

The MTA system uses the Insulation Displacement Technique which is a method of inserting unstripped wire into a slotted contact beam to form a reliable electrical connection between the conductor and contact.

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 (see Figure 1) and their functions are as follows:

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

**Adjuster** - is a piston for - and regulates travel of - the wire inserter.

**Feed Slide** - automatically positions the connector after each termination.

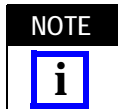
**Index Pawl** - aligns connector for insertion, and retains it during termination

WIRE SIZE (AWG)	POSTED CONNECTORS (MTA-156)		
	COLOR CODE	CLOSED END	FEED THROUGH
18	Orange	641435	641522
20	Yellow	641436	641523
22	Red	641437	641524
24	Natural	641438	641525
26	Blue	641439	641526

Figure 1

## 1. INTRODUCTION

This instruction sheet covers the operation and maintenance of TE Connectivity MTA Terminating Head 58082-1 for use in Pistol Grip Manual Handle Assembly 58074-1, or Pistol Grip Pneumatic Handle Assembly 58075-1. Read these instructions thoroughly before using the heads. Refer to the instructions packaged with the pistol grip handle assembly for head installation and removal.



**NOTE** Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

Reason for revision is given in Section 8, REVISION SUMMARY.

## 2. DESCRIPTION

This head is designed to terminate wires in MTA (Mass Termination Assembly) posted connectors with contacts on 3.96 mm [.156] centers (MTA-156). See table in Figure 1.

## 3. SETUP ADJUSTMENTS AND TEST

The adjuster (insertion rod) of the wire inserter is present for wire sizes 18 through 26 AWG. If the wire is being inserted too deep or not deep 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 connector. (Connectors are color-coded according to the wire sizes they accommodate.)
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 2.



**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.

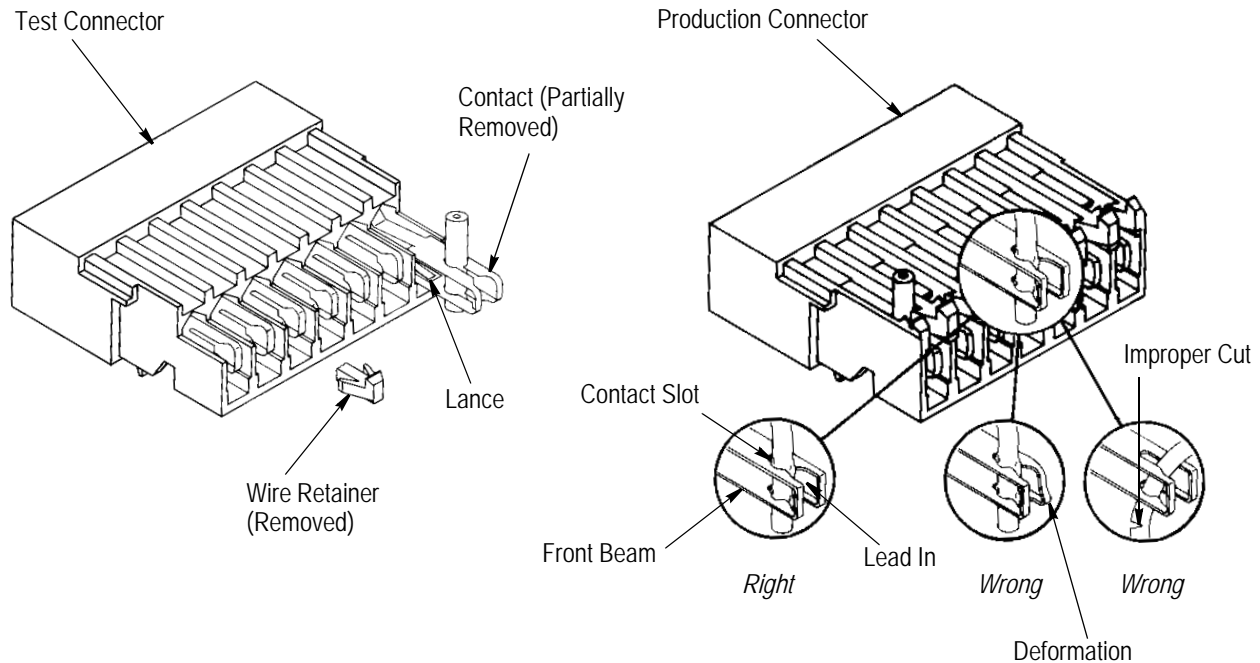


Figure 2

### 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.
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 2.
3. Inspect termination to ensure that insulation is 2.03 to 2.54 mm [.080-.100 in.] beyond the front contact beam.

