

2005 Ford Focus ZX4 S

2005 HVAC Heating And Ventilation - Focus

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Heating And Ventilation - Focus

SPECIFICATIONS

TORQUE SPECIFICATIONS

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Description	Nm	lb-ft	lb-in
In-vehicle crossbeam bolts	25	18	-
In-vehicle crossbeam bracket bolts	25	18	-
Heater core and evaporator core housing retaining nuts (exterior)	7	-	62
Heater core and evaporator core housing retaining nuts (interior)	9	-	80

DESCRIPTION AND OPERATION

HEATING AND VENTILATION

The heating and ventilation system has the following features:

- Controls the temperature and, during A/C operation (if equipped), reduces the relative humidity of the air inside the vehicle.
- Delivers heated or cooled air (if equipped with A/C) to maintain the vehicle interior temperature and comfort level.
- Cooling or heating can be adjusted to maintain the desired temperature.

The heating and ventilation system includes the:

- Blower motor.
- Heater core and evaporator core housing.
- Heater core.

Blower Motor

The blower motor pulls air from the air inlet and forces it into the heater core and evaporator

core housing where it is mixed and distributed. The blower motor receives battery voltage at all times when the ignition is in the RUN position, and is grounded by the blower motor switch.

Heater Core and Evaporator Core Housing

The heater core and evaporator core housing directs airflow from the blower motor through the evaporator core (if equipped) and heater core. All airflow from the blower motor passes through the evaporator core (if equipped). The airflow is then directed through or around the heater core by a cable actuated temperature blend door. After passing through the heater core, the airflow is distributed to the selected outlet by two cable actuated airflow mode doors.

Heater Core

The heater core receives a flow of coolant from the engine cooling system through the heater core inlet. The heater core consists of fins and tubes arranged to extract heat from the engine coolant and transfer it to air passing through the heater core. The engine coolant is then returned to the engine cooling system through the heater core outlet.

DIAGNOSIS AND TESTING

HEATING AND VENTILATION

For additional information, refer to **CLIMATE CONTROL SYSTEM-GENERAL INFORMATION** .

REMOVAL AND INSTALLATION

BLOWER MOTOR

Removal and Installation

1. Remove the RH lower instrument panel insulator.

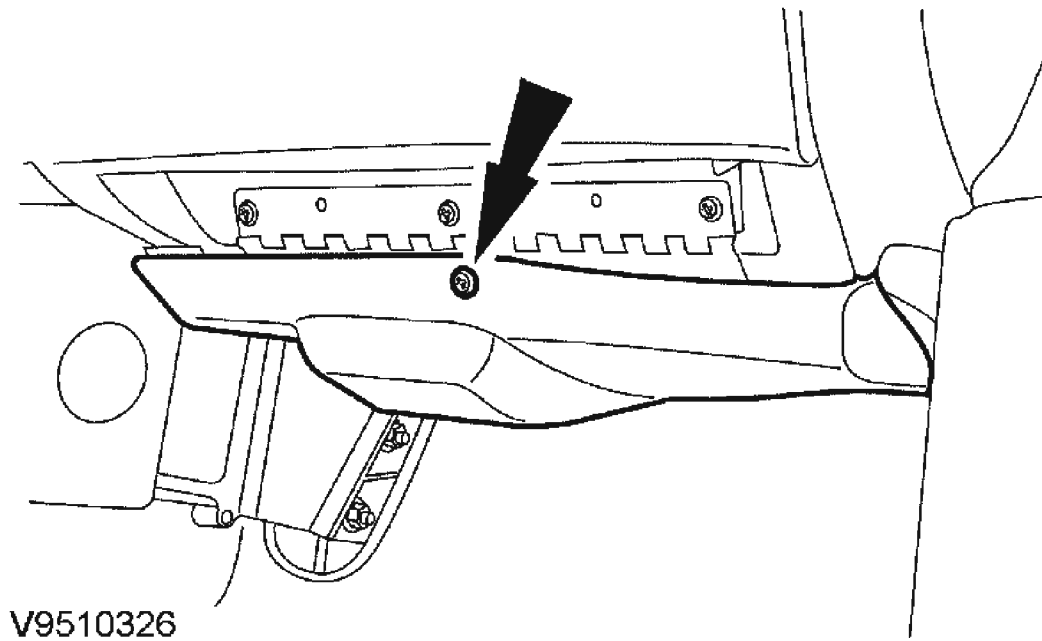


Fig. 1: Removing RH Lower Instrument Panel Insulator
Courtesy of FORD MOTOR CO.

2. Lower the glove compartment.
3. Remove screw and the floor duct.

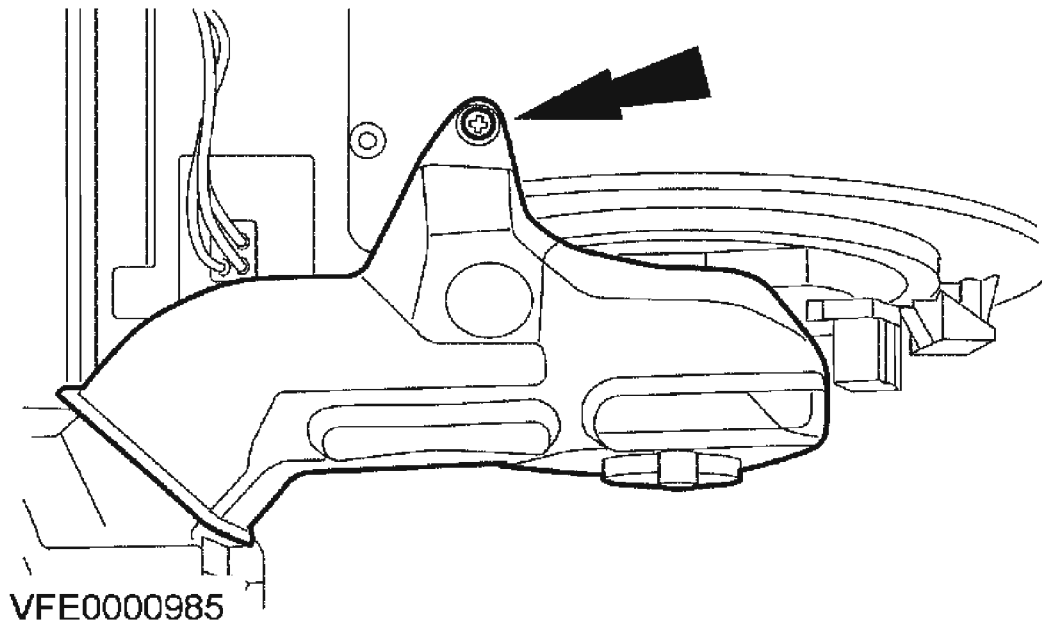


Fig. 2: Removing Screw And Floor Duct
Courtesy of FORD MOTOR CO.

4. Close the glove compartment.
5. Disconnect the blower motor electrical connector.

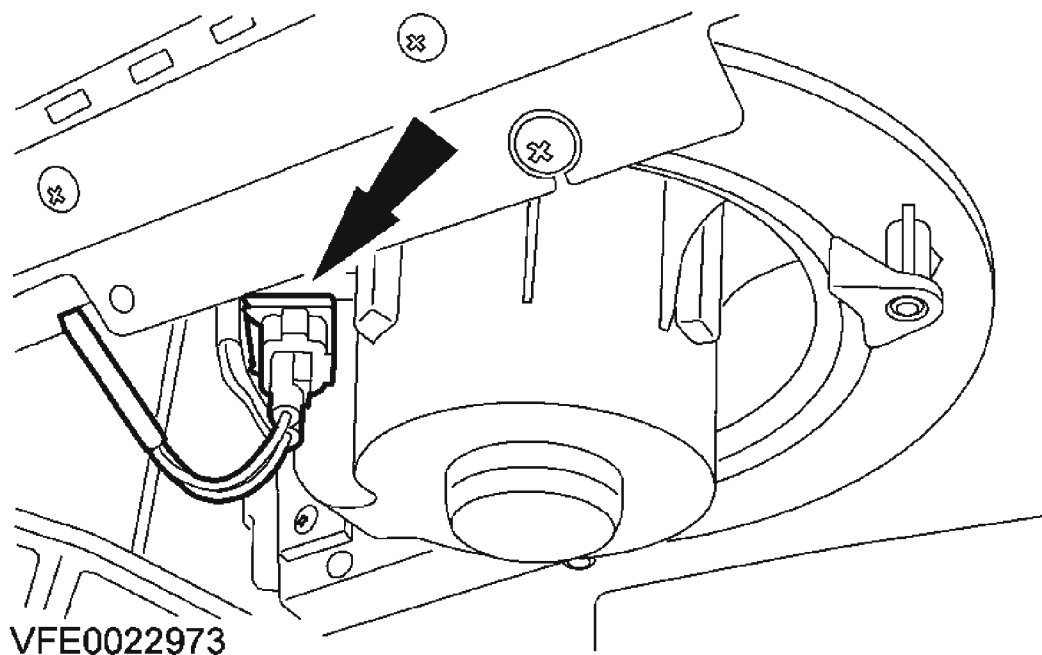


Fig. 3: Disconnecting Blower Motor Electrical Connector
Courtesy of FORD MOTOR CO.

6. Remove the screws and the blower motor.

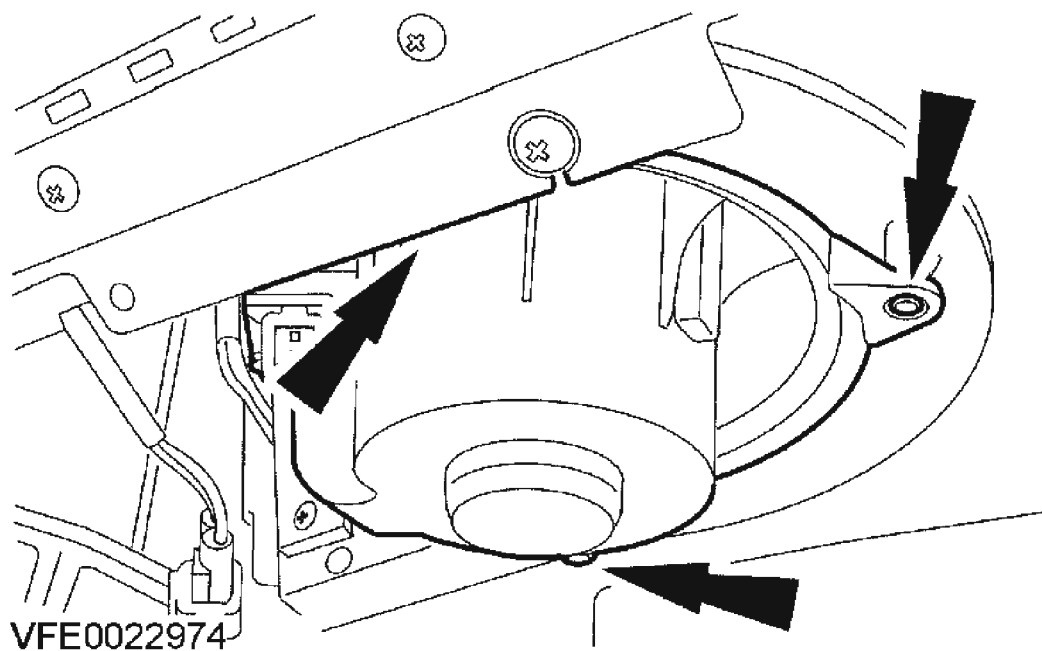


Fig. 4: Removing Screws And Blower Motor
Courtesy of FORD MOTOR CO.

