

### 1. INTRODUCTION

This publication provides "Instructions" on product application and a "Maintenance and Inspection Procedure" for:

CRIMPING TOOL NOS.		
59255	59459	69352

These tools are used to crimp:

- AMP ★ TERMASHIELD ★ splices on shielded wire sizes 24 thru 14.

Basic instructions on the use of these tools, wire preparation, tool adjustments, etc. are provided in Sections 2 and 3. Section 4 features a terminal and splice "Crimp Inspection" procedure. Section 5 contains a "Maintenance and Inspection Procedure" which will enable you to establish and maintain a *tool certification program*.

These instructions may be used for tools not listed in Figure 1 but accompanied by this IS. For unlisted tools, use the wire strip dimensions given in Figure 1 for an identical size tool.

Tools are coated with preservative to prevent rust and corrosion. Wipe this preservative from tool, particularly from crimping area.

### 2. COLOR CODE

Select the proper splice for the size wire to be used and obtain the correct shield crimp adjustment from Figure 1. For example:

- Determine wire size being used. In this case, use a No. 20 wire.
- Next determine the primary "conductor" insulation diameter. For this example, use .110.
- In Figure 1, under column title "wire range", find range of wire being used, 22-18.
- Opposite 22-18 and under column titled "primary conductor insulation diameter", there are 2 primary conductor insulation diameter ranges. Wire being used falls into the .086 to .115 range.
- Read across the chart from left to right and find: number 321807 is used; this splice has 2 red bands; use tool No. 69352; tool handles are color coded red; and finally, in the last column, shield crimping adjustment color code is 2 red circles. See Figure 1.
- Using tool No. 69352, insert the shield crimp adjustment pin (Figure 1) next to the 2 red circles stamped on the shield crimping die.

All illustrations and information contained in this instruction sheet are based on the latest product information available at the time of publication.

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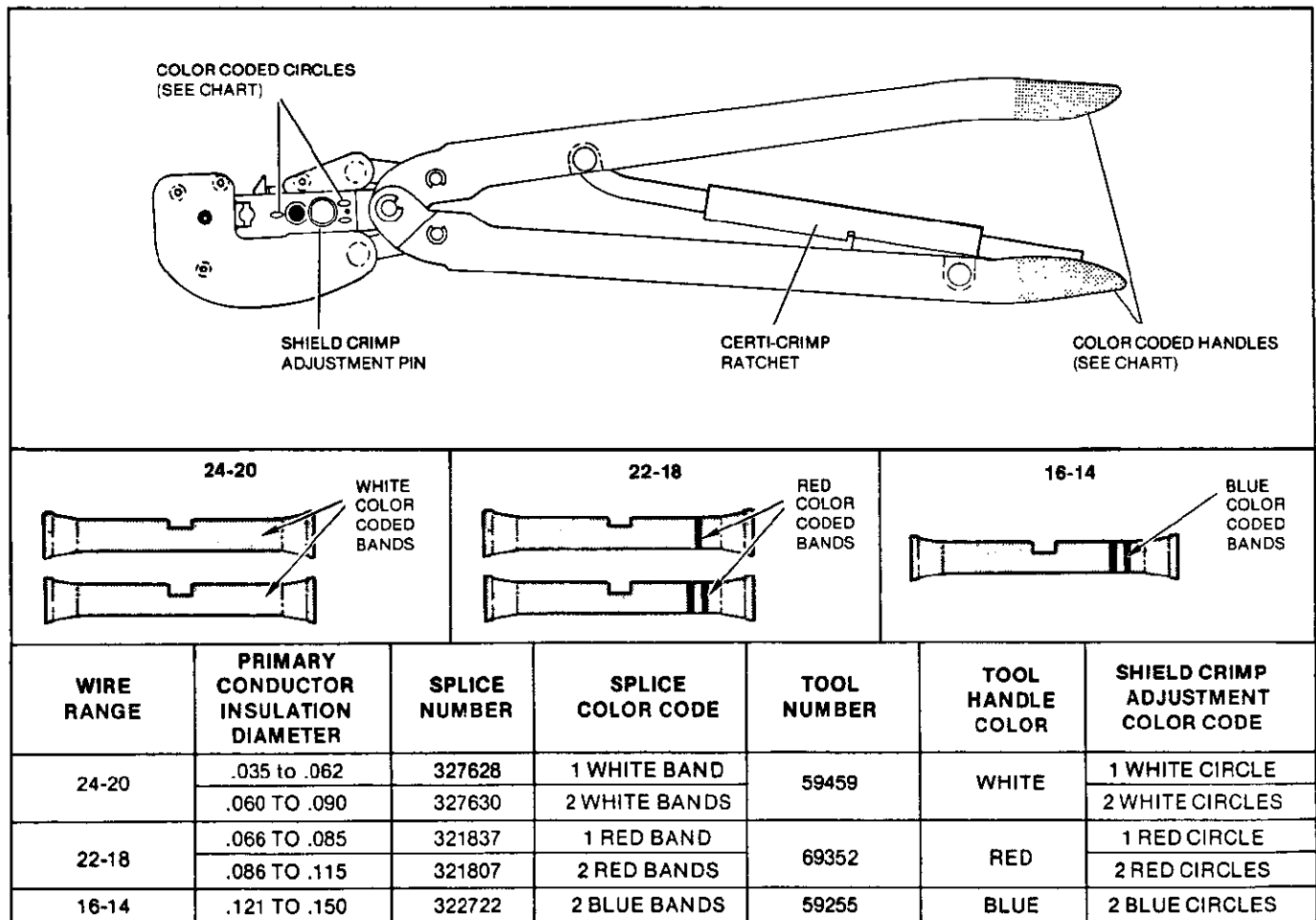


