

Figure 1

## 1. INTRODUCTION

The crimping dies listed on this instruction sheet are recommended for crimping the PIDG and PLASTI-GRIP tape-mounted terminals and splices indicated in Figure 2. The PIDG terminals and splices are used on stranded copper wire, and the PLASTI-GRIP terminals and splices are used with solid or stranded copper wire.

The dies are designed to be used in AMP-TAPETRONIC\* Machine 69875. Refer to Customer Manual [409-1993](#), packaged with the machine, for information concerning die installation, crimp adjustments, crimping procedures, and general operation of the machine.

This instruction sheet covers die selection, crimping instructions, and die maintenance and inspection procedures. Read these instructions thoroughly before crimping any terminals or splices.

**i** **NOTE**  
Measurements are in millimeters [followed by inch equivalents 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 (Figure 1)

Each die assembly features two stationary dies (anvils) and two moving dies (crimpers), a saddle, and attaching hardware. One pair of dies (one anvil and one crimper) forms a crimping chamber for the terminal or splice wire barrel, and the other pair of dies crimps the insulation barrel.

Each half of the die assembly is secured in the machine by a captive screw. The dies are color coded according to wire size for easy identification. When the terminal or splice is properly crimped in the correct dies, one or two dots (depending on wire size) will appear on the top and bottom of the terminal or splice.

