

Figure 1

## 1. INTRODUCTION

This instruction sheet covers the use and maintenance of Crimping Die Assemblies 69911, 69912, 69913, and 69914, which are used in the DYNA-CRIMP Crimping Head 69082.

These instructions provide specific information regarding the die assembly. Refer to Instruction Sheet 408-2456 for information regarding the DYNA-CRIMP Crimping Head 69082.

### NOTE



All dimensions on this document are in metric units [with U.S. customary units in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

Reasons for reissue are provided in Section 8, REVISION SUMMARY.

## 2. DESCRIPTION (Figure 1)

The die assemblies feature a stationary die (nest) and a moving die (indenter).

The dies are used to crimp SOLISTRAND\* terminals and splices on solid or stranded copper wire sizes 250 through 600 MCM.

## 3. DIE INSTALLATION AND REMOVAL

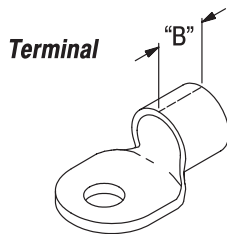
### 3.1. Die Installation

### DANGER

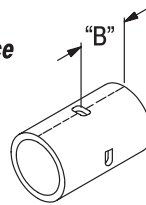


Avoid personal injury. ALWAYS disconnect power unit from power supply when performing adjustments, die installation or removal, and maintenance.

1. Turn off main power switch, disconnect power unit from power supply.

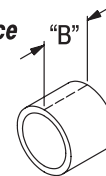


Terminal



Butt Splice

Parallel Splice



"B" Equals Wire Barrel

DIE SET NUMBER	WIRE SIZE MCM = 1 Thousand Circular Mills	CIRCULAR MIL RANGE●	WIRE STRIP LENGTHS					
			TERMINALS		BUTT SPLICES		PARALLEL SPLICES	
			Min.	Max.	Min.	Max.	Min.	Max.
69911	250 – 300 MCM	231 – 300 MCM	26.19 [1.031]	27.79 [1.094]	26.19 [1.031]	27.79 [1.094]	26.19 [1.031]	27.79 [1.094]
69912	300 – 350 MCM	300 – 380 MCM	27.79 [1.094]	29.36 [1.156]	27.79 [1.094]	29.36 [1.156]	27.79 [1.094]	29.36 [1.156]
69913	400 MCM	380 – 478 MCM	30.96 [1.219]	32.54 [1.281]	30.96 [1.219]	32.54 [1.281]	30.96 [1.219]	32.54 [1.281]
69914	500–600 MCM	478–600 MCM	35.32 [1.391]	36.91 [1.453]	35.32 [1.391]	36.91 [1.453]	35.32 [1.391]	36.91 [1.453]

- When using two or more wires, the combined cross sectional area must be within the circular mil range listed.

Figure 2

2. Select the correct dies for the wire size being used. See Figure 2.
3. Loosen locking screw in top section of crimping head. See Figure 1.
4. Insert shank of stationary die into top section of crimping head and tighten locking screw.
5. Activate power unit, advance ram until setscrew is visible.
6. Loosen setscrew and insert shank of moving die into ram well. Tighten setscrew. See Figure 1.

**NOTE**

*Be sure that the dies are inserted FULLY and that the FLATS on the die shanks are facing the setscrews.*

7. Activate power unit to complete cycle and allow ram to return to DOWN position.

**3.2. Die Removal**

1. Turn off main power switch, disconnect power unit from power supply.
2. Remove locking screw in top section of crimping head and remove die. Replace locking screw.
3. Raise ram to full UP position. Loosen setscrew in ram and remove die.

**4. CRIMPING PROCEDURE**

1. Select the proper size terminal or splice for the wire size being used.
2. Determine correct terminal or splice wire loading by referring to CMA range listed in Figure 2. Total CMA of wires being used must be within CMA range of terminal or splice.
3. Strip wire as indicted in Figure 2.