4. If, upon inspection, it is determined that the wire is not inserted deep enough, increase the air pressure by 68.95 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 482.6 kPa [70 psi]. If the proper insertion depth is not reached at 482.6 kPa [70 psi], return the air pressure to 275.8 kPa [40 psi] and follow the procedure in Paragraph 3.3, Wire Insertion Depth Adjustment.

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

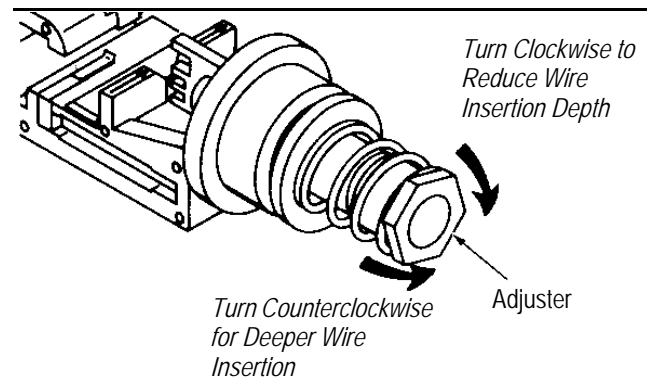
### 3.3. Wire Insertion Depth Adjustment



**CAUTION** Use a 9/16-in. socket wrench or box wrench when turning the adjuster. Do NOT use an open-end wrench or pliers; both of these tools will deform or nick the adjuster.

**Wire Too Deep in Contact Slot** - If the wire is inserted too deep, remove the head, and turn the adjuster 1/6 revolution CLOCKWISE (see Figure 3). This will

reduce the wire insertion depth by approximately 0.20 mm [.008 in.]. Repeat Steps 3, 4, and 5 or Section 3, SETUP ADJUSTMENTS AND TEST.

