

## 1. INTRODUCTION

This instruction sheet provides instructions on product application and a maintenance and inspection procedure for crimping dies 68275-1, 69902 (Mod B), 69903 (Mod B), 69904 (Mod B), and 69905 (Mod B).

These dies are used in Machine 68075, AMP-TAPETRONIC\* Machine 69875, and AMPOMATOR\* Machine Mod IVB as indicated in the table in Figure 1.

These dies are used to crimp DIAMOND GRIP terminals and splices on wire sizes 26 thru 10.

Dies are coated with preservative to prevent rust and corrosion. Wipe preservative from dies, particularly from crimping surfaces. Die insertion and removal and crimping instructions are provided in the manual packaged with the machine.

Section 2 of this publication provides information on wire preparation. Section 3 features a terminal and splice "Crimp Inspection" procedure. Section 4 contains a "Maintenance and Inspection Procedure" which will enable you to establish and maintain a die certification program.

For further instructions relative to the machine, tooling adjustments, tape loading, etc., refer to instructions packaged with the machine.



### NOTE

Dimensions are in metric units with [inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

## 2. WIRE PREPARATION AND CRIMP INSTRUCTIONS



### DANGER

Avoid personal injury. Always disconnect machine from power supply when performing adjustments, die installation or removal, and machine maintenance. Always keep guards and covers in place during normal machine operation.

Figure 1 lists the preferred wire strip lengths for products discussed in this publication. However, depending on your wire stripping machine adjustment (strip length) capabilities, wire strip length may be increased to the nearest 0.79 mm [.031 in.] if necessary. Add 1.588 mm [.0625 in.] to wire strip length when actuating 69875 machine with probe.

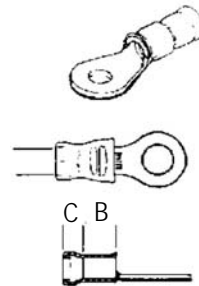


### CAUTION

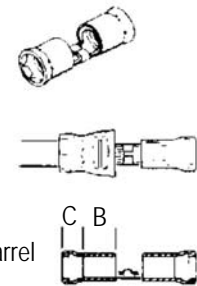
Do NOT use wires with nicked or missing conductor strands.

Refer to machine manual for crimp instructions.

Terminal



Splice



Finished  
Crimps

"B" Equals Wire Barrel  
"C" Equals Insulation Barrel

MACHINE NO.	WIRE RANGE (AWG)	DIE SET NO.	WIRE STRIP LENGTH			
			TERMINALS*		SPLICES	
			MIN	MAX	MIN	MAX
68075 69875-[ ]	26-22	69902 Mod B	3.18 [.125]	3.96 [.156]	2.39 [.094]	4.37 [.172]
68075 69875-[ ] AMPOMATOR IVB	22-16	69903 Mod B 68275-1 Small Exp.	4.37 [.172]	5.16 [.203]	5.16 [.203]	5.94 [.234]
		69904 Mod B				
	12-10 16-14 H.D.	69905 Mod B	6.35 [.250]	7.14 [.281]	8.74 [.344]	9.52 [.375]

\*Add 1.588 mm [.0625 in.] to wire strip length when actuating 69875 machine with probe.

Figure 1

## 3. CRIMP INSPECTION

Inspect crimped terminals and splices by checking the features described in Figure 2. Use only the terminals and splices that meet the conditions shown in the "ACCEPT" column. "REJECT" terminals and splices can be avoided through careful use of instructions provided in the machine manual and by performing regular die maintenance as instructed in Section 4 of this instruction sheet.

## 4. MAINTENANCE AND INSPECTION

TE Connectivity recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. Dies 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 dies.
2. The degree of operator skill.
3. The presence of abnormal amounts of dust and dirt.
4. Your own established standards.

Since there is a possibility of die damage in shipment, new dies should be inspected in accordance with Section 4 when received in your plant.

4.1. Cleaning

Do NOT allow deposits of dirt, grease, and foreign

matter to accumulate on the die closure surfaces and on the bottoming surfaces of the dies. These deposits may prevent dies from bottoming fully and may also cause excessive wear in the die closure surfaces, thereby affecting the quality of the crimp. The dies should be wiped clean frequently with a clean cloth.