Figure 1

### 3. WIRE STRIPPING AND CRIMPING PROCEDURE

- Strip shielded wire to dimensions shown in Figure 2.  
NOTE: Do not nick or cut conductor or braided shield strands.
- Flare end of braided shield as shown in Figure 2.
- Insert stripped wire through support sleeve opening until end of conductor bottoms against wire stop as shown in Figure 3.  
Braided shield must pass over and around support sleeve as shown in Figure 3.
- Open crimping dies by closing handles until CERTI-CRIMP<sup>®</sup> ratchet, see Figure 1, releases. Note that once ratchet is engaged, handles cannot be opened until they are first fully closed.
- Place splice in crimping dies with splice window over locator as shown in Figure 4.
- To complete crimp, close handles until CERTI-CRIMP ratchet releases. Handles can now be opened and crimped splice may be removed.
- To crimp other half of splice, reposition uncrimped half in dies and follow same procedure used to crimp first half of splice.
- Observe hashmark code on finished crimp to insure that correct splice and tool combination was used. See Figure 5.
- Refer to Section 4 and Figure 6 for splice crimp inspection procedure.

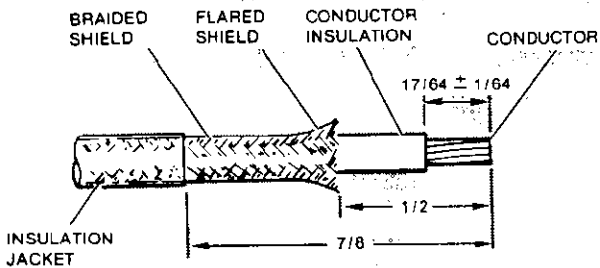


Figure 2

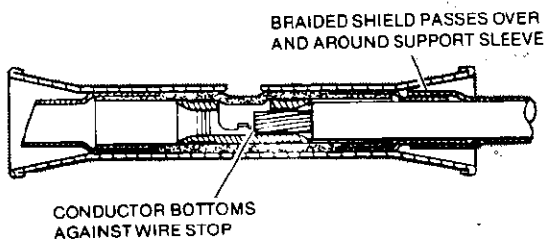
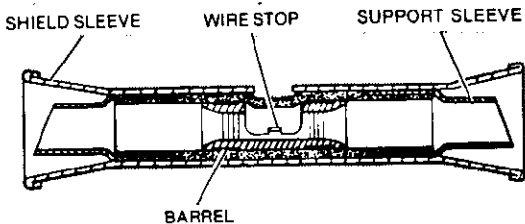


