	Switch the ignition on, wet the windscreen and activate the wipers. when the wipers are in operation press the start button, If the wipers stop, the Engine is allowed to start
	Did the engine start? No further action required Contact dealer technical support

SUPERCHARGER COOLING

COOLANT PUMP [G1269183]

REMOVAL

Removal steps in this procedure may contain installation details.

1.

Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

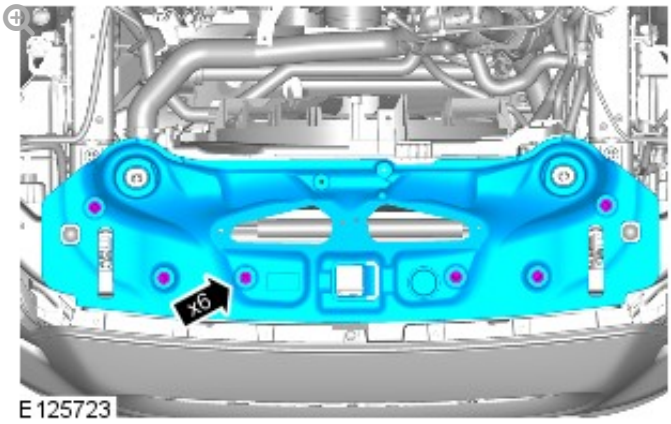
2. Refer to: Cooling System Partial Draining, Filling and Bleeding - V8 S/C 5.0L Petrol (303-03B Engine Cooling - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, General Procedures).

3. Refer to: Left Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

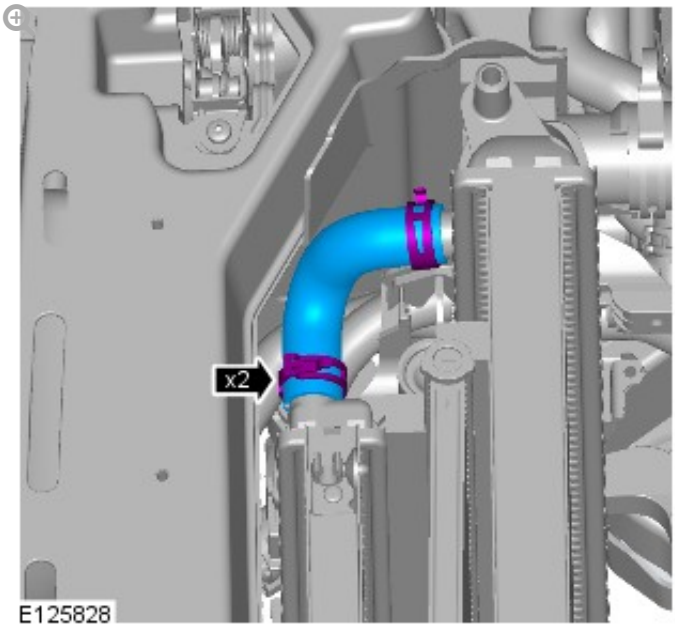
4. Refer to: Right Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

5. Refer to: Left Air Cleaner (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

6. Refer to: Right Air Cleaner (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

7. 

Torque: **9 Nm**

8. 

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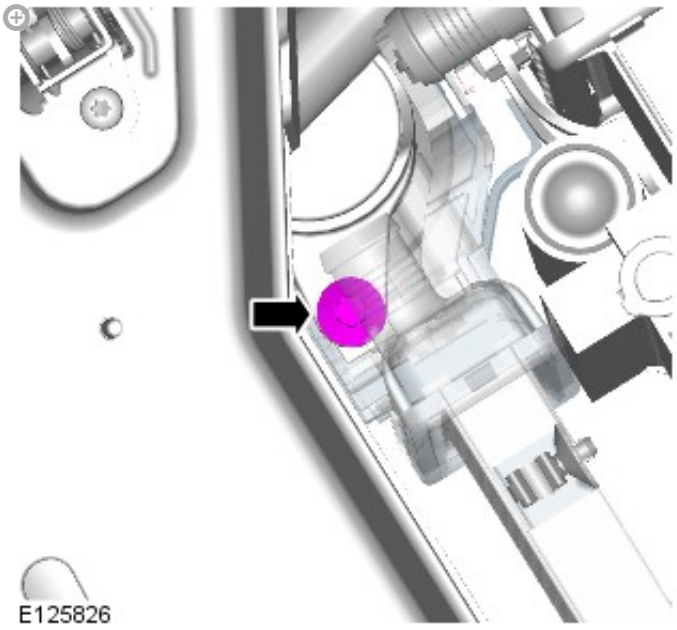
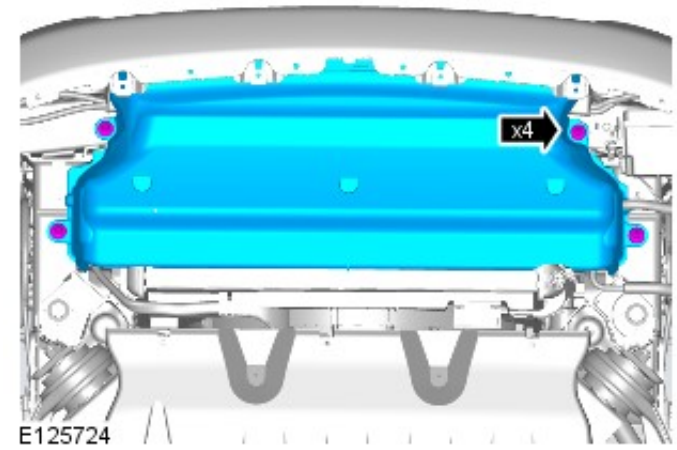


Torque: **7 Nm**

10.