**CAUTION**

*Do not nick conductor strands.*

**DANGER**

*Avoid personal injury. When operating power unit, exercise caution while holding terminals or wire near crimping area.*

4. Ensure that wire range or size stamped on terminal or splice corresponds with wire size being used and wire size or range stamped on dies.
5. Center terminal or splice wire barrel in stationary die as shown in Figure 3. For best results, when brazed seam on terminal or splice is visible, position seam toward moving die.

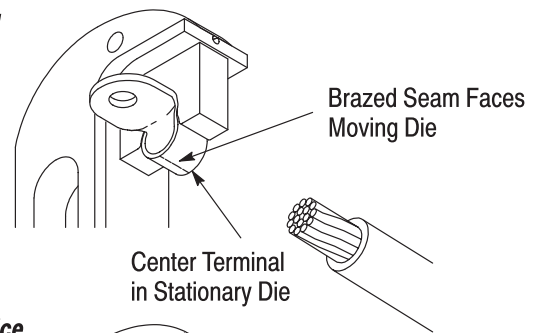
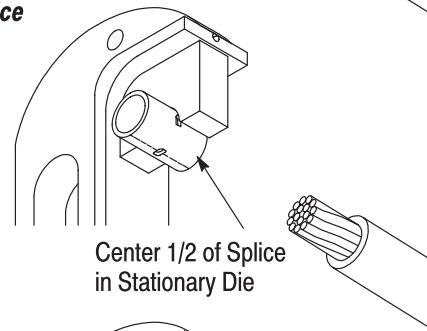
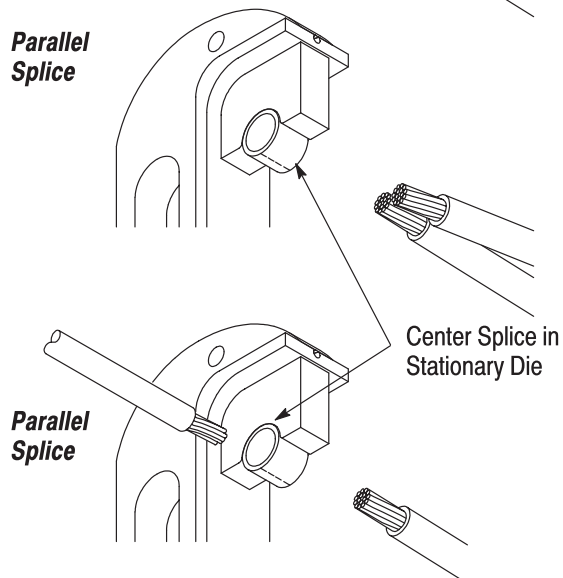
**Terminal****Butt Splice****Parallel Splice**

Figure 3

6. Activate tool so that ram advances and holds terminal or splice in place. Do not deform terminal or splice wire barrel.
7. Insert stripped wire into terminal or parallel splice until end of conductor is flush with or extended slightly beyond end of wire barrel.
8. Insert stripped wire into butt splice until end of conductor butts against splice wire stop.
9. Activate tool to complete the crimp.
10. To crimp other half of butt splice, remove it and reposition uncrimped half in stationary die. Follow same procedure to crimp first half of splice.
11. For crimp inspection procedure, refer to Section 5 and Figure 4.