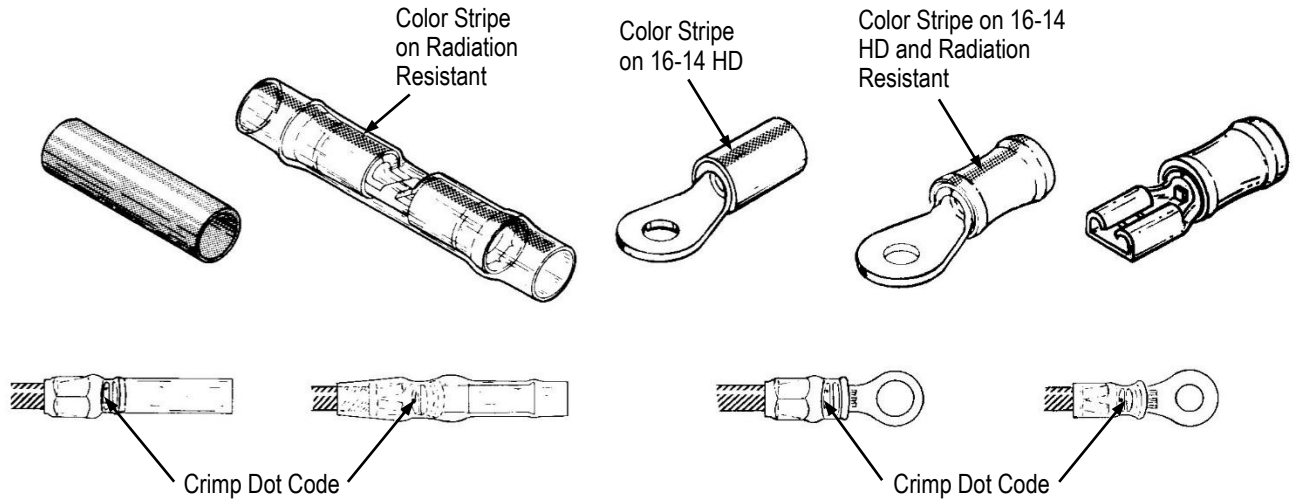
**PLASTI-GRIP  
Butt Splice**

**PIDG  
Butt Splice**

**PLASTI-GRIP  
Terminal**

**PIDG  
Terminal**

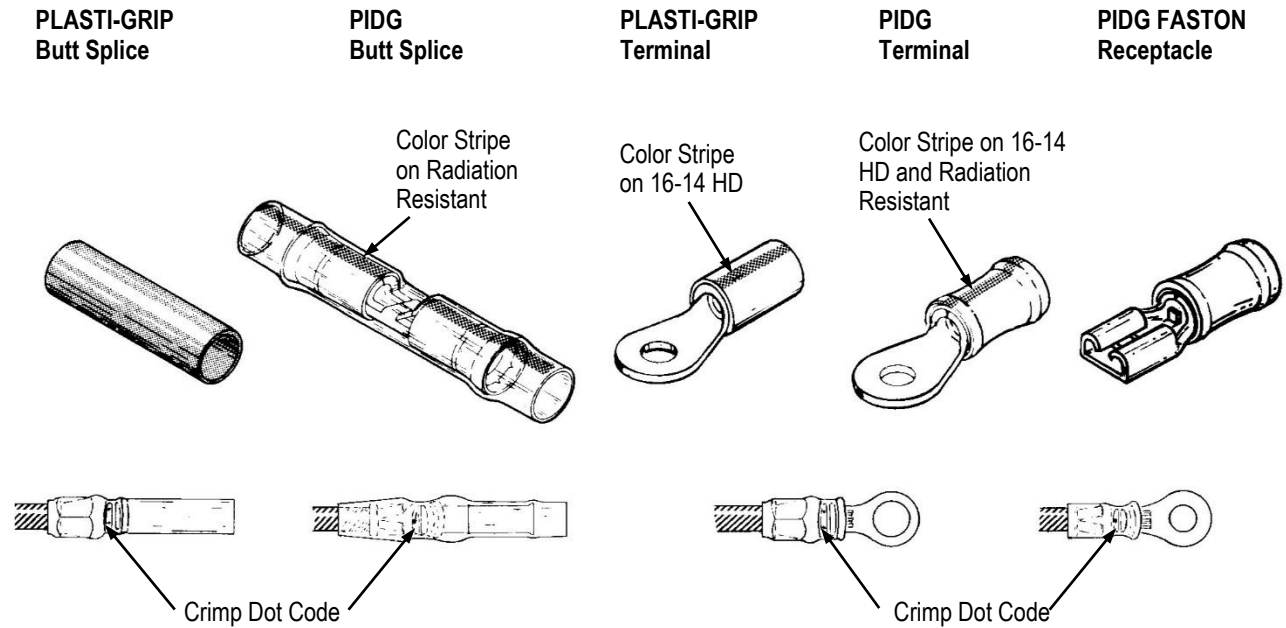
**PIDG FASTON  
Receptacle**



Product	Wire Size Range (AWG)	Wire Strip Length, mm [in.]				Insulation Color Code	Dot Code (Number of Dots)	Die Assembly Part Number
		Terminal		Splice				
		Min	Max	Min	Max			
PIDG and PLASTI-GRIP Terminals and Splices (Except 12-10 PIDG Window Splice)	26-22	3.97 [5/32]	4.76 [3/16]	4.37 [11/64]	5.16 [13/64]	Yellow	1	69877
	26-24	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	Yellow	1	69872, 68208-1 Lg Exp
	24-20	4.76 [3/16]	5.56 [7/32]	5.56 [7/32]	6.35 [1/4]	White	2	69878
	22-16	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	Red	1	69872, 68208-1 Lg Exp
	16-14 20-16 HD	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	9.53 [3/8]	Blue	2	69873, 68207-1 Lg Exp
	12-10	7.94 [5/16]	8.73 [11/32]	8.73 [11/32]	9.53 [3/8]	Yellow	1	69874
	16-14 HD	7.94 [5/16]	8.73 [11/32]	8.73 [11/32]	9.53 [3/8]	Yellow with Black Stripe	1	69874
	12-10	7.94 [5/16]	8.73 [11/32]	8.73 [11/32]	9.53 [3/8]	Yellow	1	69897 Lg Exp
	16-14 HD	7.94 [5/16]	8.73 [11/32]	8.73 [11/32]	9.53 [3/8]	Yellow with Black Stripe	1	69897 Lg Exp
	8	8.33 [21/64]	9.13 [23/64]	9.13 [23/64]	9.53 [3/8]	Red	1	68116-1T

T Long tongue PLASTI-GRIP terminals only.

