



**Technical Service
Information Bulletin**

June 29, 2006

Title: **A/C PERFORMANCE IMPROVEMENT**

Models: '03 - '06 GX 470 w/Dual A/C

HEATING & AIR CONDITIONING
AC003-06
REVISED

TSIB REVISION NOTICE:

- August 29, 2006: A note and illustration have been added to step 28 of the "Install interior parts" section to clarify the installation of the A/C cooler refrigerant suction hose. The note before step 1 of the "Install hood seal" section has been updated.

Previous versions of this TSIB should be discarded.

TSIB UPDATE NOTICE:

The information contained in this TSIB supersedes TSIB No. AC001-04. TSIB No. AC001-04 is now obsolete and should be discarded.

Introduction Some GX 470 customers may experience a low cooling effect from the A/C system when driving in high temperature areas. This TSIB provides a procedure to improve this condition.

IMPORTANT:

Ensure that the correct kit is ordered for this application as kit contents differ from platform to platform. See the Parts Information table for further detail.

- Applicable Vehicles**
- 2003 - 2006 model year **GX 470** vehicles with **Dual A/C** produced **BEFORE** the Production Change Effective VIN shown below.

Production Change Information

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
GX 470	JTJBT20X060110657

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
AC0006	A/C Performance Kit	7.0	88717-35201	7A	99

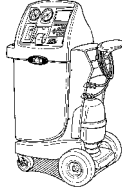
Applicable Warranty*:

This repair is covered under the Lexus Comprehensive Warranty. This warranty is in effect for 48 months or 50,000 miles, whichever occurs first, from the vehicle's in-service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.



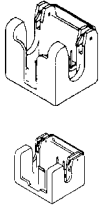
Required Equipment

MANUFACTURER	EQUIPMENT	QTY
Robinair ROB34200* (or equivalent)	R-134a Refrigerant Recovery/Recycling Machine 	1

* Lexus Approved Dealer Equipment

NOTE:
Additional refrigerant service equipment may be ordered by calling Lexus Approved Dealer Equipment at 1-800-368-6787.

Required SSTs

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	A/C Line Disconnect Kit* NOTE: • All components from this kit/set are required. 	09870-00005-02	1	22

* Essential SSTs.

** Refers to drawer number in SST Storage System.

NOTE:
Additional Kits or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

Parts Information

KIT	SPECIFICATION	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
1	Non-KDSS Suspension with Rear Seat Entertainment	N/A	88039-60050	Additional Kit, Air Conditioner	1
2	Non-KDSS Suspension without Rear Seat Entertainment	N/A	88039-60060		1
3	KDSS Suspension with Rear Seat Entertainment	N/A	88039-60070		1
4	KDSS Suspension without Rear Seat Entertainment	N/A	88039-60080		1

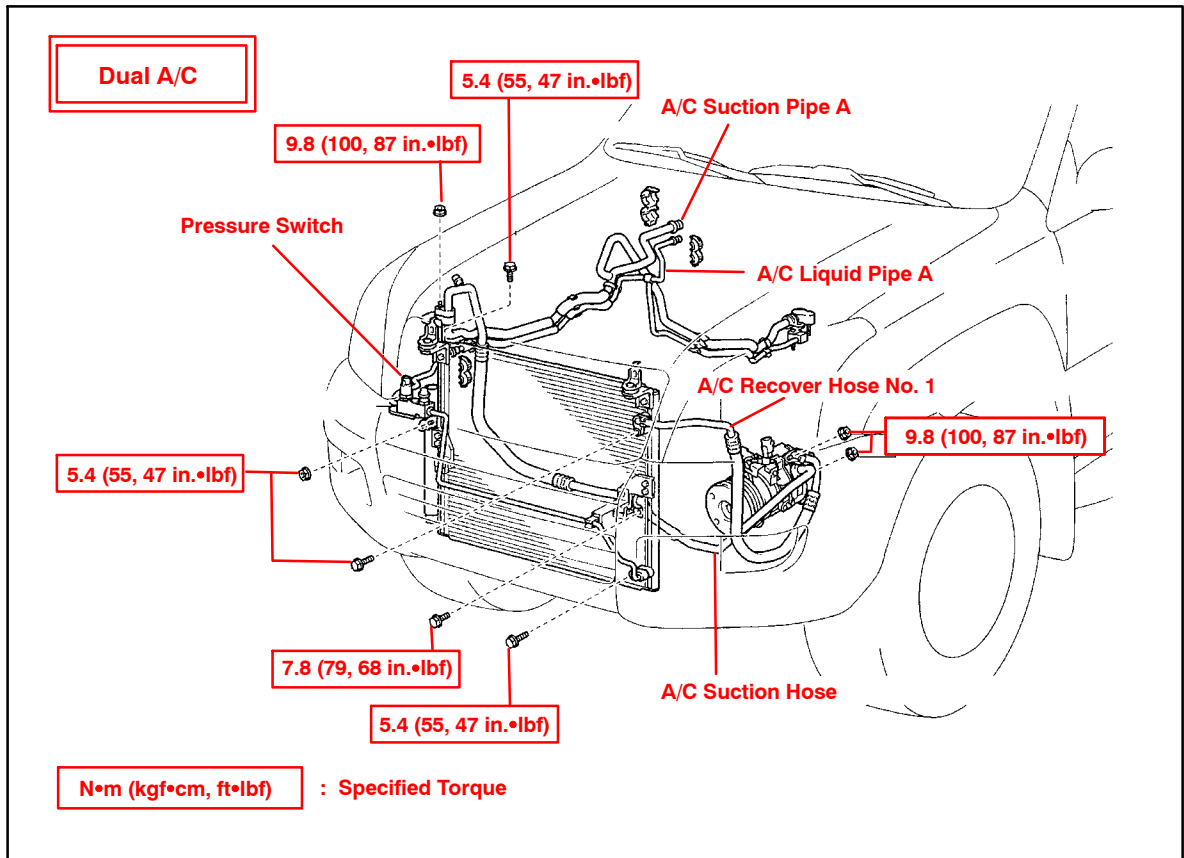
NOTE:
Refer to the Kit Contents table in this TSIB to verify the parts contained within the applicable kit number.

Kit Contents

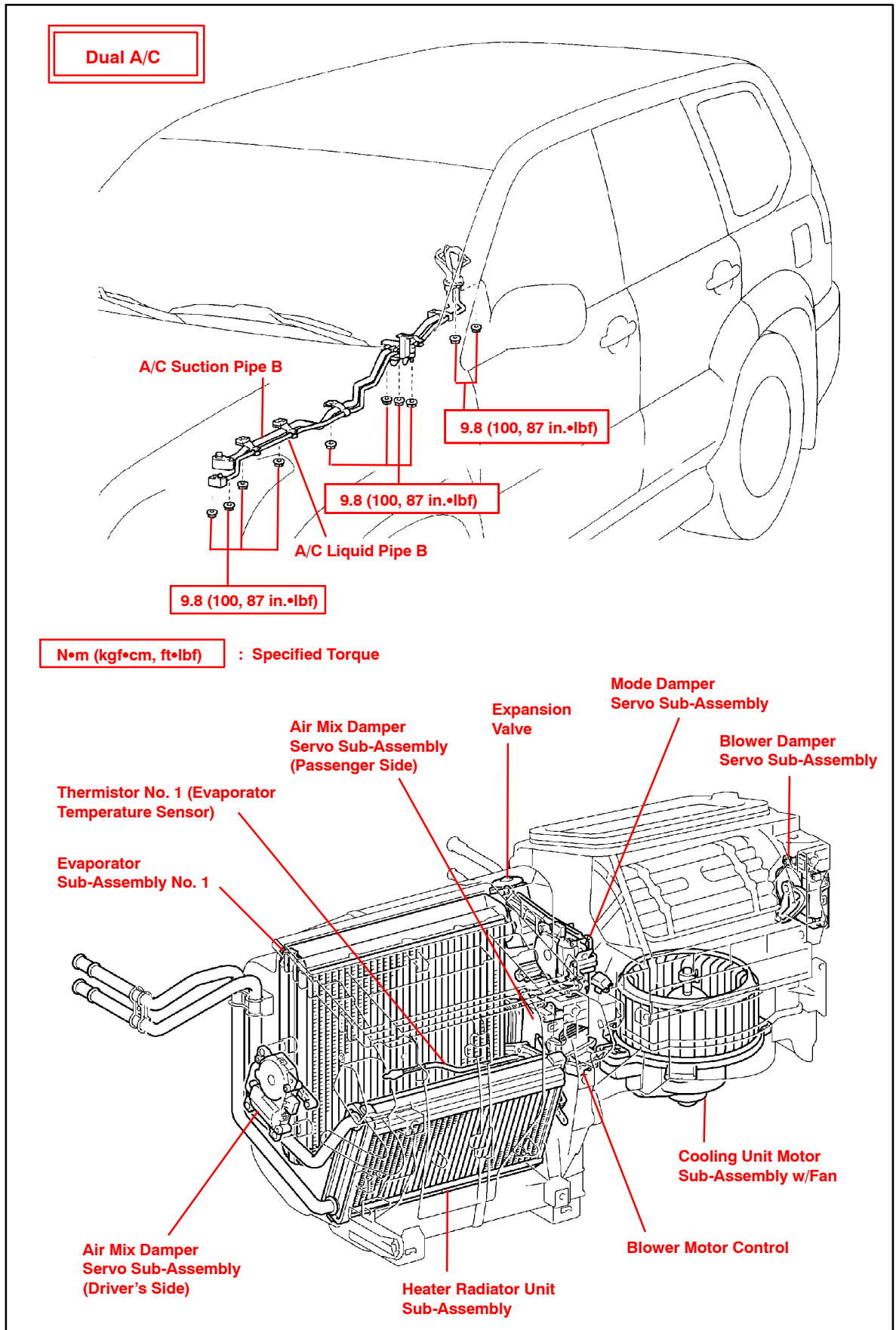
KIT				PART NUMBER	PART NAME	QTY
1	2	3	4			
✓	✓	✓	✓	88515-60200	Valve, Expansion, No. 1	1
✓	✓	✓	✓	88461-60111	Condenser Assembly	1
✓	✓	✓	✓	88723-60101	Label, Cooler Service Caution	1
✓	✓	✓	✓	88710-6B460	Tube & Accessory Assembly, A/C	1
✓	✓	N/A	N/A	88704-60400	Hose Sub-assembly, Suction	1
N/A	N/A	✓	✓	88704-60410	Hose Sub-assembly, Suction	1
✓	✓	✓	✓	88710-6B540	Tube & Accessory Assembly, A/C	1
✓	✓	✓	✓	88688-6A770	Bracket, Cooler	1
✓	✓	✓	✓	88688-6A780	Bracket, Cooler	2
✓	✓	✓	✓	90105-12122	Bolt, Washer Based Head Hexagon	1
✓	✓	✓	✓	36867-60010	Seal, Packing	2
✓	✓	✓	✓	36867-60020	Seal, Packing	2
✓	✓	✓	✓	36867-60030	Seal, Packing	1
✓	✓	✓	✓	53285-60080	Seal, Radiator Side Air RH	1
✓	✓	✓	✓	53286-60080	Seal, Radiator Side Air LH	1
✓	✓	✓	✓	36867-60040	Seal, Packing	1
✓	✓	✓	✓	36867-60050	Seal, Packing	1
✓	✓	✓	✓	32907-60120	Tube	1
✓	✓	✓	✓	32943-60240	Hose	1
✓	✓	✓	✓	32943-60330	Hose	1
✓	✓	✓	✓	32948-60010	Oil Seal	1
✓	✓	✓	✓	90467-16020	Clip	2
✓	N/A	✓	N/A	55607-60060	Cover Sub-assembly, Instrument Panel Under, No. 2	1
N/A	✓	N/A	✓	55607-60070	Cover Sub-assembly, Instrument Panel Under, No. 2	1
✓	✓	✓	✓	53381-60070	Seal, Hood to Radiator Support	1
✓	✓	✓	✓	36867-60060	Seal, Packing	2
✓	✓	✓	✓	36867-60070	Seal, Packing	2
✓	✓	✓	✓	36867-60080	Seal, Packing	1
✓	✓	✓	✓	36867-60090	Seal, Packing	2
✓	✓	✓	✓	88578-35170	Insulator Tape	1

✓ Indicates that the kit number contains the listed part.

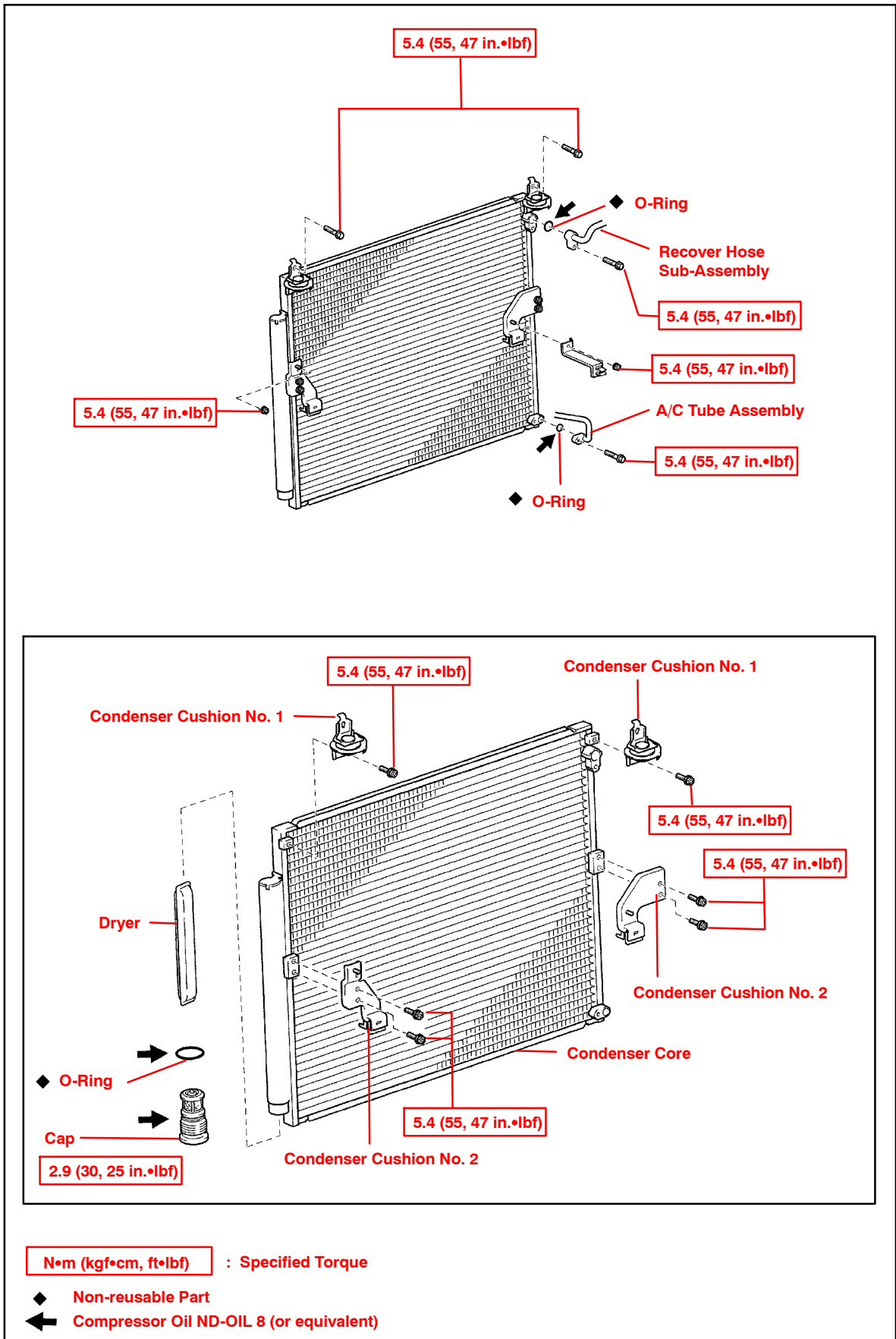
Components



Components
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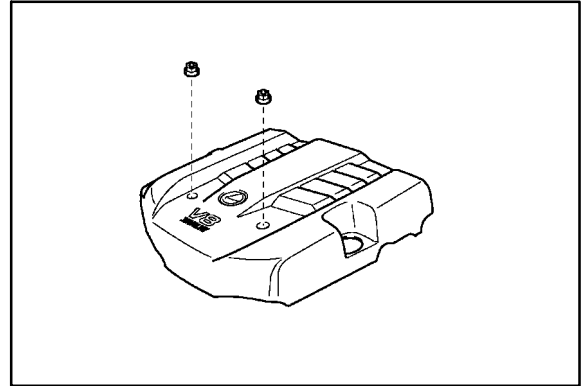


Components
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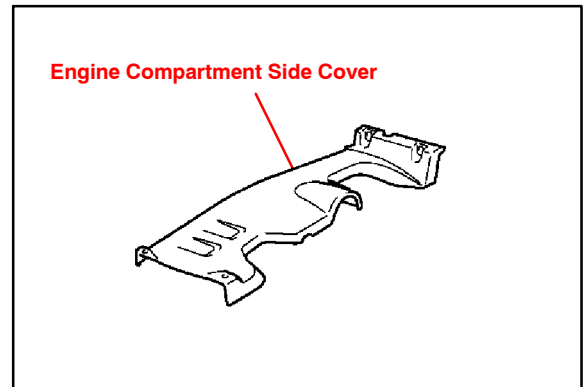


Repair Procedure**Remove exterior parts:**

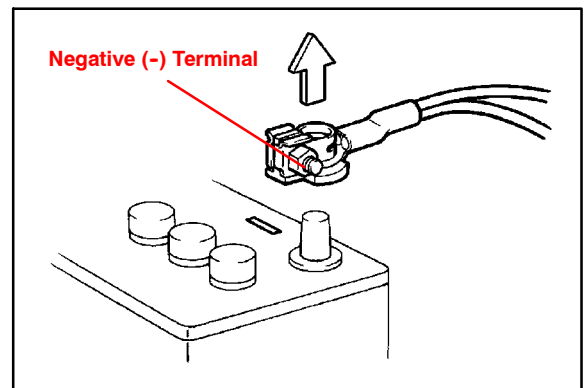
1. Remove the engine cover.
 - A. Remove the nuts.
 - B. Remove the cover unit.



2. Remove the engine compartment side cover RH.
 - A. Disengage the clip.
 - B. Remove the engine compartment side cover.



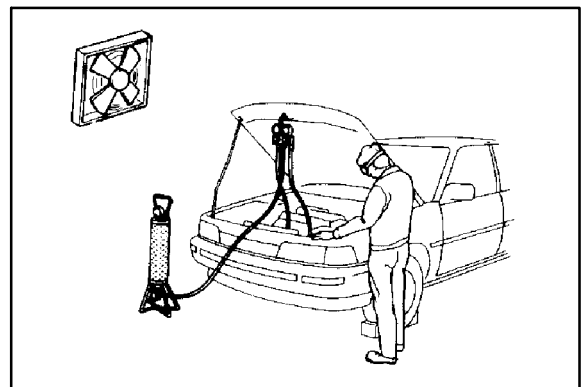
3. Disconnect the negative (-) battery terminal.



