

Throttle Body 19.70.04

Removal

1. Remove the air cleaner outlet pipe. <<303-12>>

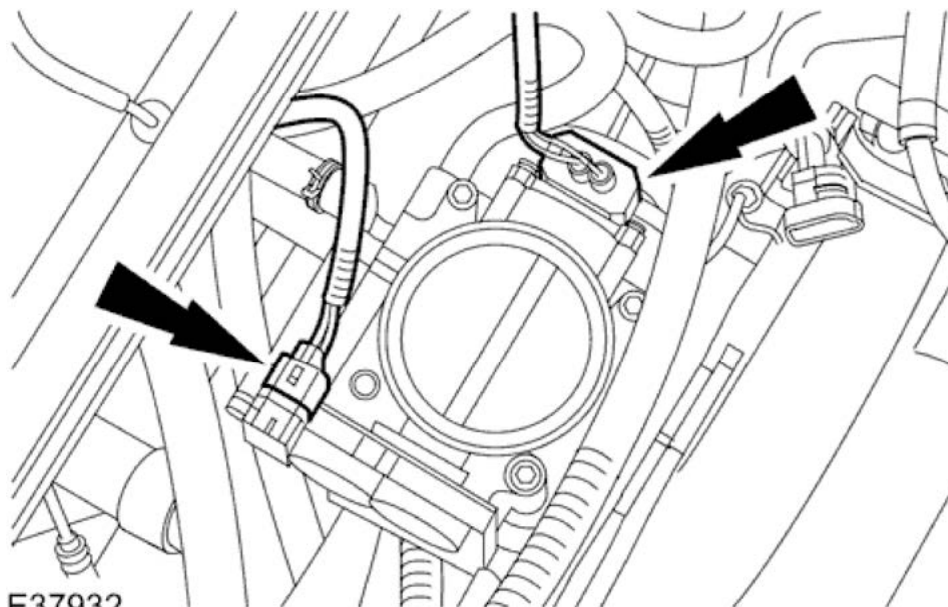


2. **WARNING:**

TO AVOID HOT COOLANT OR STEAM BLOWING OUT OF THE COOLING SYSTEM, USE EXTREME CARE WHEN REMOVING THE COOLANT EXPANSION TANK PRESSURE CAP. WAIT UNTIL THE ENGINE HAS COOLED DOWN, THEN INSULATE THE COOLANT PRESSURE CAP WITH A SUITABLE CLOTH AND SLOWLY LOOSEN THE COOLANT EXPANSION TANK PRESSURE CAP UNTIL THE COOLING SYSTEM PRESSURE IS RELEASED. STEP BACK WHILE THE PRESSURE IS RELEASED FROM THE SYSTEM. WHEN ALL OF THE PRESSURE HAS BEEN RELEASED SLOWLY REMOVE THE COOLANT EXPANSION TANK PRESSURE CAP (STILL WITH THE SUITABLE CLOTH IN POSITION) FROM THE COOLANT EXPANSION TANK. FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN PERSONAL INJURY.

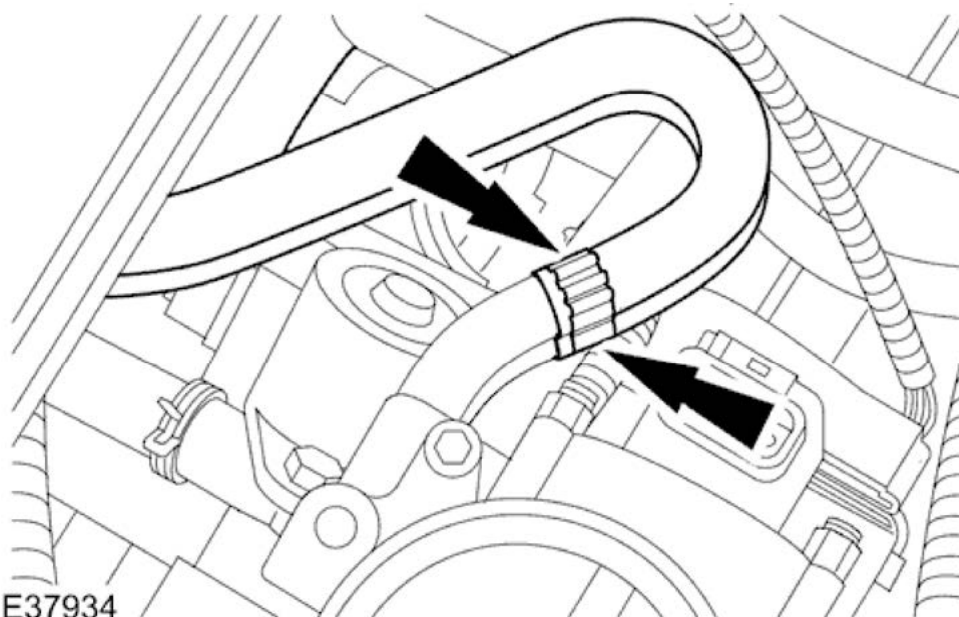
Release the cooling system pressure.

- Remove the coolant expansion tank pressure cap.



E37932

3. Disconnect the throttle body electrical connectors.

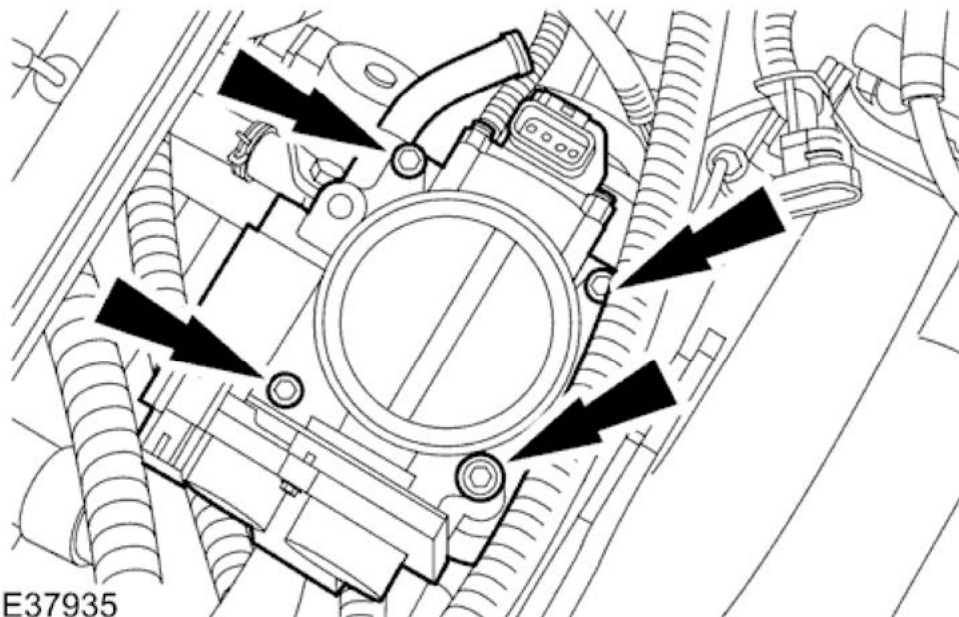


E37934

4. **NOTE:**

Cap the throttle body coolant hoses to minimize coolant loss.

