

Cab HVAC Module Replacement

Removal



WARNING!

Allow the engine to cool sufficiently to avoid injury from hot coolant, turbocharger and exhaust components. In addition to engaging the parking brakes ensure that wheel stops are properly employed to prevent the vehicle from rolling if the parking brakes are accidentally disengaged.



CAUTION

Cover open refrigerant lines with dust caps or tape to prevent contamination of refrigerant circuit.

Before recovering refrigerant from the A/C system, be sure to use a refrigerant identifier to verify refrigerant purity.

1. Connect a refrigerant recovery machine to the A/C service ports and evacuate the refrigerant from the system.



NOTE

Identify and record the amount of oil recovered from the system for oil balancing.

2. Drain the coolant from the engine.
3. Remove the air cleaner assembly.
4. Remove the refrigerant hoses from the TXV.



CAUTION

Secure the TXV with a crescent wrench before removing the refrigerant hoses-to-TXV nut.

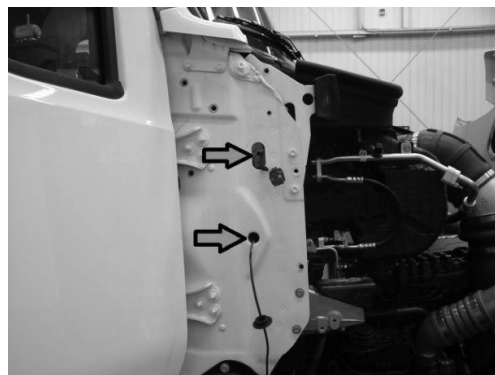
5. Remove the coolant hoses from heater core. Perform steps 6 through 10 from the passenger's side of the cab:
6. Remove the inner fender.
7. Remove the hood latch and the A-pillar hinge cover.



CAUTION

Support each mirror before removing the bolts that secure it. Failure to do this will result in damage to the mirror control harness, antenna cables, the mirror assembly, and the cab's exterior finish.

8. Four (4) bolts secure each mirror assembly to the cab: two (2) in the doorjamb and two (2) on the outside of the cab. Start by loosening the two bolts in the doorjamb. While a second person supports the mirror, remove the two forward bolts.
9. Unplug the mirror harness and release the twist-lock connector to disengage the antenna cable. Place the mirror on a clean, smooth surface to prevent damage to the finish.
10. Push the mirror and antenna pass-through grommets and harnesses into the cab.

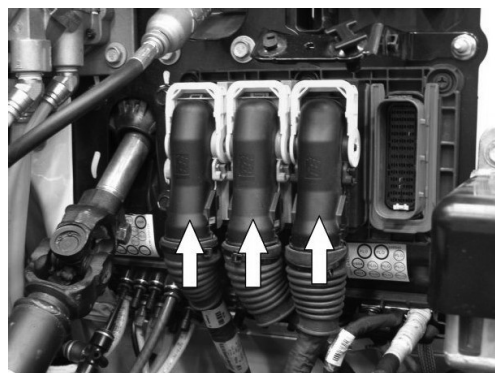


11. Repeat steps 6 through 10 on the driver's side of the cab.
12. Working on the engine side of the bulkhead, disconnect the pass-through connectors below the cab Power Distribution Center (PDC). Push the locking clips downward to disengage the four (4) male pass-through connectors from the cab and push them into the cab.

