

Heater Kit

BUC10184



JOHN DEERE

INSTALLATION INSTRUCTIONS

Heater Kit

UC14468 24APR19 (ENGLISH)

RSX850i, RSX860i, XUV590i, XUV590i S4 Gator™
Utility Vehicle

John Deere Horicon Works
UC14468 (24APR19)

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UC14468-19-24APR19

Parts in Kit

Parts in Box

Qty.	Description
1	Heater Core Assembly
1	Vent, Defroster
2	Vent, Round (2.0 in)
2	T-Fitting
1	Valve, Bleeder
1	Valve, In Line Shut Off
1	Cover, Defroster Vent
1	Y-Adapter (2.5 in)
1	Y-Adapter (2.0 in)
1	Reducer Fitting (2.5 to 2.0 in)
1	Wiring Harness
1	Jumper Harness
1	Hose, Coolant (45.5 in)
1	Hose, Coolant (42 in)
1	Hose, Vent (2.5x18 in)
1	Hose, Vent (2.5x6 in)
3	Hose, Vent (2.0x13 in)
1	Switch, 3-Position Rocker
1	Relay
1	Fuse, 8 A
4	Hose Clamp, 76 mm (3.0 in)
6	Hose Clamp, 57 mm (2.25 in)
4	Hose Clamp, 38 mm (1.5 in)
8	Hose Clamp, 25.4 mm (1.0 in)
2	Bushing, Snap (3/4 in)
22	Tie Strap
1	Bag of Parts

Parts in Bag

Qty.	Description
2	Bolt, 3/8-16x1 in. Hex Flange
1	Lock Nut, 3/8-16
2	Screw, #8x1 in. Pan Head Self-Tapping
8	Screw, #8x.5 in. Flat Head Self-Tapping

NOTE: Retain these installation instructions with the machine operator's manual.

OUMX068,000135A -19-15AUG17-1/1

Parking Safely

1. Stop vehicle on a level surface, not on a slope.
2. Fully lower the cargo box and any attachments on the machine that can be lowered.
3. Lock park brake.
4. Stop engine.
5. Remove key.
6. Before you leave the operator's seat, wait for engine and all moving parts to stop.
7. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

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Prepare Machine

Remove Hood, Storage Tray, and Front Panel

1. Park machine safely. (See Parking Safely.)
2. Disconnect negative battery cable.
3. Unfasten hood latch (A) on both sides of machine. Open hood.

A—Latch

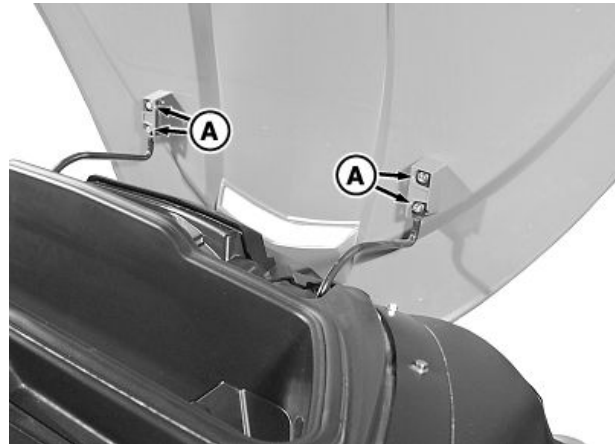


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4. Remove bolts (A) securing hood to arms.
5. An assistant may be required to hold the hood while bolts are being removed. Remove hood.

A—Bolt

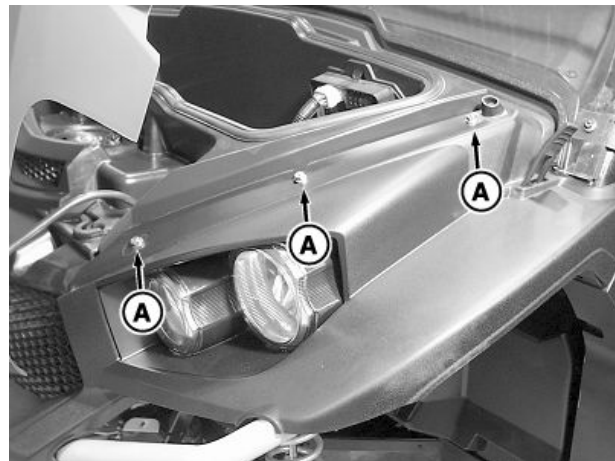


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6. Remove three bolts (A) on each side of machine securing fender to storage tray.

A—Bolts



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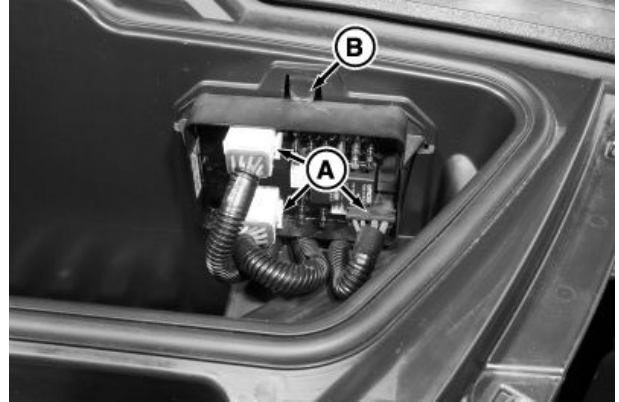
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OUMX068,000135B -19-14AUG17-3/13

7. Remove wire harness connectors (A) from control module.
8. Press tab (B) to release control module, and lift module from tray retainers.