7. To install, reverse the removal procedure.

HEATER CORE AND EVAPORATOR CORE HOUSING

Material

MATERIAL SPECIFICATION

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

Removal and Installation

NOTE: **Installation of a new suction accumulator is not required when repairing the air conditioning system, except when there is physical evidence of contamination from a failed A/C compressor or damage to the suction accumulator.**

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** .
2. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM-GENERAL INFORMATION** .
3. Drain the engine cooling system. For additional information, refer to **ENGINE COOLING** .
4. Release the clamps and disconnect the heater hoses at the heater core.

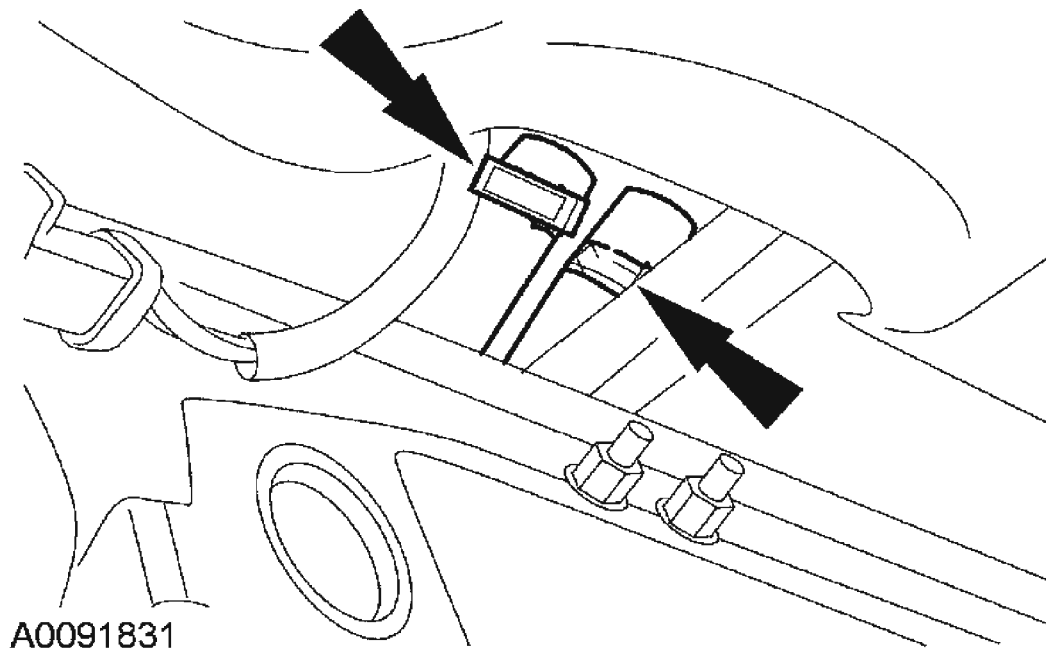
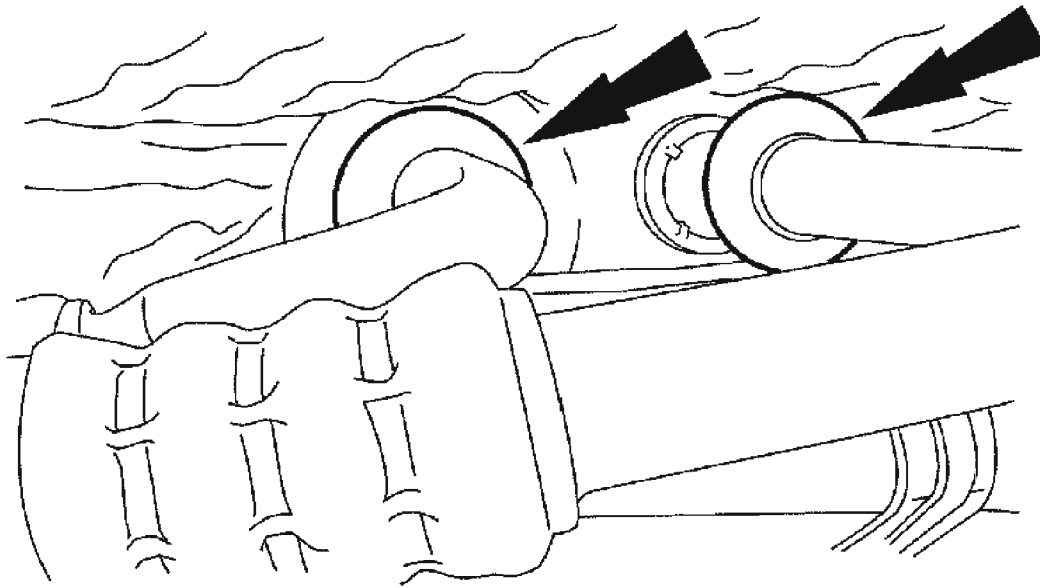


Fig. 5: Releasing Clamps And Disconnecting Heater Hoses At Heater Core
Courtesy of FORD MOTOR CO.

5. Remove the instrument panel. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
6. Disconnect the evaporator core inlet and outlet fittings.
 - Discard the O-ring seals.



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Fig. 6: Disconnecting Evaporator Core Inlet And Outlet Fittings
Courtesy of FORD MOTOR CO.

7. Open the caps and remove the RH and LH in-vehicle crossbeam retaining bolts.
 - To install, tighten to 25 Nm (18 lb-ft).

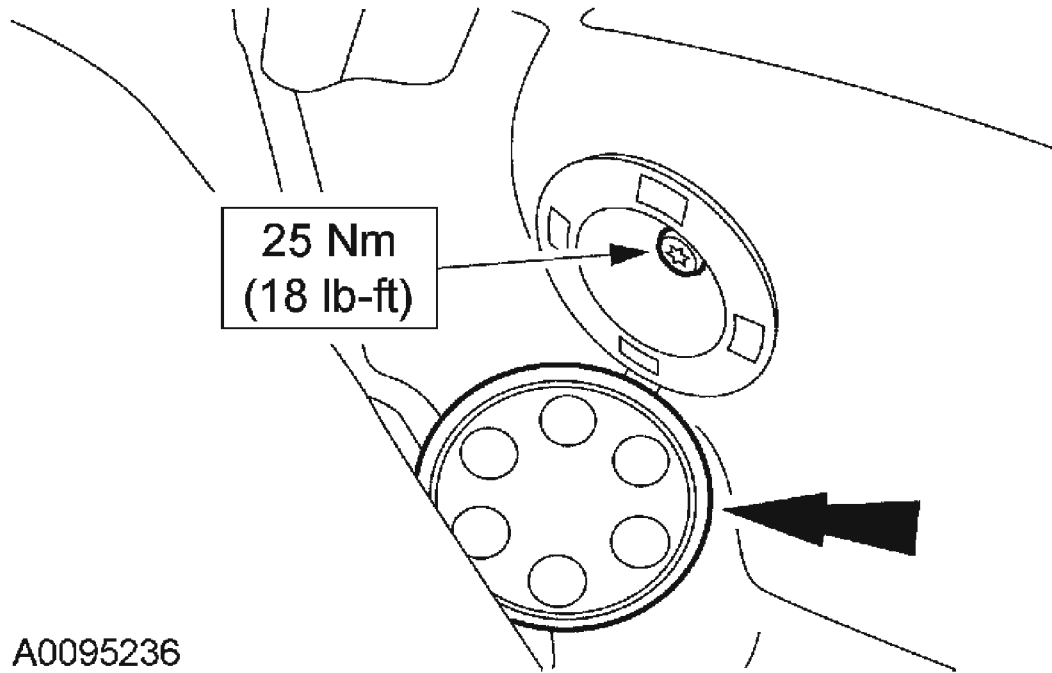


Fig. 7: Removing RH And LH In-Vehicle Crossbeam Retaining Bolts
Courtesy of FORD MOTOR CO.

8. Remove the RH air distribution ducts.

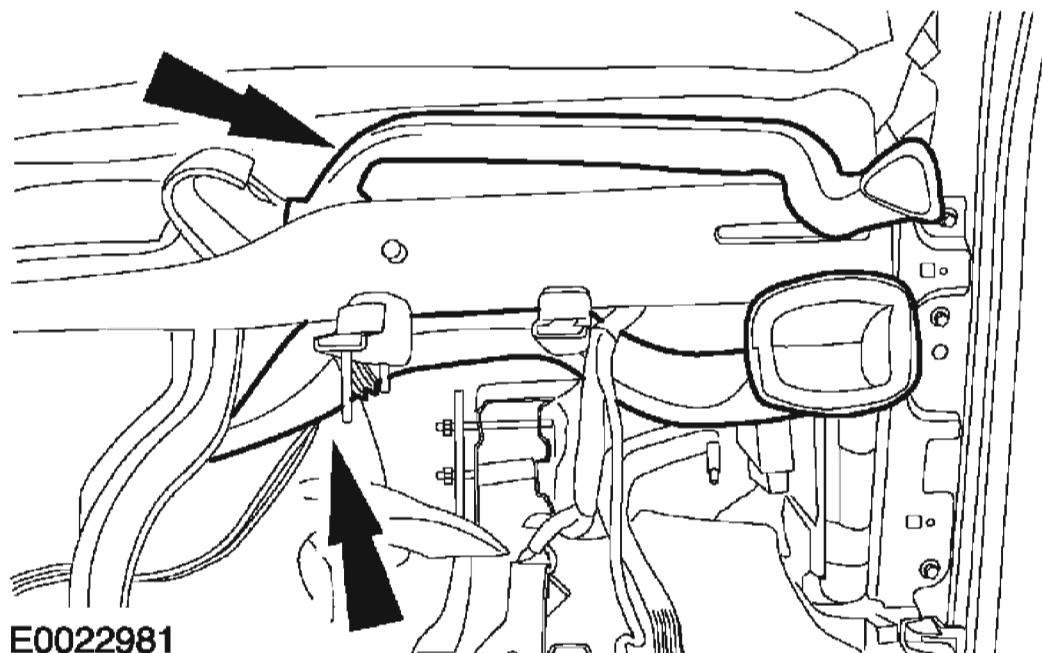


Fig. 8: Removing RH Air Distribution Ducts
Courtesy of FORD MOTOR CO.