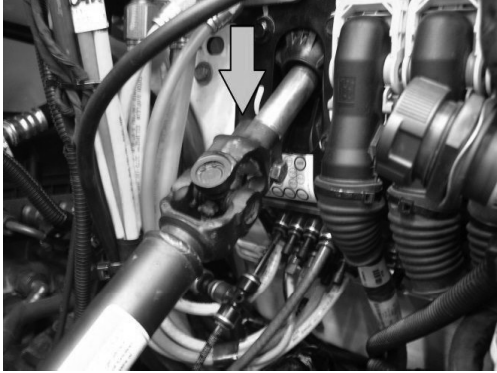


NOTE

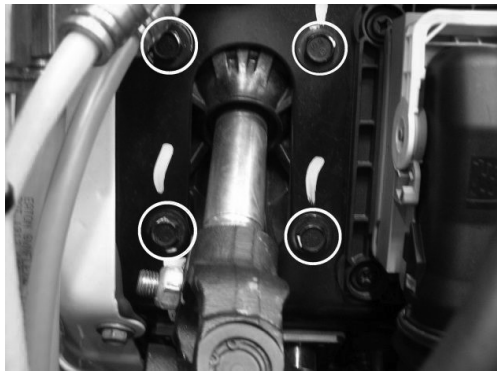
It may be necessary to remove the connectors and ground wires in close proximity to the pass-through connectors to allow access to the locking clips.



13. To keep the steering wheel properly aligned with the front wheels, mark the connection of the intermediate steering shaft and the steering column shaft. Loosen and remove the intermediate steering shaft from the steering column shaft.



14. Remove the four (4) carrier bearing bolts that secure the steering column shaft to the cab.

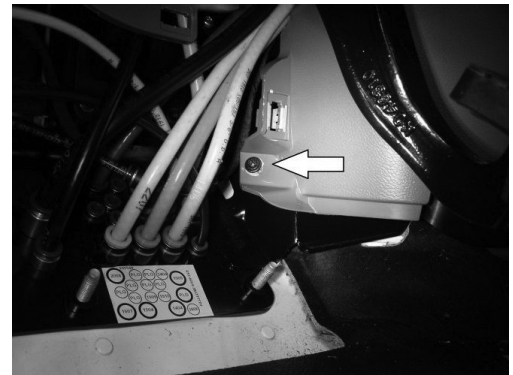


Working from the driver's side of the cab interior, perform steps 15 through 17.

15. Remove the two (2) interior trim pieces from each end of the interior grab handle and unbolt the handle.
16. Remove the A-pillar trim.
17. Carefully pry off the embossed step plate. Remove the screws and plastic step trim.



18. Remove the fuse cover and driver's side lower front kick panel. The upper kick panel screws will now be visible. Remove the upper kick panel and left-hand kick panel/foot rest.



19. Unplug the driver's door control harness and push the door-side harness and grommet through the hole to the outside of the cab.



20. Working from the passenger's side of the cab interior, repeat steps 15 through 17.
21. Remove the passenger's side front kick panel.
22. Remove the passenger's side right kick panel.
23. Unplug the passenger's door control harness and push the door control harness and grommet through the hole to the outside of the cab.

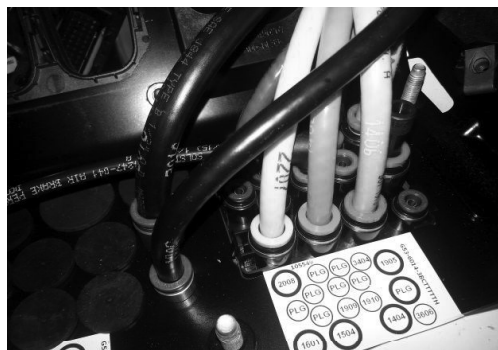
24. Remove the shifter cavity cover, boot and shifter.
25. Remove the center console screws, unplug center kick panel lamp and remove the console. Remove the ECU access door to reach two (2) additional screws that secure the center console to the dash assembly.



26. Working from the driver's side of cab interior, unbolt the ground wire (white in color) from directly below the four (4) pass-through connector holes in the cab bulkhead. Reach up into the upper left of the dash and disconnect the four (4) instrument panel (IP) harnesses. These connectors are color-coded to ease reinstallation.
27. From the driver's side of the engine compartment, disconnect the pass-through air hoses from the lower bulkhead, noting their original orientation.

**NOTE**

The picture below is a general key for determining where the air hoses are connected. DO NOT rely solely on this image for reconnection.



