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Business Class M2
 > Cascadia
 108SD/114SD
 New Cascadia

**Freightliner
 Service Bulletin**

General Information

A new blend door design is available for retrofitting in the HVAC unit for Cascadia vehicles to correct complaints of either “no heat” or “no air flow out the defrost vents” due to binding blend doors. This repair is intended as an option for vehicles outside of normal warranty to provide an alternative to replacing the entire HVAC unit to correct blend door binding.

Parts

Parts are available through PDCs. See [Table 1](#).

Parts	Description	Quantity
VCC T1030983G	Blend Door	3

Table 1, Parts Required

Heater and Air Conditioner Housing Blend Door Replacement Procedures

1. Park the vehicle on a level surface, turn off the engine, and apply the parking brakes. Chock the tires.
2. Disconnect the batteries at the negative cables.
3. Raise the hood.
4. Recover the refrigerant from the air conditioning system. See [Section 83, Subject 220](#) in the *Cascadia Workshop Manual* for instructions.
5. Remove the dash access panels and supports listed below. See [Fig. 1](#) and [Fig. 2](#). See [Section 60.06](#) in the *Cascadia Workshop Manual* for instructions.
 - HVAC cover panel
 - Lower-cover panel
 - Glove box
 - Glove box brace
6. Remove the cab HVAC control module, and disconnect the wire harness.

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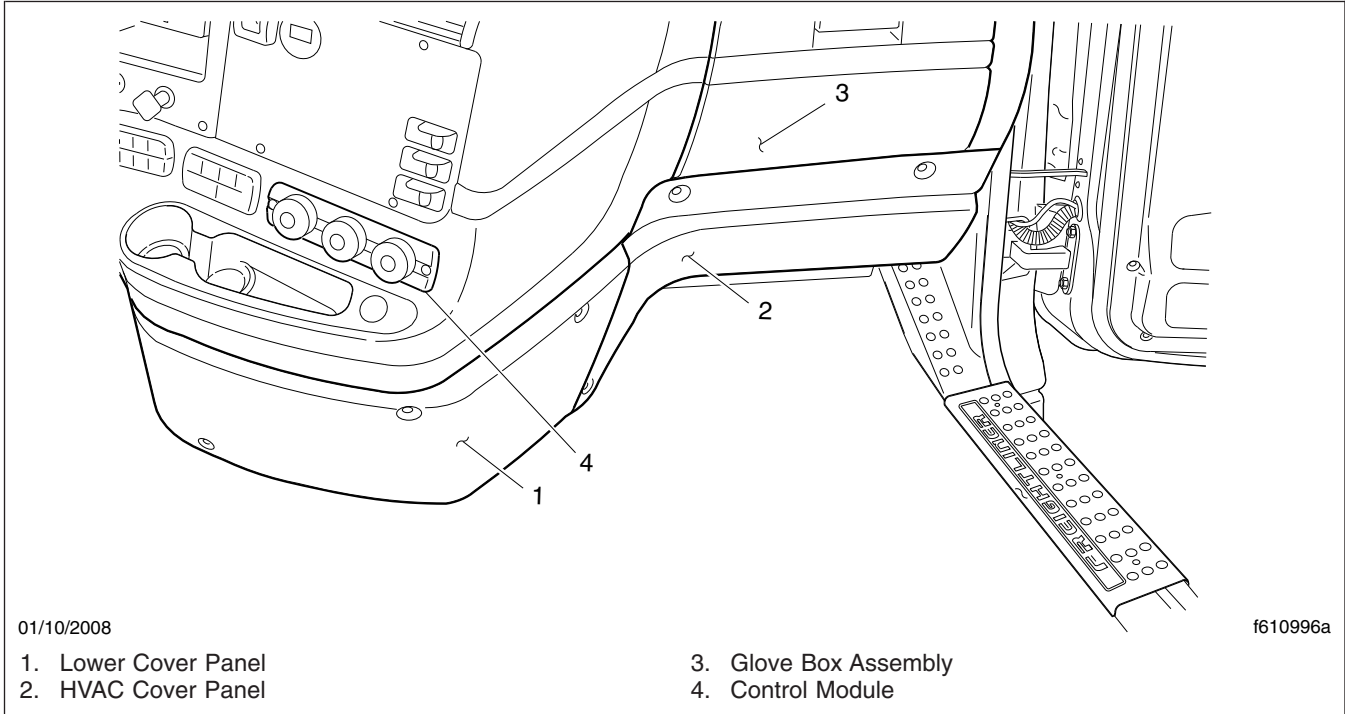