A—Connectors

B—Tab



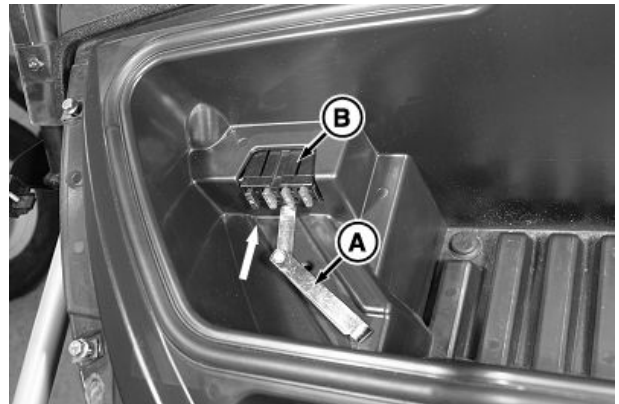
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9. Insert feeler gauge (A) between bottom of fuse block (B) and tray opening to release retainer.
10. Press fuse block to remove from tray opening.

A—Gauge

B—Fuse Block

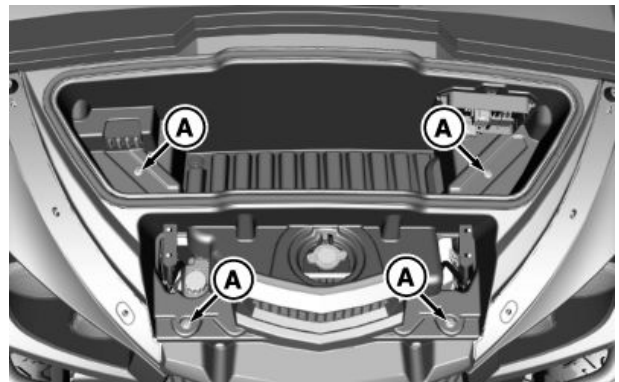


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11. Remove four screws (A) securing tray to frame.
12. Remove under hood tray.

A—Screws



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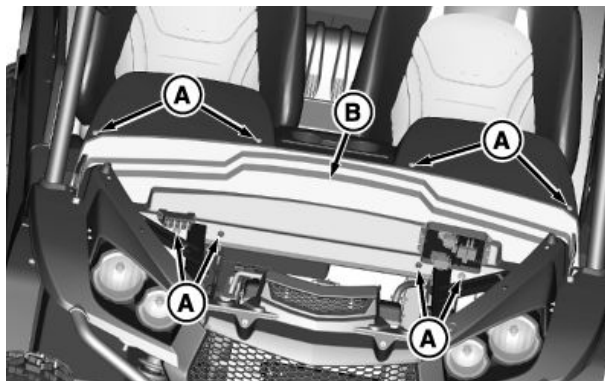
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13. Remove eight screws (A) and front panel (B) from vehicle.

A—Screws

B—Front Panel



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OUMX068,000135B -19-14AUG17-7/13

Drain Cooling System

⚠ CAUTION: Avoid injury! The radiator will be hot and can burn skin. Built-up pressure may cause explosive release of coolant when the radiator cap is removed:

- Shut off the engine and allow to cool.
- Do not remove the cap unless the radiator and the engine are cool enough to touch with bare hands.
- Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.

1. Make sure that the engine has cooled completely.
2. Slowly open radiator cap (A) to the first stop to release all pressure.
3. Remove cap after all pressure is released.

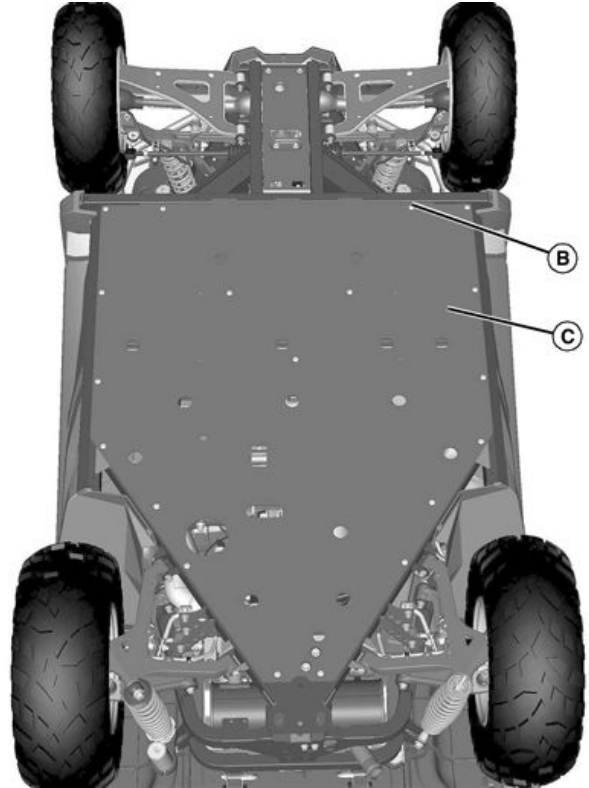


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4. Remove and retain 21 screws (B) and skid plate (C) from machine.

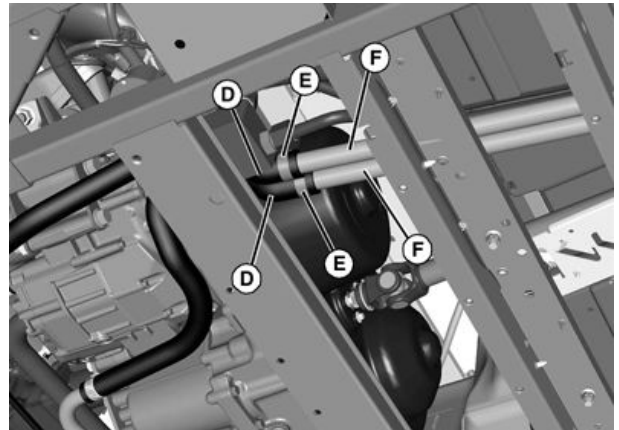


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NOTE: Visually inspect hoses for cracks and wear. Squeeze hoses to check for deterioration. Hoses should not be hard and brittle, nor soft or swollen.

