

NUMBER OF CONNECTOR POSITIONS	CONNECTOR TYPE	CONNECTOR FIXTURE PART NUMBER
9	Plug	764000-1
	Receptacle	764001-1
15	Plug	764000-2
	Receptacle	764001-2
19	Plug	764000-5
	Receptacle	764001-5
25	Plug	764000-3
	Receptacle	764001-3
37	Plug	764000-4
	Receptacle	764001-4

Figure 1

1. INTRODUCTION

This instruction sheet covers the installation and use of AMP* Tooling Kit 762661-3, which can be used in the CHAMPOMATOR* 3A Terminating Machine. The tooling is used to apply discrete-wire cable to AMPLIMITE* HDE Connectors.

Read this sheet thoroughly before installing or using the tooling kit.

NOTE

Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 6, REVISION SUMMARY.

NOTE

These instructions are supplied in the documentation package for Tooling Kit 762661-3. Make sure to retain all material in the documentation package for reference.

2. DESCRIPTION

The tooling kit consists of a mandrel, two connector clamps, and two inserters. The mandrel performs two basic functions. First, it positions the connector, which is locked in place by a fixture (available separately), and the two connector clamps. Second, the mandrel helps to guide the wire to be inserted into the connector.

A hold-down feature on the mandrel permits the fixture to be quickly installed on the mandrel.

— When Used in the CHAMPOMATOR 3A Machine

Before operating the machine, the operator loads the cable into the machine's wire-management area and secures the proper connector into the connector fixture. During operation, the machine selects a wire from the cable, determines the correct connector position for the wire (according to previously-programmed information), moves the wire to that

position, and inserts the wire. This process continues until all the wires are terminated as programmed.

3. INSTALLATION PROCEDURE**NOTE**

It may be necessary to open or remove machine covers to perform the following procedures. Replace all covers before operating the machine.

3.1. Mandrel**NOTE**

*Both inserter assemblies **MUST** be removed prior to mounting or removing the mandrel.*

The mandrel is held in place by two hex head cap screws. Refer to Figure 2 for the CHAMPOMATOR 3A machine. To mount the mandrel:

1. Make sure that the two mounting screws are removed from the mandrel mounting area of the machine.
2. Place the mandrel on the machine, making sure that the mandrel is oriented as indicated for each machine. Align the mounting holes on the mandrel with the threaded mounting holes on the machine.
3. Insert the mounting screws through the mandrel, and into the machine, then evenly tighten the screws with a 5/32-in. hex wrench.

