

## PETERBILT 520 INSTALLATION:

### ELECTRICAL:

1. Remove the lower black kick panel and steering column panels using square drive bit.
  - a. Note: These are square drive NOT Philips head and will strip easily.
  - b. Note: Make sure cab is secure and all loose items in cab are retained before flipping the cab forward.



Figure 2: Lower Kick Panel



Figure 2: Steering Column Panel

2. Locate the factory start interrupt circuit
  - a. Orange wire-key side
  - b. Grey wire-truck side
  - c. Use Momentum Part Number MP92-1021 harness
  - d. Note: Lift locking tabs on PACCAR style connections

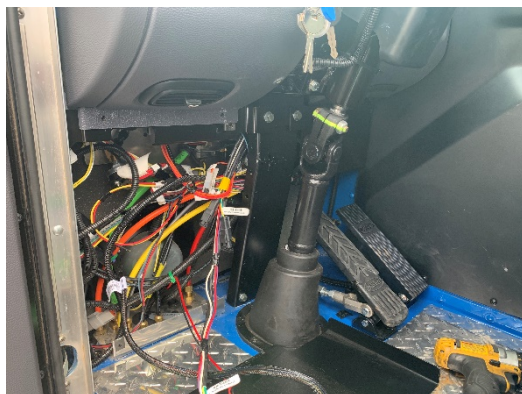
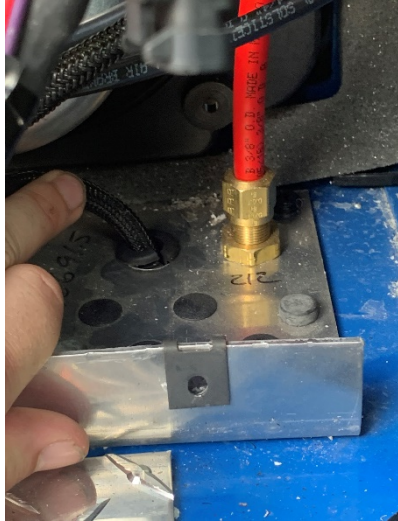


Figure 4: Exposed Lower Dash



Figure 4: P105 Start Interrupt

3. Feed wire harness through the floor where the air manifold is in the floor behind the steering column panel.
  - a. Note: Use a grommet in aluminum floor panel so that the wire does not get chafed.



*Figure 6: Air Line Block*



*Figure 6: Grommet in Floor*

4. On the doghouse (center console area) of the truck between the passenger and driver's seat remove the two black metal center panels as shown. There are six screws for each panel.



*Figure 8: Doghouse Center Panels*



*Figure 8: Doghouse w/Panels Removed*

5. Locate the "body builder connection 1", this should be a round style connector and connect the MP92-1021 round connector to the truck.



Figure 10: BB1 connected to MP92-1021

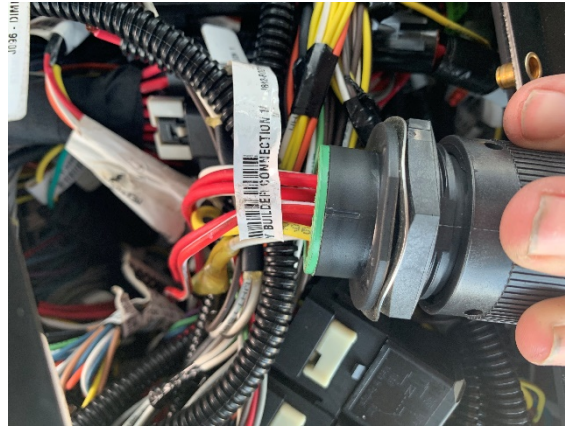


Figure 10: Body Builder Connection 1

6. Locate the FBO switched power, ground, and inst. lighting splice blocks located in the same area as the previous step. Follow the instructions below for all splice blocks.

