

**AMP**  
AMP INCORPORATED  
HARRISBURG, PA 17105

**AMP\* "1210" PNEUMATIC  
CRIMPING HEAD 314621-1**  
(Used With AMP "1210" Pneumatic  
Tooling Assemblies  
Nos. 314590, 314700, and 314281)

**IS 9666**

HOTLINE 1 800 722-1111  
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RELEASED  
5-22-92

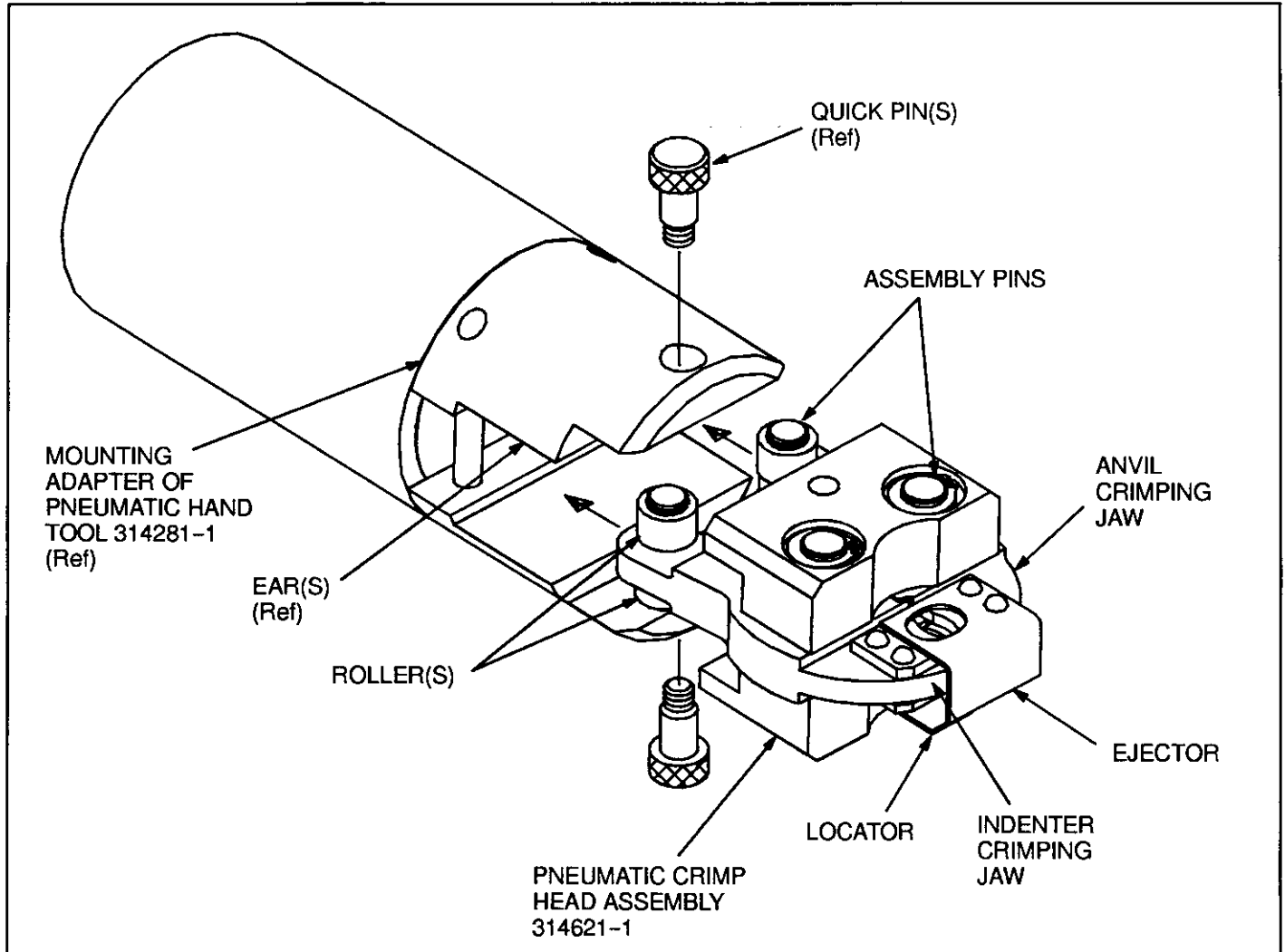


Fig. 1

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## 1. INTRODUCTION

AMP Pneumatic Crimping Head 314621-1 is designed to crimp AMP pre-insulated (VS, ECV, and ECN) closed end splices on wire sizes 0.3 - 5.0 mm<sup>2</sup> [22 - 10 AWG]. See Figure 2. The crimping head is used with AMP "1210" Pneumatic Tooling Assemblies 314590-1 and -2, 314700-1, and 314281-1.

This instruction sheet (IS) provides recommended procedures for crimp head installation and removal, crimping procedures, and maintenance and inspection. Details concerning the operation of the pneumatic hand tools are available in IS 9639, IS 9705, and IS 9512. Product part number information is available in AMP Catalog 82042.

Read these instructions thoroughly before proceeding.

### NOTE

*Measurements are in Metric units [followed by U.S. customary units in brackets]*

## 2. DESCRIPTION (Figure 1)

The pneumatic crimping head is designed with integral jaws which close in an arc-like motion. After an operator locates the splice between the jaws and inserts the stripped wire into the splice, the tool is activated to crimp the splice to the wire.

**3. CRIMP HEAD INSTALLATION AND REMOVAL (Figure 1)**

Remove quick pins from tooling assembly; then remove crimping head from the mounting adapter.

**A. Installation**

**DANGER**

*Before installing the crimp head, disconnect tool from the air supply. (Refer to the instructions packaged with the tooling assembly for operation and safety precautions concerning the tool.)*