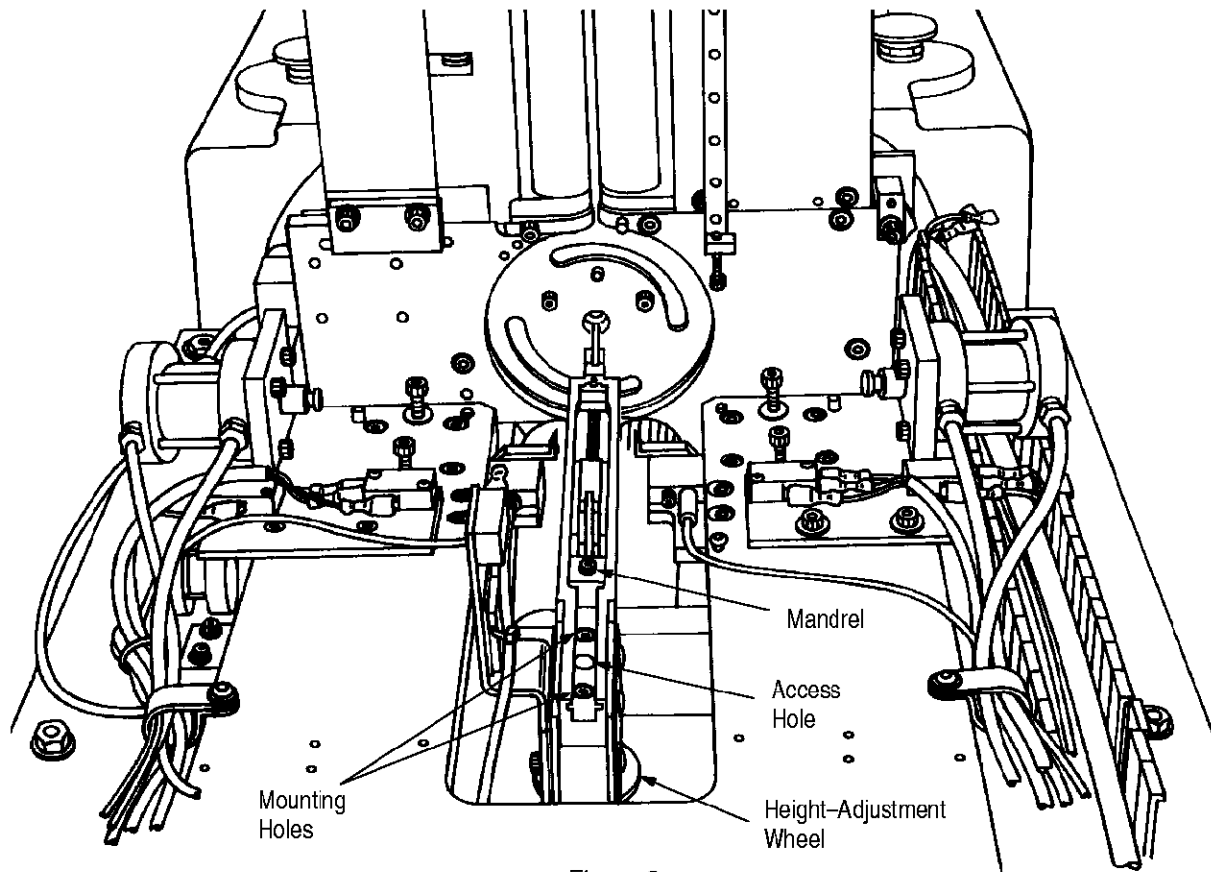


Figure 2

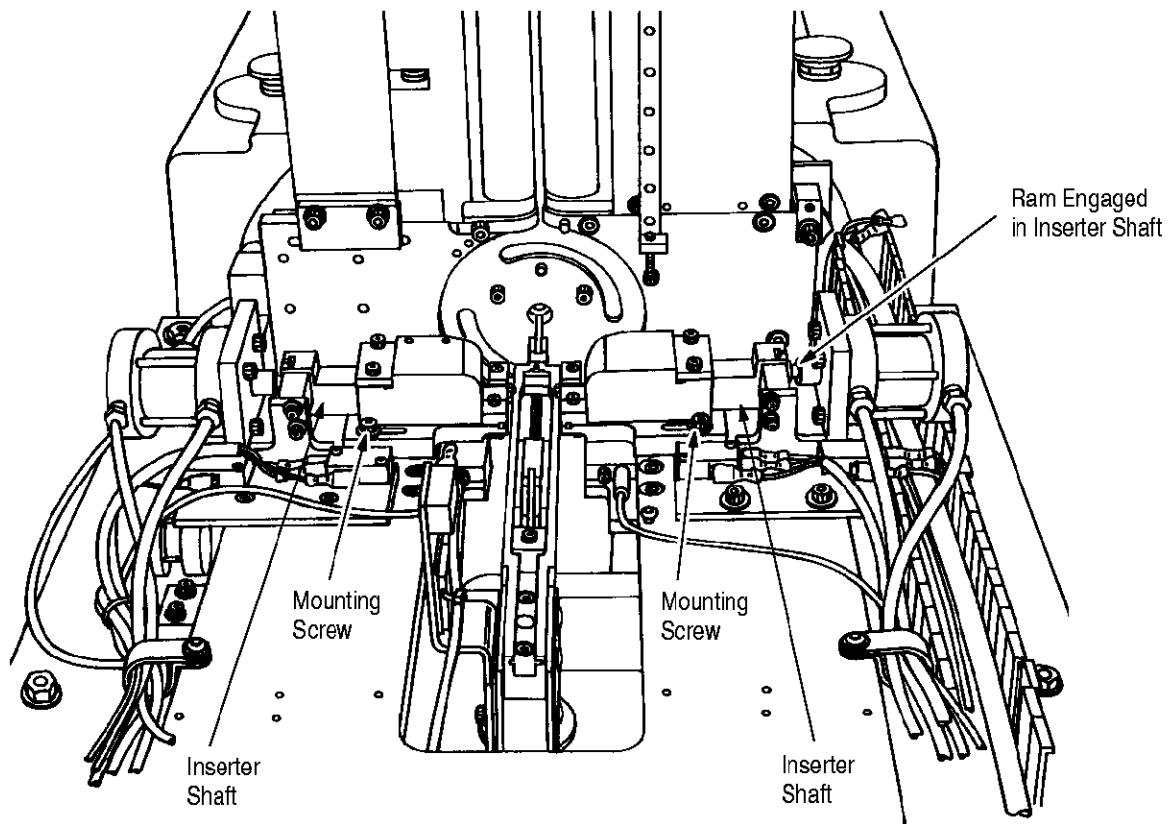


Figure 3

3.2. Inserters

Each inserter is held in place by two hex head cap screws and one mounting pin. Refer to Figure 3 for the CHAMPOMATOR 3A machine. To install the inserters:

