

MTA-100 RECEPTACLE CONNECTORS
(Closed-End Style Only)

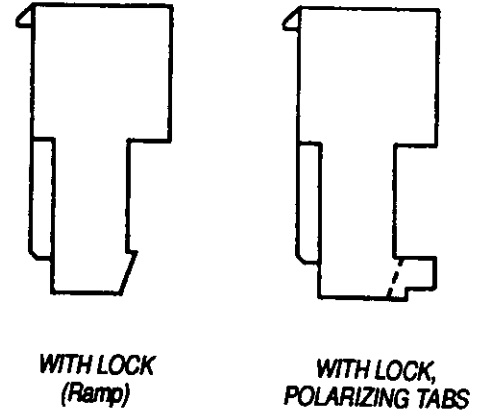


Figure 1

94-64

1. INTRODUCTION

This instruction sheet covers operation and maintenance of AMP Terminating Head 58246-2 for use in AMP Pistol Grip Manual Handle Assembly 58074-1, or AMP Pistol Grip Pneumatic Handle Assembly 58075-1. Read these instructions thoroughly before using the heads. Refer to the instruction sheets packaged with the pistol grip handle assembly for head installation and removal: instruction sheets 408-6790 (manual) and 408-6789 (pneumatic).

See Section 8, REVISION SUMMARY, for revision information.

2. DESCRIPTION

This head is used to terminate unstripped wires in two types of MTA-100 closed-end receptacle connectors: connectors with lock (ramp), and connectors with polarizing tabs and lock: See Figure 2. Slotted contacts for insulation displacement termination are pre-assembled on 2.54 mm [.100 in.] centerlines in each color-coded housing for a specific wire size. The part numbers listed in Figure 2 are not intended to be a complete list. Refer to AMP Catalog 82056 for complete selection of part numbers.

NOTE

All dimensions are in metric units [with U.S. customary units in brackets].

WIRE SIZE (AWG)	MTA-100 IDC RECEPTACLE CONNECTORS WITH LOCKING RAMP				
	COLOR CODE	WITHOUT POLARIZING TABS		WITH POLARIZING TABS	
22	RED	640440	643498	643813	644677
		641237	644314	644042	
		641534		644083	
24	NATURAL	640441	643814	643814	644312
		641238	644020	644020	
26	BLUE	640442	643815	643815	—
		641239	644043	644043	
		641536		644313	
28	GREEN	640443	641537	643816	—
		641240		644044	

Figure 2

After the head is inserted into the pistol grip handle assembly, it serves as a guide and support for the connector during termination. Features of the head and their functions are as follows:

Wire Inserter – forces wire into the two slotted beams of the contact. (Note that the inserter provides support for the contact beams when applying insertion force on the wire.)

Adjuster (Insertion Rod) – is a piston for the wire inserter and regulates its travel.

Feed Slide – automatically positions the connector after each termination.

Locating Pawl – aligns connector for insertion, and retains it during termination. The locating pawl is also referred to as the “anti-backup pawl.”

3. SETUP ADJUSTMENTS AND TEST

The adjuster (insertion rod) of the wire inserter is preset for wire sizes 22 through 28 AWG. If the wire is being inserted too deeply or not deeply enough inside the contact, it may be necessary to adjust the depth of the wire inserter; or, if the pneumatic handle assembly is being used, it may be necessary to adjust either the air pressure or the depth of the wire inserter.

3.1. For Pistol Grip Manual Handle Assembly

1. Determine the wire size, and select the appropriate color-coded connector from the chart in Figure 2. Dash numbers are used to indicate number of contact positions.
2. Using a small knife, cut off the wire retainers (strain relief). This will provide a clear view for inspecting the connector for a properly terminated wire in the contact. See Figure 3.

CAUTION

Wire retainers are removed to provide a connector for testing only. Do NOT use such connectors for production applications.

3. Place connector in tool and make a test termination using procedure described in Section 4, TERMINATING PROCEDURE, Steps 1 through 6.
4. Push connector out of right side of head.
5. Inspect termination in accordance with Section 5, INSPECTION, Steps 1 through 6.