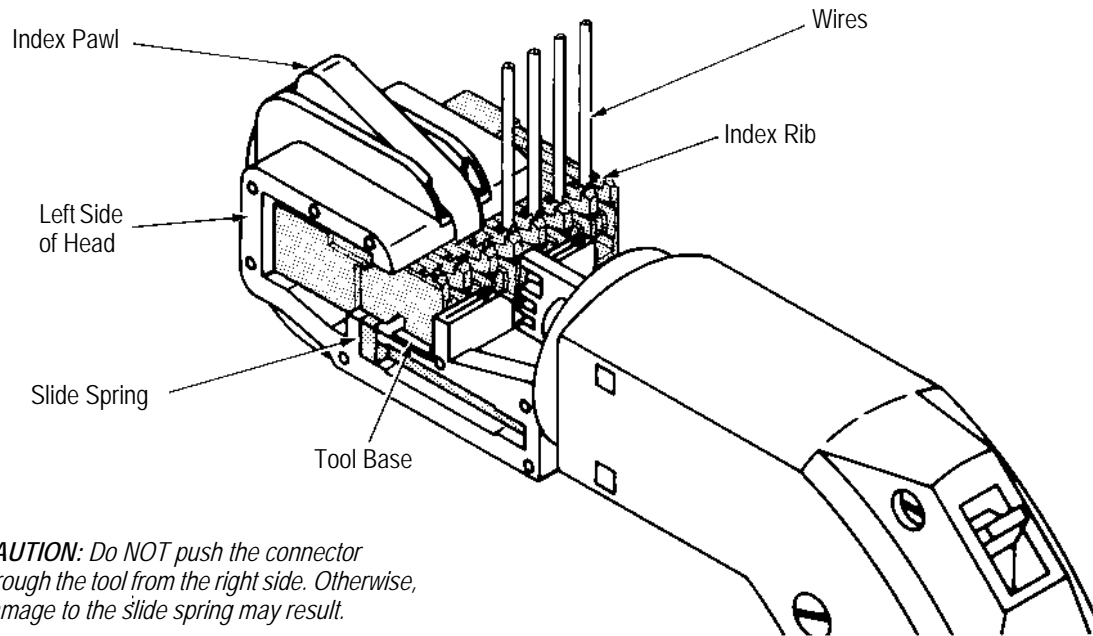


**NOTE:** 1/6 Turn Equals 0.20 mm [.008 in.] Adjustments.

Figure 3

### 4. TERMINATING PROCEDURE (Figure 4)

1. Insert connector into left side of head as indicated.
2. Align contact to be terminated with wire inserter.
3. Make sure index 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.



**CAUTION:** Do NOT push the connector through the tool from the right side. Otherwise, damage to the slide spring may result.

Figure 4

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.

**NOTE** *The index pawl will move up and down as the connector is automatically advanced through the head. However, if movement is obstructed, or if desirable, the index 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 procedures in Section 5, INSPECTION.

## 5. INSPECTION (Figure 2)

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 2.03 to 2.54 mm [.080 to .100 in.] beyond the front contact beam.
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 CERTIFICATION

The procedures described in the following text have been established to ensure quality and reliability of TE 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. Quality Control Maintenance

Regular inspections should be performed by your quality control personnel with a record of quality control inspections remaining with the personnel responsible for the tool. TE recommends one inspection a month; however, operation 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 5.
3. Make a few test terminations and inspect the termination 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, REPAIR.

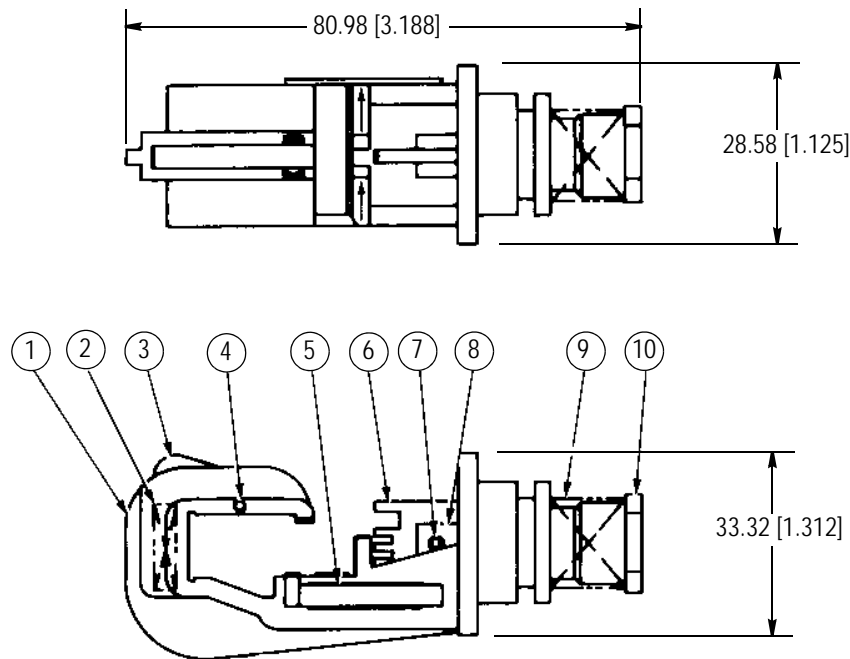
CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

8. REVISION SUMMARY

- Updated document to corporate requirements
- New logo

7. REPAIR

Customer replaceable parts are listed in Figure 5.  
 Parts and additional tools can be purchased from:



Weight: 0.085 kg [3 oz]

CUSTOMER REPLACEABLE PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	312392-1	HEAD	1
2	22278-6	SPRING, Compression	1
3	310215-3	PAWL, Index	1
4	21028-6	PIN, Slotted Spring	1
5	310212-4	FEED SLIDE SUBASSEMBLY	1
6	312393-1	INSERTER, Wire	1
7	3-21028-2	PIN, Slotted Spring	1
8	312148-4	ROD, Insertion	1
9	22488-5	SPRING, Compression	1
10	312149-1	ADJUSTER	1

Figure 5