Figure 2 (Part 1 of 2)



Product	Wire Size Range (AWG)	Wire Strip Length, mm [in.]				Insulation Color Code	Dot Code (Number of Dots)	Die Assembly Part Number
		Terminal		Splice				
		Min	Max	Min	Max			
PIDG Radiation Resistant Terminals and Splices	24-20	4.76 [3/16]	5.56 [7/32]	5.56 [7/32]	6.35 [1/4]	Natural with White Stripe	2	69878
	22-16	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	Natural with Red Stripe	1	69872
	16-14	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	Natural with Blue Stripe	2	69873
	12-10	7.94 [5/16]	8.73 [11/32]	6.35 [1/4]	7.14 [9/32]	Natural with Yellow Stripe	1	69874
	16-14 HD	7.94 [5/16]	8.73 [11/32]	6.35 [1/4]	7.14 [9/32]	Natural with Black Stripe	1	69874
PIDG STRATO-THERM* Terminals	26-24	3.97 [5/32]	4.76 [3/16]	6.35 [1/4]	7.14 [9/32]	Black	1	69935
	22-20	4.76 [3/16]	5.56 [7/32]	6.35 [1/4]	7.14 [9/32]	Green	2	69936
	18-16	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	Orange	1	69937
	14	5.16 [13/64]	5.95 [15/64]	6.35 [1/4]	7.14 [9/32]	White	2	69938
PIDG FASTON* Receptacles 641321-2 (.187 Series) and 641324-2 (.110 Series)	26-24	4.76 [3/16]	5.56 [7/32]	6.35 [1/4]	7.14 [9/32]	Yellow	1	69877-2

Figure 2 (Part 2 of 2)

### 3. DIE SELECTION AND INSTALLATION

Refer to Figure 2 and select a compatible die assembly for the terminal or splice, based on the wire size being used.

Refer to the Customer Manual supplied with the machine for information concerning installation of dies in the machine.

When installing Die Assembly 68116-1 in Machine 69875, the terminal extractor/finger guard assembly and the clear plastic applicator guard must be moved out from the machine as follows:

1. Remove the terminal extractor/finger guard assembly holding screw.
2. Reinstall the extractor/finger assembly using the holding screw (part no. 25064-1) and six washers (part no. 21055-7) provided with the die assembly.
3. Remove the clear plastic applicator (side) guard.
4. Reinstall the guard using the two (lower) holding screws (part no. 2-21002-2) and two spacers (part no. 4-25272-6) provided with the die assembly.

### 4. CRIMPING PROCEDURE

1. Load the terminal or splice tape into the machine. Refer to the Customer Manual for tape loading instructions.
2. Strip the wire to the dimension specified in Figure 2. Do NOT cut or nick the wire.

**NOTE**

*Depending on your wire stripping machine adjustment capabilities, the wire strip length may be increased to the nearest 0.79 mm [1/32 in.] if necessary.*

3. Insert the prepared wire into the terminal or splice until the wire is bottomed.

**DANGER**

*KEEP HANDS CLEAR OF DIES during the crimping procedure.*

4. Hold the wire in position and activate the machine to crimp the terminal or splice.
5. Inspect the crimped product for a proper termination.

### 5. MAINTENANCE/INSPECTION

#### 5.1. Daily Maintenance

It is recommended that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations.

Frequency of inspection depends on:

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

The dies are inspected before being shipped; however, it is recommended that the dies be inspected immediately upon arrival at your facility to ensure that no damage occurred during shipment.

Due to the precision design, it is important that no parts of these dies be interchanged except those replacement parts listed in Section 6.

## 5.2. Daily Maintenance

1. Remove dust, moisture, and other contaminants with a clean brush, or a soft, lint-free cloth. Do NOT use objects that could damage the dies.
2. When the dies are not in use, store them in a clean, dry area.

## 5.3. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies and/or be supplied to supervisory personnel responsible for the dies. 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. The inspections should be performed in the following sequence:

### A. Visual Inspection

1. Remove accumulated dirt, grease, and foreign matter by immersing the dies in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make sure all die holding components are in place. Refer to the parts list in Figure 4 if replacements are necessary.
3. Check all bearing surfaces for wear. Remove and replace worn components.
4. Inspect the crimp sections for flattened, chipped, cracked, worn, or broken areas. If damage is evident, the dies must be repaired before returning them to service. See Section 6, REPLACEMENT AND REPAIR, for information on obtaining customer repair service.