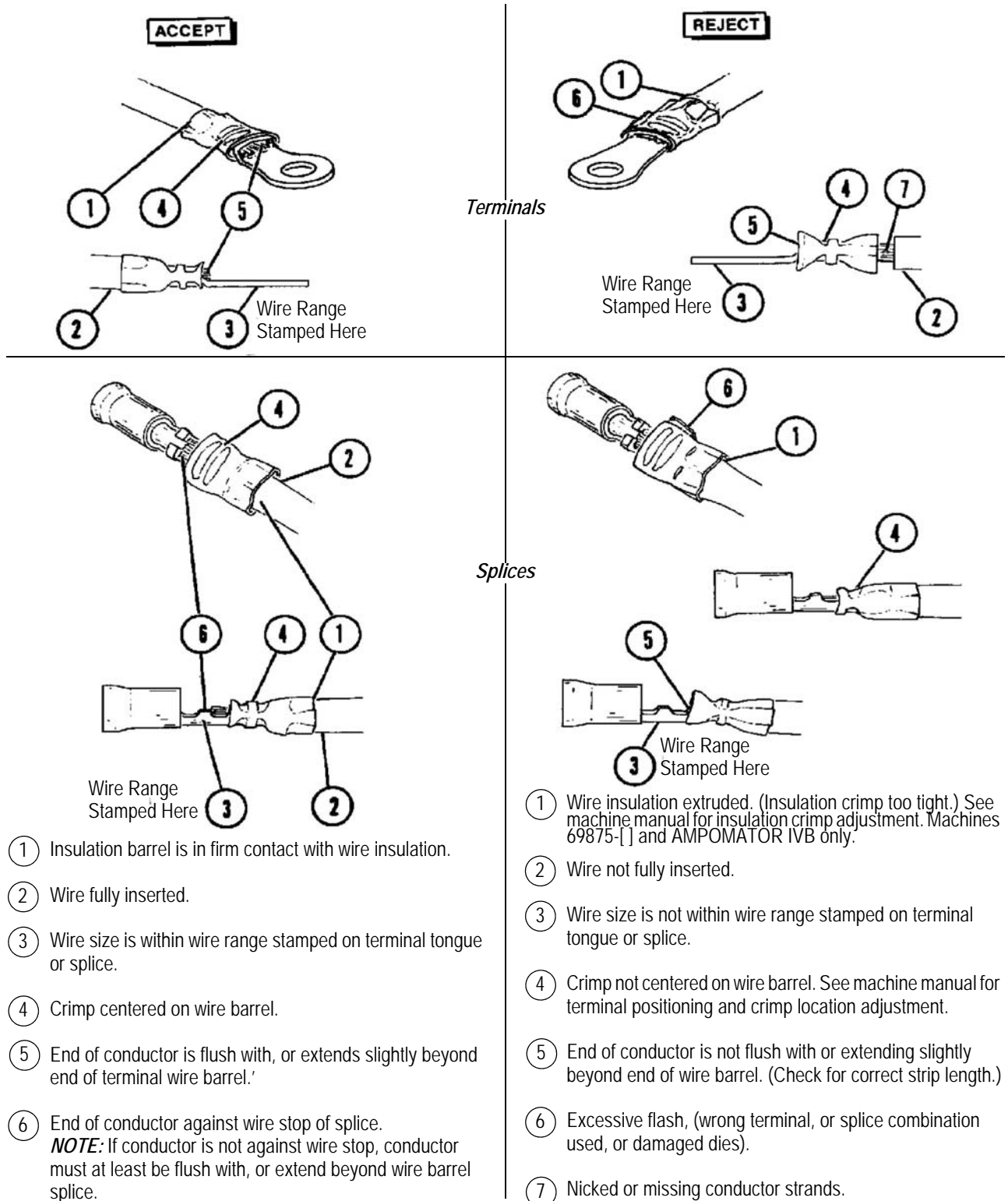


Figure 2

## 4.2. Visual Inspection

Visually inspect the die closure surfaces for broken, pitted, 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 3.

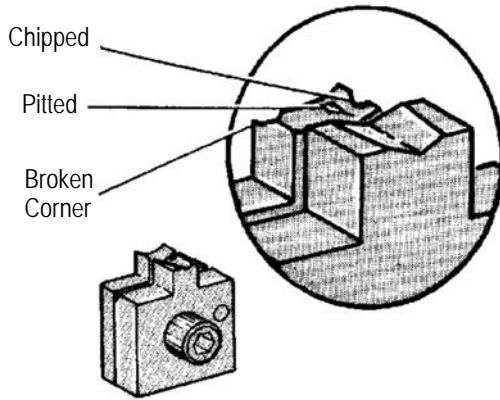
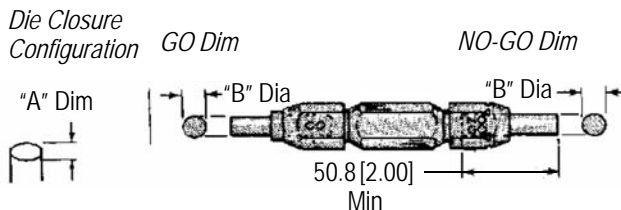


Figure 3

## 4.3. Die Closure Inspection

Every die set is inspected for proper die closure dimensions before packaging. An inspection should be performed periodically to inspect the die closure for excessive wear.