Disconnect the throttle body coolant hoses.

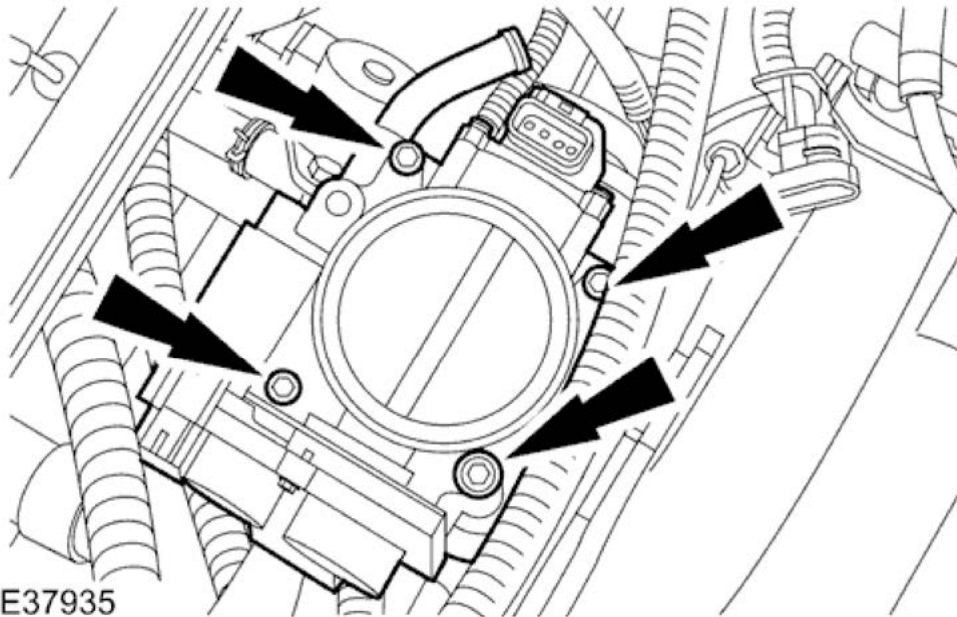


E37935

5. Remove the throttle body.

6. Remove and discard the throttle body gasket.

Installation



E37935

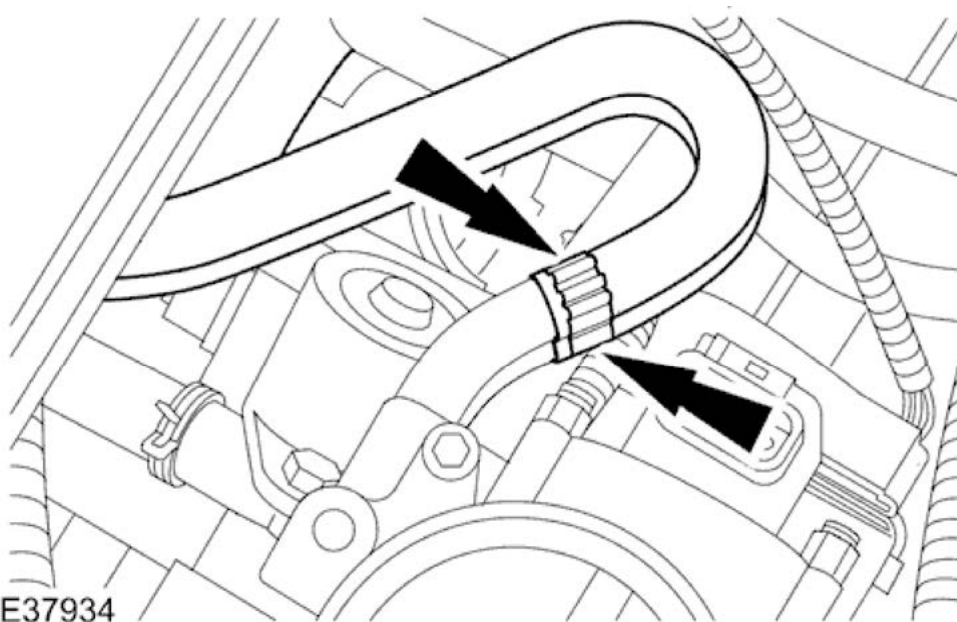
1. **NOTE:**

Install a new throttle body gasket.

Install the throttle body.

- Tighten to 10 Nm.

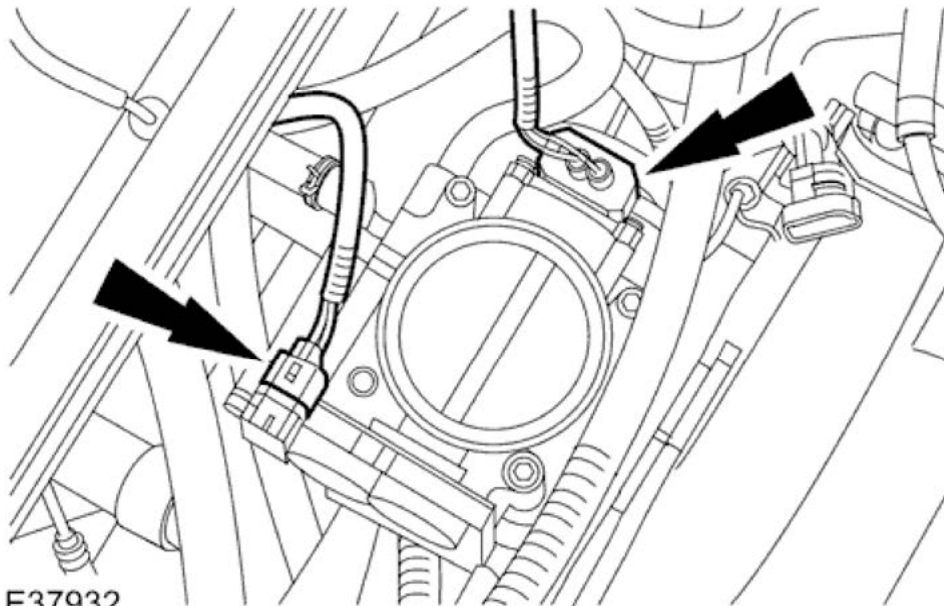
2. Uncap the throttle body coolant hoses.