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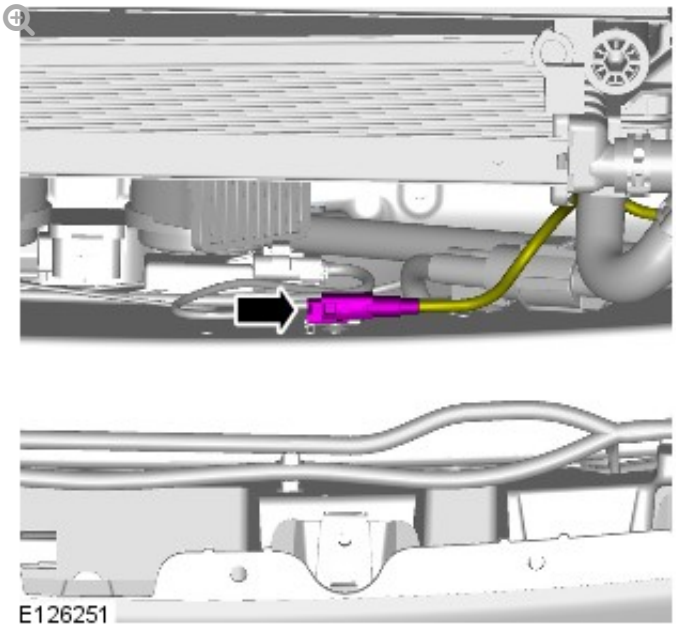

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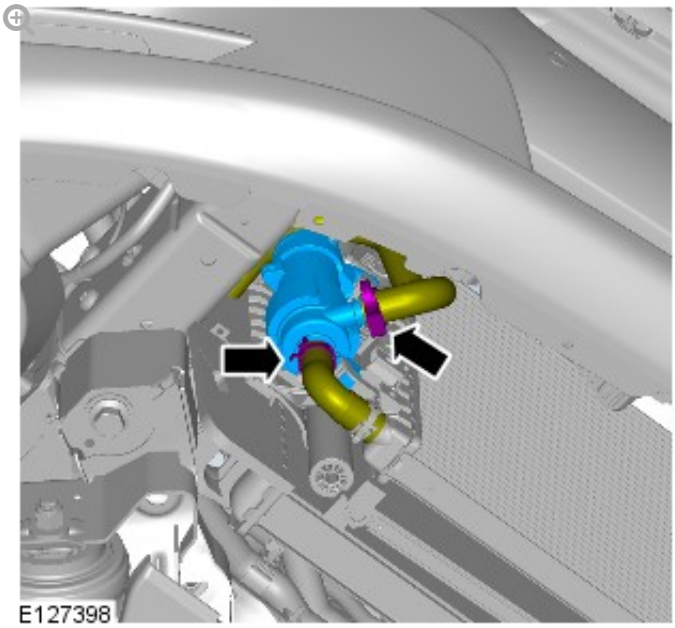


INSTALLATION

1. To install, reverse the removal procedure.

SUPERCHARGER COOLING

RADIATOR [G1269162]

REMOVAL

Removal steps in this procedure may contain installation details.

1.

Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

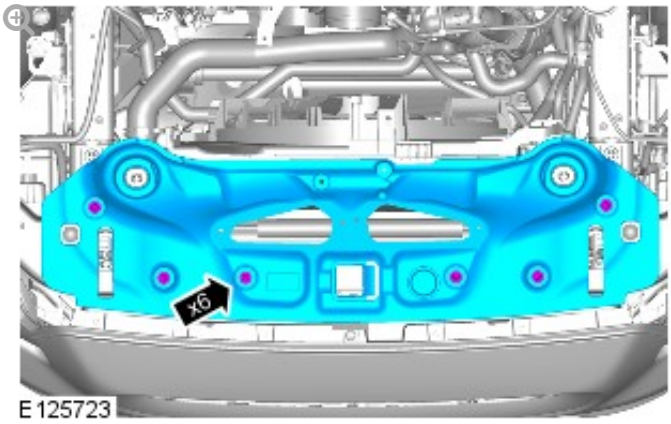
2. Refer to: Cooling System Partial Draining and Vacuum Filling (303-03A Engine Cooling - TDV6 3.0L Diesel, General Procedures).

3. Refer to: Left Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

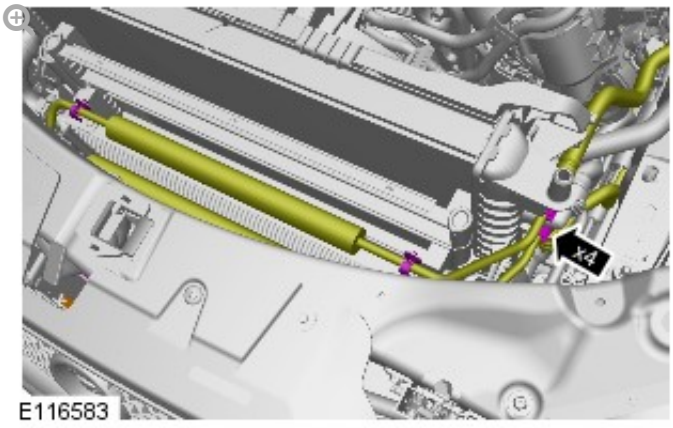
4. Refer to: Right Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

5. Refer to: Left Air Cleaner (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

6. Refer to: Right Air Cleaner (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Removal and Installation).

7. 