9. Remove the 3 RH in-vehicle crossbeam bolts.
 - Detach the wire harness from the in-vehicle crossbeam.

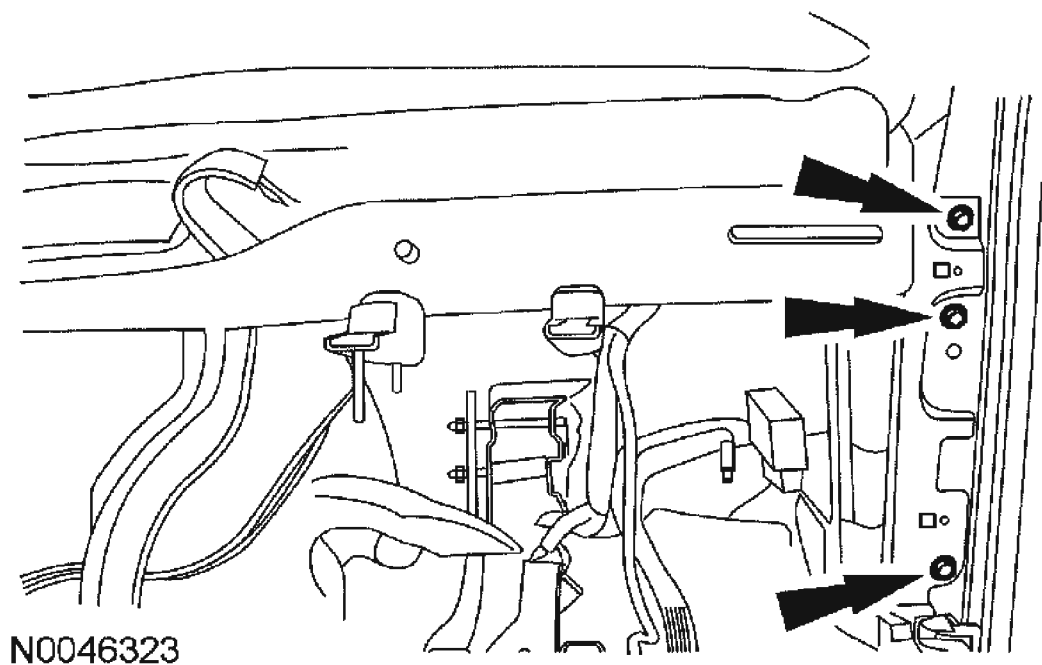


Fig. 9: Removing RH In-Vehicle Crossbeam Bolts
Courtesy of FORD MOTOR CO.

10. Remove the LH air ducts.

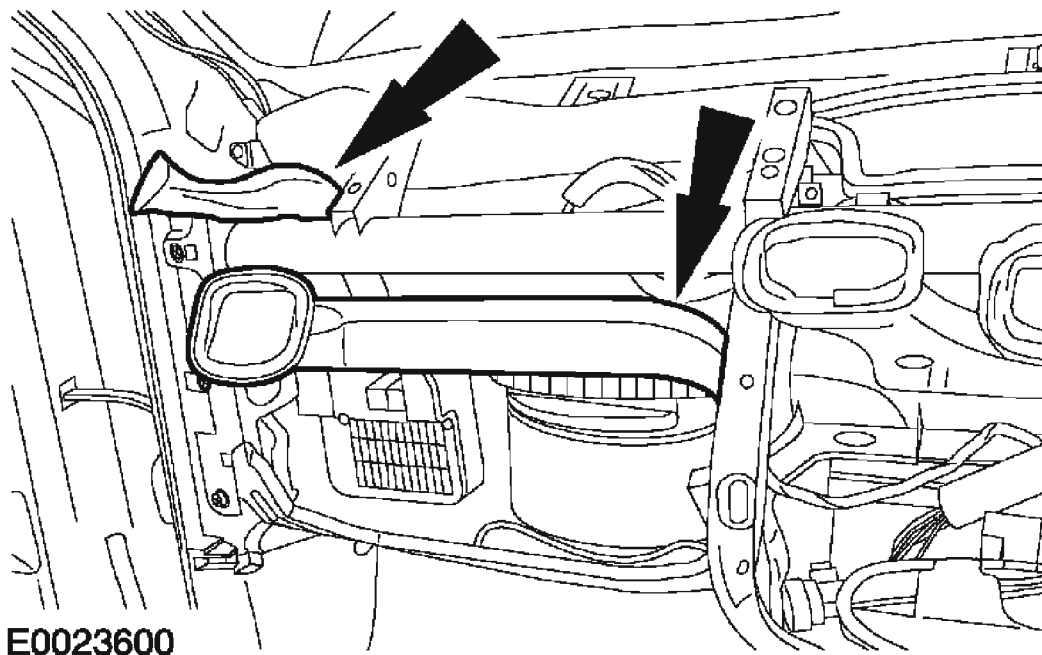


Fig. 10: Removing LH Air Ducts
Courtesy of FORD MOTOR CO.

11. Detach the central junction box (CJB) from the in-vehicle crossbeam.

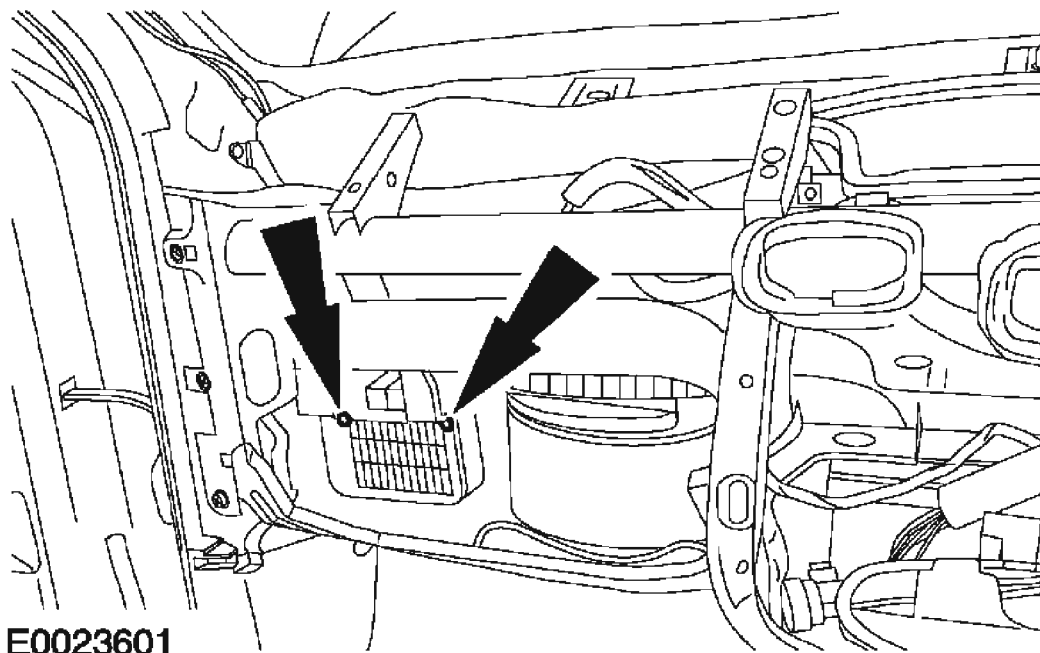


Fig. 11: Detaching Central Junction Box (CJB) From In-Vehicle Crossbeam
Courtesy of FORD MOTOR CO.

12. Remove the 3 LH in-vehicle crossbeam bolts.

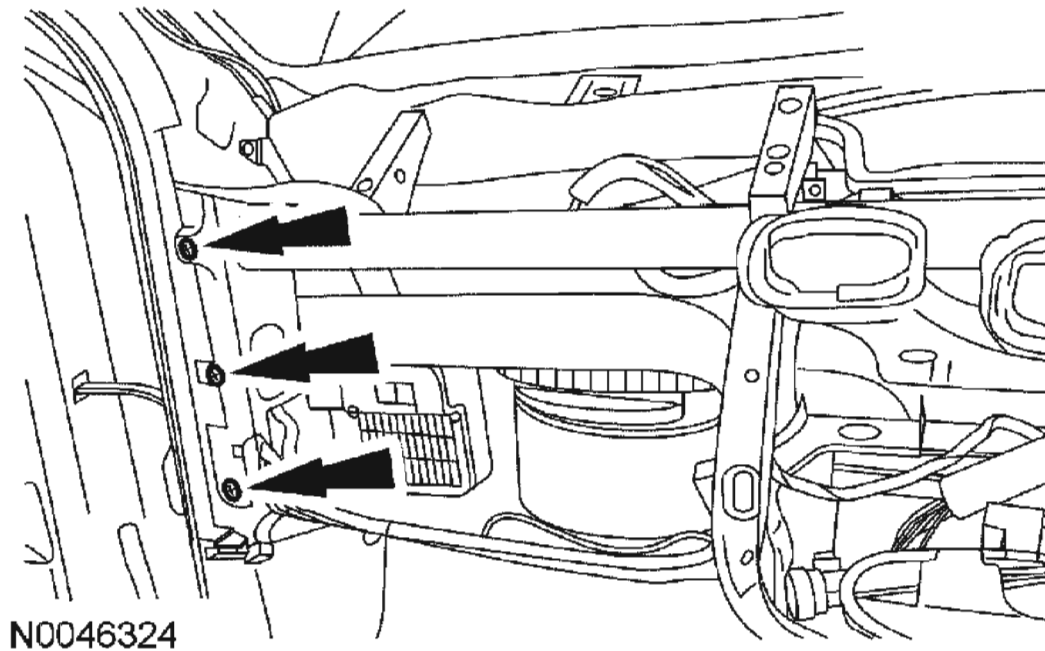


Fig. 12: Removing LH In-Vehicle Crossbeam Bolts
Courtesy of FORD MOTOR CO.