Figure 3

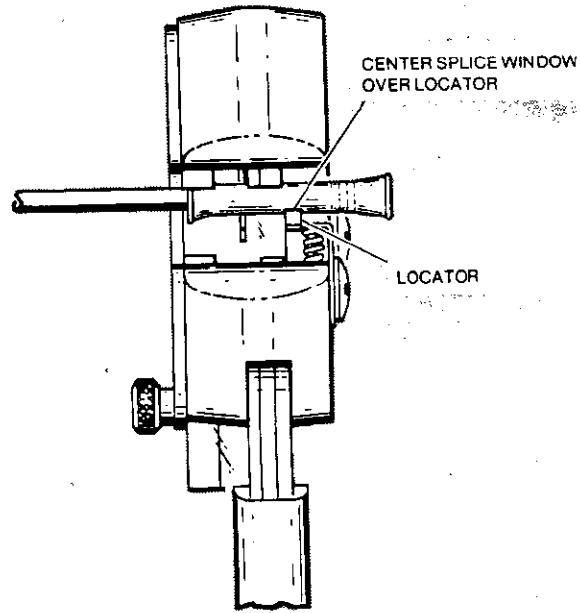


Figure 4

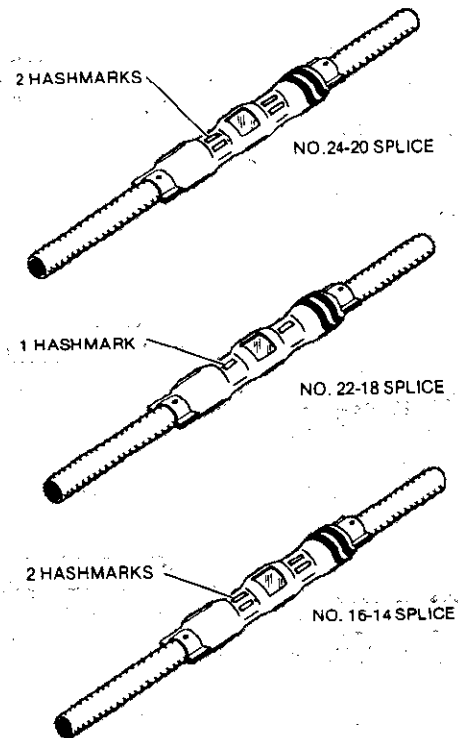


Figure 5

### 4. CRIMP INSPECTION

Inspect crimped splices by checking the features described in Figure 6.

Use only the splices that meet the conditions shown in the "ACCEPT" column.

"REJECT" splices can be avoided through careful use of instructions in Sections 2 and 3, by performing regular tool maintenance as instructed in Section 5.

