MultiCat™ MID Power Connector System

WIRE-TO-WIRE AND WIRE-TO-BOARD

1.0 SCOPE

This document contains information pertaining to application requirements of the MultiCat MID Power Connector System.

2.0 PRODUCT DESCRIPTION

PLUG HOUSING (205925-00XX)	RECEPTACLE HOUSING (205926-0XXX)
VERTICAL HEADER (205927-1XXX)	**BACKSHELL (205929-0XXX)**
MALE CRIMP CONTACT (202935-X000)	**FEMALE CRIMP CONTACT (202936- XX00)**

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DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
2059250000-AS	**Nihar Mane**	**Manohar**	**Ishwar**

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3.0 REFERENCE DOCUMENTS

See appropriate sales drawings for information on specific part numbers.
Product Specification: 2059250000-PS

4.0 GENERAL NOTES

Appearance: Parts confirm to class "B" requirements of the cosmetic specification PS-45499-002. Refer notes in sales drawing.

4.1 ASSEMBLY INSTRUCTIONS

Contact/terminal insertion into *Plug housing*
Use only *male* terminals with plug housing. **_Use insertion tool to insert the terminal into the housing cavity appropriately_**. Continue inserting until it stops and locks up with an audible click.

Contact/terminal insertion into *Receptacle housing*
Use only *female* terminals with receptacle housing. **_Use insertion tool to insert the terminal into the housing cavity appropriately_**. Continue inserting until it stops and locks up with an audible click.

Note: Refer sheet 7 and 8 for Terminal Insertion and Extraction procedure.
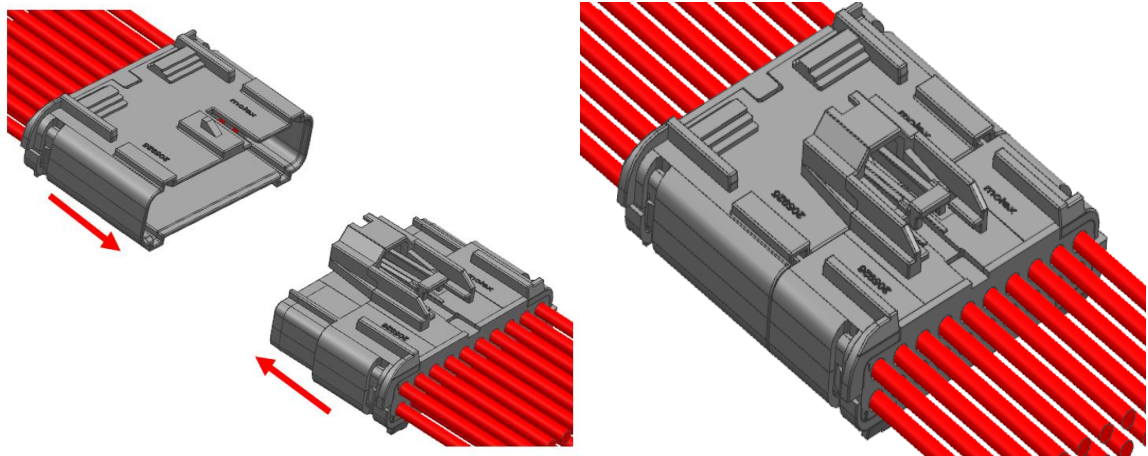
Connector mating
MultiCat Plugs and Receptacles are available in 2 keying options- A and B. It is visually easy to identify them as Key-A housings are *Black* and Key-B housings are *Natural* in color. Match the key/color to effectively mate the connector assemblies.