4. Recover refrigerant system HFC-134a (R-134a).

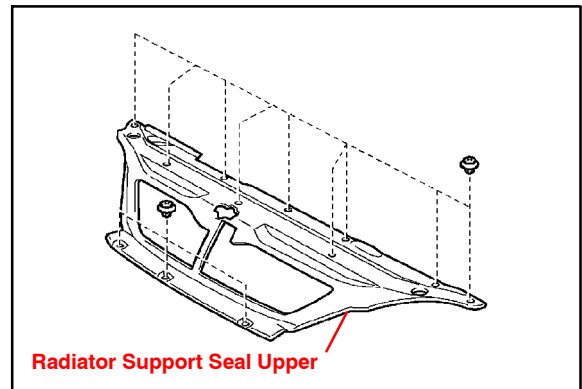
Equipment: Robinair R-134a Refrigerant Recovery/Recycling Machine (P/N ROB342000)

Refer to the Technical Information System (TIS), 2004 model year GX 470 Repair Manual: *Heater & Air Conditioner: Air Conditioning System: Precaution.*

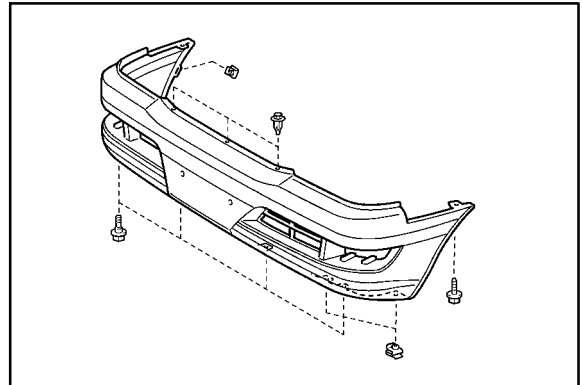


**Repair
Procedure**
(Continued)

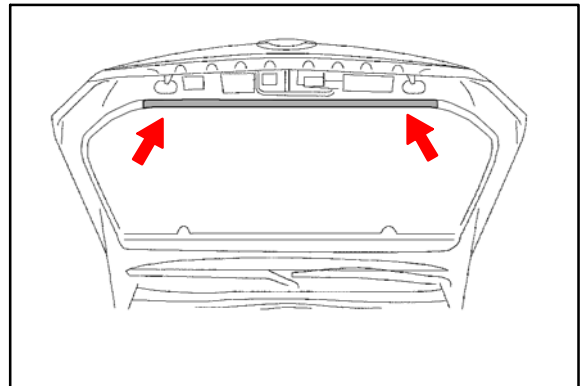
5. Remove the radiator support seal upper.
 - A. Disengage the 12 clips.
 - B. Remove the cover.



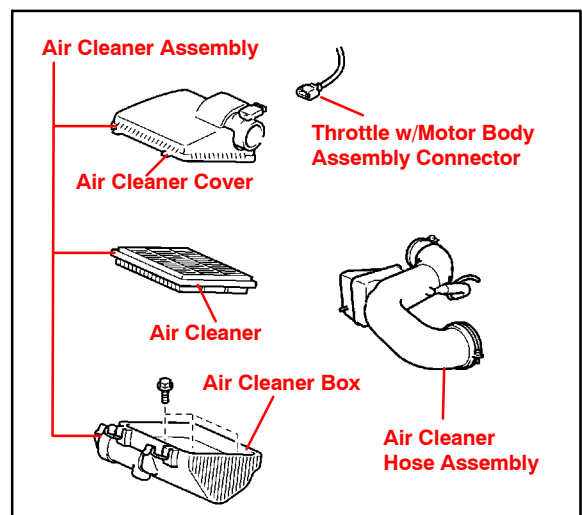
6. Remove the front bumper assembly.
 - A. Disengage the 3 clips and remove the 4 bolts and 8 screws.
 - B. Disconnect the fog lamp connectors.
 - C. Remove the bumper.



7. Remove the hood seal of the radiator support.

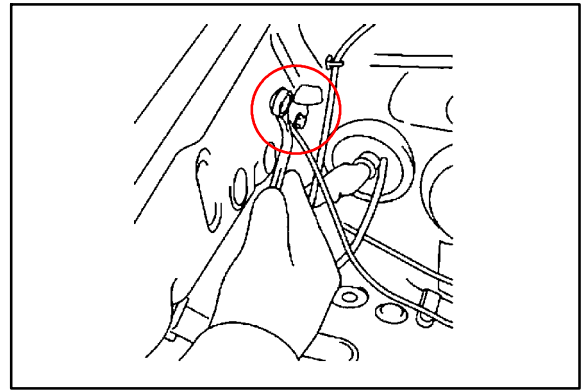


8. Remove the air cleaner assembly.
 - A. Remove the throttle with motor body assembly connector.
 - B. Remove the throttle with motor body assembly connector bracket.
 - C. Remove the air cleaner hose from the air cleaner cover.
 - D. Remove the upper air cleaner cover.
 - E. Remove the air cleaner.
 - F. Remove the 3 bolts.
 - G. Remove the lower air cleaner box.

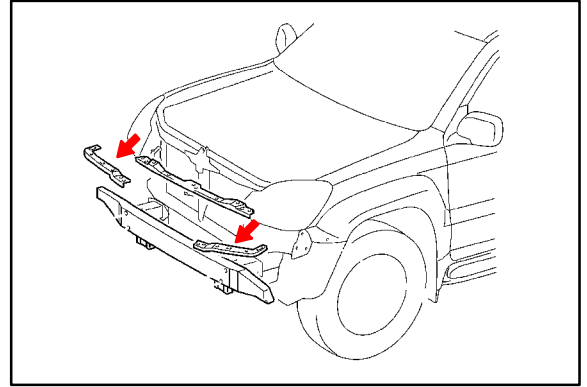


**Repair
Procedure**
(Continued)

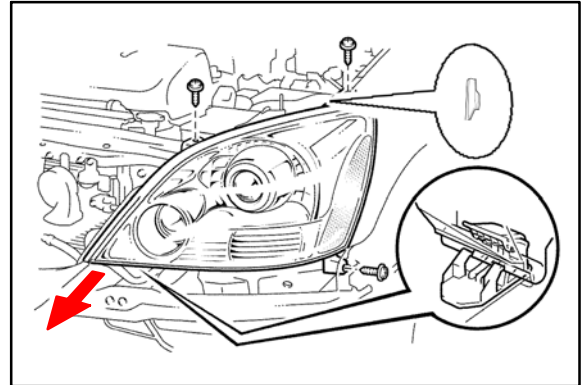
9. Remove the ground terminal.
Remove the bolt located at the RH front fender.



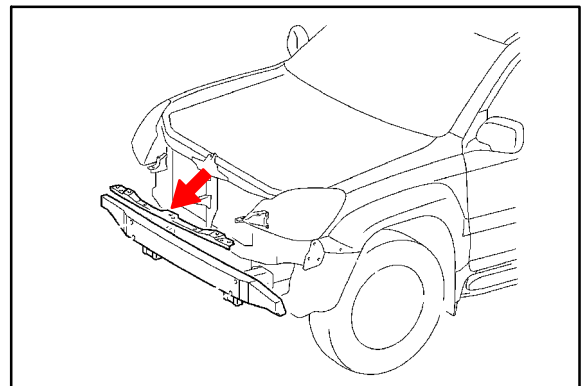
10. Remove the front RH and LH bumper stay.
A. Remove the 2 bolts.
B. Remove the 2 nuts.



11. Remove the front RH and LH headlamp assembly.
A. Remove the bolt cap.
B. Remove the bolt.
C. Disconnect the headlamp connectors.
D. Remove the headlamp assembly.



12. Remove the front bumper retainer and bracket center.
A. Remove the 2 bolts.
B. Remove the retainer and bracket together as one unit.

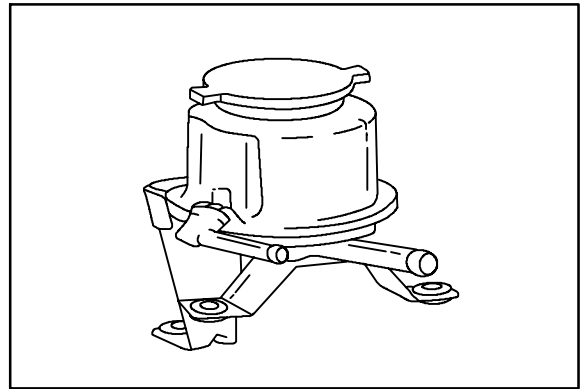


Repair Procedure
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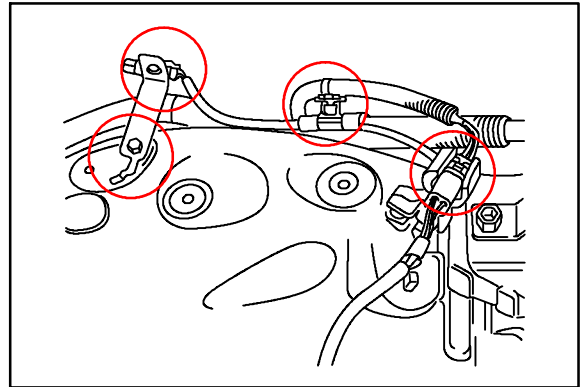
13. Remove the power steering fluid reserve tank.

NOTE:
Draining the power steering fluid in the reserve tank is unnecessary.

Disconnect the reserve tank from the bracket.
It is NOT necessary to remove the reserve tank. Place the tank so that it does NOT cause an obstruction.

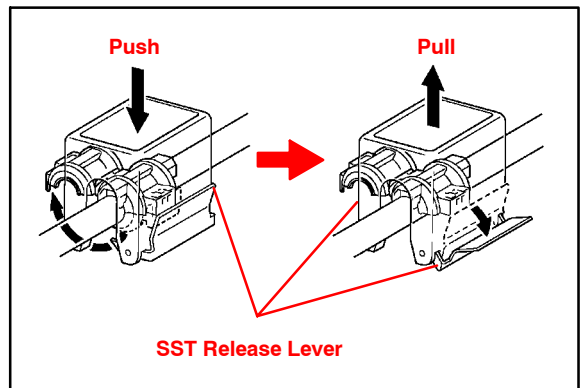
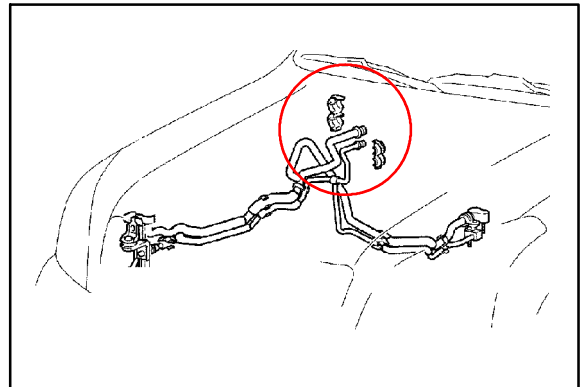


14. Remove the skid control sensor wire harness bracket and connector (right engine compartment).
 - A. Remove the 2 brackets.
 - B. Disconnect the 2 wire harness connectors.



15. Remove the quick disconnect joint from the accessory A/C tube assembly.
Using the SST, remove the 2 quick disconnect joints (refer to the illustrations).

- SST P/N: 09870-00005-02

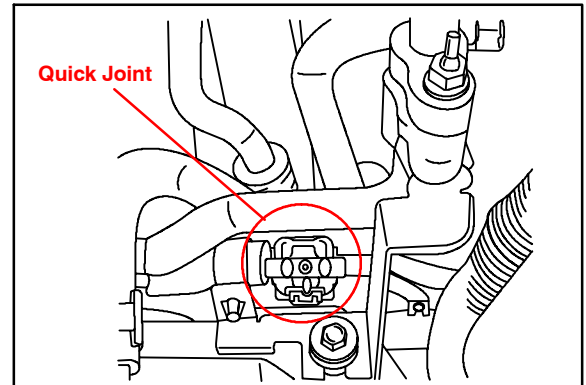
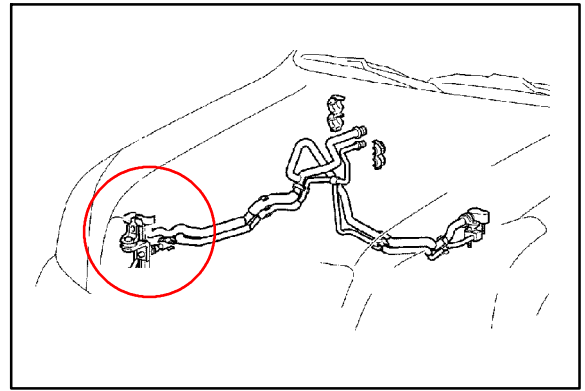


Repair Procedure
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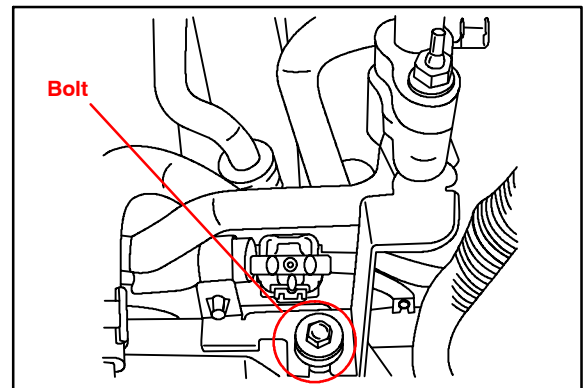
16. Remove the quick disconnect joint from the tube sub-accessory at the condenser (front side).

Using the SST, remove the 2 quick disconnect joints (refer to the illustrations).

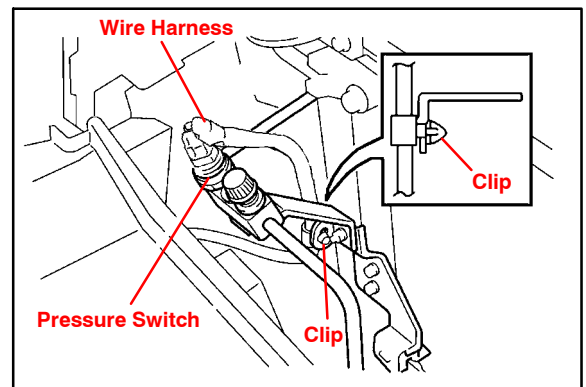
- SST P/N: 09870-00005-02



17. Remove the bolt from the condenser line bracket (front side).

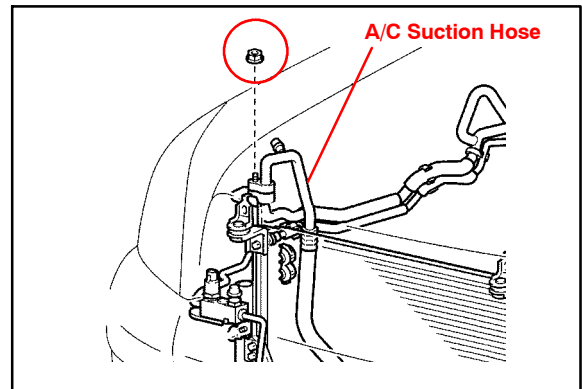


18. Disconnect the A/C pressure switch connector.
- Disconnect the 2 pressure switch connectors (high and low).
 - Remove the clip.

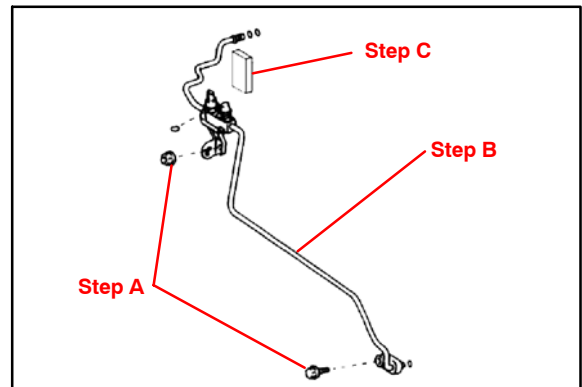


Repair Procedure
(Continued)

19. Remove the nut and the A/C suction hose.



20. Remove the front accessory A/C tube.
 A. Remove the nut and bolt.
 B. Remove the pipe.
 C. Remove the foam seal between the line and the core support.



NOTE:

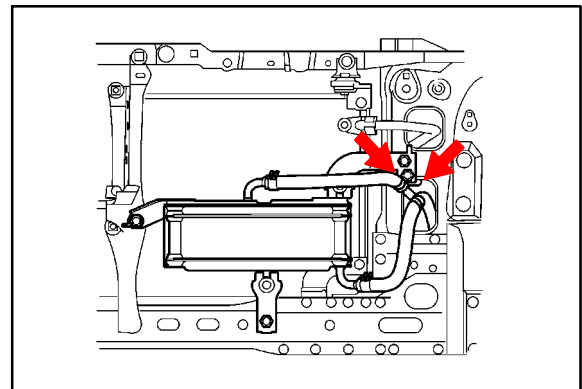
- Do NOT reuse the pipe and seal.
- Using a scraper (or equivalent), remove any remaining seal.

21. Remove the A/T oil cooler hoses.

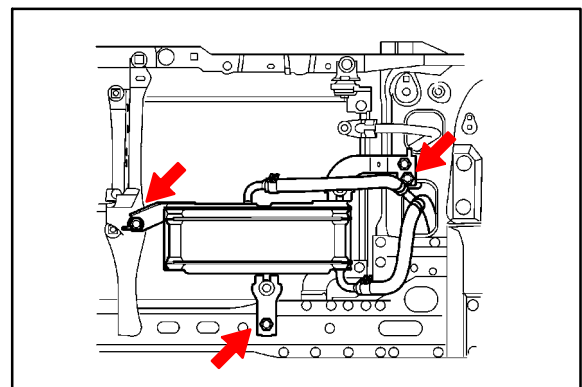
NOTE:

- Prepare a waste cloth in case of A/T oil leakage.
- Avoid A/T fluid loss.

A. Disengage the 2 clamps.
 B. Remove the A/T cooler assembly.



22. Remove the A/T oil cooler.
 A. Remove the 3 bolts.
 B. Remove the oil cooler.



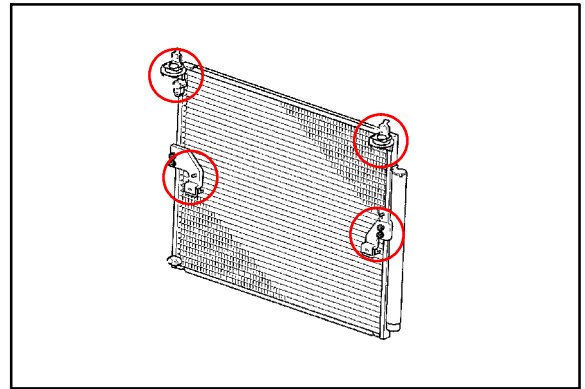
Repair Procedure
(Continued)

23. Remove the condenser brackets from the radiator support.

- A. Remove the 6 bolts from the condenser side.
- B. Remove the condenser brackets.

