

Fig. 1

## 1. INTRODUCTION

AMP Termination Tooling 852859-1 is designed to terminate prepared round jacketed cable conductors or ribbon cable in AMPLIMITE .050-Series plug and receptacle connectors. The round cable conductors are separated, organized in a flat array, and then laminated on .050-in. centerlines prior to termination.

The tooling is installed in a manual applicator frame assembly such as AMP Manual Applicator 58024-1, or a similar unit having a positive shut-height stop adjustment.

## 2. DESCRIPTION (Figure 1)

Features of the termination tooling include a ram assembly, an anvil, an upper guide, and a lower guide (in base plate). A holder assembly is required for

specific connector types to be terminated. See Figure 6.

The ram assembly is attached to the ram of the manual applicator and the anvil is attached to the applicator base. The base of the tooling forms an assembly which includes the upper guide and a spacer.

### NOTE

Refer to the following AMP documents for information relating to the preparation and assembly of AMPLIMITE .050-Series connectors:

**IS 9427** AMPLIMITE .050-SERIES CONNECTORS—ROUND-TO-FLAT CABLE

**IS 9573** AMP STRAIN RELIEF STAPLE INSERTION TOOLING 764088-1 FOR AMPLIMITE .050-SERIES BACK-SHELLS

**CAUTION**

*It is not possible to complete the assembly of an AMPLIMITE .050-Series connector using this tooling without having the information and the additional required tooling that is covered in IS 9427 and IS 9573.*

A termination bar (AMP part number 853254-[ ]) is required in most connector sizes to terminate connectors with the termination tooling. Refer to Figure 3 and to AMP instruction sheet IS 9427 for the appropriate termination bar for the connector to be terminated.

### 3. SETUP PROCEDURE

Refer to Figure 1 and proceed as follows:

1. Install the upper tooling (ram assembly) on the ram of the manual applicator with the appropriate screws.
2. Install the lower tooling (anvil) on the base of the manual applicator with the appropriate screws.
3. Attach the base plate of the tooling to the base of the manual applicator but DO NOT tighten the screws at this point.
4. Select the proper side of the holder assembly for the type of connector to be terminated. Refer to Figure 6.
5. Slide a connector into the holder assembly.
6. Slide the holder assembly into the upper and lower guides.
7. Slide the base plate toward the anvil until the connector covers are just against the lip of the anvil and ram assembly (allowing approximately .010-in. gap between covers and anvil/ram assembly lips) and secure the base plate screws.

### 4. CABLE PREPARATION AND TERMINATION PROCEDURE

With the tooling installed in the manual applicator as shown in Figure 1, remove the guide plate and rotate it

so that the correct holder (plug or receptacle) for the connector to be terminated is facing the ram and anvil of the tooling. Proceed as follows:

1. Cable preparation requires the individual conductors of the round jacketed cable to be separated, organized in a flat array, and then laminated on .050-in. centerlines. Refer to AMP Instruction Sheet IS 9427 for appropriate conductor lengths and lamination preparation.

**NOTE**

*Correct conductor lengths for jacketed round cable are critical to successful termination and placement of backshells. Incorrect conductor lengths will result in too much bulk for backshell mounting if conductors are too long; insufficient conductor insertion in contacts if conductors are too short; or braid will be in wrong location for strain relief staple termination. Refer to AMP instruction sheet IS 9573 for strain relief staple insertion information and procedures.*

2. Determine the placement of conductors in relation to the contact pin assignments for both rows of contacts in the opposing sides of the connector. This may be done by color code or continuity check, per customer requirements. The conductor ends of the round jacketed cable are laminated to maintain their centerline spacing during termination. Single-sided tape laminates are preferred.

3. Fully insert prepared cable conductor ends, with the laminated sides (taped sides) facing the connector termination covers, into the rear of the connector assembly. Press termination covers firmly by hand to captivate conductors between insulation displacement contacts and termination covers.