Fig. 1, Access Panels

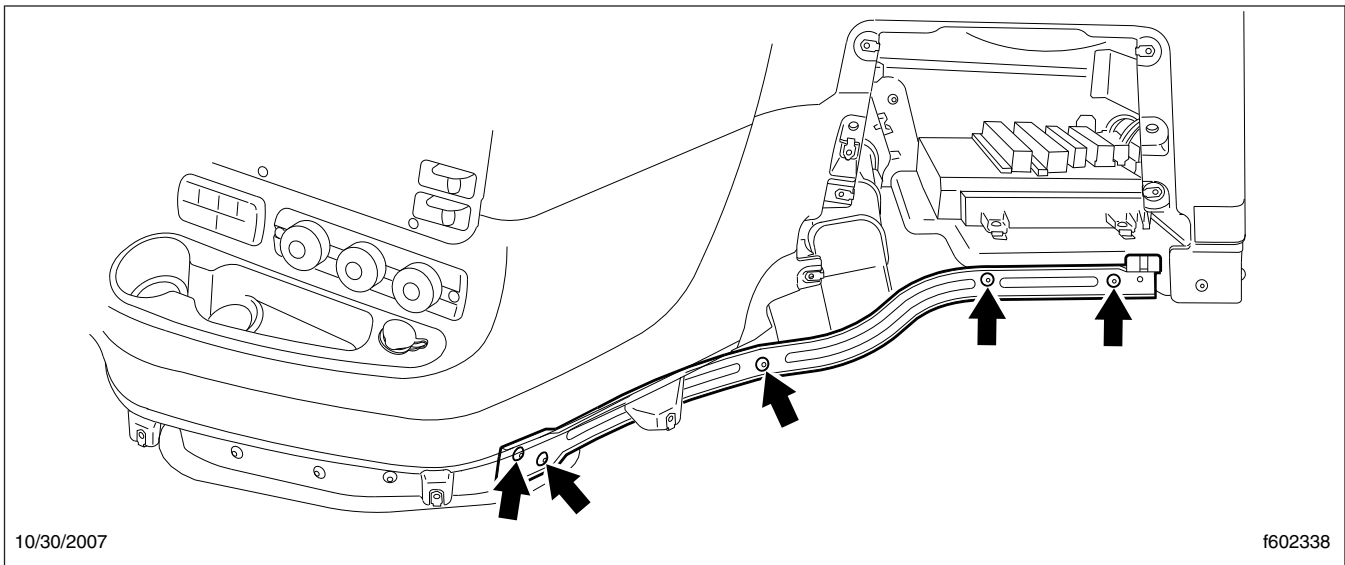


Fig. 2, Glove Box Brace

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NOTE: The upper steering column clamshell panel is attached to a "skirt" that is permanently attached to the dash panel.

