



Step 1 Introduction



KEY POINTS

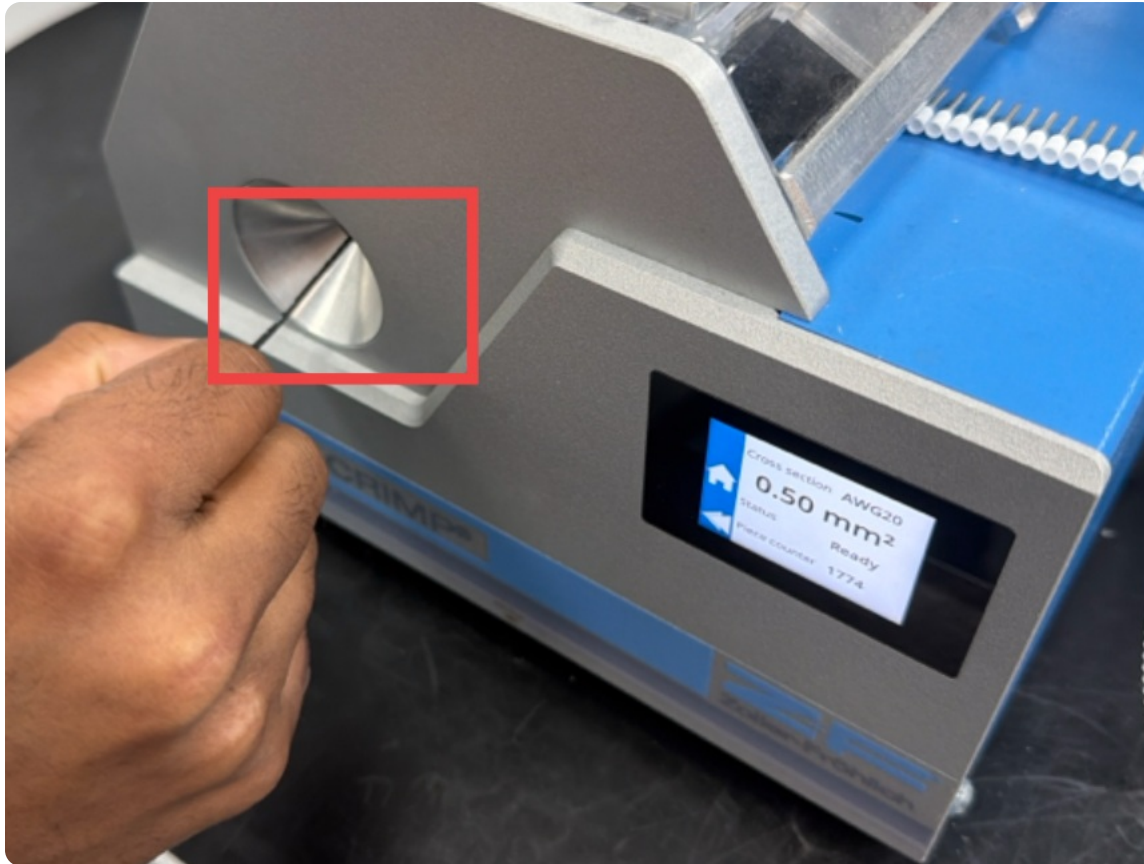
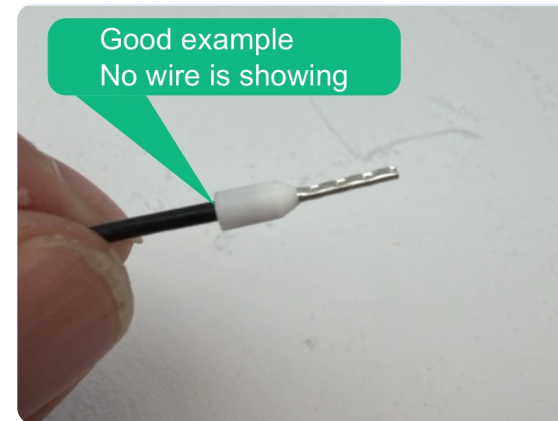
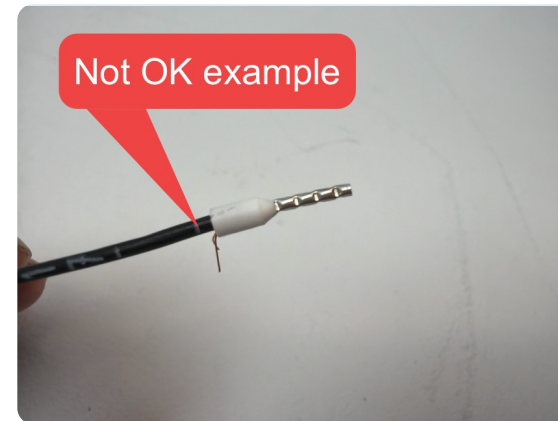
This SOP is on how to assemble our industrial plug, MZO 25 L20.