5. Place a coolant drain pan under coolant lines (D).
6. Loosen hose clamps (E), and disconnect coolant lines (D) from intermediate tubes (F).
7. Route coolant lines over the drain pan and allow coolant to drain into drain pan.



View from under right (passenger) side.

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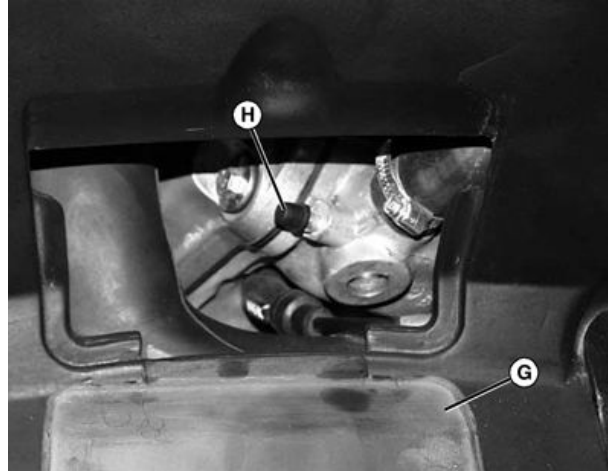
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8. Remove access panel (G) behind passenger seat.
9. Remove rubber grommet (H) on engine coolant system bleed screw. Loosen screw and allow coolant to drain from engine.

⚠ CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

- Use a safe lifting device rated for the load to be lifted.
- Lower machine onto jack stands or other stable supports and block wheels before servicing.

10. Raise front of vehicle to ensure complete drainage of coolant.
11. After all coolant has drained, lower front of vehicle, connect radiator hoses (D), and install and tighten engine screw and put rubber grommet (H) over screw.



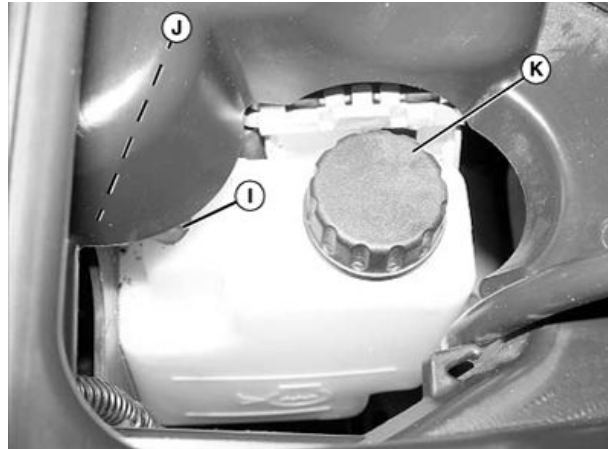
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12. Remove overflow hose (I) from recovery tank.
13. Remove the screw (J) and lift recovery tank out of machine.
14. Remove cap (K) and empty recovery tank into drain pan.
15. Check condition of all hoses. Replace as needed. Check all hose clamps and tighten as needed.
16. Install recovery tank in machine and secure with screw (J).

IMPORTANT: Avoid damage! Install overflow hose properly to ensure proper function of the cooling system. Position hose slightly above bottom of reservoir. Do not allow hose to contact bottom of reservoir or bend upwards out of the coolant.

17. Install overflow hose (I) and cap (K).



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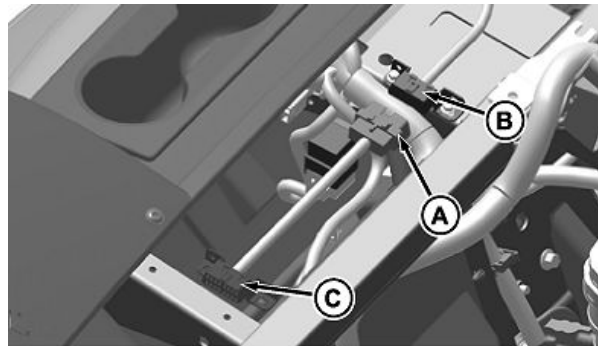
18. Install skid plate with screws.

OUMX068,000135B -19-14AUG17-12/13

Install Jumper Harness

1. Connect female connector end (A) of jumper harness to male vehicle diagnostic connector (B).
2. Use tie strap to secure remaining excess harness and male connector (C).

A—Connector, Female Jumper C—Connector, Male Jumper
B—Connector, Male Vehicle Diagnostic



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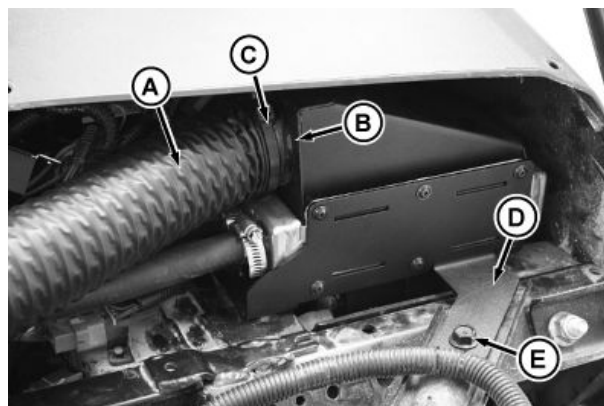
Install Heater Core

1. Install vent hose (A) to the plastic outlet on the front face of the heater core (B) with a hose clamp (C). Tighten clamp.

NOTE: Move the main machine wiring harness out of the way to position the heater core correctly.

2. Move the heater core into position.
3. Loosely install the front bracket (D) to the machine using bolt (E) and 3/8 in. lock nut.

