

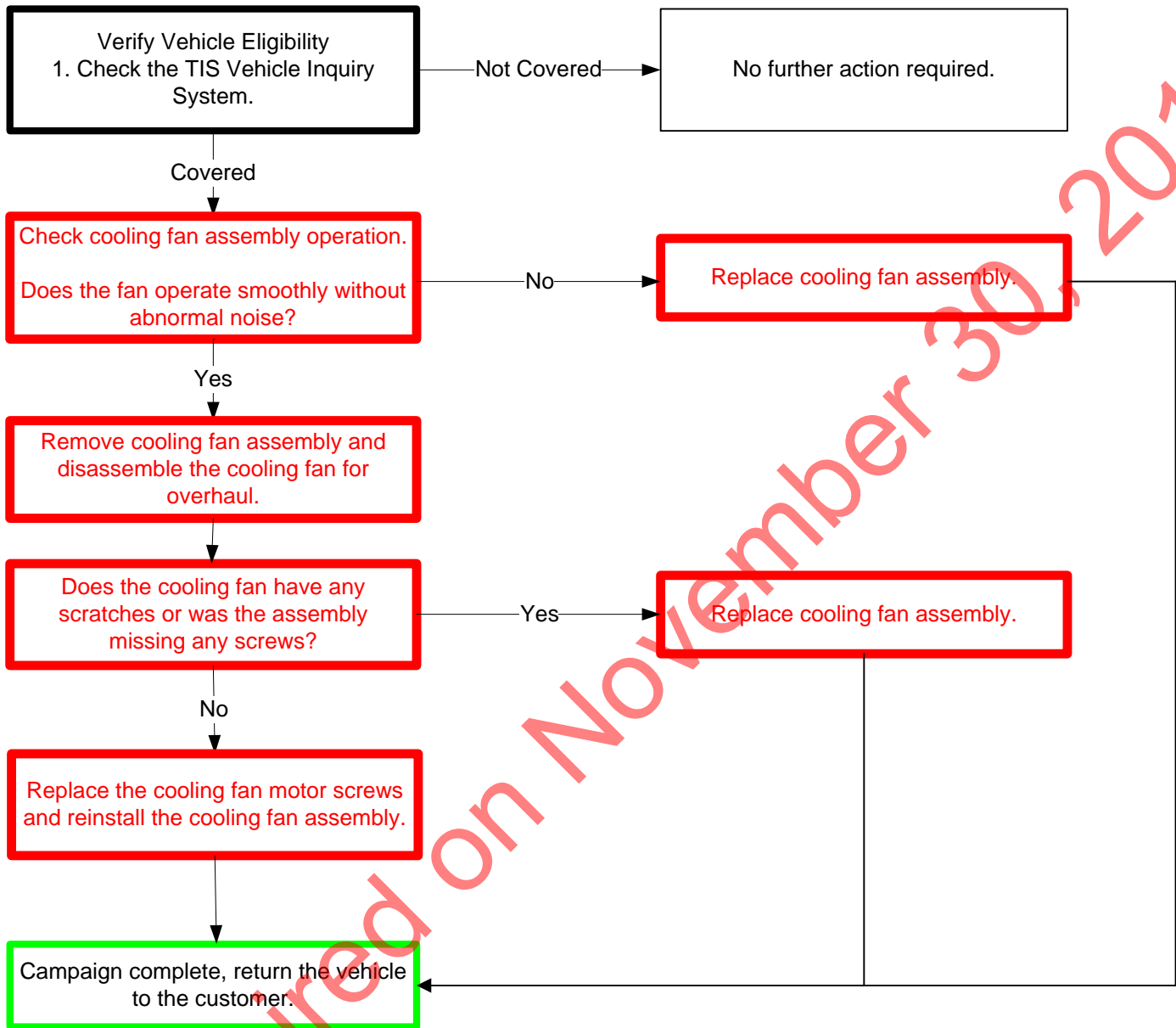
**TECHNICAL INSTRUCTIONS
FOR
LIMITED SERVICE CAMPAIGN ELE
ENGINE COOLING FANS
CERTAIN 2008-2012 MODEL YEAR ISF**

All dealership associates involved in the recall process are required to successfully complete E-Learning course LSC13A. To ensure that all vehicles have the repair performed correctly; technicians performing this recall repair are required to currently hold at least one of the following certifications levels:

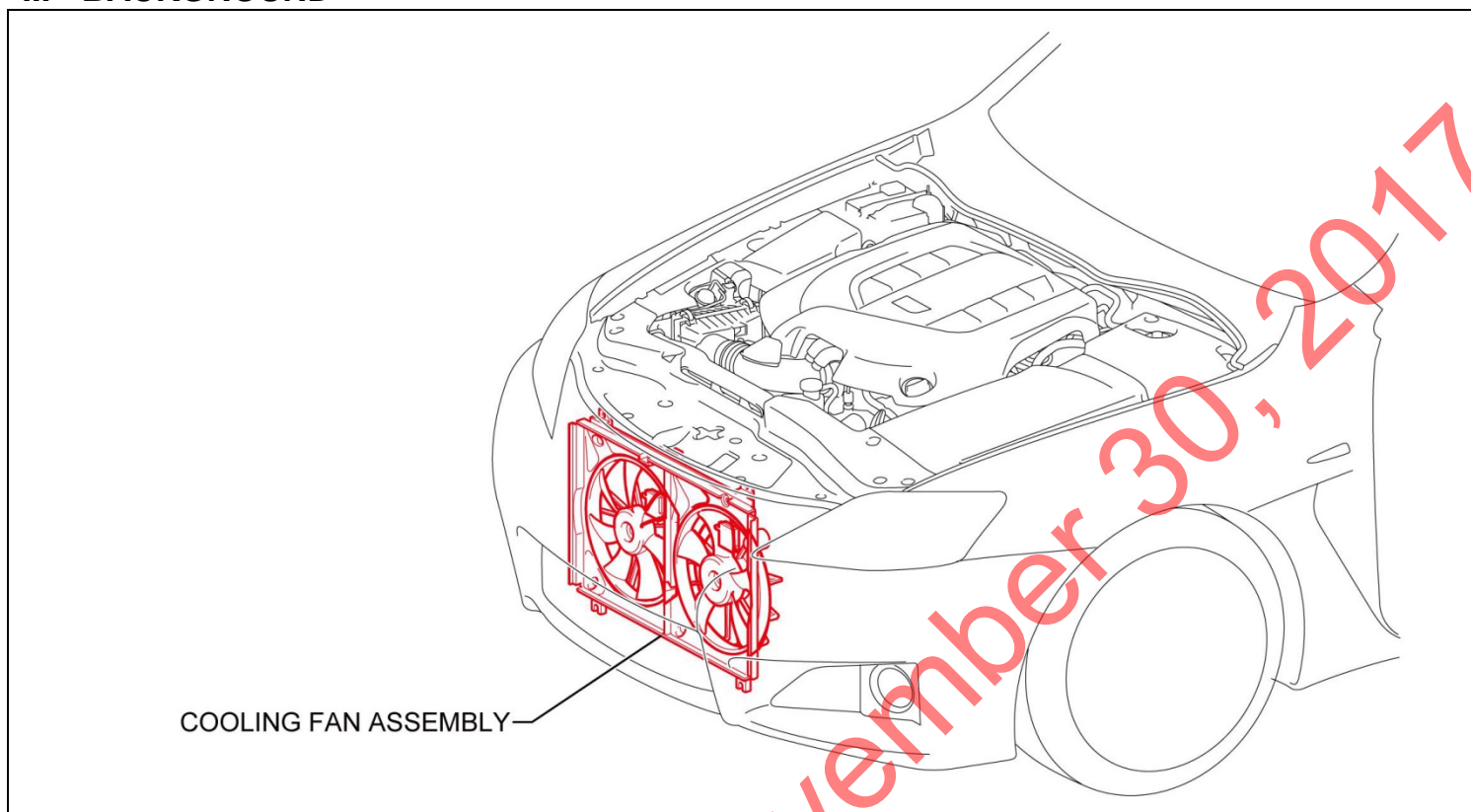
- Senior or Master Technician
- Senior or Master Diagnostic Technician

I. OPERATION FLOW CHART

The flow chart is for reference only. **DO NOT** use it in place of the full technical instructions. Follow **ALL** steps as outlined in the full technical instructions to confirm the campaign is completed correctly.



II. BACKGROUND



The screws which secure the engine cooling fan motors to the fan shroud assembly could become loose over time and interfere with the operation of the cooling fans. If a fan becomes damaged and inoperative, the engine coolant temperature could increase.

