



TECHNICAL SERVICE INFORMATION BULLETIN

TSIB 22-01 Rev A		February 04, 2022
TO:	All Operators	
TITLE:	MCI Main Distribution Panel Inspection and Cleaning for Harsh/Corrosive Environment	
APPLICABILITY:	MCI coaches with Main Distribution Panel, MCI P/N: 07-08-7940, and operating in harsh or corrosive environment: J4500 - All coaches beginning with MY 2017 to 2021. J3500 - All coaches beginning with MY 2018 to 2021. D45CRTLE - All coaches beginning with MY 2018 to 2021. D4520 – All MY 2020 coaches. D4500 – All coaches beginning with MY 2017 to 2020. D4505 – All coaches beginning with MY 2017 to 2020. D4000 – All coaches beginning with MY 2017 to 2020. D4005 – All coaches beginning with MY 2017 to 2020. D4500 – All coaches beginning with MY 2017 to 2020. D4000ISTV – All coaches beginning with MY 2017 to 2020.	

WARNING

Read this entire procedure before beginning work.

Use Safe Shop Practices at All Times.

To avoid personal injury:

- a. Proper Personal Protective Equipment (PPE) must be worn. Safety glasses and protective gloves are required for working with DEF Fluid.***
- b. Turn the main battery disconnect switch to the OFF position.***
- c. Ensure that both the front and the rear wheels are chocked.***
- d. Position the ENGINE RUN and ENGINE START switches on the engine compartment remote control box to the OFF position.***
- e. Allow enough time for components to cool down prior to working in the engine compartment.***

1.0 Description

This TSIB is being issued for MCI coaches equipped with MDP boards, which operate in harsh or corrosive environments. This TSIB, although similar to TSIB 21-10, has several additional steps to perform in conjunction with the inspection procedure outlined in TSIB 21-10 for coaches operating in extreme or harsh environment. All required inspection steps are compiled together in this document. Both TSIB 21-10 and TSIB 22-01 are linked to NHTSA Recall 21V-748 and Transport Canada recall 2021-578.

Due to the current global parts shortage, the components required to conduct the related recall repair instructions are not currently available. This is specific to repair instructions ITS60272 (J4500), ITS-60335 (J3500), ITS 60283 (D Coach), and ITS60298 (D45CRT and D4520 coach).

In the interim period, prior to these repair instructions being incorporated on the buses identified above, MCI recommends conducting an immediate inspection of the MDP, MCI P/N: 07-08-7940, and regular interval inspections every three months for signs of thermal stress or corrosion following this inspection procedure.

Once the recall repair instructions have been incorporated, the inspections described below will no longer be required.

2.0 Material Requirements

No parts required

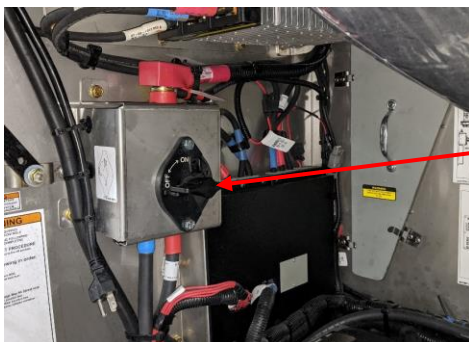
3.0 Special Tools

CRC SP-400 - Corrosion Inhibitor (Vendor: CRC, VPN: 03282)
Electrical cleaning spray (Vendor: CRC, VPN: 5102)
Ultra Grey RTV Silicone (Vendor: Imperial, VPN: 9166)
Calibrated Torque Wrench
Hard Nylon cleaning brush
Duct tape

4.0 MDP Cover Disassembly

4.1 J4500/J3500/D45CRT-Le/D4520 coach models:

Locate the Main Battery Disconnect Switch and ensure it is in the off position.



Turn off
MDS.

Disconnect GND, 12V, and 24V battery cables from the coach batteries. Ensure the battery cables do not come in contact with each other or the coach.



Disconnect all battery cables.

Locate the MDP compartment mounted on the rear wall in the battery compartment. Remove and save the 4 thumb screws to release the MDP cover.



