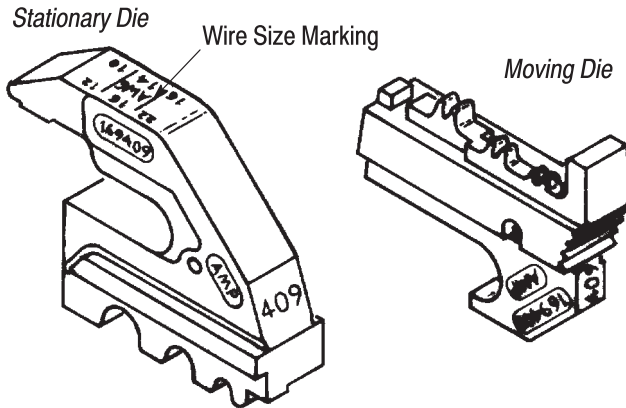
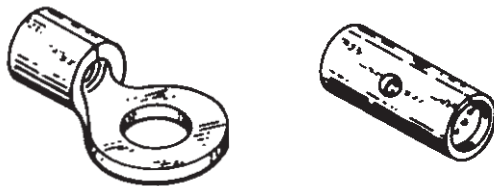


**PROPER USE GUIDELINES**

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.



*SOLISTRAND\* Terminals and Splices*



WIRE SIZE, AWG	STRIP LENGTH	
	MINIMUM	MAXIMUM
22-16	4.37 [.172]	5.16 [.203]
16-14	4.37 [.172]	5.16 [.203]
12-10	6.35 [.250]	7.14 [.281]

*Figure 1*

**1. INTRODUCTION**

Crimping Dies 169409, used in CERTI-LOK\* Hand Crimping Tool 169400, are designed to crimp SOLISTRAND Terminals and Splices.

**NOTE** *The SOLISTRAND Terminals and Splices crimped with dies 169409 in hand tool 169400 will meet the requirements of Underwriters Laboratories Inc. (UL) 486A specifications.*

Read this instruction sheet for specific information concerning the dies, applicable terminals, and wire specifications. Read the instructions packaged with the tool (Instruction Sheet 408-6764) for information concerning die installation, crimp adjustments, crimping procedures, and general information.

Reasons for reissue of this sheet are provided in Section 6, REVISION SUMMARY.

**NOTE**

*All dimensions are in millimeters [with inches in brackets]. Figures and illustrations are for identification only and are not drawn to scale.*

**2. DESCRIPTION**

Each die assembly consists of a stationary die and a moving die. The top surface of the upper (stationary) die has the wire size markings that correspond, from left to right, with each respective crimping chamber. See Figure 1.

**3. CRIMPING PROCEDURE**

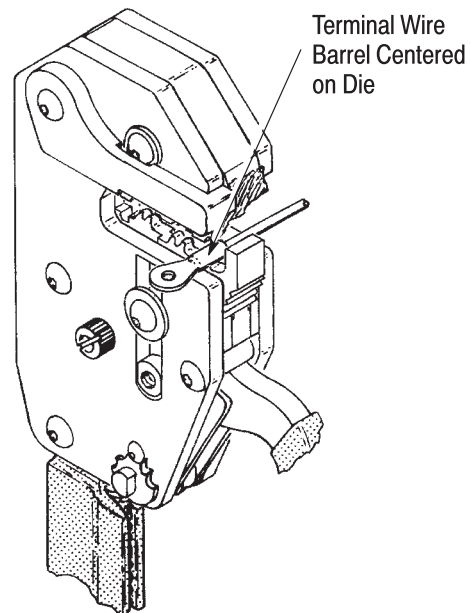
Determine your application requirements. Then, using the chart in Figure 1, make your selection according to the following instructions:

*Wire Size* – Make certain the wire size is within the specified range.

*Wire Type and Strip Length* – Using stranded wire, strip it to the length shown. Do NOT crimp wire that has cut or nicked strands.

