

*Restricted to Boeing Company Corporation*

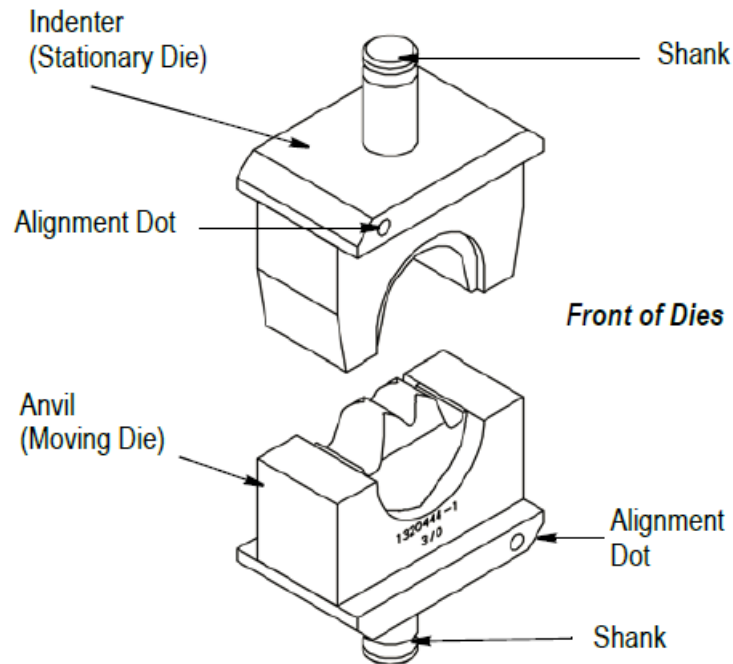


Figure 1

## 1. INTRODUCTION

Die Assemblies 1320444-1 (shown in Figure 1) and 1320447-1 are used to crimp Break-Away butt splices, listed in Figure 2, onto nickel-plated copper wire sizes 3/0 or 2 AWG.

The die assemblies are used in DYNACRIMP\* Crimping Head 69066 (408-2453) or Hydraulic Crimping Head 58422-1 (408-9535). The head must be installed onto Hydraulic Power Unit 69120-[ ] (409-1950) or Hydraulic Hand Pump 314979-1 (409-5860).

The die assemblies are also used in 10,000 psi Hydraulic Crimping Head 1752877-1 (408-8909), or Hydraulic Crimping Head 1752787-1 (408-8909). The head must be installed onto Hydraulic Power Unit 1804700-[ ] (409-10080), Hydraulic Hand Pump 1583661-1, or Hydraulic Foot Pump 1583659-1.

Refer to the applicable 408 series Instruction Sheet for information concerning general performance of the head, and 409 series Customer Manual for information on operating the power units.



**NOTE**

Read these instructions and any referenced documents thoroughly before using the die assemblies.



**NOTE**

Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.

## 2. DESCRIPTION (FIGURE 1)

Each die assembly consists of an indenter (stationary die) and anvil (moving die). When mated, the dies form a crimping chamber. The moving die assembly is marked with the wire size, and the FRONT of each die is marked with an alignment dot. The dots are used to align the dies for proper mating when installed onto the crimping head. The dies are held in the crimping head by the shanks on the dies.

### 3. CRIMPING PROCEDURE

#### 3.1. Die Installation



**DANGER**

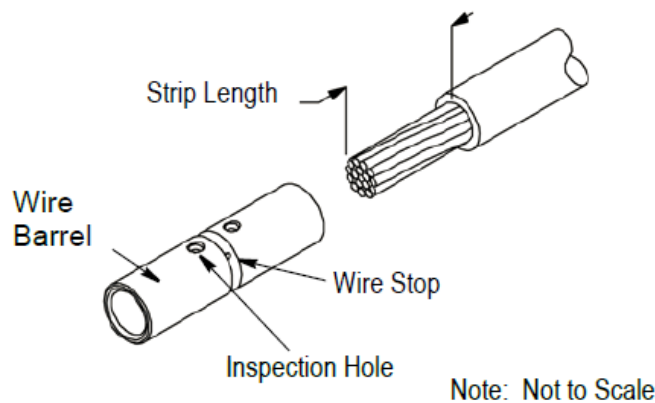
To avoid personal injury, ALWAYS DISCONNECT electrical and air supply from power unit before changing dies.