A—Hose, Vent (2.5x18 in)	D—Front Bracket
B—Heater Core Assembly	E—Bolt, 3/8-16x1 in. Hex Flange
C—Hose Clamp, 76 mm (3.0 in)	



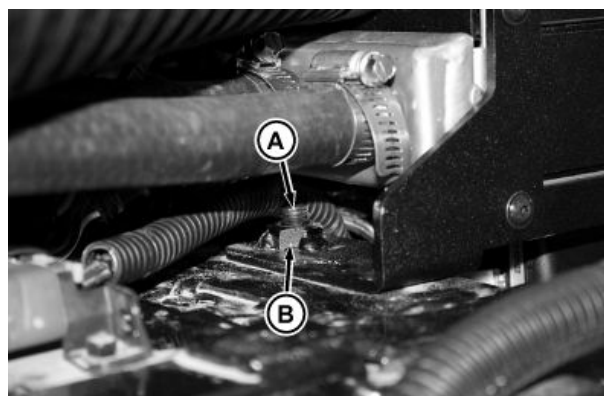
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OUMX068,000135C -19-15AUG17-1/3

NOTE: To access mounting hole, reach up under dash by park brake pedal.

4. Reach up under dash and install a bolt (A) through the frame channel and into nut (B) on the bracket of heater core.
5. Tighten the bolts.

A—Bolt, 3/8-16x1 in. Hex Flange	B—Nut
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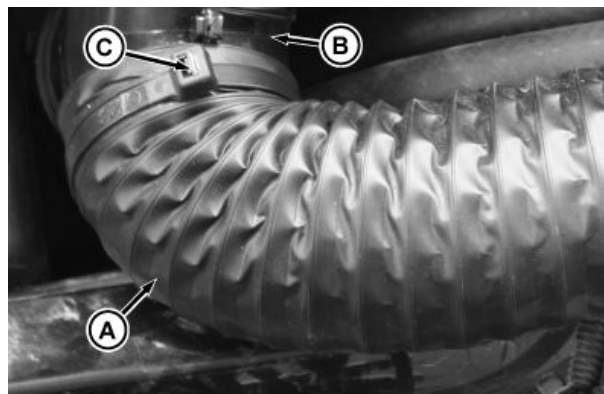


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OUMX068,000135C -19-15AUG17-2/3

6. Route the vent hose (A) from the heater core to one of the open outlets on the adapter (B) and check length.
7. To avoid kinking or interference with wiring or heater hoses inside the vehicle, trim the vent hose to length.
8. Install the vent hose to the adapter using hose clamp (C).

A—Hose, Vent (2.5x18 in)	C—Hose Clamp, 76 mm (3.0 in)
B—Y-Adapter (2.5 in)	

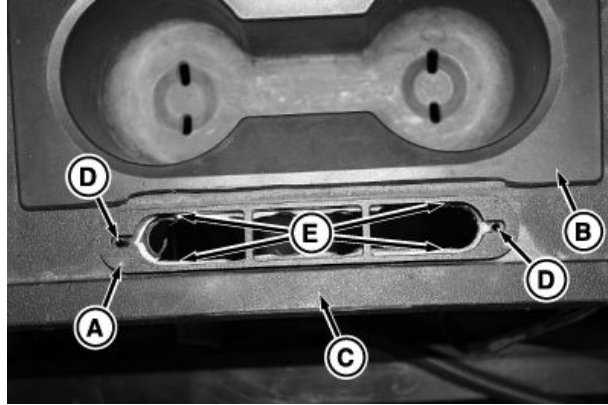


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OUMX068,000135C -19-15AUG17-3/3

Install Defroster Vent

1. Position the vent spacer (A) between the cup holder (B) and the windshield support (C).
2. Mark and drill holes (D) in the dash.
3. Outline the inner wall (E) of the vent spacer.
4. To remove material, carefully cut the outline of the vent spacer out of the dash using a small reamer or Dremel tool.
5. To avoid removing too much material, frequently test fit the vent.



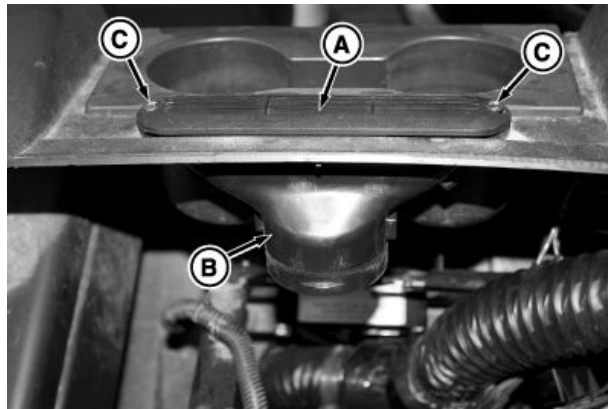
A—Vent Spacer
 B—Cup Holder
 C—Windshield Support
 D—Holes
 E—Inner Wall

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OUMX068,000135D -19-15AUG17-1/4

IMPORTANT: Avoid damage! To avoid stripping the holes in the dash or cracking the vent outlet, do not over tighten screws (C).

