inserted far enough into terminal. Wire insulation did not enter insulation barrel.

## 6. MAINTENANCE AND INSPECTION

The dies are inspected before being shipped. Inspect them immediately when they arrive at your facility to determine whether any damage occurred during shipment.

### 6.1. Daily maintenance

Make each operator of the power unit aware of, and responsible for, the following daily maintenance requirements:

- Remove dust, moisture, and other contaminants with a clean, soft brush or soft, lint-free cloth. **Do not** use objects that could damage the dies.
- Protect all surfaces with a thin coat of any good SAE 20 motor oil. Do not oil excessively.
- When the dies are not in use, store them in a clean, dry area.

### 6.2. Lubrication

To protect dies from rust when storing, lubricate all surfaces with SAE 20 motor oil as indicated in Table 5.

*Table 5: Lubrication schedule*

How tool is used	When to lubricate
In daily production	Daily
Daily (occasional)	Weekly
Weekly	Monthly

Before using the dies, wipe off excess oil, particularly from the crimping area. Oil transferred from the crimping area onto terminations can affect the electrical characteristics of the termination.

### 6.3. Periodic inspection

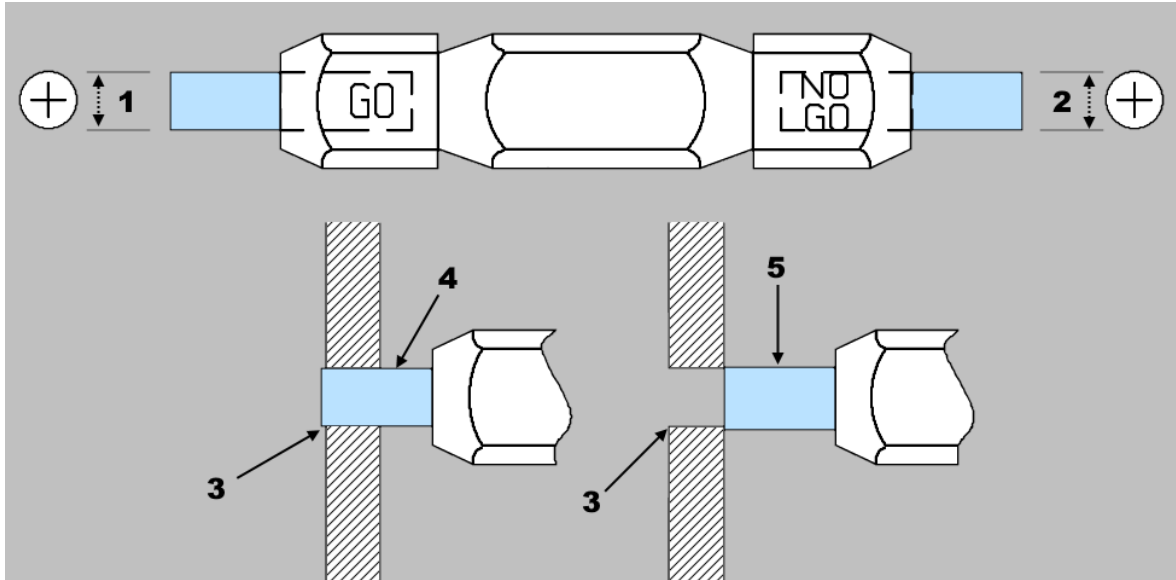
Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies or be supplied to personnel responsible for the dies. Recommendations call for at least one inspection per month. Base your inspection frequency on the amount of use, ambient working conditions, operator training and skill, and established company standards. Perform the inspection as follows:

1. Remove accumulated dirt, grease, and foreign matter by immersing the dies in a suitable commercial degreaser that does not affect paint or plastic material.
2. Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas.
3. If damage or abnormal wear is evident, replace the dies. Refer to section 7, REPLACEMENT AND REPAIR.

### 6.4. Gaging the crimping die closure

This procedure requires the use of a plug gage (Figure 7) conforming to the dimensions listed in Table 6. TE Connectivity does not manufacture or market these gages. For information regarding the use of a plug gage, refer to instruction sheet [408-7424](#).