Torque: **9 Nm**

8. 

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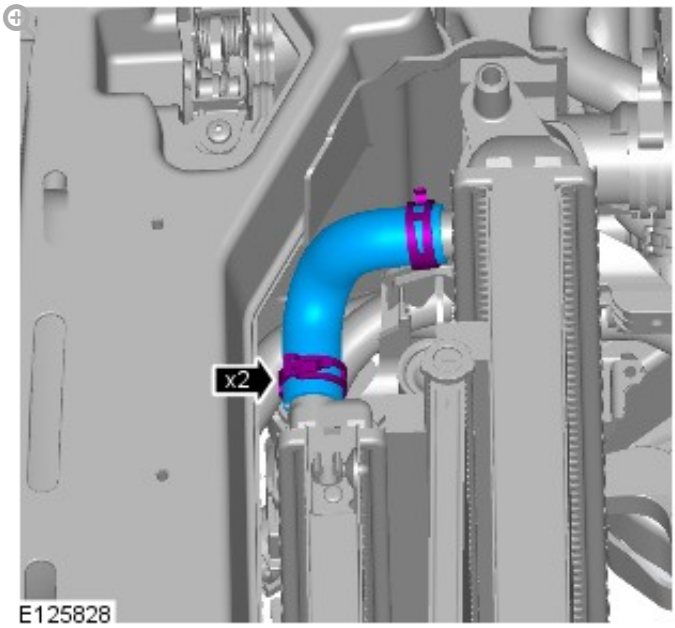

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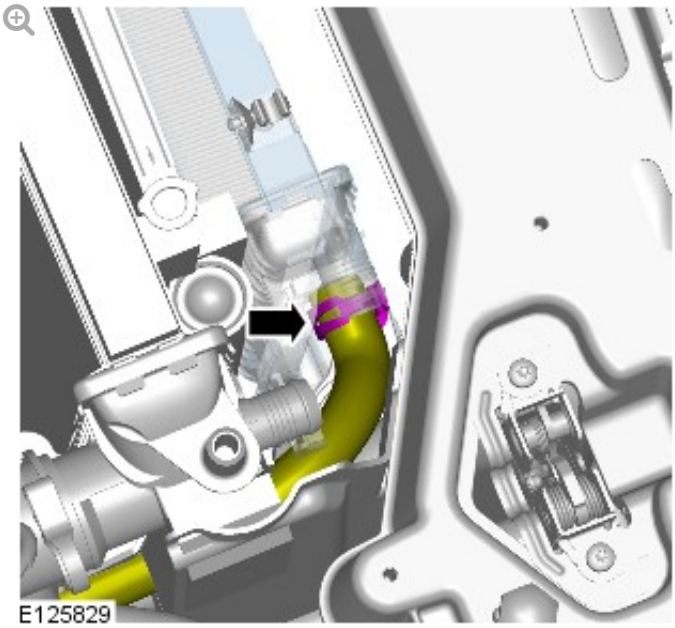

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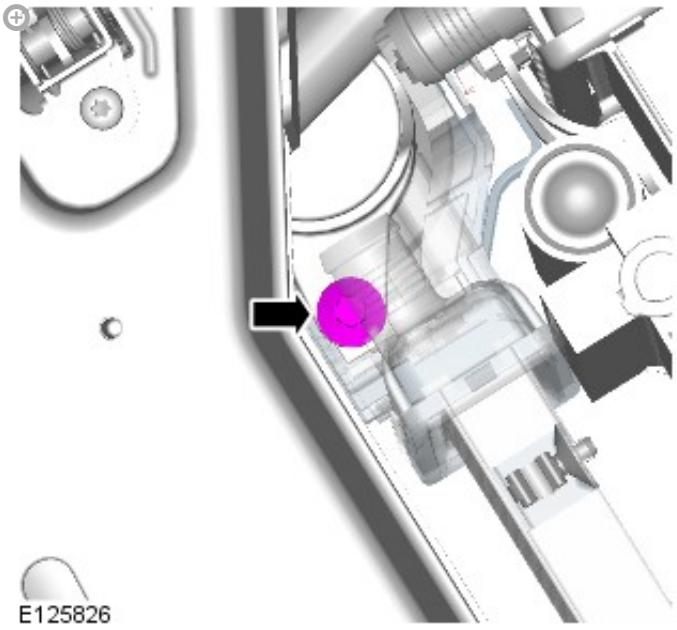
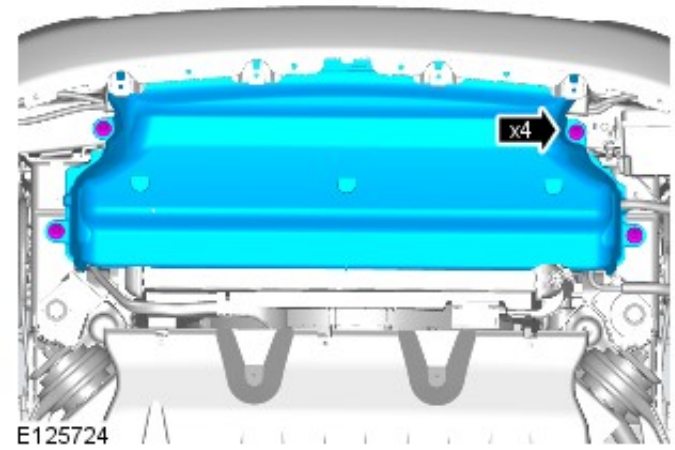


Torque: **7 Nm**

12.