7. Remove the steering column bolster panel, and clamshell. See **Fig. 3**.

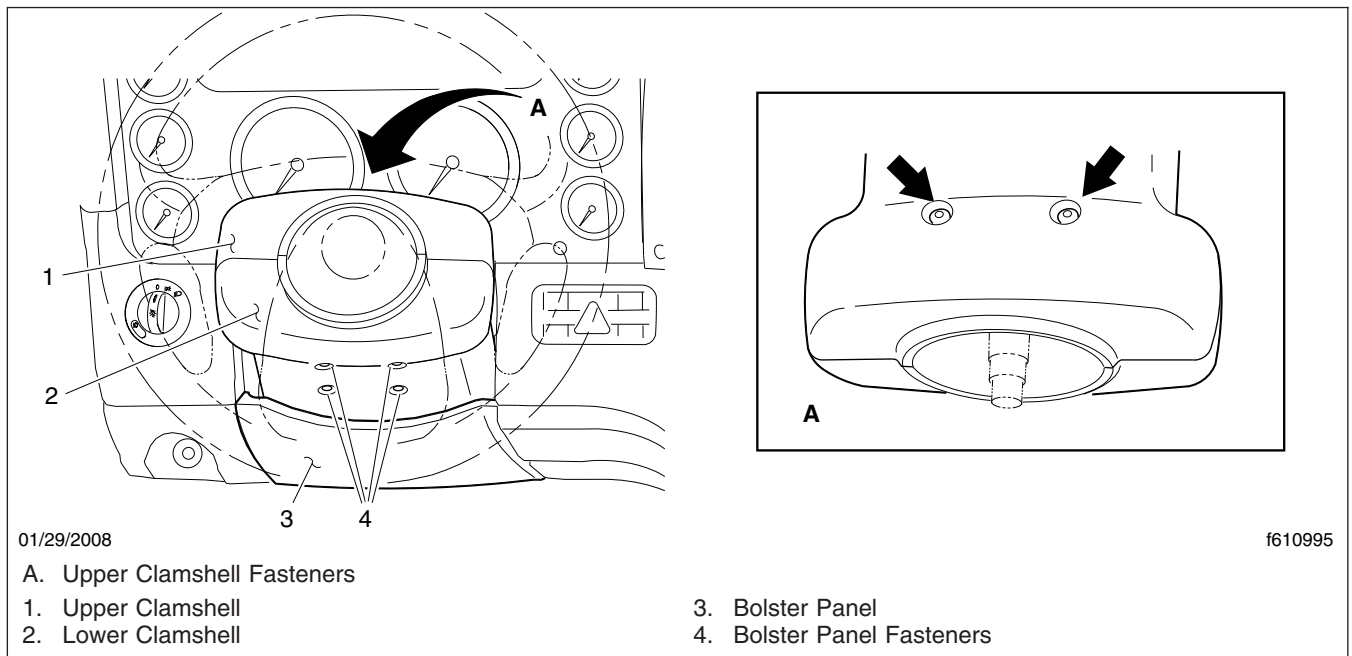


Fig. 3, Removing the Steering Column Trim Panels

8. Remove the dash panel above the accelerator pedal (if applicable).

WARNING

Do not allow the weight of the steering column to hang unsupported on the frontwall bearing. The bearing, or bearing housing, could be damaged. A severely damaged steering driveline support at the frontwall could cause a loss of vehicle control, which could lead to personal injury or property damage.

9. Remove the fasteners that hold the steering column in place, and lower the column to rest on the driver's seat. See **Fig. 4**. See **Group 46** in the *Cascadia Workshop Manual* for the procedure.

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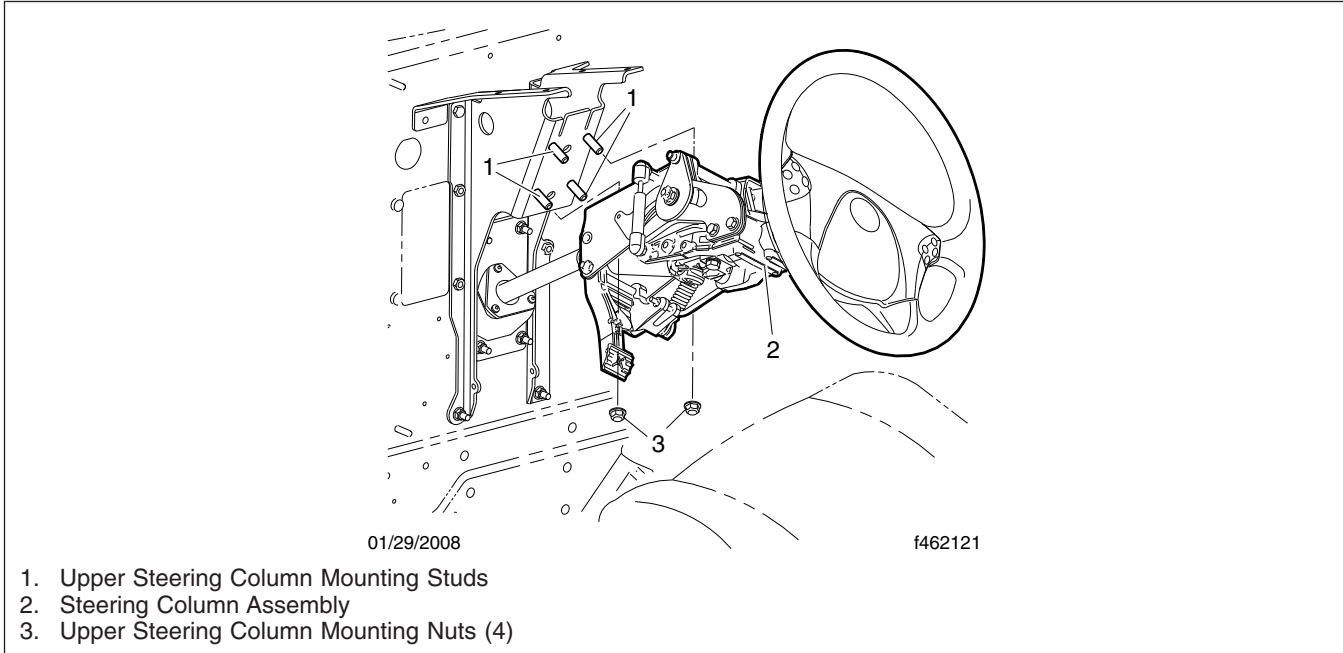