1. Insert crimping head into the mounting adapter of the pneumatic tooling assembly. See Figure 1.
2. After crimp head is properly aligned, insert and tighten the quick pins provided with the tooling assembly.
3. Connect tool to an adequate air supply between 620–690 kPa [90–100 psi]. For specific information on air line requirements and air hose installation, refer to the instructions packaged with the appropriate tooling assembly.

**B. Removal**

**DANGER**

*Disconnect tool assembly from air supply.*

**4. CRIMPING PROCEDURES (Figures 3 and 4)**

**DANGER**

*To avoid personal injury, always keep fingers clear of crimping jaws when operating the tool.*

1. Strip wire to dimensions shown in Figure 2. DO NOT nick wire strands or use wires with nicked or missing conductor strands.
2. Open dies by squeezing rollers simultaneously; then position splice between crimping jaws. Figure 3 illustrates the proper position of an ECN or ECV splice in the crimping jaws.
3. After splice is properly positioned in the crimping jaws, release rollers to allow jaws to spring shut, holding the splice in place.
4. Insert stripped wire into splice until the end of the conductor bottoms against the splice. See Figure 4.
5. Activate tool to complete the crimp. Open crimping jaws by squeezing the rollers simultaneously; then remove the crimped splice.

CRIMPING HEAD	CLOSED-END SPLICES	SPLICE TYPE	WIRE COMBINATION CHART	STRIP LENGTH mm [IN.]	
				MIN.	MAX.
314621-1	36965 1-36965-1 1-36965-0 1-36965-2	VS	GP1029	10.72 [.422]	11.51 [.453]
	321519 2-321519-2 2-321519-1 2-321519-3	ECV	GP1002A	14.30 [.563]	15.88 [.625]
	35653 2-35653-1 330905 1-330905-0 32422	ECN	GP1021	10.72 [.422]	11.51 [.453]