If you determine that the wire insertion depth is incorrect, proceed to Paragraph 3.3, Wire Insertion Depth Adjustment.

3.2. For Pistol Grip Pneumatic Handle Assembly

1. Perform the procedure outlined in Paragraph 3.1, For Pistol Grip Manual Handle Assembly, Steps 1 through 4.

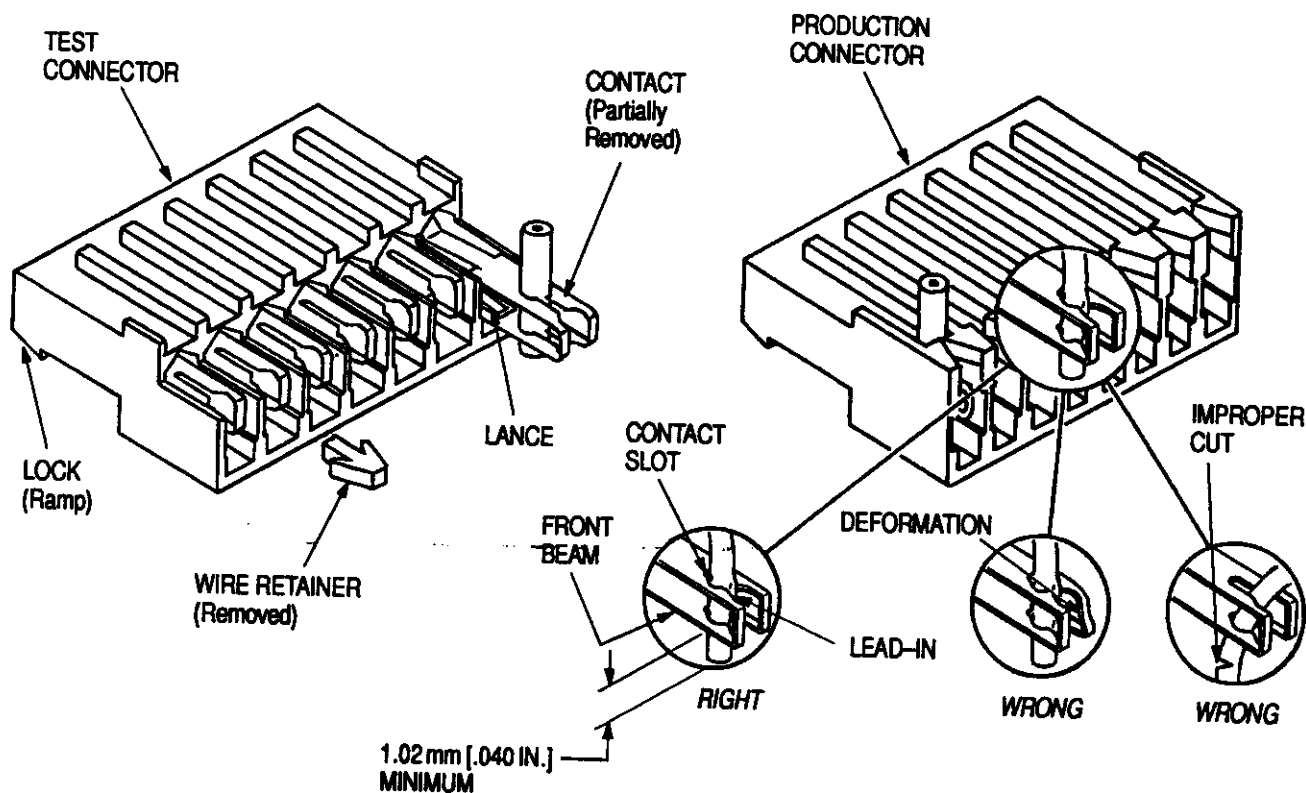


Figure 3

94-85

2. Inspect termination to ensure that conductor is terminated past the lead-in transition and is positioned about halfway into the contact slot. See Figure 3.

