



1 Introduction

This document applies to the proper procedure and steps required to manually install and replace APEX 2.8™ (2.8mm) and APEX 150™ (1.5mm) terminals in the APEX 150 Hybrid Connector Family.

1.1 Reference

FCI Terminal Drawings:

J54009
J54011
C15004
C15005

FCI Connector Drawings:

K53001
K53002

Required Tools:

Small Needle Nose Pliers
Small Flat Blade Screw Driver
APEX 150 Service Tool (542416XX)

2 Terminal Insertion Instructions

2.1 Female Terminals

- Make sure TPA is in the “pre-lock” position in the female housing. See Figure 1.

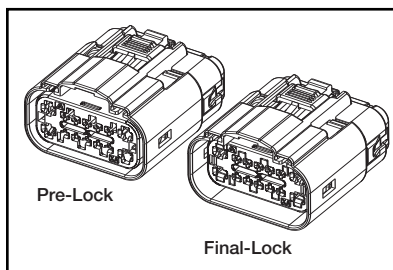


FIGURE 1

- Orient the female terminals correctly with each terminal position opening in the retainer of female connector assembly as shown in Figure 2.
- Carefully insert the terminal into the cavity opening. Only slight force should be needed. If the force to install each terminal seems high or the terminal will not seat – Stop! Remove the terminal, recheck its orientation, verify the cavity does not have a seal plug, and verify the TPA is fully in the pre-lock position.

- When the terminal is correctly installed, there will be a small click and some tactile feedback.

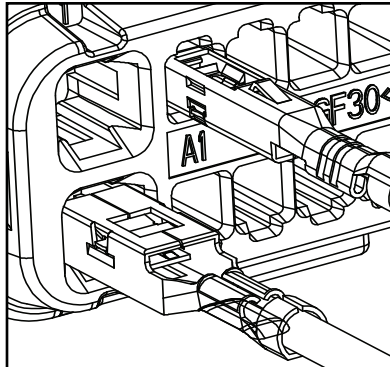


FIGURE 2

- Once all the terminals are inserted in the correct position, then press the TPA into the “final lock” position as shown in Figure 1. If the TPA will not move into the final-lock position, verify that all terminals are fully seated.

2.2 Male Terminals

- Make sure TPA is in the “pre-lock” position in the female housing. See Figures 5 and 6.
- Orient the male terminals correctly with each terminal position opening in the male connector assembly as shown in Figure 3.

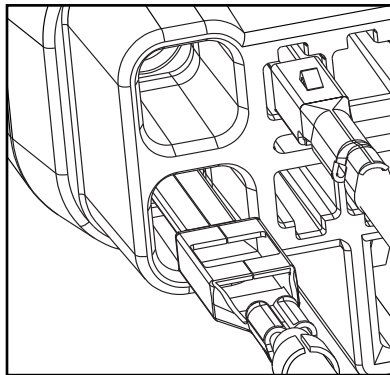


FIGURE 3

- Carefully insert the terminal into the cavity opening. If the force to install each terminal seems high or the terminal will not seat – Stop! Remove the terminal, recheck its orientation,

verify the cavity does not have a seal plug and verify the TPA is fully in the pre-lock position (Figure 4).

- When the terminal is correctly installed, there will be a small click and some tactile feedback.
- Once all the terminals are inserted in the correct position, then press the TPA into the “final lock” position as shown in figure 5. If the TPA will not move into the final-lock position, verify that all terminals are fully seated.

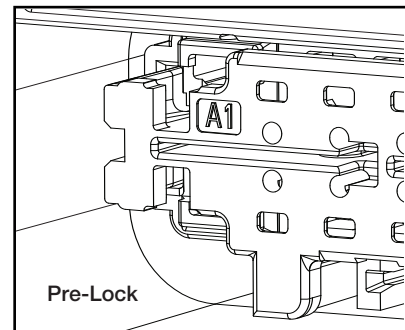


FIGURE 4

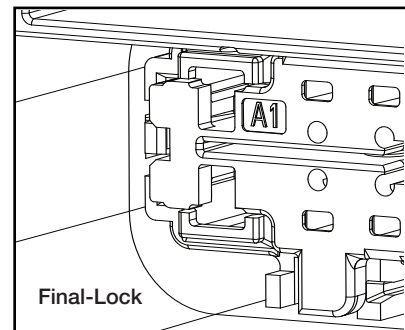


FIGURE 5

3 Terminal Replacement Instruction

3.1 Female Connector

- Insert a small flat blade screw driver in the slot provided in the TPA and apply pressure to “Bridge” area of connector as shown in Figure 6.
- Gently “pry” or pivot the screw driver thus sliding the TPA into the “Pre-Lock” position. **WARNING: Do not grab or**

grip the Shorting Bar tabs if so equipped. Tabs may be damaged leading to a failure of the shorting bar function.