Fig. 2

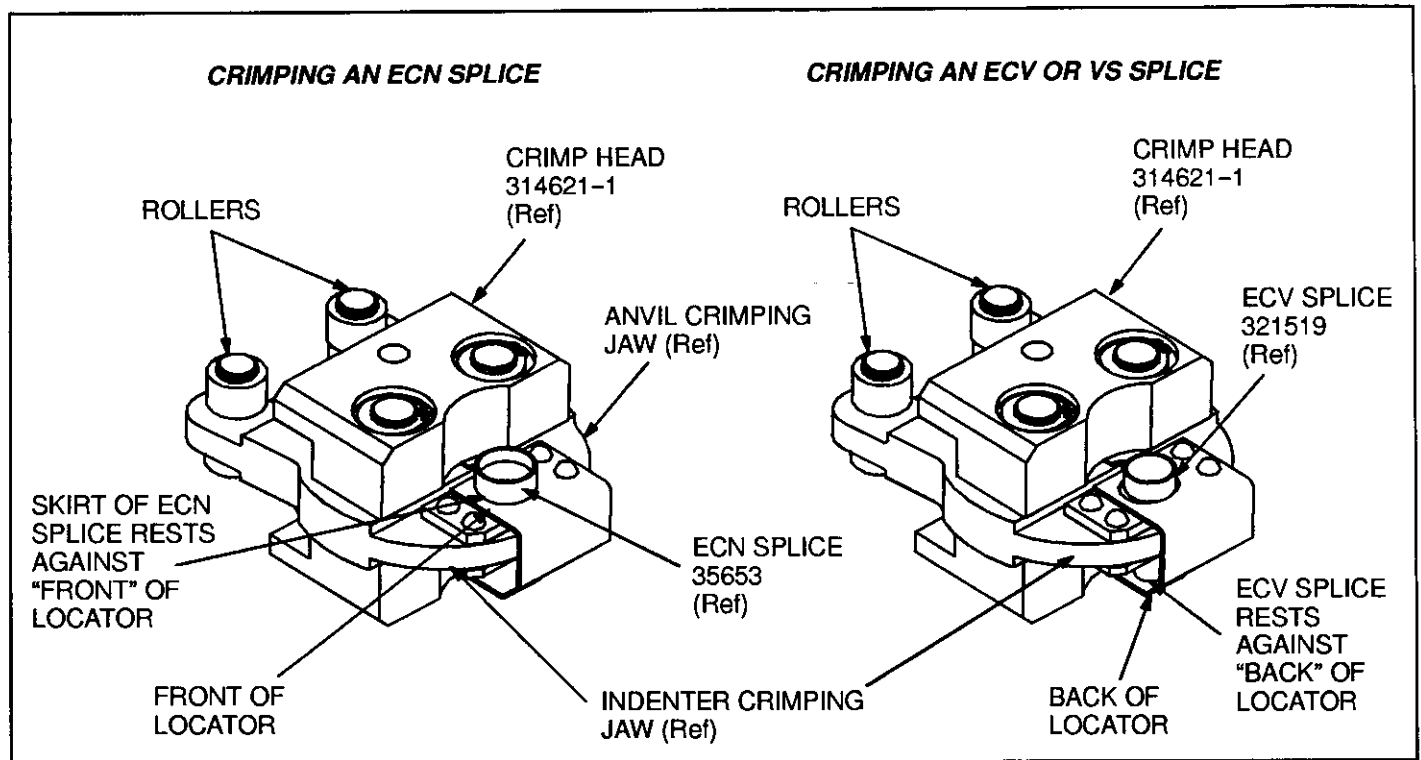


Fig. 3

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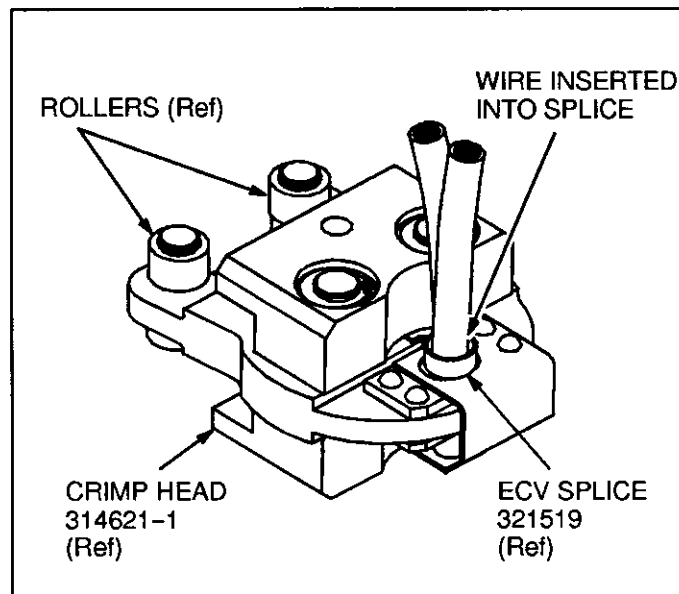


Fig. 4

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## 5. MAINTENANCE AND INSPECTION

### **⚠ DANGER**

*Disconnect tool from air supply before performing maintenance, inspection, or repairs.*

AMP recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. The pneumatic crimping head should be inspected once a month. Frequency of

inspection should be adjusted to suit your requirements through experience.