3. Inspect termination to ensure that insulation is 1.02 mm [.040 in.] minimum beyond the front contact beam.

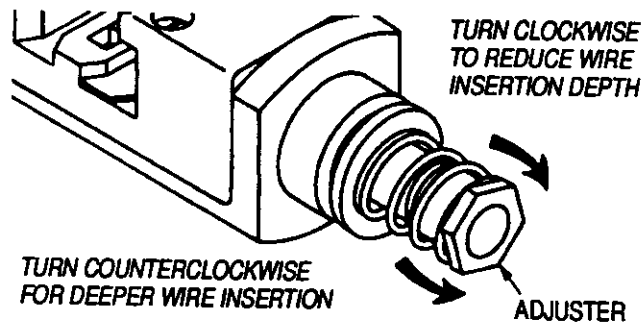
4. If, upon inspection, it is determined that the wire is not inserted deeply enough, increase the air pressure by 69 kPa [10 psi], and repeat the termination and inspection procedure. Continue in this manner until either the proper insertion depth is obtained or the air pressure is set to 483 kPa [70 psi]. If the proper insertion depth is not reached at 483 kPa [70 psi], return the air pressure to 276 kPa [40 psi] and follow the procedure in Paragraph 3.3, Wire Insertion Depth Adjustment.

If the wire is inserted too deeply, refer to the procedure in Paragraph 3.3, Wire Insertion Depth Adjustment.

3.3. Wire Insertion Depth Adjustment

Wire Too Deep in Contact Slot – If the wire is inserted too deeply, remove the head and turn the adjuster 1/6 revolution **CLOCKWISE** (see Figure 4). This will reduce the wire insertion depth by approximately .203 mm [.008 in.]. Repeat Steps 3, 4, and 5 of Paragraph 3.1, For Pistol Grip Manual Handle Assembly.

Wire Not Deep Enough in Contact Slot – If the wire is not inserted deeply enough in contact slot, remove the head and turn the adjuster 1/6 revolution **COUNTERCLOCKWISE** (see Figure 4). This will increase the wire insertion depth by approximately



NOTE: 1/6 TURN EQUALS .203 mm [.008 IN.] ADJUSTMENT.

Figure 4

31-11

.203 mm [.008 in.]. Repeat Steps 3, 4, and 5 of Paragraph 3.1, (or Steps 3 and 4 of Paragraph 3.2).

4. TERMINATING PROCEDURE (Figure 5)

1. Insert connector into left side of head as indicated.
2. Align contact to be terminated with wire inserter.
3. Make sure locating pawl rests between connector index ribs.
4. Insert an unstripped wire into the funnel area between contact and wire inserter until it bottoms on tool base.
5. Depress trigger (or squeeze cam handle) of pistol grip handle assembly and hold it until inserter bottoms or ratchet releases.
6. Release trigger (or cam handle). The inserter will retract and the feed slide will automatically advance connector to next contact position.

