

Figure 1

1. INTRODUCTION

This instruction sheet covers operation and maintenance of MTA Terminating Head 58247-1 (shown in Figure 1) which is used to terminate unstripped wire sizes 26 through 18 AWG onto MTA-156 closed end IDC (insulation displacement contact) receptacle connectors with or without lock (ramp) and with or without polarizing tabs. Slotted contacts for IDC termination are pre-assembled on 3.96 [.156] centerlines in each color-coded housing for a specific wire size. Refer to Figure 2.

NOTE

The product part numbers listed are not intended to be a complete list. Refer to Tyco Electronics Catalog 82056.

The head is used in Pistol Grip Manual Handle Assembly 58074-1 or Pistol Grip Pneumatic Handle Assembly 58075-1. Refer to Instruction Sheet 408-6790 (for manual assembly) or Instruction Sheet 408-6789 (for pneumatic assembly) for head installation and removal. Read these instructions and referenced documents thoroughly before using the terminating head.

NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are for reference only and are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 8, REVISION SUMMARY.

2. DESCRIPTION

The terminating head 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 it 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 wire inserter travel.

Feed slide—automatically positions the connector after each termination.

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

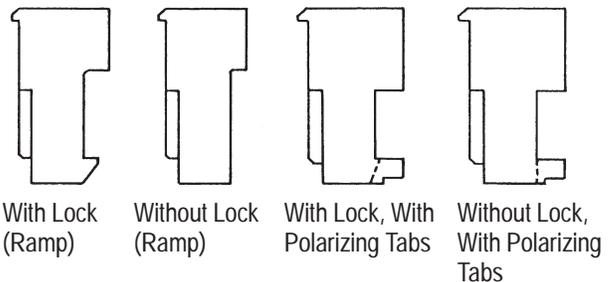
3. SETUP ADJUSTMENT AND TESTING

The adjuster (insertion rod) of the wire inserter is preset for wire sizes 26 through 18 AWG. If the wire is being inserted too deeply or not deeply enough inside the contact, adjustments may be necessary.

3.1. Testing

1. Determine wire size, and select the appropriate color-coded connector. Refer to Figure 2. Dash numbers are used to indicate number of contact positions.

MTA-156 Closed End IDC Receptacle Connectors



WIRE SIZE (AWG)	CONNECTOR				
	COLOR CODE	With Lock		Without Lock	
		Without Tabs	With Tabs	Without Tabs	With Tabs
26	Blue	640430	—	640435	—
24	Natural	640429	643820	640434	644464
22	Red	640428 641219	643819 644662	640433 641224 644501	644463 644566 644687
20	Yellow	640427 641218	643818 644663	640432 641223	644462
18	Orange	640426 641217	643817 644460	640431 641222 644502	644082 644461

Figure 2

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 the connector in the head and make a test termination as described in Section 4, TERMINATING PROCEDURE.

4. Push the connector out of the right side of the head.

5. If using the manual handle assembly, inspect the termination in accordance with Section 5, TERMINATION INSPECTION. If the wire insertion depth is incorrect, proceed to Paragraph 3.2, Wire Insertion Depth Adjustment.

6. If using the pneumatic handle assembly, inspect the termination to ensure that the conductor is terminated passed the lead-in transition and is positioned about halfway into the contact slot. Inspect the termination to ensure that the wire insulation is beyond the front of the contact beam by at least 1.52 [.060]. See Figure 3.

- a. If the wire is inserted too deep in the wire contact slot, refer Paragraph 3.2, A.
- b. If the wire is not inserted deeply enough in contact slot, 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 still NOT reached, return the air pressure to 276 kPa [40 psi] and refer to Paragraph 3.2, B.

3.2. Wire Insertion Depth Adjustment (Figure 4)

A. Wire Too Deep

If the wire is inserted too deep in the wire contact slot, remove the head from the tool, and turn the adjuster *clockwise* one-sixth of a revolution. The wire insertion depth will be reduced by approximately 0.20 [.008]. Repeat the test procedure as described in Paragraph 3.1.

B. Wire Not Deep Enough

If the wire is not inserted deeply enough in contact slot, remove the head from the tool and turn the adjuster *counterclockwise* one-sixth of a revolution. The wire insertion depth will be increased by approximately 0.203 [.008]. Repeat the test procedure as described in Paragraph 3.1.

4. TERMINATING PROCEDURE

- 1. Insert connector into left side of head as shown in Figure 5.
- 2. Align the contact to be terminated with the wire inserter. Make sure that the locating pawl rests between the connector index ribs.