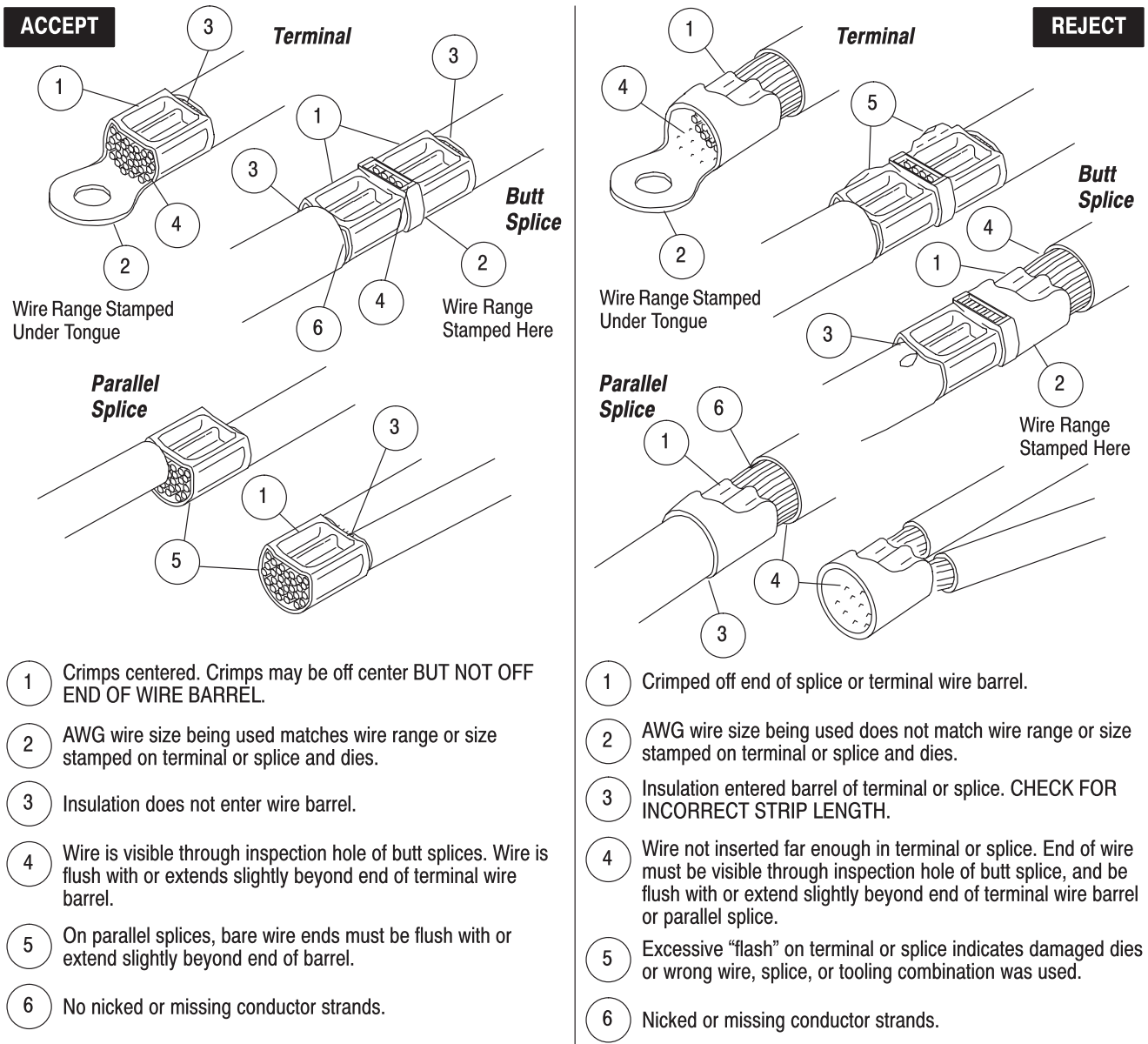


Figure 4

**5. CRIMP INSPECTION**

Inspect crimped terminals and splices by checking the features described in Figure 4. Use only the terminals and splices that meet the conditions shown in the "ACCEPT" column. "REJECT" terminals and splices can be avoided through careful use of instructions in Section 4, CRIMPING PROCEDURE, and by performing regular die maintenance as described in Section 6, MAINTENANCE AND INSPECTION.

**6. MAINTENANCE AND INSPECTION**

**6.1. 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. Make sure that dies are properly aligned and that die holding screws are in place and secured.
3. Make certain that all surfaces are protected with a thin coat of any good SAE 20 motor oil. Do not oil excessively.
4. When dies are not in use, store in a clean, dry area.