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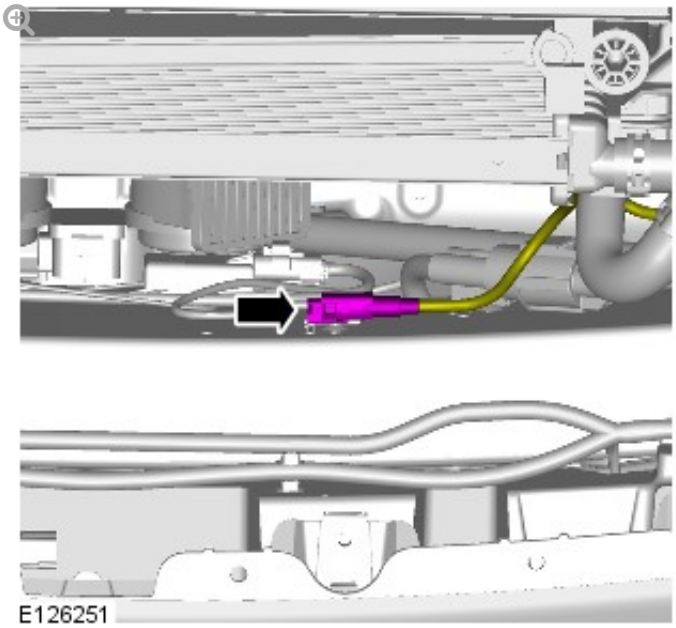

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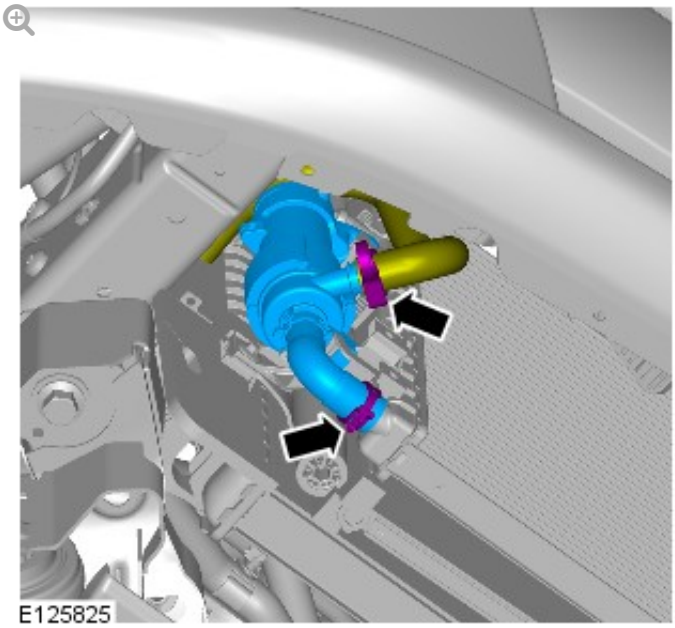
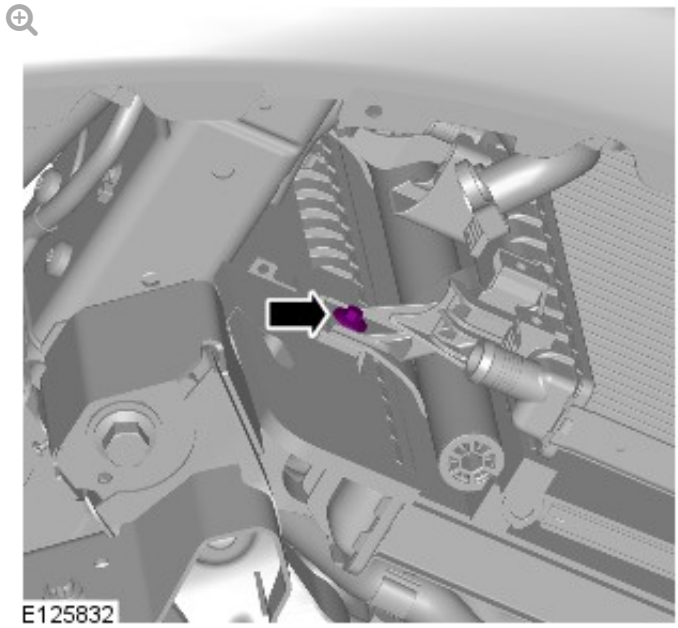


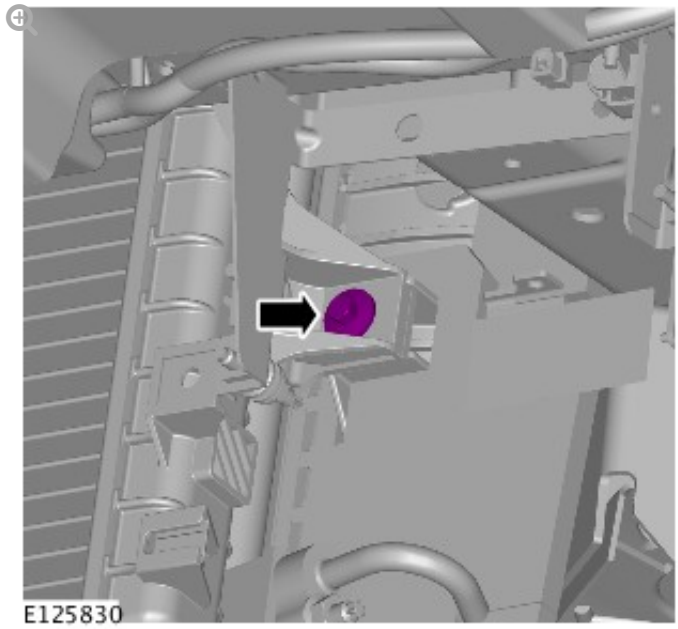
15.