Fig. 4, Lowering the Steering Column

10. Remove the A-pillar covers.
11. Remove the passenger side door opening tread-plate.
12. Remove the trim panel between the top of the dash and the windshield. See [Fig. 5](#).

NOTE: Look for additional wires that may need to be unplugged to allow dash movement due to routing differences and options.

13. Remove the fasteners that hold the dash in place.

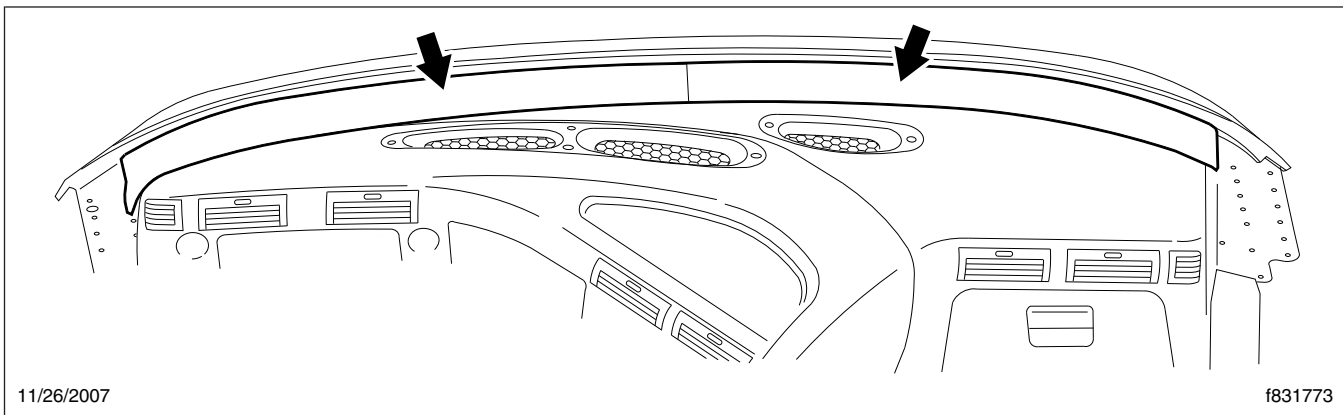


Fig. 5, Upper Dash Trim Panel

14. Raise the dash enough to provide clearance, and suspend it securely out of the way. See [Fig. 6](#).

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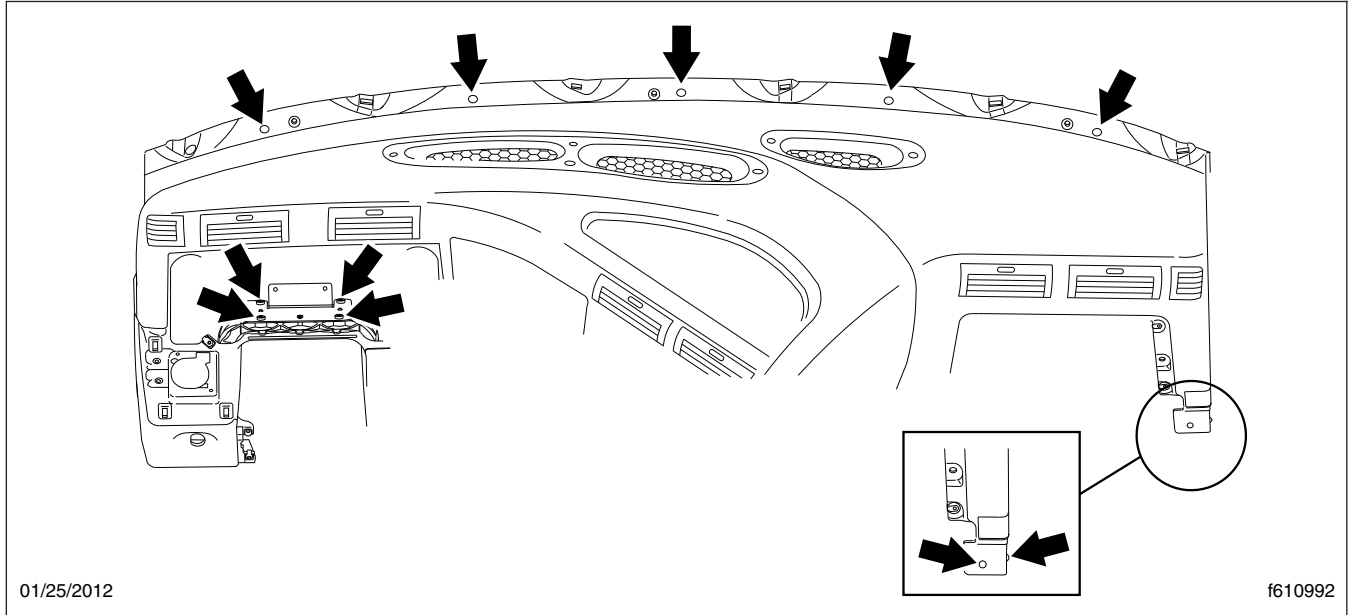


Fig. 6, Dash Fasteners

15. Remove the right-hand lower A-pillar cover panel.