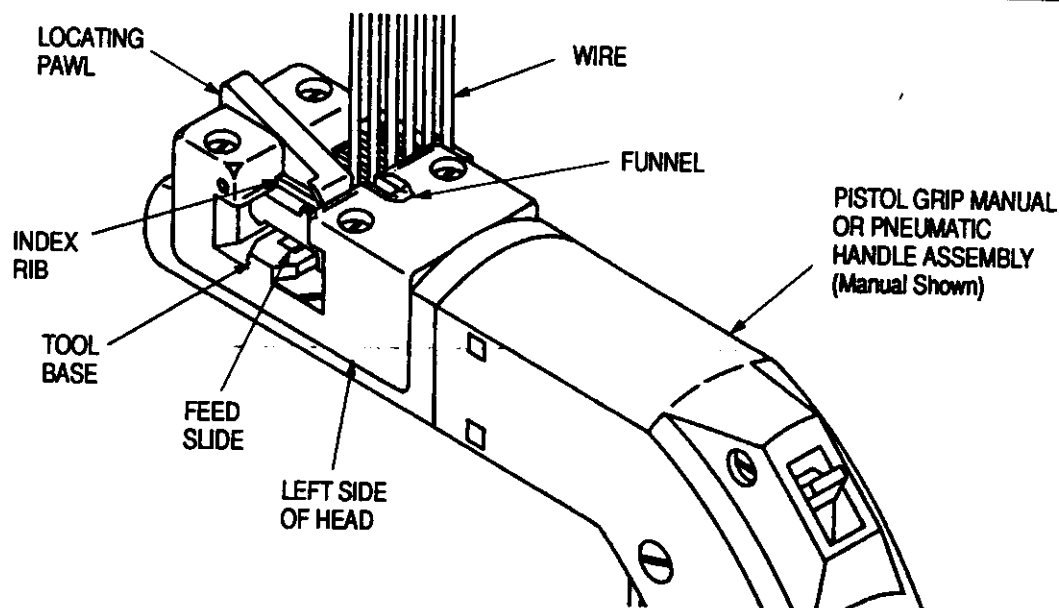


Figure 5

31-10

NOTE

The locating pawl will move up and down as the connector is automatically advanced through the head. However, if movement is obstructed, or if desirable, the locating pawl can be depressed and the connector moved manually out the RIGHT side of the head.

7. Repeat Steps 2 through 6 until all contacts have been terminated.

8. Inspect each termination according to the procedure in Section 5, INSPECTION.

5. INSPECTION (Figure 3)

Inspect each termination to ensure the following:

1. Conductor is terminated past the lead-in transition and about halfway in the contact slot.
2. Insulation is 1.02 mm [.040 in.] minimum beyond the front contact beam. See Figure 3.
3. Wire is NOT bottomed in contact slot.
4. Contact beams are NOT deformed. If damage is apparent, replace contacts in accordance with the instructions packaged with the connector.
5. Insulation of wire is NOT nicked or cut in any area other than the two wire slots.
6. Wire extends below the strain-relief features of connector.

6. TOOL MAINTENANCE

The following procedures have been established to assure quality and reliability of AMP terminating tools. A brief check should be made daily, and a more detailed inspection should be scheduled by your quality control group.

6.1. Daily Maintenance

Each operator should be aware of, and responsible for, the following:

1. Remove dust, moisture, and other contaminants with a clean brush, or soft, lint-free cloth. Do NOT use objects that could damage the tool.
2. Make sure all components are in place and properly secured. If NOT, return the tool to your supervisor.
3. Actuate handle assembly to ensure mechanisms inside head move smoothly.

6.2. Periodic Maintenance

Regular inspections should be performed by your quality control personnel with a record of these inspections remaining with the personnel responsible

for the tool. We recommend one inspection a month; however, operator training and skill, amount of use, ambient working conditions, and your company's established standards are all factors in establishing frequency of inspections.

These inspections should be done in the following sequence:

1. Remove any accumulated film with a suitable cleaning agent that will NOT affect plastic material.
2. Make sure all components are in place and properly secured. See Figure 6.
3. Make a few test terminations and inspect the terminations in accordance with Section 5, INSPECTION.
4. Check for chipped, cracked, worn, or broken areas. If damage is evident, repair is necessary. See Section 7, REPLACEMENT and REPAIR.

7. REPLACEMENT AND REPAIR

Customer replaceable parts are listed in Figure 6. Order replaceable parts through your AMP representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

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

Tools may also be returned to AMP for evaluation and repair. For repairs, send tool, with a written description of the problem, to:

