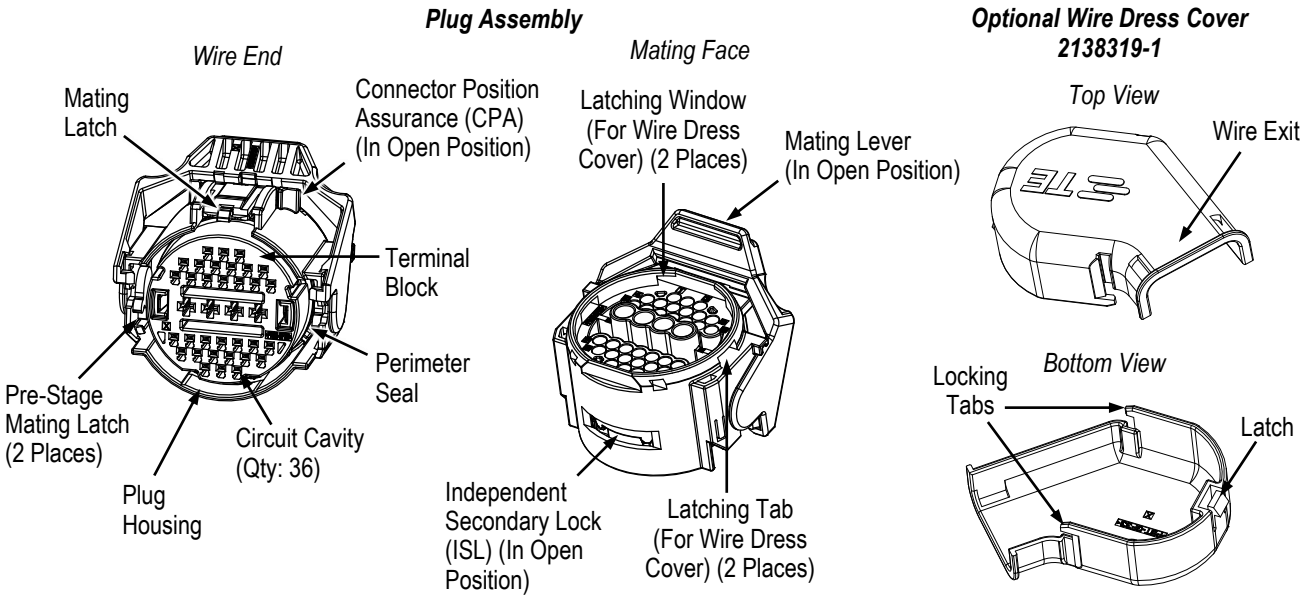
36-Position Hybrid Transmission Sealed Plug Assemblies 2138314-[ ]



PART NUMBER	DESCRIPTION
1418844-[ ], 1418850-[ ], 1670146-[ ]	1.2-mm MCON Female Terminals
1241392-[ ], 1241394-[ ], 1241396-[ ]	2.8-mm MCP-K Female Terminals

Figure 1

1. INTRODUCTION

This instruction sheet covers the assembly procedure (terminal insertion, optional wire dress cover installation, and assembly mating) and disassembly procedure (unmating, optional wire dress cover removal, and terminal extraction) for 36-position hybrid transmission sealed plug assemblies 2138314-[ ]. The plug assembly mates with cap assembly 2138338-[ ], which is described on instruction sheet 408-32101.

NOTE
All numerical values in this instruction sheet are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Figures are not drawn to scale.

2. DESCRIPTION

Each plug assembly consists of a plug housing, terminal block with 36 circuit cavities, an independent secondary lock (ISL), connector position assurance (CPA), a mating lever, mating latch, and a perimeter seal. The plug assembly is shipped with the ISL, CPA, and mating lever in the open (as shipped) position. The wire end of the plug assembly features embossed circuit identification numbers. The terminals (required for assembly) and optional wire dress cover must be purchased separately. See Figure 1 for applicable part numbers.

The optional wire dress cover features two locking tabs, a latch, and a wire exit.