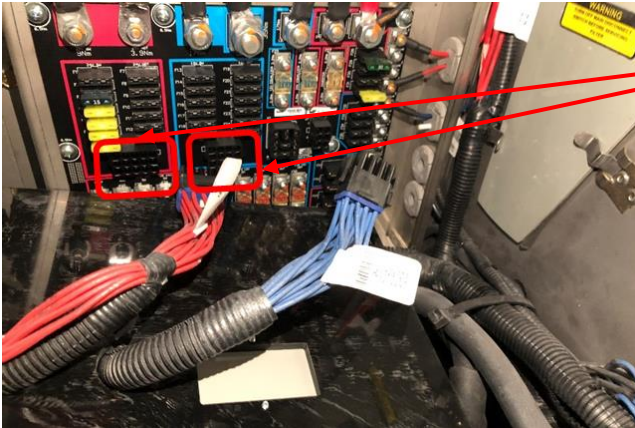
Remove and save 4 thumb screws.

Remove tyrap that secure BT-P162 to the Main Disconnect Switch cables.



Remove BT-P162 tyrap on battery cables.

Disconnect connectors BT-P161 and BT-P162 from MDP.



Disconnect BT-P161 and BT-P162.

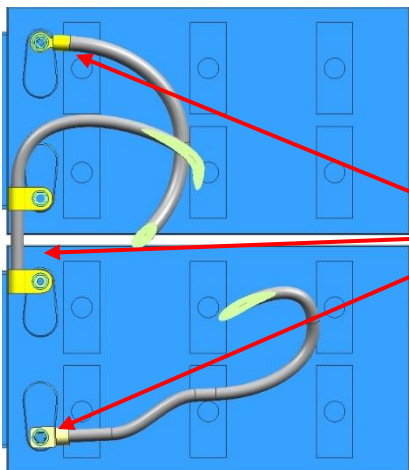
4.2 D4X0X coach models:

Locate the Main Battery Disconnect Switch and ensure it is in the off position.



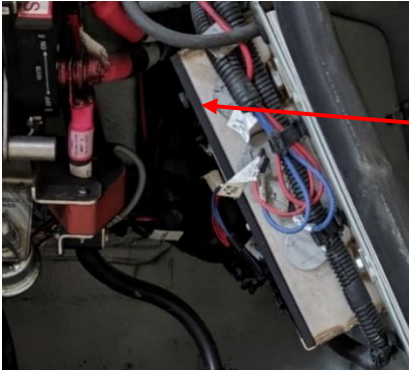
Turn off MDS.

Disconnect GND, 12V, and 24V battery cables from the coach batteries. Ensure the battery cables do not come in contact with each other or the coach.



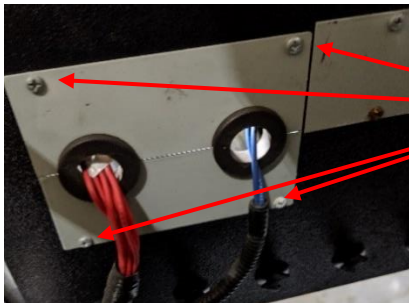
Disconnect battery cables

Remove and save the two thumbscrews from the MDP cover.



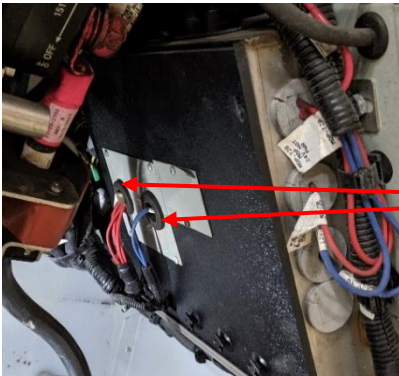
Remove the thumb screws

Remove and save 4 screws holding the MDP cut-out part to the MDP cover.



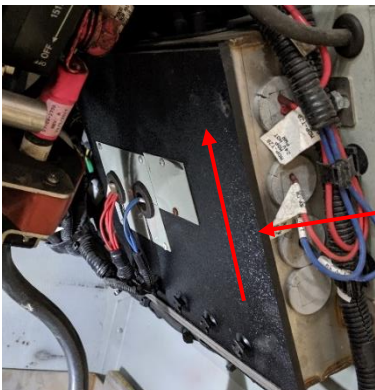
Remove and save the screws

Disconnect the two connectors, BT-P162 and BT-P161, from the main distribution panel.