Install the die assembly onto the crimping head in accordance with the instructions packaged with the crimping head. Make sure the alignment dot on each die faces the FRONT of the head when installed onto the head. DO NOT MIX die components from different die assemblies.

#### 3.2. Wire and Butt Splice Selection and Preparation

1. Refer to Figure 2, and select the appropriate wire size, die assembly, and butt splice.
2. Strip the wire to the length indicated and DO NOT nick or cut the wire strands.

**Typical Break-Away Butt Splice**



Wire		Splice	Die Assembly
Size (AWG)	Strip Length	TE Part Numbers	
3/0	25.4 [1.00]	2157581-1 (696087-1 <sup>■</sup> )	1320444-1
2	23.0 [.906]	2157580-1 (696096-1 <sup>■</sup> )	1320447-1

■ Obsolete (reference only)

Figure 2

#### 3.3. Crimping the Butt Splice



**DANGER**

To avoid personal injury, CLOSE YOKE OF HYDRAULIC HEAD AND FULLY INSERT PIN. When operating the power unit, be careful when handling splices or wire near the crimping area.

There are two approved methods for crimping these butt splices as follows:

A. First (Preferred) Method

1. Insert properly stripped wire into the wire barrel to be crimped until the wire butts against the splice wire stop. **Make sure the wire conductors are visible in the splice inspection hole.**
2. Position the butt splice on the stationary die so the splice inspection holes face the stationary die. **Make sure the wire barrel to be crimped is centered in the crimping chamber** (See Figure 3).



**NOTE**

The splice must be properly positioned on the stationary die so the moving die crimps the splice wire barrel (refer to Figure 4).