3. ASSEMBLY PROCEDURE

3.1. Terminal Insertion

1. Crimp the terminals according to Application Specification 114-18464 for the 1.2-mm MCON terminals and 114-18387 for the 2.8-mm MCP-K terminals. Ensure that the terminals are properly crimped.

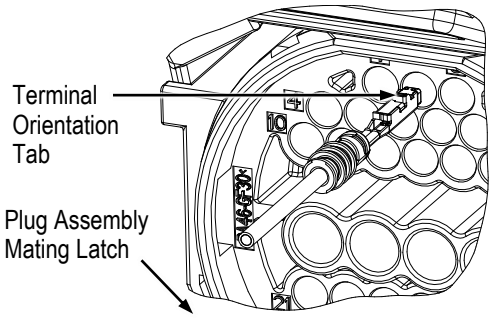
CAUTION
Ensure that each terminal single-wire seal is enclosed in the insulation barrel crimp so that it does not move during terminal insertion, but that it is not damaged.

2. Ensure that the ISL of the plug assembly is in the open (as shipped) position as shown in Figure 1. If the ISL is closed or partially closed, refer to Step 1 of Paragraph 4.3.

3. Align a crimped terminal with the appropriate circuit cavity of the plug assembly so that the orientation tab is facing away from the plug assembly mating latch. See Figure 2.

Aligning Terminal with Contact Cavity

1.2-mm MCON Terminal



2.8-mm MCP-K Terminal

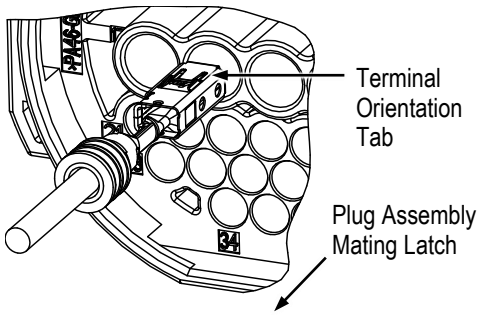


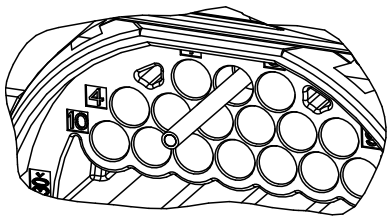
Figure 2

4. Grasp the wire of the crimped terminal, and insert the terminal straight into the circuit cavity until it is fully inserted as shown in Figure 3. If there is significant resistance during insertion, remove the terminal and verify proper orientation.

NOTE
If the terminal is difficult to insert into the circuit cavity, check for a de-populated arrangement. Refer to the wiring diagram on the customer drawing for the specific plug assembly.

Terminal Fully Inserted in Contact Cavity

1.2-mm MCON Terminal



2.8-mm MPC-K Terminal

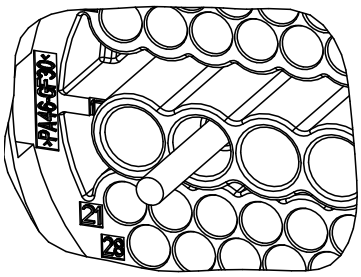


Figure 3

5. Lightly pull the wire to ensure that the terminal is latched to the terminal block.

6. Follow step 3 through step 5 for the remaining terminals.

7. After all terminals have been inserted, using a small screwdriver, push the push pad of the ISL (see Figure 4, Detail A) until the ISL moves to the closed position. The ISL is in the closed position when it is flush with the plug housing. See Figure 4, Detail B.

NOTE
If the ISL does not move easily into the closed position, one or more of the terminals is not fully inserted. Move the ISL to the open position (as described in Step 1 of Paragraph 4.3), then check that all terminals are fully inserted.