4. Visually examine the connector for correct placement of conductors over insulation displacement contacts by looking at the gap between each termination cover and the connector housing flange. Conductors should be visible in the gap. See Figure 2.

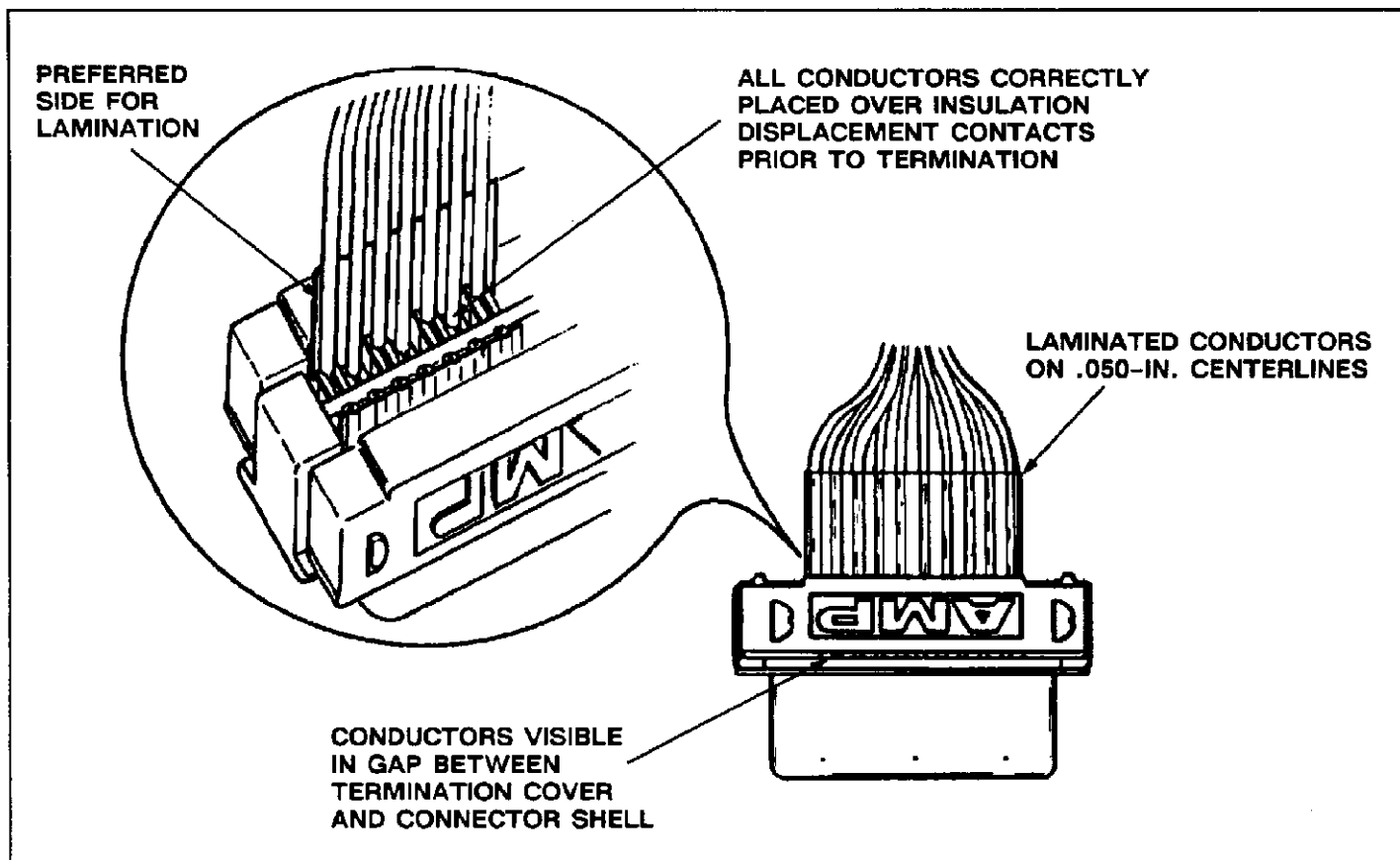


Fig. 2

5. Slide the guide plate out of the upper and lower guides of the tooling assembly and place the connector into the holder.