Splice Block Wire Install (Pictures Below):

1. Remove the blue plastic secondary lock from the splice block. (See Fig. 11)
2. Remove black outer cover (cap) (See Fig. 12)
3. Remove splice jumper (See Fig. 13)
4. Install jumper connection from the momentum wiring harness, ensure Metropak GT280 Style connector. (See Fig. 14)
5. Install wire and ensure it clicks into place. (See Fig. 15)
6. Reinstall parts in reverse order of which they were removed. (See Fig. 16)
7. Wiring Codes-MP92-1031-C
  - a. Blue wire-instrumentation backlighting
  - b. Red wire-switched power
  - c. Black wire-ground

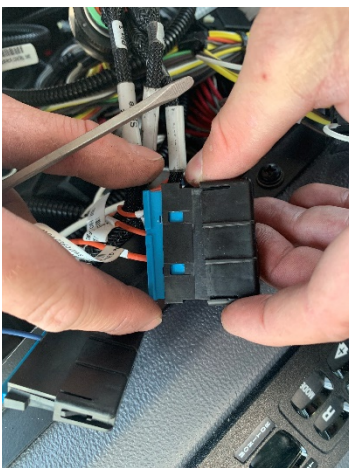


Figure 11: Remove Secondary Lock



Figure 11: Remove Outer Cover

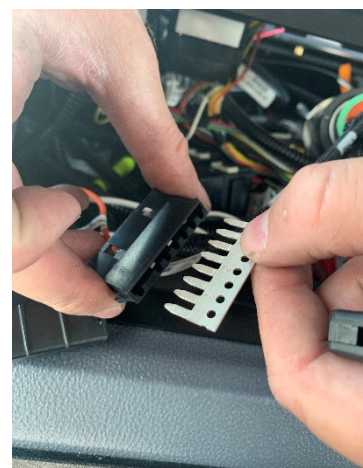


Figure 13: Remove Splice Jumper



Figure 14: Metropak GT280 Connector

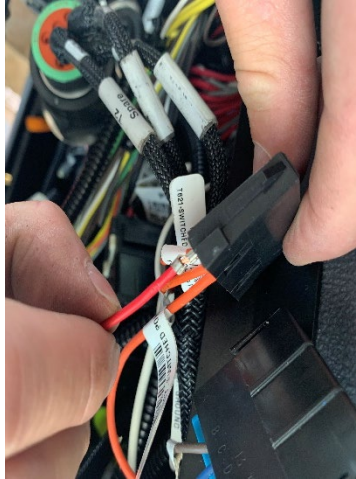


Figure 15: Install Jumper Connection from Momentum Harness

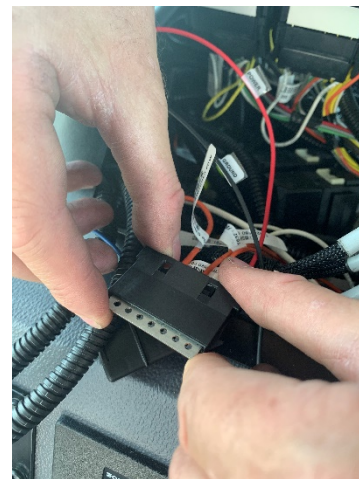


Figure 16: Reinstall Splice Jumper

7. Remove the 6 screws that retain the gauge assembly to the dashboard of the truck.
  - a. Note: Do not remove the three screws around the rectangular screen as these are used to retain the screen assembly to the gauge assembly.



Figure 17: Dash Panel Removal

8. Locate the fuel gauge and remove the jumper wire between the gauges, as well as the input signal wires coming into the factory gauge.
9. Unscrew the factory gauge from the gauge panel assembly.



Figure 18: Factory Jumper Wire 28574



Figure 19: Unscrew Factory Gauge

10. Prior to installation of the Momentum digital gauge, the index point used to locate the factory gauge on the panel will have to be filed to accept the Momentum gauge.
  - a. Note: Use a flat file to make the index point flush with the gauge hole and then turn the file 90 degrees to create a small cut in the panel to accept the momentum gauge.



*Figure 20: Factory Gauge Index Point*



*Figure 21: Momentum Gauge Index Point*



*Figure 22: Momentum Gauge Installed*

11. To install the MP92-1031-C wiring harness, the front dash panel closest to the windshield will have to be removed along with the small 3-switch panel as illustrated.