16. Remove the right side floor duct.
17. Remove the floor distribution duct.
18. Remove the windshield wiper arms. See [Section 82.00, Subject 100](#) in the *Cascadia Workshop Manual* for instructions.
19. Remove the HVAC fresh-air intake screen. See [Fig. 7](#).

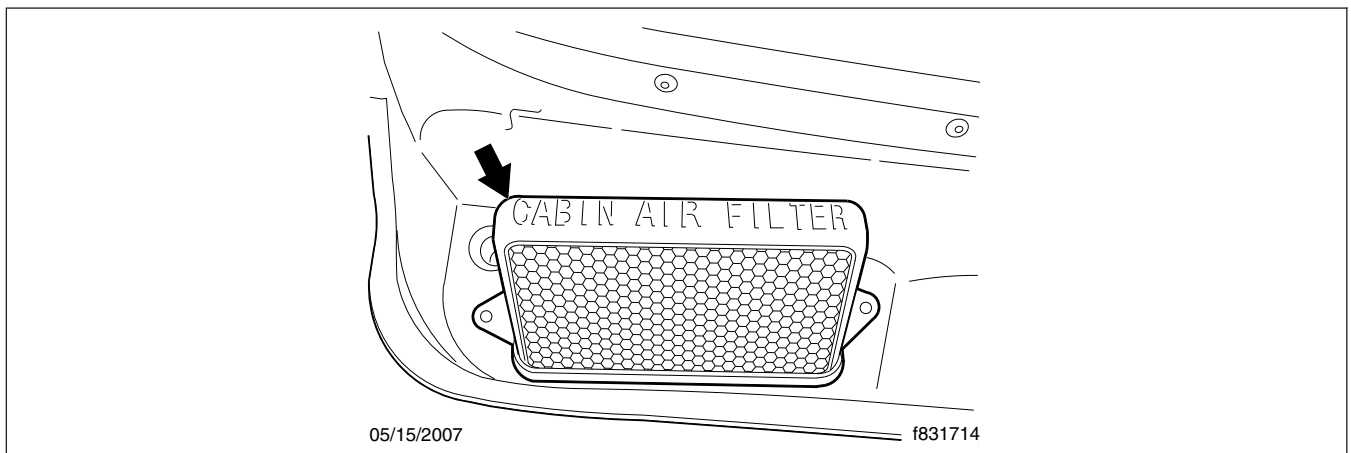


Fig. 7, Fresh-Air Intake Screen

20. Remove the rain tray. See [Section 82.00, Subject 100](#) in the *Cascadia Workshop Manual* for instructions.

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21. Place a drain pan under the vehicle, clamp the coolant lines to prevent excessive drainage from the cooling system, then disconnect the coolant lines from the heater core. Allow the heater core to completely drain into the pan. See [Fig. 8](#).