6. Install the cover (A) and the vent (B) to the machine using two screws (C).

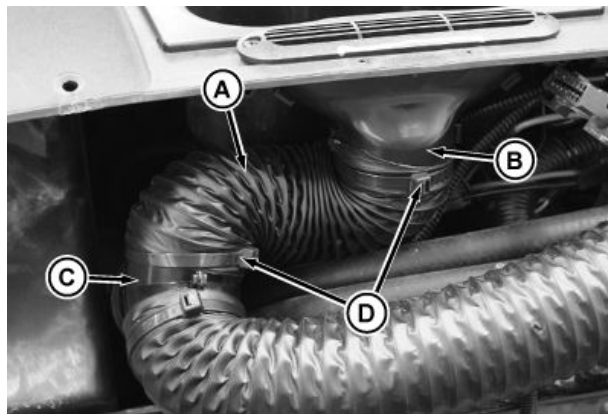


A—Cover, Defroster Vent
 B—Vent, Defroster
 C—Screw, #8x1 in. Pan Head Self-Tapping

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OUMX068,000135D -19-15AUG17-2/4

7. Install the vent hose (A) to the vent adapter (B) and Y-adapter (C) using hose clamps (D). Tighten the clamps.



A—Hose, Vent (2.5x6 in)
 B—Vent Adapter
 C—Y-Adapter (2.5 in)
 D—Hose Clamp, 76 mm (3.0 in)

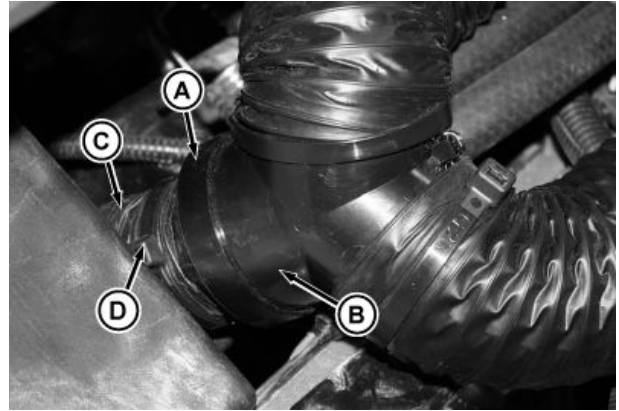
MXT020743 —JUN—14AUG17

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OUMX068,000135D -19-15AUG17-3/4

8. Attach the reducer fitting (A) to the open end of the Y-adaptor (B).
9. Install vent hose (C) to the reducer fitting using clamp (D). Tighten the clamp.
10. Route the vent hose down behind the dash toward the floor.
11. Install the vent hose to the 51 mm (2.0 in) Y-adaptor using a 57 mm (2.25 in) hose clamp. Tighten the clamp.

A—Reducer Fitting (2.5 to 2.0 in)	C—Hose, Vent (2.0x13 in)
B—Y-Adapter (2.5 in)	D—Hose Clamp, 57 mm (2.25 in)



OUMX068,000135D -19-15AUG17-4/4

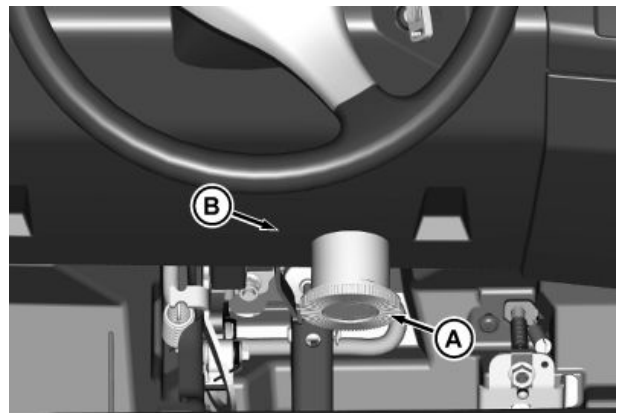
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Install Foot Vents

1. Position a vent (A) on the driver side of the lower dash panel (B) in approximate location shown.
2. Trace an outline around the vent in contact with the panel.
3. Remove the vent and mark the center of the outline.

IMPORTANT: Avoid damage! Be sure to check on the inside of the panel before drilling to make sure that there is no interference.

4. Drill a 55 mm (2 in) hole in the panel with a hole saw.
5. Clean up the hole using a small reamer or Dremel tool.
6. To avoid removing too much material, test fit the vent frequently.



A—Vent, Round (2.0 in)

B—Dash Panel

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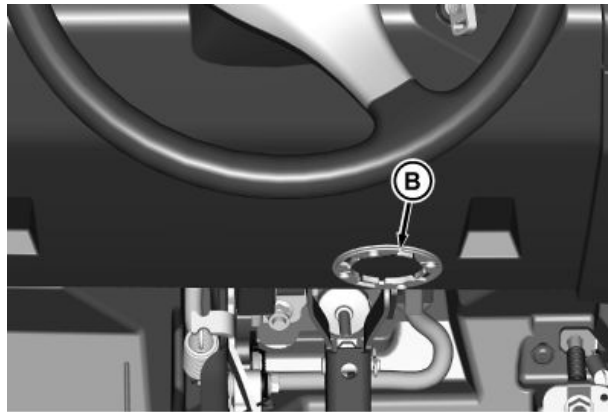
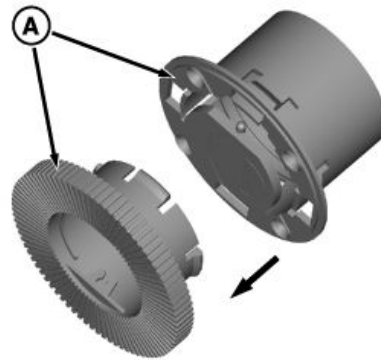
MXT020745 —UN—15AUG17

IMPORTANT: Avoid damage! To avoid stripping the holes in the panel or cracking the vent, do not over tighten the screws.

7. Pull the vent apart (A).
8. Install the vent to the panel through the trim ring (B) using four #8 x 1/2 in. flat head self-tapping screws.
9. Reassemble the vent.
10. Install a 2.0x13 in. vent hose to the vent using a 57 mm (2.25 in) hose clamp.
11. Install the opposite end of the vent hose to the 51 mm (2.0 in) Y-adapter using a 57 mm (2.25 in) hose clamp.
12. Tighten the clamps.
13. Repeat steps 1—10 for the passenger side.