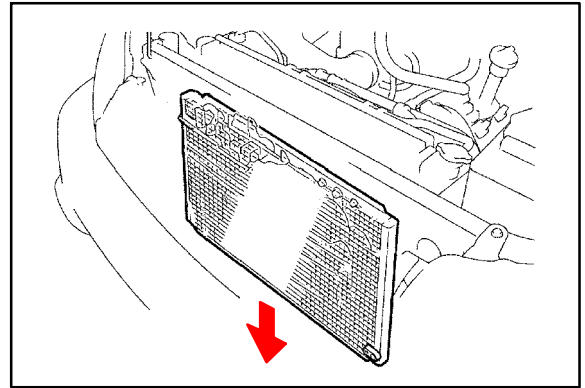
NOTE:

Save these brackets for use in step 44 of the "Remove exterior parts section of the Repair Procedure.



24. Remove the condenser.

Slide the condenser core out through the underside of the vehicle.

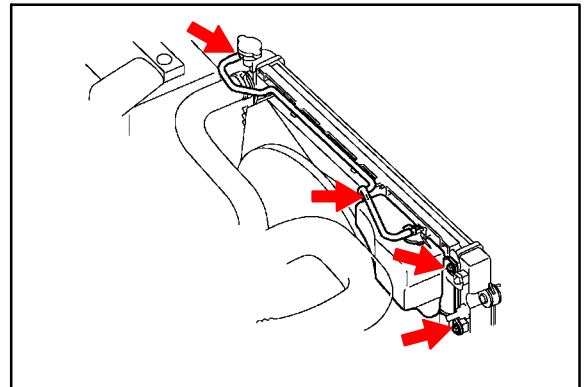


25. Remove the radiator reserve tank.

NOTE:

Draining the coolant in the tank and removing the hose is unnecessary.

- A. Remove the 3 bolts.
- B. Place the reserve tank temporarily on the engine.



26. Remove the front fender apron seal clip.

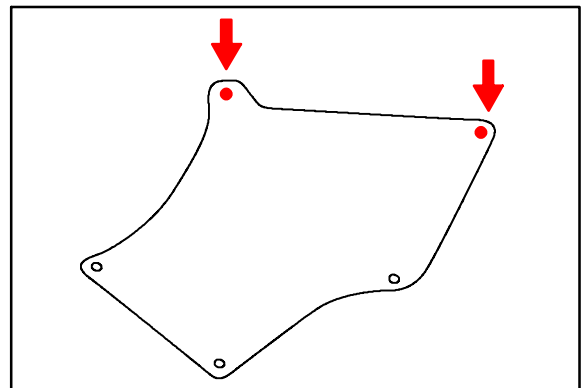
Disengage the 2 upper clips from the front fender apron seal LH.

NOTE:

Kinetic suspension fender apron will slightly differ in configuration based on model year.

HINT:

For convenience, it may be necessary to raise the vehicle and remove the front left tire to access this area.

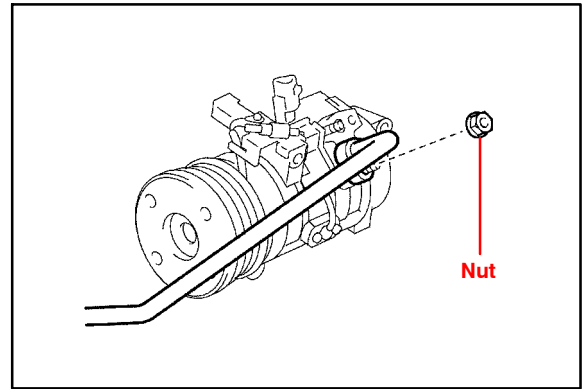


Repair Procedure
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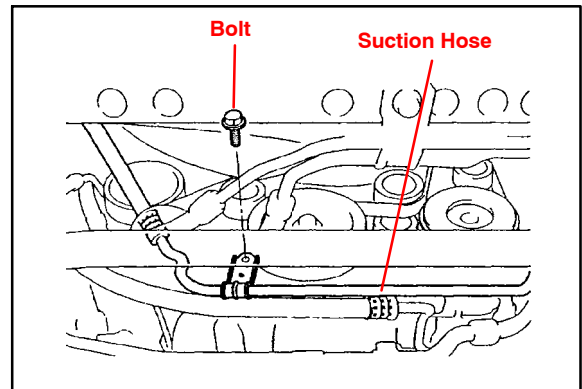
27. Remove the A/C suction hose nut.
Using the extension bar, remove the nut through the upper cover from the left front tire opening.

HINT:

For convenience, remove the wire harness bracket located on the compressor to gain access to the compressor line nut.



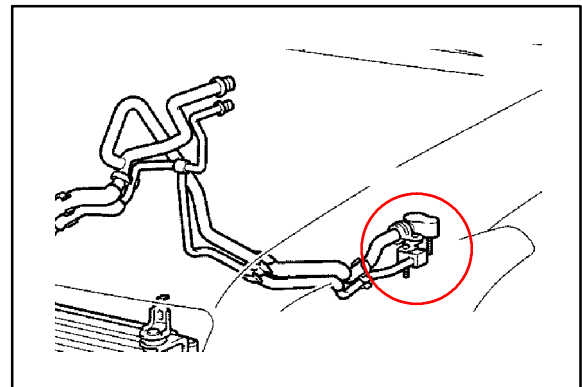
28. Remove the A/C suction hose bracket.
- Remove the wire harness bracket bolt under the engine (in front of the oil pan).
 - Remove the suction hose through the underside of the vehicle.



29. Remove the accessory A/C tube assembly nuts at the pipe joint.

HINT:

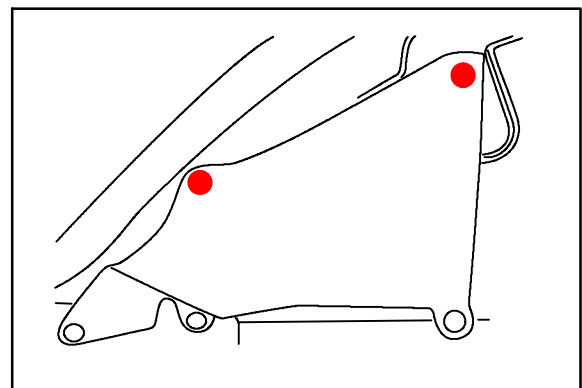
For convenience, it may be necessary to move the exhaust shield to gain access to this point.



30. Remove the front fender apron seal clips.
Disengage the 2 upper clips from the front fender apron seal RH.

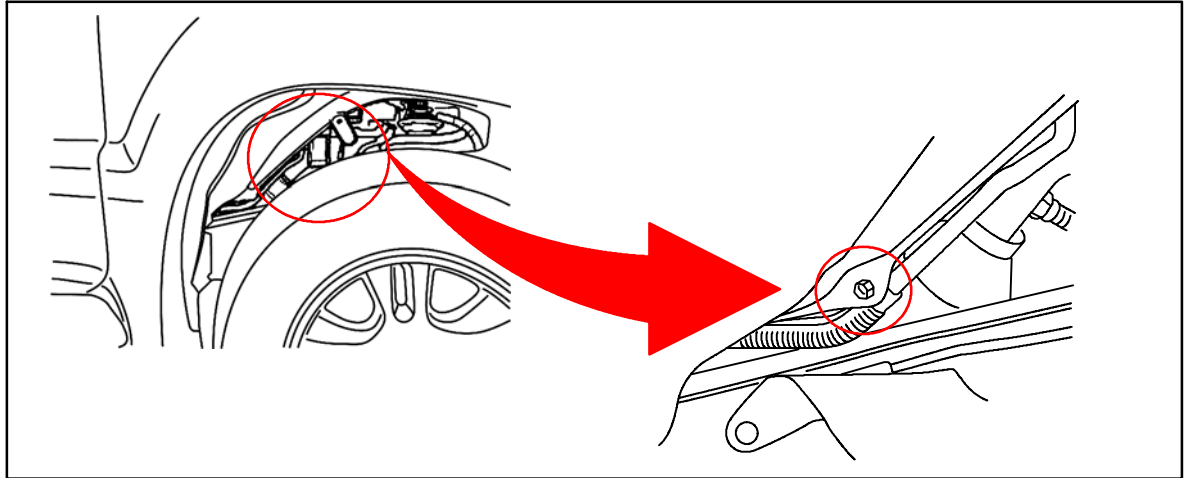
HINT:

For convenience, it may be necessary to raise the vehicle and remove the front right tire to access this area.



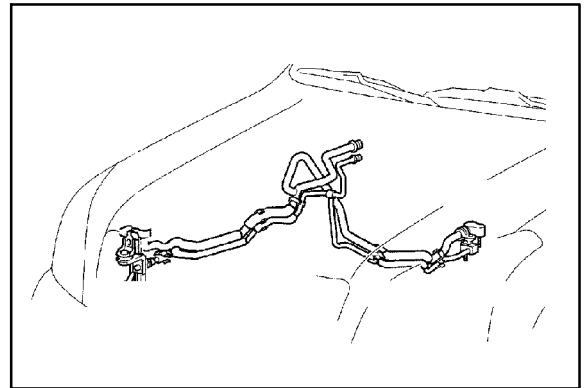
Repair Procedure
(Continued)

31. Remove the bracket on the accessory A/C tube assembly.

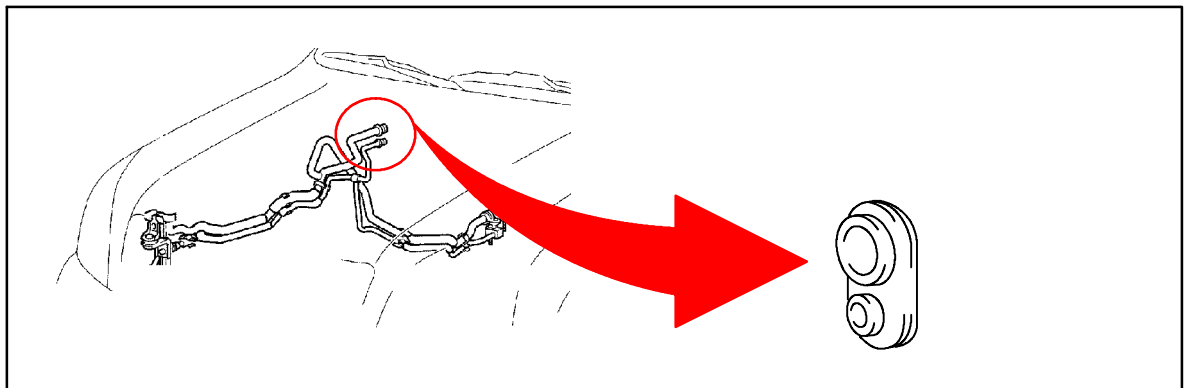


32. Remove the accessory A/C tube assembly.

A. Remove the pipe from the engine compartment.



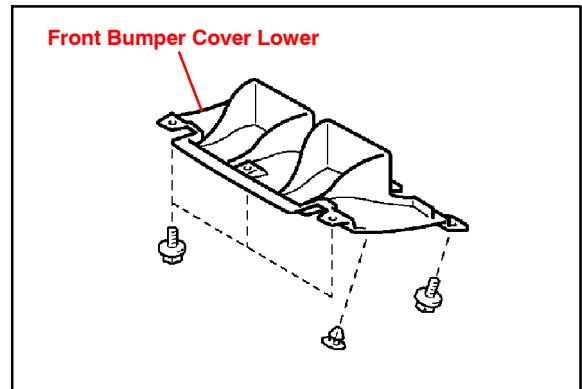
B. Remove the A/C pipe grommet.



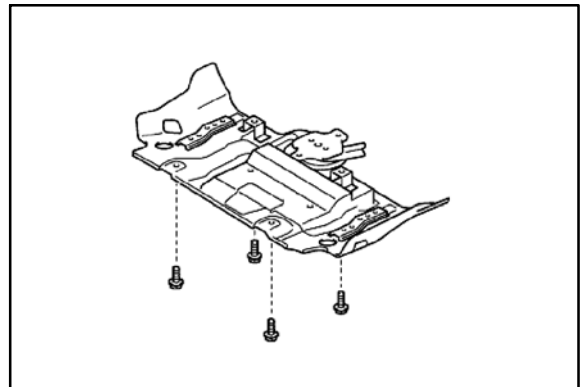
33. Raise the vehicle.

**Repair
Procedure**
(Continued)

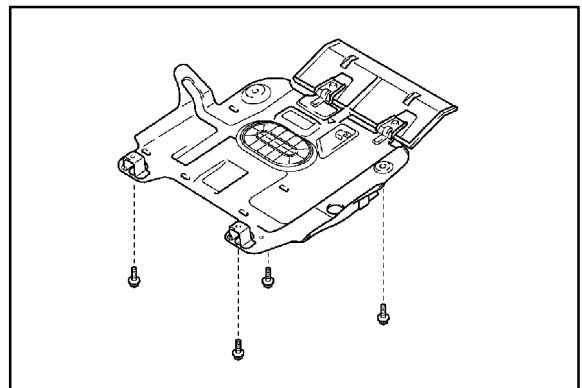
34. Remove the front bumper cover lower.
- A. Disengage the 2 clips and remove the 5 bolts.
 - B. Remove the cover.



35. Remove the engine under cover No. 1.
- A. Remove the 4 bolts.
 - B. Remove the cover.

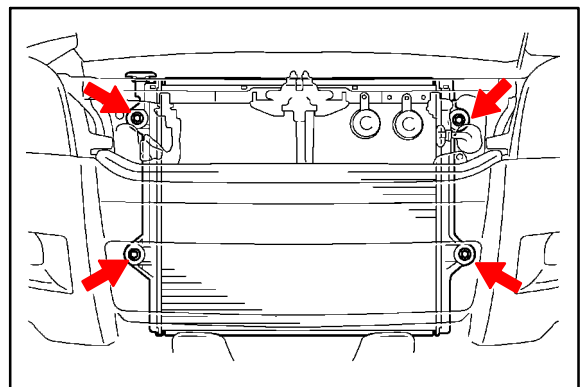


36. Remove the engine under cover No. 2.
- A. Remove the 4 bolts.
 - B. Remove the cover.



37. Lower the vehicle.

38. Remove the 4 bolts from the radiator, tilt the radiator back, and support it.



Repair Procedure
(Continued)

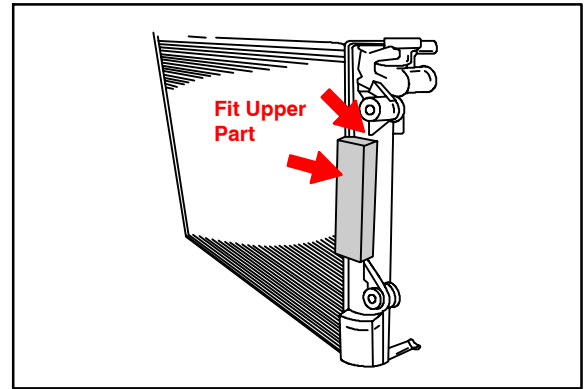
39. Install the radiator seal (upper side).

Seal Packing: P/N 36867-60040

- A. Fit the upper seal to the lower position of the radiator installation boss before attaching as shown in the illustration.
- B. Attach to the front side.

NOTE:

Do NOT damage the radiator fins.



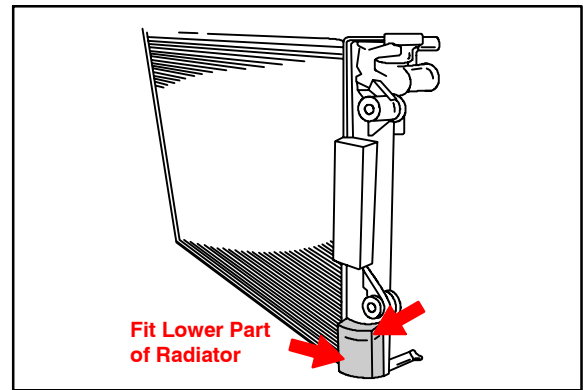
40. Install the radiator seal packing (lower side).

Seal Packing: P/N 36867-60040

- A. Fit the lower seal to the end of the radiator side before attaching as shown in the illustration.
- B. Attach to the front side.

NOTE:

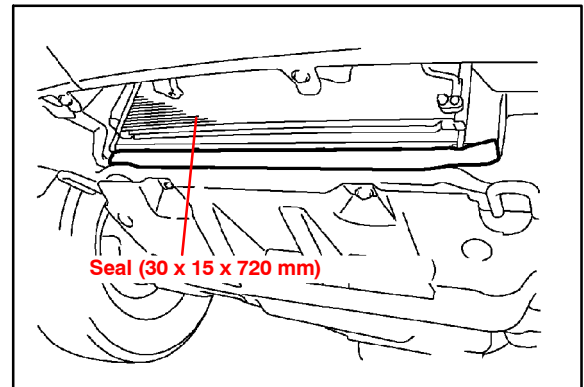
Do NOT damage the radiator fins.



41. Install the seal packing between the front chassis cross member and the radiator.

NOTE:

- If TSB No. AC001-04, "A/C Performance Improvement," has been performed on the vehicle, this seal may already be present.
- If the seal is already installed in this location, do NOT perform this step.



Seal Packing: P/N 88578-60330
(30 x 15 x 720 mm)

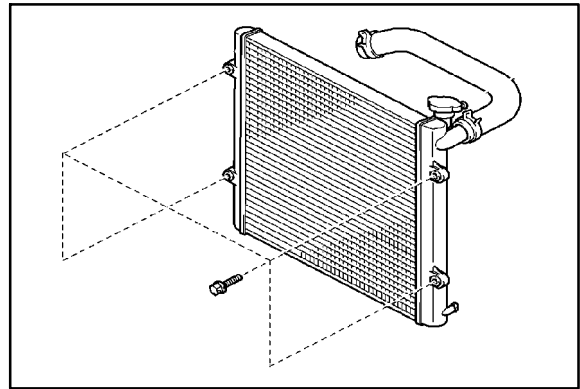
**Repair
Procedure**
(Continued)

42. Resecure the radiator to the vehicle.

NOTE:
Do NOT damage the radiator fins.

Tighten the 4 bolts.

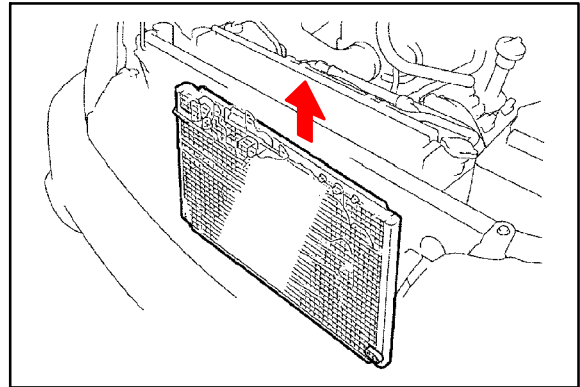
Torque: 18 N•m
(184 kgf•cm, 159 in.•lbf)



43. Install the A/C condenser.

Carefully slide the condenser core up into place and support the condenser to avoid any damage to the fins or condenser and radiator assembly.