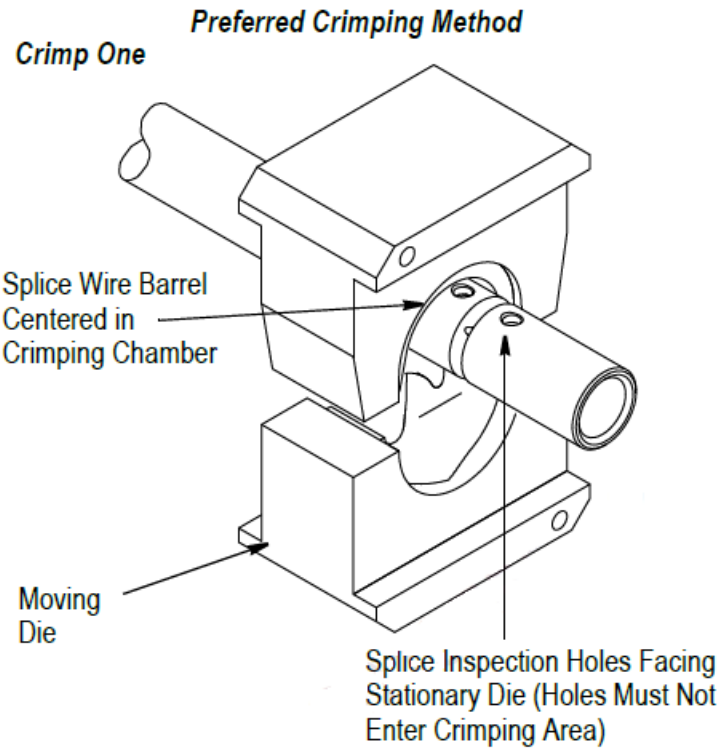


Figure 3

**Splice Location in Crimping Area**

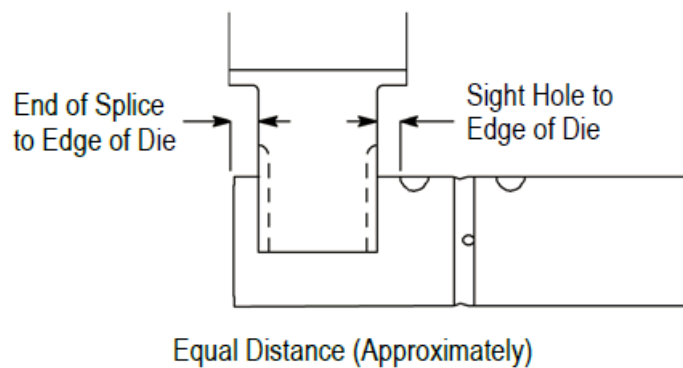


Figure 4

3. Holding the wire in place, actuate power unit to complete the first crimp.
4. When crimp is completed, remove pin from crimping head, open yoke, and remove the splice.



**NOTE**

*If splice sticks in the dies after crimping, apply a rocking action to free it. Wipe light oil or spray dry lubricant on the crimping surface of the dies to reduce sticking.*

- To crimp the other half of the butt splice, rotate the splice or power unit 180 degrees, making sure that the splice is properly positioned as described in Step 2 and Figure 5.

**Crimp Two**

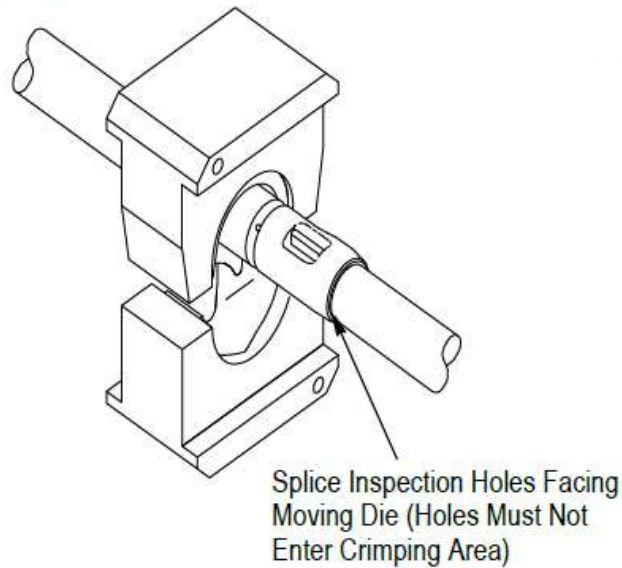


Figure 5

**B. Second (Alternate) Method**

- Position the butt splice on the stationary die so the splice inspection holes face the stationary die. **Make sure the wire barrel to be crimped is centered in the crimping chamber** (see Figure 6).



**NOTE**

The splice must be properly positioned on the stationary die so the moving die crimps the splice wire barrel (refer to Figure 4).

**Crimp One**

**Alternate Crimping Method**

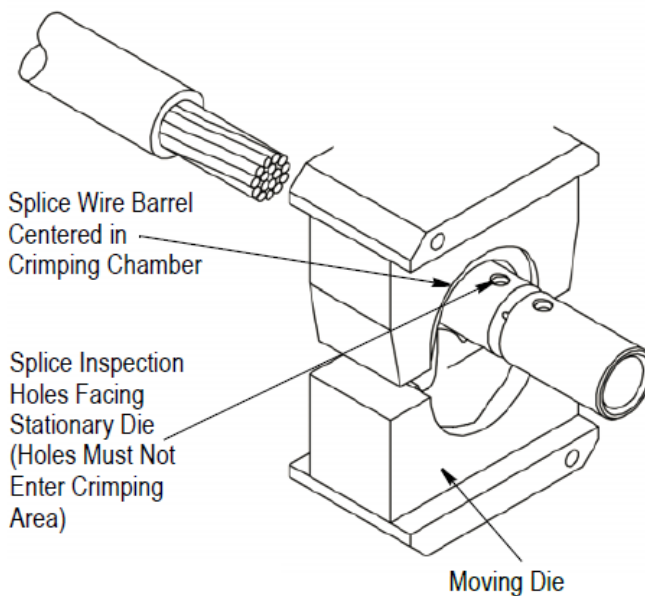


Figure 6

2. At this time, DO NOT insert wire into splice. Slowly actuate the power unit until the splice is just held in place.



**CAUTION**

BE VERY CAREFUL NOT TO DEFORM THE SPLICE. If the splice is deformed, the wire cannot be inserted properly (reference Figure 6).