Plug   Receptacle

KEY-A

KEY-B
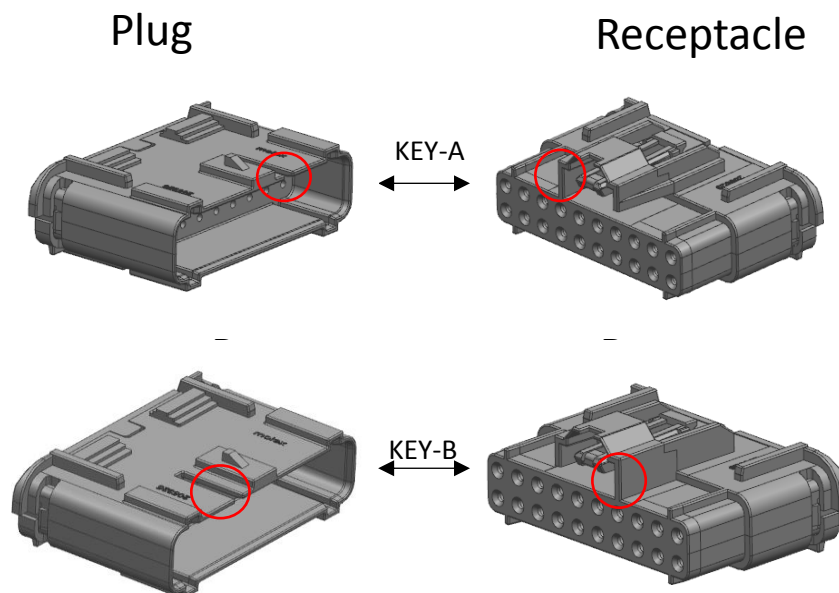
Continue to slide the connector assemblies into each other until it bottoms and stops. The mating is accomplished with a clear audible click of the latch.

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Connector Position Assurance (CPA)

MultiCat receptacle housing is also available with a CPA part for added mate assurance and secure locking. The CPA is shipped in "pre-lock" condition with these receptacle housings.
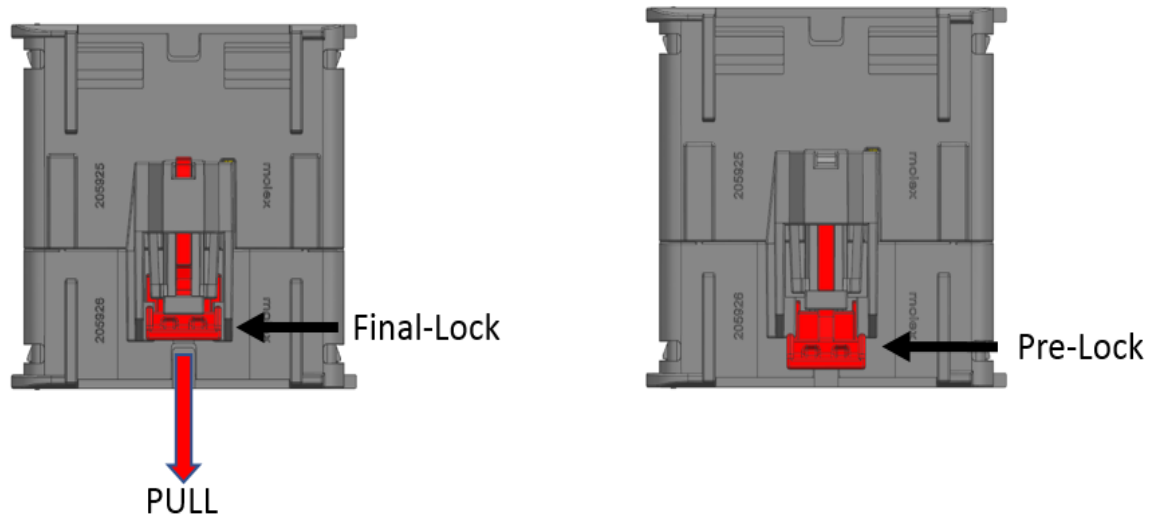
Activating the CPA

Once the plug and receptacle is fully mated, simply push the CPA from "pre-lock" to "final-lock" position until you see/feel positive engagement. Note that the CPA can be effortlessly pushed only when the connector assemblies is completely mated.