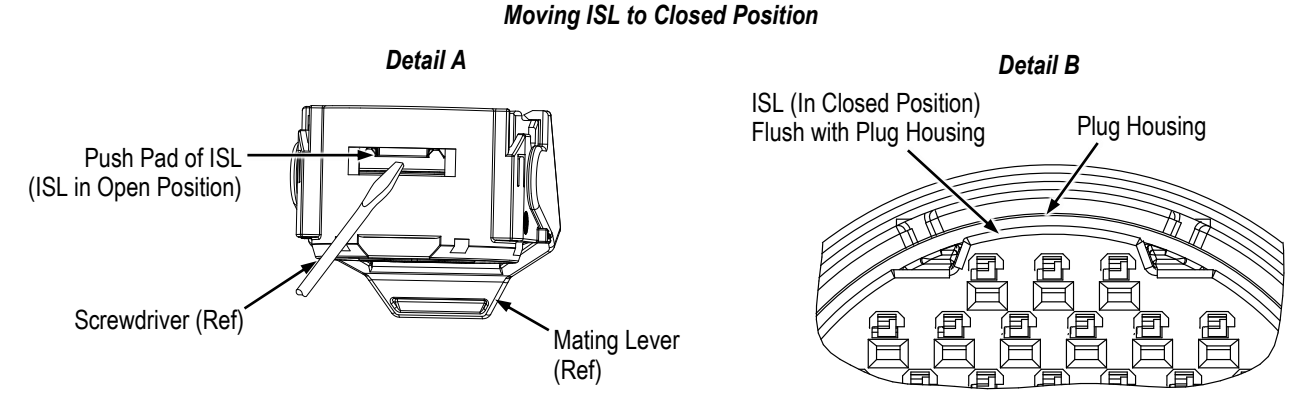


Figure 4

3.2. Optional Wire Dress Cover Installation

NOTE
The wire dress cover should be installed after all terminals have been fully inserted.

1. Bundle the wires and bend them in a shape that will fit into the wire exit of the wire dress cover.
2. Align the locking tabs of the wire dress cover with the windows of the plug housing, and place the wire dress cover onto the plug housing. See Figure 5, Detail A.
3. Ensure that the wire bundle is completely captured within the wire exit of the wire dress cover and no wires are pinched between the plug housing and the wire dress cover, then rotate the wire dress cover, while maintaining pressure on the locking tabs, until the wire dress cover locks into place. There will be an audible click. Detail B in Figure 5 shows the wire dress cover fully seated onto the plug housing.

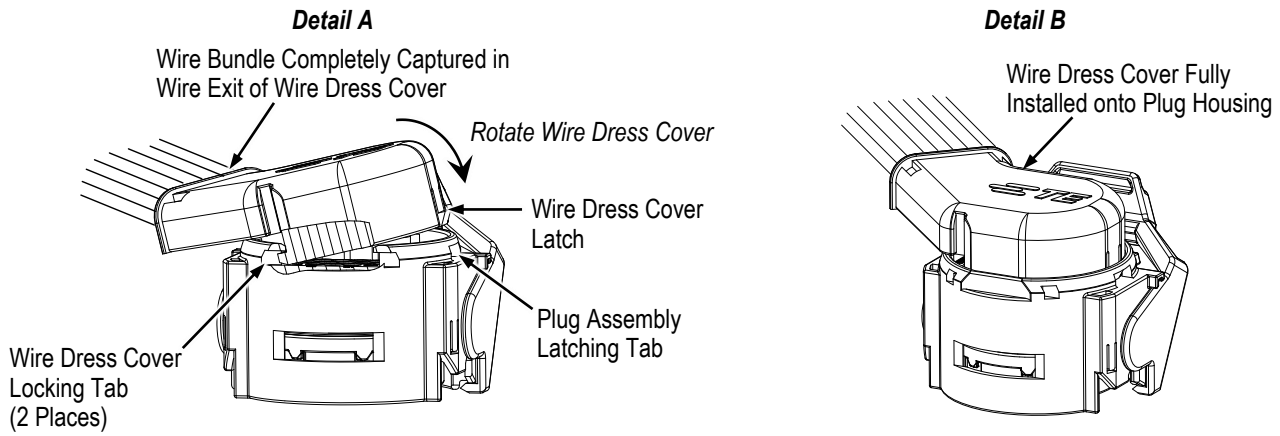


Figure 5

4. Using tape or wire ties, attach the wire bundle to the wire dress cover.

3.3. Mating

1. Ensure that the mating lever of the plug assembly is in the open (as shipped) position as shown in Figure 1. If the mating lever is closed or partially closed, rotate it toward the wire end of the plug assembly until it stops. When it is in the open position, there will be an audible click.