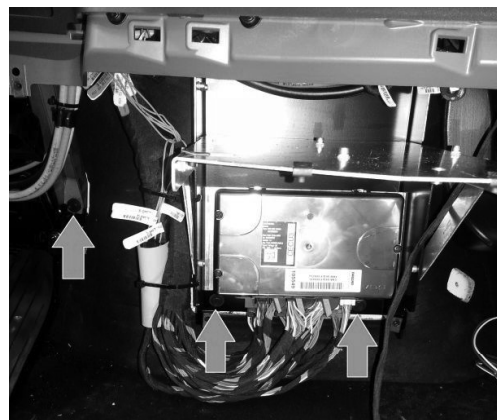
28. Disconnect the accelerator pedal connector and steering wheel control harness.

29. Remove the dash trim from the windshield defrost vents. Remove the five (5) T-20 Torx screws that secure the upper dash to the cab bulkhead.

**CAUTION**

Use caution when working with tools in proximity to the windshield to avoid damage to the glass.

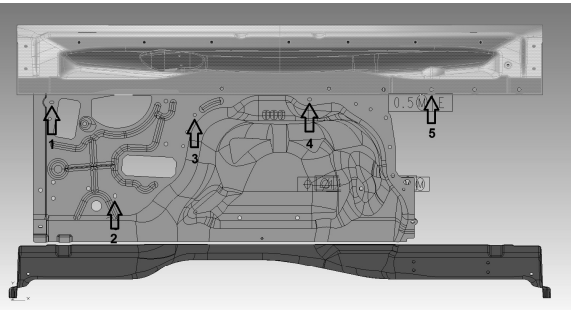
30. Remove the three (3) lower dash-to-bulkhead bolts. (One bolt on each side of the ECU hotel. The third is to the right of the accelerator pedal.)



31. Remove the six (6) crossbeam-to-cab bolts (three on each side: see below) from each side of the cab. These bolts are exposed when the mirrors are removed.

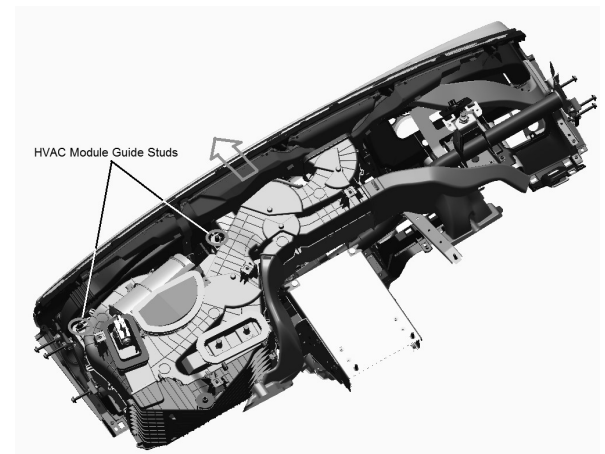


32. Remove the five (5) dash-to-cab bulkhead bolts from the engine side of the bulkhead. Note that bolt number 3 (Shown below) also helps secure the air cleaner support bracket to the cab.

**NOTE**

Two people are required to perform steps 33 through 38.

33. Ensure that seats are protected with seat covers.
34. With one person at each end of the dash, firmly pull it out, away from the windshield, to expose the clutch switch connectors and the three (3) upper bulkhead air hoses. Disconnect the clutch switch and air hoses from the driver's side of the bulkhead, noting their orientation and connection points.
35. Pull the dash out further to allow access to the main dash harness connector on the passenger side. Unplug the main dash harness.
36. Rotate the dash and place it top-side down on the seats.
37. Unplug the HVAC module from the dash and remove the assembly clips from the HVAC module-to-dash guide studs. (See dash assembly below for guide stud locations.)



Dash Assembly

38. Pull the top of the dash in the direction of the arrow (shown in the dash assembly illustration) out of the way of the HVAC module. Slide the HVAC module off the guide studs to remove it from the dash assembly.