**6.2. Inspection**

Regular inspections should be performed with a record of inspections remaining with the dies and/or supervisory personnel responsible for them. Tyco Electronics recommends one inspection per month;

however, amount of use, working conditions, operator training and skill, and established company standards should determine frequency of inspection. The inspection should be performed in the following sequence:

### A. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the dies in a suitable commercial degreaser that will not affect paint or plastic material.

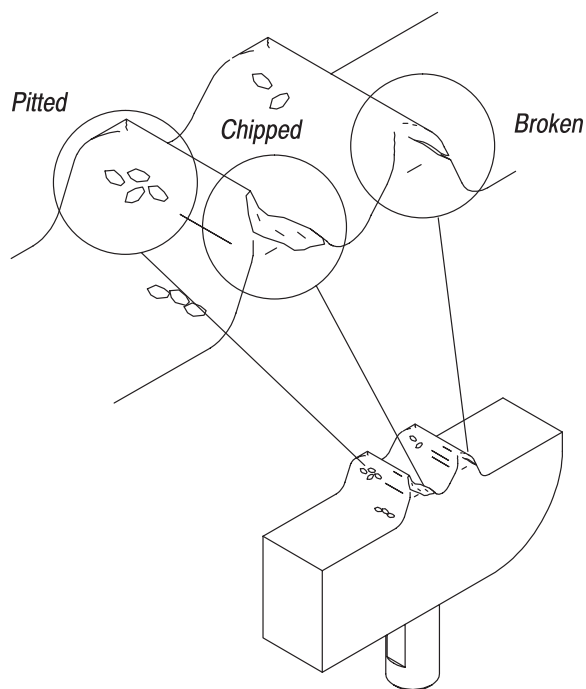


Figure 5

2. Make sure all die holding screws are in place and secured.
3. Check all bearing surfaces for wear. Replace worn components.
4. Inspect the crimp section for flattened, chipped, cracked, worn, or broken areas. See Figure 5. If damage is evident, the dies must be repaired before returning them to service. See Section 7, REPLACEMENT AND REPAIR.

### B. Die Closure Inspection

Every die set is inspected and tested for proper die closure before packaging. An inspection should be performed periodically to check the die closure for excessive wear.

The die closure inspection requires the use of a plug gage conforming to the dimensions provided in Figure 6. Tyco Electronics does not manufacture or market these gages. Proceed as follows:

1. Remove traces of oil or dirt from the die closure surfaces, bottoming surfaces, and plug gage.
2. Assemble and position dies to meet the “gage dimension” indicated in Figure 7.
3. With dies properly positioned, check the die closure using the proper plug gage. Hold gage in straight alignment with the die closure and carefully try to insert, without forcing, the GO element. See Figure 7. The GO element must pass completely through the wire barrel crimp die closure.
4. Try to insert the NO-GO element. The NO-GO element may enter partially, but must not pass completely through the wire barrel crimp die closure.

If the dies meet the plug gage conditions, the dies are considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the die assembly must be returned to Tyco Electronics for further evaluation and repair. Refer to Section 7, REPLACEMENT AND REPAIR.

For additional information regarding the use of plug gages, refer to Instruction Sheet 408-7424.

## 7. REPLACEMENT AND REPAIR

The parts listed in Figure 8 are customer-replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacement parts through your Tyco Electronics Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

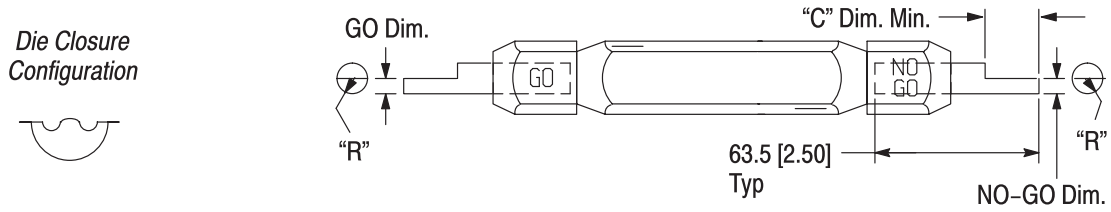
CUSTOMER SERVICE (38-35)  
TYCO ELECTRONICS CORPORATION  
P.O. BOX 3608  
HARRISBURG, PA 17105-3608