REASONS WHY

To enable operator training to be consistent and apply the process in a consistent way.



Step 2 Connector Wire Crimping



KEY POINTS

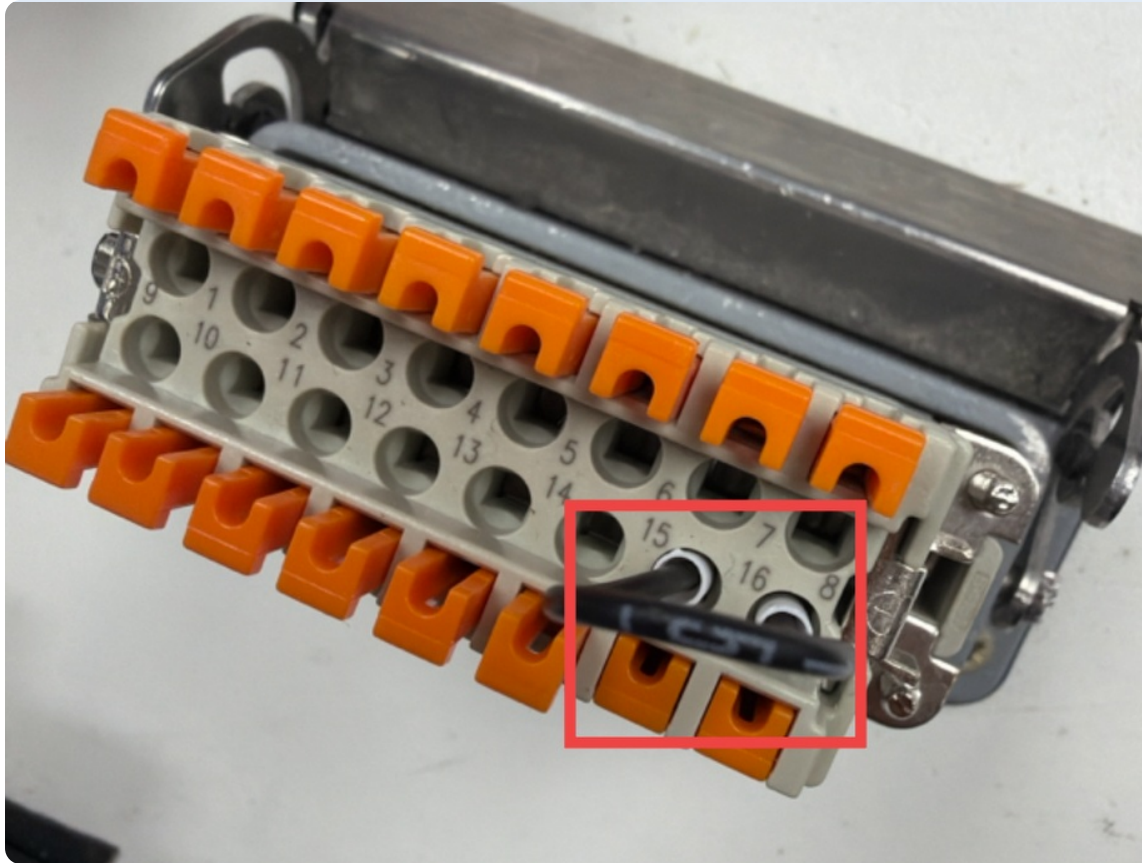
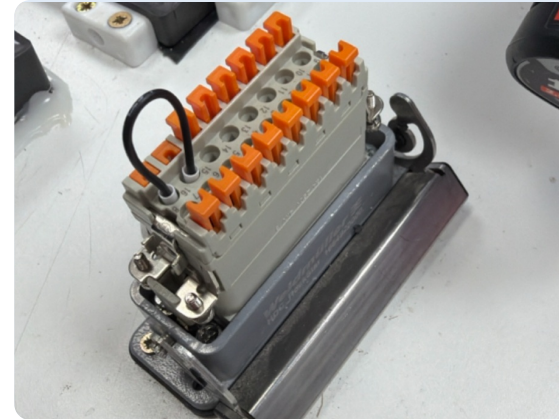
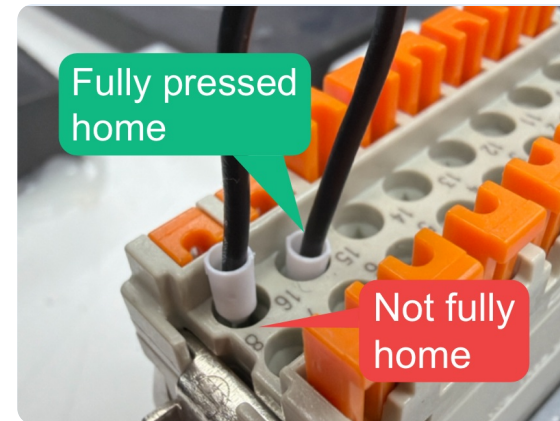
- 1 Insert wire to crimping machine.
- 2 Push the wire until it reaches the stop. The machine crimps automatically.
- 3 Check ferrule has no copper showing.
- 4 Repeat for the opposite end of the cable.

