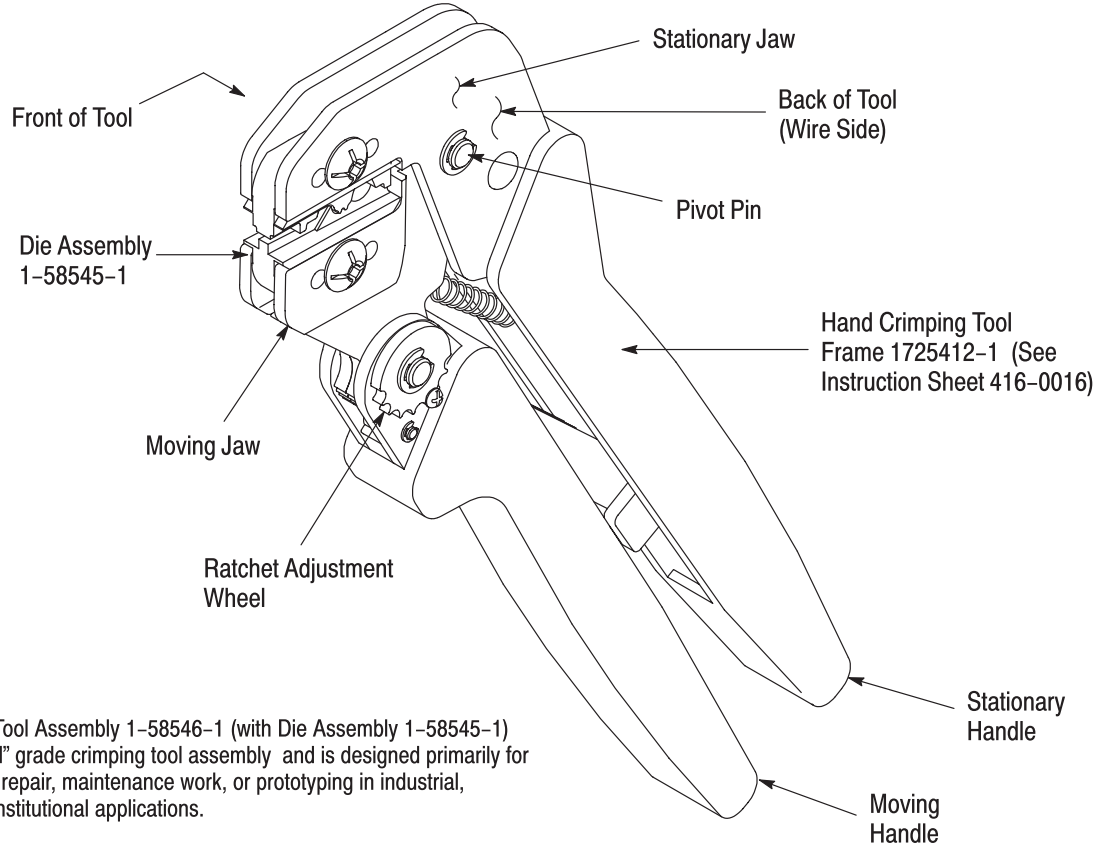


**PROPER USE GUIDELINES**

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.



Hand Crimping Tool Assembly 1-58546-1 (with Die Assembly 1-58545-1) is a "Commercial" grade crimping tool assembly and is designed primarily for field installation, repair, maintenance work, or prototyping in industrial, commercial, or institutional applications.

Figure 1

**1. INTRODUCTION**

Hand Crimping Tool Assembly 1-58546-1 consists of Die Assembly 1-58545-1 and Hand Crimping Tool Frame 1725412-1. See Figure 1. The tool is used to crimp un-insulated terminals and splices onto pre-stripped wire.

Read these instructions thoroughly before crimping any terminals or splices.

**NOTE**

*Dimensions on this sheet are in millimeters [with inch equivalents provided in brackets]. Figures are for reference only, and are not drawn to scale.*

**2. DESCRIPTION** (Figures 1 and 2)

The tool features a tool frame with a stationary jaw and handle, a moving jaw, a moving handle, and an adjustable ratchet that ensures full crimping.

The tool frame holds a die assembly with three crimping chambers. The die assembly features an upper die and a lower die. Die retaining screws are used to position and secure the dies in the tool frame.

**3. DIE ASSEMBLY INSTALLATION AND REMOVAL**

1. Open the tool handles and remove the two die retaining screws from the tool jaws.
2. Place the upper die in the stationary jaw of the tool frame so that the largest indenter is facing inward. See Figure 2.
3. Insert the die retaining screw through the stationary jaw and through the die. Tighten the screw just enough to hold the die in place. Do *not* tighten the screw completely at this time.