6. Install the appropriate termination bar, as shown in Figure 3.

TERMINATION BAR

NOTE: TERMINATION COVERS ARE SHOWN REMOVED FOR CLARITY.

| CONNECTOR SIZE       | TERMINATION BAR PART NUMBER |
|----------------------|-----------------------------|
| 20 to 38 Positions   | No termination bar required |
| 40 to 48 Positions   | 853254-1                    |
| 50 to 58 Positions   | 853254-2                    |
| 60 to 68 Positions   | 853254-3                    |
| 70 to 78 Positions   | 853254-4                    |
| 80 to 88 Positions   | 853254-5                    |
| 90 to 98 Positions   | 853254-6                    |
| 100 to 108 Positions | 853254-7                    |
| 110 to 120 Positions | 853254-8                    |

Fig. 3

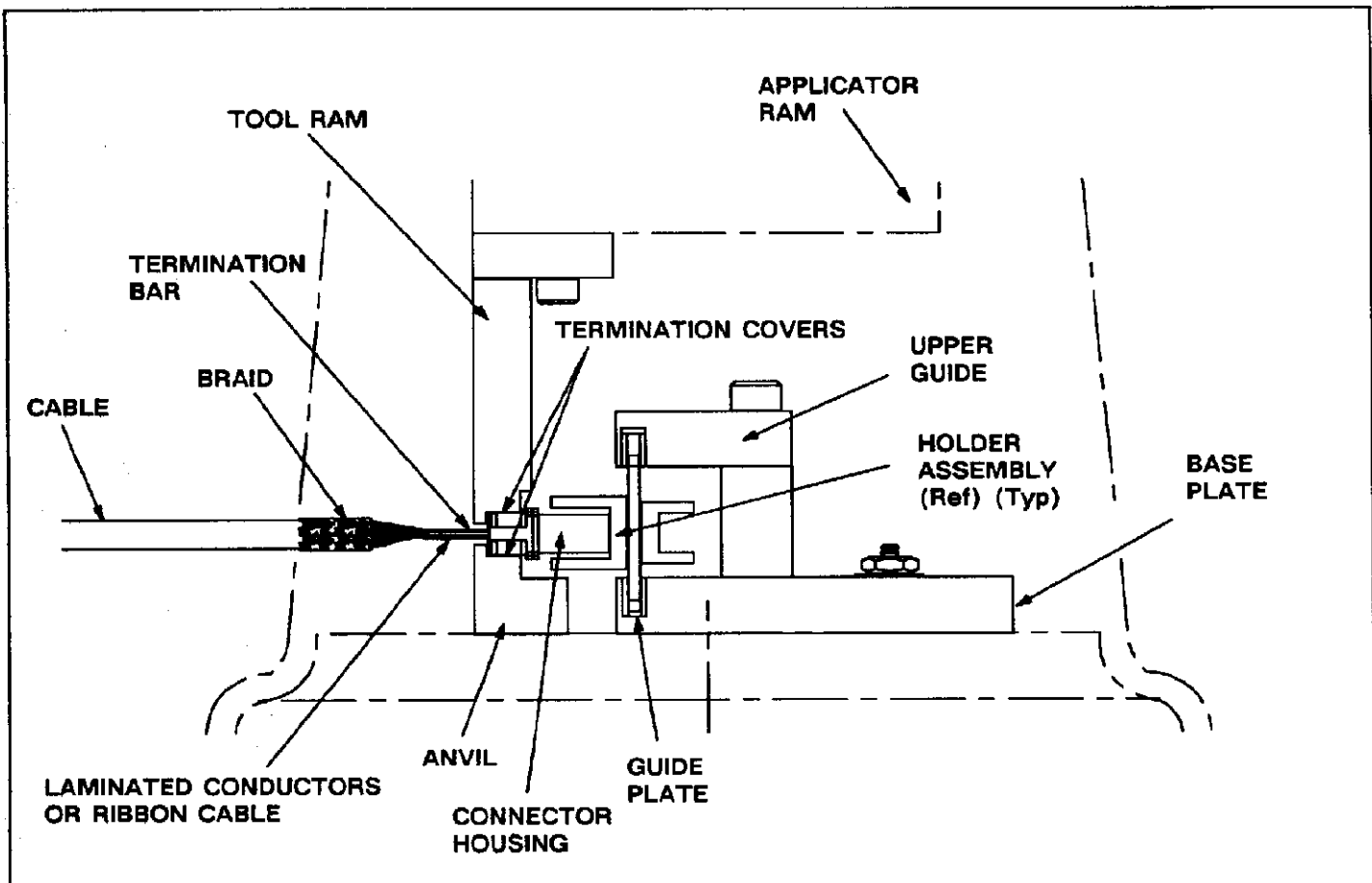


Fig. 4

7. Slide the guide plate and connector back into the upper and lower guides, allowing the termination covers of the connector to fit against the flange of the tooling ram and anvil as shown in Figure 4.

**NOTE**

An amount of "float" is evident between the guide plate and guides before connector placement. This is normal and allows the connector to be placed without disturbing the conductors. When the connector is loaded and termination tooling pressure is applied, the "float" is taken out of the guide assembly.

8. Terminate the connector by rotating the lever of the manual applicator until the termination covers bottom on the connector housing, then return the lever to its original position.

**CAUTION**

Do NOT apply additional force after the termination covers are bottomed on the connector housing. A method of avoiding the possibility of excess force being applied to the connector is to rotate the applicator lever until covers are bottomed on the housing and, maintaining the lever in this position, turn the locking collar of the applicator ram until it bottoms on the applicator frame. Securing the collar in that position provides a uniform shut height for termination of connectors.

9. Slide the guide plate and terminated connector out of the upper and lower guides and remove the connector from its holder on the guide plate.

10. Remove the termination bar carefully from the connector.

**5. TOOLING MAINTENANCE/INSPECTION**

**A. Maintenance**

The tooling requires little maintenance other than to keep it clean. Clean the tooling with a clean brush, or a clean, soft, lint-free cloth after each use. Tool operators should make certain that all screws are in place and that they are secured.

**B. Inspection**

Although AMP recommends a monthly inspection of this tool by quality control personnel, working conditions, operator training and skill, and established company policy will determine inspection frequency in customer locations.

Inspections should include examination of tooling and hardware with special emphasis placed on wear or damage to tooling. All screws used to secure the tooling should be examined for tightness and secured if loose. Damage to tooling will require replacement.

Refer to Paragraph 6, REPAIR, for information regarding repair or part replacement.

