

PROPER USE GUIDELINES

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

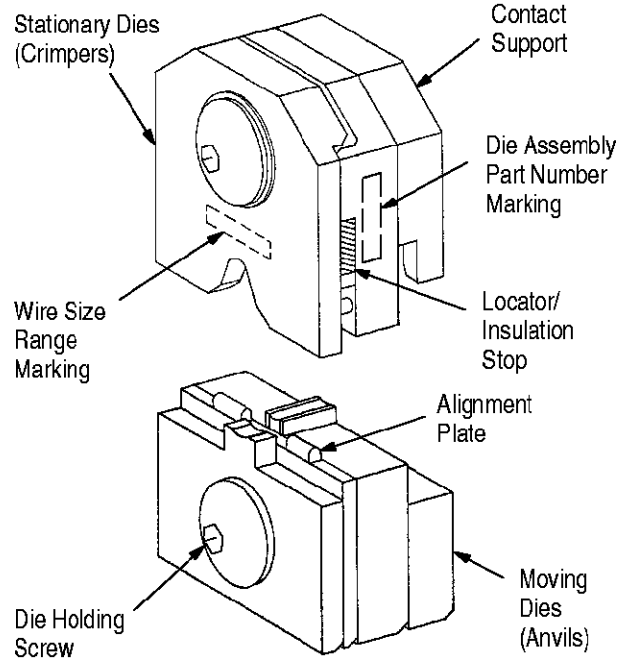


Figure 1

1. INTRODUCTION

This instruction sheet covers application and maintenance procedures for AMP* Crimping Die Assemblies 90140-1, 90140-2, 90145-1, and 90145-2. See Figure 1. Each die assembly is used with AMP AMPORTAPOWER* Pneumatic Tool 69365 or AMP Handle Assembly 69710-1 to crimp AMP Type XII Male and Female Contacts and the .375 Series FASTON* Receptacle listed in Figure 2.

Refer to AMP customer manual (supplied with the pneumatic tool) or AMP Instruction Sheet 408-2095 (supplied with handle assembly) for information concerning die installation and general tooling information.

AMP Catalog 82046 provides product application requirements, cable selection, and product part number information. For part numbers not listed in the catalog, contact AMP Engineering for recommendations.

NOTE

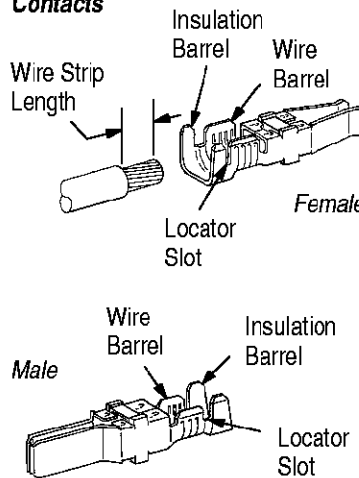
Dimensions are in millimeters [with inch equivalents in brackets]. Figures are for identification only and are not drawn to scale.

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

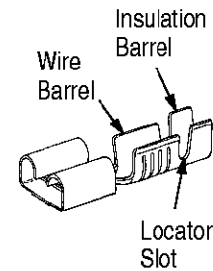
2. DESCRIPTION (Figure 1)

Each die assembly consists of two stationary dies (crimpers), two moving dies (anvils), a contact locator/insulation stop, an alignment plate, and a contact support. The die assemblies are identified by the part number and wire size markings.

Type XII Contacts



.375 Series FASTON Receptacle



Note: Not to Scale

| SIZE (AWG) | INSUL DIA (Max) | STRIP LENGTH | CONTACT | | DIE ASSY |
|------------|--------------------------|----------------|-------------------|---------------|--------------------|
| | | | TYPE | BASE PART NO. | |
| 10 | 4.83-5.59 [.190-.220] | 8.33 [.328] | Type XII Female | 66741 | 90140-1 |
| | | | Type XII Male | 66259 | |
| | | | Type XII Male | 66260 | |
| 10-8 | 4.83-5.59 [.190-.220] | 8.33 [.328] | FASTON Receptacle | 160602 | 90140-2 |
| 16-12 | 3.43-4.06 [.135-.160] | 7.14 [.281] | Type XII Male | 66261 | 90145-1 90145-2 |
| | | | Type XII Male | 66262 | |
| | | | Type XII Female | 66740 | |

Figure 2

Refer to Figure 2 for contact compatibility.

The stationary dies have chamfered corners and the moving dies have square corners. When mated, the dies form the crimping chamber. Each die is held in the tool by a single screw.

The locator/insulation stop positions the contact in the crimping chamber and aids in locating the wire in the contact. In use, it rests in the contact locator slot. The contact support prevents the contact from bending during the crimping procedure.

