

Flag Terminal Dies		Tooling Head (Document)	Typical Terminals	mm <sup>2</sup> Circular Mil Area Range	Nominal Wire Size	
Nest	Indenter				mm <sup>2</sup>	AWG
48506	48505	69067 (408-2454)	322727	6.637-10.539 [13,100-20,800]	7-8	8
48508	48507		321576	10.539-16.771 [20,800-33,100]	13-15	6
48509			321060	16.771-26.653 [33,100-52,600]	21	4
48510			321064	26.653-42.411 [52,600-83,700]	34-35	2
48652			48511	321066	42.411-60.551 [83,700-119,500]	59-60
48805	321584			60.551-72.259 [119,500-150,500]	67-70	2/0
48806	----			72.259-96.274 [150,500-190,000]	80-95	3/0
48807	321259			96.274-117.049 [190,000-231,000]	100-125	4/0

Figure 1

**1. INTRODUCTION**

This instruction sheet provides instruction on application, maintenance and inspection procedures for dies that crimp SOLISTRAND Flag terminals. These dies are used to crimp product on solid or stranded copper wire; sizes 7mm<sup>2</sup> - 125mm<sup>2</sup> [8 - 4/0 AWG]. The dies are used in Hydraulic Head PN 69067 (Instruction Sheet 408-2454). Refer to Figure 1 for typical SOLISTRAND terminals crimped, as well as the appropriate hydraulic crimping head tooling.

Read these instructions and all applicable references before inserting any die assemblies and crimping any terminals.

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



**NOTE**

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

## 2. DESCRIPTION

Each die assembly consists of a nest and an indenter, ordered separately, which are retained in the crimping head by set screws. The nest is positioned in the yoke of the crimping head and the indenter is positioned in the ram of the tool, in all applications.

## 3. DIE INSTALLATION AND REMOVAL

Refer to Figure 1 and determine the correct die nest and indenter with the wire size to be used in the crimping tool.



### **DANGER**

*Avoid personal injury. Exercise extreme caution when using power unit. Avoid depressing foot switch or trigger control when installing or removing die assemblies.*



### **CAUTION**

*Do NOT place dies under pressure without first inserting the correct terminal and wire. Otherwise, the dies could be damaged.*

### 3.1. Die Installation

1. Remove latch pin from crimping head and open yoke.
2. Push nest into yoke until nest snaps into position.
3. Activate power unit to advance ram to approximate position shown in Figure 1.
4. Push indenter into ram until indenter snaps into position.
5. Return ram to the down position.
6. Close yoke and insert latch pin.

### 3.2. Die Removal

1. Remove latch pin and open yoke.
2. Insert blade of screwdriver under nest and pry nest out of yoke.
3. Raise ram to full up position.
4. Insert blade of screwdriver under nest and pry indenter out of ram.

## 4. WIRE STRIPPING AND CRIMPING PROCEDURE

### 4.1. Wire Stripping

1. Obtain the correct wire, terminal, and crimping tool (with correct die assembly installed) for your application.
2. Strip the wire to the dimensions listed in Figure 2.



### **CAUTION**

*DO NOT nick or cut the wire strands.*



### **DANGER**

*AVOID PERSONAL INJURY. Exercise extreme caution when operating the crimping head and holding terminals or wire near the crimping area.*

Nominal Wire Size		Typical Flag Terminals	Strip Length mm [inch]	
mm <sup>2</sup>	AWG		Minimum	Maximum
7-8	8	322727	9.53 [.375]	11.18 [.440]
13-15	6	321576	12.7 [.500]	14.27 [.562]
21	4	321060	13.82 [.544]	15.48 [.609]
34-35	2	321064	17.06 [.672]	18.65 [.734]
59-60	1/0	321066	22.23 [.875]	23.81 [.937]
67-70	2/0	321584	23.81 [.937]	25.40 [1.000]
80-95	3/0	----	26.98 [1.062]	28.58 [1.125]
100-125	4/0	321259	28.58 [1.125]	30.16 [1.187]

Figure 2

## 4.2. Crimping Procedure

1. Ensure the wire range or size stamped on the flag terminal corresponds to the wire size being used in the application and the wire size or range stamped on the nest and indenter.
2. Center flag terminal wire barrel in die nest. When crimping flag terminals using head PN 69067, hold tongue of flag terminals against nest as shown in Figure 3.