### Suggested Plug Gage Design - Wire Barrel Crimp



DIE SET NO.	DIE CLOSURE DIM's "A"		GAGE MEMBER†† DIM's "B"	
	GO	NO-GO	GO	NO-GO
68275-1	1.753 [.0690]	1.905 [.0750]	1.753-1.760 [.0690-.0693]	1.902-1.905 [.0749-.0750]
69902 Mod B	1.245 [.0490]	1.397 [.0550]	1.245-1.252 [.0490-.0493]	1.394-1.397 [.0549-.0550]
69903 Mod B	1.753 [.0690]	1.905 [.0750]	1.753-1.760 [.0690-.0693]	1.902-1.905 [.0749-.0750]
69904 Mod B	2.032 [.0800]	2.184 [.0860]	2.032-2.040 [.0800-.0803]	2.182-2.184 [.0859-.0860]
69905 Mod B	3.327 [.1310]	3.480 [.1370]	3.327-3.335 [.1310-.1313]	3.477-3.480 [.1369-.1370]

\*Die closure dimensions apply when wire barrel crimp dies are bottomed, but not under pressure. ††Material - Tool Steel.

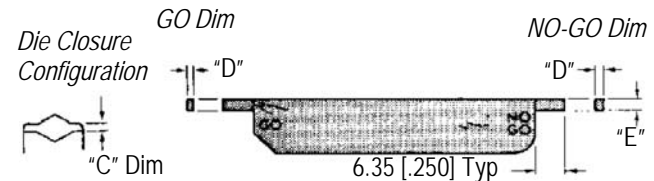
Figure 4

Die closure inspection is accomplished using GO / NO-GO plug gages. TE neither manufactures nor sells plug gages. A suggested plug gage design and the

GO / NO-GO dimensions of the plug gage members are listed in Figures 4 and 5.

The following procedure is recommended for inspecting the die closure.

### Suggested Plug Gage Design - Insulation Crimp



DIE SET NO.	DIE CLOSURE DIM's "C"†		GAGE MEMBER†† DIM's "D"		"E" DIM
	GO	NO-GO	GO	NO-GO	
68275-1	0.762 [.0300]	1.270 [.0500]	0.762-0.770 [.0300-.0303]	1.267-1.270 [.0499-.0500]	4.44 [.175]
69902 Mod B	0.381 [.0150]	0.889 [.0350]	0.381-0.389 [.0150-.0153]	0.886-0.889 [.0349-.0350]	2.29 [.090]
69903 Mod B	0.762 [.0300]	1.270 [.0500]	0.762-0.770 [.0300-.0303]	1.267-1.270 [.0499-.500]	3.05 [.120]
69904 Mod B	0.762 [.0300]	1.524 [.0600]	0.762-0.770 [.0300-.0303]	1.521-1.524 [.0599-.0600]	3.05 [.120]
69905 Mod B	1.321 [.0520]	1.829 [.0720]	1.321-1.328 [.0520-.0523]	1.826-1.829 [.0719-.0720]	3.56 [.140]

†Die closure dimensions apply when dies are positioned at gage dimensions as shown in Figure 6B. ††Material - Tool Steel.

Figure 5

## A. Wire Barrel Crimp Die Closure

1. Clean oil or dirt from the die closure surfaces, bottoming surfaces, and plug gage members.
2. Assemble dies so that wire barrel dies are bottomed but not under pressure.
3. With the 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 and carefully insert, without forcing, the GO member. See Figure 6A. the GO member must pass completely through the wire barrel crimp die closure.
4. Try to insert the NO-GO member. The NO-GO member may enter partially, but must not pass completely through the wire barrel crimp die closure. See Figure 6A.

## B. Insulation Crimp Die Closure

1. With wire barrel dies bottomed and nut under pressure, adjust insulation dies to meet the "gage dimensions" as shown in Figure 6B.
2. Inspect the insulation crimp die closure using the proper plug gage in the same manner as Steps 3 and 4 in Paragraph 4.A.

If both wire barrel and insulation crimp die closures meet the GO / NO-GO gage conditions, the dies

may be considered dimensionally correct. If you find that the crimp die closures do not conform with the GO / NO-GO gage conditions, contact your local TE Representative.

parts to prevent loss of production time. Figure 7 lists the customer replaceable parts that can be purchased from TE.

