

SS 1033275 P4 New Cascadia MCM 21 Pin Connector Water Intrusion

Applicable Vehicles

This solution applies to New Cascadia vehicles with DDC engines.

Symptoms

Symptoms of water entering the 21 pin connector include, No Crank / No Start, PTCAN communication faults and or no communication on PTCAN with CEL on. Some of the codes reported with this complaint include the following, depending on the components installed on the vehicle.

0/520230/12--IPPC Data CAN Timeout

0/521001/14- Automatic mode not available wheel speed error

0/521002/14- AG automatic mode not available

0/1482/12- TCM data not plausible

0/1483/12- MCM data can time out

0/520222/12- ACM data not plausible

0/625/8 - MCM PTCAN message not received

0/625/9- ACM PTCAN Message not received

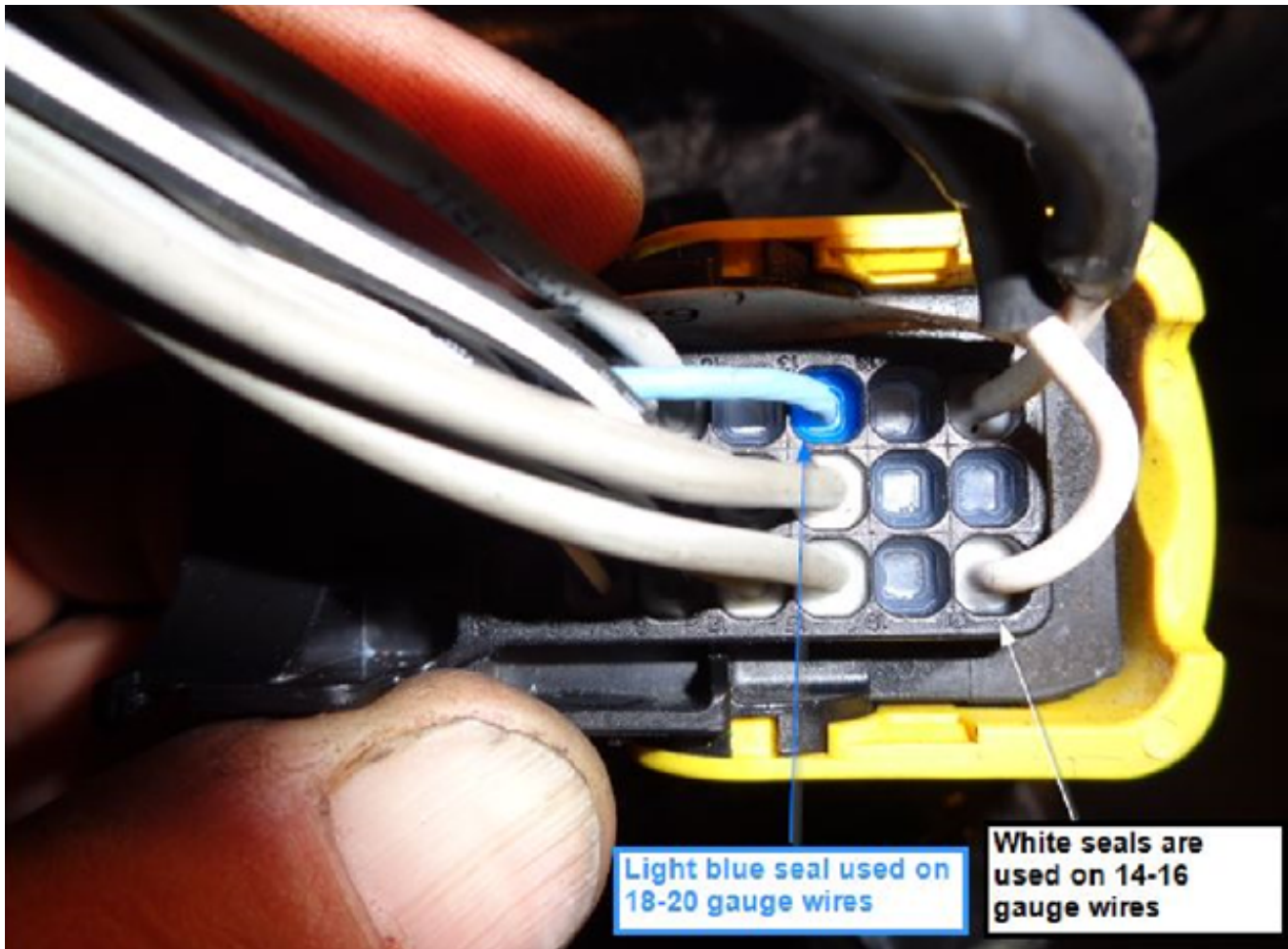
Issue

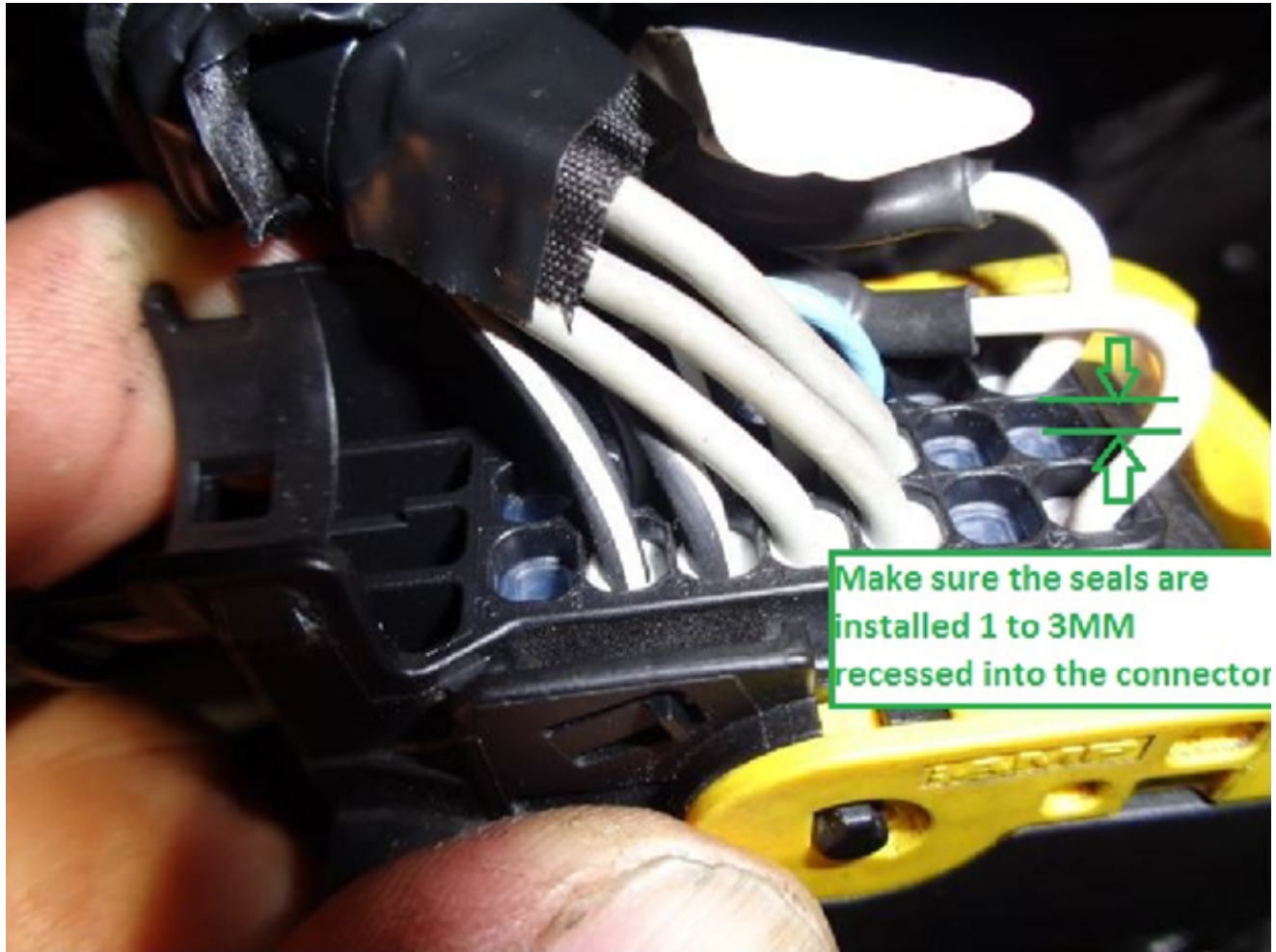
New Cascadia vehicles built with DDC engines may experience water entering the 21 pin MCM connector.