Support the air conditioning (A/C) condenser.



Torque: **7 Nm**

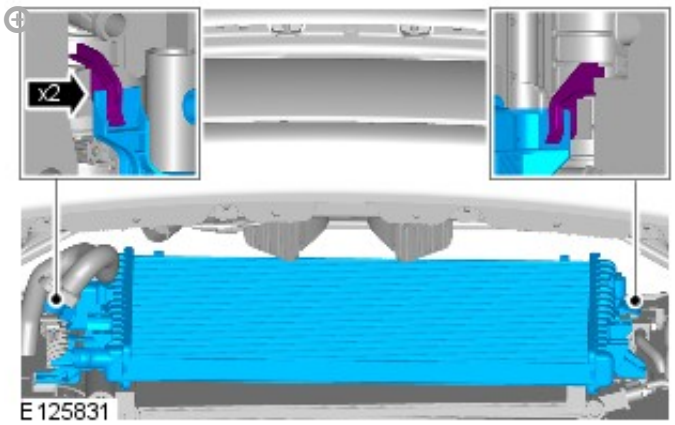
16.



Torque: **7 Nm**

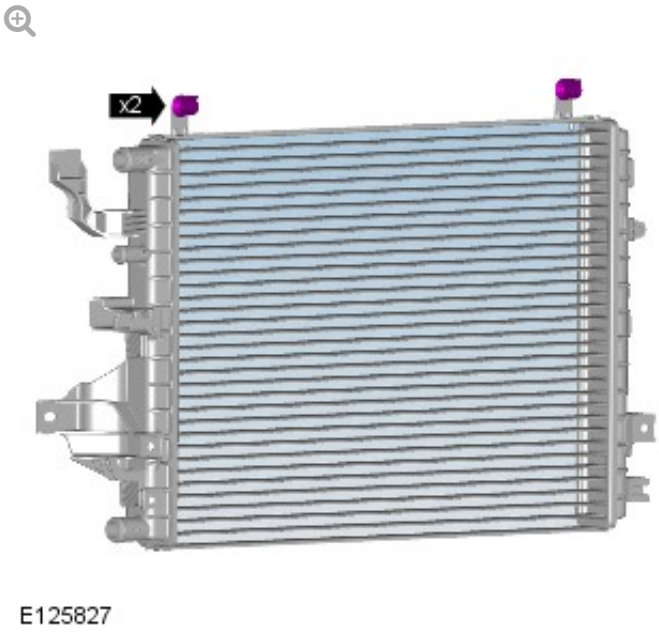
17.

Always protect the cooling pack elements to prevent accidental damage.



18.

Do not disassemble further if the component is removed for access only.