Disconnect the wires

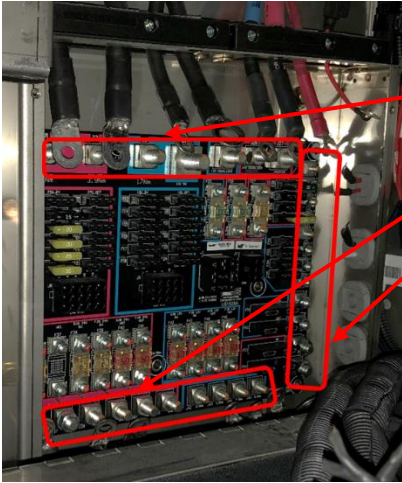
Slide out and save the battery compartment cover out of the bracket.



Slide the cover out

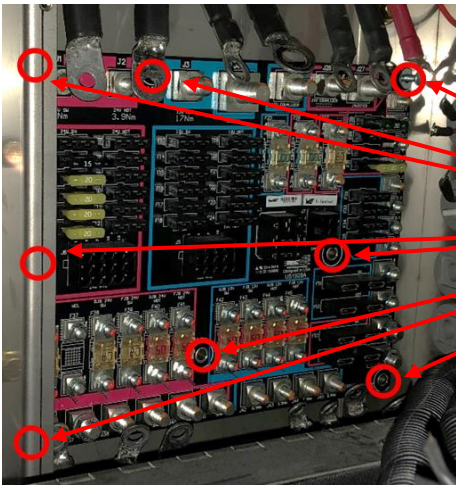
5.0 MDP Removal

Remove all cables from MDP. Make a note of where each cable is connected on the board. Place nuts and lock washers back on studs after the cables are removed.



Remove all cables from MDP.

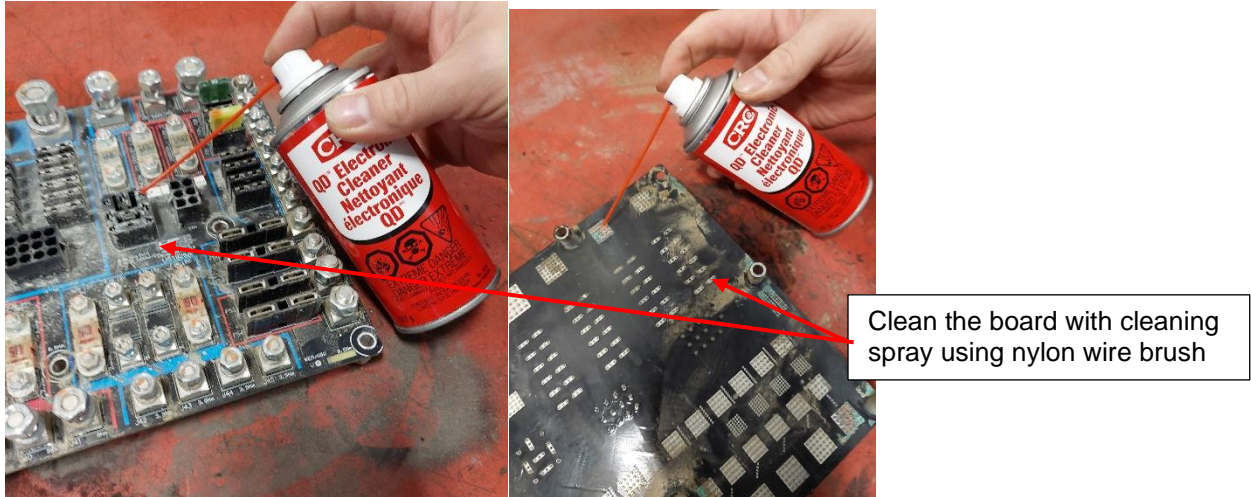
Remove & save 8 MDP mounting screws and washers to remove the MDP from the coach.



Remove mounting screws.