2. Align the mating face of the plug assembly with the mating face of the cap assembly, and push them together until the plug assembly pre-stage mating latches engage and the mating lever starts to rotate. See Figure 6.

NOTE
If there is significant resistance during mating, ensure that the ISL is in the closed position (as described in Step 7 of Paragraph 3.1).

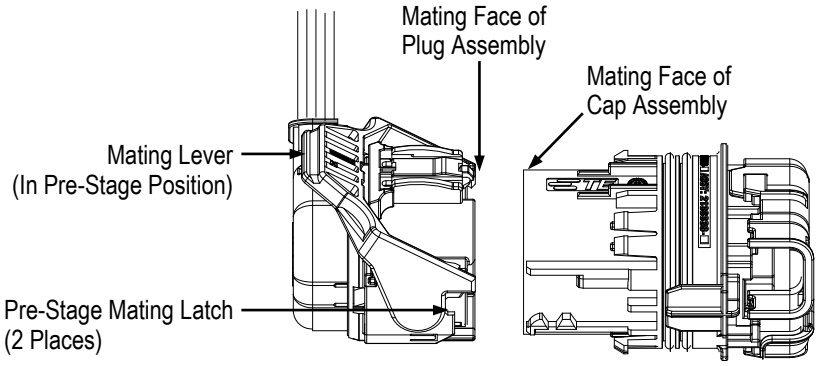


Figure 6

3. Manually rotate the mating lever (toward the cap assembly) until it stops. There should be an audible click. See Figure 7, Detail A. The mating lever is now in the closed position, and the plug and cap assembly are fully mated. See Figure 7, Detail B.

4. Push the CPA toward the cap connector. The CPA is now in the closed position. See Figure 7, Detail C.

NOTE
If there is significant resistance when sliding the CPA, ensure that the mating lever is completely latched in the closed position.

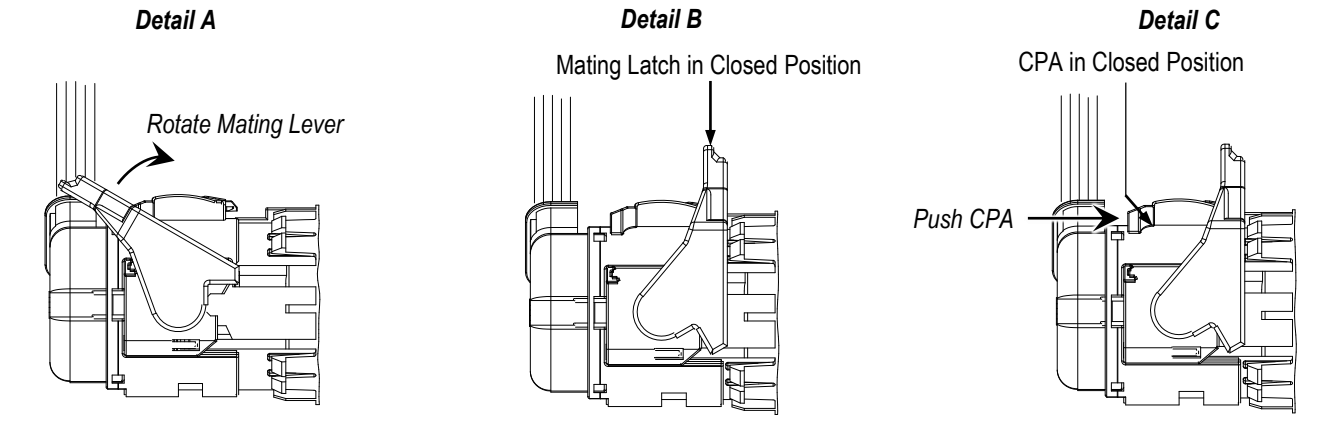


Figure 7

4. DISASSEMBLY

Disassembly must be performed in the following order.