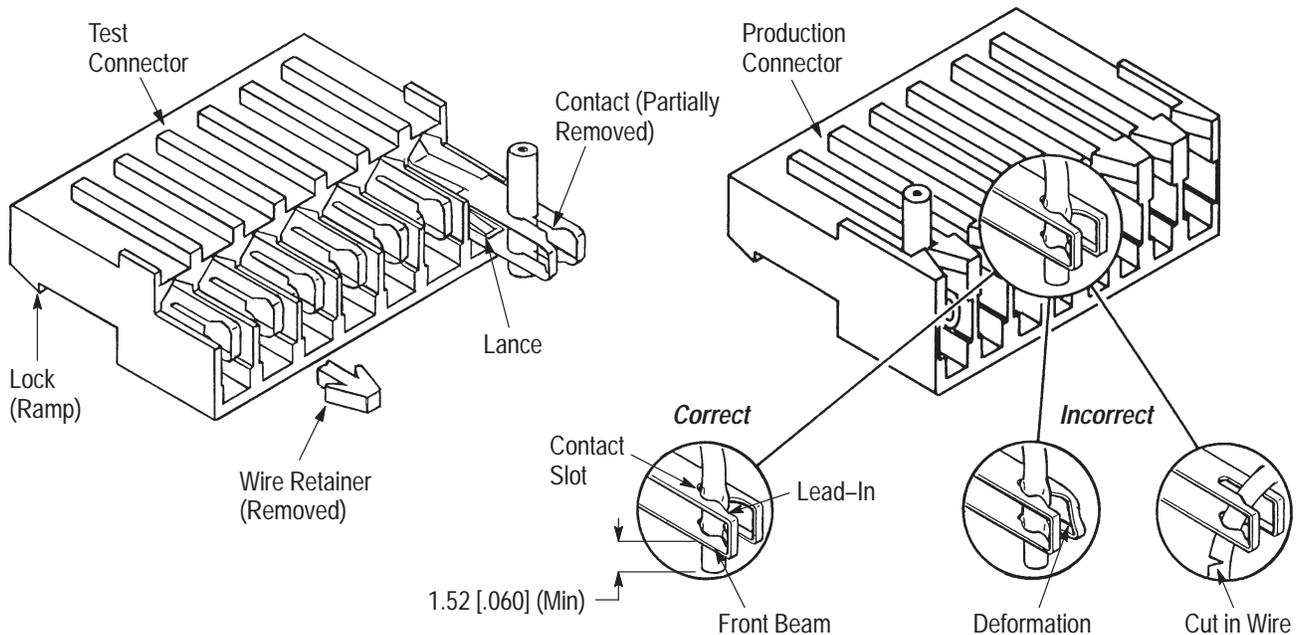
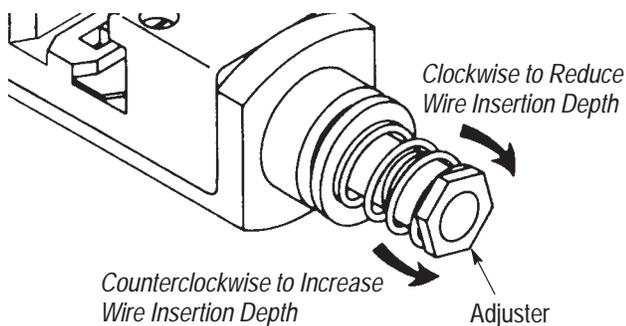


Figure 3



Note: $\frac{1}{6}$ turn equals 0.20 [.008] adjustment.

Figure 4

3. Insert an unstripped wire into the funnel area between contact and wire inserter until the wire bottoms on the tool base.
4. Depress the trigger (or squeeze the cam handle) of the pistol grip handle assembly and hold until the inserter bottoms or ratchet releases.
5. Release trigger (or cam handle). The inserter will retract and the feed slide will automatically advance the connector to the next contact position.

NOTE

The locating pawl will move up and down as the connector automatically advances 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.

6. Repeat Steps 2 through 5 until all contacts have been terminated. Inspect each termination according to Section 5, TERMINATION INSPECTION.

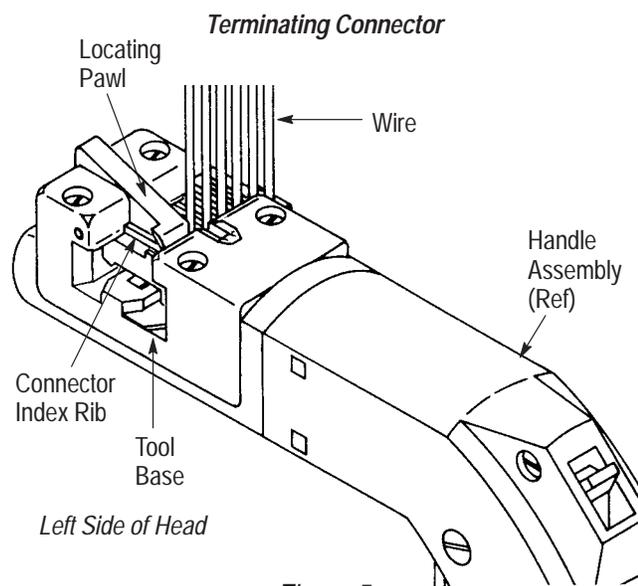


Figure 5

5. TERMINATION INSPECTION

Inspect each termination to ensure the following:

NOTE

For detailed inspection requirements, refer to Application Specification 114-1020.