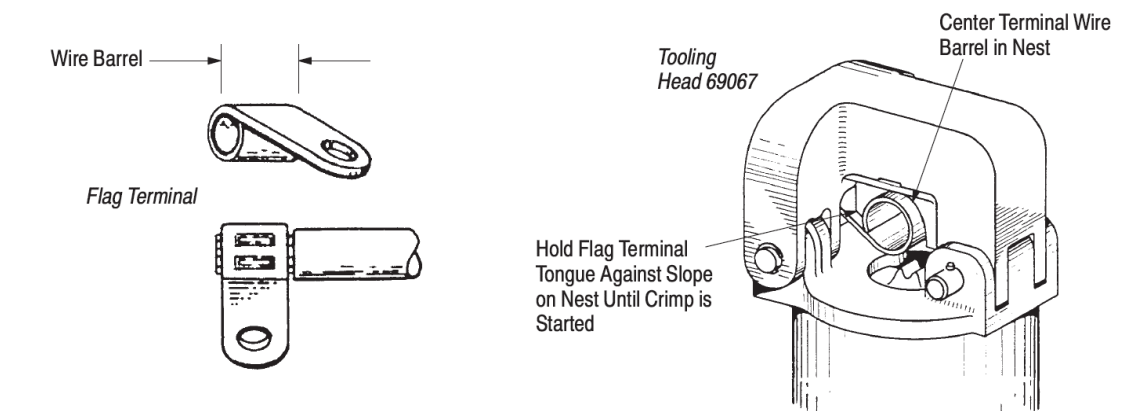


Figure 3

3. Activate tool so that ram advances and holds terminal in place but DOES NOT deform wire barrel.
4. Insert stripped wire into terminal until end of conductor is flush with or extended slightly beyond end of wire barrel (see Figure 3).
5. Refer to Paragraph 5.1. *Crimp Inspection* for terminal crimp inspection procedure.



### NOTE

If the terminal sticks in the die after crimping, grasp the wire close to the crimp and apply a rocking motion to free it.

## 5. INSPECTION and MAINTENANCE



### DANGER

Disconnect power supply before performing maintenance, adjustments, inspections and repairs.

Each die assembly is inspected before shipment. TE Connectivity (TE) recommends that the die assembly be inspected immediately upon arrival at the facility of use to ensure that it conforms to the gage dimensions provided in Figure 6 and that it has not been damaged during shipment.

### 5.1. Crimp Inspection



**NOTE**

The accompanying procedure is included as an aid to the local operator ONLY. It is not intended to serve as a quality control procedure for qualifying finished crimps on flag terminals.

Inspect crimped terminals by checking the features described in Figure 4. USE ONLY terminals that meet the conditions shown in the ACCEPT column. Terminals displaying the features shown in the REJECT column can be avoided by careful use of these instructions and by performing the maintenance and inspection procedures described in paragraphs 5.2. and 5.3.