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

8. REVISION SUMMARY

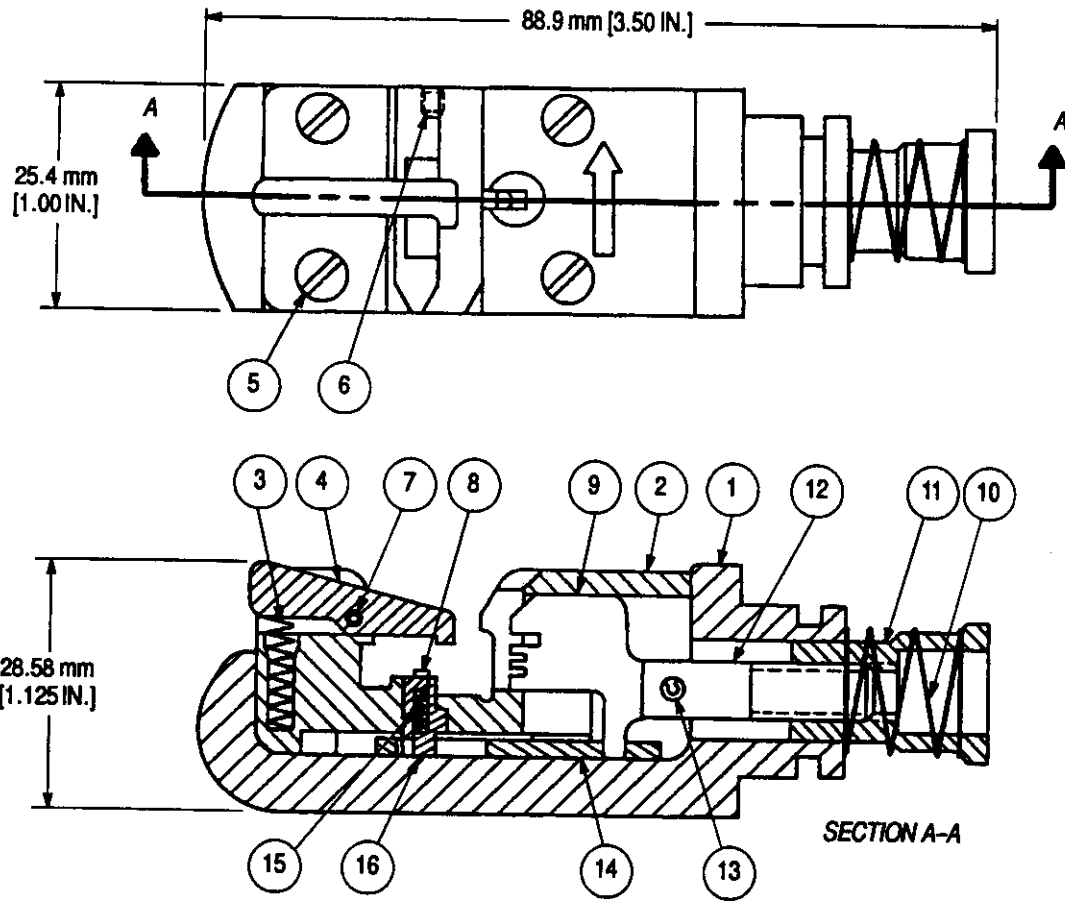
Since the previous release of this sheet, the following changes were made:

Per EC 0150-3265-94

- Added Connectors to Figure 2
- Revised Step 3 in Paragraph 3.2 and Step 2 in Section 5: the insulation may protrude up to 1.02 mm [.040 in.]
- Revised Figure 6, item 4, to 768531-1, and item 14 to 768530-1
- Removed RESTRICTED status

Per EC 0990-0252-93

- Updated format
- Added metric units
- Added Section 8, REVISION SUMMARY
- Changed revision level to Rev. A



WEIGHT: 85 g [3 oz.]

CUSTOMER REPLACEABLE PARTS			
ITEM	PART NUMBER	DESCRIPTION	QTY PER ASSEMBLY
1	312150-1	HEAD, Finished	1
2	313813-1	HOUSING, Insert	1
3	6-22278-5	SPRING, Compression	1
4	768531-1	PAWL, Locating	1
5	4-22430-8	SCREW, Mach (4-40 x .875 L)	4
6	1-21010-9	SETSCREW, Slt (4-40 x .125 L)	1
7	21041-7	PIN, Spiral Spring	1
8	312192-1	PAWL, Feed	1
9	312160-1	INSERTER, Wire	1
10	22488-5	SPRING, Compression	1
11	312149-1	ADJUSTER, Rod Insertion	1
12	312148-1	ROD, Inserter	1
13	3-21028-2	PIN, Slotted Spring	1
14	768530-1	CAM, Traverse Slide	1
15	1-23147-2	SPRING, Compression	1
16	312151-1	SLIDE, Feed	1

Figure 6

31-12