E37934

3. Connect the coolant hoses.

2003 XK RANGE - Fuel Charging and Controls - 303-04



E37932

4. Connect the throttle body electrical connectors.
5. Check and, if necessary, top up the cooling system.
6. Install the coolant expansion tank pressure cap.
7. Install the air cleaner outlet pipe. <<303-12>>

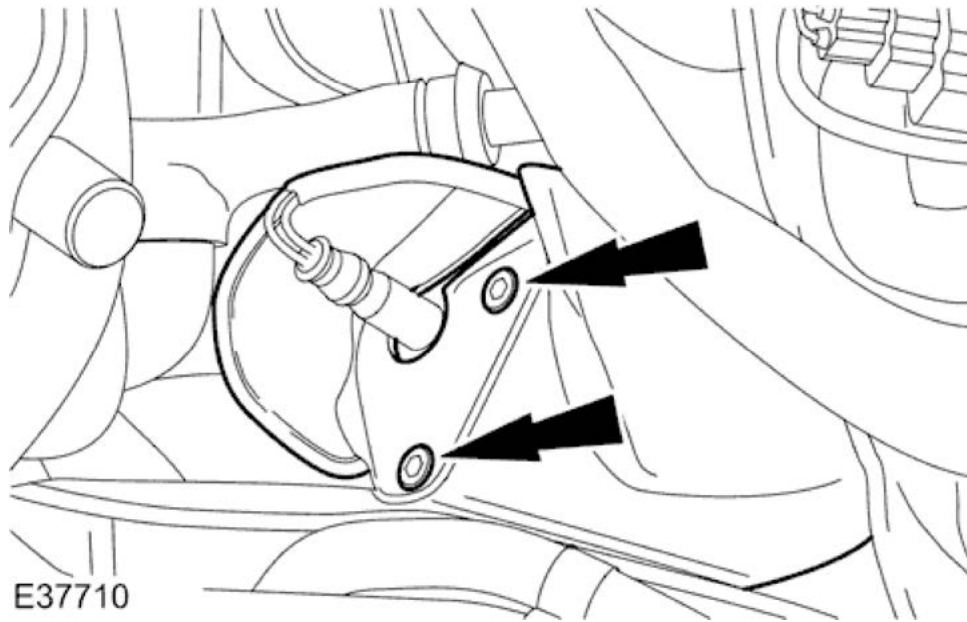
Exhaust Manifold to Exhaust Gas Recirculation (EGR) Valve Tube 17.45.11