**6. REPAIR**

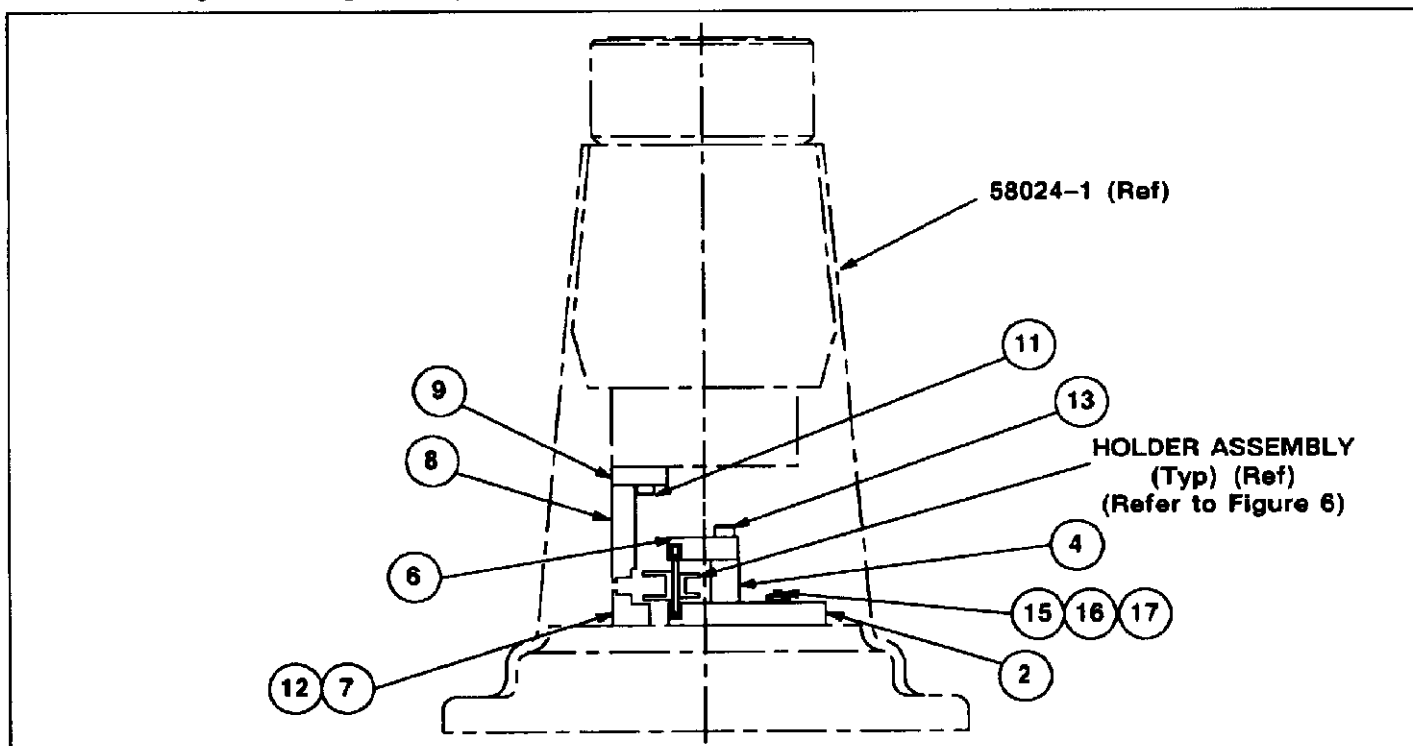
Items listed in Figure 5 and Figure 6 are customer-replaceable. If replacements are required, they may be ordered by part number from:

AMP Incorporated  
Customer Service (38-35)  
P.O. Box 3608  
Harrisburg, PA 17105-3608

or a wholly-owned subsidiary of AMP Incorporated.

If repair is desired, the tooling may be returned to AMP for evaluation and repair. Send the tooling, with written description of the problem, to:

AMP Incorporated  
Customer Repair (01-12)  
1523 North 4th Street  
Harrisburg, PA 17102-1604



**CUSTOMER-REPLACEABLE PARTS**

| ITEM | PART NO. | DESCRIPTION  | QTY | ITEM | PART NO.  | DESCRIPTION                  | QTY |
|------|----------|--------------|-----|------|-----------|------------------------------|-----|
| 2    | 852861-1 | PLATE, Base  | 1   | 11   | 2-21000-0 | SCREW, Skt Hd Cap 6-32x.50L  | 4   |
| 4    | 852863-1 | SPACER       | 1   | 12   | 2-21007-8 | SCREW, Skt Hd Cap 8-32x.62L  | 2   |
| 6    | 852865-1 | GUIDE, Upper | 1   | 13   | 3-21000-2 | SCREW, Skt Hd Cap 8-32x1.25L | 2   |
| 7    | 852866-1 | ANVIL        | 1   | 15   | 3-21000-1 | SCREW, Skt Hd Cap 8-32x1.00L | 2   |
| 8    | 852867-1 | RAM          | 1   | 16   | 21055-6   | WASHER No. 8                 | 2   |
| 9    | 852868-1 | BASE         | 1   | 17   | 21018-5   | NUT, 8-32                    | 2   |