Pre-Lock

Final-Lock

PUSH
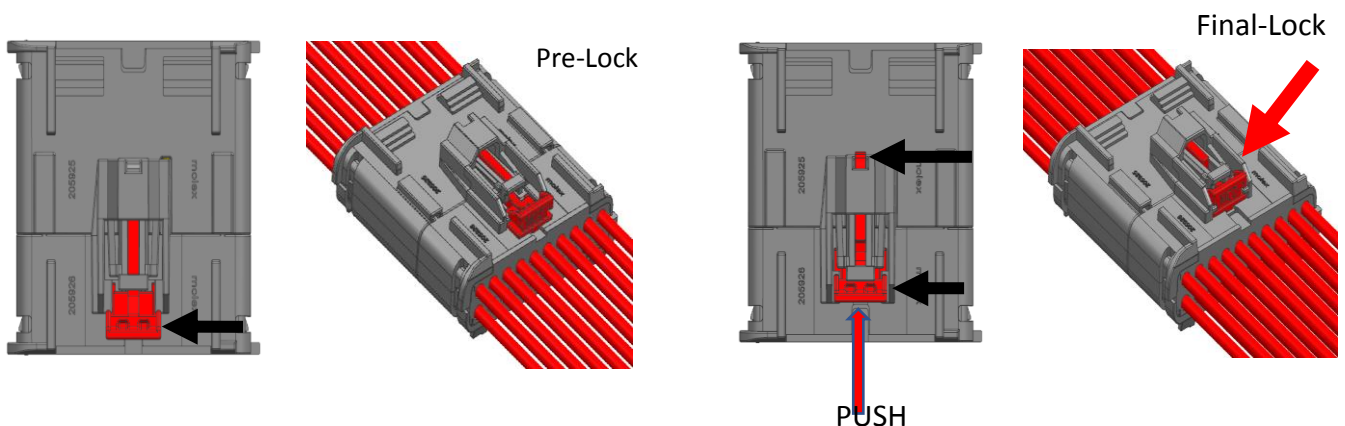
Deactivating the CPA

In order to operate the latch or unmate the connector, the CPA must be deactivated. Pull the CPA from "final-lock" condition to "pre-lock" condition with your finger. This sequence shall deactivate the CPA, allowing the user to operate the latches and procede with the unmating sequence.

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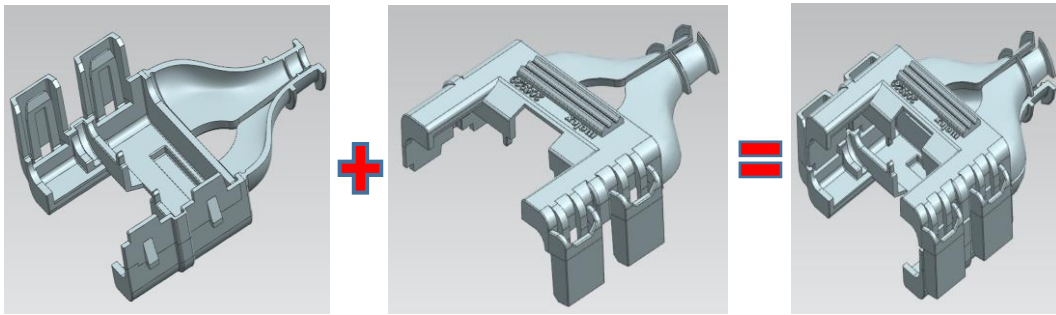| DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
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Final-Lock