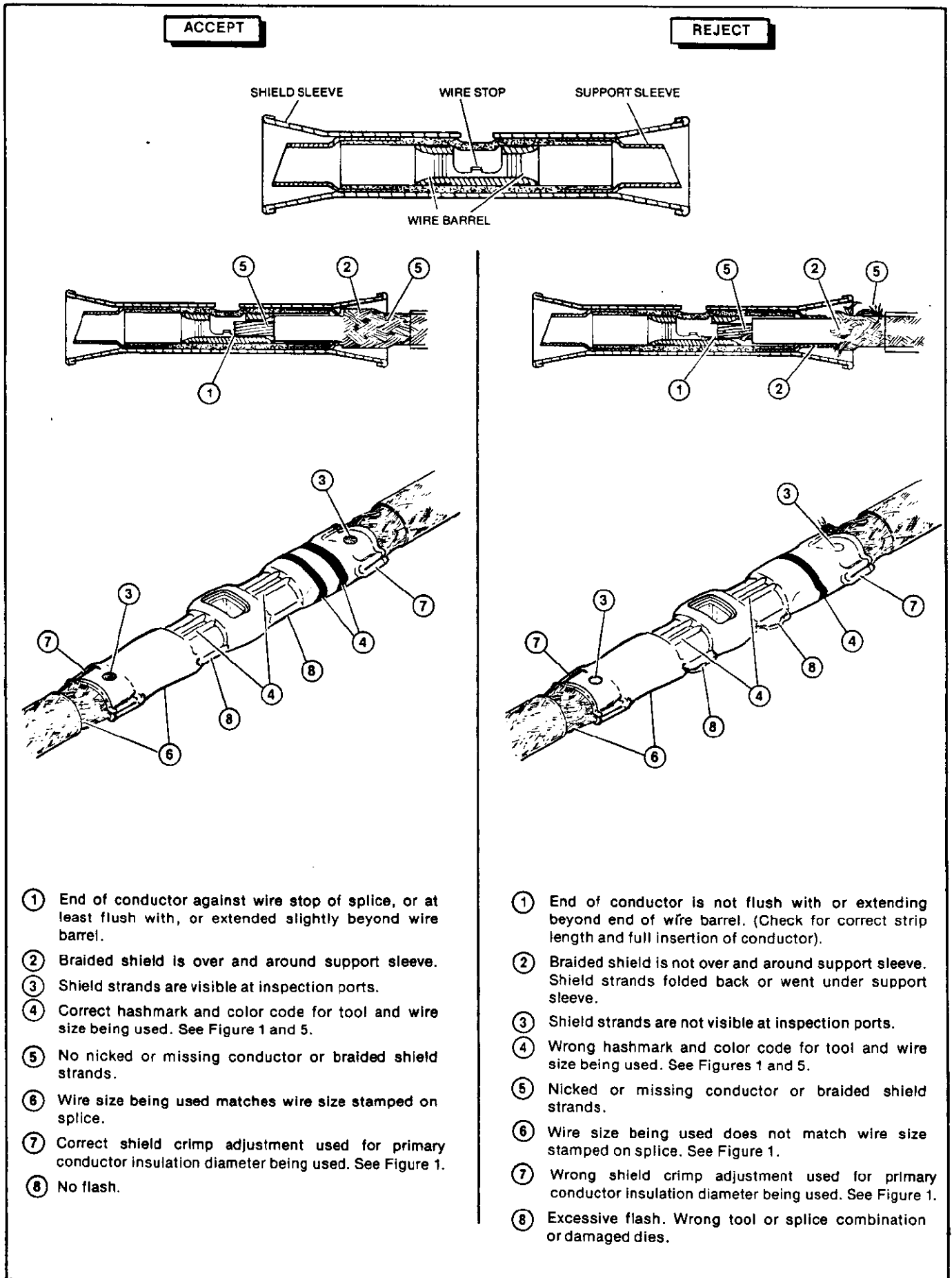


Figure 6

## 5. MAINTENANCE/INSPECTION PROCEDURE

AMP recommends that a maintenance/inspection program be performed periodically to ensure dependable and uniform terminations. Tools should be inspected at least once a month. Frequency of inspection may be adjusted to suit your requirements through experience. Frequency of inspection is dependent upon:

1. The care, amount of use, and handling of the tool.
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.

All tools are inspected before packaging. Since there is a possibility of tool damage in shipment, new tools should be inspected in accordance with Section 5 when received in your plant. Due to the precision design, it is important that no parts of these tools be interchanged except those replacement parts listed in Figure 11.

