

Figure 1

1. INTRODUCTION

This instruction sheet covers operation and maintenance of Terminating Head 58442-1 for use in Electric Power Unit 931800-1, Pistol Grip Pneumatic Handle Assembly 58075-1, or the Bench-Mount Power Assembly 58338-1. Read these instructions thoroughly before using the head.

For head installation and removal procedures, refer to:

- 408-6789 (Pistol Grip Pneumatic Handle Assembly 58075-1)
- 408-9393 (Bench-Mount Power Assembly 58338-1)
- 409-5746 (Electric Power Unit 931800-1)

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.

CAUTION

Feed-Through Head 58442-1 was designed for prototype cable assemblies, repair of cable assemblies, and as an engineering tool. This head was not designed for production type environments.

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

2. DESCRIPTION

Feed-Through Head 58442-1 is used to terminate 22 to 28 AWG wires in MTA-100 Receptacles 640620 and 640623. Refer to Catalog 82056 for connector information. Slotted contacts for insulation displacement termination are located on .100-in. centerlines. Housings are color-coded to correspond with specific wire sizes.

The head, which is inserted into an electric power assembly or bench-mount power assembly, serves as a guide and support for the connector during termination. Features of the head (shown in Figure 1) and 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.”

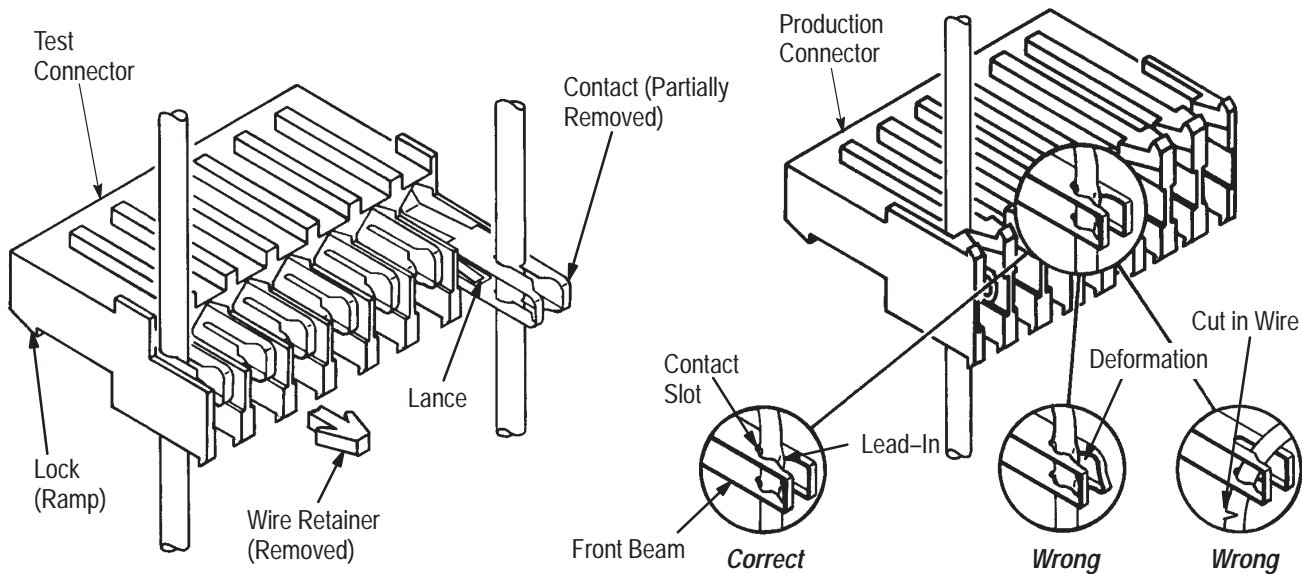


Figure 2

3. SETUP ADJUSTMENTS AND TEST

The adjuster (insertion rod) of the wire inserter is pre-set 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 air pressure or the depth of the wire inserter.

3.1. For Electric Power Unit 931800-1

1. Determine the wire size, and select the appropriate color-coded connector.
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.
3. Place connector in tool and make a test termination using procedure described in Section 4, TERMINATING PROCEDURE, Steps 1 through 6. If the connector cannot be inserted into the head, or if the connector is too loose in the head, loosen the two screws on the insert housing (see Figure 1) and adjust the insert housing until the connector fits properly in the head.
4. Push the connector out of the right side of the head.
5. Inspect termination in accordance with Section 5, INSPECTION, Steps 1 through 6.

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

3.2. Pistol Grip Pneumatic Handle Assembly 58075-1 and Bench-Mount Power Assembly 58338-1

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 1.78 to 2.16 [.070 to .085] 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.

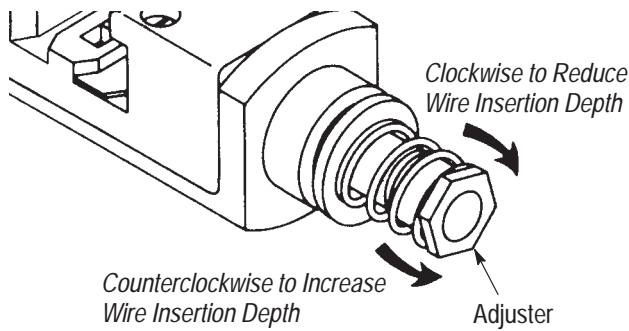
3.3. Wire Insertion Depth Adjustment (Figure 3)

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.