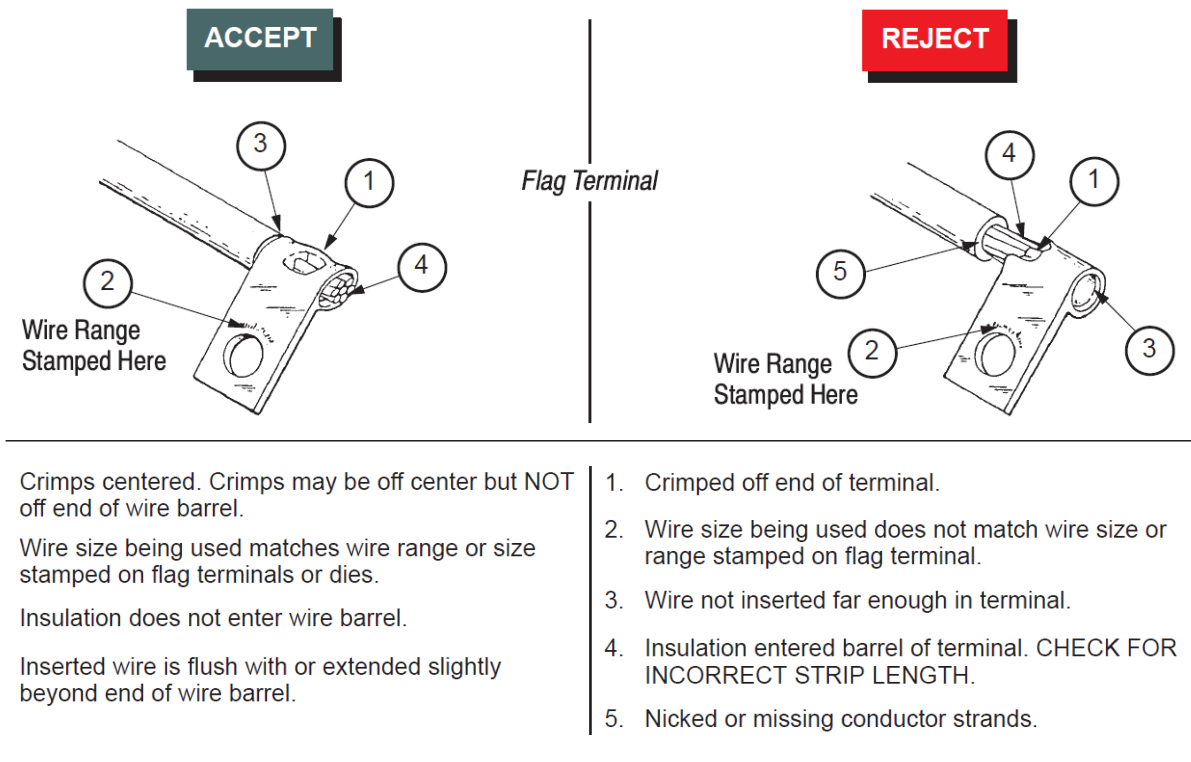


Figure 4

### 5.2. Daily Maintenance

It is recommended that each operator of the dies be made aware of, and responsible for, the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants from the dies with a clean brush, or a clean, soft, lint-free cloth. DO NOT use objects that could damage the dies.
2. If dies are coated with oil or preservative, wipe clean - particularly in the crimping areas - before placing them in use.
3. When dies are not in use, make certain all surfaces are protected with a THIN coat of any good SAE No. 20 motor oil, and mate and 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 or be made available to supervisory personnel responsible for the dies. Though recommendations call for at least a monthly inspection, the inspection frequency should be based upon the amount of use, 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 dies in a suitable degreaser that will not affect paint or plastic material.
2. Check all surfaces for wear. Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas (see Figure 5). **If damage is evident, the die must be replaced.**

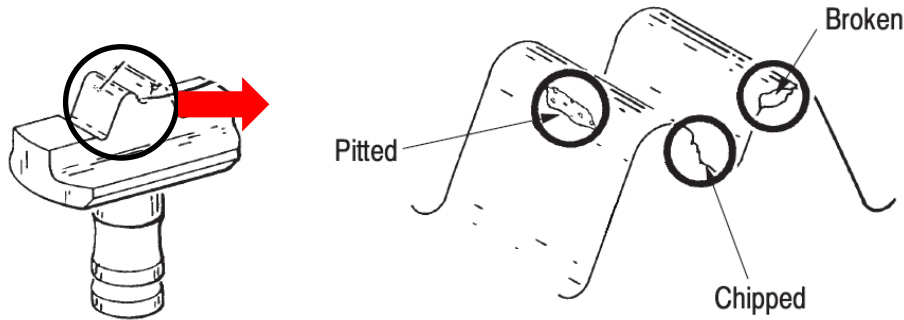
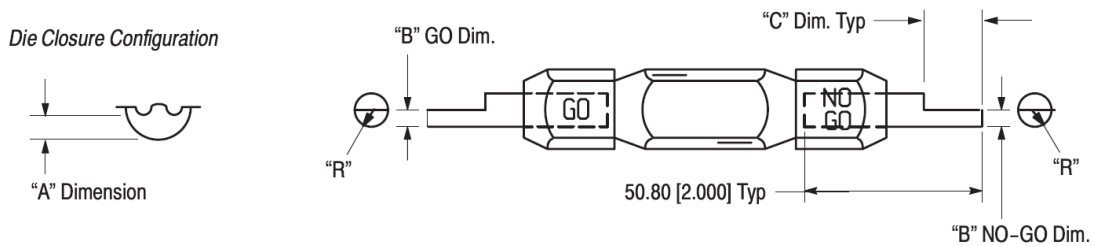


Figure 5

### B. Gaging the Crimping Chamber

This inspection requires the use of a plug gage conforming to the dimensions in Figure 6.