### B. Gaging the Wire Barrel Crimping Chamber

This inspection requires the use of a plug gage conforming to the dimensions shown in Figure 3. To gage the crimping chamber, refer to Figure 3, and proceed as follows:

1. Remove traces of oil or dirt from the crimping chamber and plug gage.
2. Mate the dies until it is evident that they have bottomed.
3. Align the GO element with the crimping chamber. Push element straight into the chamber without using force. The GO element must pass completely through the crimping chamber.
4. Check the crimping chamber with the NO-GO element in the same manner as Step 3. The NO-GO element may start entry, but must not pass completely through the crimping chamber.

If the dies conform to the gage inspection, they are considered dimensionally correct. If not correct, refer to Section 6, REPLACEMENT AND REPAIR, for information on obtaining customer repair service.

For additional information regarding the use of a plug gage, refer to Instruction Sheet [408-7424](#).

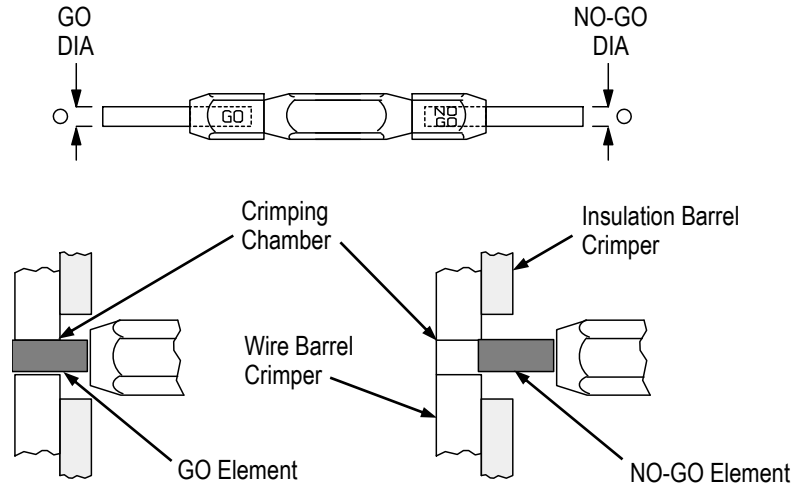
## 6. REPLACEMENT AND REPAIR

The parts listed in Figure 4 are customer-replaceable parts. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary.

Order replacement parts through your 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 (038-035)  
TYCO ELECTRONICS CORPORATION  
PO BOX 3608  
HARRISBURG PA 17105-3608

Dies may also be returned for evaluation and repair. For die repair service, contact a TE Connectivity Representative at 1-800-526-5136.