III. IDENTIFICATION OF AFFECTED VEHICLES

A. COVERED VIN RANGE

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Limited Service Campaign, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

IV. PREPARATION

A. PARTS

Part Number	Part Description	Quantity										
04004-54131	Fan Assy Screw Replacement Kit	1										
	<table><tr><th>Part Description</th><th>Quantity</th></tr><tr><td>Drain Cock O-ring</td><td>1</td></tr><tr><td>Radiator Vent plug O-ring</td><td>1</td></tr><tr><td>Fan Motor Screws</td><td>6</td></tr><tr><td>*Clips</td><td>3</td></tr></table>	Part Description	Quantity	Drain Cock O-ring	1	Radiator Vent plug O-ring	1	Fan Motor Screws	6	*Clips	3	
	Part Description	Quantity										
	Drain Cock O-ring	1										
	Radiator Vent plug O-ring	1										
	Fan Motor Screws	6										
*Clips	3											

*Clips were provided in the kit in the case that clips break during the repair procedure and are not required to be replaced.

The part below is only required in the cases where the entire fan assembly replacement is required. It is anticipated that very small number of vehicles will require the part below.

Part Number	Part Description	Quantity
04004-39138	Fan, Assy w/Motor	1


B. MATERIALS

- Protective Tape
- Protective Gloves
- Protective Eye Wear
- Shop Cloth
- Plastic Bag
- Marker Pen
- Adhesive 1234 or Equivalent
- Toyota Genuine Super Long Life Coolant (SLLC)

C. TOOLS & EQUIPMENT

- Standard hand tools
- Torque wrench (in lbs)
- Wire brush
- 6 mm Hexagon Wrench
- Radiator Cap Tester
- Techstream
- Clip Remover

V. SAFETY PRECAUTIONS





These cautions should be observed when performing this campaign.



1. WEAR PROTECTIVE GLOVES

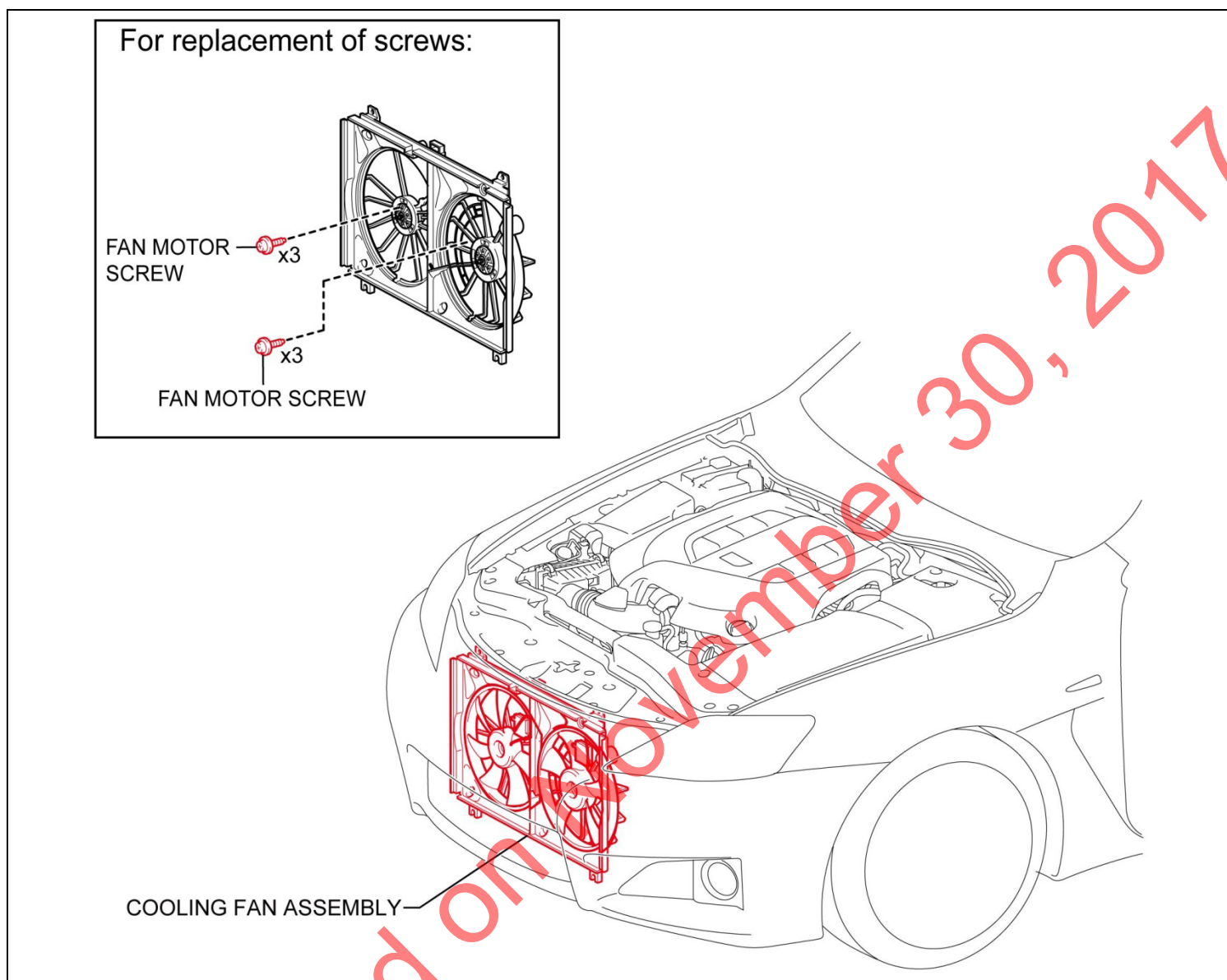


2. WEAR EYE PROTECTION

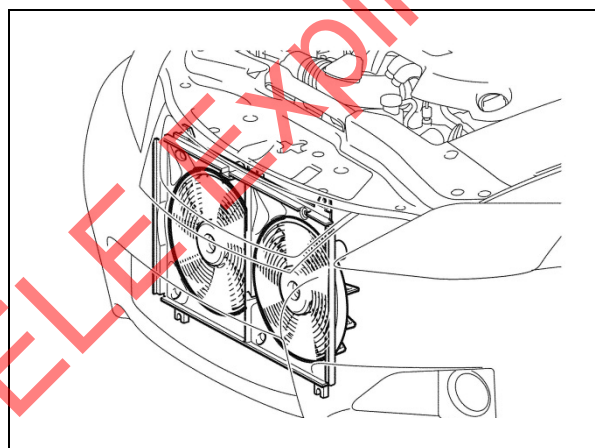
Wear protective glasses

S05071SH

VI. COMPONENTS



VII. COOLING FAN INSPECTION



1. CHECK COOLING FAN ASSEMBLY OPERATION

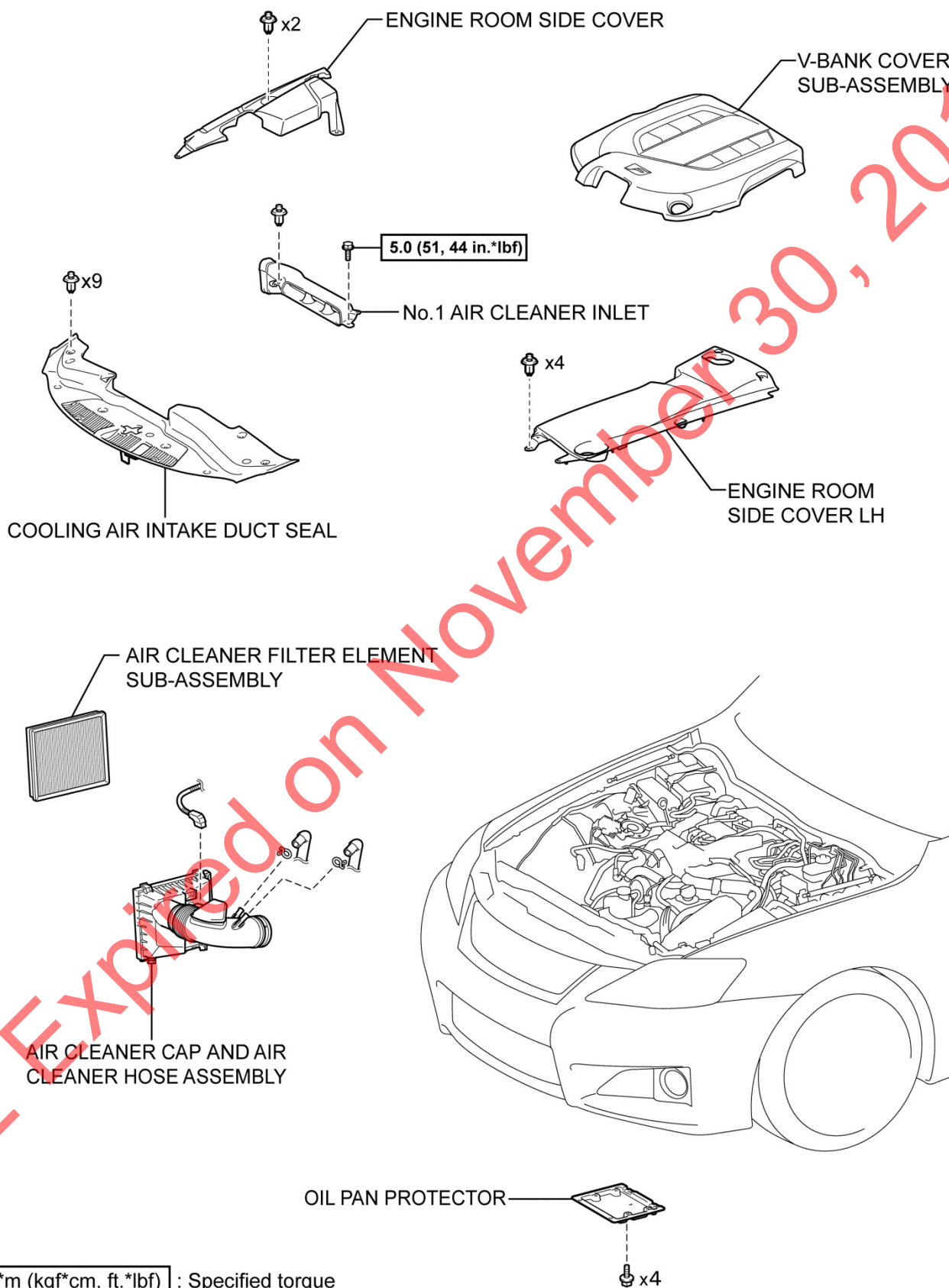
- Start the engine.
- Turn on the air conditioning to operate the engine cooling fans.
- Check that the cooling fans are operating smoothly and are not making any abnormal sounds:

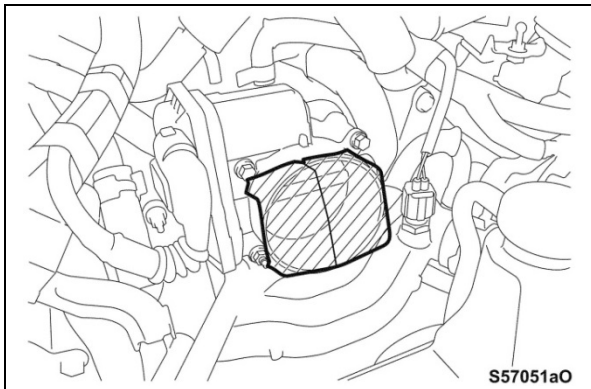
OK: Overhaul Cooling Fan Assembly (Go to section VIII)

NG: Replace Cooling Fan Assembly (Reference removal and installation sections only)

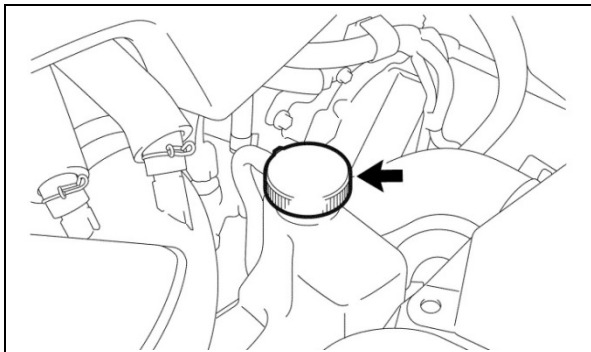
VIII. REMOVE COOLING FAN ASSEMBLY

1. REMOVE THE FOLLOWING COMPONENTS.





2. TAPE THE THROTTLE BODY



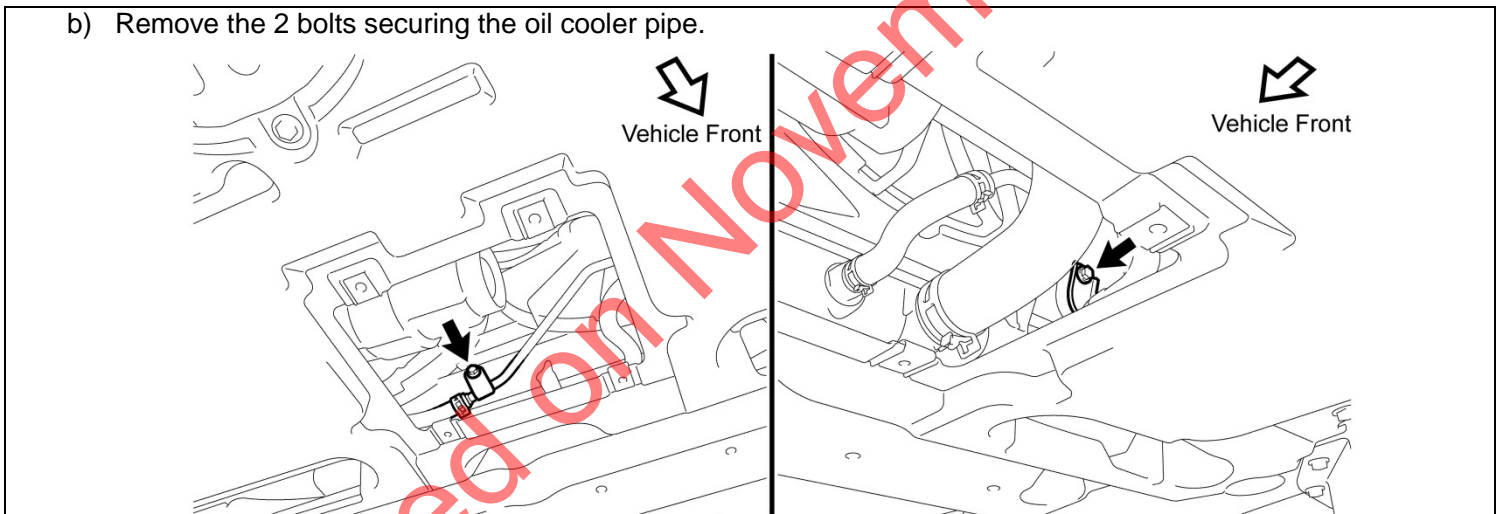
3. DRAIN COOLANT



DO NOT remove the radiator cap while the vehicle is engine is hot, removing the cap can cause serious burns.

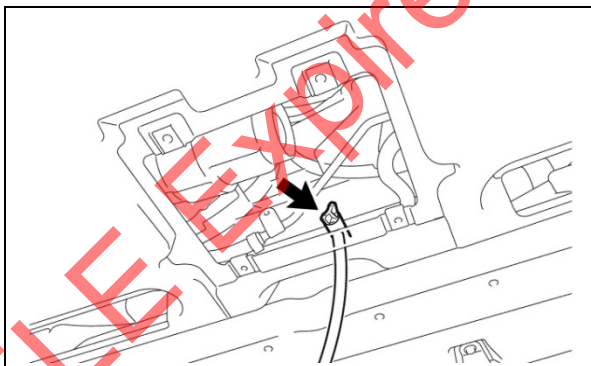
- a) Remove the radiator reserve tank cap.

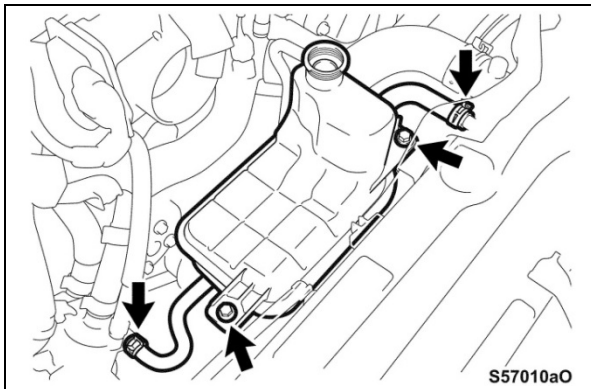
- b) Remove the 2 bolts securing the oil cooler pipe.



- c) Clean your coolant drain pan and ensure that it is clean so that the coolant will not become contaminated when drained because the coolant will be reused.
- d) Loosen the coolant drain cock plug and drain the coolant.

Note: Approximately 6 liters of coolant will be drained.



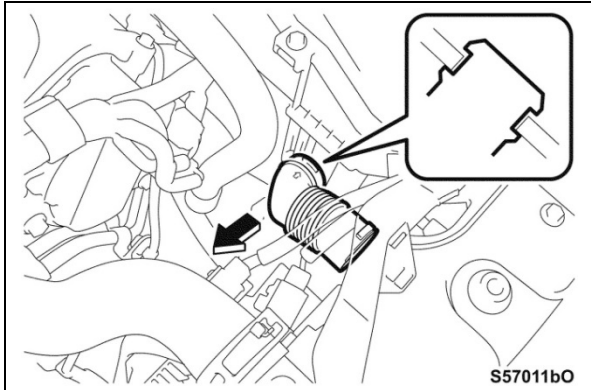


4. REMOVE RADIATOR RESERVE TANK ASSEMBLY

- Place a rag underneath the tank to catch any remaining coolant.
- Disconnect the 2 reserve tank hoses and plug them.
- Remove the 2 bolts and remove the reserve tank.