A—Vent Pulled Apart

B—Trim Ring



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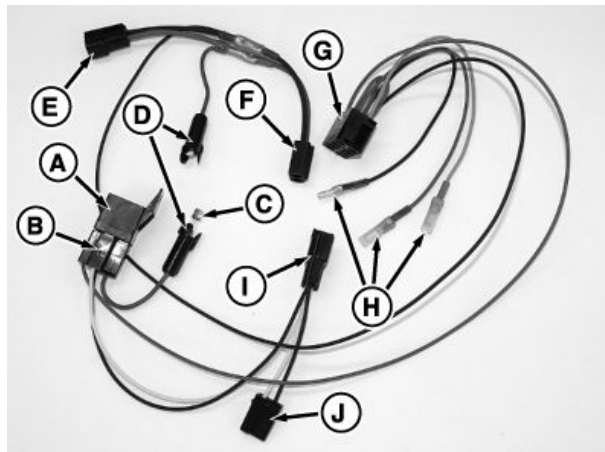
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Install Wiring Harness

1. Install relay (A) into harness connector.
2. Install fuse (C) into fuse holder (D) and close fuse holder.

A—Relay
 B—Connector, Relay
 C—Fuse
 D—Fuse Holder
 E—Connector, Unswitched Power (Female)

F—Connector, Unswitched Power (Male)
 G—Connector, Heater Switch
 H—Connectors, Heater Core
 I—Connector, Switched Power (Female)
 J—Connector, Switched Power Daisy (Male)



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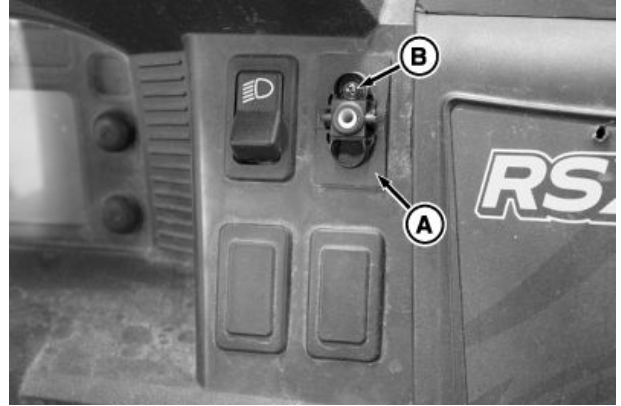
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OUMX068,00008C5 -19-18JUL14-1/4

3. Remove a hole plug from an empty switch location in the dash panel.
4. Feed the switch connector from the heater wiring harness through the opening from the back.
5. Plug the supplied switch (A) into the connector.
6. Install the switch into the dash panel with the light (B) at the top.

A—Switch, Heater

B—Light



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OUMX068,00008C5 -19-18JUL14-2/4

7. Snap switch cover (A) into place over switch as shown.

A—Switch Cover

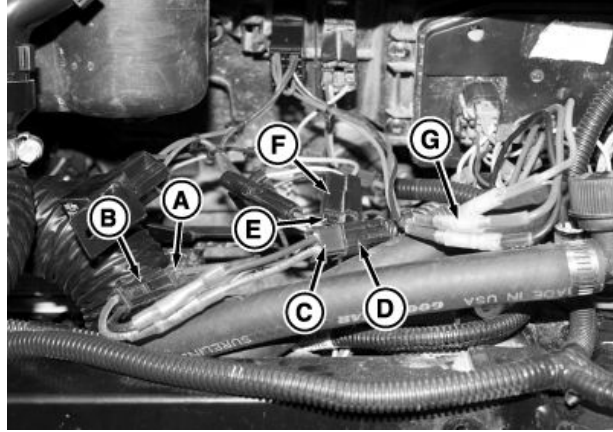


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OUMX068,00008C5 -19-18JUL14-3/4

8. Route the wiring harness from the switch to the driver side beneath the dashboard.
9. Plug the male connector (A) from the vehicle harness into the female connector (B) on the heater wiring harness.
10. Plug the male connector (C) from the heater wiring harness into the female connector (D) on the vehicle harness.
11. Plug the male connector (E) from the vehicle harness into the female connector (F) on the heater wiring harness.
12. Plug the connectors (G) from the heater wiring harness into the color matched connectors from the heater core.



MXT010572 —UN—18JUL14

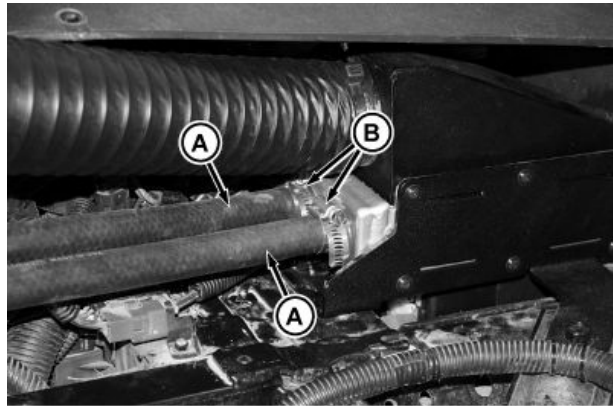
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| A—Male Connector (Black and Red Wires) | E—Male Connector (Yellow and Black Wires) |
| B—Female Connector (Black and Red Wires) | F—Female Connector (Yellow and Black Wires) |
| C—Male Connector (Black and Red Wires) | G—Connectors (Bullet) |
| D—Female Connector (Black and Red Wires) | |

OUMX068,00008C5 -19-18JUL14-4/4

Install Heater Hoses

1. Install hoses (A) to the nipples on the heater core with two hose clamps (B).

- | | |
|----------------|---------------------------------------|
| A—Hoses | B—Hose Clamp, 25.4 mm (1.0 in) |
|----------------|---------------------------------------|