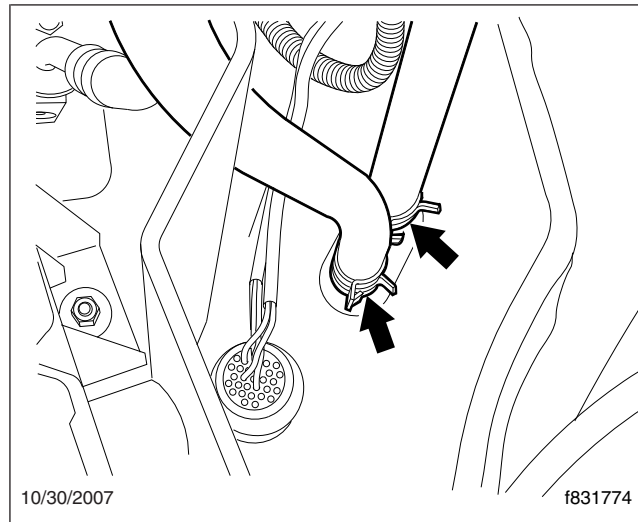


Fig. 8, Coolant Lines

22. Remove the nuts and bolts that hold the J-block to the HVAC intake duct. See [Fig. 9](#).

IMPORTANT: Under no circumstances should the refrigerant lines remain uncapped for longer than five minutes. Water and dirt can damage the refrigerant system. Do not blow shop air through refrigerant lines since shop air is wet (humid).

23. Disconnect the refrigerant lines from the thermal expansion valve, and cap the lines immediately to prevent contamination of the system. See [Fig. 10](#).

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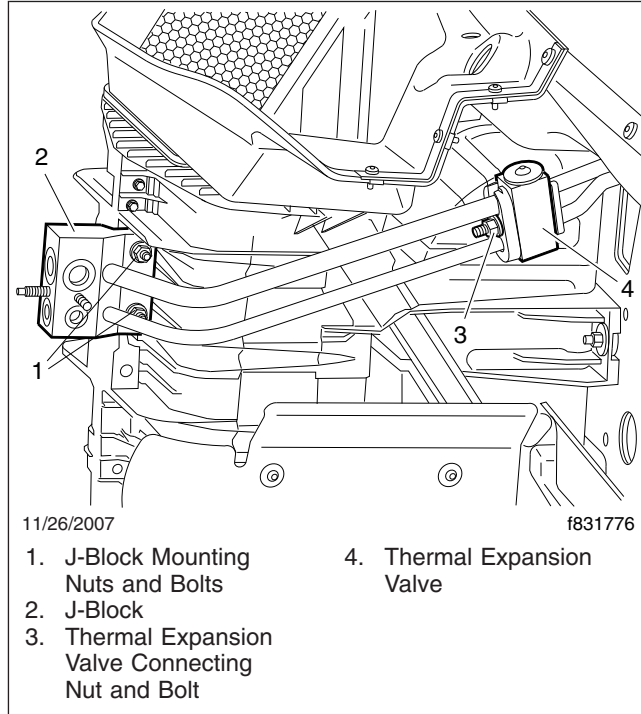