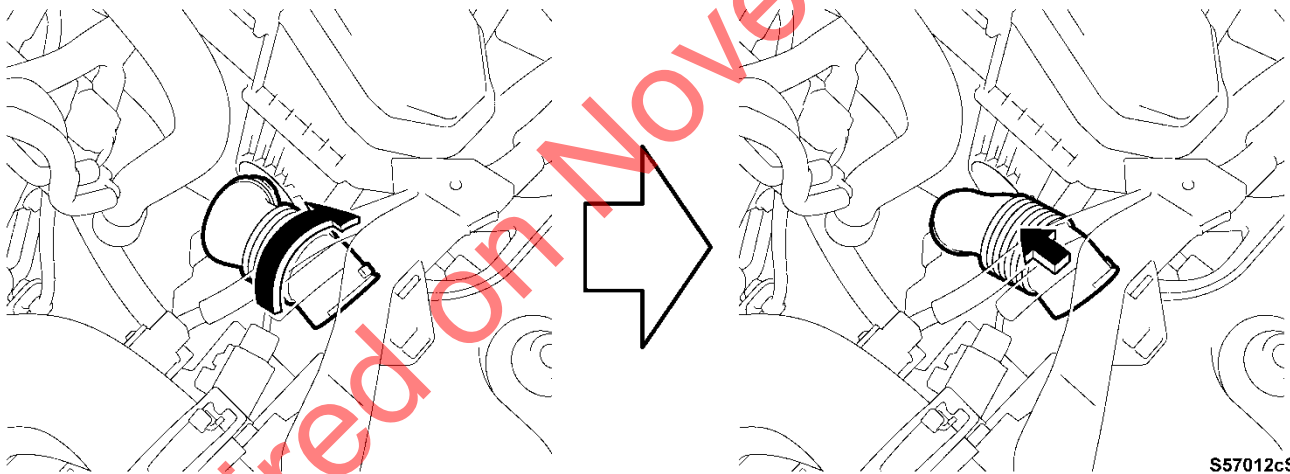
Be careful and ensure coolant does not drip on the fan motors.



5. REMOVE ENGINE ROOM ECU OUTLET DUCT

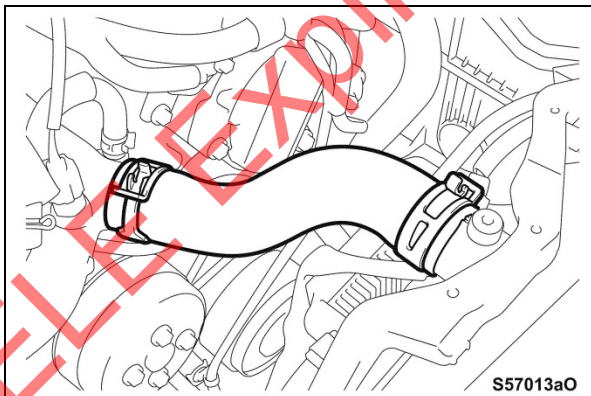
- Disengage the engine room ECU outlet duct from the relay box by pulling it as shown below.

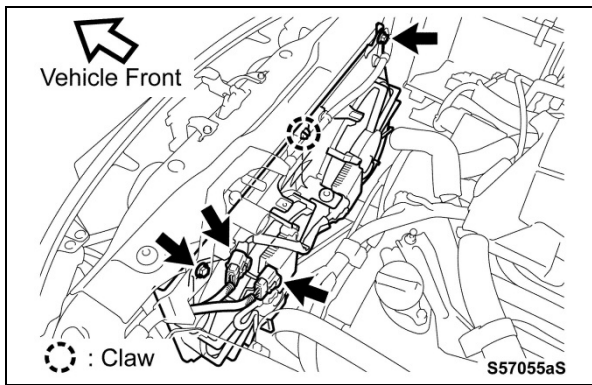
b) Remove the duct by turning it about 180 degrees as shown below.



6. REMOVE NO. 1 RADIATOR HOSE

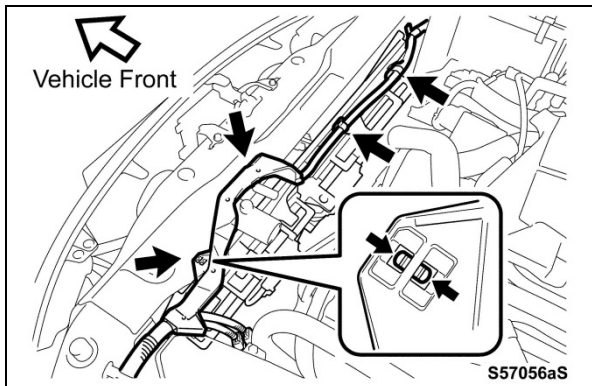
Note: After removing the upper hose plug the upper engine coolant passage with a rag to stop any remaining coolant from dripping on the drive belt.



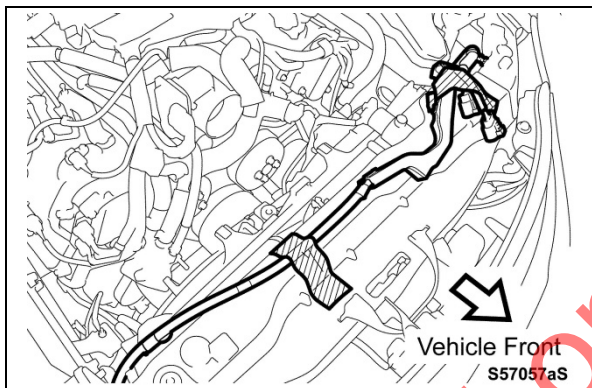


7. REMOVE COOLING FAN ASSEMBLY

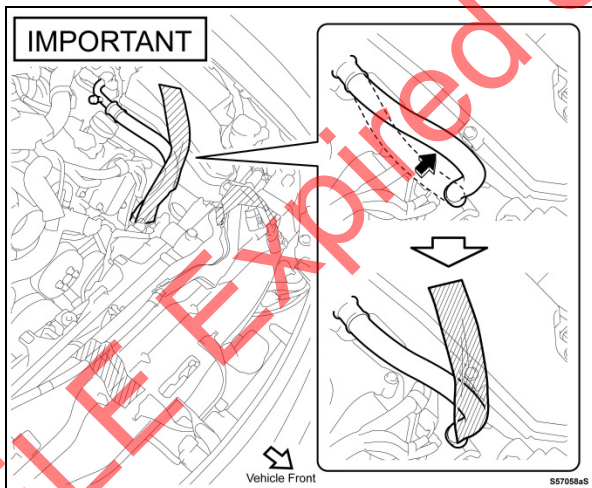
- Disconnect the 2 connectors.
- Remove the 2 bolts.
- Disengage the claws by sliding the cooling fan assembly rearward.



- Disengage the 4 wire harness clamps.

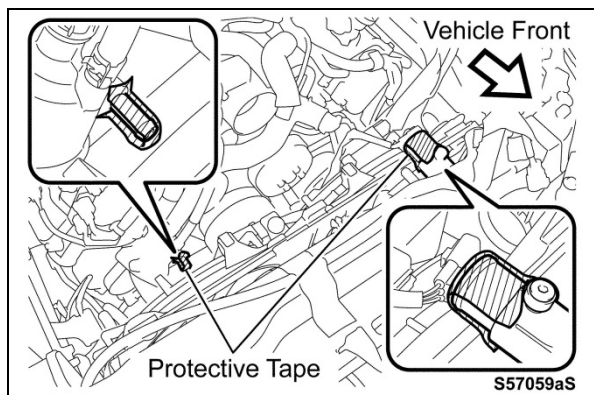


- Temporarily place the wire harness above the radiator and secure with tape to create enough room for removing the cooling fan assembly.

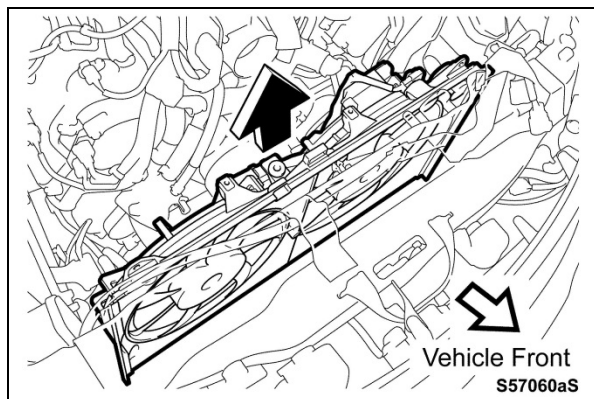


- Temporarily fix the No. 1 A/C line to the relay box with tape to create enough room to remove the cooling fan assembly.

Note: Ensure to perform this step otherwise the cooling fan assembly will not be able to be removed.



- g) Apply protective tape in the areas shown to prevent damage during the cooling fan assembly removal.



- h) Squeeze the cooling fan assembly retaining tab on the center of the radiator and carefully remove the cooling fan assembly from the engine compartment.



Use caution when performing this step so damage does not occur to the radiator or other engine compartment components.