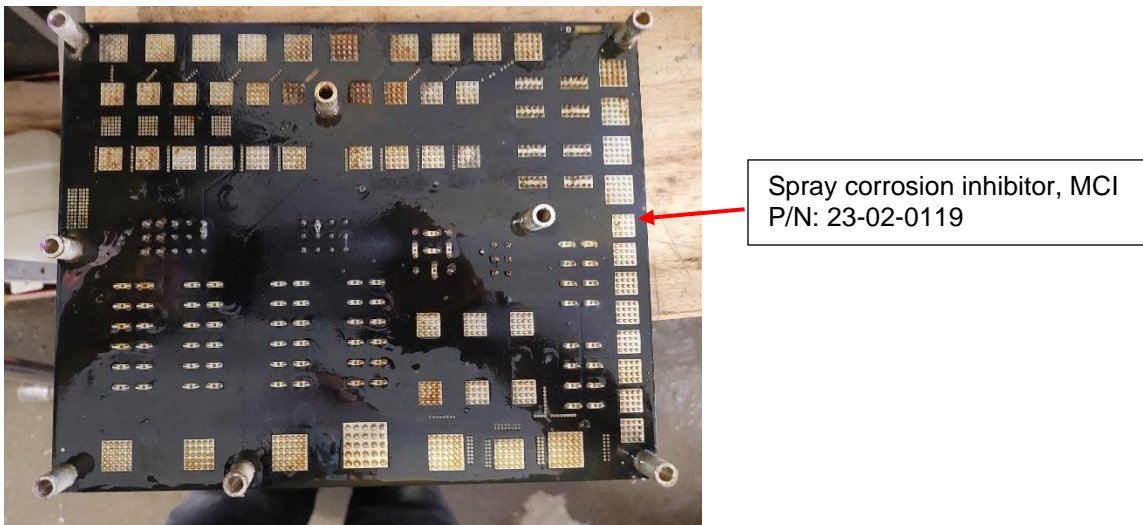
6.0 MDP Cleaning

Blast the MDP board with air and clean the board with hard nylon wire brush by spraying cleaning spray lightly to eliminate the dirt.

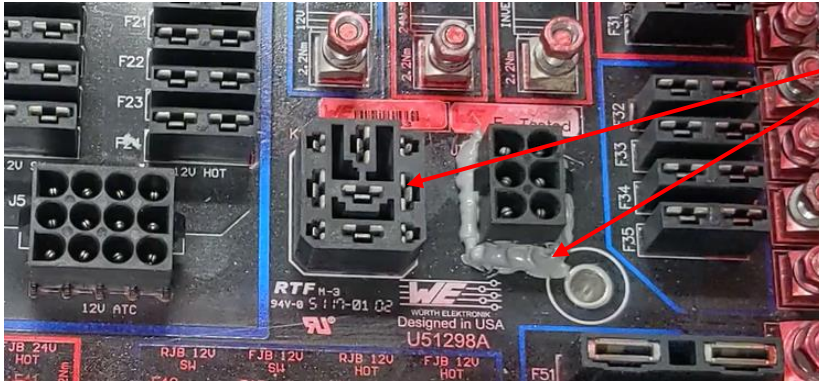


NOTE: Maintain caution to spray the cleaner lightly as it could remove the existing conformal coating and also maintain caution not to damage the pins on the MDP.

Using short sprays, apply the corrosion inhibitor, MCI P/N: 23-02-0119, on back of the board and allow 5-10min for it to dry.



Using RTV silicon, place a bead of silicone around fuse checker connectors K1 and J7.



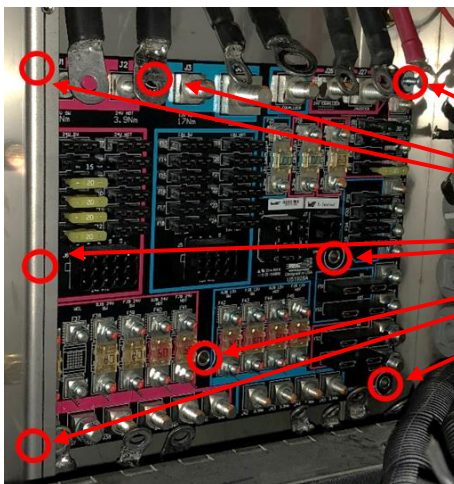
Apply RTV around K1 and J7 connectors.

Using RTV silicon, seal the top of fuse checker connectors K1 and J7. Let the silicon dry (approximately 30 minutes).



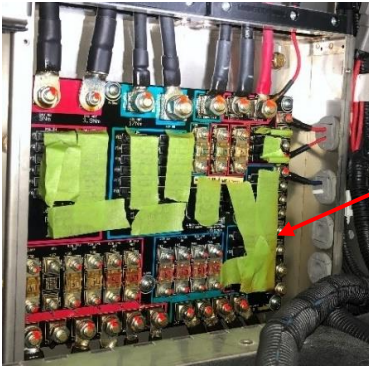
Apply RTV on top of K1 and J7 connectors.