4.4. Replacement Parts

It may be advantageous to stack certain replaceable

5. REVISION SUMMARY

- Deleted product trademark name in all instances

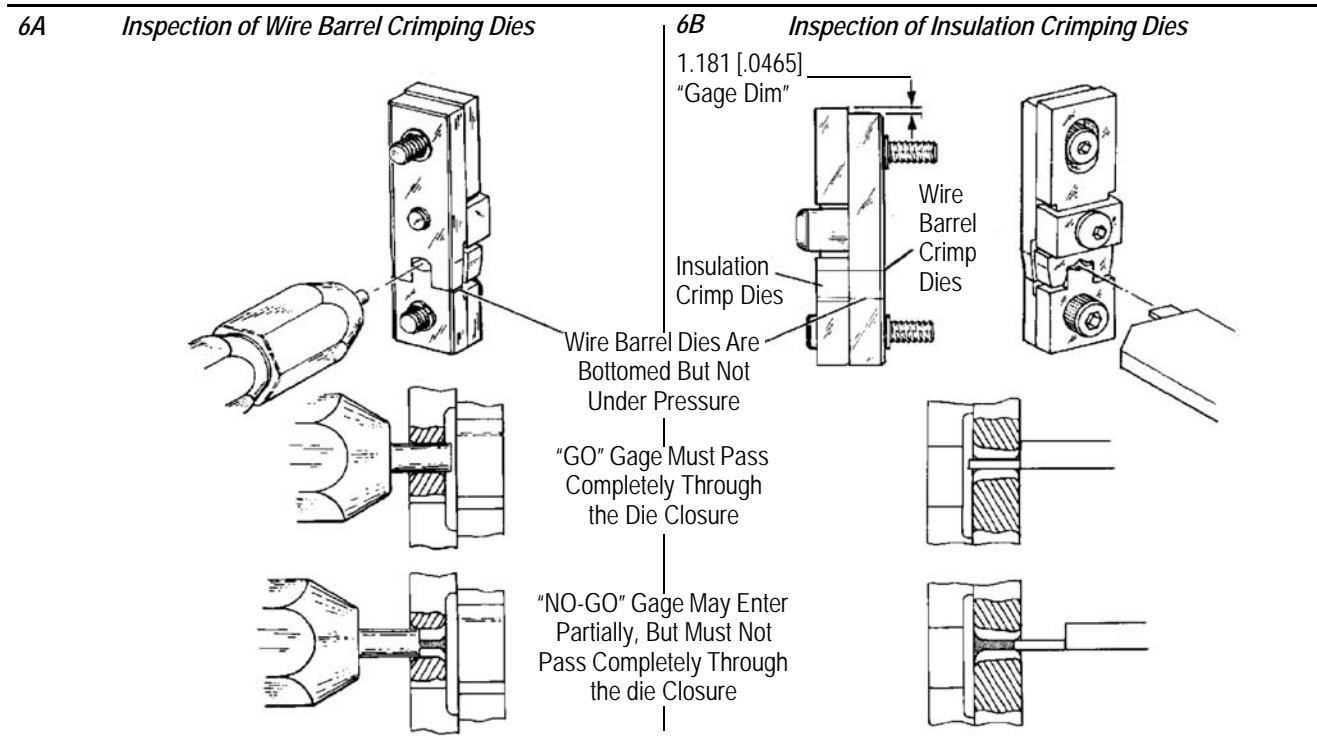
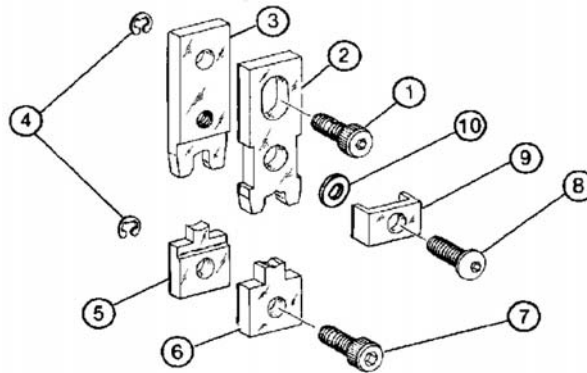


Figure 6



DIE SET NUMBER	SCREW	INSUL CRIMP MOVING DIE	WIRE BARREL CRIMP MOVING DIE	RET. RING (2) REQ.	WIRE BARREL CRIMP STAT. DIE	INSUL CRIMP STAT. DIE	SCREW	SCREW	SADDLE	CURVED WASHER
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
68275-1	2-59781-4	2-307285-4	307212-3	1-21046-3	307213-3	4-59619-0	59781-6	2-59577-9	307275-9	24088-8
69902 Mod B	59781-3	1-307285-0	307212-4		307213-4	3-59619-4	2-59781-1	1-59577-6	1-307275-3	
69903 Mod B	59781-2	1-307285-1	307212-3		307213-3	3-59619-3	59781-6	2-59577-9	307275-9	
69904 Mod B	59781-2	1-307285-2	307212-2		307213-2	3-59619-2	59781-6	2-59677-9	307275-9	
69905 Mod B	1-59781-3	307276-3	307212-1		307213-1	3-59619-0	59781-5	3-59577-3	1-307275-0	

Figure 7