REASONS WHY

- 1 Ensures the ferrule is crimped to the correct length.
- 2 Ensures a complete and consistent crimp every time.
- 3 Confirms the conductor is fully enclosed, preventing poor electrical connections.
- 4 Ensures both cable terminations meet the required quality standard.



Step 3 Plug Internal Connector Assembly



KEY POINTS

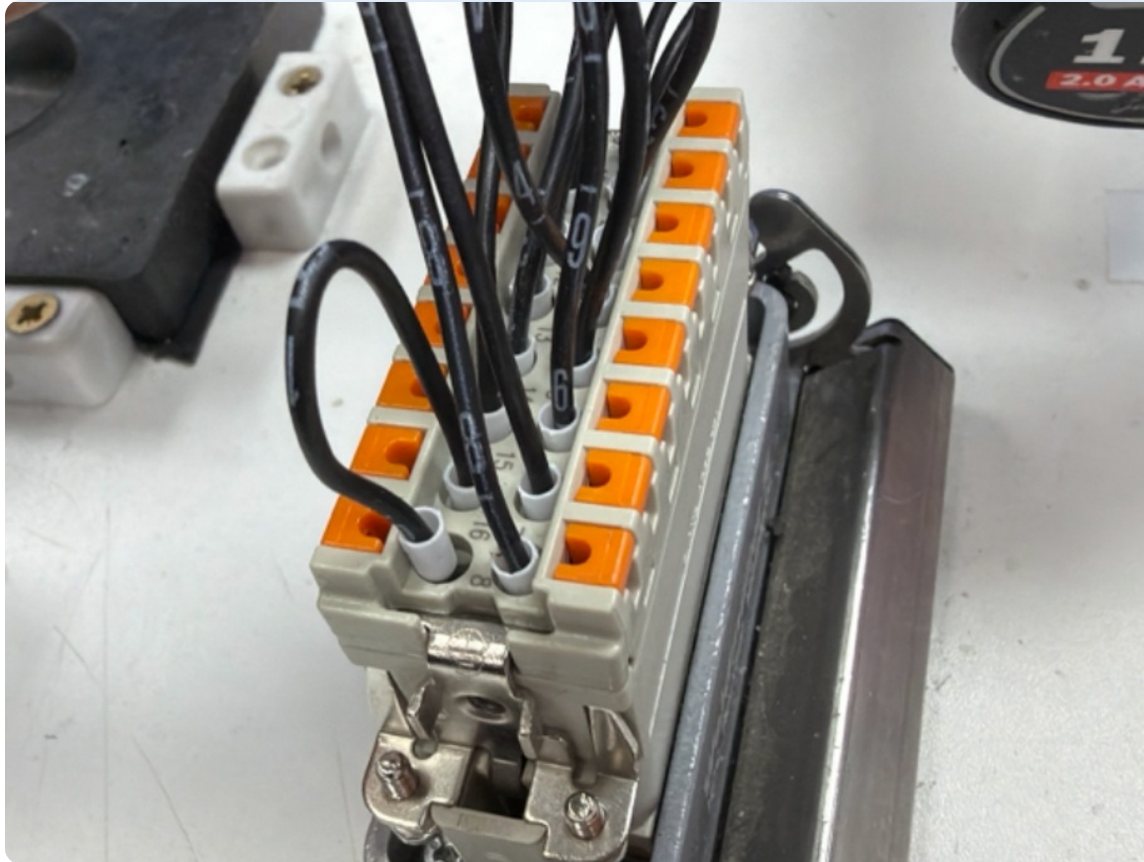
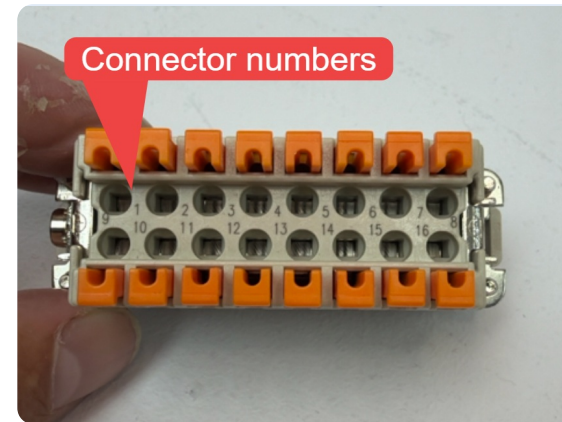
- 1 Insert the crimped loop wire between terminals 15 and 16.
- 2 Fully press down the orange clamps.
- 3 Ensure all conductors are fully inserted.

REASONS WHY

- 1 Completes the required electrical circuit for this connector configuration.
- 2 Secures the conductors to prevent them working loose during service.
- 3 Prevents intermittent electrical faults caused by loose or partially inserted wires.



Step 4 Wires To Connector Assembly



KEY POINTS

- 1 Put each numbered ferruled wire into the corresponding numbered connector.
- 2 1 goes to 1, 2 goes to 2, etc.
- 3 Check each wire is fully home. No copper showing.