Re-install the MDP to the wall using existing screws and torque the screws to 75 In-Lbs. Re-install the cables referencing the torques specified in Section 9.0.



Re-install the board using existing screws

Cover all open connectors and fuse slots with masking tape.



Cover open connectors and fuse slots.

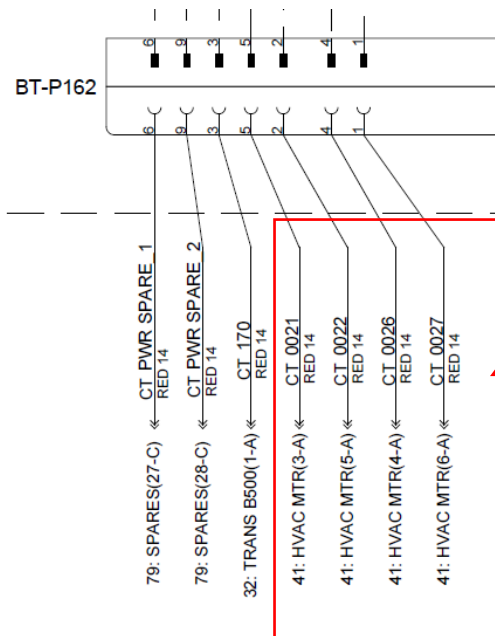
Using short sprays, apply the corrosion inhibitor, MCI P/N: 23-02-0119, on all power and fuse studs. Wipe off any excessive corrosion inhibitor from the fuse windows using a dry rag.



Spray anticorrosive on MDP studs.

7.0 HVAC Wire Relocation

Cut HVAC wires CT0021, CT0022, CT0026, and CT0027 4-5 inches from the 24V BT-P162 connector.



Cut wires 4-5 inches after the connector

NOTE: Heatshrink and tie back the wire attached to the pins to avoid corrosion.

Cut and tie back all spare wires from BT-P161 and BT-P162 using heat shrink, MCI P/N: 6819239. Also tie back Alt 55SI sense wire CT 0012D. These two connectors will not be re-installed to the MDP.

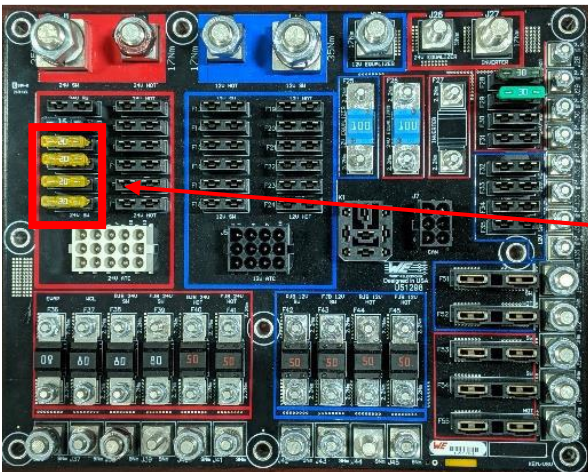


Crimp HHG in-line fuse holders, MCI P/N: T19-1168 or similar to the HVAC wires and a 1/2" ring terminal at the end, MCI P/N: 19-11-1171 or similar.



Crimp inline fuse holder to the HVAC wires

Remove 20A fuses from the MDP and install them in the in-line fuse holders.



Remove 20A fuses and install in in-line fuse holders

Connect the modified HVAC wires to either 24V SW stud on the MDS as shown below for various coach models. Torque the nut to 300 In-lbs.



Connect the modified HVAC wires to 24V SW stud on MDS

J4500/J3500/D45CRT-Le/D4520 coach models



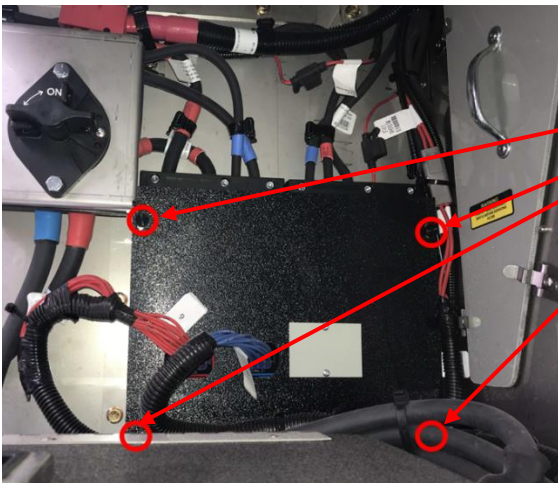
Connect the modified HVAC wires to 24V SW stud on MDS