1. Make sure that the mounting screws and pins are removed from the carriage surface.
2. Position each inserter so that the ram on the air cylinder engages the inserter shaft and so that the locating pin on the carriage surface fits into the locating hole on the inserter package. Make sure that the wire guide on each inserter package faces the connector fixture as shown.
3. Insert, but do NOT tighten the two mounting screws for each inserter.
4. Insert the mounting pin on each inserter. The pin should be FULLY inserted – if it stops part-way, lightly move the inserter so that the pin mounting holes on the inserter and the carriage align.
5. Once the pins are in place, tighten the mounting screws with a 5/32-in. hex wrench.

4. TOOLING ADJUSTMENTS

NOTE

It may be necessary to open or remove machine covers to perform the following procedures. Replace all covers before operating the machine.

DANGER

Do NOT make adjustments to the machine or the inserter package while the machine is operational. Disable the machine to prevent it from moving while the adjustments are being made.

4.1. Inserter-to-Connector Clearance

Each inserter can be adjusted to vary the clearance between the connector and the end of the inserter. To adjust the clearance, refer to Figure 3 for the CHAMPOMATOR 3A machine and proceed as follows:

1. Using a 7/64-in. hex wrench, loosen, but do not remove, the locking screw on the top of the base plate of the inserter.
2. Using a 9/64-in. hex wrench, turn the adjusting screw on the back of the inserter to adjust the clearance. Turn the screw CLOCKWISE to increase the clearance, and COUNTER-CLOCKWISE to decrease the clearance.
3. Tighten the locking screw with a 7/64-in. hex wrench.

NOTE

The nominal clearance between the end of the inserter package and the end of the connector contacts is 0.38 mm [.015 in.].

- Repeat the above procedure for the second inserter.

4.2. Connector/Mandrel Height

To ensure optimum termination, the mandrel height must be properly set. To check the mandrel height:

- Turn off the power to the machine and disconnect the machine's air supply.
- Place an unloaded connector into the fixture.
- Manually pull out the machine's carriage assembly until the inserters align with the connector's contact slot.
- Manually extend the inserter tips. The inserter tips should go around the contact, as shown in Figure 4. If not, the mandrel height must be adjusted.

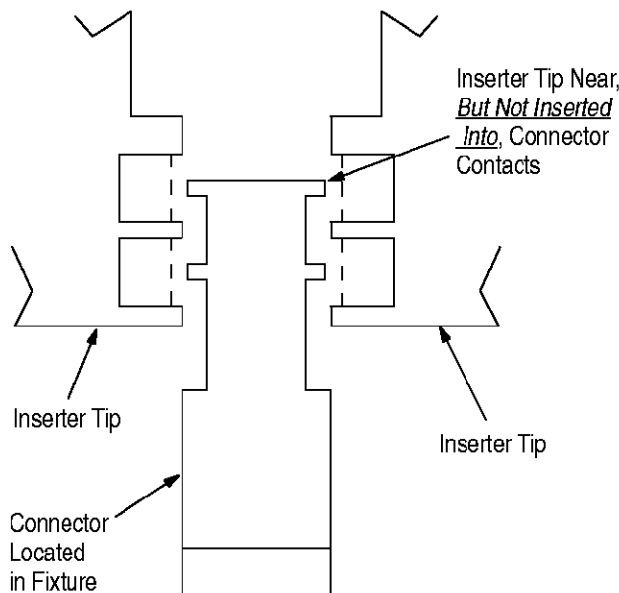


Figure 4

To adjust the mandrel height:

- Locate the locking screw, which is reached through an access hole in the back of the mandrel. Refer to Figure 2 for the CHAMPOMATOR 3A machine. Loosen the locking screw by turning the screw COUNTERCLOCKWISE with a 5/32-in. hex wrench.
- Turn the mandrel height adjustment wheel to bring the mandrel to the correct height. Turning the wheel CLOCKWISE RAISES the mandrel, and

turning the wheel COUNTERCLOCKWISE LOWERS the mandrel.

CAUTION

Do NOT raise or lower the mandrel while the inserters are extended or damage to the inserters may result. Manually retract the inserters BEFORE changing the mandrel height.

- When the correct height has been reached, tighten the locking screw, manually retract the inserters and return the carriage to their initial positions, and remove the connector.