*Figure 23: 3-Switch Panel*

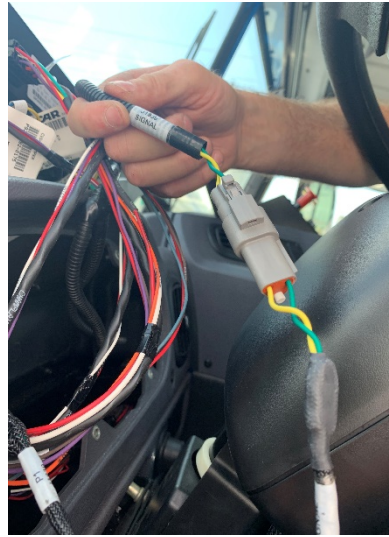


*Figure 24: Front Dash Panel*

12. Route the MP92-1031-C harness from the doghouse area of the cab to behind the dashboard area where the momentum fuel gauge will be located.
13. The MP92-1035 connects into the MP92-1031-C behind the dashboard area.
14. Run the MP92-1035 from the back of the fuel gauge to the floor area where the air manifold is located.
  - a. Note: Black lower dash panel must be removed.
  - b. Note: Be cautious when reinstalling lower dash panel to not pinch any wires reinstalling the panel.

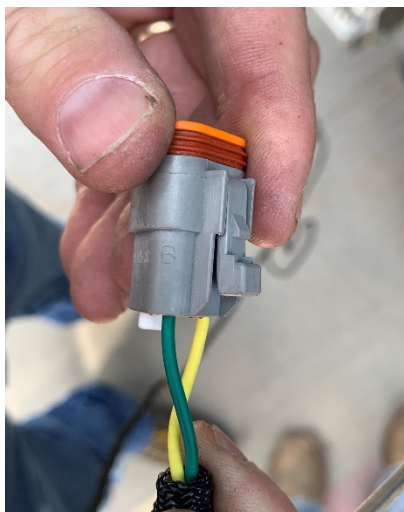


*Figure 25: Front Dash Panel Removed*



*Figure 26: MP92-1035 connecting to MP92-1031-C*

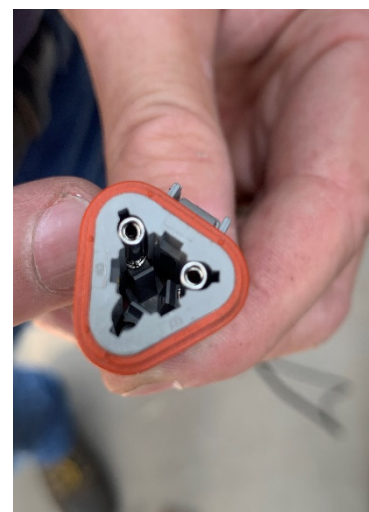
15. To be able to run the MP92-1035 through the air manifold in the floor, the 2 wire Deutsch connector must be removed.
  - a. Remove the orange locking plug using a flat blade screwdriver.
  - b. Once the locking plug has been removed, use the small flat blade screwdriver to push the tabs on the interior of the connector to release the two pins individually.
    - i. Note: Take note of which terminal the wires are removed from, as they must be reinstalled in the same location.



*Figure 27: Deutsch Connector*



*Figure 28: Locking Plug Removed*



*Figure 29: Terminal Clips*



Figure 30: Removing Terminals

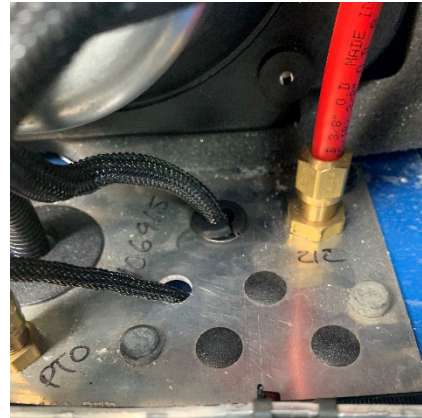


Figure 31: Routing Harnesses through Air Manifold

16. Once the harness has been run through the air manifold, reinstall the Deutsch connector in the reverse order of removal.
17. Reinstall the dashboard, doghouse panels, 3-switch panel, front dashboard, and the lower kick panel assemblies as the rest of the installation takes place outside of the cab.
  - a. Note: On the lower black kick panel under the dashboard, the two screws closest to the floor are not machined and must be re-installed here.