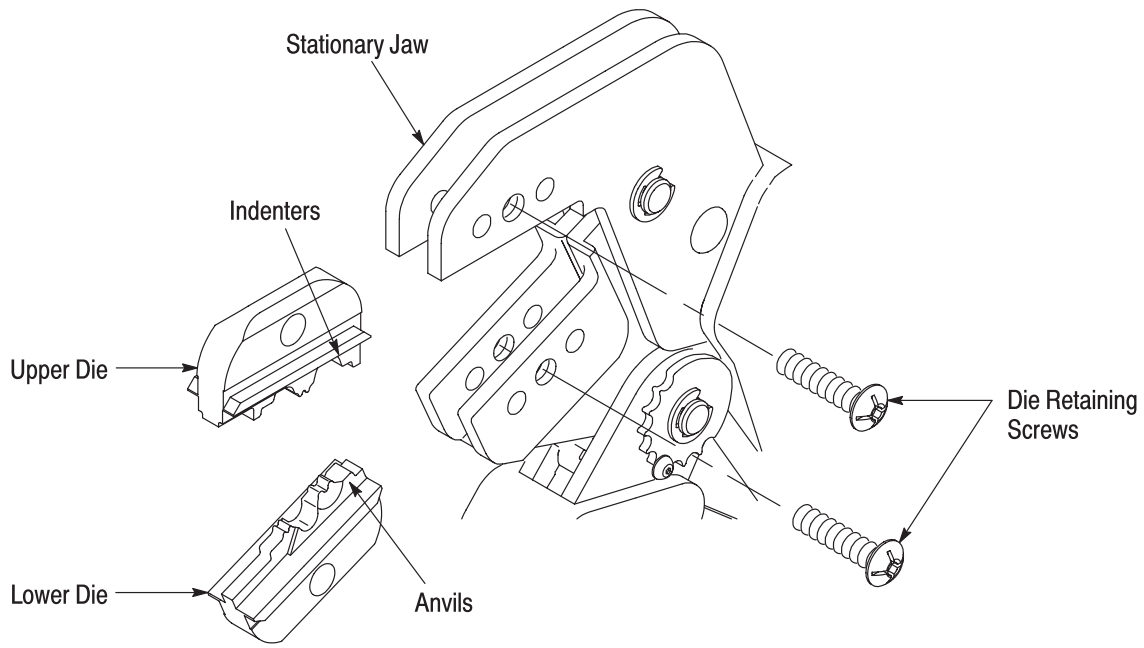


Figure 2

4. Place the lower die in the moving jaw of the tool frame so that the largest anvil is facing inward. See Figure 2.

5. Insert the die retaining screw through the moving jaw and through the die. Tighten the screw just enough to hold the die in place. Do *not* tighten the screw completely at this time.

6. Carefully close the tool handles, making sure that the anvils and indenters align properly. Continue closing the tool handles until the ratchet has engaged sufficiently to hold the dies in place, then tighten both die retaining screws.

7. To disassemble, open the tool handles until the ratchet releases, remove the two die retaining screws, and slide the dies out of the tool jaws.

#### 4. CRIMPING PROCEDURE

**NOTE**

*Before using the tool, the crimping chambers and tool ratchet should be inspected as specified in Section 5, CRIMP HEIGHT INSPECTION, and Section 6, SHUT HEIGHT ADJUSTMENT.*

Select wire of the specified size and insulation diameter. Strip the wire to the length indicated by the terminal manufacturer, taking care not to nick or cut

wire strands. Select an applicable terminal or splice and identify the appropriate crimping chamber according to the wire size markings on the dies. Refer to Figure 3 and proceed as follows:

**NOTE**

*The crimping chamber marked "12-10" cannot be used to crimp spade-type terminals.*

1. Hold tool so that the back (wire side) is facing you. Squeeze tool handles together until the ratchet releases, then allow them to open fully.

2. Center the terminal or splice wire barrel on the anvil of the upper die as shown in Figure 3. If visible, be sure to place the brazed seam on the terminal or splice toward the indenter.

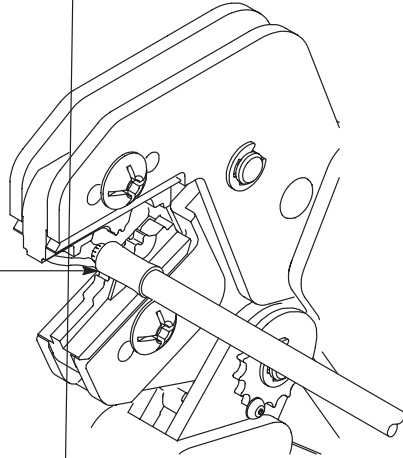
3. Hold the wire barrel in place and squeeze the tool handles together until ratchet engages sufficiently to hold the terminal or splice in position. Do NOT deform the insulation barrel or wire barrel.