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

Figure 3

4. TERMINATING PROCEDURE (Figure 4)

Determine the wire size and select the appropriate connector. Connectors are color-coded according to the wire sizes they will accommodate.

1. Insert connector into left side of head as shown in Figure 4.
2. Align the contact to be terminated with the wire inserter.
3. Be sure the locating pawl rests between the connector index ribs.
4. Insert an unstripped wire into the funnel area between the contact and the wire inserter until it bottoms on the tool base.
5. Depress trigger (or squeeze cam handle) of pistol grip handle assembly and hold it until the inserter bottoms or the 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 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, and according to Application Specification 114-1031.

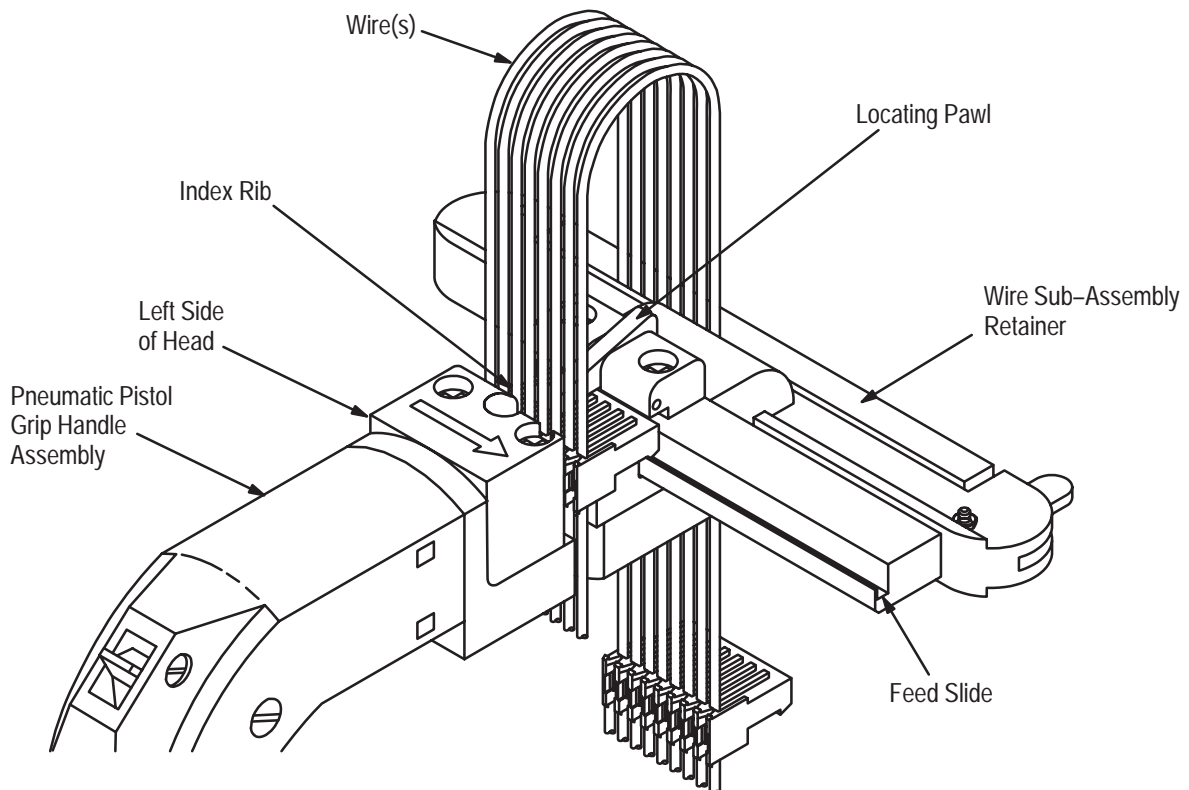


Figure 4

5. TERMINATION INSPECTION (Figure 2)

Inspect each termination to ensure the following:

1. Conductor is terminated past the lead-in transition and is about halfway in the contact slot.
2. Insulation is 1.78 to 2.16 [.070 to .085] 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 the connector.

Refer to Application Specification 114-1031 for more inspection information.

6. TOOLING INSPECTION/MAINTENANCE

The following procedures have been established to ensure the quality and reliability of your tooling. The tooling should be checked daily, and a more detailed inspection should be performed by your quality control group on a regular basis.

6.1. Daily Maintenance

Each operator should be aware of, and responsible for, the following steps of 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 tool.
2. Make sure all components are in place and properly secured.
3. Actuate the handle assembly to ensure mechanisms inside the head move smoothly.

6.2. Quality Control Maintenance

Regular inspections should be performed by your quality control personnel. A record of quality control

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

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 are properly secured.
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.

7. REPAIR AND REPLACEMENT

Customer-replaceable parts are listed on customer drawing 58442. 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 Paragraph 3.4 from document
- Deleted reference to "Feed Adjustment Screw" in Figure 4