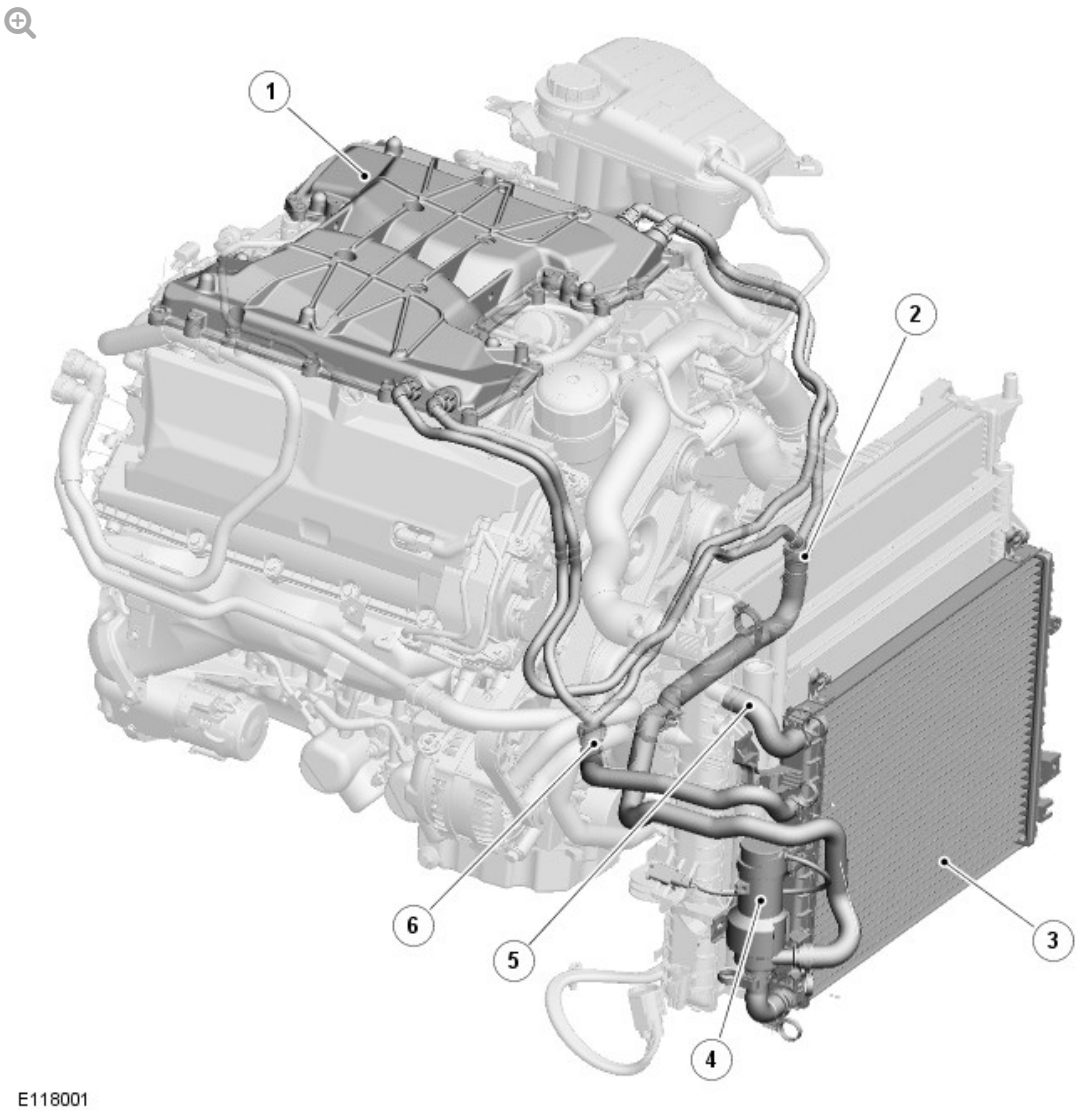


INSTALLATION

1. To install, reverse the removal procedure.

SUPERCHARGER COOLING

SUPERCHARGER COOLING - COMPONENT LOCATION [G1245368]



1	Intake manifold assemblies
2	Supply hoses to charge air coolers
3	Charge air radiator
4	Charge air coolant pump
5	Engine cooling system connecting hose
6	Return hoses from charge air coolers

SUPERCHARGER COOLING

SUPERCHARGER COOLING - OVERVIEW [G1245369]

OVERVIEW

The supercharger cooling system cools the pressurized charge air from the supercharger. The supercharger cooling system consists of:

- A charge air coolant pump.
- A charge air radiator.
- Two charge air coolers.
- Connecting hoses and pipes.

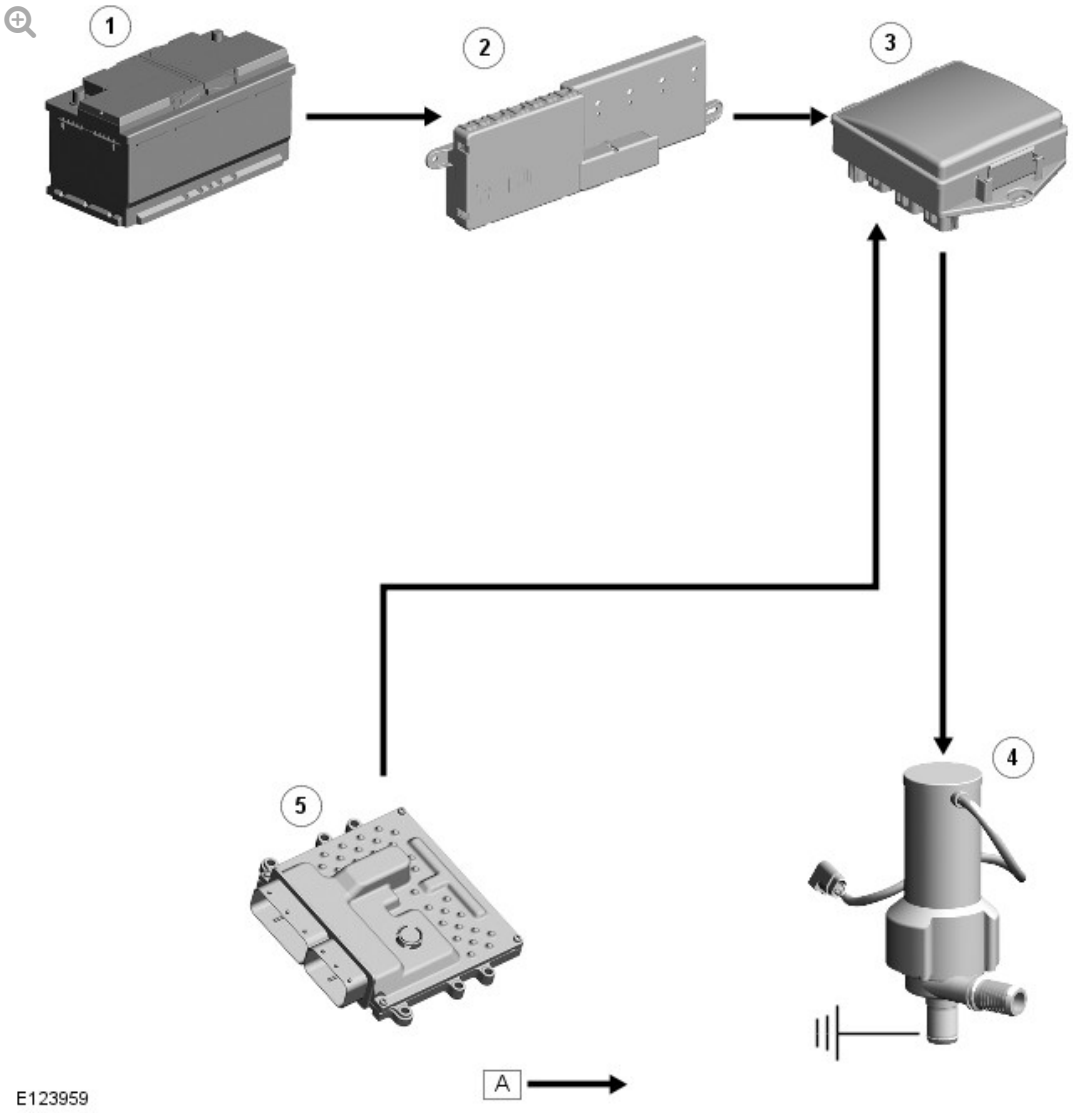
The supercharger cooling system is operationally independent of the engine cooling system, but connected to it by a hose installed between the charge air radiator and the radiator of the engine cooling system. The connection with the engine cooling system accommodates thermal expansion and retraction of the coolant in the supercharger cooling system, and enables filling and draining of the supercharger cooling system.