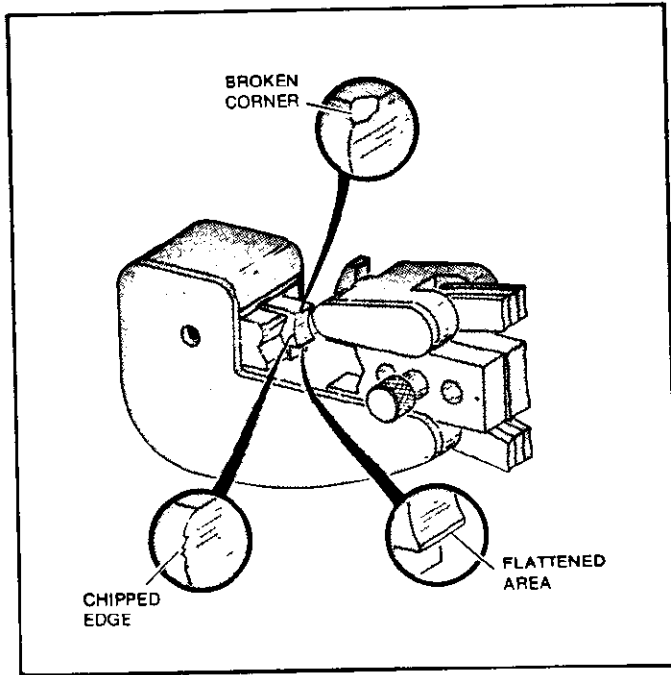


Figure 7

### 5.1 CLEANING

The tool should be immersed (handles partially closed) in degreasing compound to remove accumulated dirt, grease and foreign matter. Make certain the degreasing compound does not attack paint or plastic materials.

Remove remaining degreasing compounds with a lint free cloth. When degreasing compounds are not available, tool may be wiped clean with a lint free cloth. Relubricate tool, as instructed in paragraph 5.3 before placing it back in service.

### 5.2 VISUAL INSPECTION

- (a) Visually inspect the tool for missing pins or retaining rings. If parts are missing or defective, refer to Figure 11 for customer replaceable parts.
- (b) Visually inspect the die closure surfaces for flattened, broken or chipped conditions. Although dies may gage within permissible limits, worn or damaged die closure surfaces are objectionable and can affect the quality of the crimp. Examples of possible damaged die closure surfaces are shown in Figure 7.

### 5.3 LUBRICATION

Lubricate all pins, pivot points and bearing surfaces with a good grade S.A.E. #20 motor oil as follows:

Tools used in daily production — Lubricate daily  
 Tools used daily (occasional) — Lubricate weekly  
 Tools used weekly — Lubricate monthly

Wipe excess oil from tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.

### 5.4 DIE CLOSURE INSPECTION

Each tool is inspected for proper die closure before packaging. An inspection should be performed periodically to check the tool die closure for excessive wear.

The die closure inspection is accomplished using GO NO-GO plug gages. AMP neither manufactures nor sells plug gages. Suggested designs and dimensions for the GO NO-GO plug gage members are listed in Figures 8 and 9. The following procedure is recommended for inspecting the die closures.

- (a) Clean oil or dirt from the die closures and plug gage members.
- (b) Close handles of tool until wire barrel dies are bottomed. Do not apply additional pressure to tool handles.
- (c) With wire barrel dies bottomed, inspect the wire barrel crimp die closure using the proper plug gage. Hold gage in straight alignment with the die closure. Carefully try to insert, without forcing, the GO member. See Figure 10, Detail A. The GO member must pass completely through the die closure.
- (d) Try to insert the NO-GO member. The NO-GO member may enter partially, but must not pass completely through the die closure.
- (e) Insert shield crimp adjustment pin in the "O" position.
- (f) Inspect the shield crimp die closure using the proper plug gage in the same manner as steps (c) and (d). See Figure 10, Detail B.