Frequency of inspection is dependent upon:

1. The care, amount of use, and handling of the head.
2. The type and size of the products crimped.
3. The degree of operator skill.
4. The presence of abnormal amounts of dust and dirt.
5. Your own established standards.

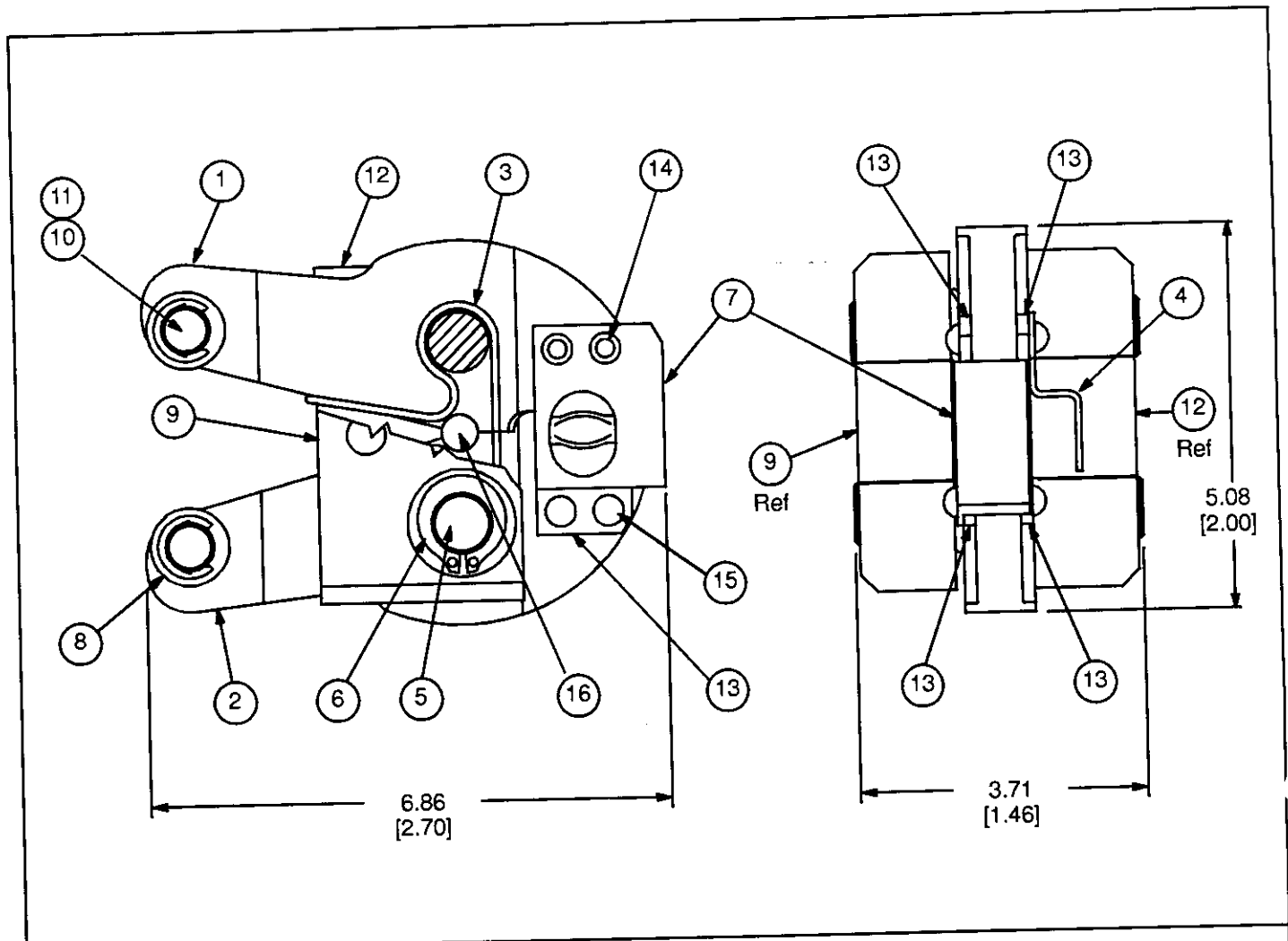
The crimping head is thoroughly inspected before packaging. Since there is the possibility of damage during shipment, new crimping heads should be inspected immediately upon arrival at your facility in accordance with Figure 5 and Section 5.D, Gaging the Crimping Chamber.