PULL

Pre-Lock

Connector unmating

To unmate the connectors, deactivate the CPA (in case your receptacle has a CPA). Grip the mated assembly firmly. Push the connectors together to unload the latch system. Depress the latch with your thumb. With the latch completely depressed, gently pull apart the connector assemblies.
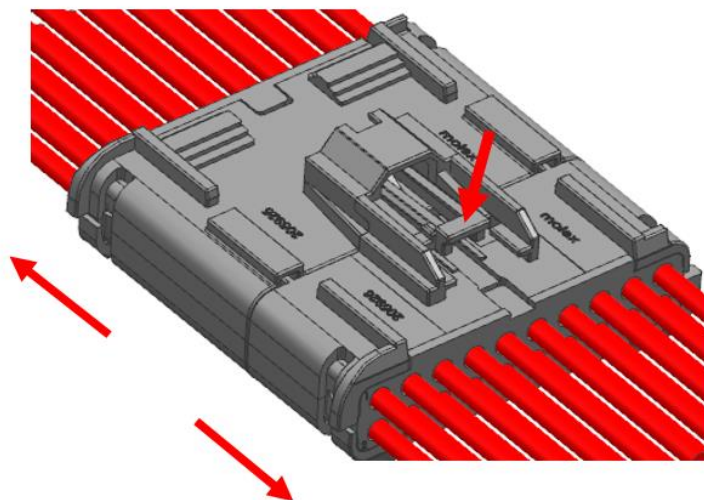

Hermaphroditic Backshell

The Backshell is designed for cable strain relief and must be used with a cable tie. It can be used directly with wire bundle or wire bundle sheathing. An assembly requires use of 2 backshells.

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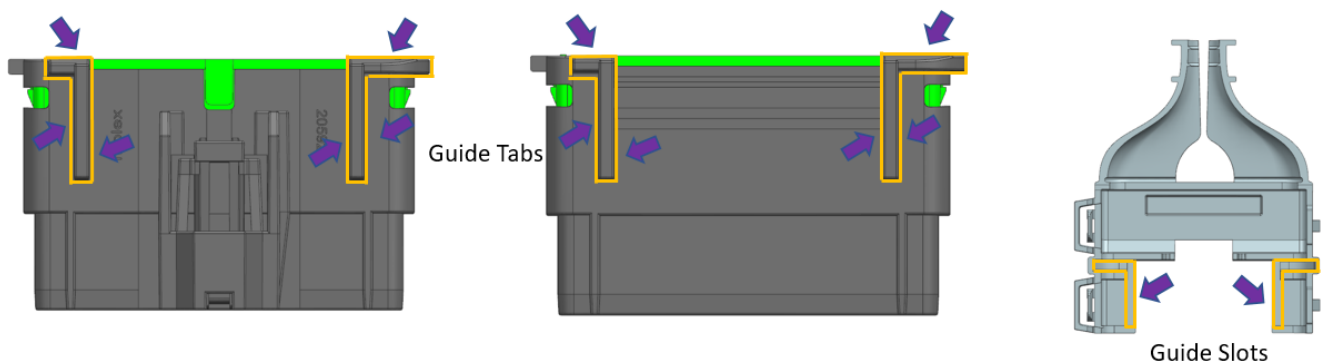*TEMPLATE FILENAME: APPLICATION_SPEC[SIZE_A4](V.2).DOC*

The same Backshell (part number) is used with Plug as well as Receptacle housing. Backshells are not designed for re-use. If backshells are dis-assembled for any reason, then replace both
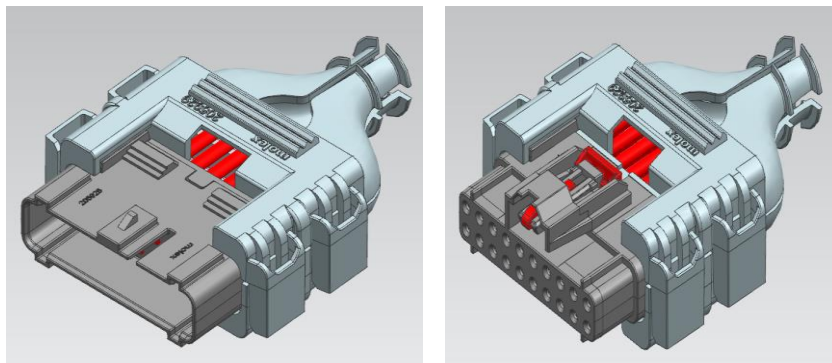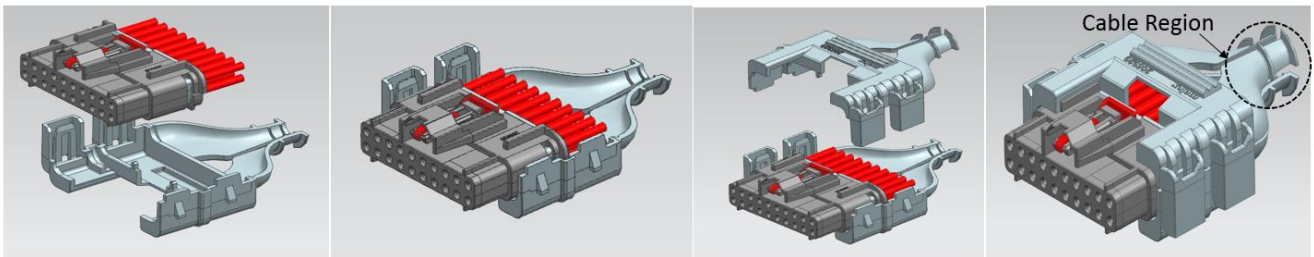