If both wire barrel and shield crimp die closures meet the GO NO-GO gage conditions, the die closures may be considered dimensionally correct.

If you find that the die closures do not conform with the GO NO-GO gage conditions, contact your local AMP field representative.

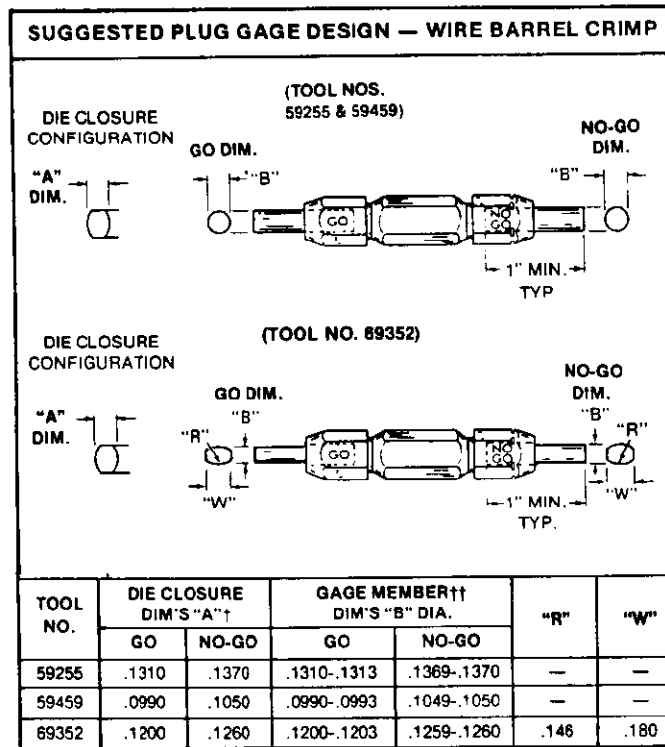
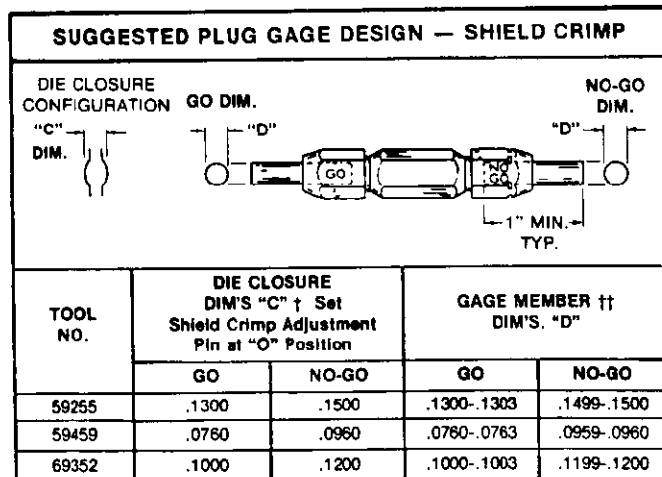


Figure 8



† Die closure dimensions apply when wire barrel dies are bottomed, but not under pressure.

†† Material — Tool Steel.

Figure 9

**5.5 CERTI-CRIMP RATCHET INSPECTION**

The CERTI-CRIMP ratchet feature on hand tools should be checked to make certain that the ratchet does not release prematurely allowing dies to open before they have fully bottomed.

- (a) Thoroughly clean the bottoming surfaces of the dies.
- (b) Make a test crimp using the maximum wire load, i.e., a No. 14 AWG wire in a 16-14 splice. When this crimp is made, squeeze handles until the ratchet is free, however, **DO NOT RELAX PRESSURE ON TOOL HANDLES.**
- (c) Bottoming is satisfactory if bottoming surfaces of the wire barrel crimp dies make contact with each other or if the clearance between the bottoming surfaces is .001" or less.