REASONS WHY

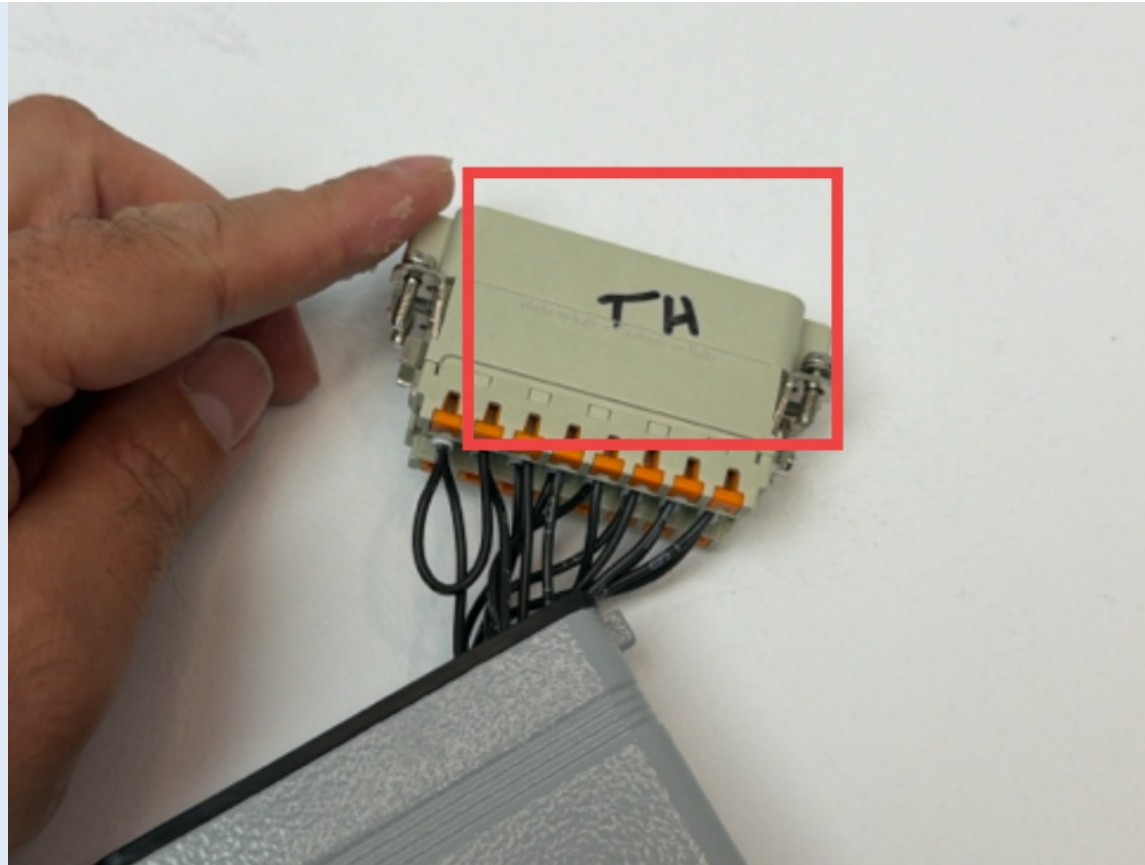
- 1 Ensures the electrical connections are correct for proper operation.
- 2 Prevents wiring errors that could cause the unit to malfunction.
- 3 Ensures a secure electrical connection and prevents exposed conductors.

**Step 5 Secondary Check Of Plug Wiring****KEY POINTS**

- 1 Verify each wire is connected to the correct numbered terminal (1 to 1, 2 to 2, etc.).
- 2 Check each wire is fully inserted with no exposed copper.
- 3 Tug each wire to confirm it is securely retained.
- 4 Refer to the assembly video if clarification is required.

REASONS WHY

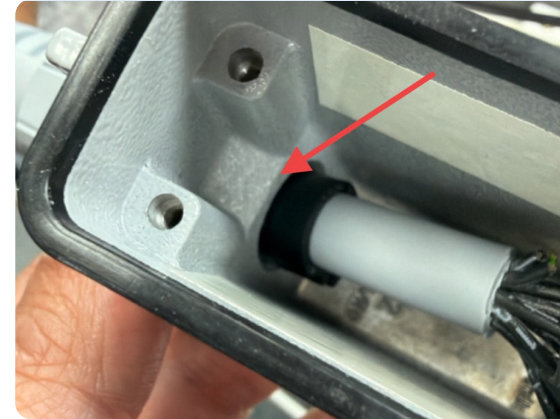
- 1 Prevents wiring errors that could cause the unit to malfunction.
- 2 Ensures a safe and reliable electrical connection.
- 3 Reinforces the correct assembly method and reduces the risk of errors.
- 4 Confirms each wire is securely locked into the connector to prevent field failures.

**Step 6** Apply Operator Initials**KEY POINTS**

- 1 Initial plug with Sharpie to indicate all checks on plug are complete

REASONS WHY

- 1 Provides traceability and confirms the assembly has been completed and verified by the operator.