13. Remove the center instrument panel duct.

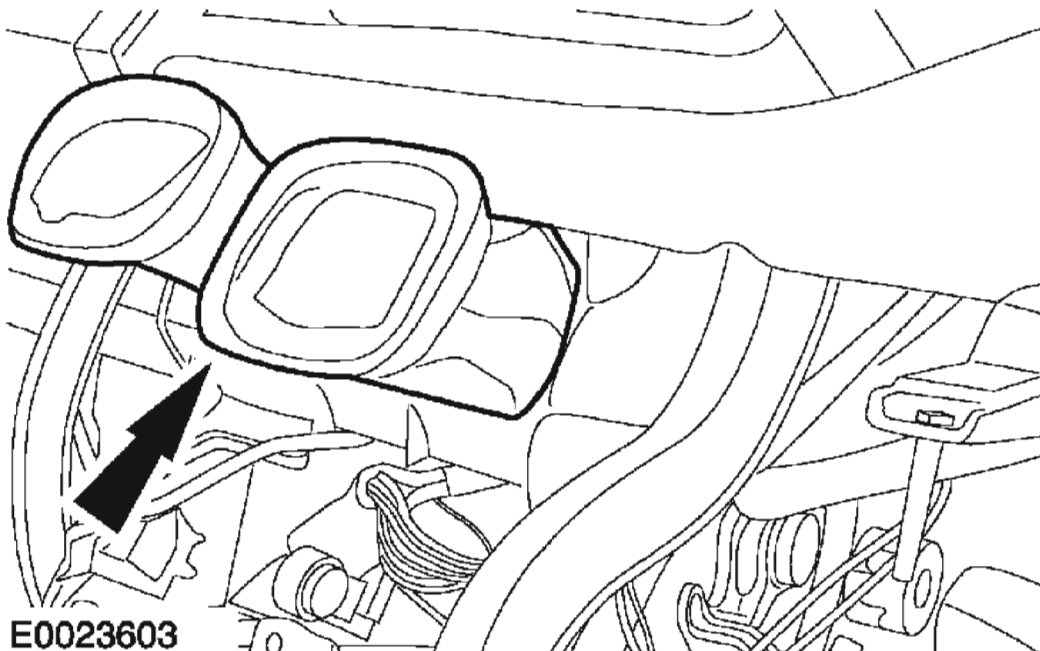


Fig. 13: Removing Center Instrument Panel Duct
Courtesy of FORD MOTOR CO.

14. Detach the wire harness from the in-vehicle crossbeam.

NOTE: RH in-vehicle crossbeam bracket shown, LH similar.

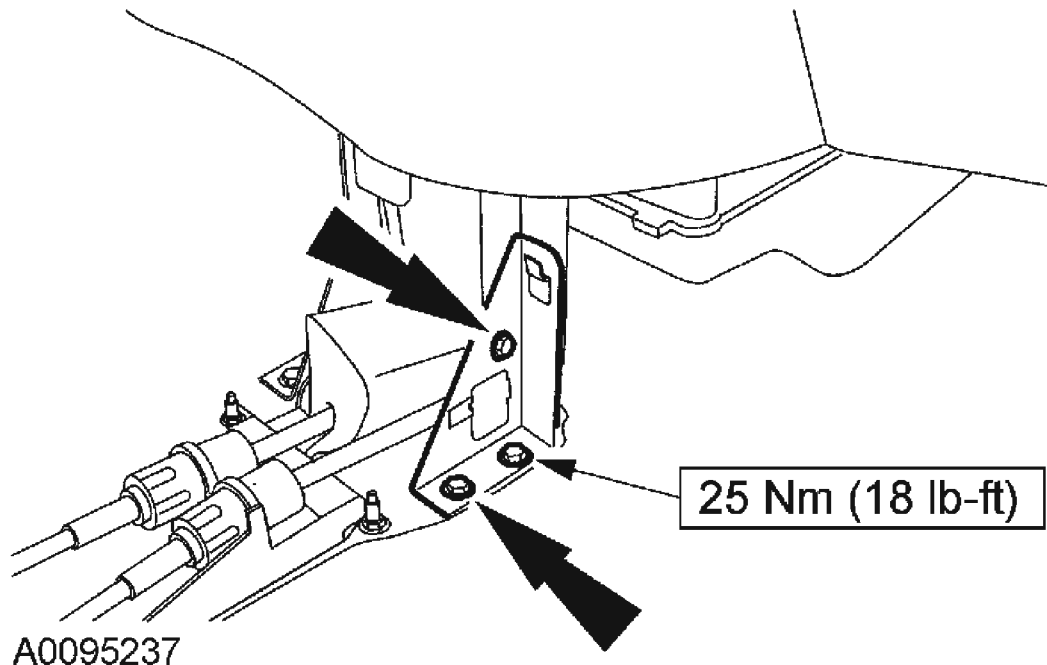


Fig. 14: Removing LH And RH In-Vehicle Crossbeam Brackets
Courtesy of FORD MOTOR CO.

15. Remove the LH and RH in-vehicle crossbeam brackets.
16. Remove the rear footwell ducts (if equipped).
17. Position the in-vehicle crossbeam aside.
18. Detach the wire harness from the heater core and evaporator core housing.
19. Remove the RH inner heater core and evaporator core housing nut.

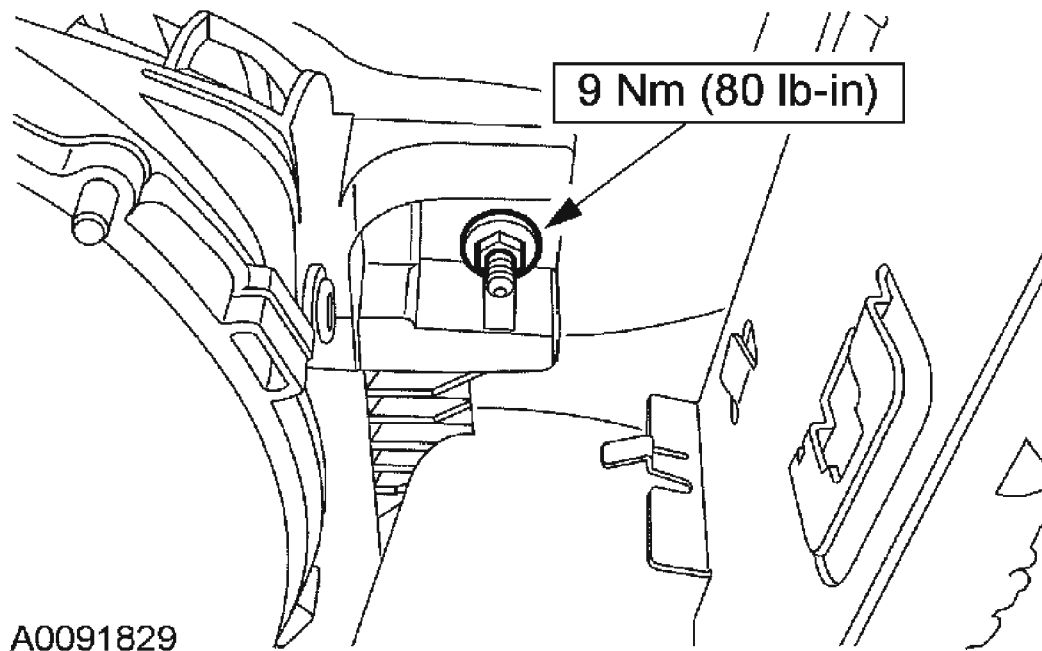


Fig. 15: Removing RH Inner Heater Core And Evaporator Core Housing Nut
Courtesy of FORD MOTOR CO.

20. Remove the LH inner heater core and evaporator core housing nut.

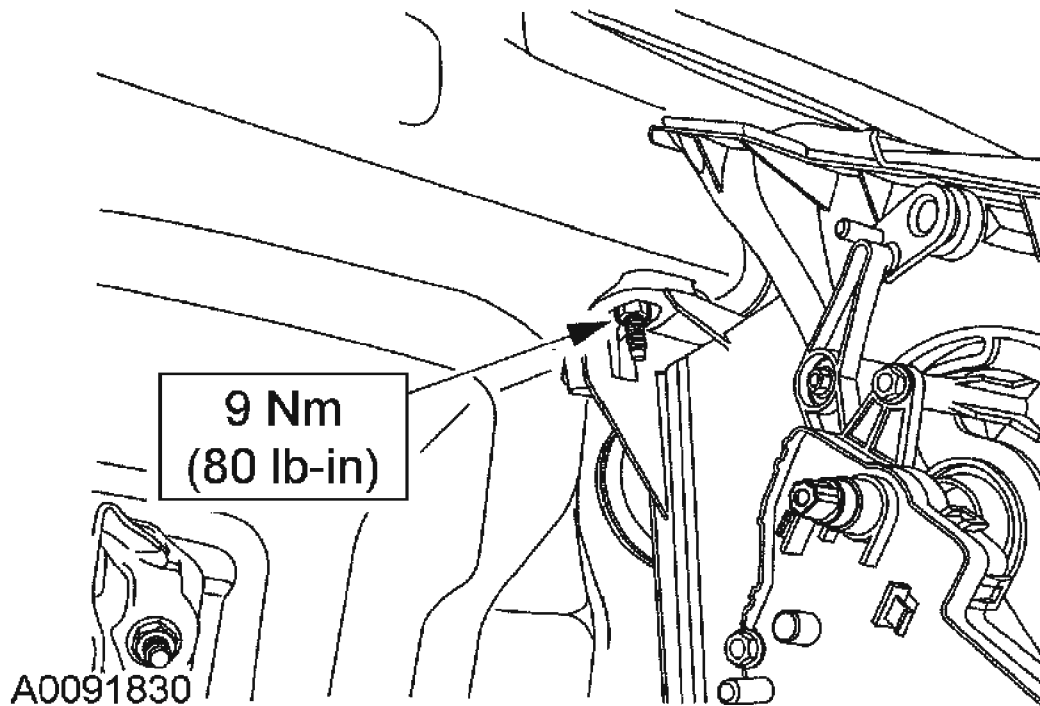


Fig. 16: Removing LH Inner Heater Core And Evaporator Core Housing Nut
Courtesy of FORD MOTOR CO.