Fig. 9, Junction Block and Thermal Expansion Valve

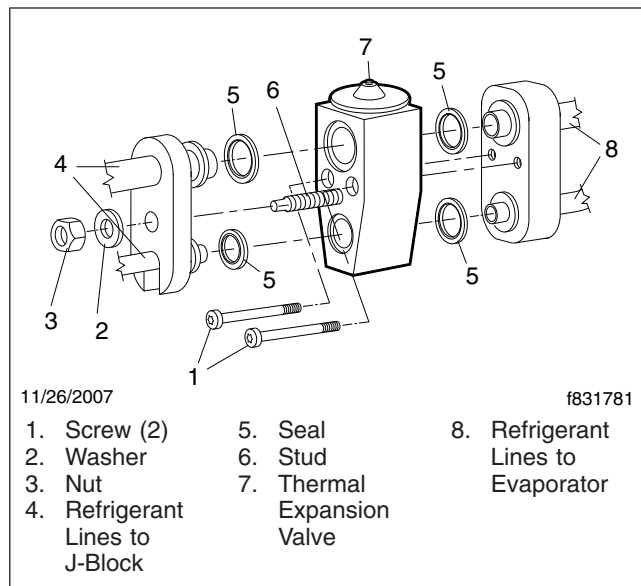


Fig. 10, Thermal Expansion Valve Installation

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24. Disconnect the wiring harness from the assembly. See [Section 83, Subject 210](#) in the *Cascadia Workshop Manual* for instructions.
25. Remove the intake duct.
26. Remove the wire harness connections from the SAM cab, and cut the tie straps to allow the harness to be moved.
27. Remove the six nuts (three inside and three outside) that hold the assembly in position on the frontwall. See [Fig. 11](#).

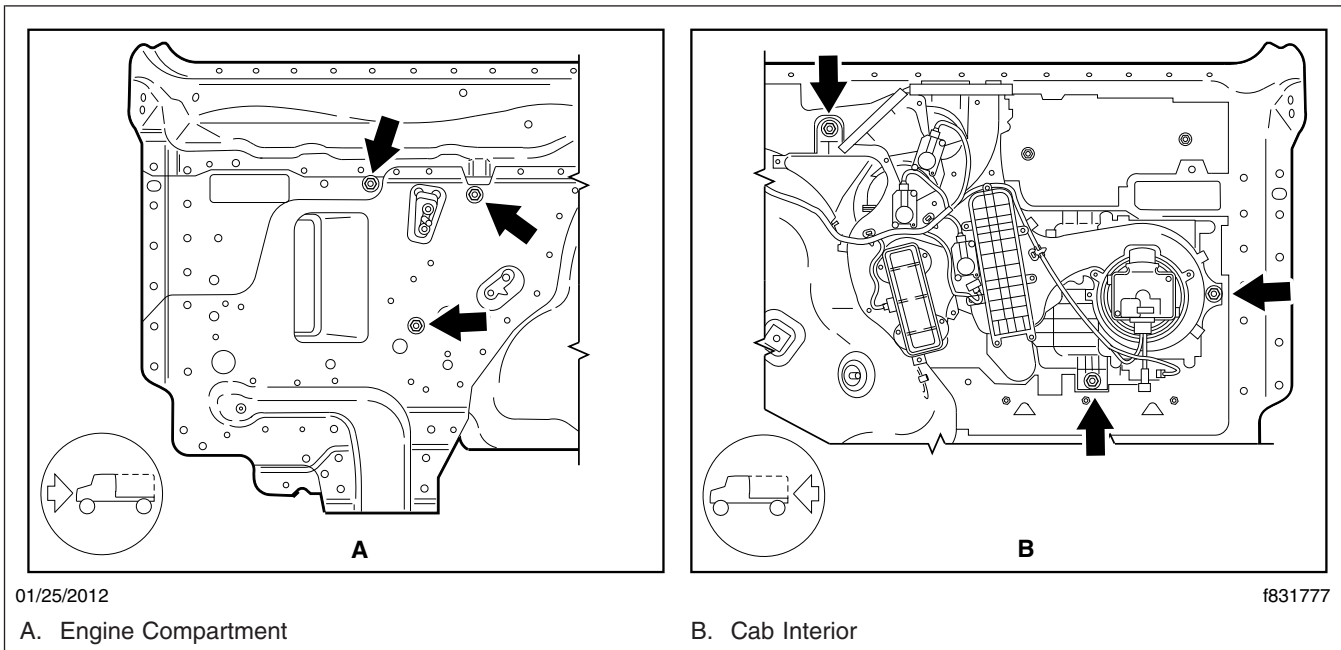


Fig. 11, HVAC Mounting Nut Locations

28. Remove the assembly from the frontwall.
29. Remove the HVAC unit from the cab and place it securely on the work bench with the defrost, floor, & temperature actuators (stepper motors) facing up. See [Fig. 12](#).