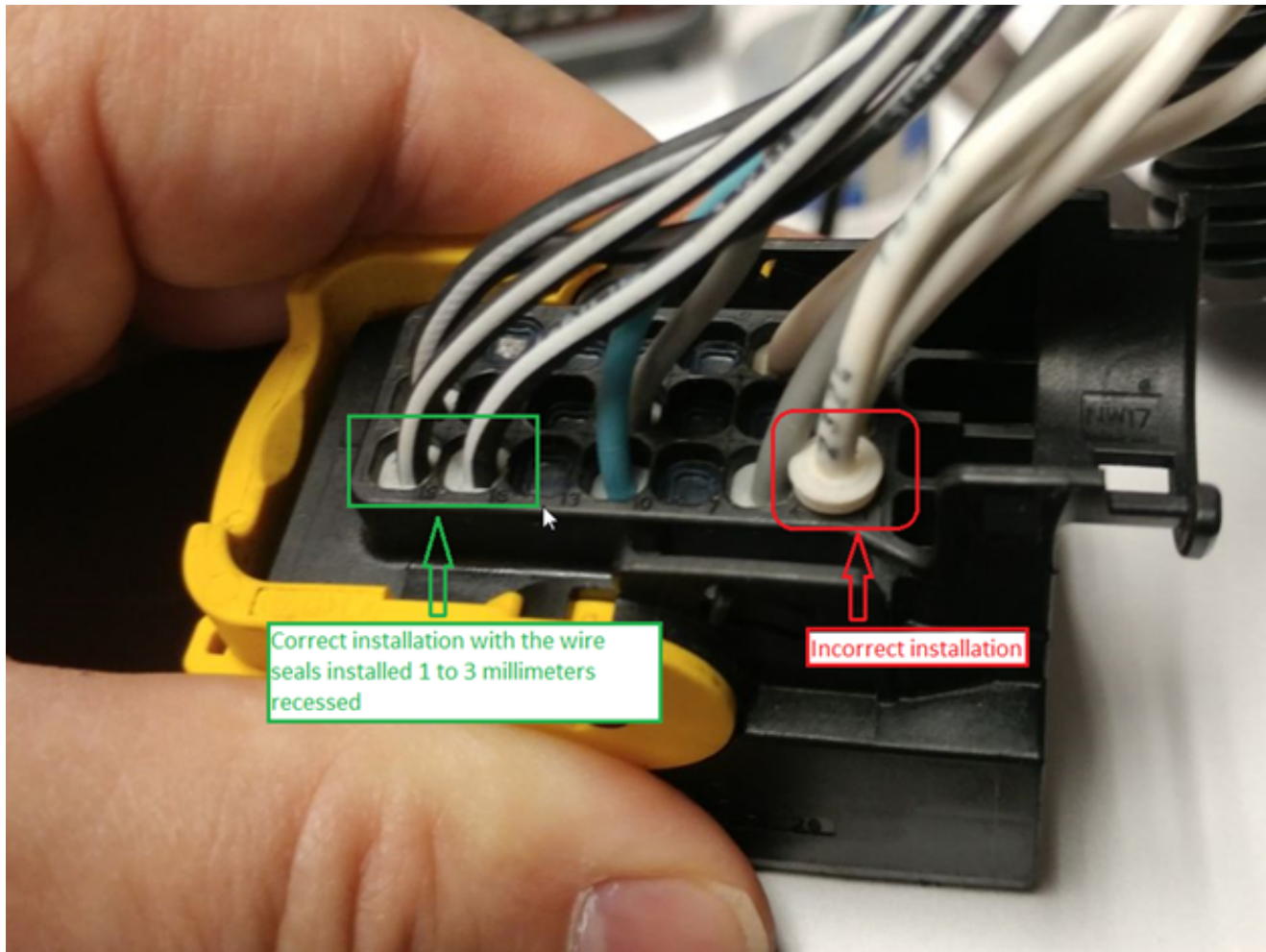
Once water enters the 21 pin MCM connector, it may lead to the terminals and pins becoming corroded. Several factors can attribute to water entering the connector, such as incorrectly installed protective wrapping of the harness, terminal seals not properly installed or seated in the connector and or wrong seals used for the wire size being installed. This solution is being written to aid in the repair of this type of issue, in hopes of reducing water intrusion failures in the future.