Figure 32: Lower Kick Panel



Figure 33: Reassembled Cab Interior

18. After the interior of the cab has been reassembled, secure all items inside so that we can flip the cab to gain access to the engine area.

Lifting Cab Assembly:

1. The jack assembly is located on the passenger side of the truck just behind the cab.
2. The handle is located inside the passenger side of the cab on the outside of the seat closest to the door.

3. Ensure the valve on the jack is in the correct position and use the jack to lift the cab of the truck.
  - a. Note: Check that all doors are closed and that all items inside of the cab are properly secured.
4. Lift the cab until it is high enough to clear the prop rod which is located on the bottom of the cab underneath the passenger side of the cab in the lifted position.
5. Slowly set the cab back down on the prop rod ensuring that it is in place correctly.



- a. Note: Never, under any circumstances, rely on the hydraulic jack to hold the weight of the cab while working underneath. Serious injury or death may occur.



Figure 34: Jack Assembly on Passenger Side



Figure 35: Prop Rod



Figure 36: Valve Handle

19. Locate the engine harness, this is usually located on the driver's side of the engine underneath the cab of the truck.
20. Plug in the Y-Harness from the Momentum harness into the Paccar chassis interface harness.
  - a. This harness has two female receptacles and one male receptacles.
  - b. The female receptacles go to the chassis interface harness and the MP92-1035 harness that was ran into the cab of the truck.
    - i. Note: The female receptacles are reversible, it does not matter which one you use with which plug.



*Figure 36: Chassis Interface Harness*



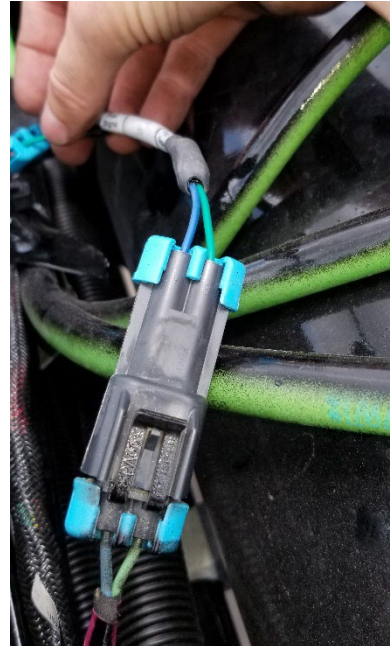
*Figure 37: Y-Harness Tied In*

21. Locate the breakout harness coming from the master side mount system, this will be the round style plug that is installed into the FMM side of the units.
22. Locate the Paccar fuel sender harness on the chassis interface harness.
 

Note: This should be located approx. 2 feet from our breakout on the inside of the framerail before the axles and labeled "Fuel Sender"
23. Install Momentum Harness in-line with the factory fuel sender harness.



*Figure 38: PACCAR Fuel Sender*



*Figure 39: Momentum Harness*

#### FRAME TUBING INSTALLATION:

24. Ensure the stainless lines are ran correctly as shown in the photos below.
  - a. Note: The PRD lines must have proper sheathing especially near high heat areas.



*Figure 40: Proper Routing of the Crossover Tube*



Figure 41: PRD Vent Installation



Figure 42: PRD Vent Installation Cont.



Figure 43: Framerrail PRD Vent Line



Figure 44: Framerrail PRD Vent Line Cont.

**REGULATOR COOLANT LINE INSTALLATION: (CUMMINS ISX 12N)**

25. The coolant lines for the FMM system regulator must be plumbed into the truck's cooling system.
26. The coolant supply line must be tapped into the rear passenger side of the block.
  - a. There is a small threaded plug that will need to be removed and a 90-degree brass fitting installed in place of the plug. Once these are done the rubber coolant line can be attached appropriately.
27. The coolant return line must be plumbed into the heater core line with a brass tee assembly. This coolant line is located on the passenger side of the engine close to the frame rail towards the front of the engine.
  - b. Note: DO NOT install both lines into the rear of the block. The heater core control valve will restrict flow of coolant to the regulator assembly and icing of the regulator may occur in some climates.



*Figure 13: Coolant Supply Line on Engine Block*



*Figure 13: Coolant Return Line on Heater Core*