### A. Cleaning

Remove dust, moisture, and other contaminants with a clean, soft brush, or a soft, lint-free cloth. Do NOT use objects that could damage the crimping head. Re-lubricate each crimping head, as instructed in Section 5.C., Lubrication, before placing it back into service.

### B. Visual Inspection

1. Inspect crimping head for missing pins and retaining rings. If parts are missing or defective, replace them by referring to Figure 5.



**CUSTOMER-REPLACEABLE PARTS**

TOOLING	ITEM	PART NUMBER	DESCRIPTION	QUANTITY
314621-1	1	45310	CRIMPING JAW, Anvil	1
	2	45311	CRIMPING JAW, Indenter	1
	3	314253-1	SPRING	1
	4	305004	LOCATOR (Ref 59717)	1
	5	6- 23629-0	PIN, Str, Grv .3125 Dia	2
	6	1- 21048-0	RING, Retaining	4
	7	314629-1	EJECTOR	1
	8 †	314479-2	ROLLER	4
	9	314259-2	LINK	1
	10 †	3- 23620-3	PIN, Str, Grv .2500 Dia	2
	11 †	21045-6	RING, Retaining	4
	12	314259-3	LINK	1
	13	305496	FLARE PLATE (Ref 59541)	4
	14	305006	RIVET (Ref 59569)	2
	15	305005	RIVET (Ref 59569)	2
	16	38385	PIN, Pivot, .1875 Dia	1

† Recommended Customer Spares

Fig. 5

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2. Check all bearing surfaces for wear. Make sure the rollers turn freely with minimal resistance. Replace any worn parts.

3. Inspect the crimping jaws for flattened, chipped, or broken areas. Although crimping chamber may gage within permissible limits, worn or damaged jaw closure surfaces are objectionable and will affect the quality of the crimp.