## 8. REVISION SUMMARY

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

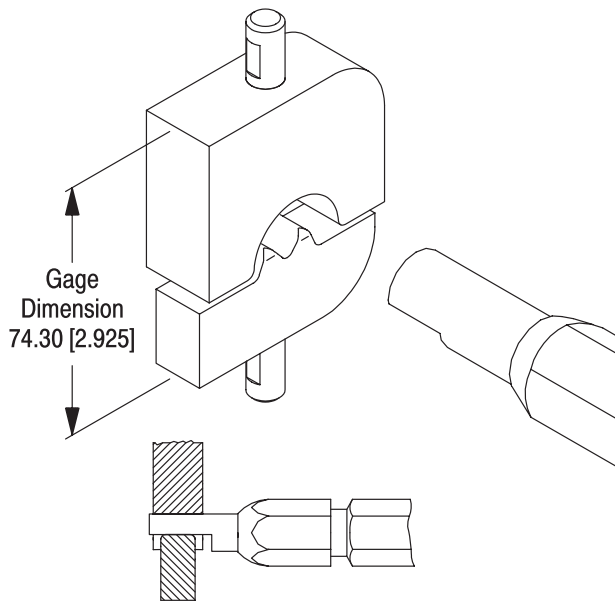
- Updated document to corporate requirements
- Added part number 69914 to title, Section 1, INTRODUCTION; Section 2, DESCRIPTION; tables in Figures 2, 6, and 8

SUGGESTED PLUG GAGE DESIGN

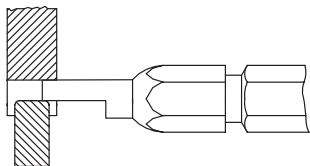


DIE SET NUMBER	WIRE SIZE	GAGE ELEMENT DIMENSIONS		"C" DIM.	RADIUS "R"
		GO	NO-GO		
69911	250-300 MCM	9.398 - 9.406 [.3700 - .3703]	9.522 - 9.525 [.3749 - .3750]	31.8 [1.25]	13.06 [.514]
69912	300-350 MCM	10.236 - 10.244 [.4030 - .4033]	10.361 - 10.363 [.4079 - .4080]	31.8 [1.25]	14.10 [.555]
69913	400 MCM	11.455 - 11.463 [.4510 - .4513]	11.580 - 11.582 [.4559 - .4560]	33.3 [1.31]	16.00 [.630]
69914	500-600 MCM	13.055-13.063 [.5140-.5143]	13.205-13.208 [.5199-.5200]	33.3 [1.31]	18.24 [.718]

Figure 6

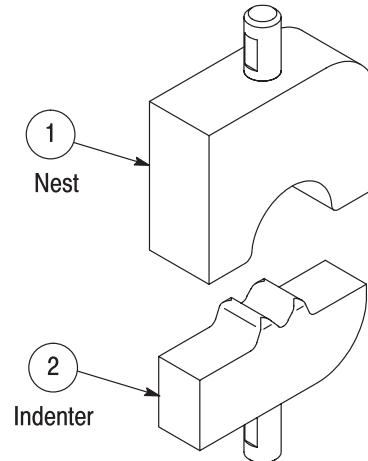


GO gage must pass completely through the die closure.



NO-GO gage may enter partially, but must not pass completely through the die closure.

Figure 7



DIE SET NUMBER	STATIONARY DIE ITEM 1	MOVING DIE ITEM 2
69911	59783-1	59784-1
69912	59783-2	59784-2
69913	59783-3	59784-3
69914	59783-4	59784-4

Figure 8