- conductor is terminated past the lead-in transition and about halfway in the contact slot
- insulation is 1.52 [.060] (minimum) beyond the front contact beam (see Figure 3)
- wire is NOT bottomed in contact slot
- contact beams are NOT deformed. If damage is apparent, replace contacts in accordance with the instructions packaged with the connector
- insulation of wire is NOT nicked or cut in any area other than the two wire slots
- wire extends below the strain-relief features of connector

6. MAINTENANCE AND INSPECTION

The head is inspected before shipment. It is recommended that the head be inspected immediately upon arrival at your facility to ensure that the head conforms to the dimensions provided in Section 7 and that the head has not been damaged during transit. Each operator should be aware of, and responsible for, the following:

6.1. Daily Maintenance

1. Remove dust, moisture, and other contaminants with a clean brush, or soft, lint-free cloth. Do NOT use objects that could damage the head.
2. Make sure all components are in place and properly secured. If NOT, refer to Section 7 for information on obtaining evaluation and repair.
3. Actuate handle assembly to ensure mechanisms inside head move smoothly.

6.2. Periodic Maintenance

Regular inspections should be performed by quality control personnel with a record of these control inspections remaining with the personnel responsible for the head. Tyco Electronics recommends 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 performed 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. Refer to Section 7.
3. Make a few test terminations and inspect the terminations in accordance with Section 5, TERMINATION 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. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by Tyco Electronics to ensure quality and reliability. Order replacement parts through your Tyco Electronics Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

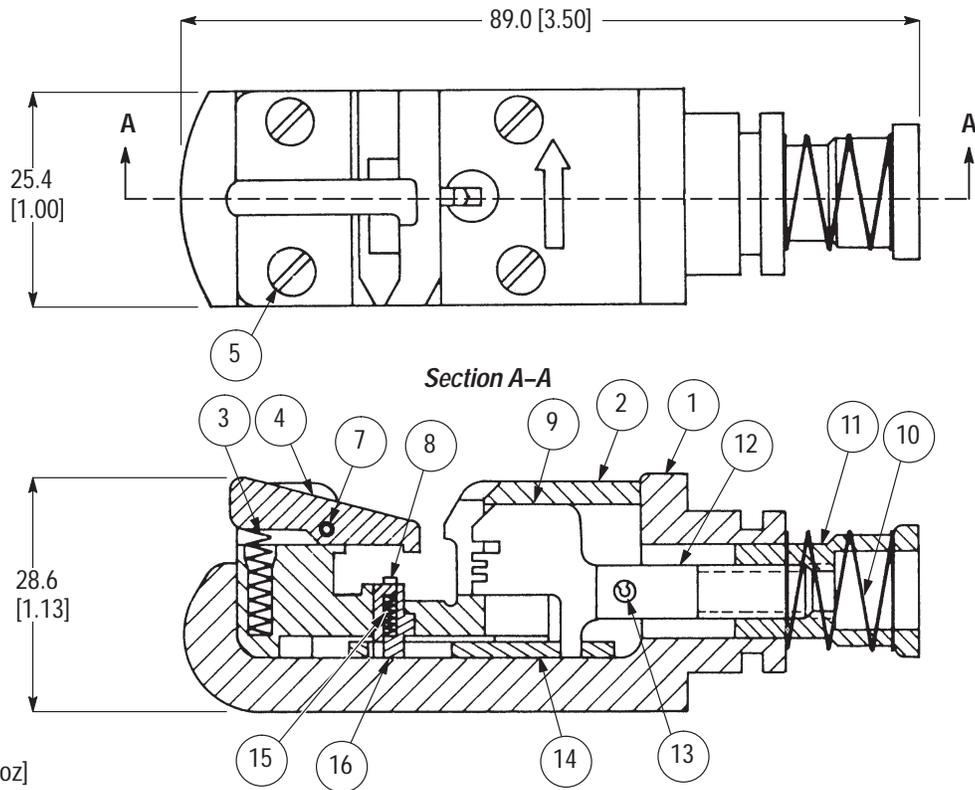
CUSTOMER SERVICE (038-035)
TYCO ELECTRONICS CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

For customer repair service, please contact a Tyco Electronics Representative at 1-800-526-5136.

8. REVISION SUMMARY

Revisions to this instruction sheet per EC 0990-0826-03 include:

- Updated document to corporate requirements
- Deleted obsolete part numbers in Figure 2
- Removed item 6 from Figure 6



Weight: 85 g [3 oz]

REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER ASSY.
1	312150-1	HEAD, Finished	1
2	312138-3	HOUSING, Insert	1
3	6-22278-5	SPRING, Compression	1
4	312147-1	PAWL, Locating	1
5	4-22430-8	SCREW, Machine (4-40 x .875 L)	4
7	21041-7	PIN, Spiral Spring	1
8	312192-1	PAWL, Feed	1
9	312154-1	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	312153-1	CAM, Traverse Slide	1
15	1-23147-2	SPRING, Compression	1
16	312151-1	SLIDE, Feed	1

Figure 6