Figure 7: Recommended plug gage design



- 1 GO diameter
- 2 NO GO diameter
- 3 Wire barrel crimping chamber
- 4 GO element
- 5 NO GO element

Table 6: Gage diameters

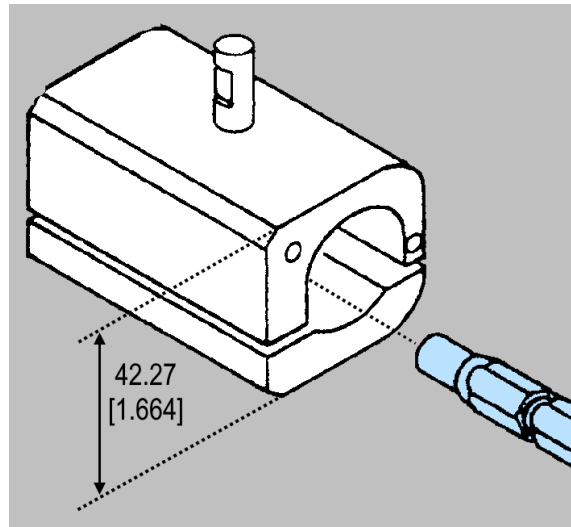
Crimping die part number	GO diameter	NO GO diameter
68361-1	7.544 - 7.551 [.2970 - .2973]	7.795 - 7.798 [.3069 - .3070]
68253-1	8.509 - 8.517 [.3350 - .3353]	8.760 - 8.763 [.3449 - .3450]
59867-1	9.576 - 9.583 [.3770 - .3773]	9.827 - 9.830 [.3869 - .3870]
68304-1	10.490 - 10.498 [.4130 - .4133]	10.742 - 10.744 [.4229 - .4230]



To gage the die closure, complete the following steps.

1. Remove the dies from the crimping head.
2. Remove traces of oil or dirt from the crimping chambers and plug gage.
3. Position the dies at the gaging height shown in Figure 8.

Figure 8: Gaging height



4. Align the GO element with the wire barrel crimping chamber. Gently push the element straight into the crimping chamber. The GO element must pass completely through the crimping chamber.
5. Gage the wire barrel crimping chamber with the NO-GO element in the same manner as step 4. The NO-GO element can start entry, but must not pass completely through the crimping chamber.

If the dies conform to the gage inspection, the crimping chamber is considered dimensionally correct.

- If correct, lubricate the dies with a thin coat of any good SAE 20 motor oil and return them to service.
- If not correct, return the dies to TE for further evaluation and repair. Refer to section 7, REPLACEMENT AND REPAIR.

## 7. REPLACEMENT AND REPAIR

Due to the precision design, it is important that no parts of these dies be interchanged except those replacement parts listed in Table 7. Any other parts should be replaced only by TE to ensure quality and reliability of the tool. Order replacement parts through your TE representative. You can also order parts by any of the following methods:

- Go to [TE.com](http://TE.com) and click the **Shop TE** link at the top of the page.
- Call 800-522-6752.
- Write to:  
 CUSTOMER SERVICE (038-035)  
 TE CONNECTIVITY CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

For customer repair services, call 800-522-6752.

Figure 9: Replacement parts

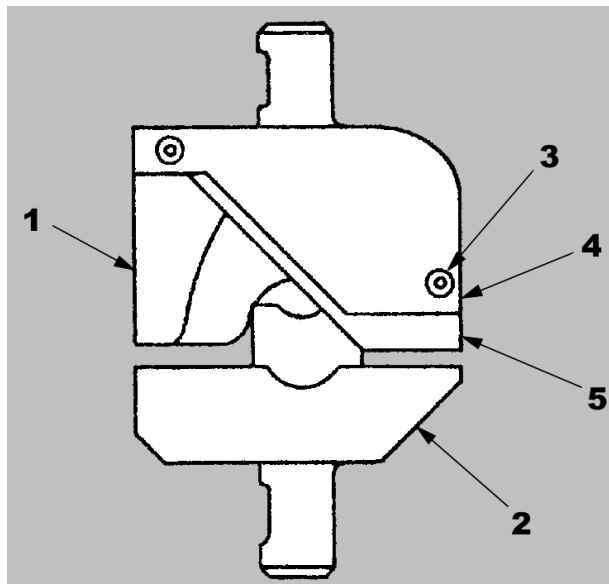


Table 7: Die set and component part numbers

Item	Part number				Description	Quantity per assembly
	Die set 68253-1	Die set 68304-1	Die set 68361-1	Die set 59867-1		
<b>1</b>	308265-1	308265-2	308265-3	308265-4	Stationary die	1
<b>2</b>	308264-1	308264-2	308264-3	308264-4	Moving die	1
<b>3</b>	2-21000-7				Socket head cap screw 8-32 x .500 L	2
<b>4</b>	308266-1				Cover stop	1
<b>5</b>	311476-1				Locator stop	1

## 8. REVISION SUMMARY

Since the last revision of this document, the following changes were made:

- Corrected errors in Table 3
- Reformatted and edited