Removal

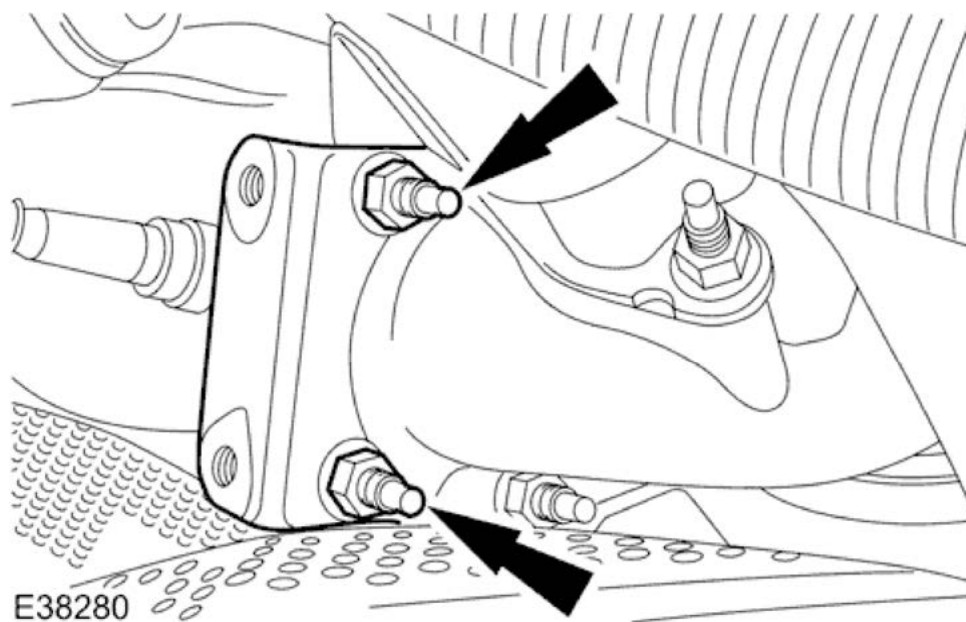
All vehicles

1. Remove the air cleaner outlet pipe. <<303-12>>

Vehicles with supercharger

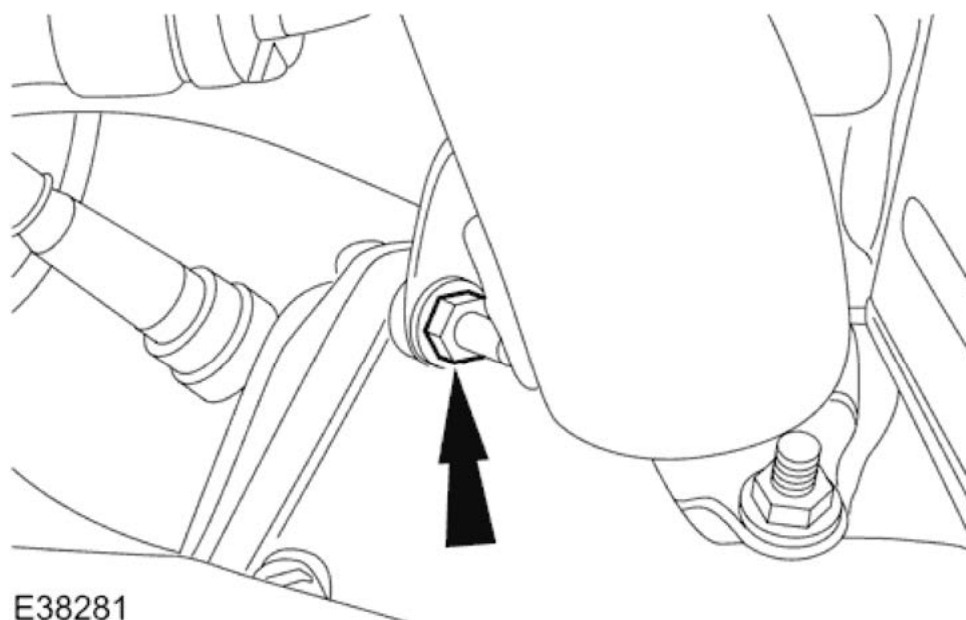


2. Remove the catalytic converter heat shield.



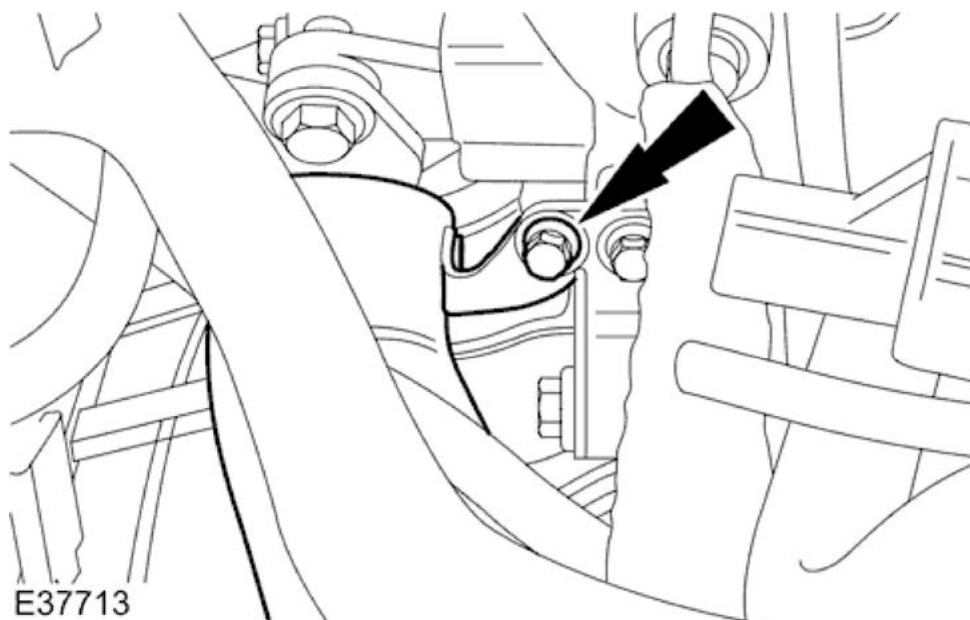
3. Remove the catalytic converter heat shield retaining bracket.

Vehicles without supercharger



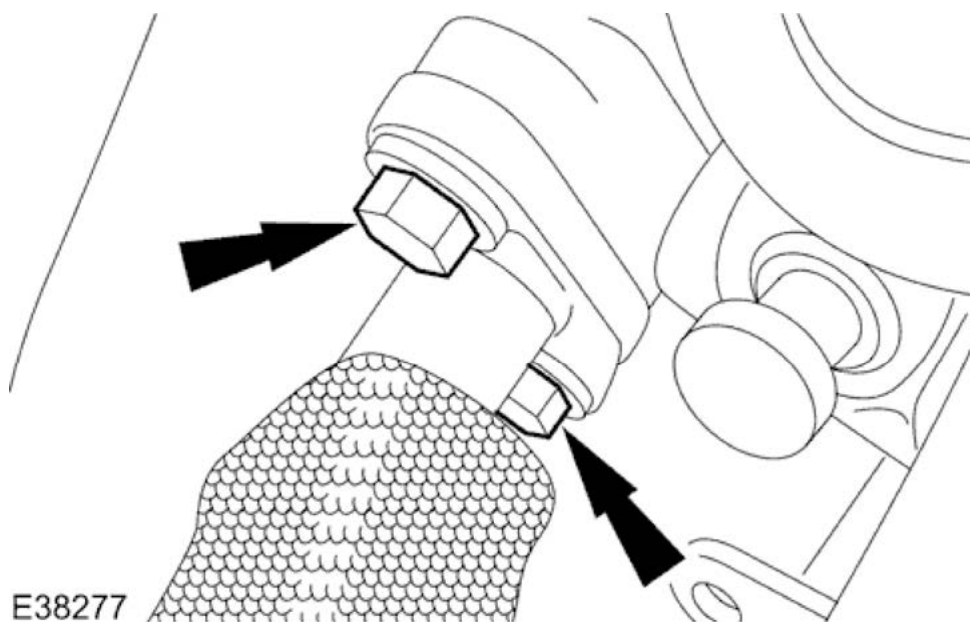
4. Remove the exhaust manifold to exhaust gas recirculation (EGR) valve tube heat shield retaining nut.