Back shell Assembly

I. Load the plug/receptacle housing with crimped terminals.
II. Use the *guide tabs* in the housing and *guide slots* in the backshell for location and guiding during the assembly.
III. Place the housing into the backshell cavity.
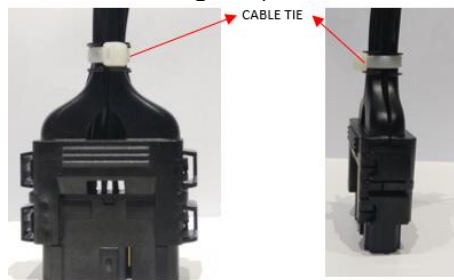IV. Place the second backshell on top of the housing and press to lock the assembly.

Guide Tabs

Guide Slots

Above illustration shows the assembly with Receptacle housing and backshells. Same applies to Plug housing.
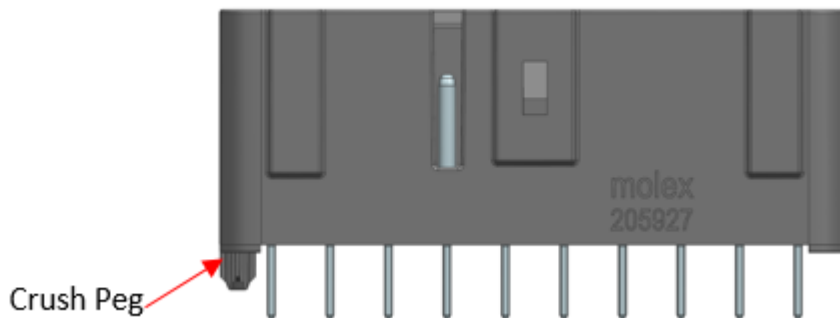
V.   Wrap *cable tie* around the cable tie region (between the ribs) and secure.

Note: Molex Cable Tie Tool, Part Number 19294-0002 used to tighten cable tie.

Header Assembly to Board
Headers are designed with press fit pegs (crush pegs) and must be pushed into the circuit board. Solder process temperature for Reflow soldering is 260°C Max.

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4.2 CONTACT/TERMINAL EXTRACT TOOL

Refer 2009140003-AS regarding the use of contact/terminal extractor tool.

- Insertion and Extraction Tools

Tool Part number: 20222-0300 for crimp contacts.
The white side is for removing the contacts and the **red** side for insertion.

- **Insert contacts**

	1. Place the cable on the groove and press from the center of the tool so that the contact remains outside
	2. Using the cable, pull the contact firmly into the tool tip until the crimp pot of the contact is firmly seated in the tool tip.

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3. Insert the contact carefully and straight into the cable side of the connector until it snaps firmly into place.

Terminal Extraction from housing Cavity (Plug/Receptacle)

1. Insert the cable from the center of the tool into the groove of the white side.

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2. Insert the tool carefully and straight into the connector until it hits tight resistance.

3. Press the cable with the thumb and index against the ripple in the tool center and slowly pull out of the connector.

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