Core Condenser: P/N 88461-60111

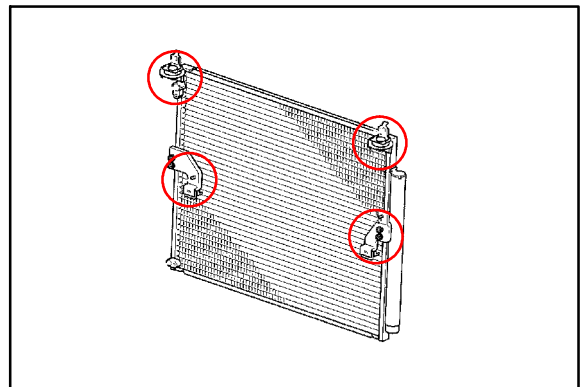


44. Install the brackets to the condenser and install the condenser assembly to the vehicle.

A. Install the 4 condenser brackets to the condenser.

Torque: 5.4 N•m
(55 kgf•cm, 48 in.•lbf)

NOTE:
Install the brackets removed in step 23.



B. Install the condenser assembly to the vehicle.

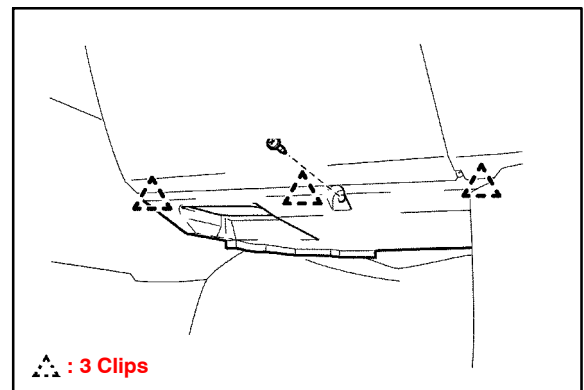
**Repair
Procedure**
(Continued)

Remove interior parts:

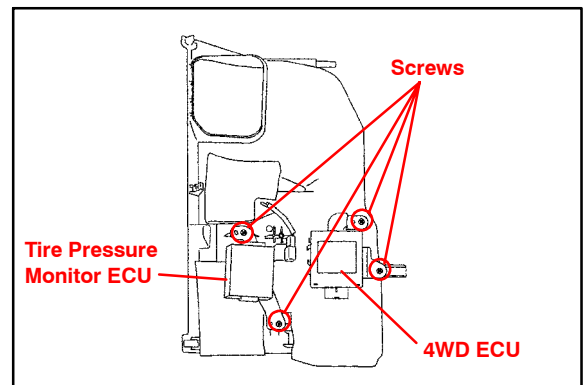
PRECAUTIONS & COMPLIANCE WITH MOUNTING PARTS:

- Do NOT reuse damaged clips, bolts, and nuts.
- Make sure that all clips, bolts, and nuts have been installed.
- Be careful to NOT stain parts or the body with compressor oil when replacing the A/C pipe, etc.
- Be sure there are NO oil or A/C gas leaks after installation.
- Be sure to connect all wire connectors.
- Make sure that there is NO interference between the pipes, etc.
- Make sure that the A/C works properly after installing all parts.
- Make sure that there is NO damage on the surface of the pipe or hose.
- Make sure that there is NO damage or foreign matter on the O-ring or the connecting portion.
- When installing to the pipe, apply oil to the O-ring before connecting to prevent damage. (Compressor oil — ND-OIL8)
- Do NOT reuse old adhesive tape.
- Do NOT use the damaged seals/O-rings.

1. Remove instrument panel under cover No. 2.
 - A. Remove the screw.
 - B. Remove the 3 clips and remove the instrument panel under cover No. 2.

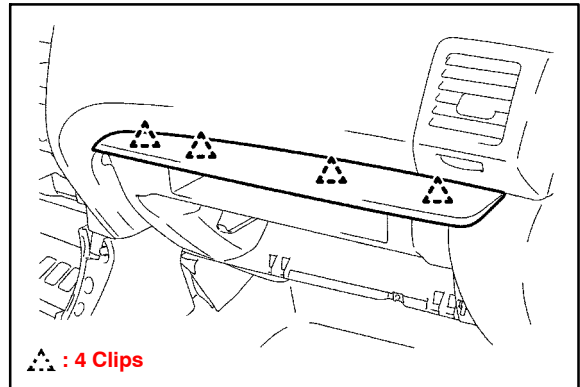


2. Remove the 4WD ECU and the tire pressure monitor ECU, which are attached to the instrument panel under cover No. 2 with 2 screws each.

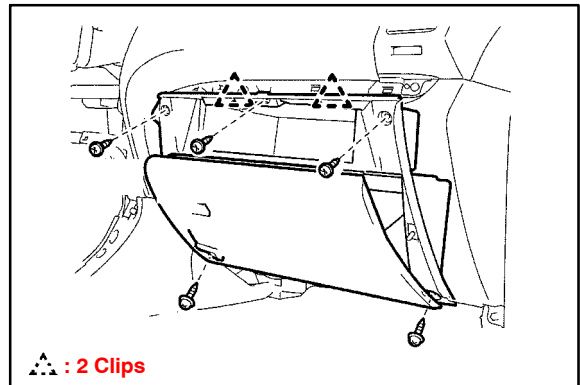


**Repair
Procedure**
(Continued)

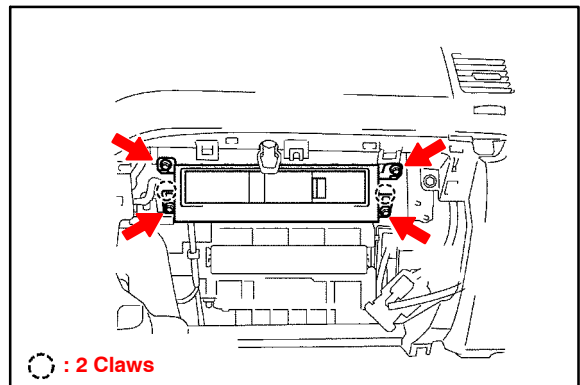
3. Remove the 4 clips and instrument panel ornament.



4. Remove the glove compartment door assembly.
- Remove the 5 screws.
 - Remove the 2 clips and remove the glove compartment door assembly. Then disconnect the connectors.

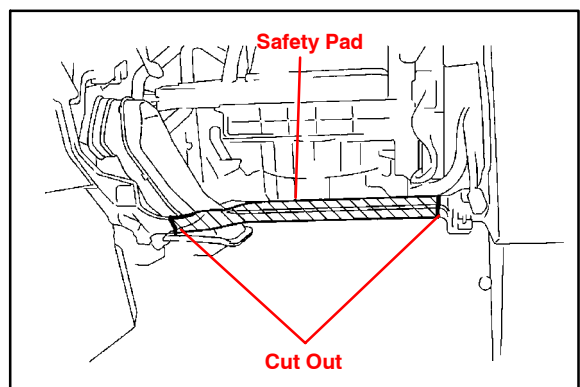


5. Remove the disc player changer with the bracket (if equipped).
- Remove the 4 bolts.
 - Release the 2 claws and pull the disc player changer with the bracket.
 - Disconnect the connectors and remove the disc player changer with the bracket.



6. Cut the lower instrument panel safety pad with a hacksaw or similar tool.

NOTE:
Be careful NOT to cut harnesses, etc.

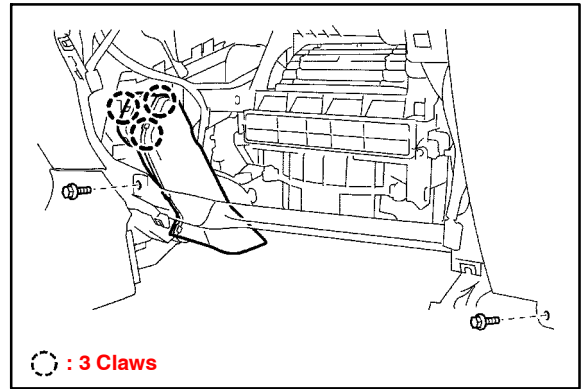


Repair Procedure
(Continued)

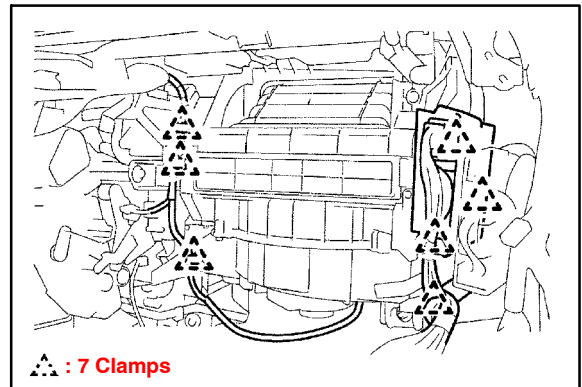
7. Release the 3 claw fittings and remove the air duct No. 2.

HINT:

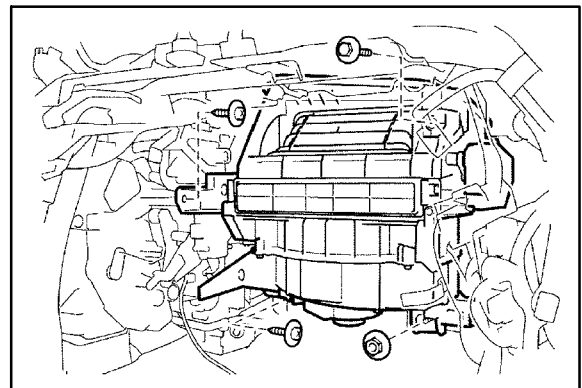
For easy removal, remove the lower claw first.



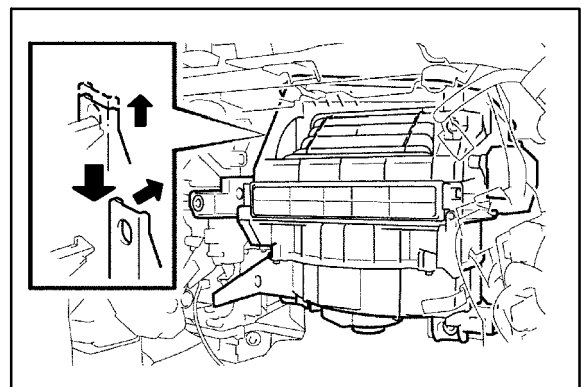
8. Remove the blower assembly.
 - A. Release the 7 clamps and disconnect the connectors.



- B. Remove the 1 bolt, 2 screws, and 1 nut.

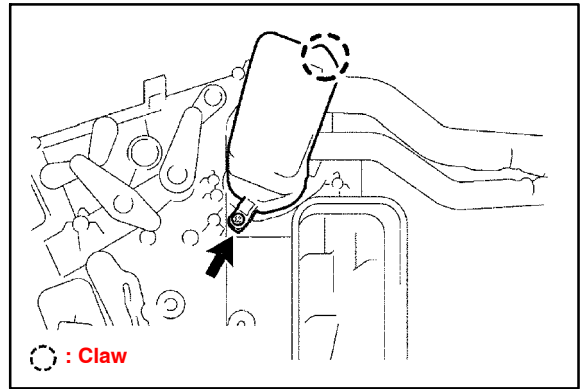


- C. Release the claw fitting and remove the blower assembly.
 - a. Lift up the blower assembly.
 - b. Slide the blower assembly out.



**Repair
Procedure**
(Continued)

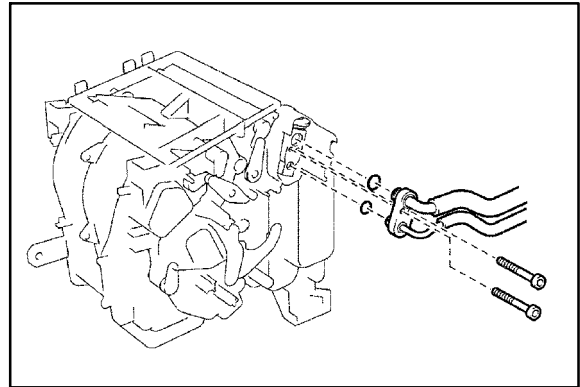
9. Remove the cover plate (expansion valve cover).
 - A. Remove the screws.
 - B. Release the claw fitting and remove the cover.



10. Remove the A/C tube.

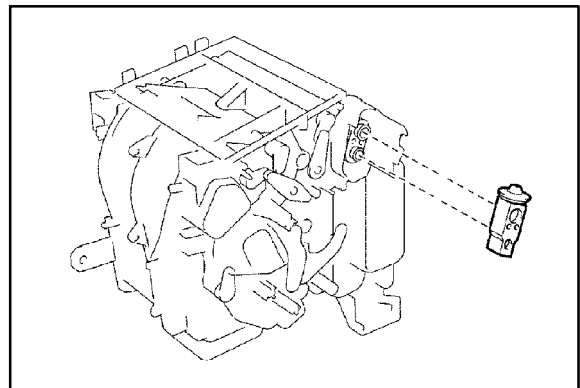
Using a hexagon wrench 4.0 mm, remove the 2 hexagon bolts and the A/C tube assembly.

Remove the 2 O-rings from the A/C tube assembly.



11. Remove the cooler expansion valve.

Remove the cooler expansion valve from the cooler evaporator sub-assembly No.1.



Repair Procedure
(Continued)

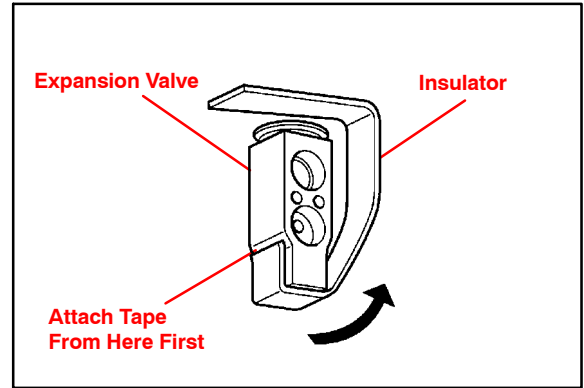
Install interior parts:

1. Install the NEW and improved cooler expansion valve.
 - A. Apply insulator tape to the improved cooler expansion valve.

Tape: Piping Insulator (P/N: 88578-35170)

NOTE:

Do NOT allow tape to protrude over the sides of the improved cooler expansion valve, or a leak could occur.



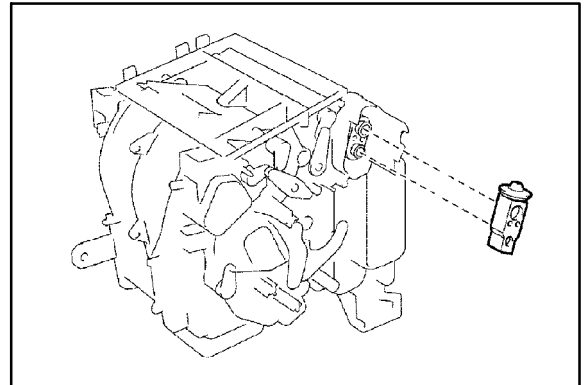
- B. Apply compressor oil to the 2 O-rings on the evaporator lines and the fitting surface of the improved cooler expansion valve.

Compressor oil: ND-OIL8 (or equivalent)

- C. Install the improved cooler expansion valve to the cooler evaporator sub-assembly No. 1 using NEW upper side and lower side O-rings.

Upper Side: P/N 90099-14121

Lower Side: P/N 90099-14120



2. Install the A/C tube.

- A. Apply compressor oil to 2 NEW O-rings and the fitting surface of the A/C tube assembly.

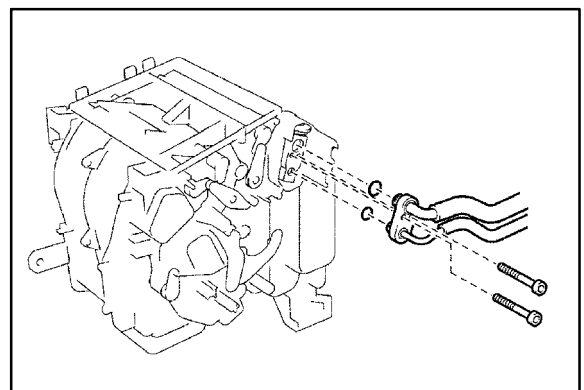
Compressor oil: ND-OIL8 or equivalent

- B. Install the 2 O-rings on the A/C tube assembly.
 - C. Using a 4 mm hexagon wrench, install the A/C assembly with the 2 bolts and NEW upper side and lower side O-rings.

Torque: 3.5 N•m (35 kgf•cm, 30 in.•lbs)

Upper Side: P/N 90099-14121

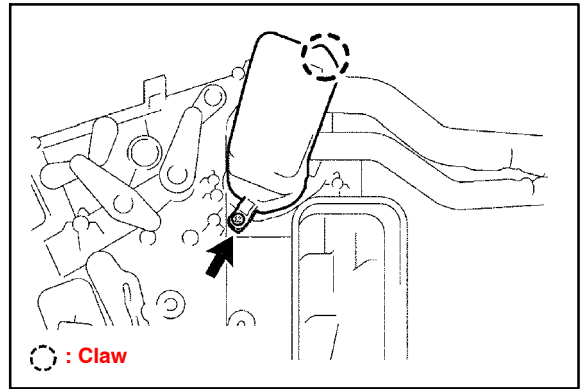
Lower Side: P/N 90099-14120



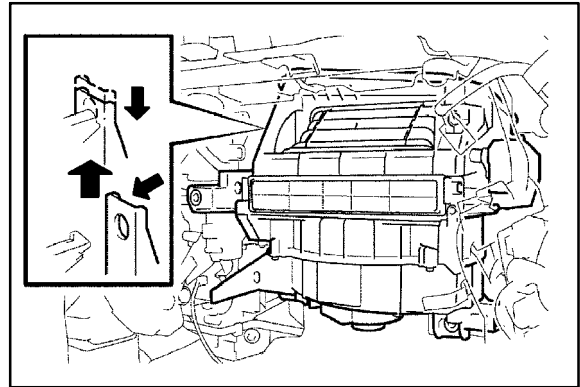
Repair Procedure
(Continued)

3. Install the cover plate (expansion valve cover).
 - A. Install the claw fitting.
 - B. Install the screw.

CAUTION:
If the hook portion of the upper cover plate is broken during removal, replace the broken hook portion with a NEW one. If the claw is NOT broken, it may be reused.



4. Install the blower assembly.
 - A. Install the blower assembly with the claw fittings.
 - a. Slide the blower assembly.
 - b. Lower down the blower assembly.



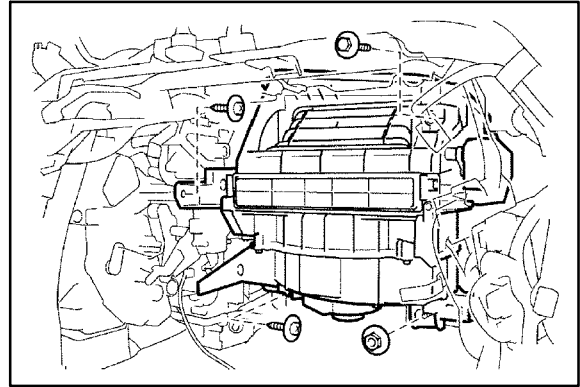
- B. Install the bolt, the 2 screws, and the nut.