All vehicles



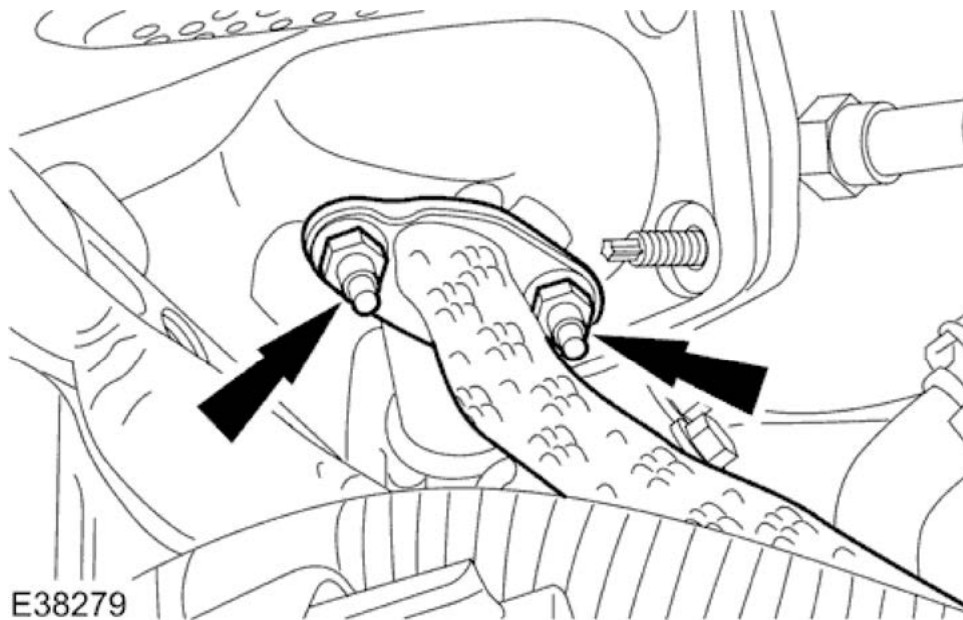
E37713

5. Remove the exhaust manifold to EGR valve tube heat shield.



E38277

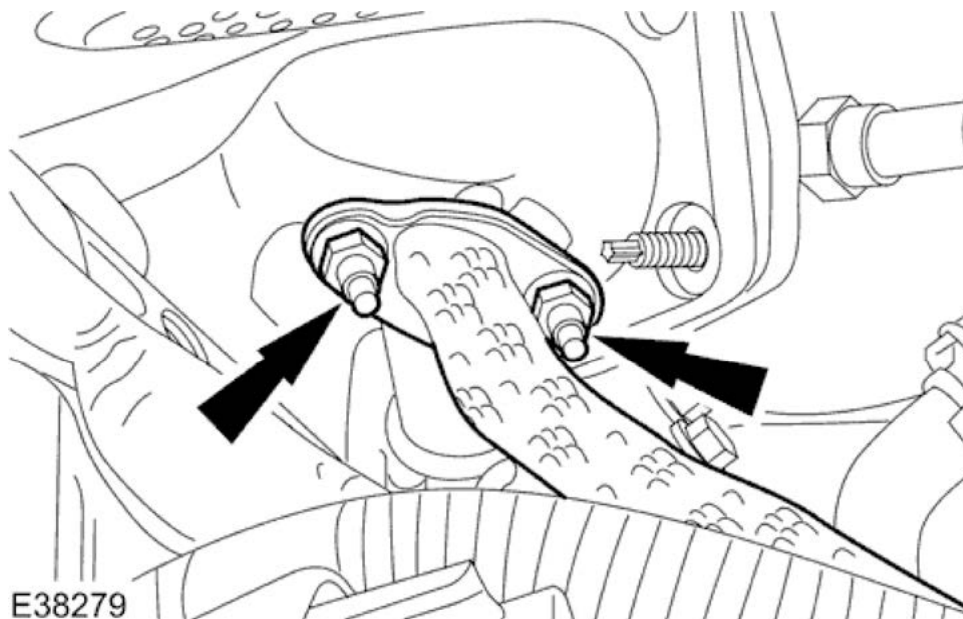
6. Remove the exhaust manifold to EGR valve tube retaining bolts.
• Remove and discard the gasket.



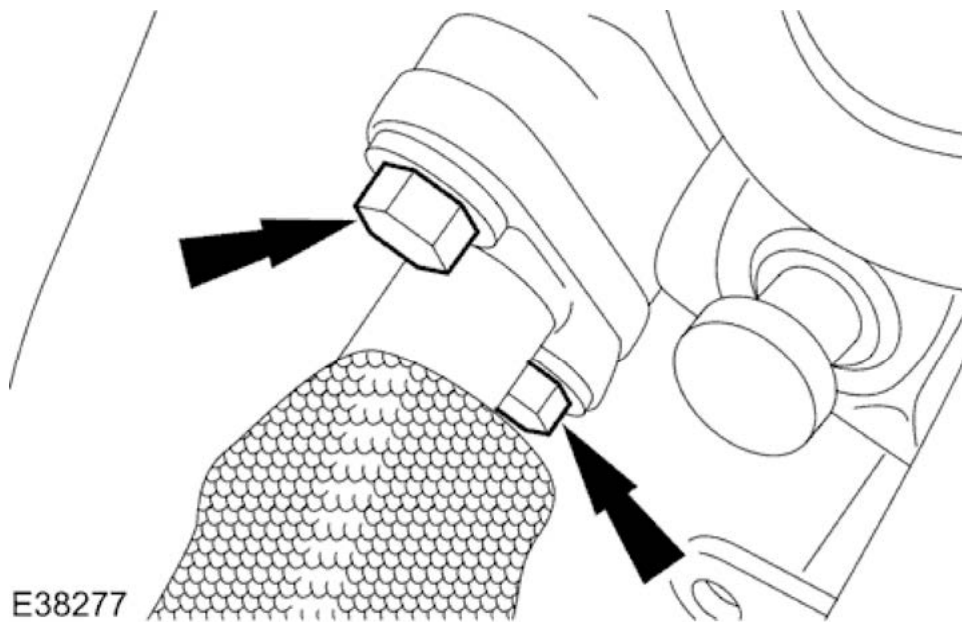
7. Remove the exhaust manifold to EGR valve tube.
- Remove and discard the gasket.