**i** **NOTE**  
TE Connectivity does not manufacture or market these gages.



Tool Head (Document)	Die PN	Die Closure Dimension "A"		Gage Element Dimension "B"		Dimension "C"	Radius "R"
		GO	NO GO	GO	NO-GO		
69067 (408-2454)	48506	2.54 [.1000]	2.692 [.1060]	2.54-2.55	2.689-2.692	12.70 [.500]	3.58 [.141]
	48505			[.1000-.1003]	[.1059-.1060]		
	48508	3.51 [.1380]	3.708 [.1460]	3.505-3.513	3.705-3.708	11.099 [.4370]	3.96 [.156]
	48507			[.1380-.1383]	[.1459-.1460]		
	48509	4.14 [.1630]	4.343 [.1710]	4.140-4.147	4.340-4.343	11.099 [.4370]	4.76 [.187]
	48507			[.1630-.1633]	[.1709-.1710]		
	48510	4.953 [.1950]	5.156 [.2030]	4.953-4.960	5.153-5.156	14.275 [.5620]	5.94 [.234]
	48507			[.1950-.1953]	[.2029-.2030]		
	48652	6.172 [.2430]	6.375 [.2510]	6.172-6.179	6.372-6.375	14.275 [.5620]	7.52 [.296]
	48511			[.2430-.2433]	[.2509-.2510]		
	48805	6.959 [.2740]	7.163 [.2820]	6.959-6.967	7.160-7.163	14.275 [.5620]	8.33 [.328]
	48511			[.2740-.2743]	[.2819-.2820]		
48806	7.823 [.3080]	8.026 [.3160]	7.823-7.830	8.023-8.026	14.275 [.5620]	9.53 [.375]	
48511			[.3080-.3083]	[.3159-.3160]			
48807	8.788 [.3460]	8.991 [.3540]	8.788-8.796	8.989-8.991	14.275 [.5620]	10.89 [.421]	
48511			[.3460-.3463]	[.3539-.3540]			

Figure 6

Proceed as follows (reference Figure 7):

1. Mate the dies until it is evident that they have bottomed. Hold the dies in this position.



**CAUTION**

*DO NOT place dies under pressure at any time.*

2. Align the GO element with the wire barrel crimping chamber. Push the element straight into the crimping chamber without using force. **The GO element must pass completely through the crimping chamber.**
3. Align the NO-GO element and try to insert it straight into the same crimping chamber. **The NO-GO element may start entry but must not pass completely through.** If the crimping chamber conforms to the gage inspection, the dies are considered dimensionally correct. If not, they must be replaced. For additional information regarding the use of a plug gage, refer to Instruction Sheet [408-7424](#).

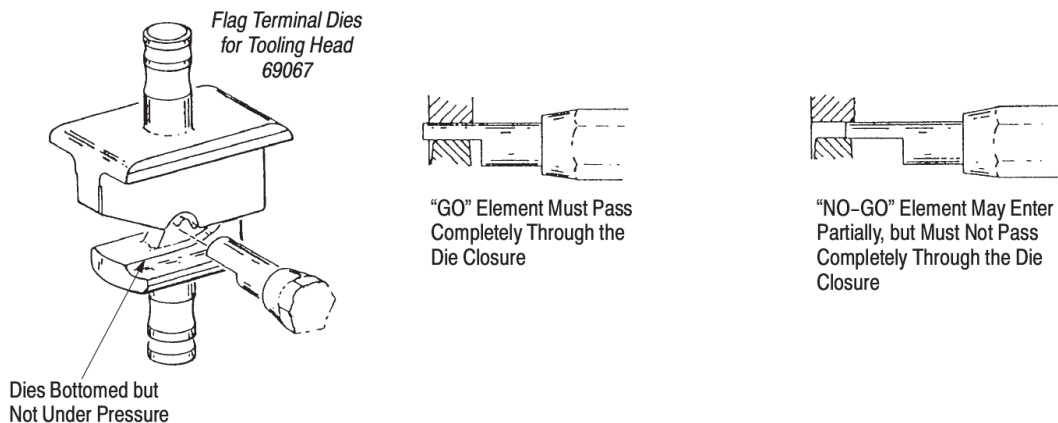


Figure 7

## 6. REPLACEMENT PARTS

Order replacement dies through your TE 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)  
 TE CONNECTIVITY 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.

## 7. REVISION SUMMARY

This revision updates the TE logo, enterprise name and corporate format.