Crimp terminal (or splice) as follows:

1. Remove locator on tool, and install the dies according to the instructions packaged with the tool.



*Figure 2*

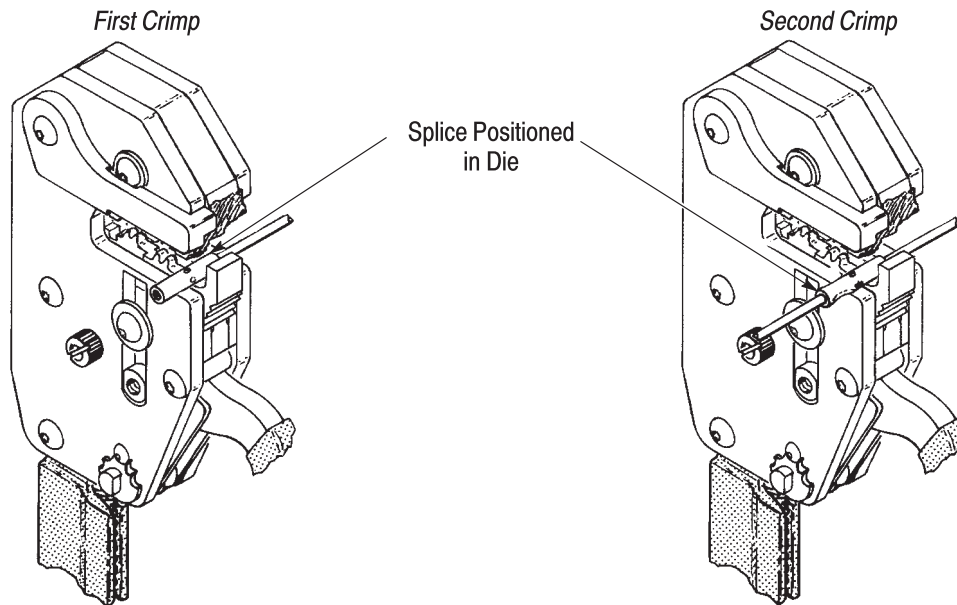


Figure 3

2. Center terminal (or splice) in dies, as shown in Figures 2 and 3.
3. Close tool handles until terminal (or splice) is held firmly in place without deforming wire barrel.
4. Insert properly stripped wire into terminal (or splice) wire barrel, as shown in Figures 2 and 3.
5. Complete crimp by closing handles until ratchet releases handles. Handles will open automatically and crimped item may be removed.
6. To crimp other half or splice, remove it and reposition uncrimped half in dies as shown in Figure 3. Follow the same procedures used to crimp first half of splice. If splice cannot be turned, turn tool around.
7. Inspect crimped terminal or splice.



*Damaged contacts may not be used. If a damaged contact is evident, it must be cut from the wire and replaced with a new one.*

#### 4. MAINTENANCE/INSPECTION

Each crimping die is thoroughly inspected before packaging. Since there is a possibility of damage during shipment, the crimping die should be inspected immediately upon arrival at your facility.

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.

#### 4.1. Daily Maintenance

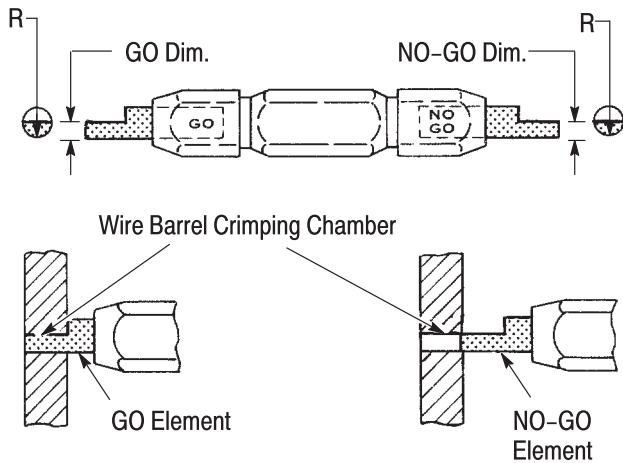
It is recommended that each operator of the dies be made aware of—and responsible for—the following steps of daily maintenance:

1. Remove all foreign particles with a clean, soft brush or clean, soft, lint-free cloth. If foreign matter cannot be removed easily, or if the proper replacement parts are not available, return the dies to your supervisor.
2. Make certain the dies are protected with a THIN coat of any SAE 20 motor oil. **DO NOT OIL EXCESSIVELY.**
3. When the dies are not in use, store them in a clean, dry area.