21. Remove the outer heater core and evaporator core housing nut at the dash panel.

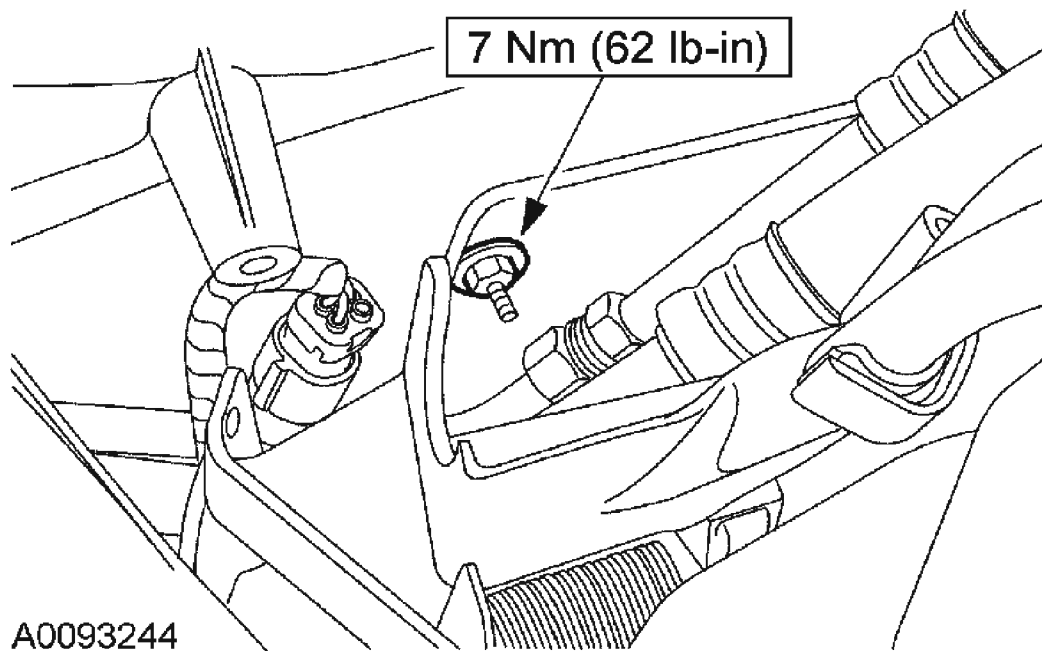


Fig. 17: Removing Outer Heater Core And Evaporator Core Housing Nut At Dash Panel

Courtesy of FORD MOTOR CO.

22. Remove the outer heater core and evaporator core housing nut at the dash panel.

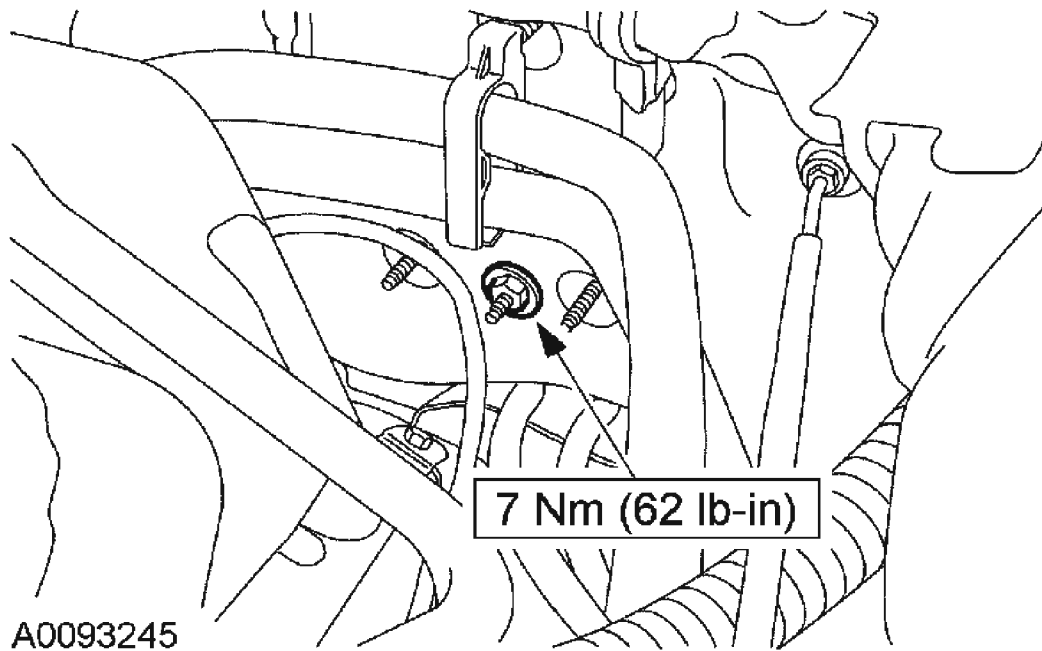


Fig. 18: Removing Outer Heater Core And Evaporator Core Housing Nut At Dash Panel

Courtesy of FORD MOTOR CO.

23. Remove the heater core and evaporator core housing.
24. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM-GENERAL INFORMATION** .
25. Fill the engine cooling system. For additional information, refer to **ENGINE COOLING** .
26. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM-GENERAL INFORMATION** .

HEATER CORE

Removal and Installation

NOTE: If a heater core leak is suspected, the heater core must be leak tested before it is removed from the vehicle. For additional information, refer to **CLIMATE CONTROL SYSTEM-GENERAL INFORMATION** .

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** .
2. Clamp off and disconnect the coolant hoses from the heater core.

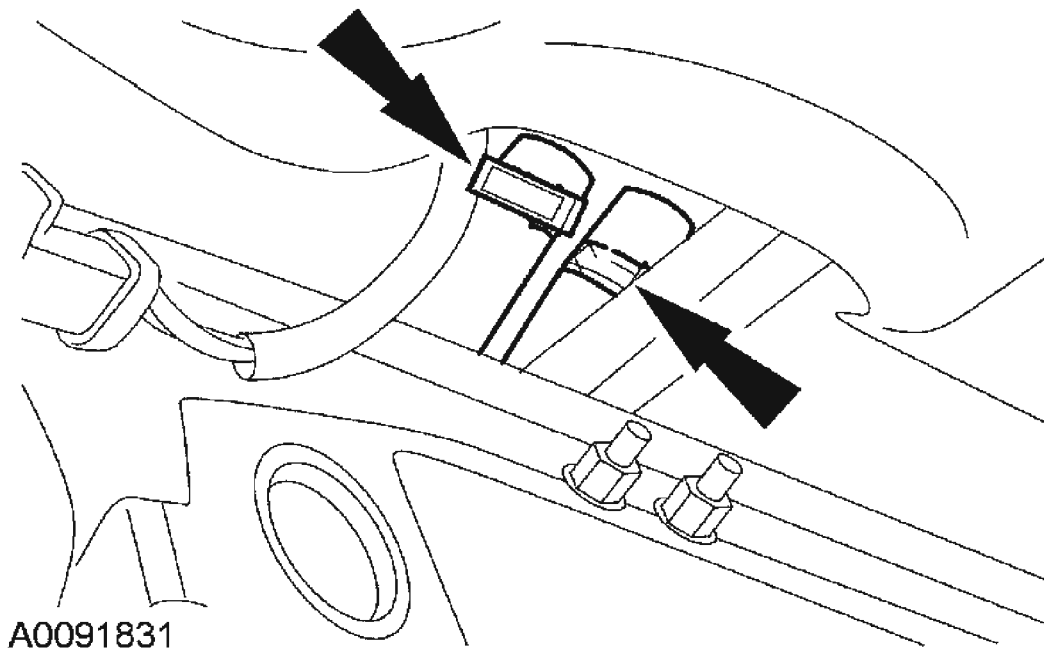


Fig. 19: Clamping Off And Disconnecting Coolant Hoses From Heater Core
Courtesy of FORD MOTOR CO.

3. Remove the floor console. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
4. Remove the two rear armrest bracket nuts (if equipped).

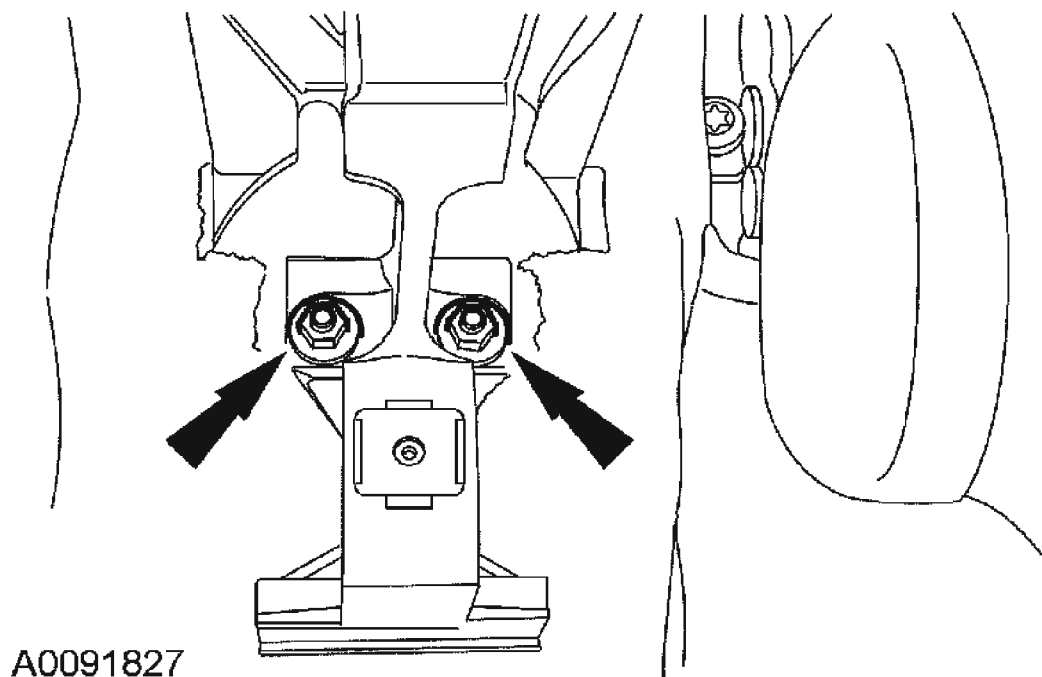


Fig. 20: Removing Two Rear Armrest Bracket Nuts
Courtesy of FORD MOTOR CO.