### C. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with a high quality grease. AMP recommends the use of Molykote†† paste, which is a commercially available lubricant. Lubricate according to the following schedule:

Head used in daily production – lubricate daily  
 Head used daily (occasional) – lubricate weekly  
 Head used weekly – lubricate monthly

Wipe excess grease from crimping head, particularly from jaw closure areas. Grease transferred from the jaw closure area onto certain terminations may affect the electrical characteristics of an application.

### D. Gaging the Crimping Chamber

The crimping head is inspected for proper jaw closure before packaging. An inspection should be performed periodically to check the jaw closure for excessive wear. The jaw closure inspection is accomplished using the plug gage. AMP neither manufactures or sells plug gages. A suggested plug gage design and the GO/NO-GO dimensions of the plug gage elements are listed in Figure 6. The following procedure is recommended for inspecting the jaw closure area.

#### **DANGER**

*Disconnect air supply and remove crimping head from tool. Refer to Section 4, CRIMP HEAD REMOVAL.*

1. Remove oil and dirt from the surface of the crimping chamber and plug gage element surfaces.

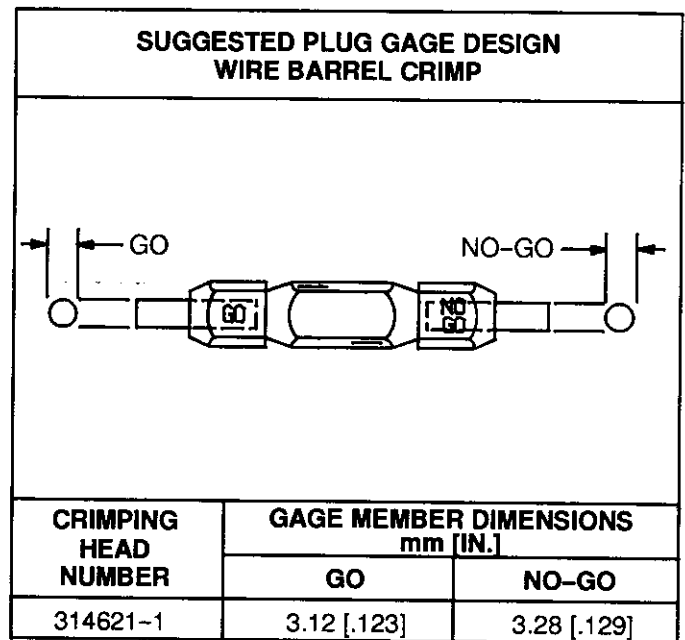


Fig. 6

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2. With the crimping jaws bottomed, measure the jaw closure area using the proper plug gage element. Proceed as follows:

a. Align the GO element with the crimping chamber, as shown in Figure 7. Push the GO element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber as shown in Figure 7, Detail A.

b. Align the NO-GO element with the crimping chamber; then try to insert it straight into the crimping chamber. The NO-GO element may start entry but must not pass completely through the crimping chamber, as shown in Figure 7, Detail B.

3. If the jaw closure meets the plug gage conditions, the head may be considered dimensionally correct and should be lubricated with a THIN coat of any good SAE No. 20 motor oil. If the crimping chambers do not conform to the plug gage conditions, provided in Figure 6, contact your local AMP Field Representative, or refer to Section 6, REPLACEMENT AND REPAIR.

For additional information about the use of a plug gage, see AMP Instruction Sheet IS 7424.

†† Trademark of Dow Corning Corporation.