Note: Figure callouts correspond to customer drawing 852859-1  
Fig. 5

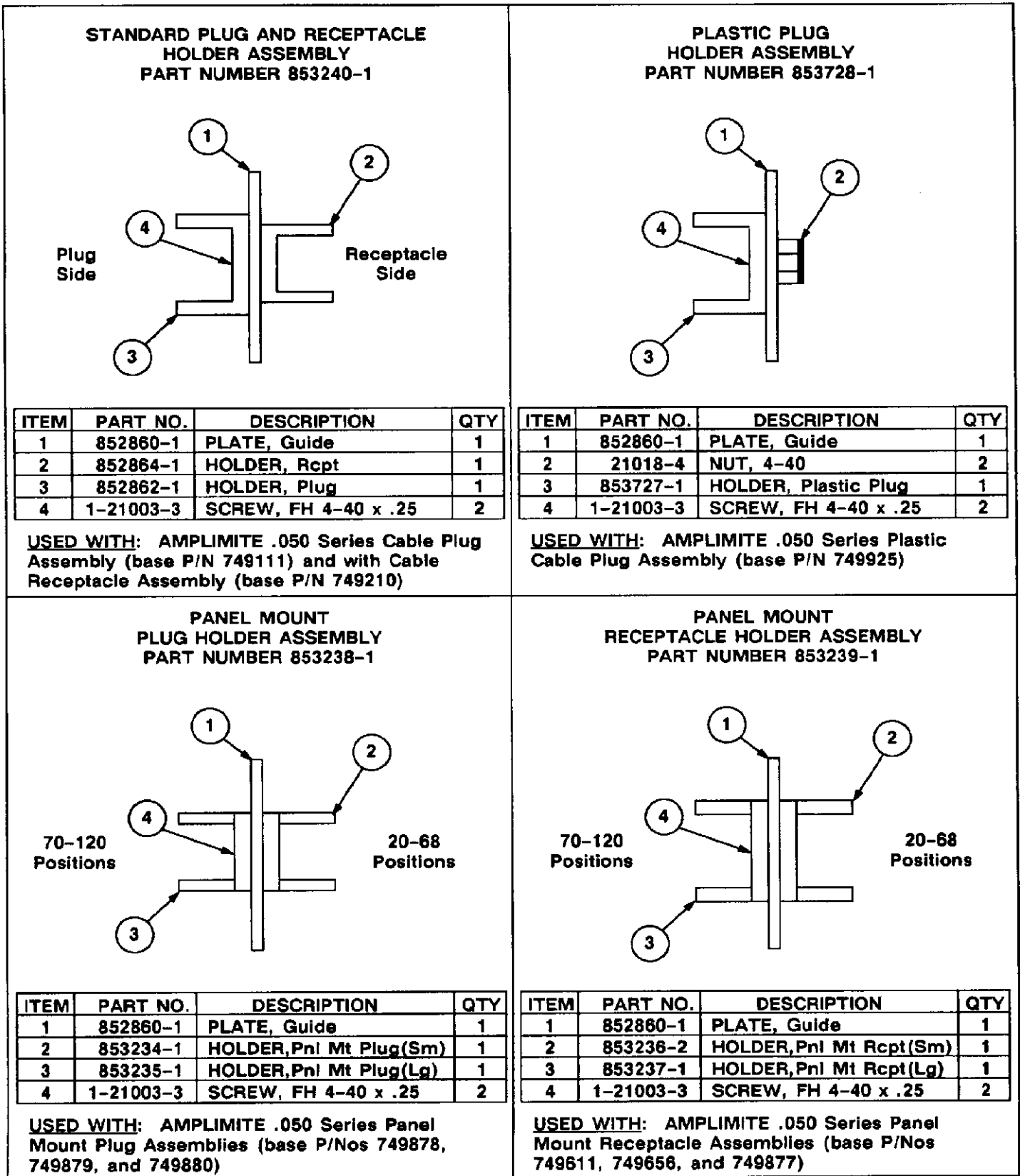


Fig. 6