3. CRIMPING PROCEDURE

Make sure the die assembly is compatible with the wire size and contact being used. The wire size and insulation diameter must be within a specified range for the contact. Install the dies according to the instructions packaged with the tool. Strip the wire to the appropriate length shown in Figure 2. Do NOT cut or nick the wire strands. Then, proceed as follows:

Refer to Figure 3 and proceed as follows:

1. Look straight into the FRONT of the crimping chamber, insert the contact (insulation barrel first) into the BACK of the crimping chamber. Position the contact in the stationary dies so that the locator/insulation stop enters the contact locator slot.
2. Hold contact in this position and close dies just enough to hold contact in place. Do NOT deform insulation barrel or wire barrel.

3. Insert a properly stripped wire through the wire slot in the locator and into wire barrel of contact until insulation butts against locator/insulation stop.

4. Hold wire in place and actuate the tool through a complete cycle. Refer to the instructions packaged with the tool.

5. Allow the moving dies to open FULLY. Remove crimped contact.

4. MAINTENANCE AND INSPECTION

4.1. 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 certain that all surfaces are protected with a thin coat of any good SAE 20 motor oil. Do not oil excessively.
3. When dies are not in use, mate and store them in a clean, dry area.

4.2. Periodic Inspection

Regular inspections should be performed with a record of inspections remaining with the dies and/or supervisory personnel responsible for them. AMP 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:

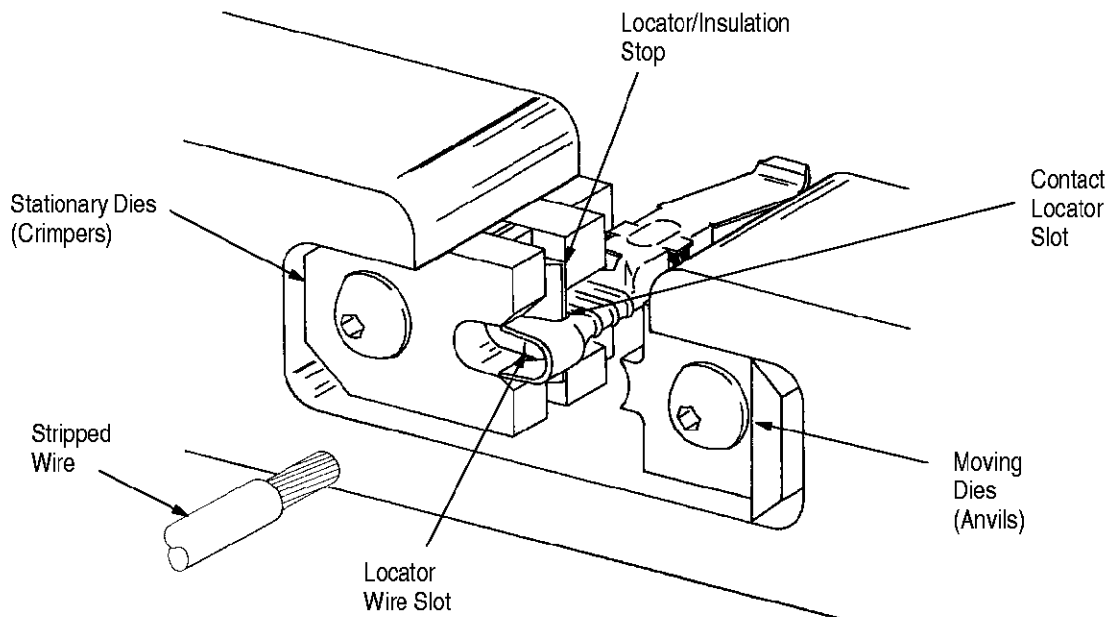
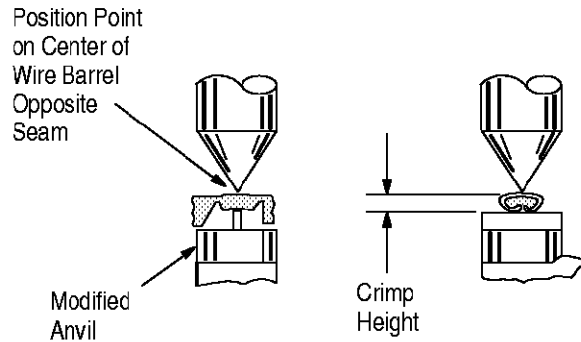


Figure 3

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.
2. Make sure die holding screws and die components are in place and secured. If replacements are necessary, refer to Section 5, REPLACEMENT AND REPAIR.
3. Check all bearing surfaces for wear. Replace worn components.
4. Inspect the crimping chamber 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.



| DIE ASSEMBLY | WIRE SIZE (AWG) (Max) | CRIMP HEIGHT DIMENSION (± 0.08 [$\pm .003$]) |
|--------------|-----------------------|---|
| 90140-1 | 10 | 2.84 [.112] |
| 90140-2 | 8 | 2.84 [.112] |
| 90145-1 | 12 | 2.39 [.094] |
| 90145-2 | 16 | 2.16 [.085] |

Figure 4

B. Crimp Height Inspection

This inspection requires the use of a modified micrometer with a modified anvil and spindle, as shown in Figure 4. AMP recommends the Crimp Height Comparator RS-1019-5LP which can be purchased from:

Shearer Industrial Supply Co. VALCO
 20 North Penn Street or 1410 Stonewood Drive
 York, PA 17401-1014 Bethlehem, PA 18017-3527

Proceed as follows:

1. Select a contact and **maximum** size wire for the crimping chamber.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contact accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that height, the die assembly is considered dimensionally correct. If not, the dies must be returned to AMP for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

For additional information concerning the use of the crimp height comparator, refer to 408-7424.