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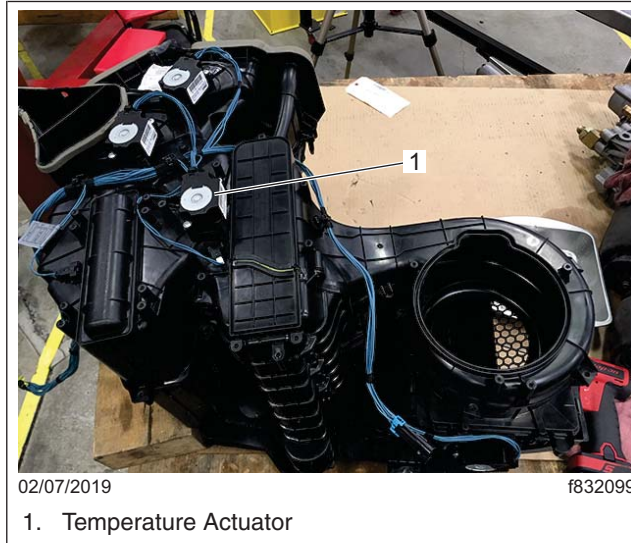


Fig. 12, HVAC Unit

- 30. Remove the fasteners for the three actuators and set the actuators aside.
- 31. Remove the fasteners from the Heater core cover and set the cover aside. See [Fig. 13](#).

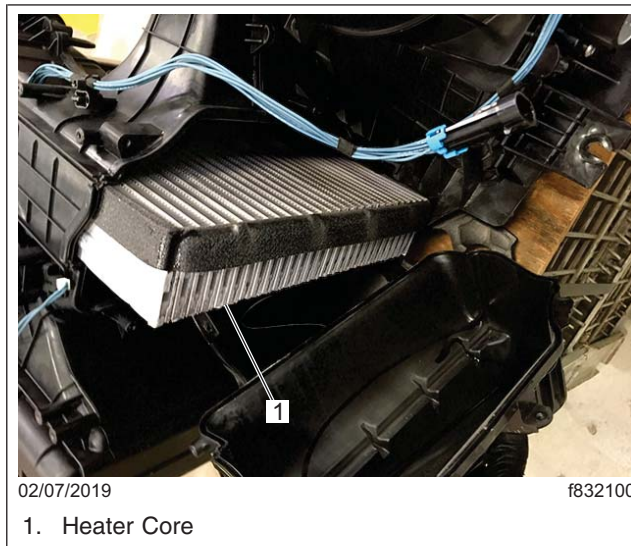


Fig. 13, Heater Core Cover Opened

- 32. Remove the sixteen fasteners for the housing halves.
- 33. Release the three housing assembly clips and separate the housings. See [Fig. 14](#).

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Fig. 14, Assembly Clip Removal

34. Replace the three doors with updated doors and check for correct fit between the doors and housing. See [Fig. 15](#).



Fig. 15, Old and New Door Design

35. Carefully reassemble the housing halves while aligning the three doors, baffle, evaporator core and heater core into position, then secure with sixteen fasteners.
36. Reinstall the actuators and the heater core cover and secure with the fasteners.
37. Position the HVAC assembly on the frontwall, and install the nuts. Tighten 10 to 12 lbf·ft (14 to 16 N·m).
38. Connect the coolant lines.
39. Install the intake duct.

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40. Using new seals, connect the refrigerant lines to the thermal expansion valve. Tighten 11 to 15 lbf·ft (15 to 20 N·m).
41. Connect the wiring harness.
42. Add refrigerant oil to the system to replace the oil wasted during the replacement process. See [Section 83.02, Subject 120](#) in the *Cascadia Workshop Manual* for instructions.
43. Start the evacuation. Evacuate and charge the refrigerant system. See [Section 83.02, Subject 220](#) in the *Cascadia Workshop Manual* for instructions.
44. Install the defrost and right-hand foot well ducts.
45. Install the right-hand lower A-pillar cover and tread plate.
46. Install the dash. See [Section 60.06](#) in the *Cascadia Workshop Manual* for instructions.
47. Install the steering column. See [Group 46](#) in the *Cascadia Workshop Manual* for the procedure.
48. Install the steering column clamshell and bolster panel.
49. Connect the main harness to the SAM cab and secure it.
50. Install the glove box brace.
51. Install the dash panels. See [Fig. 1](#).
52. Install the controller.
53. Install the rain tray.
54. Install the windshield wiper arms. See [Section 82.00, Subject 100](#) in the *Cascadia Workshop Manual* for instructions.
55. Install the HVAC fresh-air intake screen.
56. Connect the batteries.
57. Check the coolant level, and add coolant as needed.
58. Leak check the refrigerant connections that were disconnected during the service.

Warranty

This is an informational bulletin only, warranty does not apply.