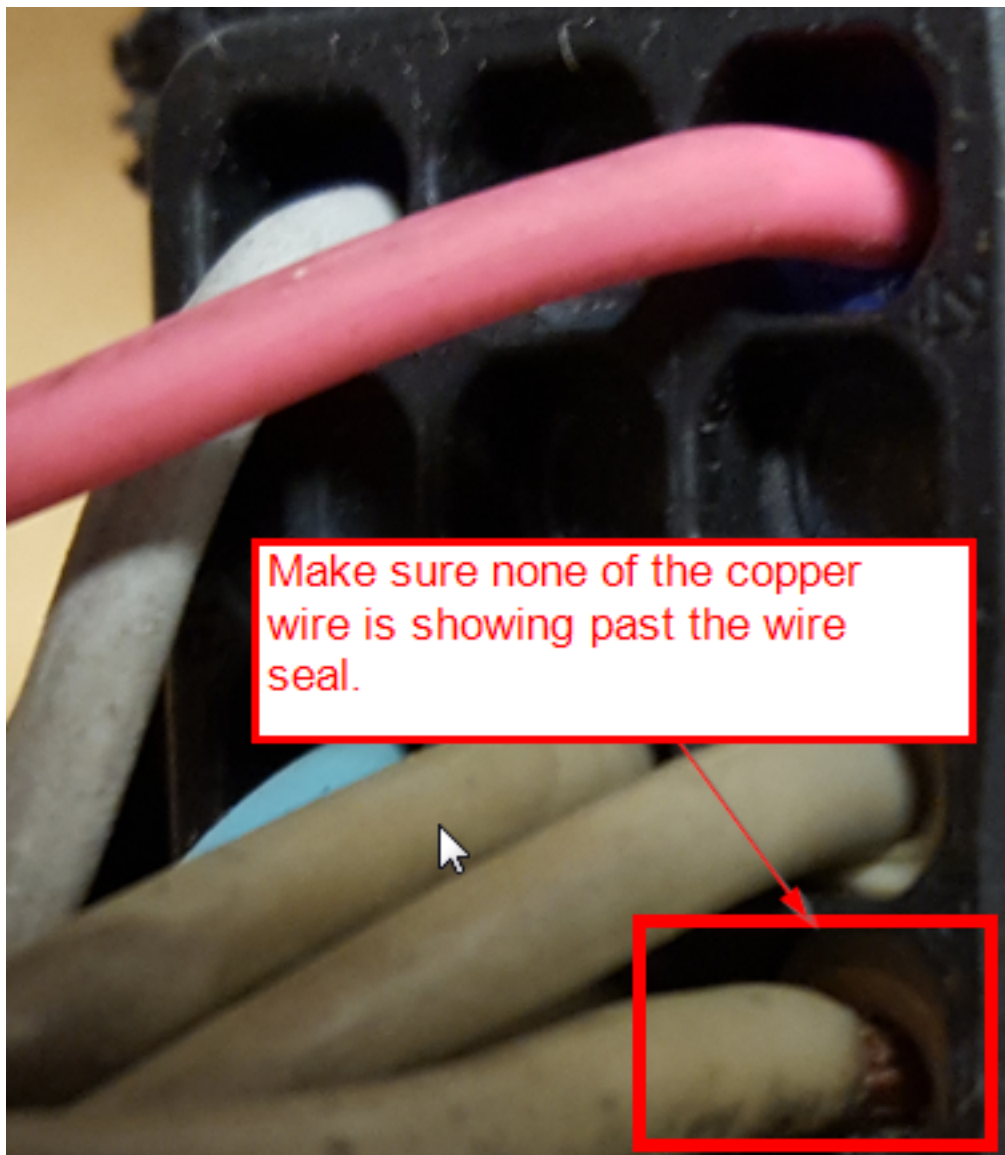
Resolution

Once it has been determined that water is present in the connector, make sure to inspect and replace any of the damaged terminals. General questions regarding replacing or repairing of any harness can be answered in Freightliner Service Bulletin 54-290. Make sure to check the wire seals and plugs validating that the seals are installed 1-3 millimeters below flush and that the correct color seals are being matched with the appropriate wire size.









If the terminals and seals need to be replaced, there are a couple of repair options.

Option 1

Remove the original terminal end and replace it with a new terminal and seal.

14-16 GA wire use terminal P/N 23-13209-240 with wire seal color white P/N 23-13216-001

18-20 GA wire use terminal P/N 23-13209-260 with wire seal color Light Blue P/N 23-13216-000

Option 2

Replacement pigtails are available either by accessing the Cascadia Connector Kit KMH J48854 to obtain the pigtail or by purchasing the replacement part numbers.

The pigtails are made up of 6" of wire with the terminals and seals attached.

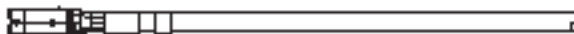
For a 14 or 16 GA wire replacement, the following pigtail can be used as a replacement. The replacement Part number for a pack of 30 is P/N KMH J48854 5.

J-48854-5 (23-13209-200)

Plating: Tin

Wire Awg: 14

Re-order J-48854-5 (30)



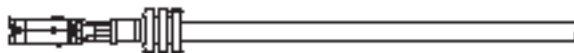
For an 18 or 20 GA wire replacement, the following pigtail can be used as a replacement. The replacement Part number for a pack of 30 is P/N KMH J48854 9.

J-48854-9 (23-13209-260)

Plating: Silver

Wire Awg: 16

Re-order J-48854-9 (30)



If for some reason the connector needs to be replaced, the P/N for the connector is 23-13149-029 and the back shell P/N is 23-13304-600