5. Remove the remaining armrest bracket nut and the armrest bracket (if equipped).

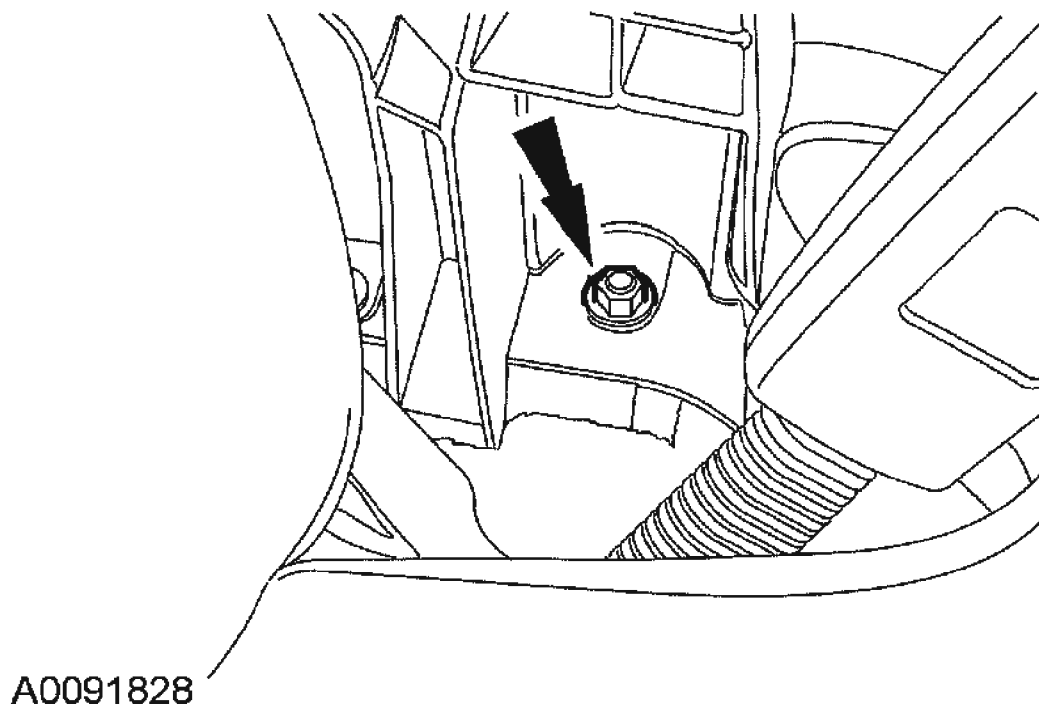


Fig. 21: Removing Remaining Armrest Bracket Nut And Armrest Bracket
Courtesy of FORD MOTOR CO.

6. Remove the rear footwell duct.

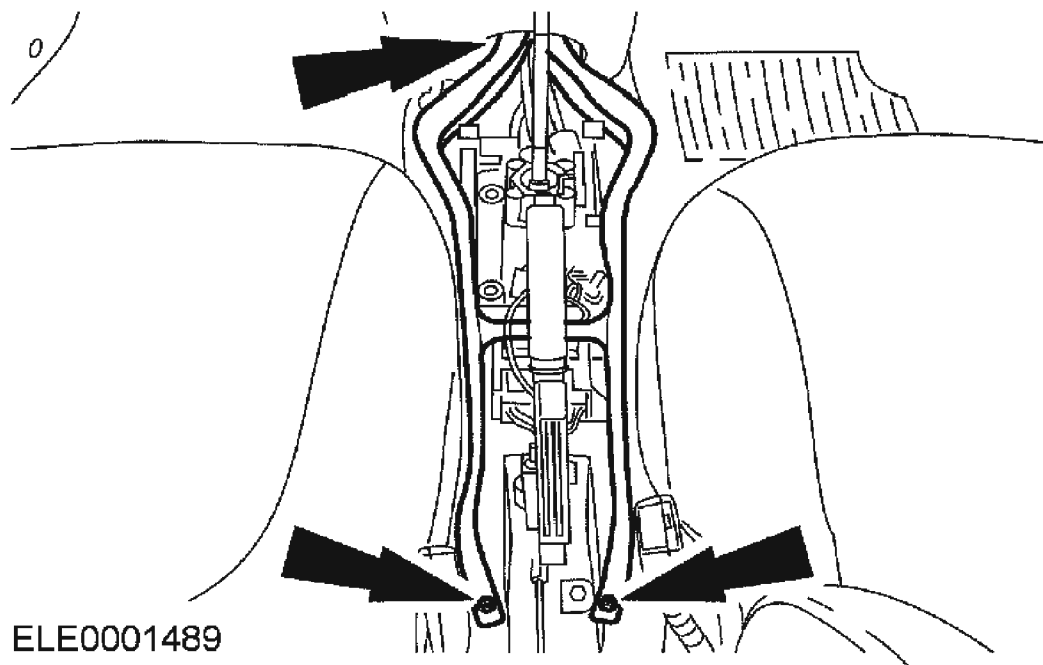


Fig. 22: Removing Rear Footwell Duct
Courtesy of FORD MOTOR CO.

7. Remove RH lower instrument panel insulator.

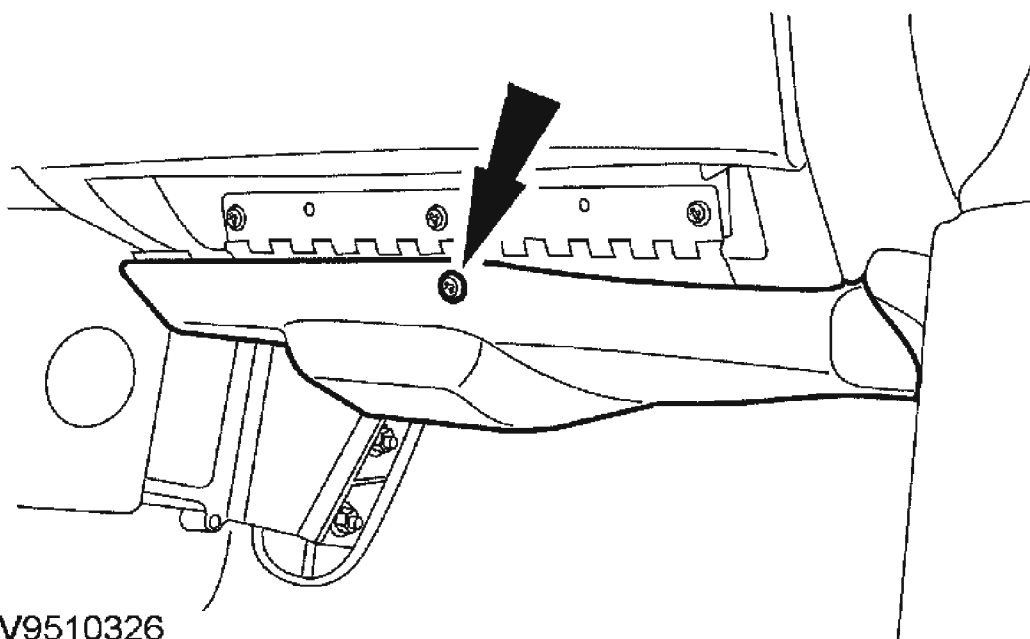


Fig. 23: Removing RH Lower Instrument Panel Insulator
Courtesy of FORD MOTOR CO.

8. Lower the glove compartment.
9. Remove the floor duct.

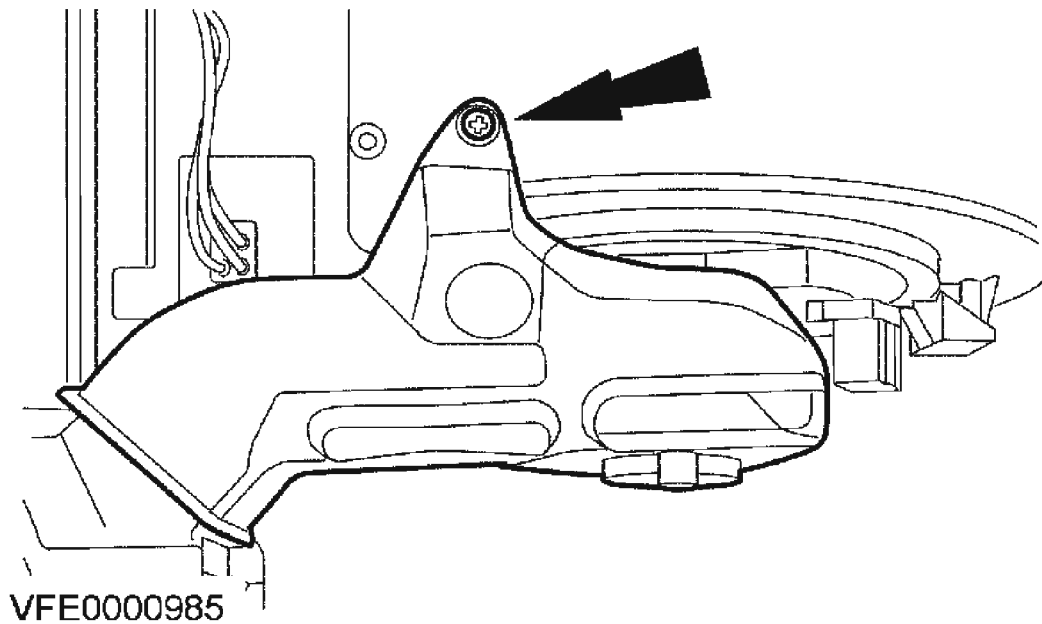


Fig. 24: Removing Floor Duct
Courtesy of FORD MOTOR CO.