**Step 7 Cable Pulled To Correct Position****KEY POINTS**

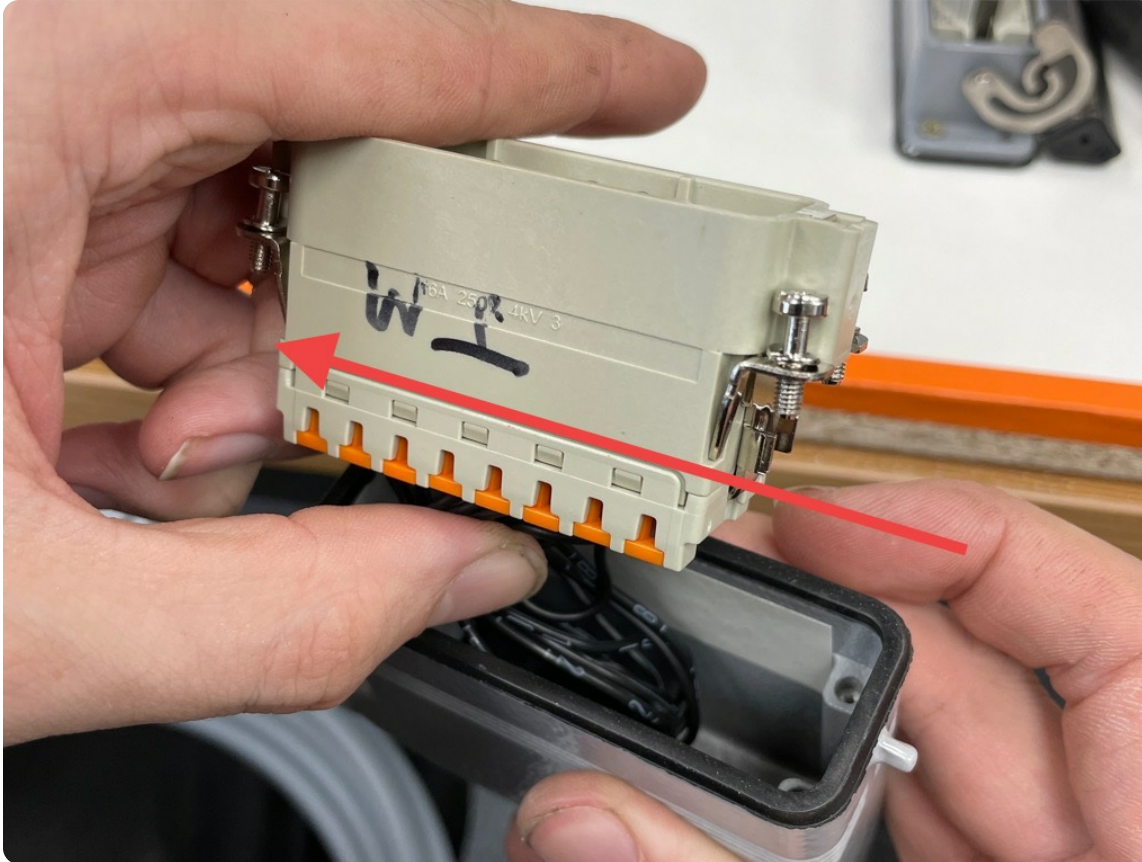
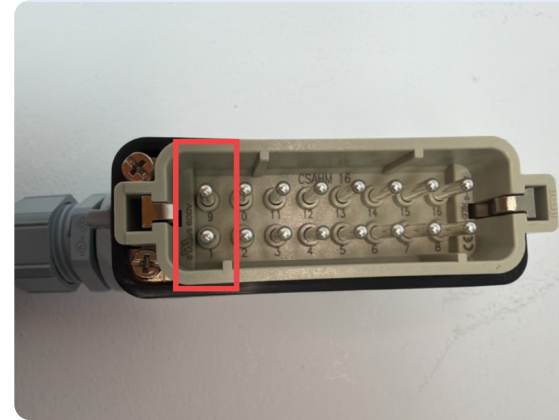
- 1 Pull the cable fully to the internal stop.
- 2 Hand tighten the cable gland.

REASONS WHY

- 1 Ensures the cable is positioned correctly to maintain the required internal length and prevent strain on the conductors.
- 2 Prevents the cable moving before the final torque is applied.