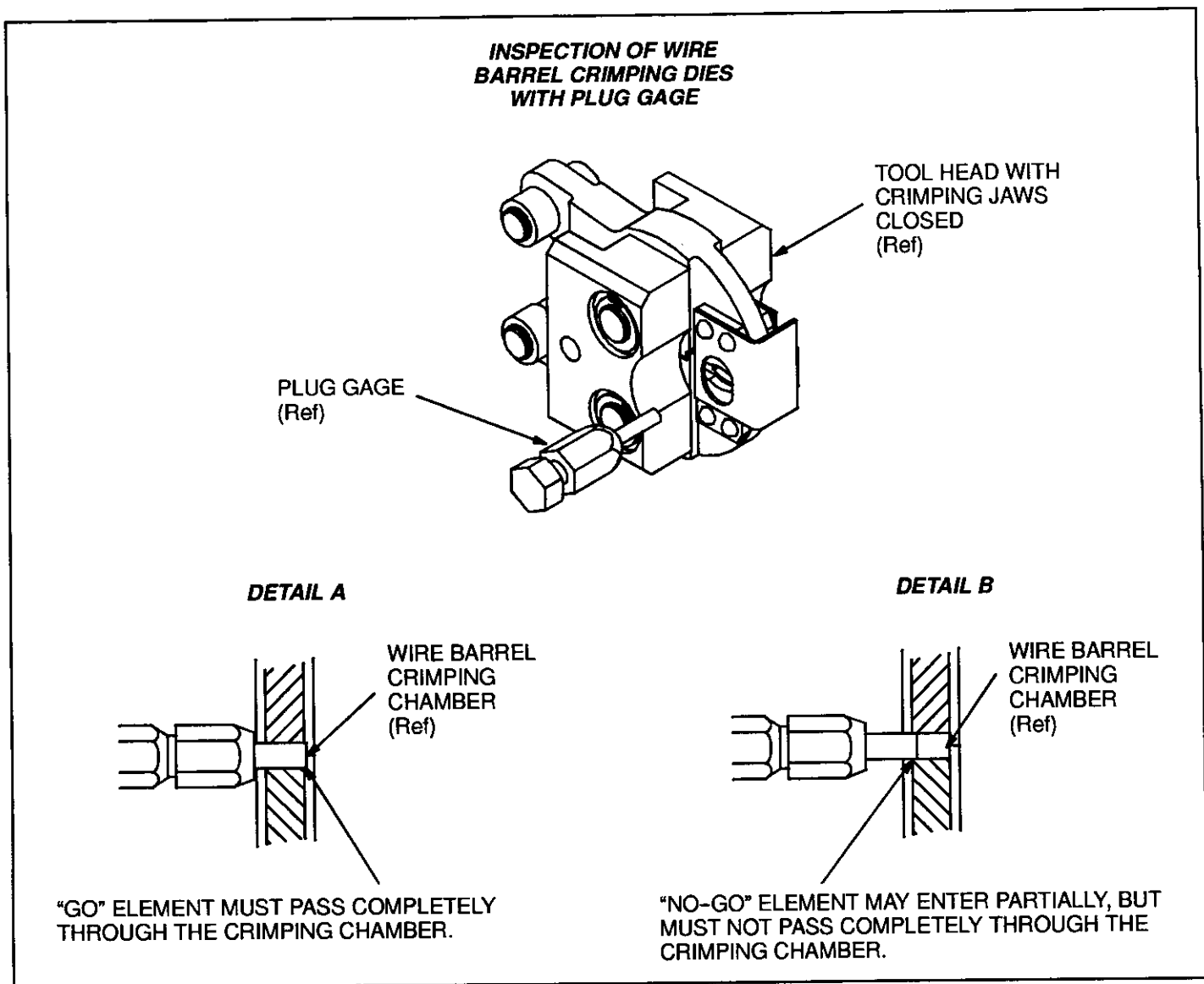


Fig. 7

## 6. REPLACEMENT AND REPAIR

Replacement parts and recommended spares are listed in Figure 5. The recommended spares should be stocked for immediate replacement. Replacement parts can be ordered from:

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

For further repair and replacement information, call the AMP Customer Service Hotline: 1 800 722-1111.

When repair is necessary, return the crimping head (along with a written description of the problem) to:

CUSTOMER REPAIR (01 - 12)  
AMP INCORPORATED  
1523 NORTH 4TH STREET  
HARRISBURG, PA 17102-1604