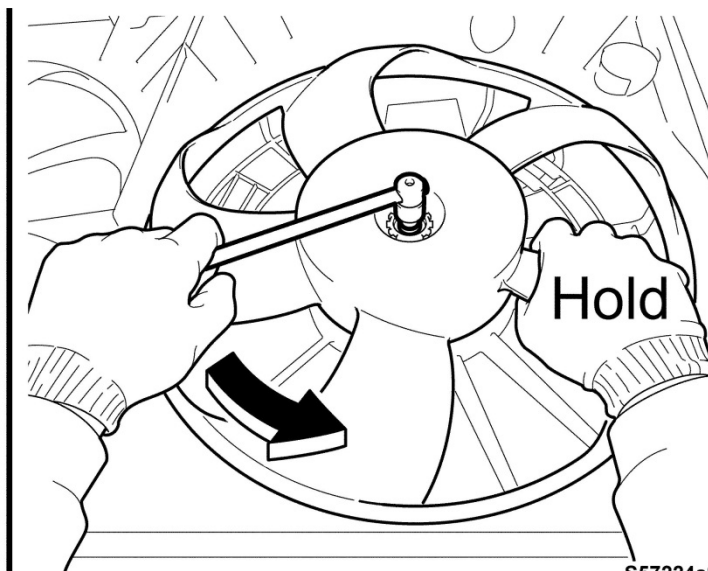
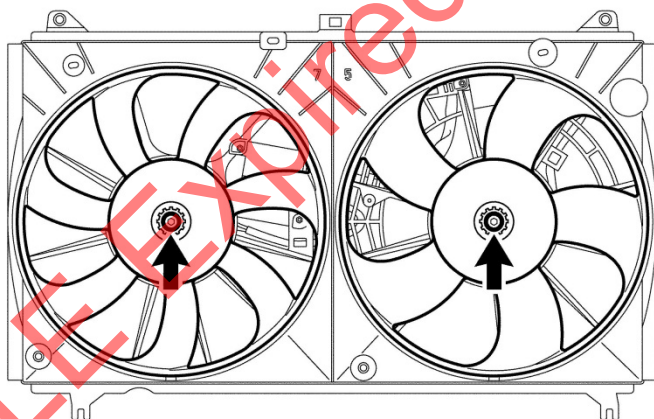
IX. OVERHAUL COOLING FAN ASSEMBLY

1. REMOVE COOLING FANS

- a) Remove the 2 nuts while holding each fan by hand and remove the fans from the motor assembly.



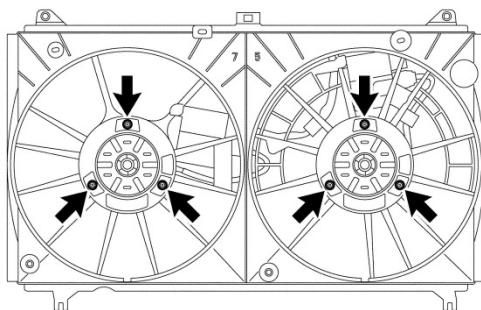
The number of fan blades differs on each fan blade assembly and must be reinstalled in the same position or interference can occur.



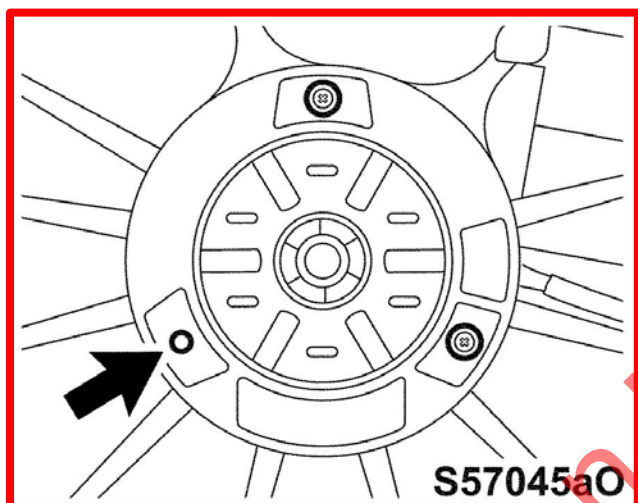
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2. INSPECT THE COOLING FAN

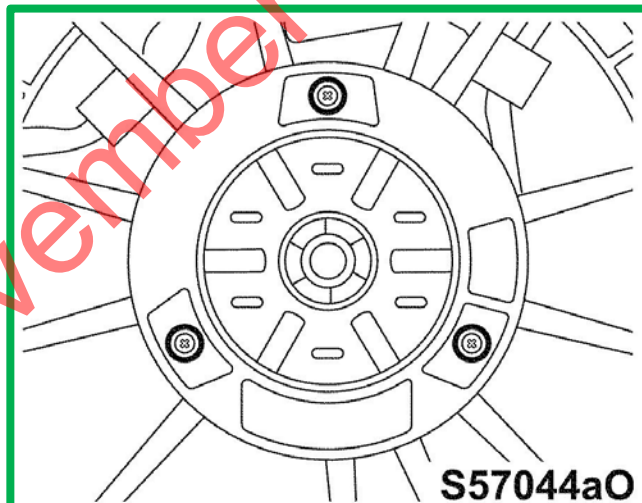
- a) Inspect both the right and left fan motors to see if any of the 6 screws are missing identified by the arrows in the figure below.



NG

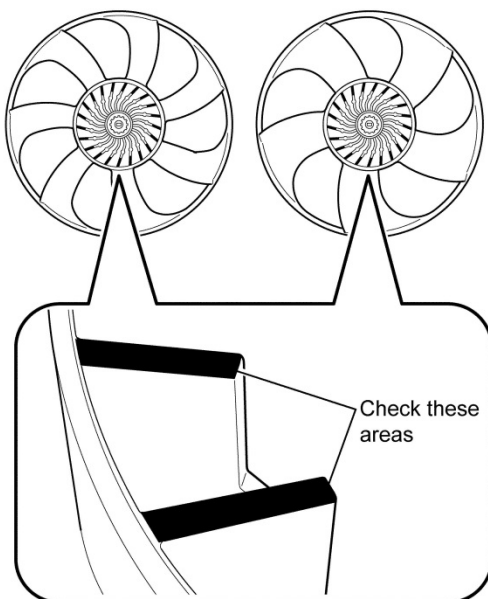


OK



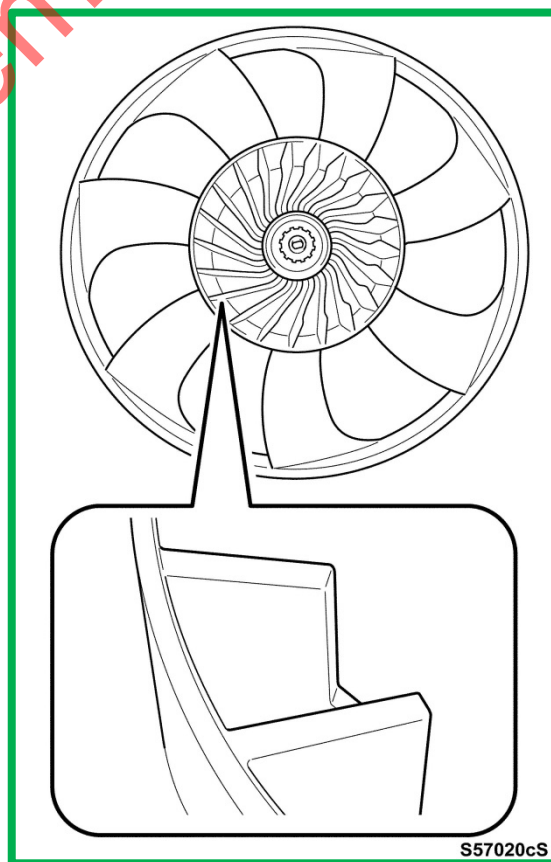
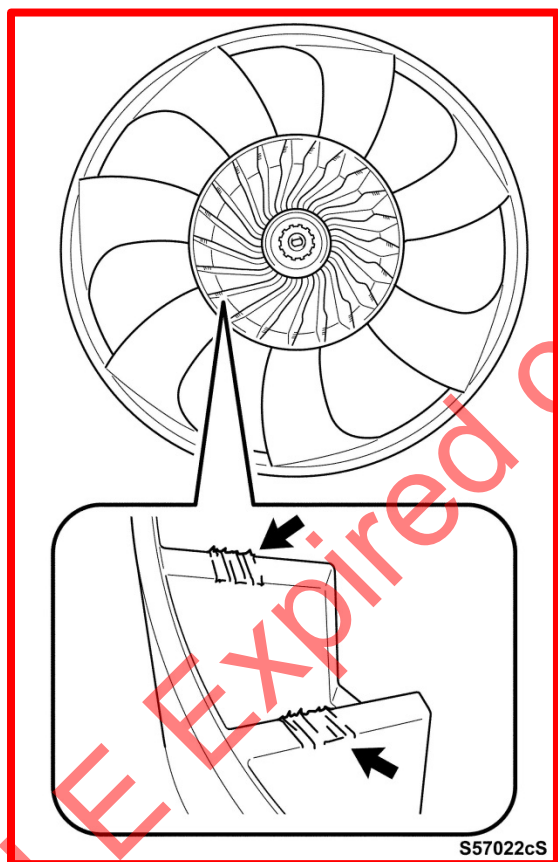
Result	Action
NG	<ul style="list-style-type: none"> Replace the cooling fan assembly Proceed to section XI. (Cooling Fan Assembly Installation)
OK	<ul style="list-style-type: none"> Continue with fan blade inspection below

b) Inspect both the right and left fan blades for scratches for signs of interference from loose fan motor screws.