10. Close the glove compartment.
11. Remove the four screws and the trim panel.

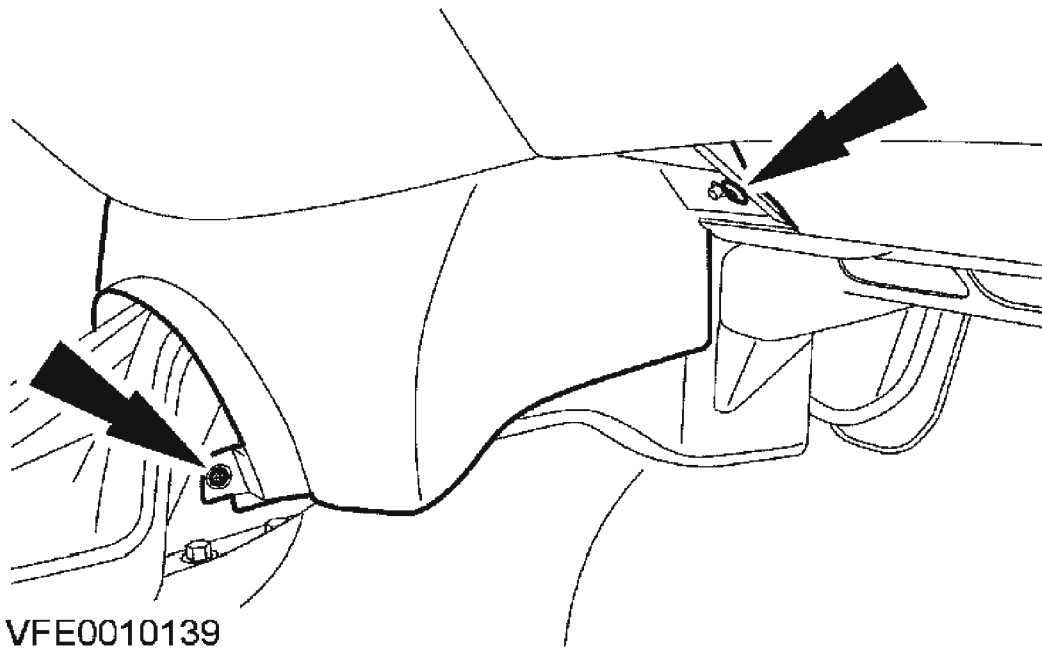


Fig. 25: Removing Screws And Trim Panel
Courtesy of FORD MOTOR CO.

12. Remove the nuts and position the accelerator pedal aside.

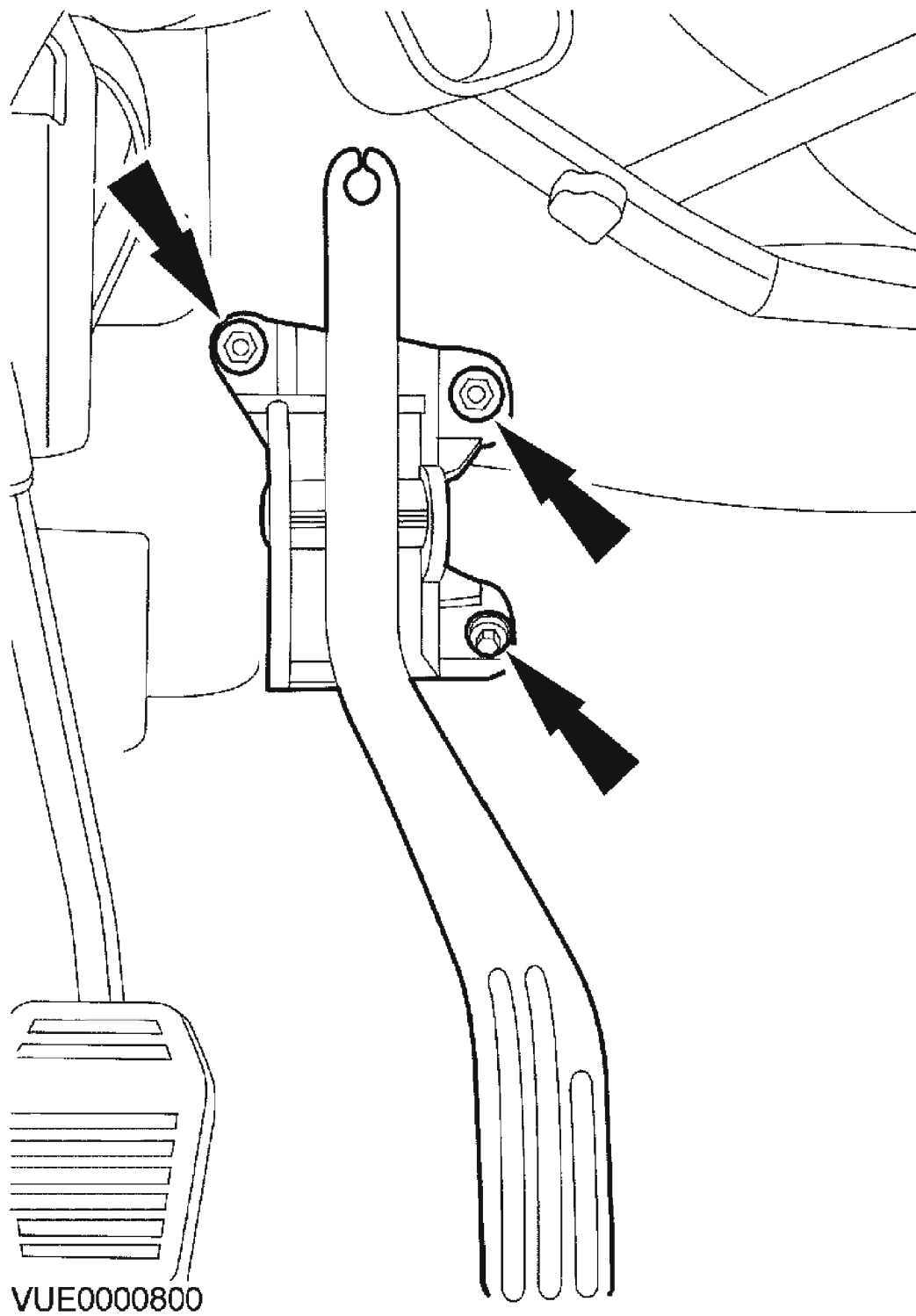


Fig. 26: Removing Accelerator Pedal Nuts
Courtesy of FORD MOTOR CO.

13. Detach the steel retaining clip.

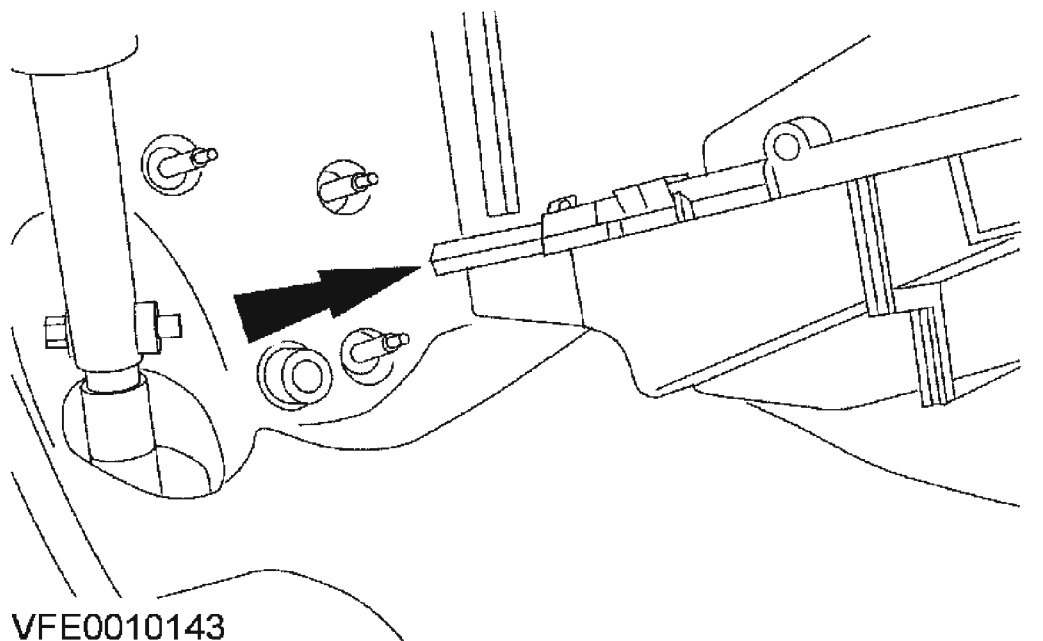


Fig. 27: Detaching Steel Retaining Clip
Courtesy of FORD MOTOR CO.

14. Remove the LH and RH in-vehicle crossbeam brackets (RH shown).

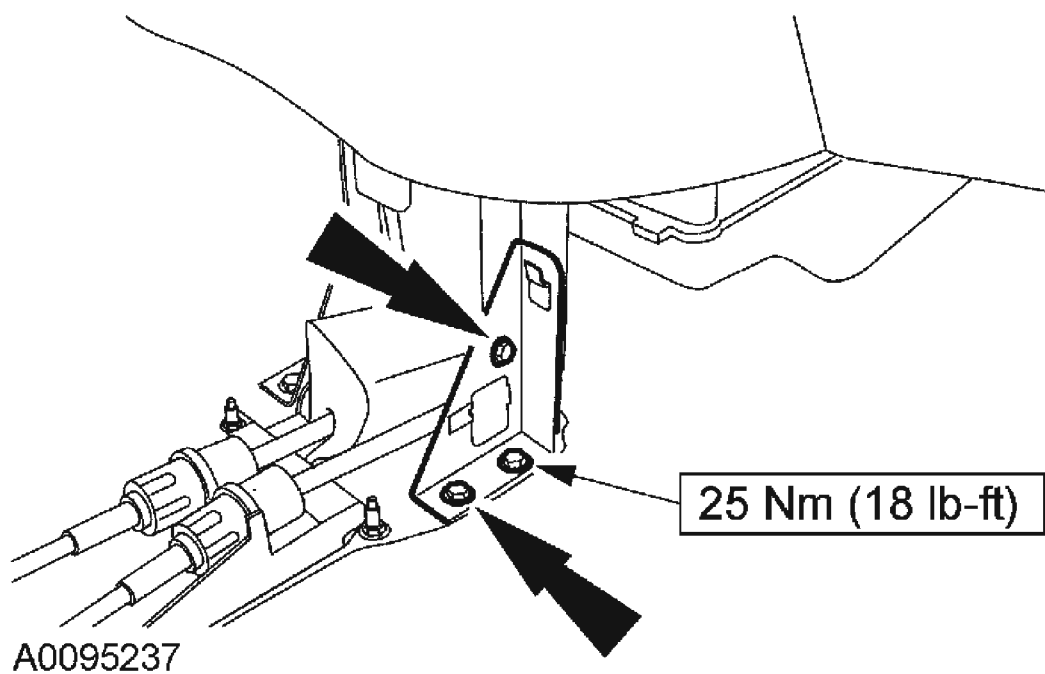
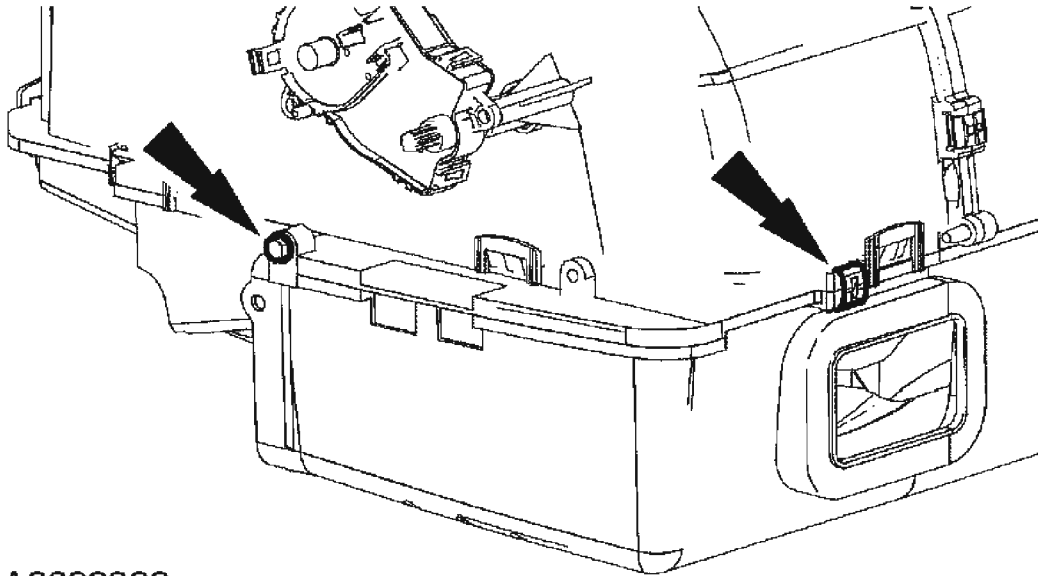