SUPERCHARGER COOLING - SYSTEM OPERATION AND COMPONENT DESCRIPTION

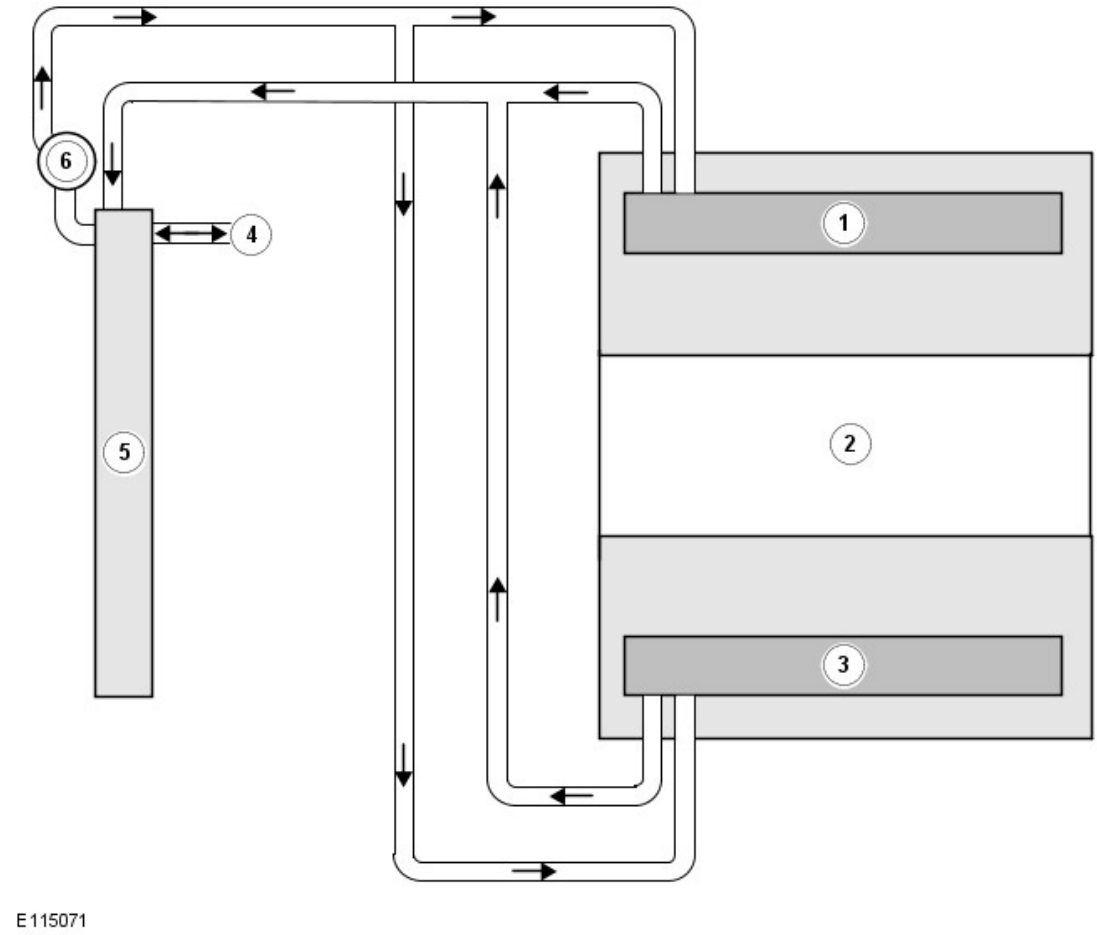
[G1245370]

CONTROL DIAGRAM

A = Hardwired



1	Battery
2	BJB (battery junction box) (250 A megafuse)
3	EJB (engine junction box)
4	Charge air coolant pump
5	ECM (engine control module)



1	RH (right-hand) charge air cooler
2	Engine
3	LH (left-hand) charge air cooler
4	Expansion hose connection (with engine cooling system)
5	Charge air radiator
6	Charge air coolant pump