Installation

All vehicles

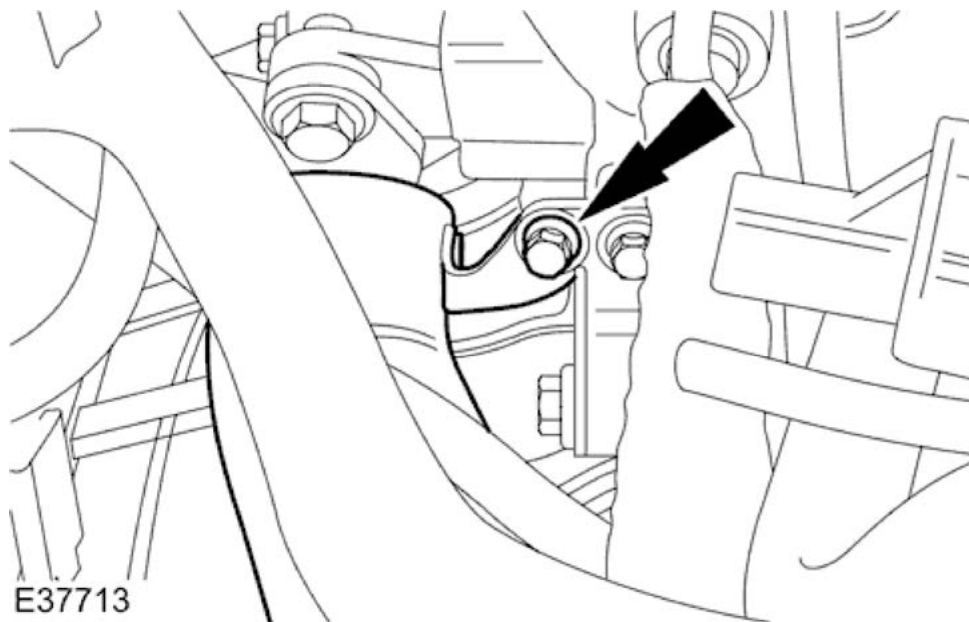


1. To install, reverse the removal procedure.
- Install a new gasket.
 - Tighten to 21 Nm.



E38277

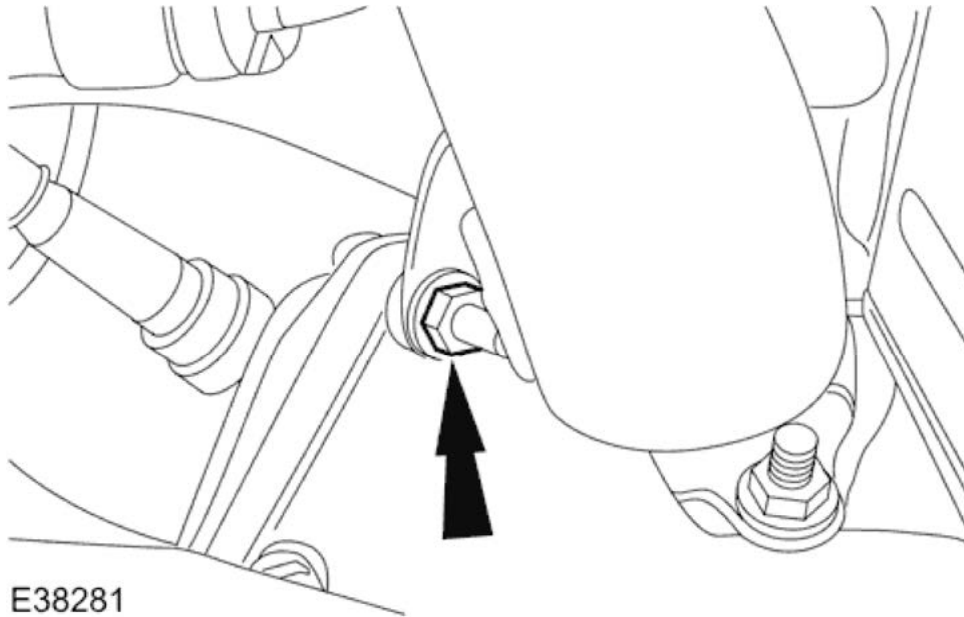
2. Tighten to 21 Nm.
 - Install a new gasket.