3. Insert properly stripped wire into the wire barrel to be crimped until the wire butts against the splice wire stop. **Make sure the wire conductors are visible in the splice inspection hole.**
4. Holding the wire in place, actuate power unit to complete the first crimp.
5. When crimp is completed, remove pin from crimping head, open yoke, and remove the splice.



**NOTE**

If splice sticks in the dies after crimping, apply a rocking action to free it. Wipe light oil or spray dry lubricant on the crimping surface of the dies to reduce sticking.

6. To crimp the other half of the butt splice, rotate the splice or power unit 180 degrees, making sure that the splice is properly positioned as described in Step 1. Then follow Steps 2 through 5 (see Figure 7).

**Crimp Two**

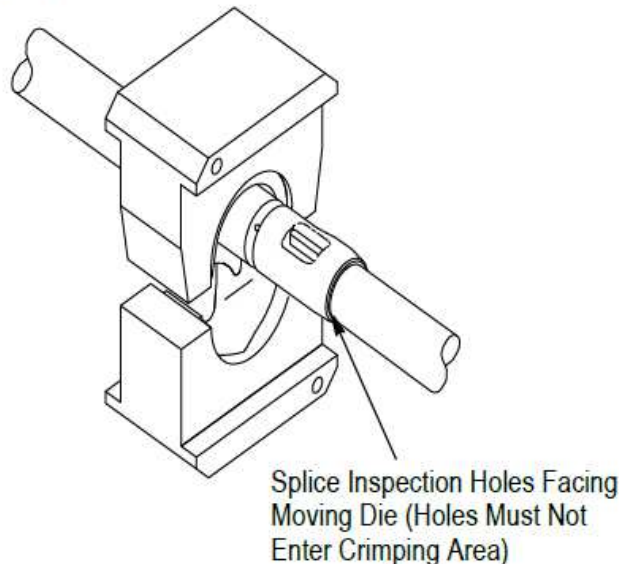


Figure 7

**3.4. Crimp Inspection**

Inspect the crimped butt splice in accordance with Figure 8.



**NOTE**

Use only butt splices that meet the conditions shown.