4. Insert stripped wire into the wire barrel, making sure that the insulation does not enter the wire barrel. See Figure 3.

5. Holding wire in place, squeeze tool handles together until ratchet releases. Allow tool handles to open, then remove crimped terminal or splice.

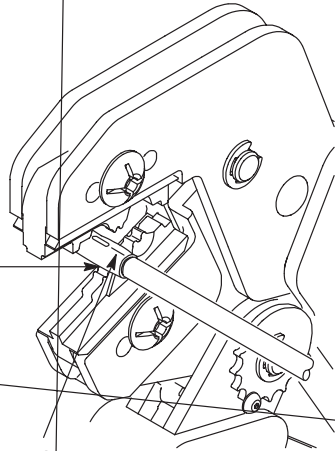
**Terminal**

Terminal Wire Barrel  
Centered on Anvil of  
Lower Die



**Splice**

Splice Wire Barrel  
Centered on Anvil of  
Lower Die



Brazed Seam  
Positioned Toward  
Indenter

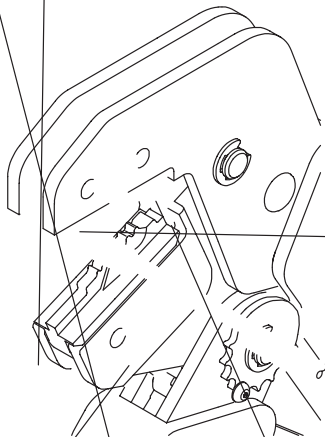


Figure 3

**5. CRIMP HEIGHT INSPECTION**

This inspection requires the use of plug gages conforming to the dimensions provided in Figure 5. A|T|S does not manufacture or market these gages. To gage the crimping chamber, proceed as follows:

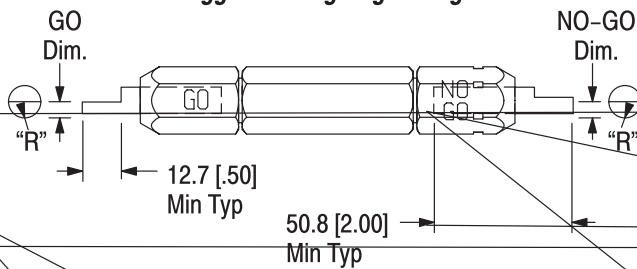
1. Remove traces of oil or dirt from the crimping chamber and plug gage.
2. Close the tool handles until the dies have bottomed. Do NOT force dies beyond initial contact.
3. Align the GO element with the crimping chamber. Push element straight into the crimping chamber without using force.

The GO element must pass completely through the crimping chamber. See Figure 5.

4. 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 the crimping chamber. See Figure 5.

If the crimping chamber conforms to the gage inspection, the tool is considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the tool must be returned for further evaluation and repair. Refer to Section 8, REPLACEMENT.

**Suggested Plug Gage Design**



Die Closure Configuration

CRIMPING CHAMBER (Die Marking)	GAGE ELEMENT DIMENSIONS		
	GO	NO-GO	"R" (Radius)
22-16	1.143-1.151 [.0450-.0453]	1.344-1.346 [.0529-.0530]	1.57 [.062]
16-14	1.346-1.354 [.0530-.0533]	1.547-1.549 [.0609-.0610]	1.98 [.078]
12-10	1.905-1.913 [.0750-.0753]	2.106-2.108 [.0829-.0830]	2.77 [.109]

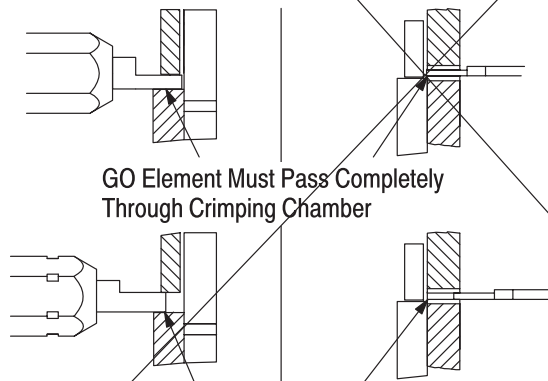


Figure 5

## 7. MAINTENANCE AND INSPECTION

### 7.1. Maintenance

Ensure that the tool and dies are clean by wiping them with a clean, soft cloth. Remove any debris with a clean, soft brush. Do not use objects that could damage the tool. When not in use, keep handles closed to prevent objects from becoming lodged in the crimping dies, and store in a clean, dry area.