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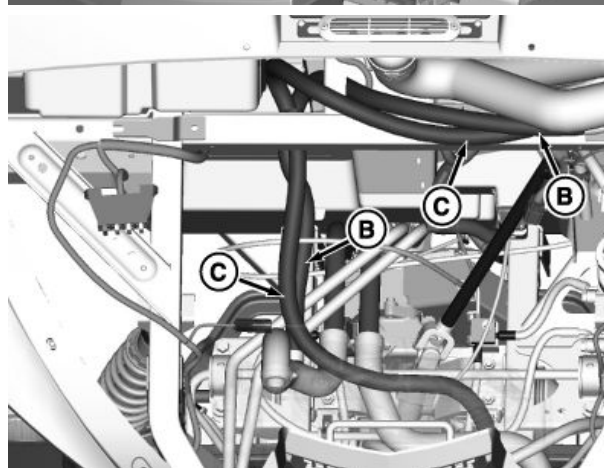
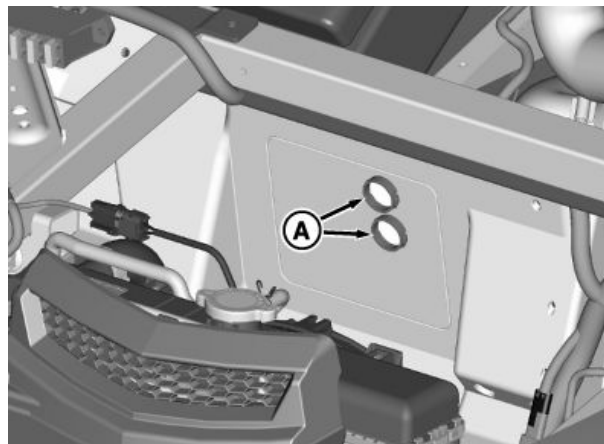
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OUMX068,000135F -19-24APR19-1/5

2. Route the hoses towards the inside of the machine, under the previously installed vent hose.
3. Drill two 19 mm (3/4 in) holes through the fire wall in location shown. Install two snap bushings (A) from the inside of the machine towards the radiator.
4. Route both heater hoses through the snap bushings in the fire wall, from the inside of the machine, towards the radiator.
5. Make sure that the outer hose (B) is on the passenger side of the machine, and the inner hose (C) is on the driver side.

A—Snap Bushings
B—Outer Hose

C—Inner Hose



Picture Note: Radiator hidden for clarity.

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MXT010574—UN—11AUG14

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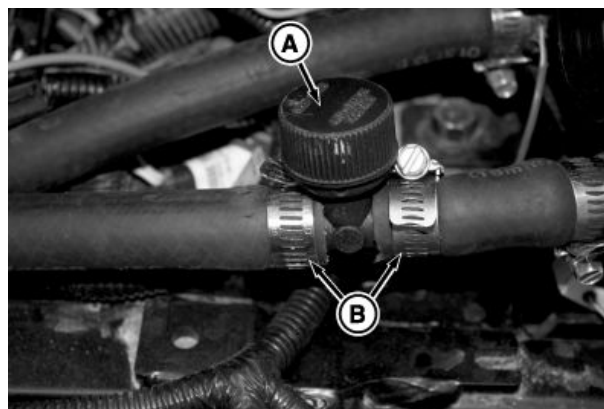
6. Cut the hose installed on the outer nipple at the highest point, leaving approximately 89 mm (3.5 in) attached to the nipple.

NOTE: Tip the bleeder cap forward to ensure that it does not interfere with closing the hood.

7. Install bleeder cap (A) into hose and secure with two hose clamps (B).

A—Bleeder Cap

B—Hose Clamp, 25.4 mm (1.0 in)



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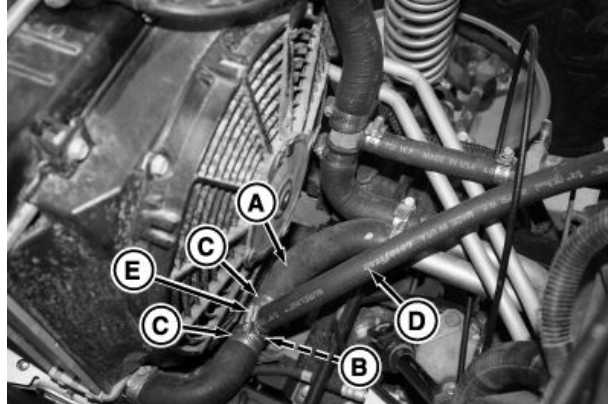
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MXT010577—UN—21JUL14

- Cut a 25.4 mm (1.0 in) section out of the lower radiator hose (A).

IMPORTANT: Avoid damage! To keep the hose from kinking, and to avoid any hot or moving components, rotate the T-fitting.

- Install T-fitting (B) and secure with two hose clamps (C).
- Route the inner heater hose (D) to the T-fitting. Trim to length and install onto the T-fitting with a hose clamp (E).
- Repeat steps 7—9 for the outer hose and upper radiator hose.

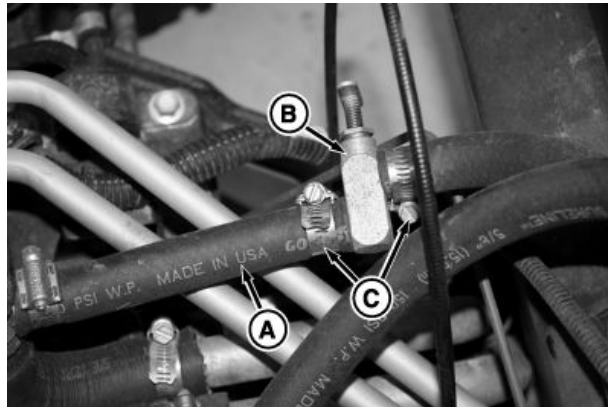


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- | | |
|------------------------------|--------------------------------|
| A—Lower Radiator Hose | D—Inner Heater Hose |
| B—T-Fitting | E—Hose Clamp, 25.4 mm (1.0 in) |
| C—Hose Clamp, 38 mm (1.5 in) | |

OUMX068,000135F -19-24APR19-4/5

- Splice into the outer heater hose (A), near the T-fitting.
- Tighten gland nut to 16 +/- 3.2 N·m (12 +/- 2.4 lb-ft).
- Install valve (B) with two hose clamps (C).
- Secure heater hoses with tie straps as necessary.