Step 8 Connector To Plug Mounting

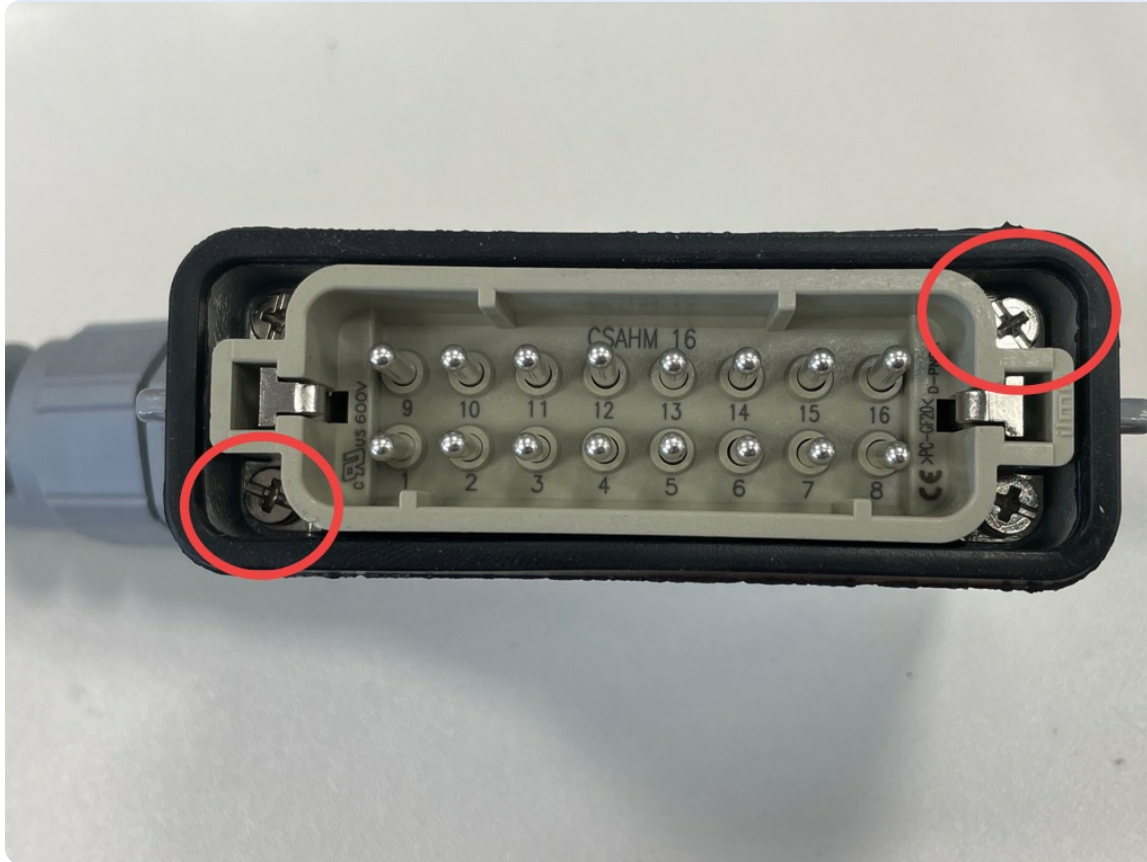


KEY POINTS

- 1 Push wires to the left while inserting the connector.
- 2 Install with Pin 1 bottom left and the cable gland to the left.

REASONS WHY

- 1 Prevents wires becoming trapped or pinched during assembly.
- 2 Ensures the connector is installed in the correct orientation.

**Step 9** Screw Connector Into Plug**KEY POINTS**

- 1 Place insert into the hood and tighten opposite corners first.
- 2 Tighten the remaining screws.
- 3 Use Bosch PH1 screwdriver as shown.

REASONS WHY

- 1 Ensures the insert seats evenly and prevents distortion or misalignment.
- 2 Secures the insert firmly in position to prevent movement during use.
- 3 Prevents damage to the screw heads and allows the correct tightening torque.



Step 10 Torquing The Cable Gland



KEY POINTS

- 1 Use the 3D printed wrench to tighten until there's a 1mm gap.
- 2 Check gap with the steel ruler. It should not go in the gap.

REASONS WHY

- 1 Ensures the cable gland provides the correct clamping force without over-tightening.
- 2 Confirms the cable gland has been tightened to the required specification.

**Step 11** Finished Assembly**KEY POINTS**

This stage of the process is complete.



Step 12 Please scan to provide improvement suggestions



KEY POINTS

Click or scan to give feedback.



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Example : Advanced SOP Format

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Revision control details :

Process Ref. No :	233		
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