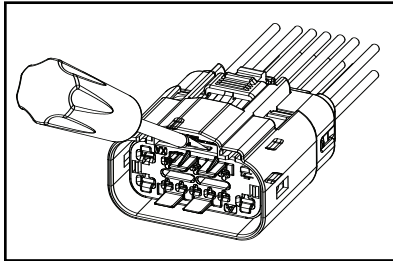


FIGURE 6

- With the TPA in the “pre-lock” position, insert the tip of the Service Tool into the service port of the terminal in be removed/replaced (Figure 7). *NOTE: Care should be used so as to not insert the service tool into the terminal opening.*
- Push the Service Tool until resistance is felt. Carefully press harder until the service tool moves slightly further into the connector (this may be accompanied by a small tactile sensation). At this point the selected terminal is ready to be removed.

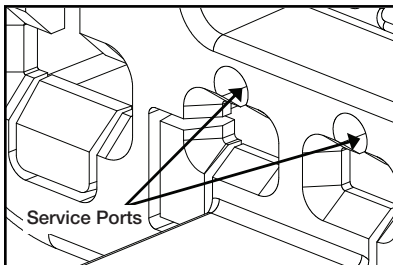


FIGURE 7

- While maintaining pressure on the service tool, the selected terminal may be removed from the rear of the connector by pulling it out by the wire. To help maintain seal integrity, if possible, pull the wire at a small angle away from the connector center as shown in Figure 8 (not required for 2.8mm terminals). *NOTE: Terminal removal should require only a gentle pulling force applied to the wire. If the*

terminal stays retained or seems “stuck,” try reinserting the service tool.

- To attach a new terminal to the wire see the appropriate APEX Terminal Crimping Guide.

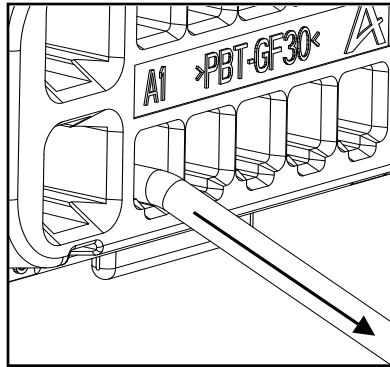


FIGURE 8

3.1 Male Connector

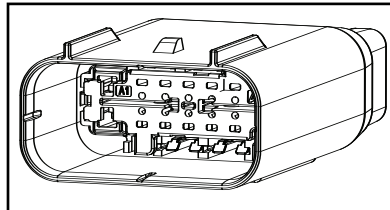


FIGURE 9

- Grip the TPA with a pair of serrated needle nose pliers by using the appropriate holes in the center of the TPA (Figure 10).

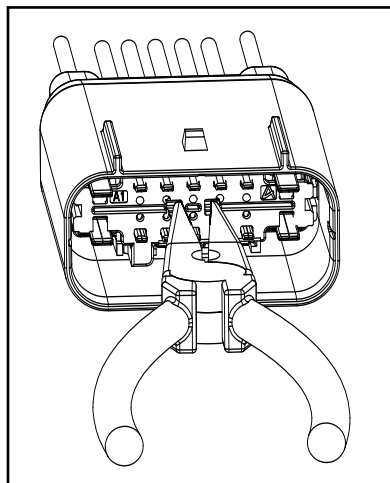


FIGURE 10

- Gently pull the TPA into the “Pre-Lock” position. The TPA should not be removed from the connector. **WARNING: Care must be used so the pliers do not slip out of the service holes and damage any exposed terminal blades or pinch the operators hands.**
- With the TPA in the “pre-lock” position, insert the tip of the Service Tool into the service port for the terminal in be removed/replaced. Use care to be sure the service tool stays in the service port track (Figure 11).

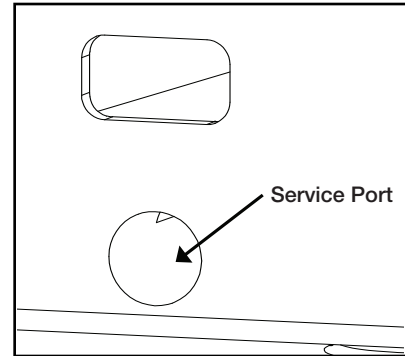


FIGURE 11

- Push the Service Tool until resistance is felt. Gently press harder until the service tool moves slightly further into the connector (this may be accompanied by a small tactile sensation).
- While maintaining pressure on the service tool, the selected terminal may be removed from the rear of the connector by simply pulling it out by its wire. *NOTE: Terminal removal should require only a gentle pulling force applied to the wire. If the terminal stays retained or seems “stuck”, try reinserting the service tool.*