NG

OK

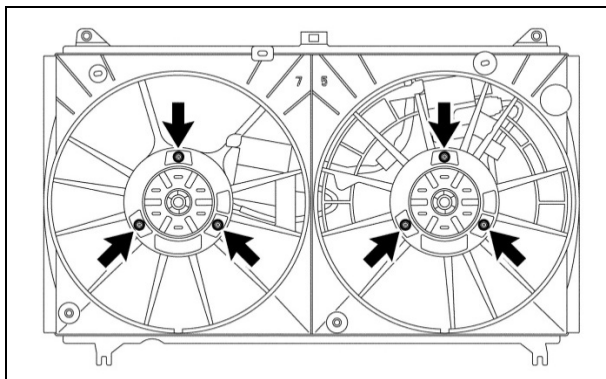


Result	Action
NG	<ul style="list-style-type: none"> Replace the cooling fan assembly Proceed to section XI. (Cooling Fan Assembly Installation)
OK	<ul style="list-style-type: none"> Continue with fan motor assembly overhaul and screw replacement below.

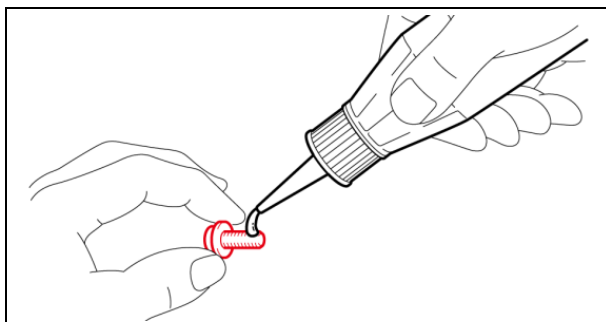
X. REPLACE THE COOLING FAN MOTOR SCREWS



The screws are tightened to very specific low torque. You **MUST** torque the screws correctly otherwise the screws can break or loosen over time if over torqued.

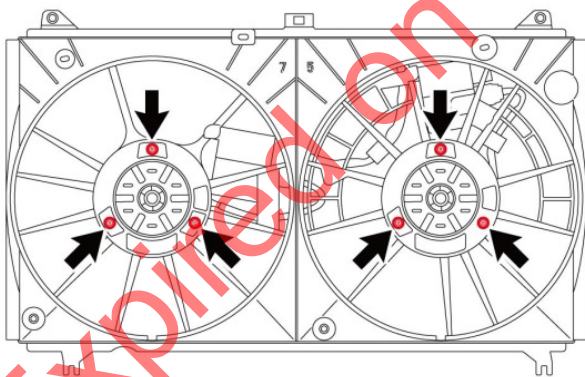


- a) Remove the 6 screws while holding each cooling fan motor with your hand.
- b) Discard the 6 screws to ensure they are not reused during reassembly.
- c) Clean the screw holes to ensure good adhesion of the thread locker during reassembly.

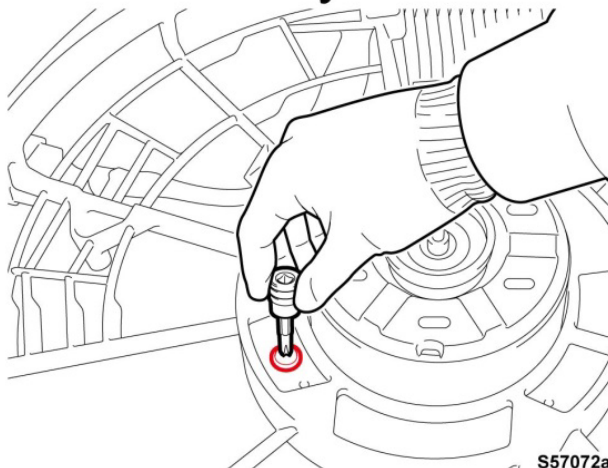


- d) Apply adhesive 1234 to the threads of the 6 **NEW** screws.

- e) Using the supplied phillips socket, temporarily tighten the screws by hand.



Temporarily tighten
screws by hand



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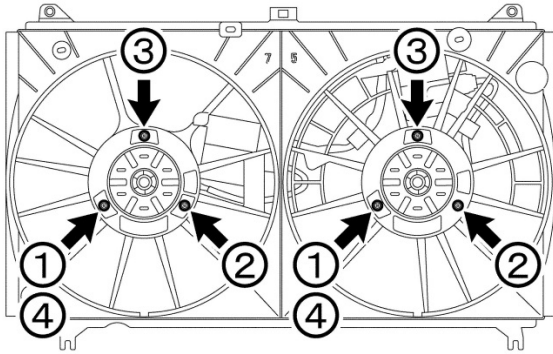
- f) Torque the 6 fan motor screws to the correct torque and in the correct sequence as shown below.

Specified Torque: 4.0N*m (41kgf*cm, 35in *lbf)

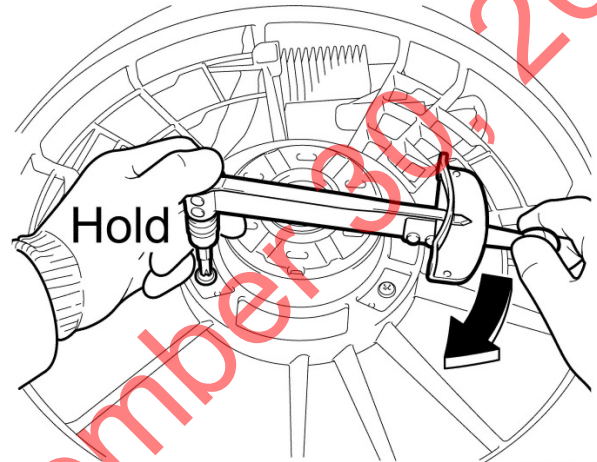
- g) Mark each screw after torquing to ensure all screws are tightened properly.



The screws are tightened to very specific low torque. You **MUST** torque the screws correctly otherwise the screws can break or loosen over time if over torqued.



4.0 N*m (41kgf*cm, 35 in.*lbf)



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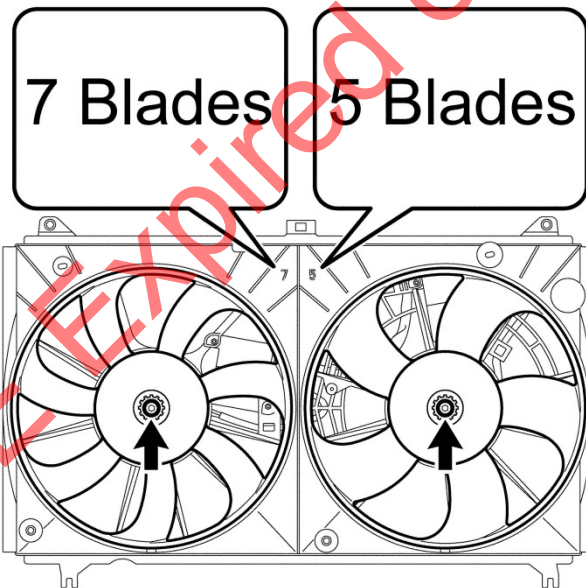
3. REINSTALL FANS

- a) Install the fans and torque the nut to spec while holding the fan blade by hand.

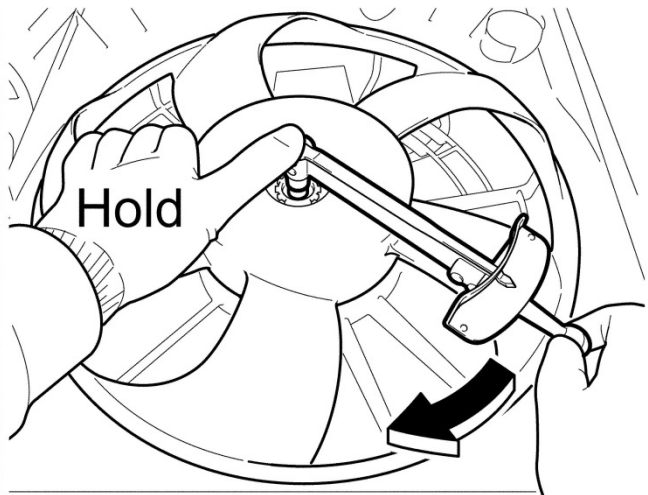
Specified Torque: 6.5N*m (66kgf*cm, 58in *lbf)



The number of fan blades differs on each fan blade assembly and must be reinstalled in the same position or interference can occur. The fan shroud indicates which location each fan blade assembly goes.