#### 4.2. Visual Inspections

1. Remove all lubrication and accumulated film by immersing the dies in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make sure all die components are in place.
3. Check components for wear. Remove and replace worn components.
4. Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas. If damage is evident, the dies must be repaired before returning them to service (see Section 5, REPLACEMENT AND REPAIR).

**Suggested Plug Gage Design**



WIRE SIZE, AWG	GAGE DIMENSION		
	GO (Dim.)	NO-GO (Dim.)	"R" DIMENSION
22-16	1.17 [.046]	1.32 [.052]	1.57 [.062]
16-14	1.37 [.054]	1.52 [.060]	1.98 [.078]
12-10	1.93 [.076]	2.08 [.082]	2.77 [.109]

Figure 4

**4.3. Gaging the Crimping Chamber**

The die closure inspection is accomplished using plug gages. A suggested gage design and the GO and NO-GO diameters of the plug gage elements are shown in Figure 4. The following procedure is recommended for inspecting the die closures.

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

2. Align the GO element with the crimping chamber. Push element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber as shown in Figure 4.

3. Align the NO-GO element and try to insert it straight into the crimping chamber. The NO-GO element may start entry but must not pass completely through as shown in Figure 4.

If the crimping chamber conforms to the gage inspection, the crimping die is considered dimensionally correct and should be lubricated with a THIN coat of SAE 20 motor oil. If not, the dies must be repaired before returning them to service (see Section 5, REPLACEMENT AND REPAIR).

**5. REPLACEMENT AND REPAIR** (Figure 5)

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

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

**6. REVISION SUMMARY**

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

- Updated document to corporate requirements
- Changed dimension in table in Figure 4

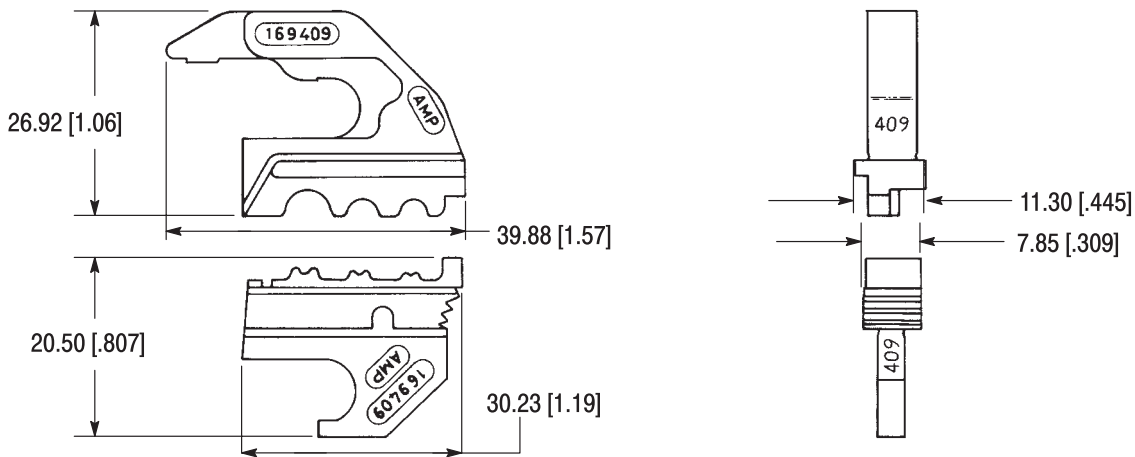


Figure 5