Fig. 28: Removing LH And RH In-Vehicle Crossbeam Brackets (RH Shown)
Courtesy of FORD MOTOR CO.

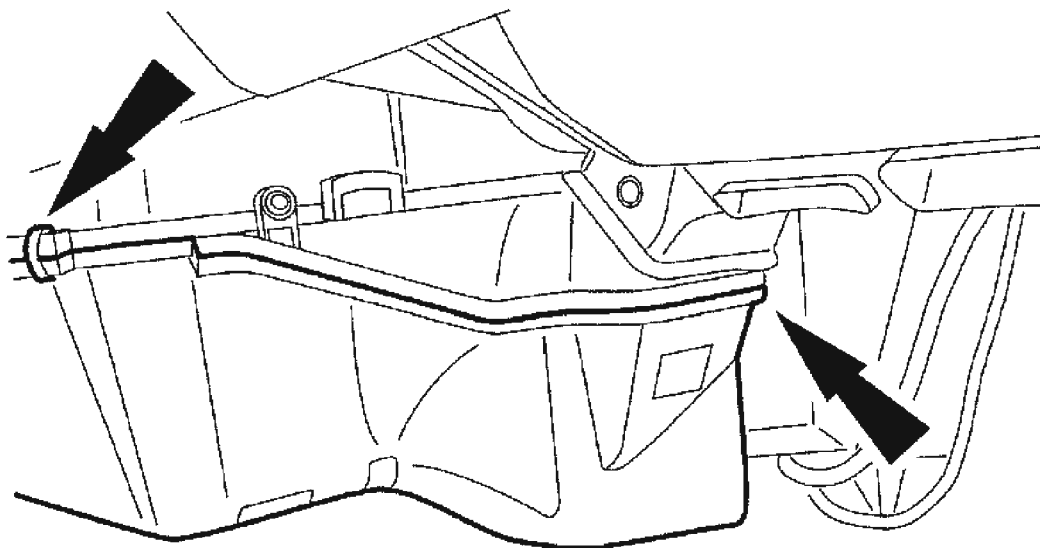
15. Remove the screw and clip and the LH floor duct.



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Fig. 29: Removing Screw, Clip And LH Floor Duct
Courtesy of FORD MOTOR CO.

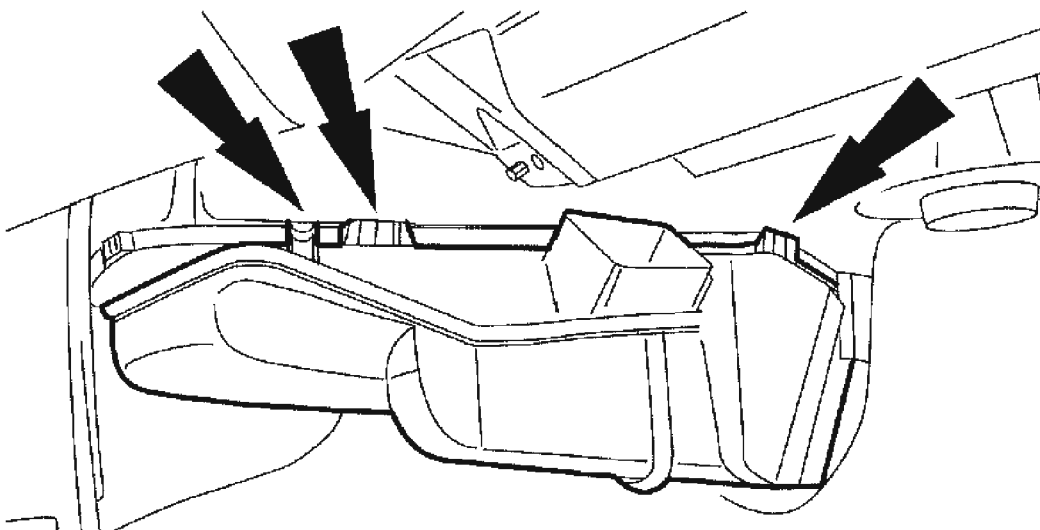
16. Remove the clips and the RH floor duct.



VFE0010140

Fig. 30: Removing Clips And RH Floor Duct
Courtesy of FORD MOTOR CO.

17. Remove the heater core cover.



VFE0023607

Fig. 31: Removing Heater Core Cover
Courtesy of FORD MOTOR CO.

18. Remove the heater core retaining screw.

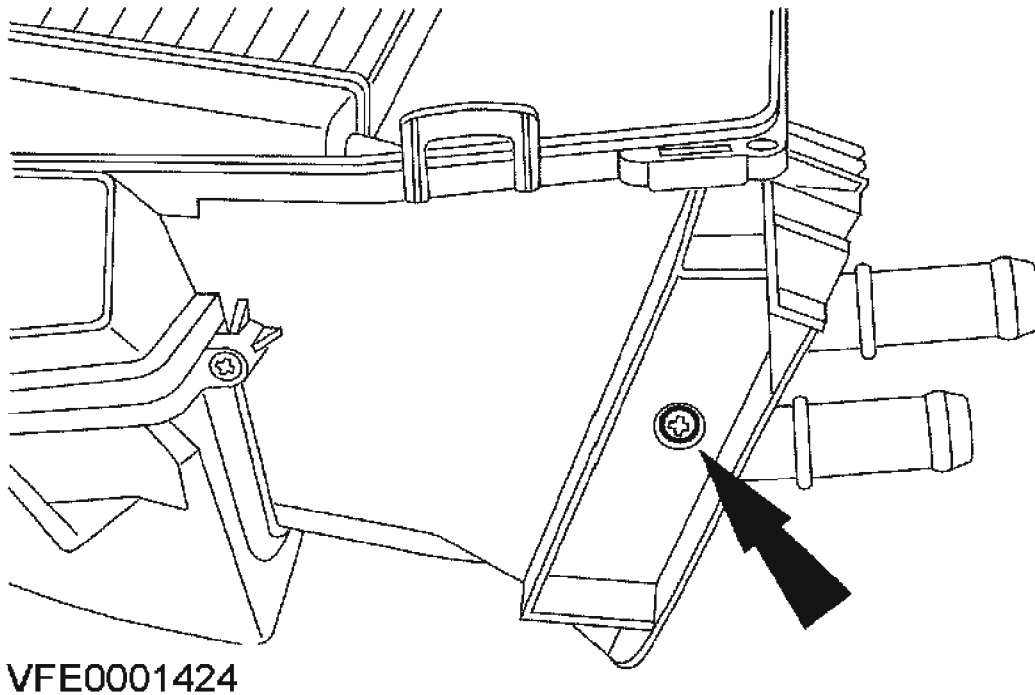
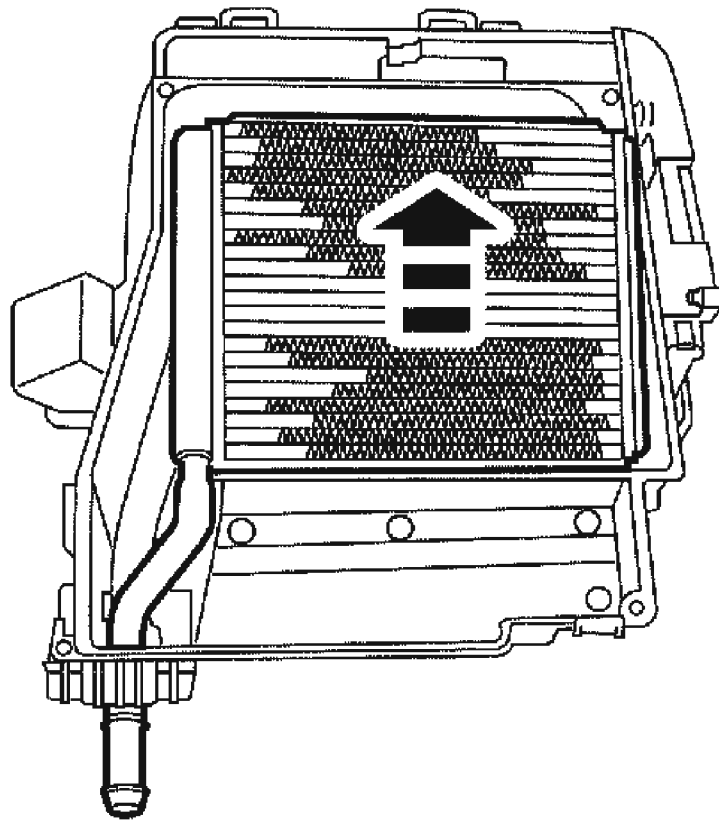


Fig. 32: Removing Heater Core Retaining Screw
Courtesy of FORD MOTOR CO.

19. Remove the heater core.



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Fig. 33: Removing Heater Core
Courtesy of FORD MOTOR CO.

20. To install, reverse the removal procedure.
 - Clean and lubricate the coolant hoses with plain water only, if needed.
21. Fill the engine cooling system. For additional information, refer to **ENGINE COOLING**.