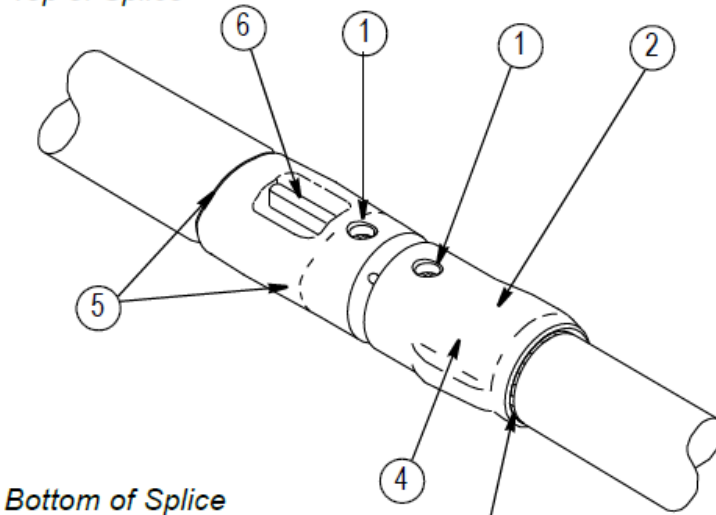


**NOTE**

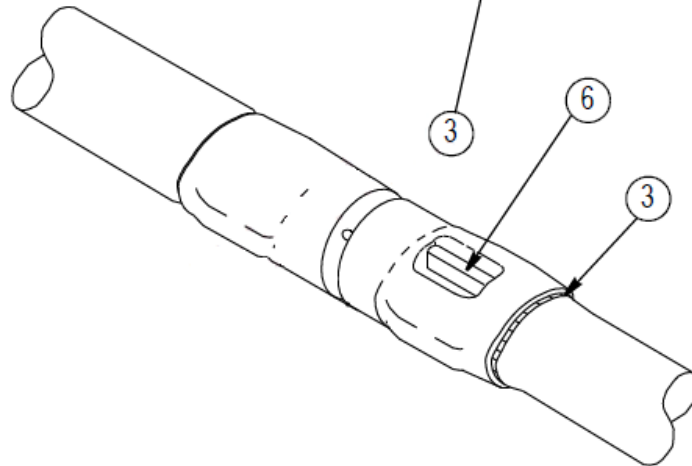
For detailed crimp inspection requirements, refer to Application Specification 114-13004.

### Crimp Inspection

Top of Splice



Bottom of Splice



- ① Wire Conductor Ends Must Be Against Wire Stop (Visible in Inspection Hole.)
- ② Embossment† Must Show and Be Aligned with Inspection Holes.
- ③ Wire Insulation Must *NOT* Enter Wire Barrel.
- ④ Embossment† on Splice Wire Barrel Must Match Wire Size..
- ⑤ Die Mark† Centered Approximately Between the Edge of the Wire Barrel and the Inspection Hole..
- ⑥ Crimps May be Off Center, But Not Off End of Wire Barrel. Crimps Should Be 180° From Each Other.

† Embossments are NOT Shown.

Figure 8

#### 4. MAINTENANCE AND INSPECTION



**DANGER**

To avoid personal injury, ALWAYS DISCONNECT electrical and air supply from power unit before performing adjustments, inspections, or repairs.

The die assemblies are inspected before shipment; however, it is recommended that an inspection be performed immediately upon arrival at the facility of use to ensure that no damage has occurred during shipment.

##### 4.1. Daily Maintenance

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

1. Remove all foreign particles from the dies with a clean, soft brush, or a clean, soft, lint-free cloth. **Do not use objects that could damage the dies.**
2. Protect the dies with a thin coat of any good SAE 20 motor oil. DO NOT oil excessively.
3. When dies are not in use, mate them and store in a clean, dry area.

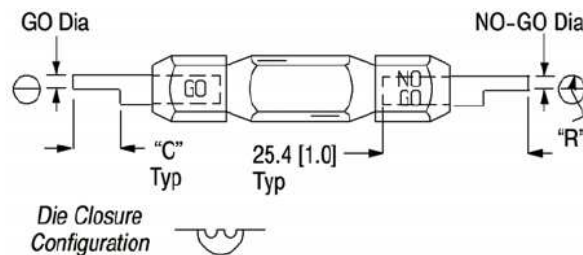
##### 4.2. Periodic Inspection

Regular inspections should be performed by quality control personnel with a record of scheduled inspection residing with the assembly or supplied to personnel responsible for them. Though recommendations call for at least one inspection per month, inspection frequency should be based upon: amount of use, working conditions, operator training and skill, and established company standards. The inspections should be performed in the following sequence:

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. Check all bearing surfaces for wear. Replace worn components. Refer to Section 5; REPLACEMENT and REPAIR.
3. 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. Refer to Section 5; REPLACEMENT and REPAIR.