SYSTEM OPERATION

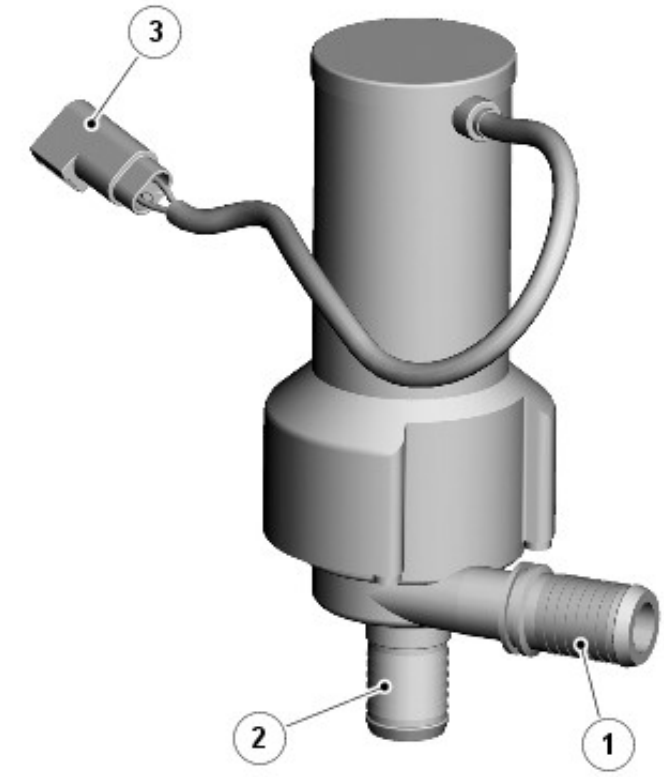
Electrical power for the charge air coolant pump is supplied from the

intercooler coolant pump relay in the EJB. When the intercooler coolant pump relay is energized, it connects power from the battery to the charge air coolant pump. Operation of the intercooler coolant pump relay is controlled by the ECM. The intercooler coolant pump relay is energized continuously while the ignition is in power mode 6.

When the charge air coolant pump is running, coolant flows from the pump outlet through the charge air coolers, the charge air radiator and back to the pump inlet.

COMPONENT DESCRIPTION

CHARGE AIR COOLANT PUMP

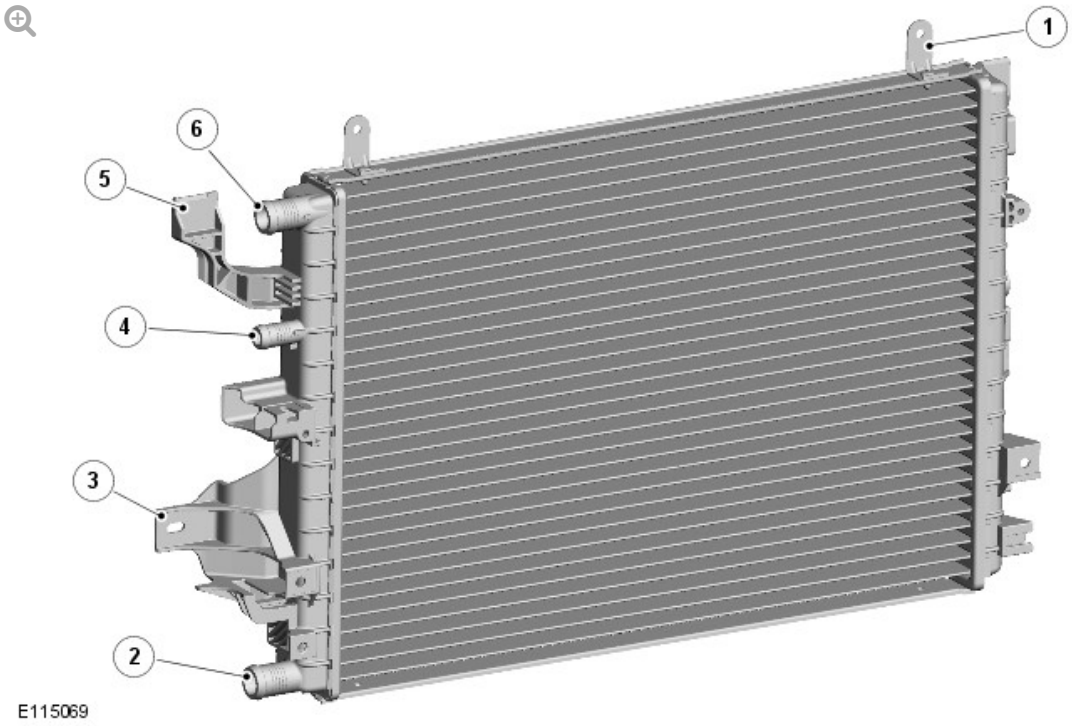


E98150

1	Coolant outlet connection
2	Coolant inlet connection
3	Electrical connector

The charge air coolant pump is an electric pump attached to the RH side of the charge air radiator. Hoses connect the inlet of the charge air coolant pump to the charge air radiator, and the outlet to the charge air coolers. An electrical connector provides the interface between the motor of the charge air coolant pump and the vehicle wiring.

CHARGE AIR RADIATOR



1	Pipe clip bracket (2 off)
2	Coolant outlet connection
3	Lower attachment bracket (2 off)
4	Coolant inlet connection
5	Upper attachment bracket (2 off)

6	Expansion hose connection (with engine cooling system)

The charge air radiator is a cross flow type with an aluminum core and plastic end tanks. The charge air radiator is installed in the cooling module, in front of the A/C (air conditioning) condenser. Brackets on the end tanks attach the charge air radiator to the front of the engine cooling system radiator.

The RH end tank incorporates the coolant inlet and outlet connections, and a connection for the hose to the engine cooling system. Hoses connect the inlet of the charge air radiator to the charge air coolers, and the outlet to the charge air coolant pump.

CHARGE AIR COOLERS

A charge air cooler is installed in each intake manifold.
Refer to: Intake Air Distribution and Filtering - V8 S/C 5.0L Petrol (303-12B Intake Air Distribution and Filtering - V8 N/A 5.0L Petrol/V8 S/C 5.0L Petrol, Description and Operation).