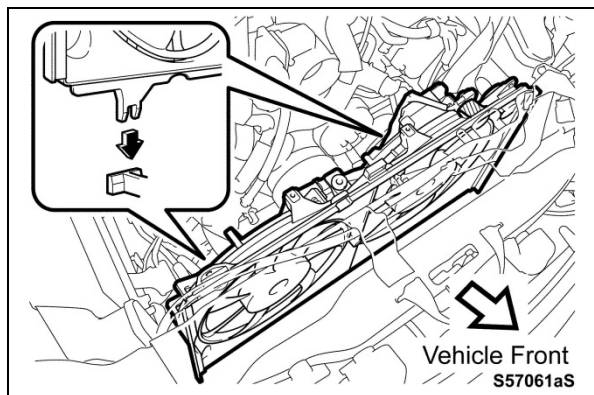


6.5 N*m (66kgf*cm, 58 in.*lbf)



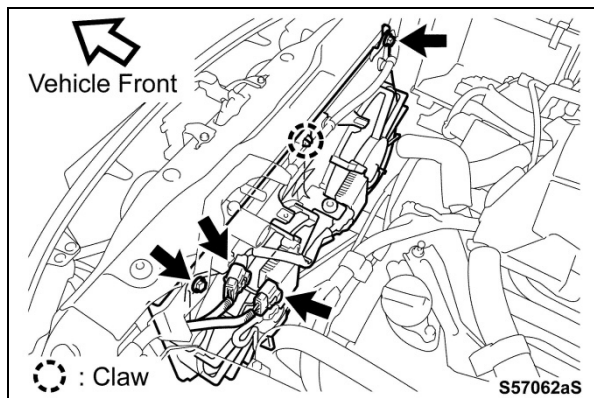
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XI. COOLING FAN ASSEMBLY REINSTALLATION



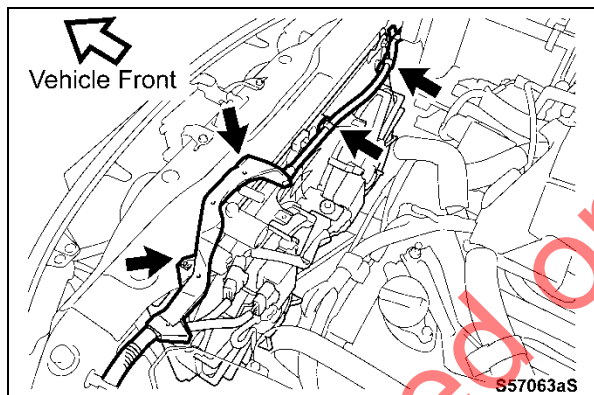
1. REINSTALL THE COOLING FAN ASSEMBLY

- Reinstall the cooling fan assembly using caution to avoid damaging other engine compartment components.
- Ensure the 2 guides on the shroud assembly are installed properly.

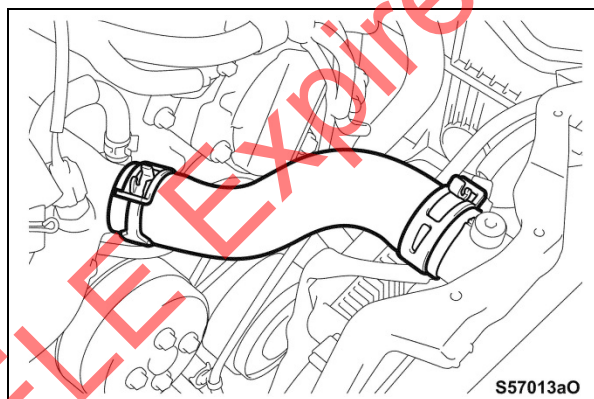


- Re-engage the claw at the top of the shroud.

- Install the 2 bolts and tighten to spec.
Specified Torque: 5.0N*m (51kgf*cm, 44in *lbf)



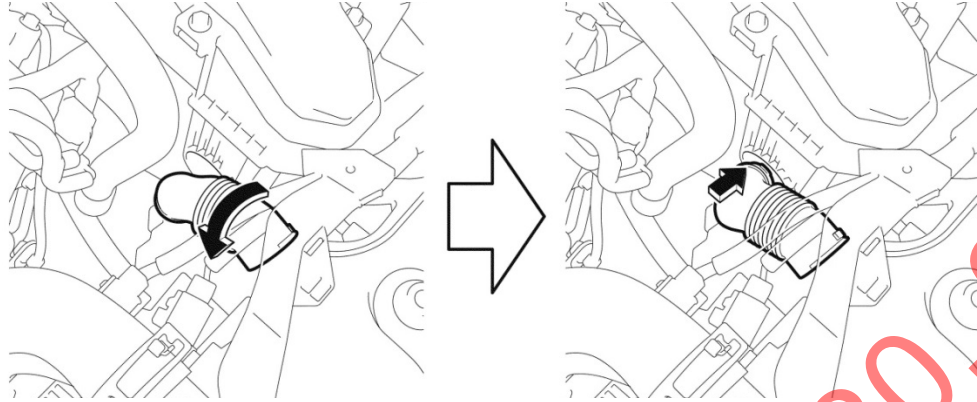
- Re-engage the 4 wire harness clamps.



2. REINSTALL No. 1 RADIATOR HOSE

3. REINSTALL ENGINE ROOM ECU OUTLET DUCT

- Reinstall the duct by turning it as shown illustration below.
- Re-engage the duct to the relay block by pushing it in.

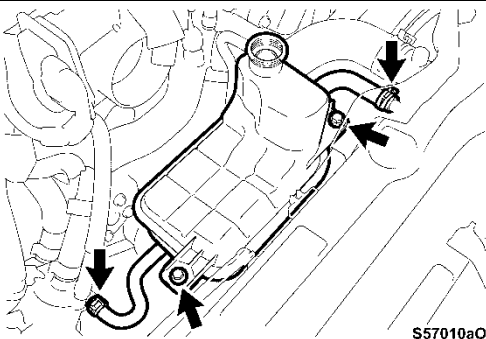


4. REINSTALL RADIATOR RESERVE TANK ASSEMBLY

- Align the radiator reserve tank alignment pin at the bottom of the tank and reinstall the radiator reserve tank with 2 bolts and torque to spec.

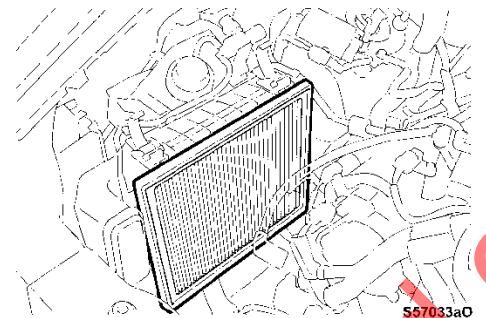
Specified Torque: 5.0N*m (51kgf*cm, 44in *lbf)

- Reconnect the 2 hoses.



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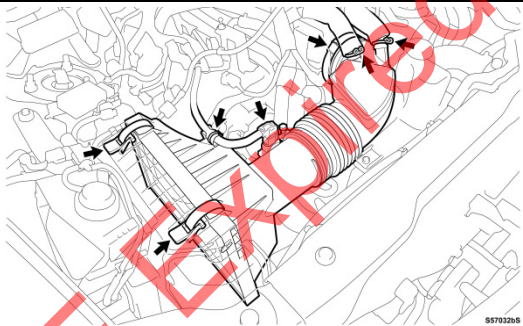
5. REINSTALL AIR FILTER ELEMENT



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6. REINSTALL AIR CLEANER LID AND INTAKE ASSEMBLY

- Remove protective tape.

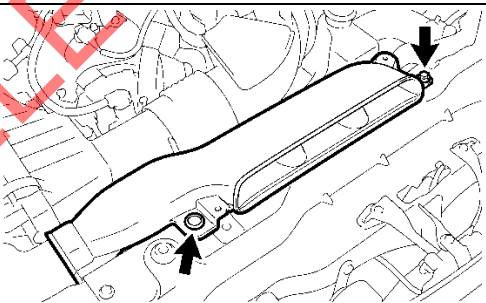


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7. REINSTALL AIR CLEANER INLET

- Reinstall the inlet with the clip and bolt, torque bolt to spec.