Bolt Torque: 9.8 N•m
(100 kgf•cm, 87 in.•lbf)

Nut Torque: 5.4 N•m
(55 kgf•cm, 48 in.•lbf)

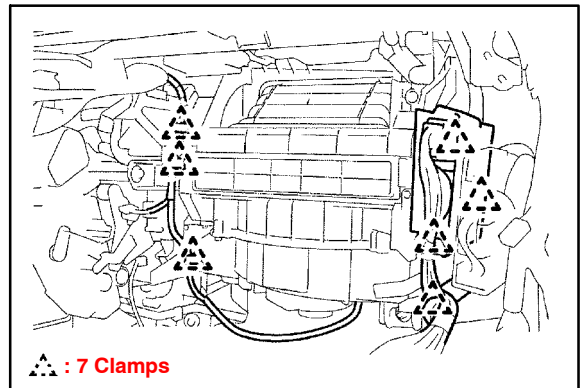
CAUTION:

- Do NOT reuse the broken bolts.
- Be sure to install hardware to secure the air box.



- C. Install the 7 clamps and connect the connectors.

NOTE:
Be sure to connect all connectors.

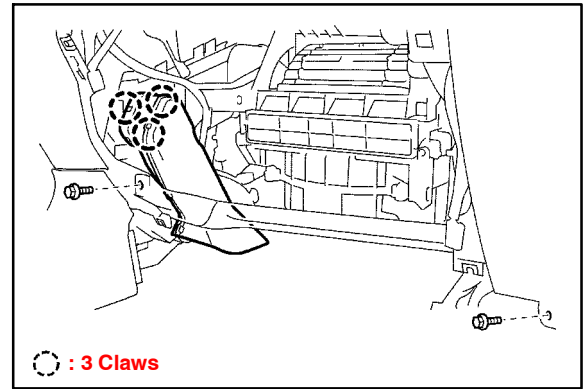


Repair Procedure
(Continued)

5. Install the 3 claws and install the air duct No. 2.

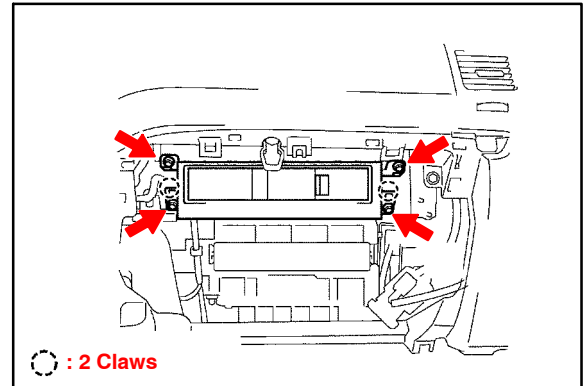
HINT:

For easy installation, engage the upper claws first.

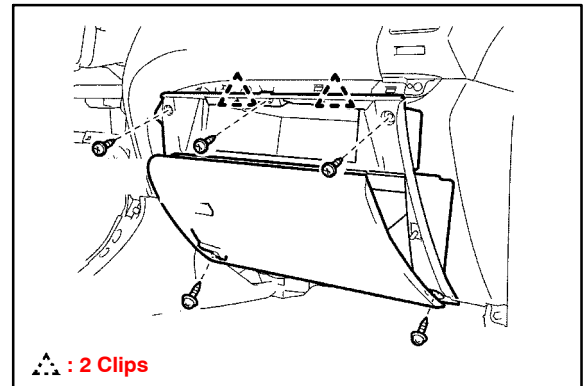


6. Install the disc player changer with the bracket (if equipped).
- Connect the connectors.
 - Engage the 2 claws and place the disc player changer with the bracket temporarily on the body.
 - Install the 4 bolts and disc player changer with the bracket.

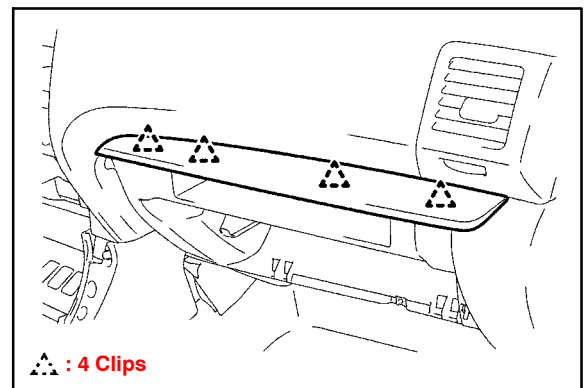
Torque: 5.4 N•m
(55 kgf•cm, 48 in.•lbf)



7. Install the glove compartment door assembly.
- Connect the connectors, install the glove compartment door assembly, and then engage the 2 clips.
 - Engage the 5 screws.

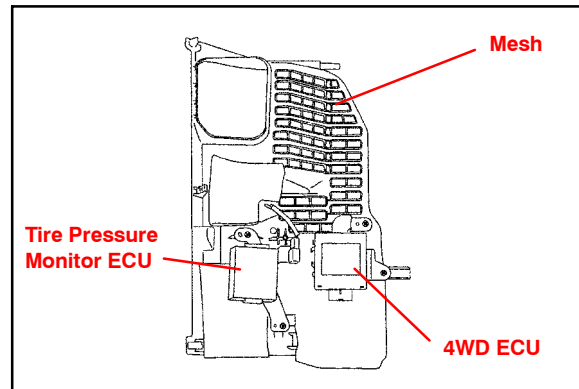


8. Install instrument panel ornament.
Engage the 4 clips and the instrument panel ornament.

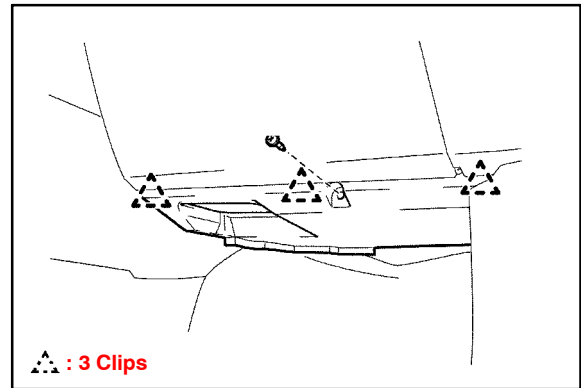


**Repair
Procedure**
(Continued)

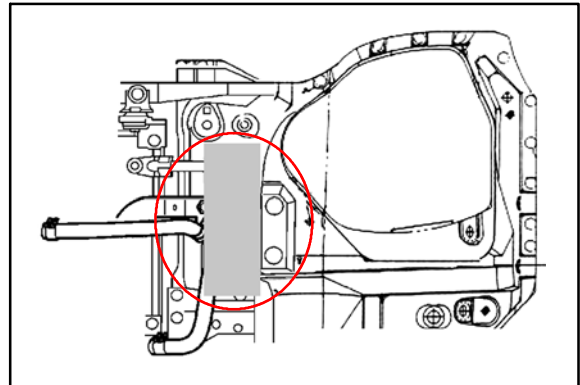
9. Install the 4WD ECU and the tire pressure monitor ECU to the instrument panel under cover No. 2 with 2 screws each.



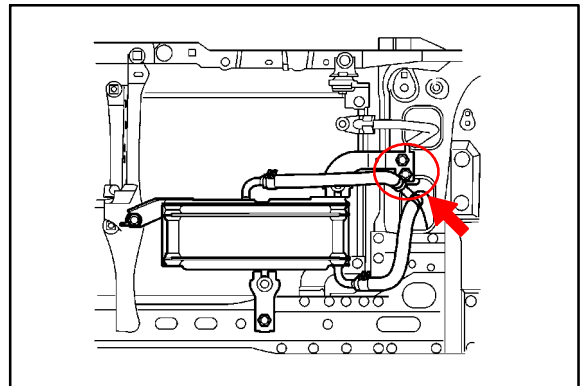
10. Install the instrument panel under cover No. 2.
A. Engage the 3 clips.
B. Install the screw.



11. Install the tube sub-assembly oil cooler.
A. Install the tube sub-assembly oil cooler.
B. Apply the seal from the LH front side.
**Tube Sub-assembly Oil Cooler:
P/N 32906-60230**

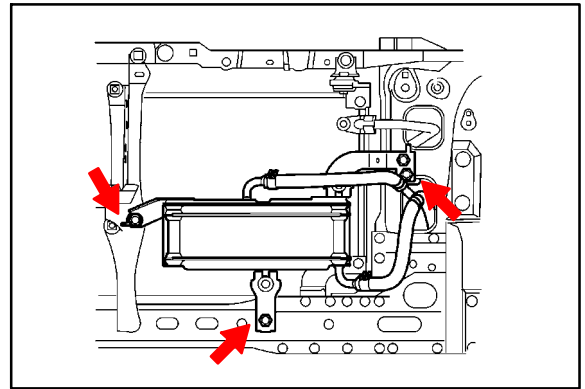


12. Install the A/T tube sub-assembly oil cooler.
A. Insert the hose to the back of the spool.
B. Install the hose so that the paint colors of the sub-tube and hose match.
C. Install the securing clip to the previous location.
D. After installing the oil cooler tube, add an additional 5 cc to 10 cc of A/T oil to the transmission.



**Repair
Procedure**
(Continued)

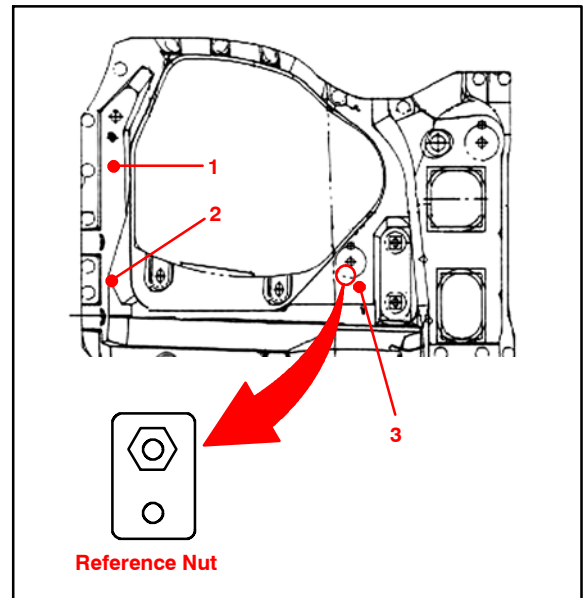
13. Install the A/T oil cooler by tightening all 3 bolts as shown in the illustration.
Torque: 5.0 N•m (51 kgf•cm, 44 in.•lbf)



14. Prepare the headlamp hole seal RH.

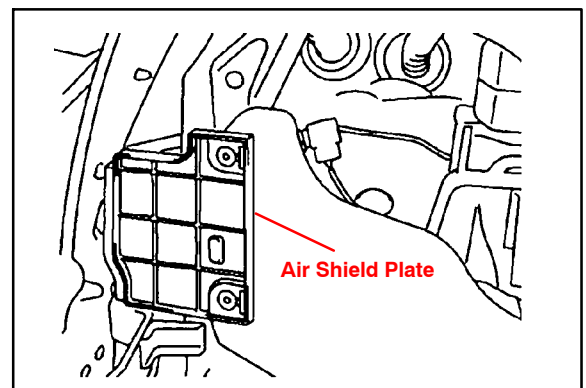
Before November 2004 production:

- A. Using Seal, Radiator Side RH (P/N: 53285-60080) as a template, locate the reference nut shown in the illustration.
- B. Align the seal to the headlamp hole area.
- C. Using the seal as a template, center punch the 3 locations shown in the illustration.
- D. Drill three 7-mm (0.28 in.) holes in the punch locations shown in the illustration.



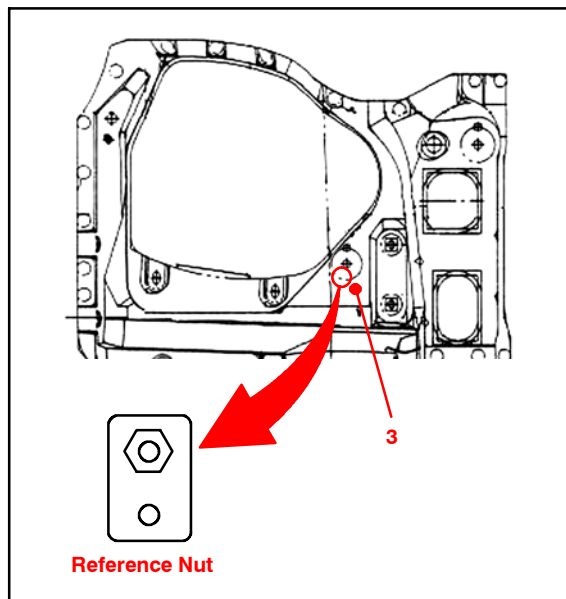
From December 2004 to January 2006 production:

- A. Remove the air shield plate (DO NOT REUSE) from the RH headlamp area.



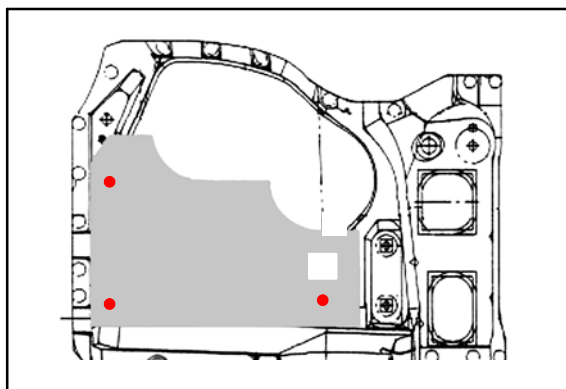
Repair Procedure
(Continued)

- B. Using Seal, Radiator Side RH (P/N: 53285-60080) as a template, locate the reference nut shown in the illustration.
- C. Align the seal to the headlamp hole area.
- D. Using the seal as a template, center punch 1 hole at the position shown in the illustration.
- E. Drill one 7-mm (0.28 in.) hole in the punch location position shown in the illustration.



15. Using the clip, install the Seal, Radiator Side RH.

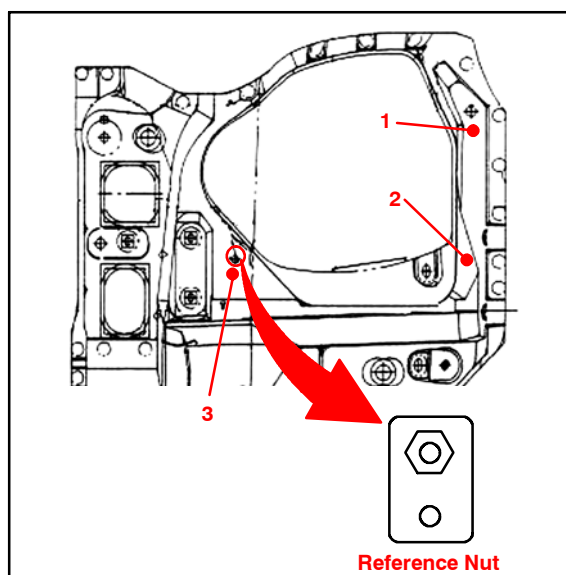
**Seal, Radiator Side RH:
P/N 53285-60080**



16. Install the headlamp hole seal LH.

Before November 2004 production:

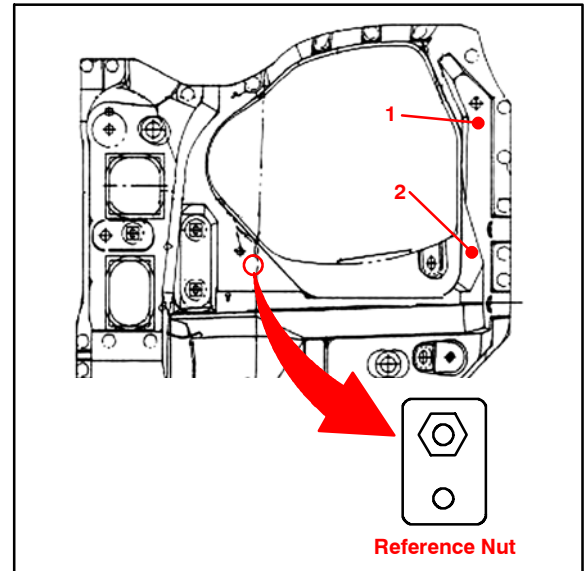
- A. Using Seal, Radiator Side LH (P/N: 53286-60080) as a template, locate the reference nut shown in the illustration.
- B. Align the seal to the headlamp hole area.
- C. Using the seal as a template, center punch the 3 locations shown in the illustration.
- D. Drill three 7-mm (0.28 in.) holes in the punch locations shown in the illustration.



**Repair
Procedure**
(Continued)

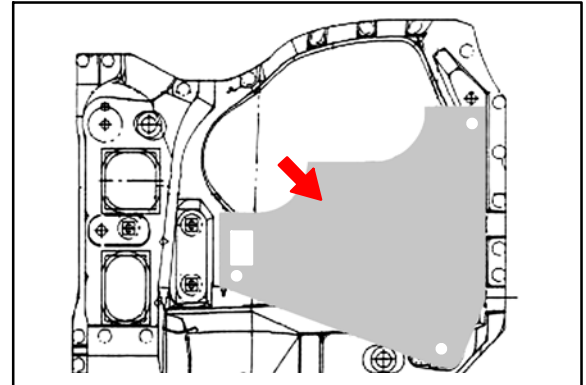
From December 2004 to January 2006 production:

- A. Using Seal, Radiator Side LH (P/N: 53286-60080) as a template, locate the reference nut shown in the illustration.
- B. Align the seal to the headlamp hole area.
- C. Using the seal as a template, center punch 2 holes at positions 1 and 2 shown in the illustration.
- D. Drill 2 7 mm (0.28 in.) holes in the punch location positions 1 and 2 shown in the illustration.



17. Using the clip, install the Seal, Radiator Side LH.

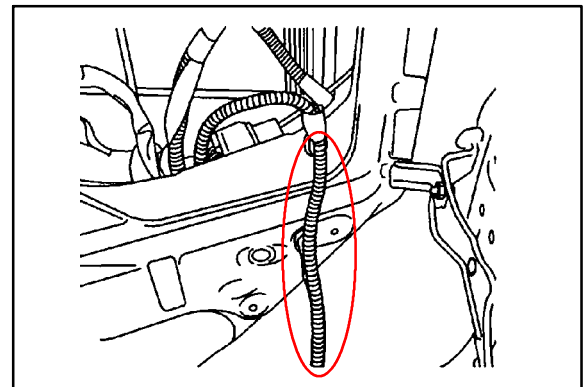
**Seal, Radiator Side LH:
P/N 53286-60080**



18. Install the wire harness protector.

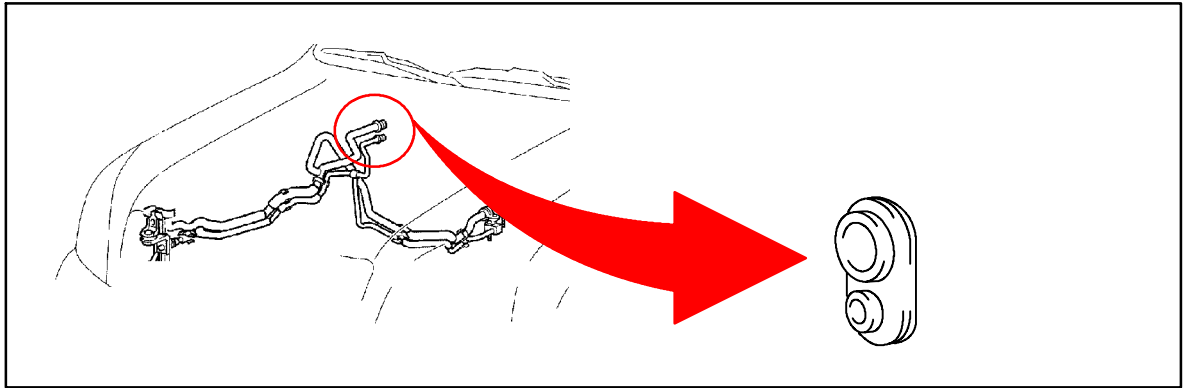
- A. Apply the protector to the left fog lamp wire harness.
- B. Attach tape to the wire harness to ensure that the insulator does NOT move.