4.3. Insertion Depth

The length of travel of the inserter ram may be adjusted. Normally, the inserters will not require this adjustment unless the insulation diameter is changed. To adjust the depth, refer to Figure 1 and proceed as follows:

- Using a 9/64-in. hex wrench, remove the two stop-mounting screws and remove the stop from the inserter package.
- Determine the stop dimension from the marking on the top of the stop.

NOTE

Each stop is designed with a 0.13-mm [.005-in.] step. For example, the 19.05-mm [.750-in.] stop includes a 18.92-mm [.745-in.] section and a 19.05-mm [.750-in.] section.

- Measure the insulation diameter of the wire presently being used, then measure the insulation diameter of the new wire to be used.
- Determine the difference between the insulation diameters, then subtract one half of this difference. Use the resulting number to determine the dimension of the new stop (add the figure to the old stop dimension if the insulation diameter is increasing, subtract if the diameter is decreasing).
- Place the correct stop onto the inserter package and install the stop-mounting screws.
- Repeat the above procedure for the other inserter.

4.4. Changing the Fixture

Figure 1 lists the fixtures required to terminate the various connectors. These items are purchased separately. To change the fixture:

- Refer to Figure 1 and locate the mandrel's pin and hold-down clamp for the fixture.
- Slide the pin to one side to release the fixture.
- Using a 5/32-in. hex wrench, loosen the connector clamp mounting screws and slide the clamps apart.
- Place the new fixture securely onto the mandrel by sliding the mounting pin to one side while pressing downward on the fixture.

5. Move the connector clamps so that they bottom on the fixture in the mandrel, then tighten the connector clamp mounting screws.

4.5. Insulation Diameter

The wire guides can be adjusted to accept various insulation diameters. To adjust the guides, proceed as follows:

1. Remove the inserter from the machine.
2. Remove the inserter housing from the inserter assembly.
3. Replace the inserter tip with the appropriate setup gage.
4. Using a 7/64-in. hex wrench, loosen the mounting screws in the inserter housing and guide.
5. Place the inserter housing in the inserter assembly.
6. Move the housing and guide until they touch the setup gage. Tighten the mounting screws with a 7/64-in. hex wrench.
7. Remove the inserter housing.
8. Replace the setup gage with the inserter tip.
9. Place the inserter housing into the inserter package.
10. Install the inserter back onto the machine.

A wide variety of setup gages are available for adjusting the inserters for the desired application. The part numbers for the setup gages are provided in Figure 5.

WIRE INSULATION DIAMETER RANGE (mm [In.])	SETUP GAGE PART NUMBER
0.51 – 0.56 [.020 – .022]	763382-1
0.58 – 0.64 [.023 – .025]	763382-2
0.66 – 0.71 [.026 – .028]	763382-3
0.74 – 0.79 [.029 – .031]	763382-4
0.81 – 0.89 [.032 – .035]	763382-5
0.91 – 0.99 [.036 – .039]	763382-6
1.02 – 1.09 [.040 – .043]	763382-7
1.12 – 1.22 [.044 – .048]	763382-8
1.24 – 1.35 [.049 – .053]	763382-9
1.37 – 1.52 [.054 – .060]	1-763382-0

Figure 5

NOTE

The maximum insulation diameter is 1.75-mm [.069-in.] for AMPLIMITE HDE connectors.

For additional information on adjusting the wire guides, contact your Tyco representative for assistance.

EXPENDABLE TOOLING	
PART NUMBER	DESCRIPTION
763388-1	Inserter Tip
RECOMMENDED SPARE TOOLING	
PART NUMBER	DESCRIPTION
761786-1	Lower Shear

Figure 6

5. REPLACEMENT PARTS

Figure 6 lists the items that are recommended as either expendable tooling or spare tooling. Expendable tooling, which includes items that are subject to wear, should be inspected regularly and replaced, if necessary. Recommended spare tooling includes items that should be stocked to prevent machine downtime in the event that they become damaged. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (38-35)
TYCO ELECTRONICS CORPORATION
P.O. BOX 3608
HARRISBURG, PA 17105-3608

For customer service, please contact a representative at 1-800-526-5136.

6. REVISION SUMMARY

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

Per EC 0990-0163-00

- Updated connector fixture part numbers in Figure 1
- Removed all references to CHAMPOMATOR 2.5 Terminating Machine
- Removed Paragraph 2.1, When Used in the CHAMPOMATOR 2.5 Machine
- Removed old Figures 2 and 4 and renumbered remaining figures
- Removed Paragraph 3.3, Cable Clamp
- Removed Section 6, OTHER KITS
- Updated document to corporate requirements
- Removed Setup Gage 1-763382-1 from Figure 5
- Added ordering information, which includes phone numbers and address