D4X0X coach models

8.0 MDP Cover assembly

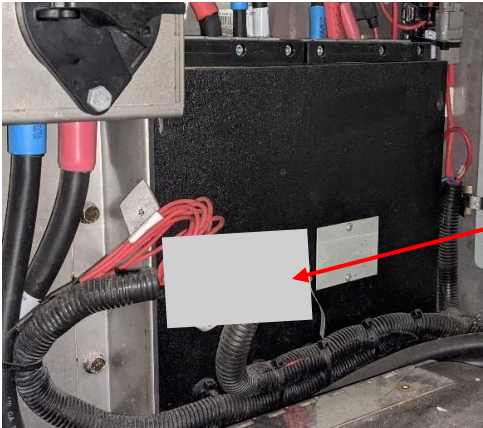
8.1 J4500/J3500/D45CRT-Le/D4520 coach models:

Secure the MDP cover using the 4 thumb screws, MCI P/N: 07-08-9231.



Install 4 thumb screws.

Cover the opening on MDP cover for BT-P161 and BT-P162 connectors with duct tape.



Cover the openings with duct tape

NOTE: Although this is not a sealed housing, covering this two openings will greatly reduce the amount of moisture/contamination from entering the housing.

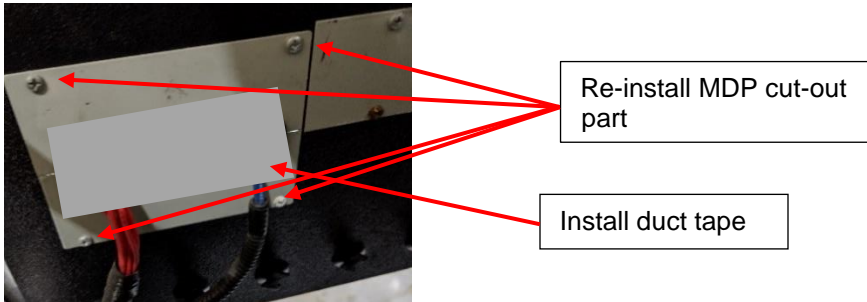
Re-install the battery cables and torque the studs following the maintenance manual.



Reconnect all battery cables.

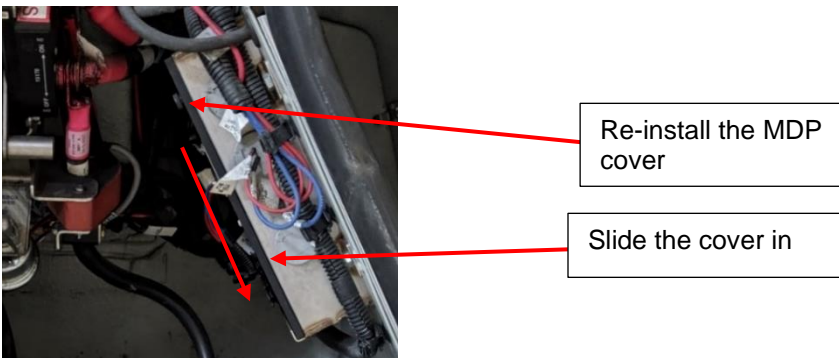
8.2 D4X0X coach models:

Prior to installing the MDP cover, re-install the MDP cut-out part to the MDP cover using existing screws. Duct tape over the openings on the MDP cover, the BT-P161 and BT-P162 connectors will not be re-installed.