5. REPLACEMENT AND REPAIR

Replacement parts or recommended spares are listed in Figure 5. The recommended spares should be stocked for immediate replacement. Order replacement parts through your AMP representative or call 1-800-526-5142, or write to:

CUSTOMER SERVICE (38-35)
 AMP INCORPORATED
 P.O. BOX 3608
 HARRISBURG, PA 17105-3608

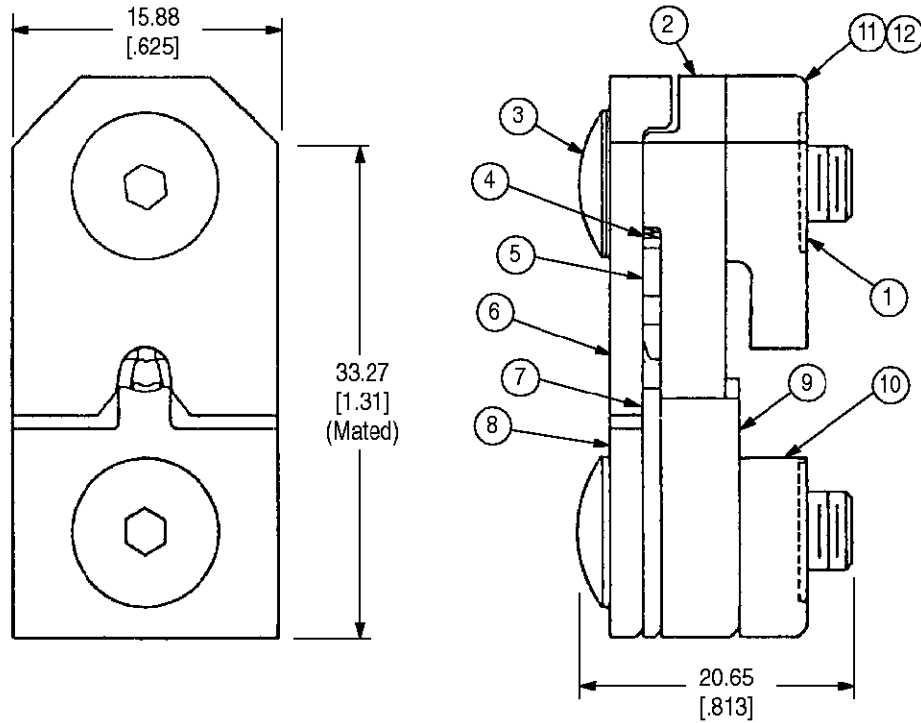
Crimping dies may also be returned to AMP for evaluation and repair. For tool repair service, contact an AMP representative at 1-800-526-5136.

6. REVISION SUMMARY

The following changes were made since the previous release of this sheet:

Per EC 0990-0851-99

- Changed tool repair service information in Section 5, REPLACEMENT AND REPAIR
- Revised title
- Updated Figure 5
- Updated the second paragraph in Section 1, INTRODUCTION
- Updated document format



Weight: 85 g [3 oz]

REPLACEMENT PARTS

| ITEM | PART NUMBER FOR DIE ASSEMBLY | | | | DESCRIPTION | QTY PER ASSY |
|------|------------------------------|-----------|-----------|-----------|---------------------|--------------|
| | 90140-1 | 90140-2 | 90145-1 | 90145-2 | | |
| 1 | 1-21046-3 | 1-21046-3 | 1-21046-3 | 1-21046-3 | RING, Retaining | 2 |
| 2 | 125451-1 | 125451-1 | 125456-4 | 125456-6 | CRIMPER, Wire | 1 |
| 3 | 306131-9 | 306131-9 | 306131-9 | 306131-9 | SCREW, Die Holding | 2 |
| 4 | 305182 | 305182 | 305182 | 305182 | SPRING | 2 |
| 5 | 125455-1 | 125455-1 | 125455-2 | 125455-3 | LOCATOR | 1 |
| 6 | 125467-1 | 125467-1 | 125467-2 | 125467-2 | CRIMPER, Insulation | 1 |
| 7 | 125469-1 | 125469-1 | 125469-1 | 125469-1 | PLATE, Alignment | 1 |
| 8 | 125468-1 | 125468-1 | 125468-2 | 125468-2 | ANVIL, Insulation | 1 |
| 9 | 125466-1 | 125466-1 | 125466-2 | 125466-3 | ANVIL, Wire | 1 |
| 10 | 1-125181-3 | 125181-5 | 125181-7 | 125181-7 | SPACER | 1 |
| 11 | 125470-1 | — | 125470-2 | 125470-2 | SUPPORT | 1 |
| 12 | — | 125155-2 | — | — | SPACER | 1 |

Figure 5