4.1. Unmating

1. Pressing on both sides of the CPA, slide the CPA away from the cap assembly until it stops. The CPA in now in the open position. See Figure 8, Detail A.

2. Press the plug assembly mating latch until the mating lever is released; then, rotate the mating lever away from the cap assembly until it stops. The mating lever is now in the open position. See Figure 8, Detail B.

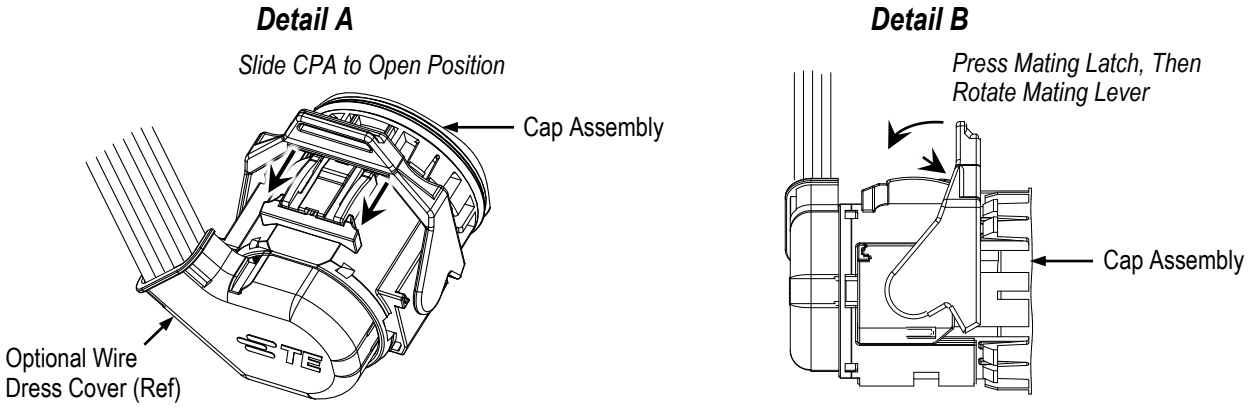


Figure 8

3. Pull the plug assembly straight away from the cap assembly. There will be a slight resistance as the pre-stage mating latches are released.

4.2. Optional Wire Dress Cover Removal

Using the tip of a screwdriver, lift the latch of the wire dress cover, then rotate the wire dress cover until it is released from the plug assembly. See Figure 9.

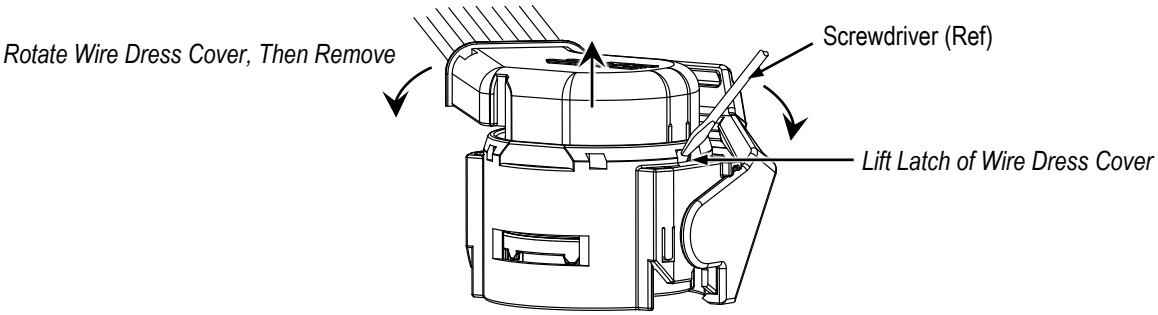


Figure 9

4.3. Terminal Removal

1. Terminals can be removed only when the ISL is in the open position. Move the ISL to the open position as follows:
   a. Insert the tip of a screwdriver into the bottom of one of the cutouts of the terminal block.
   b. Gently pry the perimeter of the ISL away from the plug housing until the ISL is in the open position. There will be an audible click. See Figure 10. If necessary, alternate between the two cutouts to move the ISL to the open position.
2. Push the wire of the terminal to be removed toward the circuit cavity so that the terminal moves toward the front of the terminal block.