Insulator Piping: P/N 88714-60280

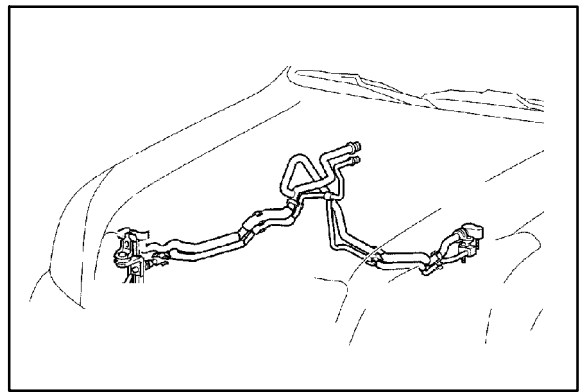


**Repair
Procedure**
(Continued)

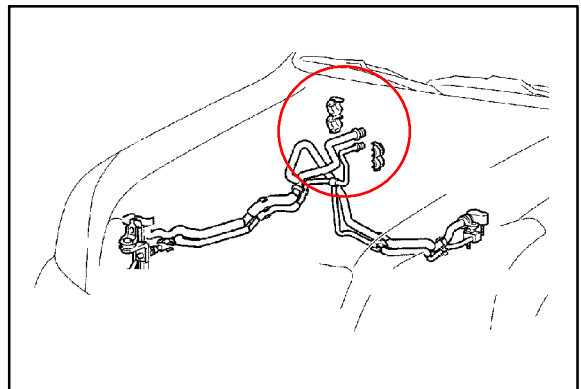
19. Install the A/C pipe grommet.
Install the rubber grommet to the dash panel.



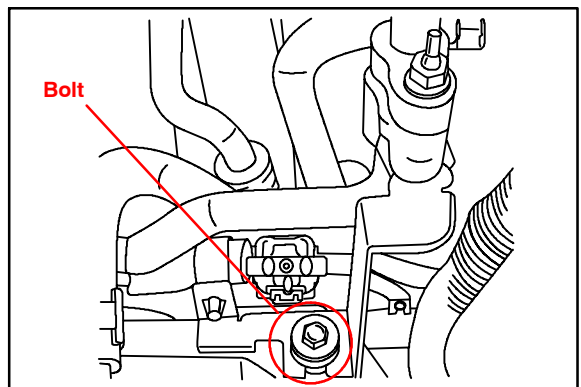
20. Temporarily install the accessory A/C tube assembly (install it from right side of the engine compartment).



21. Install the accessory A/C tube assembly by connecting with the 2 quick joints.

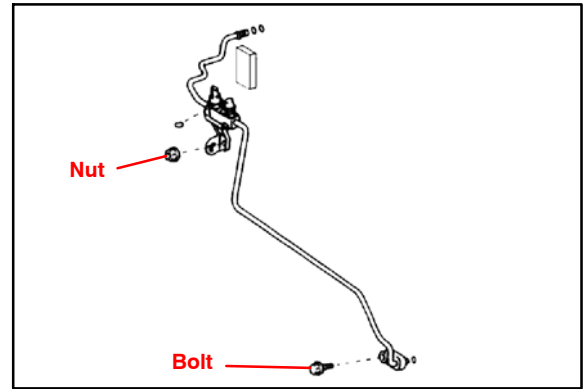


22. Install the bolt for the condenser line bracket (front side).

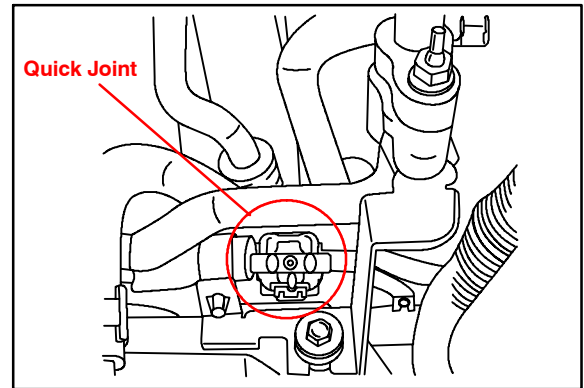


Repair Procedure
(Continued)

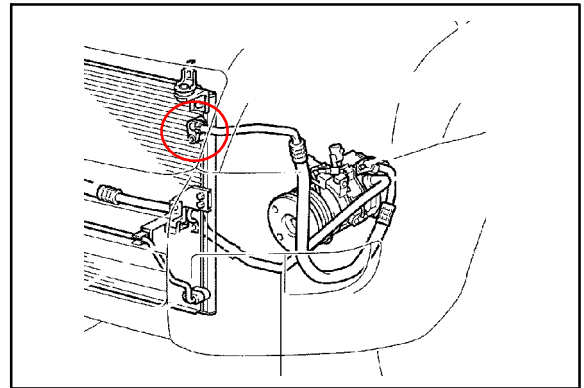
23. Install the accessory A/C tube assembly.
- A. Install the nut (right side).
Torque: 9.8 N•m
(100 kgf•cm, 87 in.•lbf)
 - B. Install the bolt (left side).
Torque: 5.4 N•m
(55 kgf•cm, 48 in.•lbf)



24. Connect the quick joints on the accessory A/C tube assembly.



25. Install the A/C discharge hose sub-assembly (condenser side) by tightening the nut.
- Torque: 9.8 N•m (100 kgf•cm, 87 in.•lbf)**

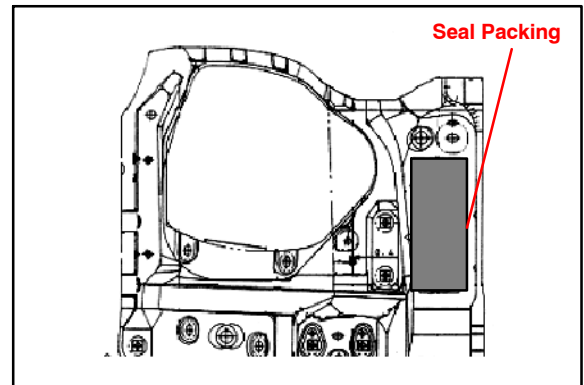


26. Apply seal packing to the hole for the A/C pipe in the right radiator support. Apply seal packing through the front side of the radiator support to fill in the hole.

Seal Packing: P/N 36867-60010

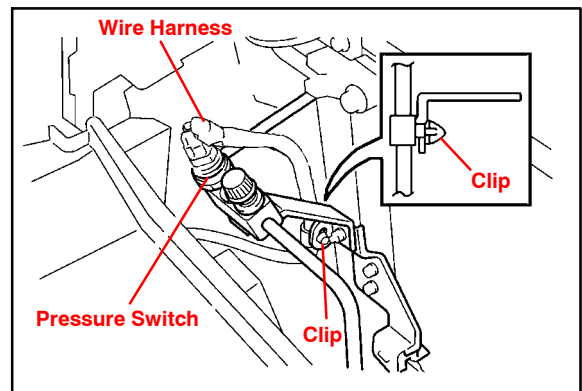
NOTE:

- Do NOT reuse the pipe and seal that was removed from step 20 of the "Remove exterior parts" section of the Repair Procedure.
- Using the scraper (or equivalent), remove the remaining seal.

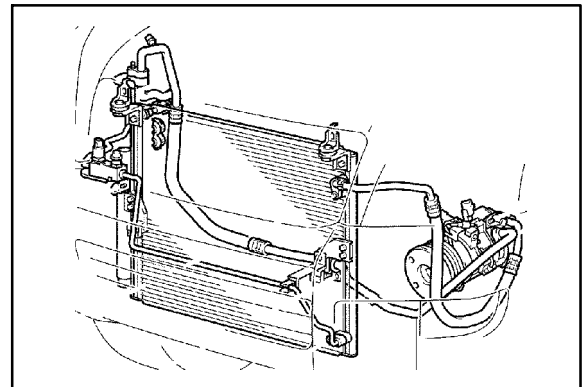


Repair Procedure
(Continued)

27. Connect the wire harness to the A/C pressure switch by engaging the wire harness clip.

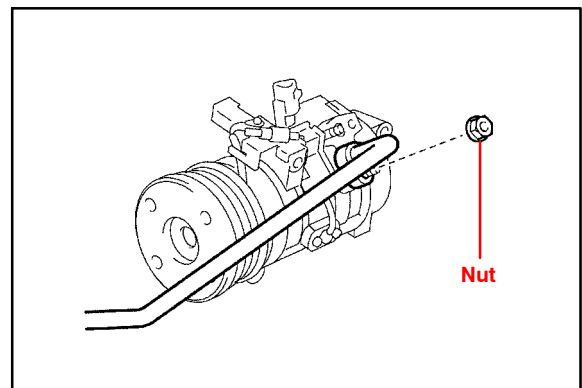


28. install the A/C cooler refrigerant suction hose sub-assembly.
- A. Put the suction hose in from the lower side.
 - B. Temporarily install the suction hose to the compressor.



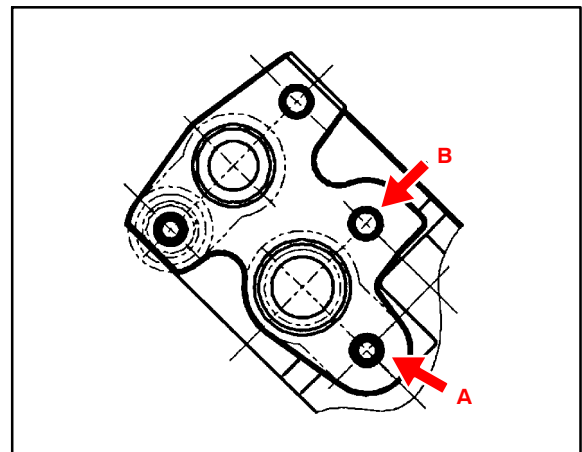
- C. Install the nut on the A/C cooler refrigerant suction hose sub-assembly (compressor side) from the upper cover in the left wheel well.

Torque: 9.8 N•m
(100 kgf•cm, 87 in.•lbf)



NOTE:
Some compressors will need to have the A/C cooler refrigerant suction hose retaining stud moved from "A" to "B" as shown.

Torque: 9.8 N•m
(100 kgf•cm, 87 in.•lbf)

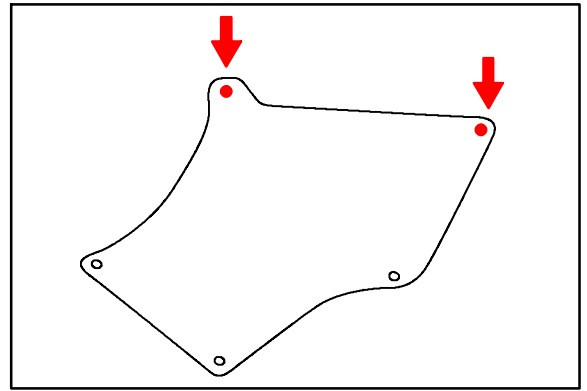


Repair Procedure
(Continued)

29. Install the upper clip on the front fender apron seal LH (in left wheel well) by engaging the 2 upper clips on the front fender apron seal.

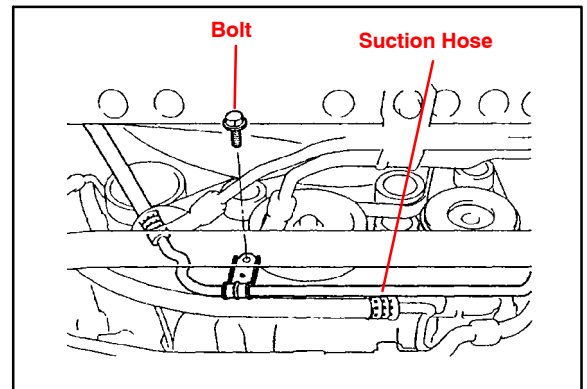
NOTE:

Kinetic suspension fender apron will slightly differ in configuration based on model year.



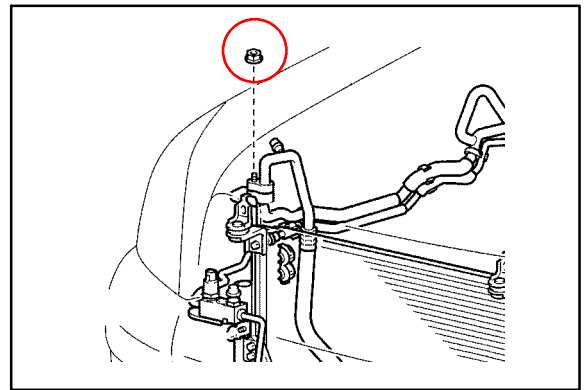
30. Install the A/C cooler refrigerant suction hose sub-assembly from under the vehicle working your way up into the engine compartment. Tighten the bolt.

Torque: 5.4 N•m (55 kgf•cm, 48 in.•lbf)



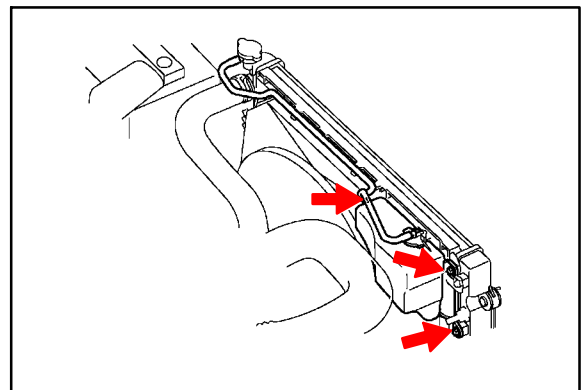
31. Install the A/C suction hose sub-assembly by tightening the nut.

Torque: 9.8 N•m (100 kgf•cm, 87 in.•lbf)



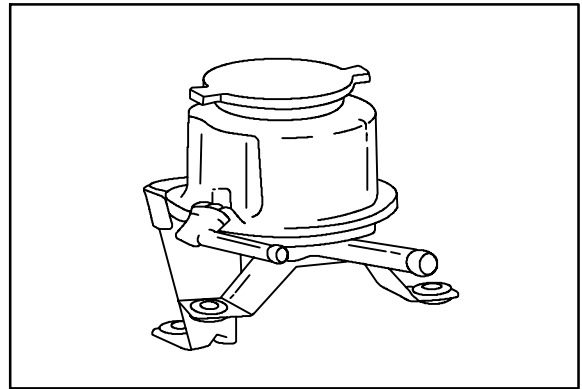
32. Install the radiator reserve tank by tightening the 3 bolts.

Torque: 5.0 N•m (51 kgf•cm, 44 in.•lbf)

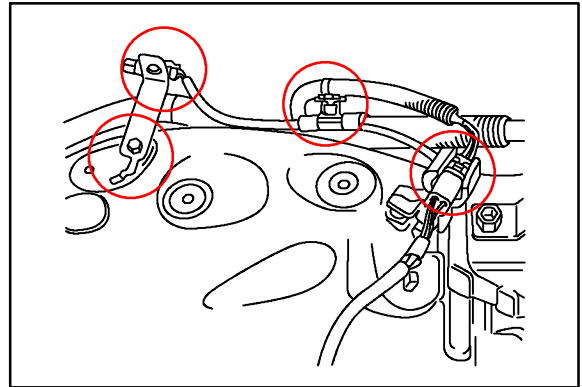


**Repair
Procedure**
(Continued)

33. Install the power steering fluid reserve tank by putting the reserve tank in the bracket from the upper side.



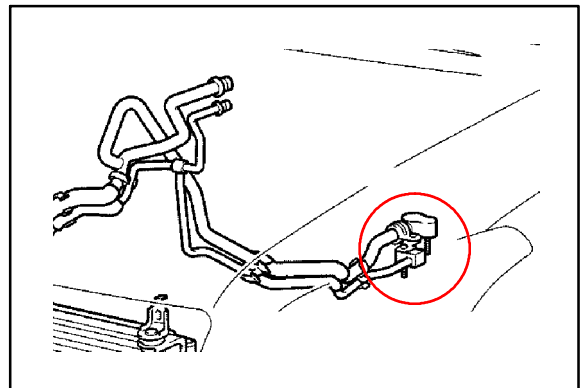
34. Install the skid control sensor bracket and connect the wire harness connector (right engine compartment).
- A. Install the bracket in the right tire apron.
 - B. Connect the 2 wire harness connectors.



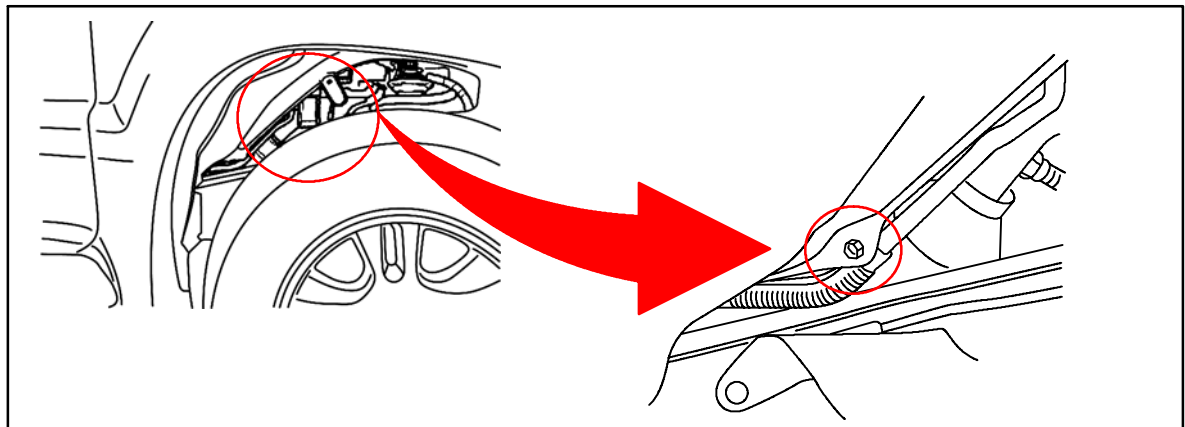
35. Raise the vehicle.