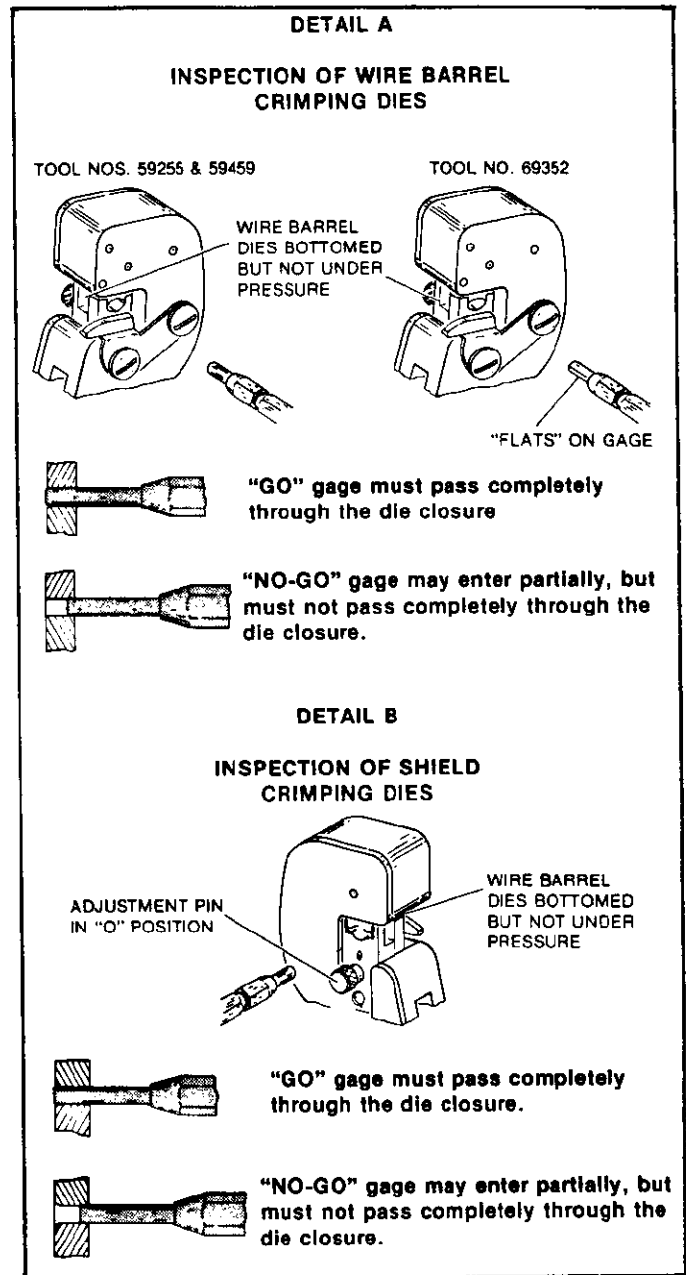


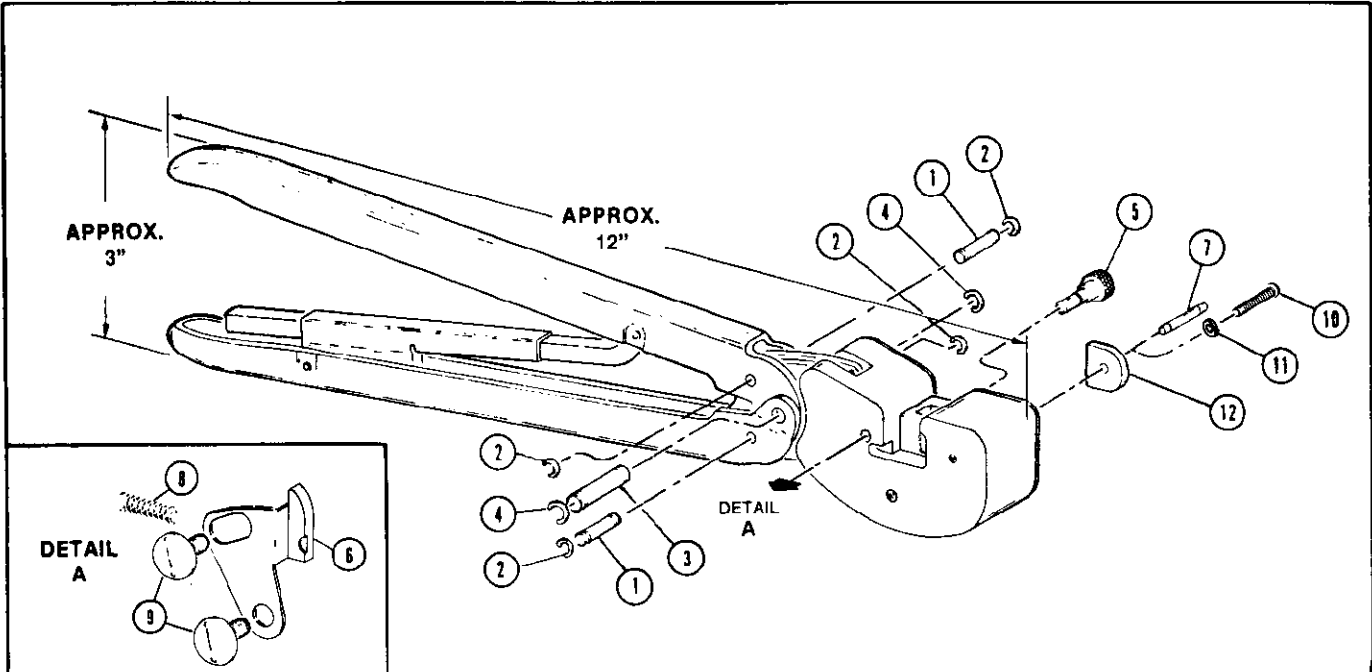
Figure 10

- (d) If the .001" shim stock can be inserted completely between the bottoming surfaces of the wire barrel crimp dies, the dies are considered as not bottoming. Contact your local AMP field representative.

**5.6 REPLACEMENT PARTS**

It may be advantageous to stock certain replaceable parts to prevent loss of production time. Figure 11 lists the customer replaceable parts that can be purchased from AMP Incorporated. Parts other than those listed on Figure 11 should be replaced by AMP Incorporated to insure proper CERTI-CRIMP ratchet adjustments.

For major tool repair service or adjustment, contact your local AMP field representative or return the tool to AMP Incorporated, Tool Repair Service, 1523 N. Fourth Street, Harrisburg, Pennsylvania 17105, or a wholly owned subsidiary of AMP Incorporated.



ITEM	DESCRIPTION	QTY.	TOOL NUMBERS AND COMPONENT PART NUMBERS		
			59255	59459	69352
1	PIN, RETAINING	2	300388	300388	300388
2	RING, RETAINING	4	21045-3	21045-3	21045-3
3	PIN, RETAINING	1	300389	300389	300389
4	RING, RETAINING	2	21045-6	21045-6	21045-6
5	PIN ASSY., ADJ.	1	303898	303898	303848-3
6	LOCATOR, STOP	1	306110-2	304772	306110-2
7	PIN	1	6-21028-0	---	6-21028-0
8	SPRING	1	303013	303013	303013
9	SCREW	2	306105-3	306105-3	306105-3
10	SCREW	1	---	2-21000-8	---
11	WASHER, LOCK	1	---	21024-4	---
12	SPACER	1	---	---	2-305832-6

Figure 11

REL. DATE	REV. DATE	APPROVALS	
6-14-57	8-4-80	ENG. <i>Tom Stanbaugh</i>	PUB. <i>Paul Felty</i>