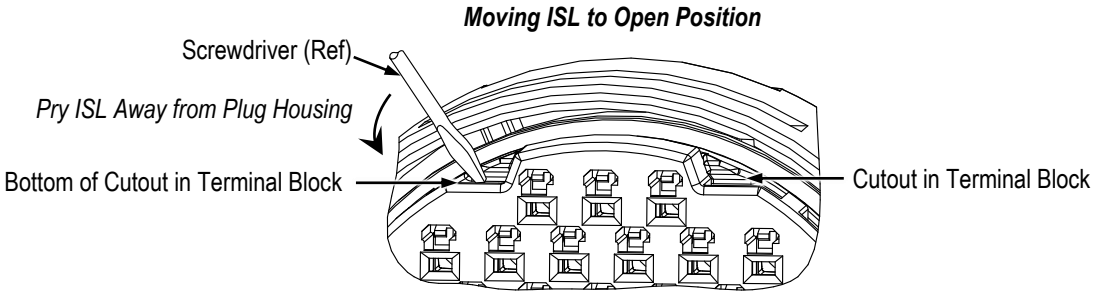


Figure 10

3. Remove each terminal as follows:

   a. For 1.2-mm MCON terminals, from the mating face of the plug assembly, insert the tip of removal tool 8-1579008-4, with the notch facing the contact cavity, into the opening above the circuit cavity of the terminal to be removed, and depress the terminal locking lance. See Figure 11, Detail A.

   b. For 2.8-mm MCP-K terminals, from the mating face of the plug assembly, insert the tips of removal tool 1-1579007-2 so that one tip enters the opening above and the other tip enters the opening below the circuit cavity of the terminal to be removed, then depress the terminal locking lances. See Figure 11, Detail B.

4. From the wire end of the plug assembly, gently pull the wire of the terminal to be removed until the terminal is out of the terminal block.

NOTE
If the terminal is not removing easily, verify that the ISL is in the open position as shown in Figure 10.

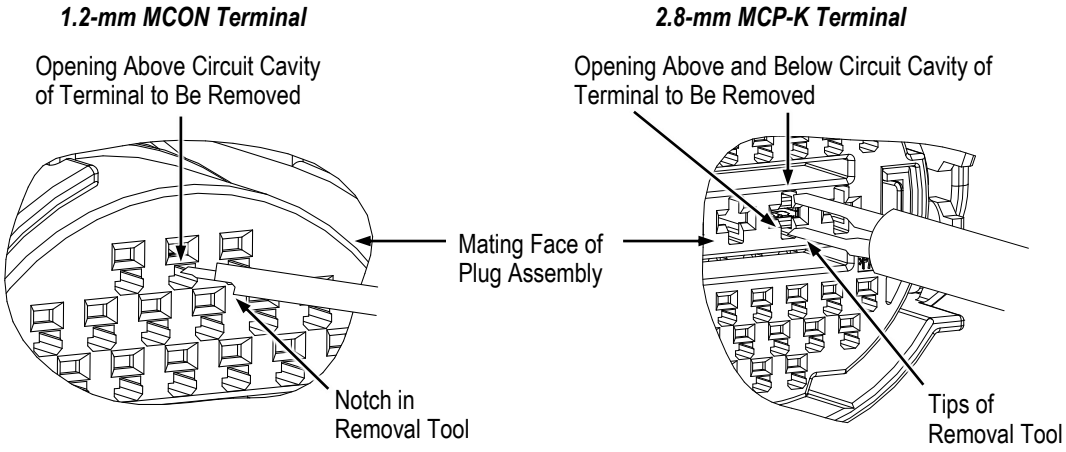


Figure 11

5. To install the terminal block back into the cap housing, align the retention latches with the locking tabs of the cap housing, and insert the terminal block into the cap housing until there is an audible click.

5. REPLACEMENT AND REPAIR

DO NOT use defective or damaged product. The plug assembly, terminals, and optional wire dress cover are not repairable.

6. REVISION SUMMARY

Initial release of instruction sheet