36. Install the tube sub-assembly heat exchanger and rear A/C tube by tightening the nut.

Torque: 9.8 N•m (100 kgf•cm, 87 in.•lbf)

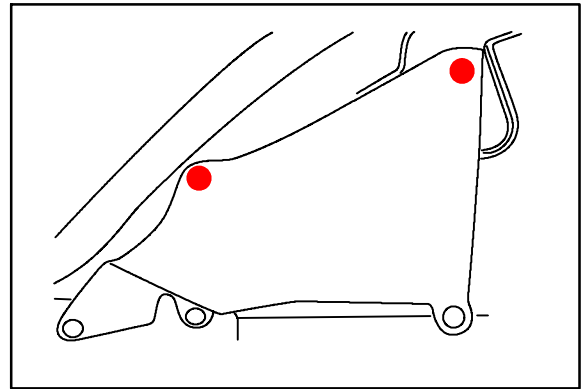


37. Install the tube sub-assembly heat exchanger bracket.



**Repair
Procedure**
(Continued)

38. Install the front fender apron seal clip by engaging the 2 upper clips on the front fender apron seal.



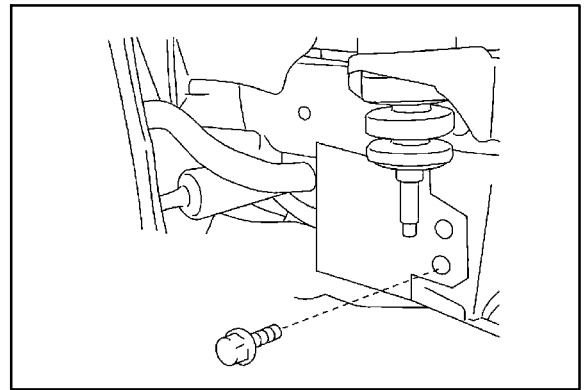
39. Install the bracket cooler RH and LH by tightening the bolt.

**Torque: 47 N•m
(479 kgf•cm, 416 in.•lbf)**

**Bracket Cooler: P/N 88688-6A770
Bolt Hexagon: P/N 90105-12122**

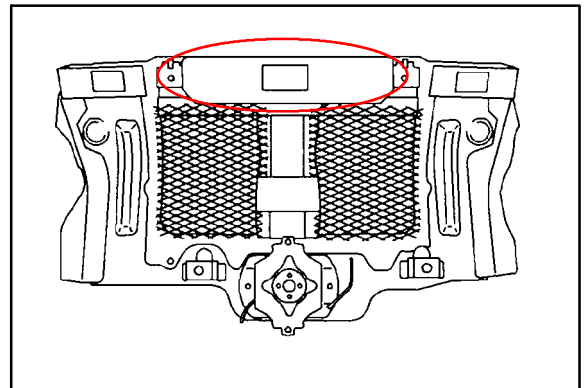
NOTE:

- “L” is marked on the bracket cooler LH.
- “R” is marked on the bracket cooler RH.



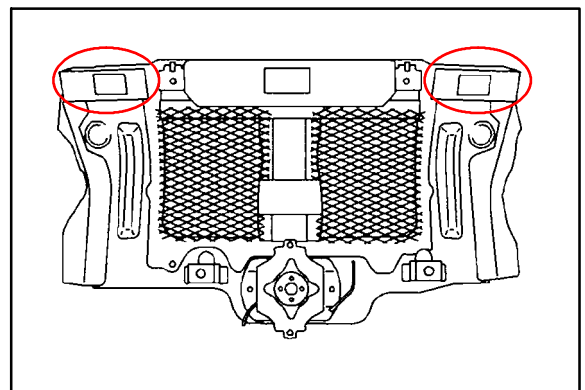
40. Apply seal packing to center position of the front engine under cover sub-assembly.

Seal Packing: P/N 36867-60080



41. Apply seal packing to the right and left of the front engine under cover sub-assembly.

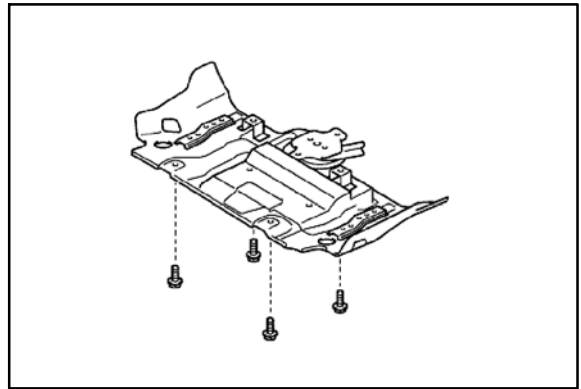
Seal Packing: P/N 36867-60090



**Repair
Procedure**
(Continued)

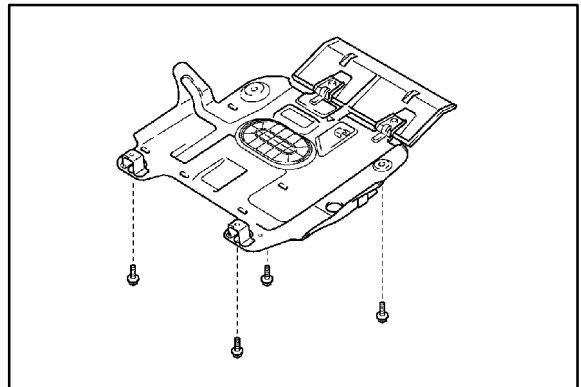
42. Install engine under cover sub-assembly No. 1 by tightening the 4 bolts.

Torque: 29 N•m
(296 kgf•cm, 257 in.•lbf)



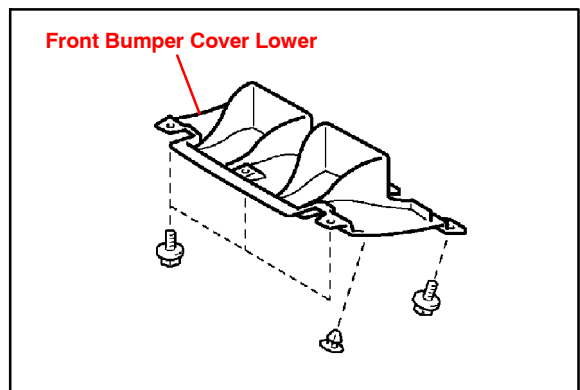
43. Install the engine under cover sub-assembly No. 2 by tightening the 4 bolts.

Torque: 29 N•m
(296 kgf•cm, 257 in.•lbf)



44. Install the front bumper cover lower by installing the 2 bolts and 2 clips.

45. Lower the vehicle.



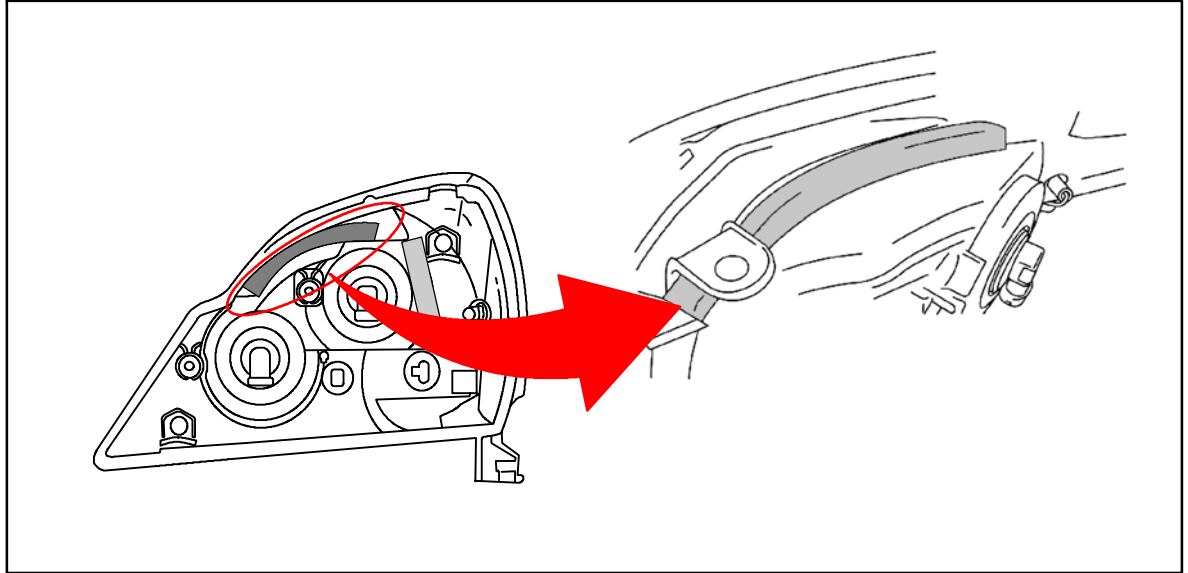
Repair Procedure
(Continued)

46. Apply seal packing to the head lamp assembly RH and LH.

Seal Packing: P/N 36867-60060

NOTE:

Fit the edge of the seal to the headlamp as shown in the illustration.

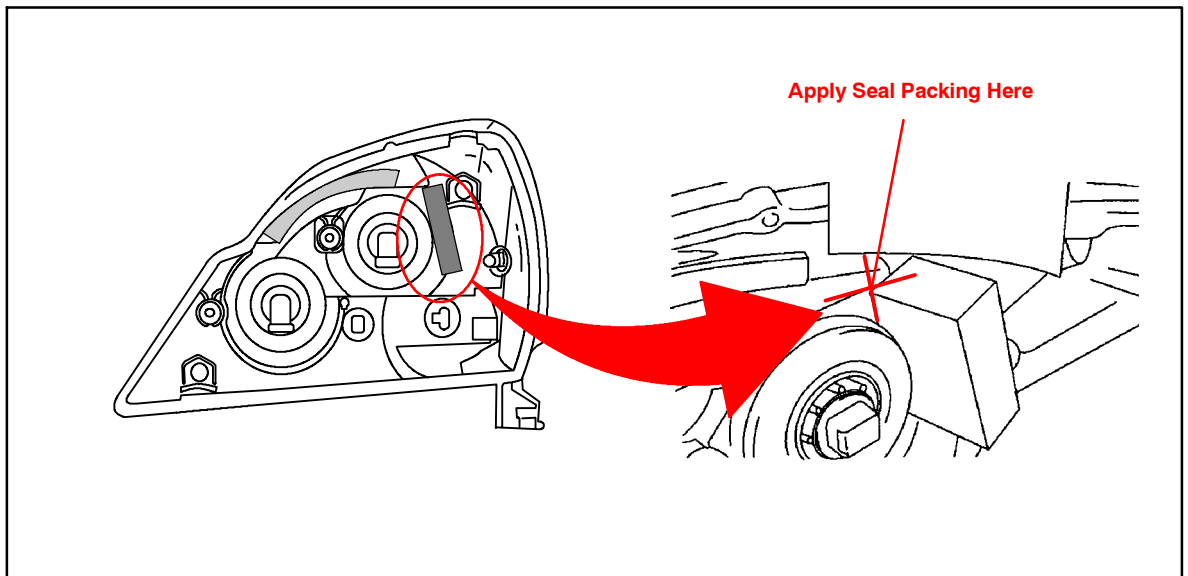


47. Apply seal packing to the headlamp assembly RH and LH as shown in the illustration.

Seal Packing: P/N 36867-60070

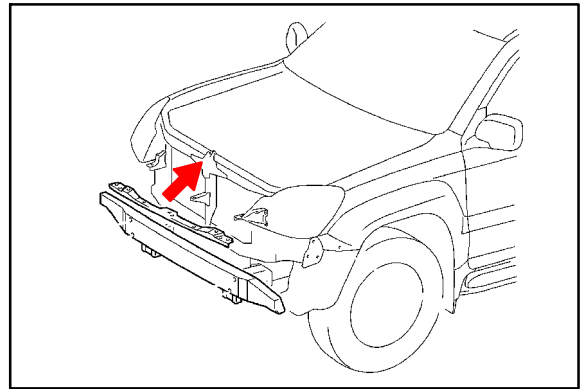
NOTE:

Fit the edge of the seal to the headlamp as shown in the illustration.

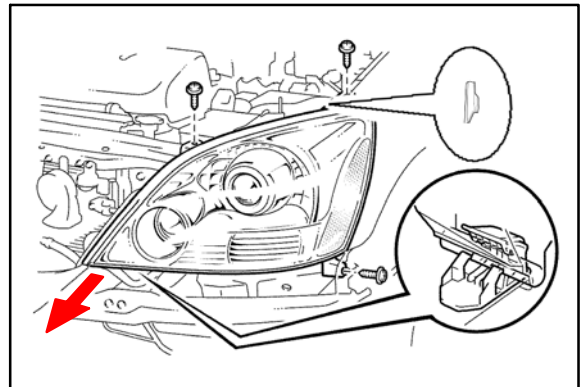


**Repair
Procedure**
(Continued)

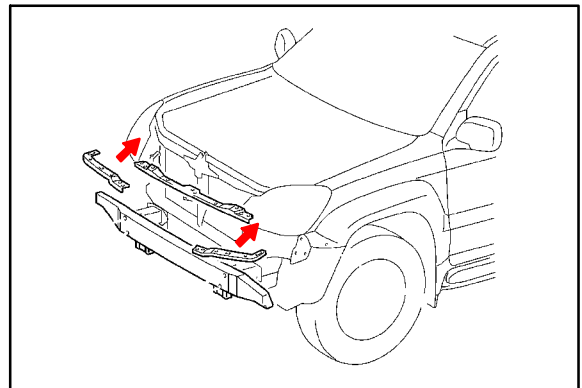
48. Install the front bumper retainer upper center bracket by installing the 2 bolts.



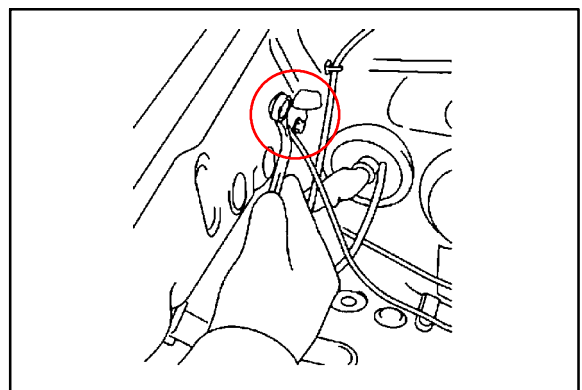
49. Install the front head lamp assembly RH and LH by installing the 3 bolts to each side.



50. Install the front bumper stay No. 2 RH and LH by installing the 2 bolts and 2 nuts.

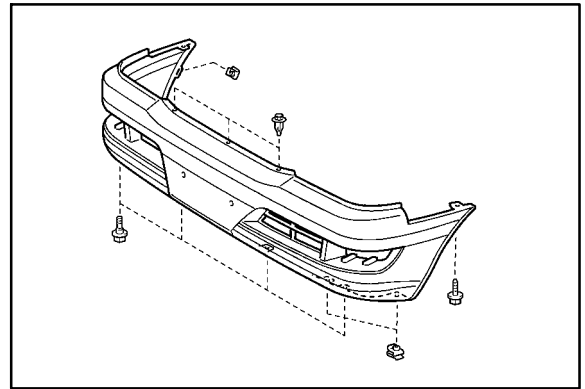


51. Connect the ground terminal of the engine main wire harness RH by installing the ground cable RH.
Torque: 5.4 N•m (55 kgf•cm, 48 in.•lbf)

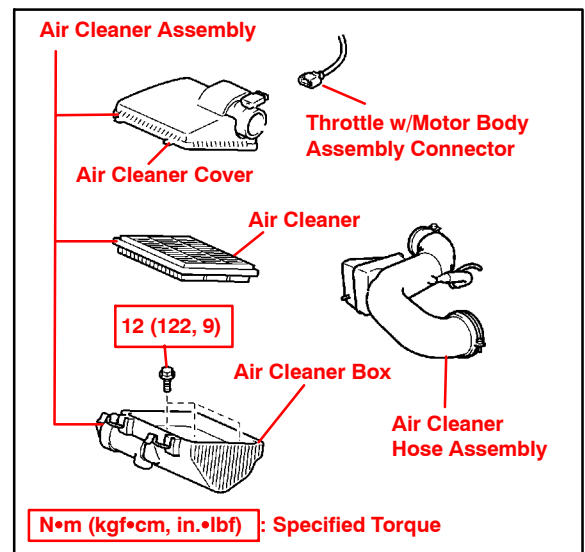


Repair Procedure
(Continued)

52. Install the front bumper assembly.
- Connect the wire harness connector of the fog lamps.
 - Engage the clip in front of the fender liner.
 - Engage the 3 clips and install the 4 bolts and 8 screws.



53. Install the air cleaner assembly.
- Install the lower air cleaner assembly with the 3 bolts.
 - Install the air cleaner.
 - Install the air cleaner cover.
 - Connect the air cleaner hose and the air cleaner assembly and tighten the band.
 - Connect the throttle w/motor body assembly connector.
 - Install the throttle w/motor body assembly connector bracket.



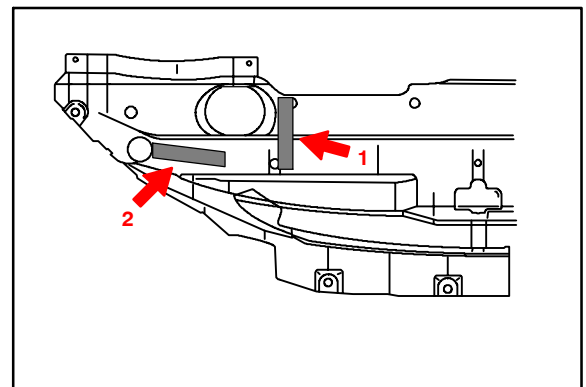
54. Apply the radiator support seal upper RH and LH.
- Refer to the illustration and apply the 2 seals to the back side of the radiator support upper.

NOTE:

Align tape to edge of holes as shown in the illustration.

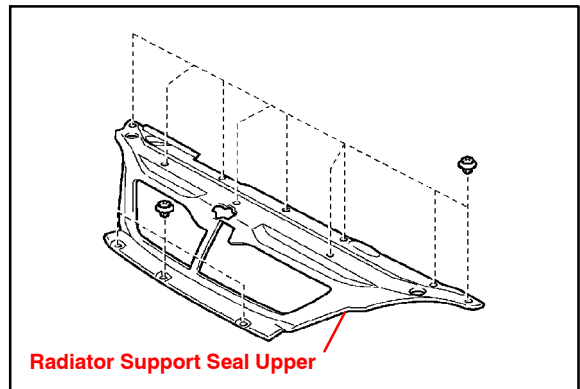
Seal Packing: P/N 36867-60020
(15 x 12 x 55 mm)

Seal Packing: P/N 36867-60030
(15 x 20 x 120 mm)



Repair Procedure
(Continued)

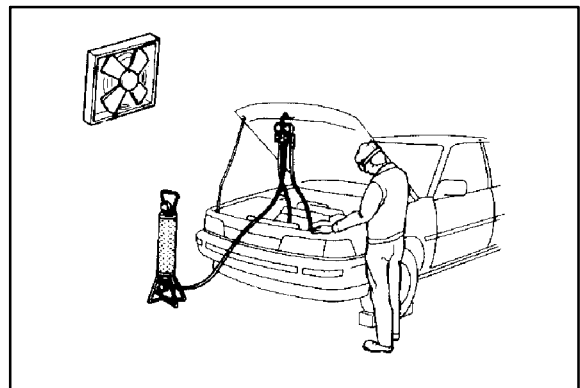
55. Install the radiator support seal upper by engaging the 9 clips.