E37713

3. Tighten to 9 Nm.

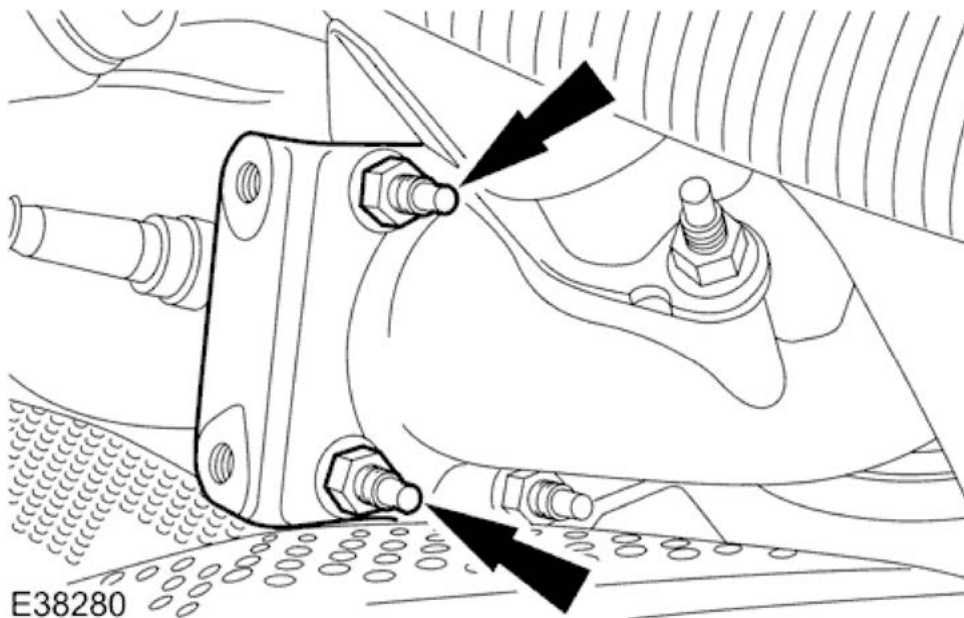
Vehicles without supercharger



E38281

4. Tighten to 20 Nm.

Vehicles with supercharger



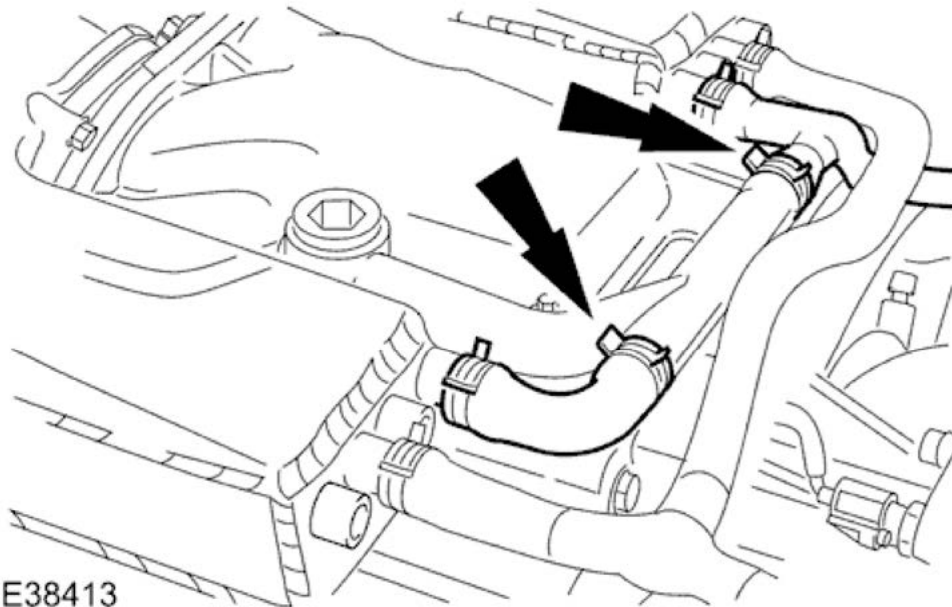
E38280

5. Tighten to 20 Nm.

Supercharger Outlet Pipe 18.50.16

Removal

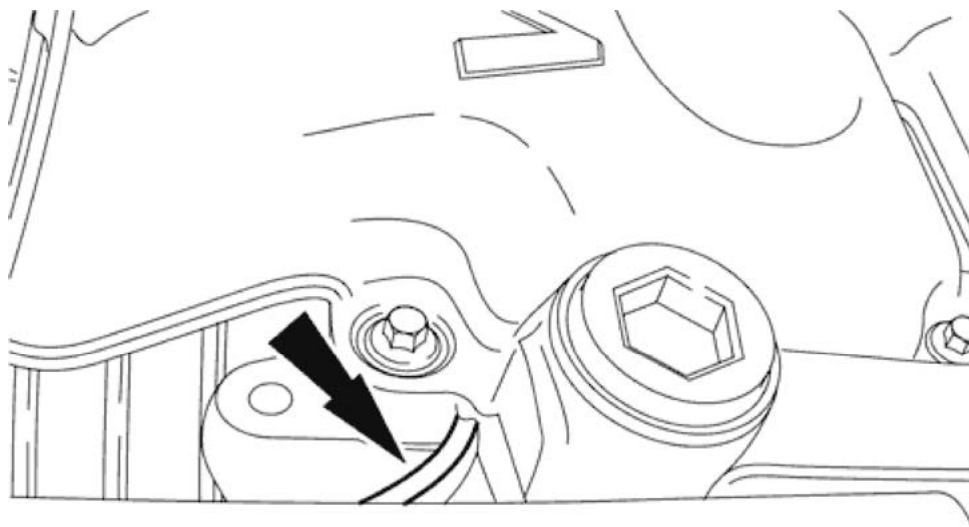
1. Disconnect the battery ground cable. <<414-01>>
2. Remove the air cleaner outlet pipe. <<Air Cleaner Outlet Pipe - >>
3. Drain the cooling system. <<303-03A>><<303-03B>>



E38413

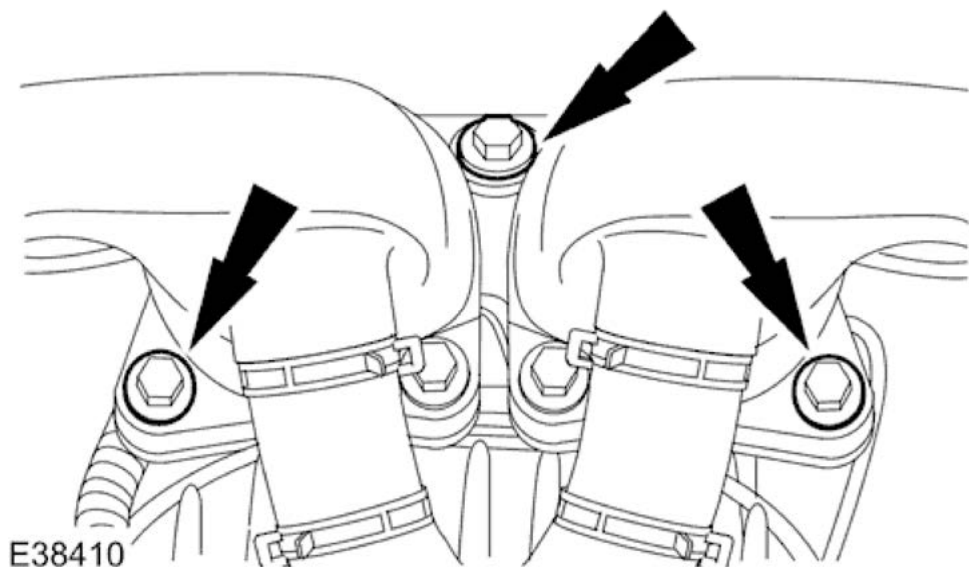
4. Detach the coolant hoses.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38253

5. Disconnect the vacuum hose.

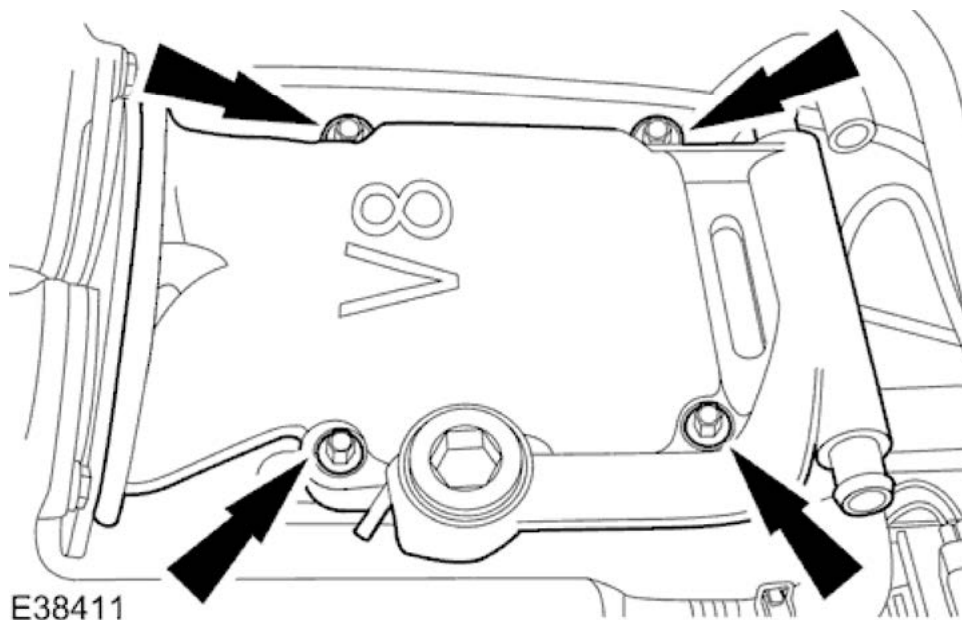



E38410

6. **NOTE:**

Engine shown removed for clarity.