##### 4.3. Gaging the Crimping Chamber

A. This inspection requires the use of plug gages conforming to the dimensions specified in Figure 9.



Die Assembly	Gage Element Dimensions			
	GO	NO-GO	"C"	"R" (Radius)
1320444-1	7.832-7.830 [.3080-.3083]	8.023-8.026 [.3159-.3160]	14.28 [.562]	3.53 [.375]
1320447-1	5.410-5.418 [.2130-.2133]	5.610-5.613 [.2209-.2210]	11.09 [.437]	6.35 [.250]

Figure 9



**B. To gage the crimping chamber, proceed as follows, referencing Figure 10:**

1. Remove traces of oil or dirt from the crimping chamber and plug gage.
2. Mate dies until it is evident that they have bottomed. DO NOT force beyond initial contact.
3. Insert GO element into the crimping chamber; but do not force it. The GO element must pass completely through the crimping chamber.
4. In the same manner, try to insert the NO-GO element into the crimping chamber. The NO-GO element may enter partially, but must not pass completely through the length of the crimping chamber.

If the crimping chamber conforms to the gage inspection, the dies may be considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil.

If the crimping chamber does NOT conform to the gage inspection, refer to Section 5 for information on customer repair service.

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

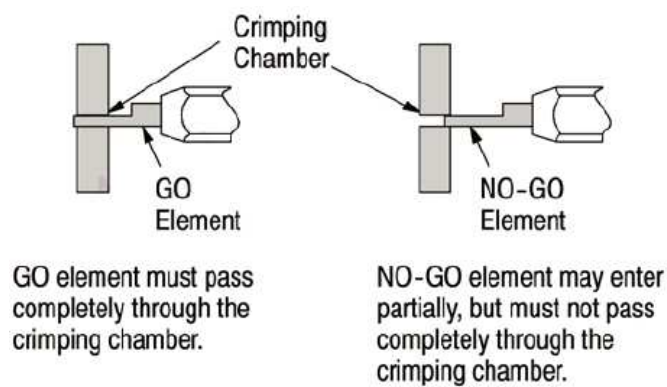


Figure 10

**5. REPLACEMENT AND REPAIR**

Customer-replaceable parts are listed in Figure 11. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by TE Connectivity to ensure quality and reliability. Order replacement parts through your TE representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

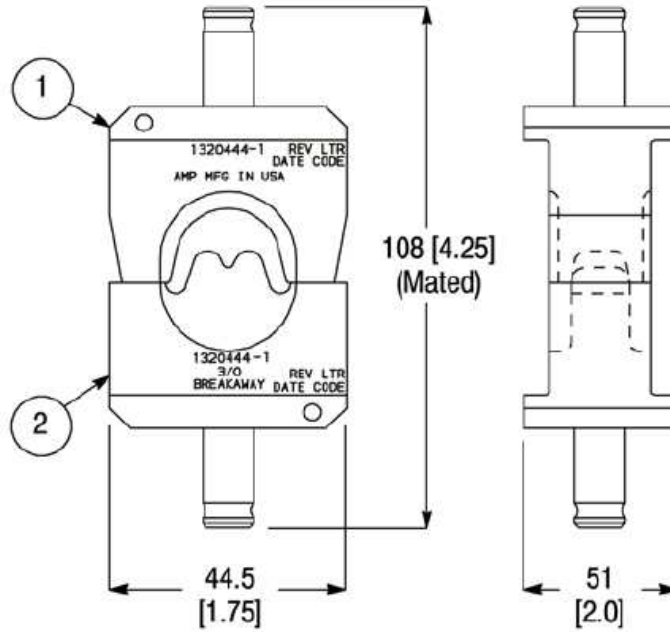
CUSTOMER SERVICE (038-035)  
 TE CONNECTIVITY CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

For customer repair service, call 1-800-526-5136.

**6. REVISION SUMMARY**

Completely reformatted to meet current TE Class III standards with Restricted Access; including logos, headers and footers. New Figures were added and many figures were re-located and/or re-numbered.





**Weight: 255 g [9 oz]**

Replacement Parts				
Item	Part Number for Die Assembly		Description	Qty
	1320444-1	1320447-1		
1	1320446-1	1320446-2	Indenter (Stationary Die)	1
2	1320445-1	1320445-2	Anvil (Moving Die)	1

Figure 11