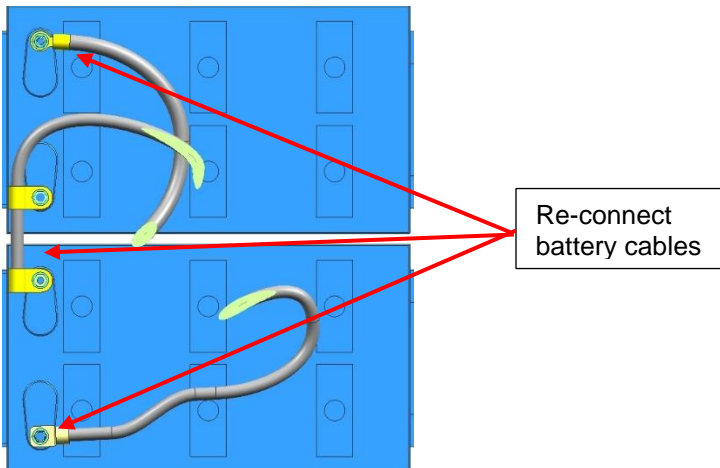


NOTE: Above picture is not an accurate representation of the final assembly as the BT-P161 and BT-P162 connectors and respective wires no longer connect to MDP

Slide in and re-install the MDP cover using the existing two thumbscrews.



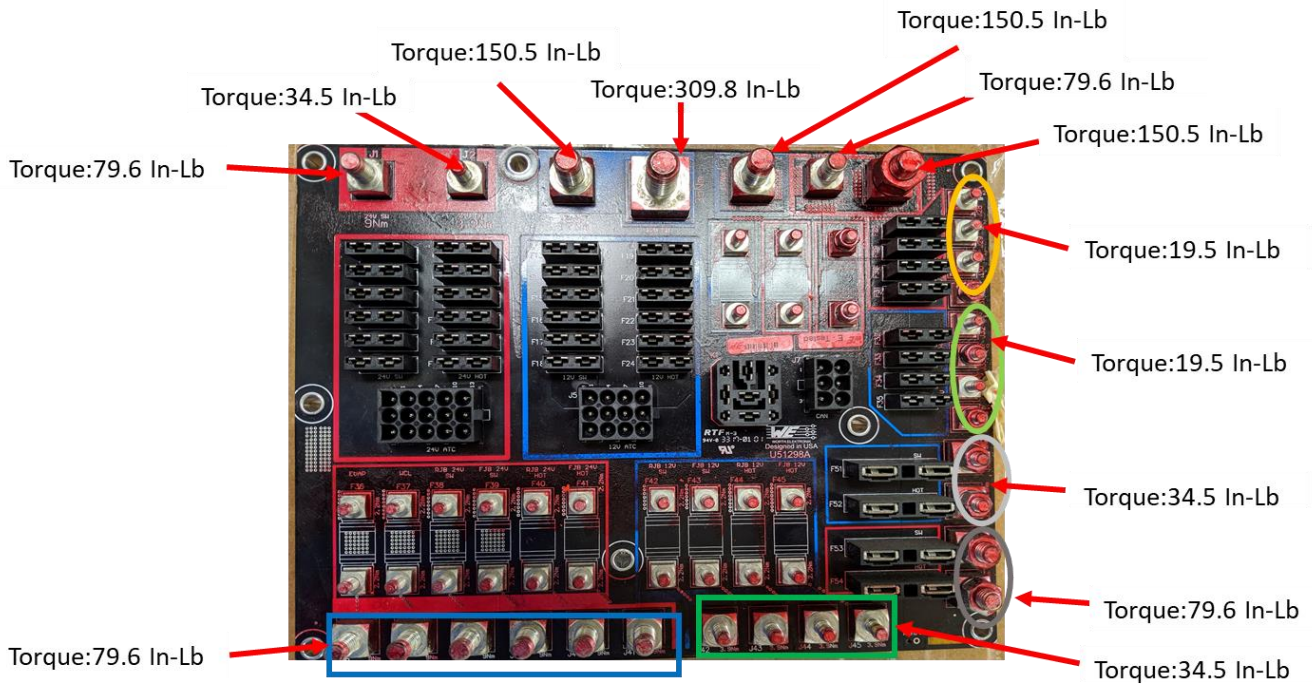
Re-install the battery cables and torque the studs following the maintenance manual.



NOTE: Inspection and preventive maintenance are no longer required once the MDP is replaced with circuit breakers as per ITS60272 (J4500), ITS-60335 (J3500), ITS 60283 (D Coach), and ITS60298 (D45CRT and D4520 coach).

9.0 Appendix

Torque values for Main Distribution Panel studs:



End of the procedure

If you have questions or need further assistance, please contact the MCI Technical Call Center @ 1-800-241-2947.