56. Charge refrigerant HFC-134a (R134a).

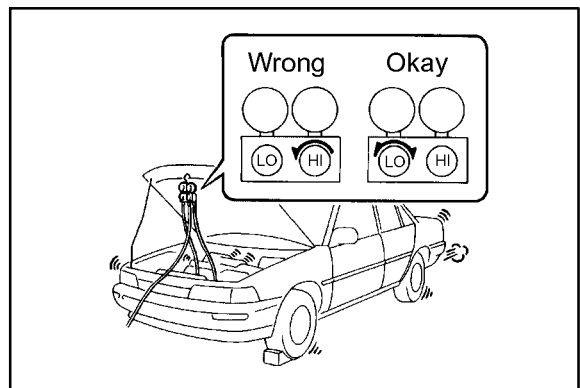
A. Vacuum air purge.

For additional information on vacuum air purge, refer to TIS, 2004 model year GX 470 Repair Manual: *Heater & Air Conditioner: Air Conditioning System*.

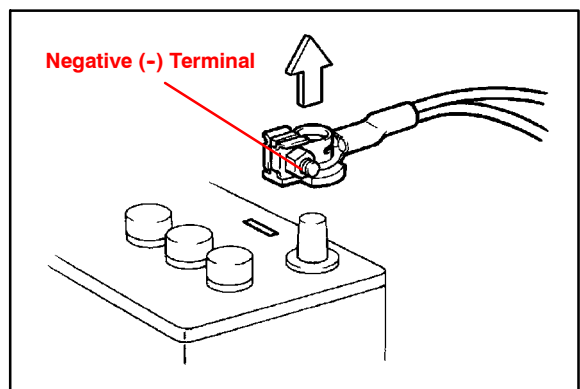


B. Charge to 720 g (1.6 lbs) of refrigerant HFC-134a (R134a) and 50 cc of compressor oil.

For additional information on charging refrigerant, refer to TIS, 2004 model year GX 470 Repair Manual: *Heater & Air Conditioner: Air Conditioning System*.



57. Connect the negative (-) battery cable.



**Repair
Procedure**
(Continued)

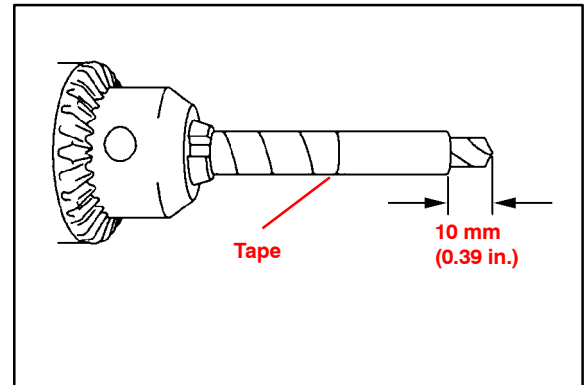
Install hood seal:

PRECAUTIONS & COMPLIANCE WITH MOUNTING PARTS:

- Do NOT reuse damaged clips, bolts, and nuts.
- Make sure that all clips, bolts, and nuts have been installed.
- Be careful to NOT stain parts or the body with compressor oil when replacing the A/C pipe, etc.
- Be sure there are NO oil or A/C gas leaks after installation.
- Be sure to connect all wire connectors.
- Make sure that there is NO interference between the pipes, etc.
- Make sure that the A/C works properly after installing all parts.
- Make sure that there is NO damage on the surface of the pipe or hose.
- Make sure that there is NO damage or foreign matter on the O-ring or the connecting portion.
- When installing to the pipe, apply oil to the O-ring before connecting to prevent damage. (Compressor oil — ND-OIL8)
- Do NOT reuse old adhesive tape.
- Do NOT use the damaged seals/O-rings.

HINT:

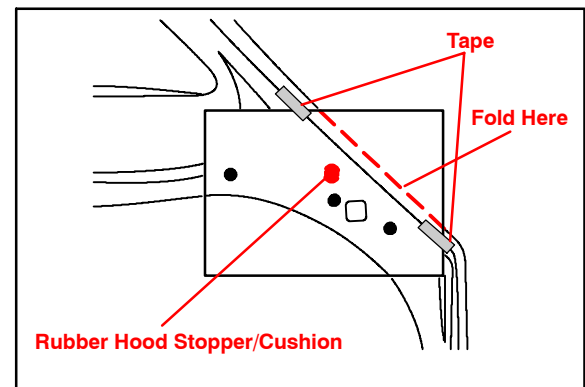
- To prevent damage to the outer panel of the hood, wrap tape on the drill bit as shown so that ONLY 10 mm (0.39 in.) of the bit is exposed.
- Be sure to apply the rust prevention treatment to the drilled holes.



NOTE:

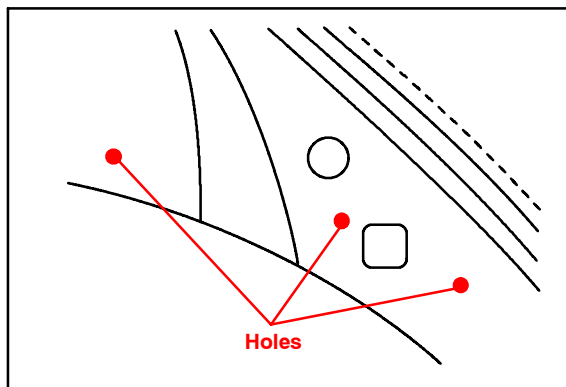
Print the full-scale templates in the accompanying TSIB No. AC003-06, "Hood Seal Templates".

1. Install the hood seal to the radiator support.
 - A. Cut out a hole at the rubber hood stopper/cushion location on the printed template.
 - B. Attach the template to the hood using the rubber hood stopper/cushion as reference.
 - C. Position the template on the hood and tape to hold it in place.
Fold the template on the dotted line over the edge of the hood.
 - D. Center punch the 3 marked points.

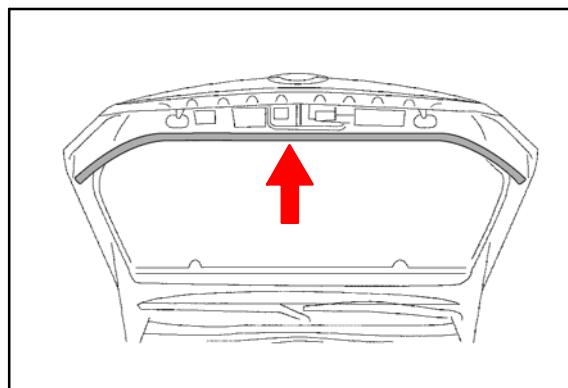


Repair Procedure
(Continued)

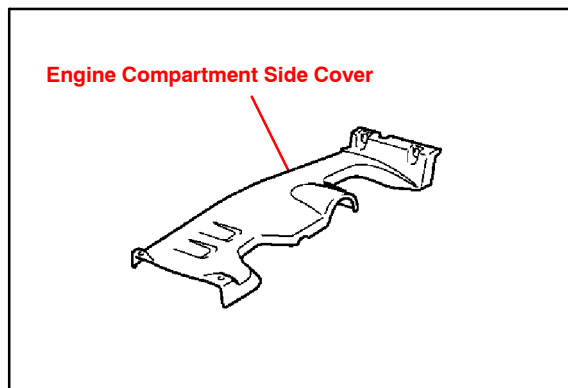
- E. Drill the 3 holes on one side.
Hole size: 6 mm (0.24 in.)
- F. Perform steps A - E again for the opposite side, using the second printed template.



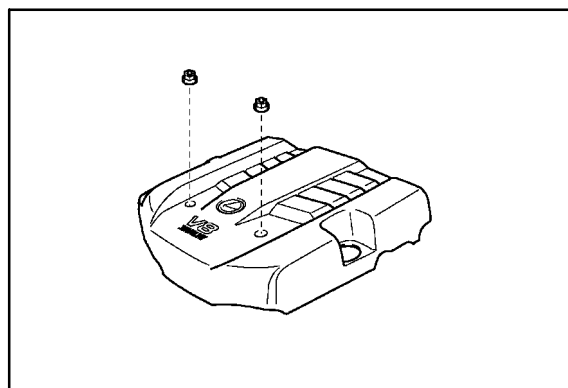
- G. Install the NEW hood seal (P/N: 53381-60070), working from the center out.



- 2. Install the engine compartment side cover with the 2 clips.










- 3. Install the V-bank cover sub-assembly using the 2 nuts.



Repair Procedure
(Continued)

4. Verify A/C system performance by operating the A/C system through the modes shown in the following table.

CONTROL POSITION	OPERATION
 FRESH	Brings in fresh air
 RECIRC	Recirculates internal air
MAX COLD — MAX HOT TEMP. SETTING {18°C (65°F) - 32°C (58°F)}	Varies the mixture ratio of the fresh air and the recirculation air in order to regulate the temperature continuously from HOT to COLD
MAX HOT	Fully open in the MAX HOT position
 DEF	Defrosts the windshield through the center defroster, side defroster, and side register
 FOOT / DEF	Defrosts the windshield through the center defroster, side defroster, and side register while air is also blown out from the front and rear foot well register ducts
 FOOT	Air blows out of the front and rear foot well register ducts and side register. In addition, air blows out slightly from the center defroster and side defroster.
 BI-LEVEL	Air blows out of the front center registers, side registers, and front and rear foot well register ducts.
 FACE	Air blows out of the front center registers and side register.

5. Drive vehicle to confirm there are NO abnormal noises or rattles heard after repair.
6. Re-initialize power systems.
Refer to TSIB No. PD009-06, "Power System Initialization During PDS."
7. Attach the Cooler Service Caution Label (P/N: 88723-60101) on the backside of the hood.

⚠ CAUTION REFRIGERANT UNDER HIGH PRESSURE
 Improper service methods may cause injury. Air conditioning system should be serviced by qualified personnel. see Repair Manual.

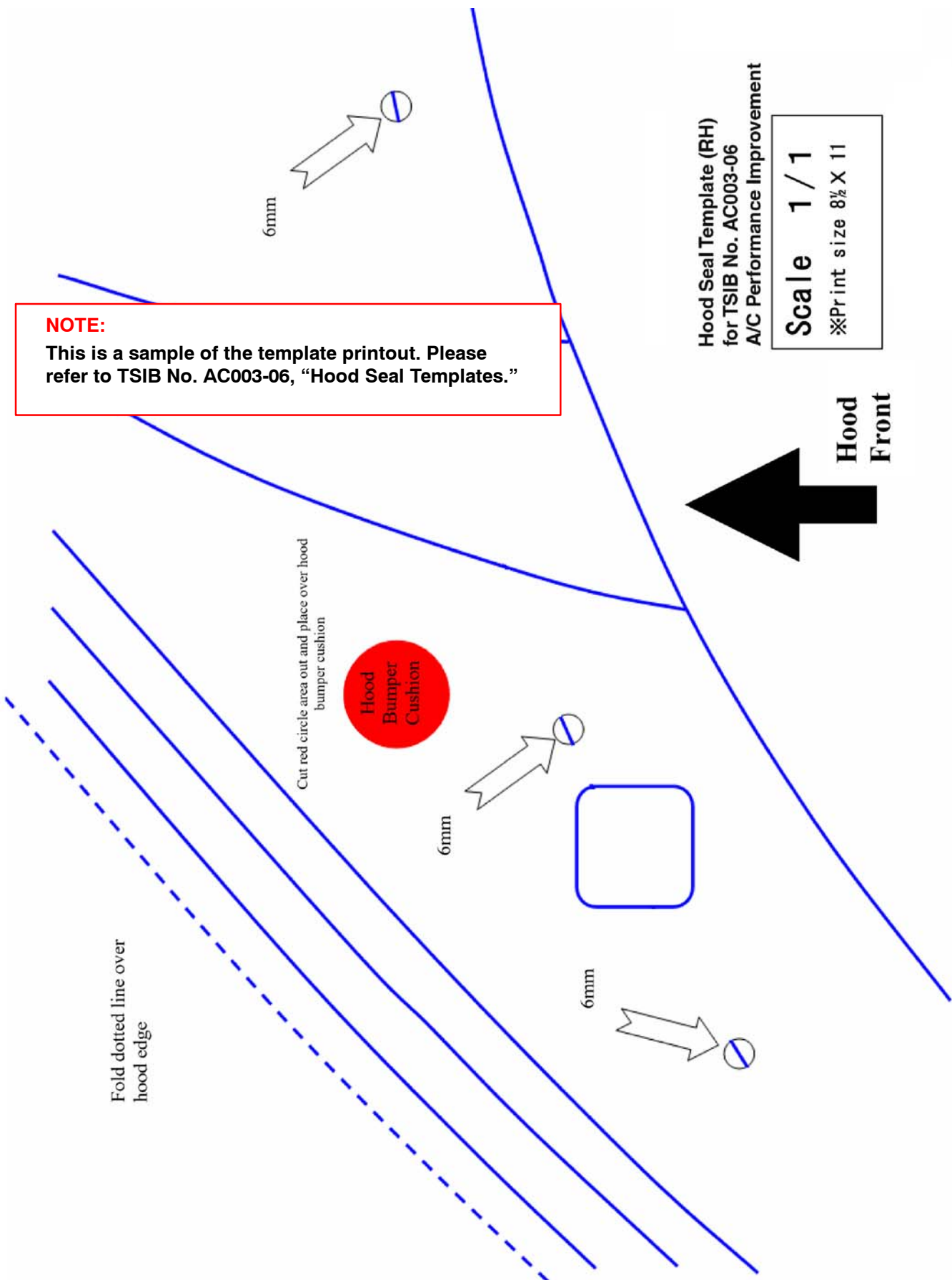
Refrigerant: HFC134a Max. 0.77kg (1.69 lbs.)
USE ONLY Min. 0.57kg (1.27 lbs.) oil: ND-OIL 8 SAE
OR EQUIVALENT J-639

MFD. BY DENSO CORPORATION JAPAN.

⚠ ATTENTION REFRIGERANT SOUS HAUTE PRESSION
 Un entretien incorrect peut provoquer des blessures. Le système de climatisation doit être entretenu par une personne qualifiée. Voir le manuel de réparation.

Refrigerant: HFC134a Max. 0.77kg (1.69 lbs.)
UNIQUEMENT Min. 0.57kg (1.27 lbs.) huile: ND-OIL 8 SAE
OU EQUIVALENT J-639

FABRIQUE PAR DENSO CORPORATION JAPON. A72

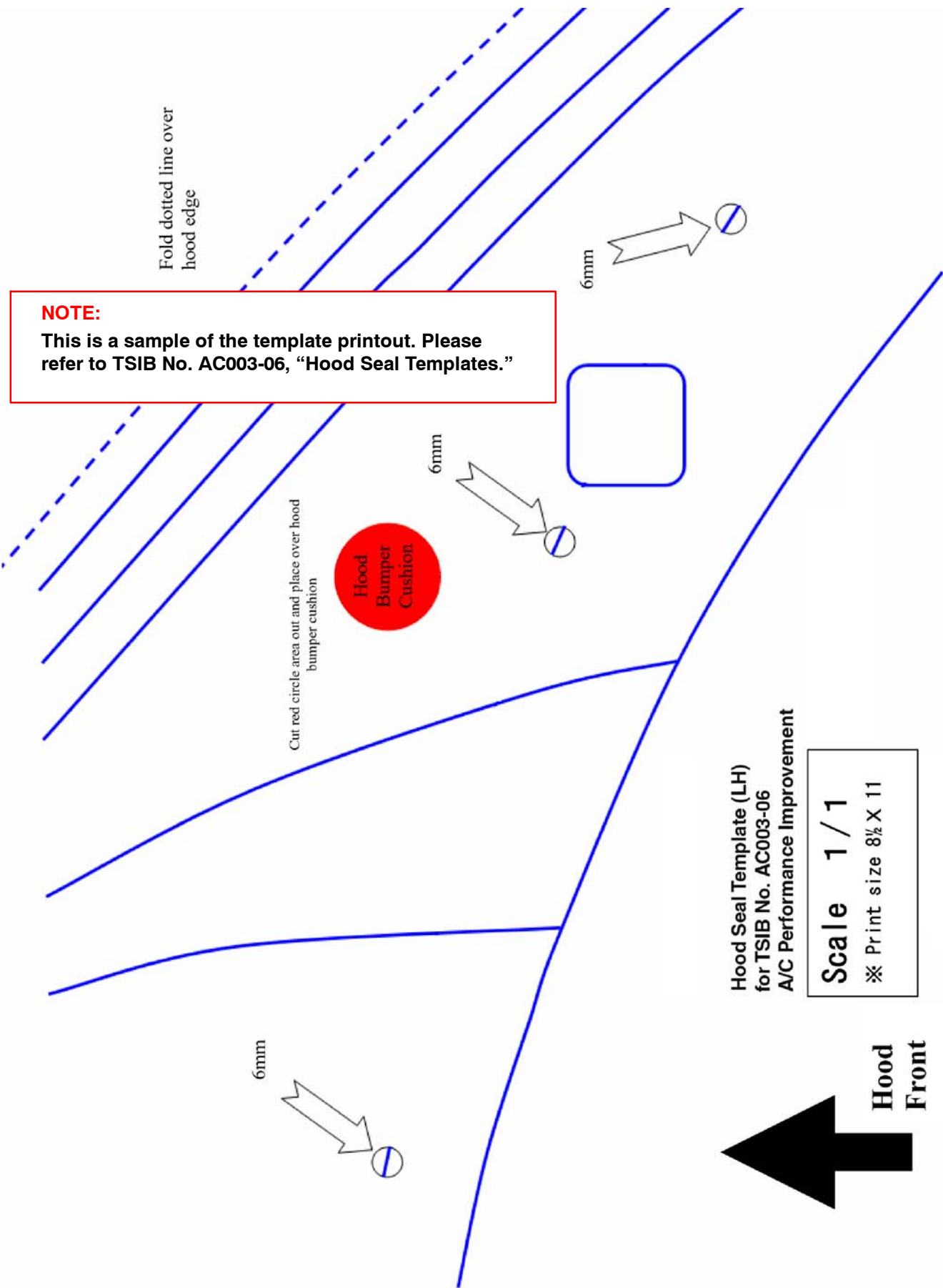


NOTE:
 This is a sample of the template printout. Please refer to TSIB No. AC003-06, "Hood Seal Templates."

Hood Seal Template (RH)
 for TSIB No. AC003-06
 A/C Performance Improvement

Scale 1 / 1
 ※Print size 8½ X 11

Hood Front



NOTE:
This is a sample of the template printout. Please refer to TSIB No. AC003-06, "Hood Seal Templates."

Hood Seal Template (LH)
for TSIB No. AC003-06
A/C Performance Improvement

Scale 1 / 1
※ Print size 8 1/2 X 11

**Hood
Front**