MXT010576 —UN—21JUL14

- | | |
|---------------------------|--------------------------------|
| A—Outer Heater Hose | C—Hose Clamp, 25.4 mm (1.0 in) |
| B—Valve, In-Line Shut Off | |

OUMX068,000135F -19-24APR19-5/5

Refilling and Bleeding Air From System

Filling and Bleeding Cooling System

IMPORTANT: Avoid damage! Using incorrect coolant mixture can damage the radiator:

- Do not operate engine without coolant or with plain water.
- Use antifreeze approved for use in aluminum engines.
- Do not exceed a 50% antifreeze mixture for the coolant.
- Do not pour coolant or water into radiator when engine is hot.
- Do not add Stop Leak or other additives.

NOTE: John DeereCool-Gard™ coolant is recommended when adding coolant to the cooling system. Follow the directions on the container for correct mixture ratio.

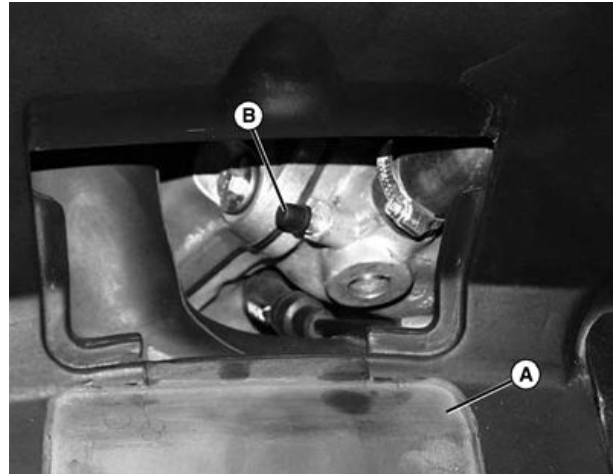
1. Make sure that the heater shut off valve is fully open, and the bleeder cap for the heater is open.
2. Remove access panel (A) behind passenger seat.
3. Remove rubber grommet (B) on engine coolant system bleed screw. Loosen bleed valve screw.
4. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of the bleed port.
5. Tighten engine bleed valve screw.
6. Add additional coolant mixture to radiator until coolant runs out of overflow port and into the recovery tank.
7. Install radiator cap.
8. Add coolant to the bleeder cap for the heater to fill the upper hose, heater core, and lower hose until no more air comes out. Replace the cap.

IMPORTANT: Avoid damage! Position hose slightly above bottom of recovery tank. Do not allow hose to contact bottom of recovery tank or bend upwards out of the coolant.

9. Remove recovery tank cap and add coolant mixture to recovery tank until it is approximately half full.
10. Install recovery tank cap.

IMPORTANT: Avoid damage! If coolant temperature indicator comes on while engine is running, stop engine and add more coolant mixture to radiator.

11. Start the engine and run the heater until both lines feel warm. Continue to run the engine until the radiator fan cycles, and both the upper and lower radiator hoses become warm, indicating that the thermostat has opened.
12. Shut the engine off and allow it to cool.



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13. Loosen the engine bleed valve screw and allow air to bubble out until air bubbles are no longer visible at bleed port. Tighten bleed valve screw completely.
14. Loosen the heater bleed cap and allow air to bubble out.
15. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of overflow port and into the recovery tank.
16. Install radiator cap.
17. Run engine until cooling fan starts, indicating the engine and coolant has reached operating temperature.
18. Stop engine and remove key.
19. Allow engine to cool and suction back any excess coolant from overflow recovery tank. Fill recovery tank as needed to lower line.

Troubleshooting

CAUTION: Avoid injury! The radiator is hot and burns skin. Built-up pressure causes explosive release of coolant when the radiator cap is removed:

- Wear a face shield and gloves.
- Shut off the engine and allow to cool.
- Do not remove the cap unless the radiator and the engine are cool enough to touch with bare hands.
- Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.

The cooling systems on these vehicles are difficult to bleed. If the bleeding procedure was unsuccessful or was successful but you are not getting much heat out of the heater, try the following:

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1. **Temporarily** clamp the upper radiator hose shut. Start and rev the engine until the heater blows hot air or the temp light comes on. If the temp light comes on, make sure that the overflow bottle is full and repeat procedure. Once successful, remove the clamp.
2. Start the engine and run the heater until both lines feel warm. Continue to run the engine until the radiator fan cycles. If the overheat warning light does not come on, then the system is properly bled. If the overheat light does come on, shut the engine off. Make sure that the overflow bottle is full. Use pliers to crack open the heater bleeder valve and allow air to vent until hot coolant flows and quickly close valve.

If that does not work, try the following:

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Inspect and Test System Operation

1. Turn the key switch on and test the heater fan operation. If the fan is not working, check the fuse.
2. Check for leaks in the heater vent hoses and connections.
3. Check for coolant leaks.
4. In warm weather, close the shut-off valve to stop coolant flow to the heater. The fan is still operable for defogging or air circulation.
5. In cold weather, open the valve for heat.

⚠ CAUTION: Avoid injury! Be sure to wear a glove when handling the shut-off valve because the valve is hot.

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