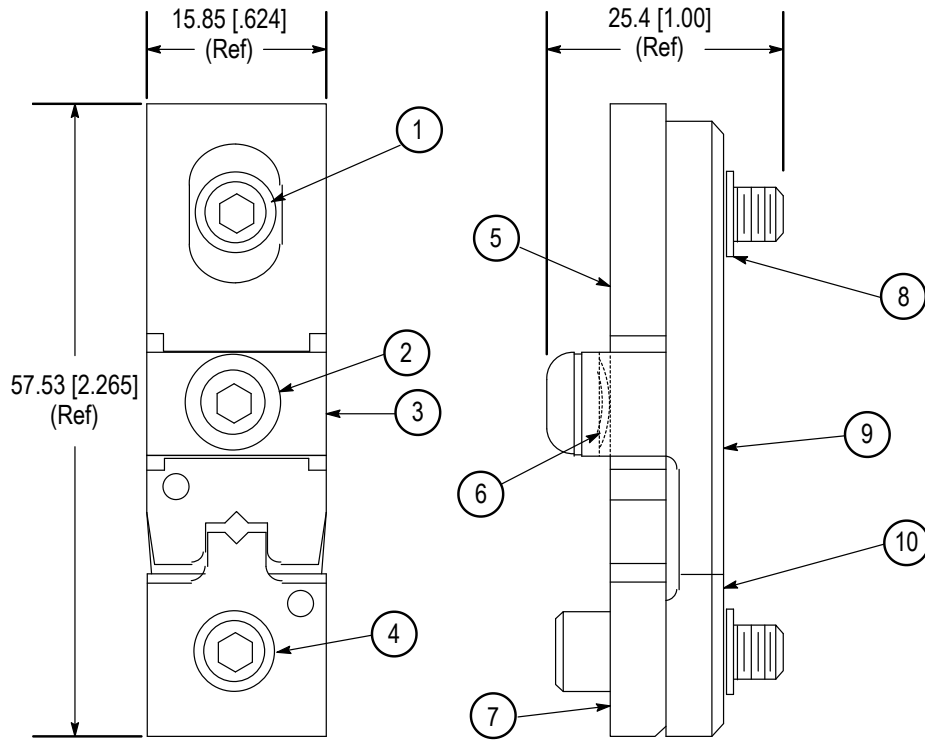


DIE ASSEMBLY NUMBER	GAGE DIMENSION	
	GO Diameter	NO-GO Diameter
68116-1	5.105 [.2010]	5.258 [.2070]
68207-1	3.023 [.1190]	3.175 [.1250]
68208-1	2.769 [.1090]	2.921 [.1150]
69872	2.769 [.1090]	2.921 [.1150]
69873	3.023 [.1190]	3.175 [.1250]
69874	4.293 [.1690]	4.445 [.1750]
69877	1.600 [.0630]	1.753 [.0690]
69877-2	1.600 [.0630]	1.753 [.0690]
69878	2.261 [.0890]	2.413 [.0950]
69897	4.293 [.1690]	4.445 [.1750]
69935	2.311 [.0910]	2.388 [.0940]
69936	2.667 [.1050]	2.743 [.1080]
69937	3.327 [.1310]	3.404 [.1340]
69938	3.835 [.1510]	3.912 [.1540]

Figure 3

## 7. REVISION SUMMARY

- Updated document to corporate requirements
- Changed part number in "Insul Indenter" column in Figure 4



Replacement Parts (Quantity is one per die Assembly, except for Item 8, Quantity for Item 8 is two.)

DIE ASSY NO.	SPECIAL SCREW	SADDLE SCREW	SADDLE	SPECIAL SCREW	INSUL INDENTER	CURVED WASHER	INSUL ANVIL	RTNG RING	INDENTER	ANVIL
	1	2	3	4	5	6	7	8	9	10
68116-1*	1-59781-4	3-59577-8	1-307275-7	2-59781-5	307913-1	24088-8	308916-1	1-21046-3	307914-1	307915-1
68207-1	2-59781-4	1-59577-5	1-307275-0	2-59781-6	307276-1	24088-8	1-59619-2	1-21046-3	59779-3	59623-5
68208-1	2-59781-4	2-59577-9	307275-9	59781-6	307285-2	24088-8	1-59619-8	1-21046-3	59779-2	59623-6
69872	3-59781-4	2-59577-9	307275-9	59781-6	307285-1	24088-8	1-59619-7	1-21046-3	59779-2	59623-6
69873	2-59781-4	2-59577-9	307275-9	59781-6	307285-2	24088-8	1-59619-8	1-21046-3	59779-3	59623-5
69874	59781-1	2-59577-8	1-307275-0	59781-5	307276-1	24088-8	1-59619-2	1-21046-3	310454-1	59623-4
69877	59781-4	2-59577-7	307275-9	59781-7	307285-3	24088-8	1-59619-5	1-21046-3	59782-2	2-59615-0
69877-2	59781-4	2-59577-7	307275-9	59781-7	307285-3	24088-8	1-59619-5	1-21046-3	59782-2	2-59615-0
69878	59781-3	3-59577-0	1-307275-1	59781-8	307285-4	24088-8	1-59619-4	1-21046-3	59782-8	3-59615-0
69897	59781-1	2-59577-8	1-307275-0	59781-5	307276-2	24088-8	904765-1	1-21046-3	310454-1	59623-4
69935	1-59781-7	2-59577-7	1-307275-5	1-59781-8	310676-3	24088-8	310667-2	1-21046-3	310674-2	310675-2
69936	59781-2	2-59577-9	307275-9	59781-6	310676-4	24088-8	310667-3	1-21046-3	310674-3	310675-3
69937	2-59781-0	2-59577-9	1-307275-6	59781-6	310676-5	24088-8	310667-4	1-21046-3	310674-4	310675-4
69938	2-59781-0	2-59577-9	1-307275-6	59781-6	310676-1	24088-8	310667-1	1-21046-3	310674-1	310675-1

\*Refer to Section 3 for hardware to adapt guards.

Figure 4