Installation

1. With the top of dash pulled up and out of the way, guide the HVAC module onto the guide studs and firmly push it into the dash until it is completely seated.
2. Plug the HVAC module connector into the dash.
3. Plug the main dash harness connector into the cab harness on the passenger's side of the cab.
4. With one person at each end of the dash, tilt and raise the dash closer to the cab bulkhead. Plug in the clutch switch connector and reattach the three (3) upper air hoses into their original connections.
5. Ensure that no harnesses or hoses are in a position to be pinched. Align the dash assembly and push firmly into the bulkhead. Ensure that the steering column shaft aligns with its hole in the cab bulkhead. Start the three (3) lower dash-to-cab bulkhead bolts, the six (6) crossbeam-to-cab bolts and the five (5) dash-to-cab bolts from the engine side of the bulkhead. Start the five (5) T-20 Torx screws that secure the upper dash to the cab bulkhead.
6. Torque the following to their specifications and in the order listed:
 - The five (5) engine side cab-to-bulkhead bolts.
 - The three (3) lower dash-to-cab bolts.
 - The six (6) crossbeam-to-cab bolts.
 - The five (5) T-20 Torx screws for the upper dash
7. Install the defrost vent trim piece.
8. Install the steering column shaft to the intermediate steering shaft using the orientation mark as a guide, then install the carrier bearing into the cab bulkhead.
9. Feed the mirror controls, door controls harnesses and grommets through their respective holes in the cab.
10. Connect the steering wheel control and accelerator pedal harnesses to their companion connectors. Using wire-ties, secure the steering wheel control harness away from the steering column shaft.
11. Working from the driver's side of the cab, reach into the upper right of the dash and connect the four (4) IP harness connectors. They are color-coded with their companion connectors. Feed the pass-through connectors through the bulkhead cavities below the PDC. Install the lower bulkhead pass-through air hoses to their respective connectors.
12. Bolt the ground wire (white in color) to the lower bulkhead.
13. Plug in the center kick panel lamp harness and install the center kick panel and the ECU access door.
14. Install the shifter and shift cavity cover. Working from the driver's side of the cab, perform steps 15 through 18.
15. Plug in the driver's door control harness into its companion connector. Install the upper kick panel, the left kick panel/foot rest and the fuse cover.
16. Install the plastic step trim and snap in the embossed step plate using a dead blow hammer.
17. Install the A-pillar trim.
18. Install the grab handle and its two (2) trim tab covers.


Working from the passenger's side of vehicle, perform the following:
19. Install the passenger's door control harness grommet and plug the harness into its companion connector.
20. Install the passenger's side right-hand kick panel and snap the front kick panel in place. Ensure that the front kick panel tabs snap into their designated cavities.
21. Install the A-pillar trim.
22. Install the grab handle and its two (2) trim tab covers.
23. Working on the engine side of the bulkhead, secure each pass-through connector using

its locking clip. Connect the companion connectors to the pass-through connectors.

24. Reinstall all components removed to gain access to the pass-through connectors.

	CAUTION
Support each mirror before removing the bolts that secure it. Failure to do this will result in damage to the pass-through mirror control harness, antenna cables, the mirror assembly, and the cab's exterior finish.	

25. Working on the driver's side of the vehicle, perform the following:
- Plug in the mirror control harness and antenna cable, then install the mirror in the reverse order of its removal.
 - Install the A-pillar hinge cover.
 - Install the inner fender and secure the cowl drainpipe to the inner fender with a wire-tie.
26. Working on the passenger's side of the vehicle, repeat step 25.
27. Reinstall the coolant hoses onto the heater core.

	CAUTION
Secure the TXV with a crescent wrench before applying torque to the 'refrigerant hoses to TXV' nut.	

28. Replace the refrigerant hose sealing washers, reinstall the hoses into the TXV valve.
29. Install the air cleaner assembly and ensure that the turbocharger air inlet pipe has no leaks.
30. Recharge the A/C system with the correct quantity of R134a refrigerant and the amount of oil recorded during the recovery process.
31. Fill the coolant system and run the engine to purge any remaining air out of the cooling system. Top off the coolant.