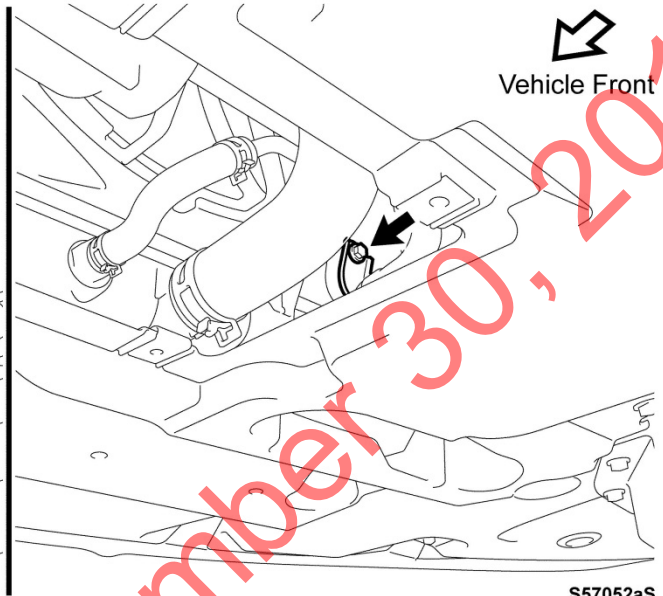
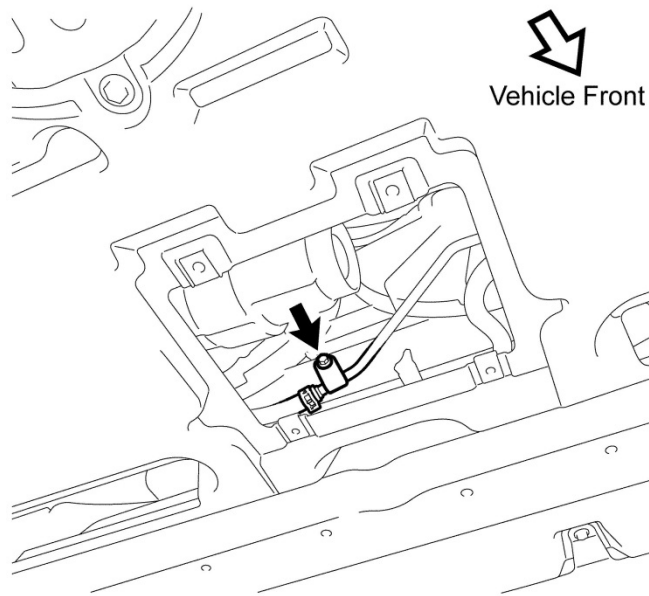
Specified Torque: 5.0N*m (51kgf*cm, 44in *lbf)



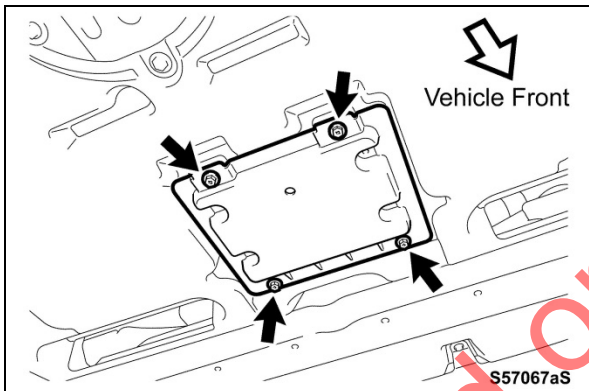
8. REINSTALL THE OIL PAN PROTECTOR

- Replace the O-ring on the drain cock and install it into the radiator.
- Reinstall the oil cooler pipe with the two bolts.

Specified Torque: 5.5N*m (56kgf*cm, 49in *lbf)



- Reinstall the oil pan protector with the 4 screws.

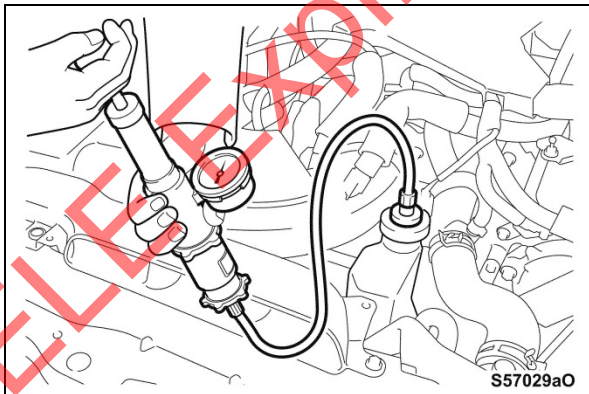


9. ADD COOLANT AND BLEED THE AIR OUT OF THE COOLING SYSTEM

2008 ISF Coolant
2011 ISF Coolant

2009 ISF Coolant
2012 ISF Coolant

2010 ISF Coolant

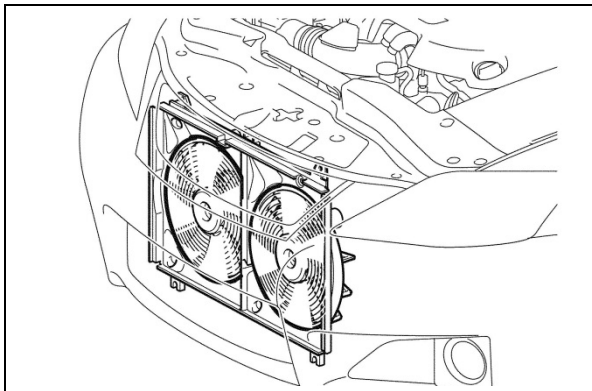


10. CHECK FOR COOLANT LEAKS



DO NOT pressure check the cooling system while the engine is hot, severe burn can occur.

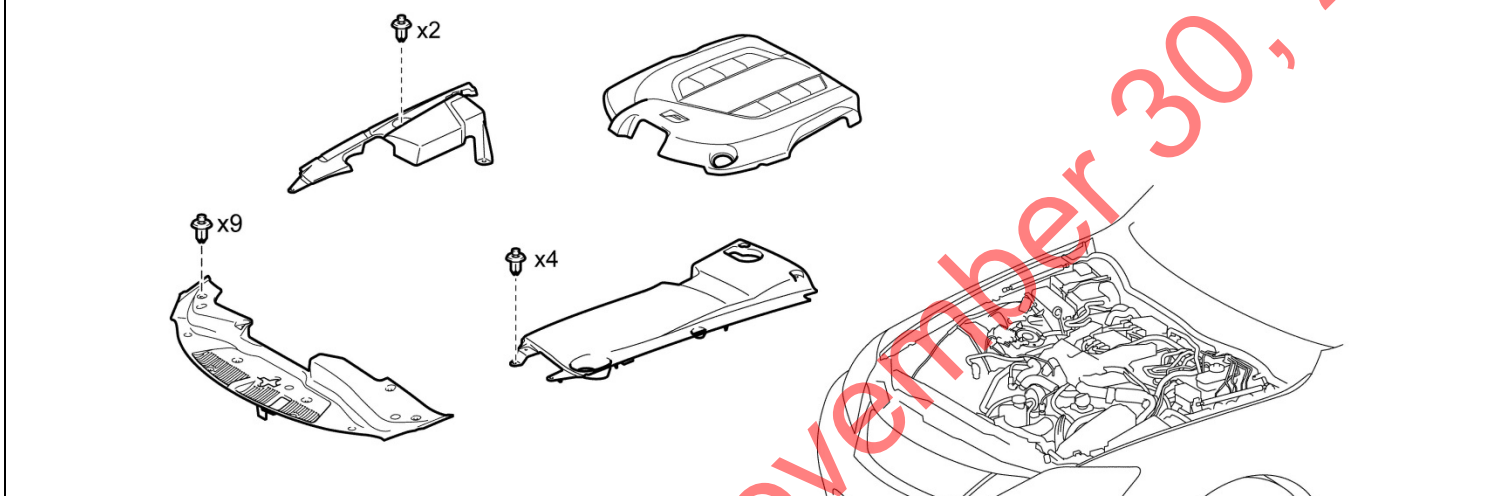
- Attach a coolant tester to the radiator.
- Pressurize the coolant system and ensure that the pressure does not drop and no coolant leaks.
- After pressure checking top off the coolant to the full mark.



11. CHECK THE COOLING FAN ASSEMBLY OPERATION

- Start the engine
- Turn ON the air conditioning to operate the cooling fans.
- Check that both fans operate smoothly and without making abnormal noises.

12. REINSTALL ENGINE UNDER COVERS



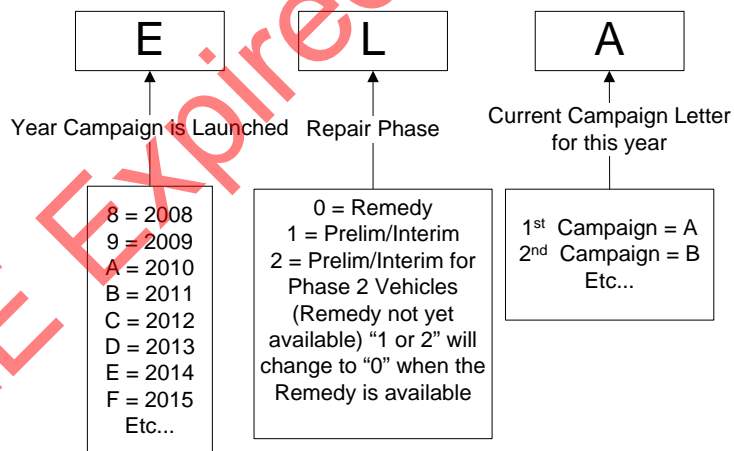
◀ VERIFY REPAIR QUALITY ▶

- Confirm that the fan motor screws have been torqued and installed properly
- Confirm that the fan motors operate smoothly and without abnormal noise
- Confirm that the cooling system is filled and bled properly

If you have any questions regarding this update, please contact your area representative.

XII. APPENDIX

A. CAMPAIGN DESIGNATION DECODER



B. CAMPAIGN PARTS DISPOSAL

As required by Federal Regulations, please make sure all campaign parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, **unless requested for parts recovery return.**