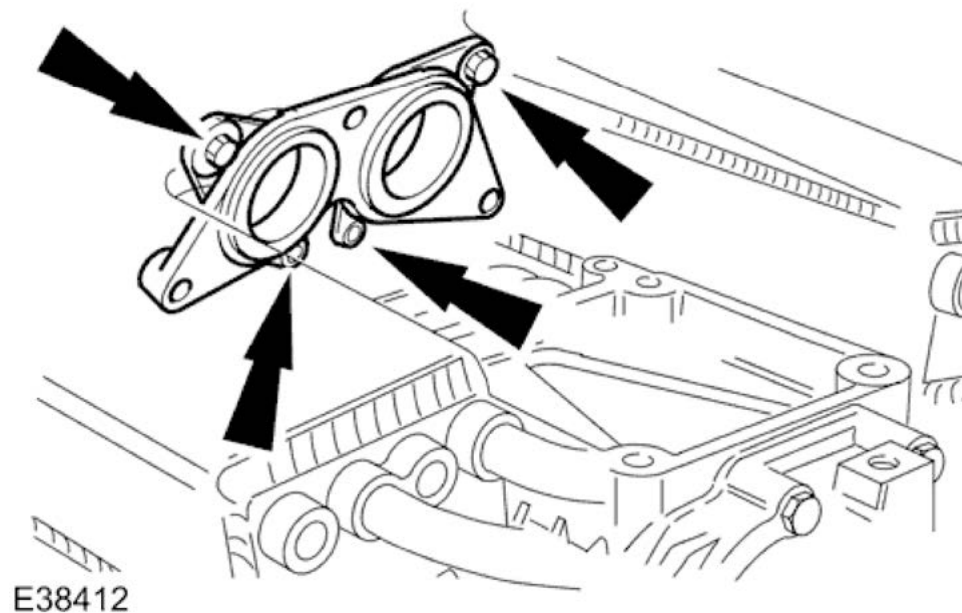
Remove the supercharger outlet pipe to charge air cooler intake assembly retaining bolts.



7.  **CAUTION:**
Make sure no foreign matter enters the supercharger.

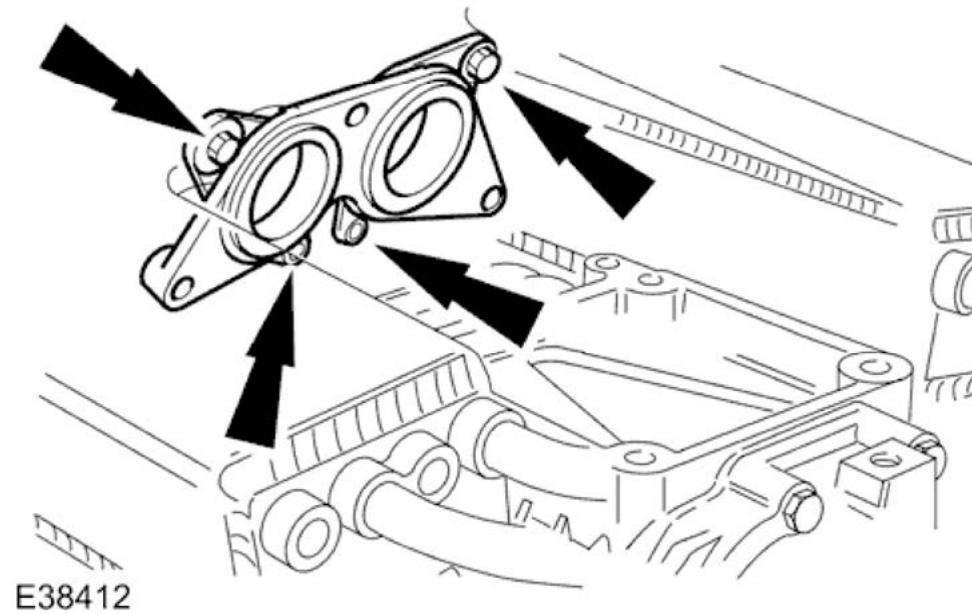
Remove the supercharger outlet pipe.

- Remove and discard the supercharger outlet pipe gasket.
- Remove and discard the supercharger outlet pipe retaining bolt seals.



8. Remove the charge air cooler intake assembly.
- Remove and discard the charge air cooler intake seals.

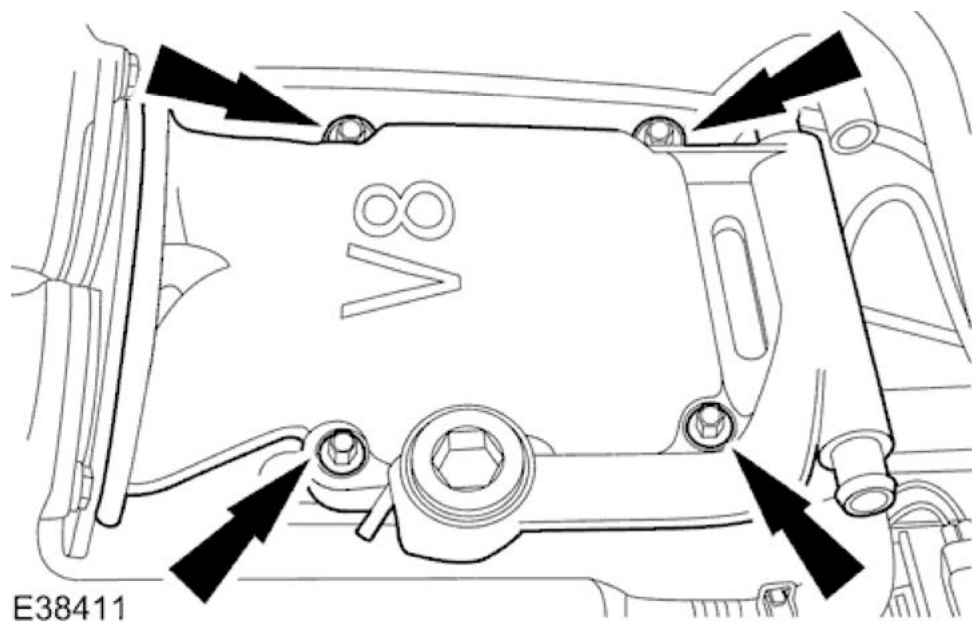
Installation




- NOTE:**
Install new charge air cooler intake seals.

Install charge air cooler intake assembly.

- Tighten to 21 Nm.



-  **CAUTION:**
Make sure no foreign matter enters the supercharger.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12

NOTE:

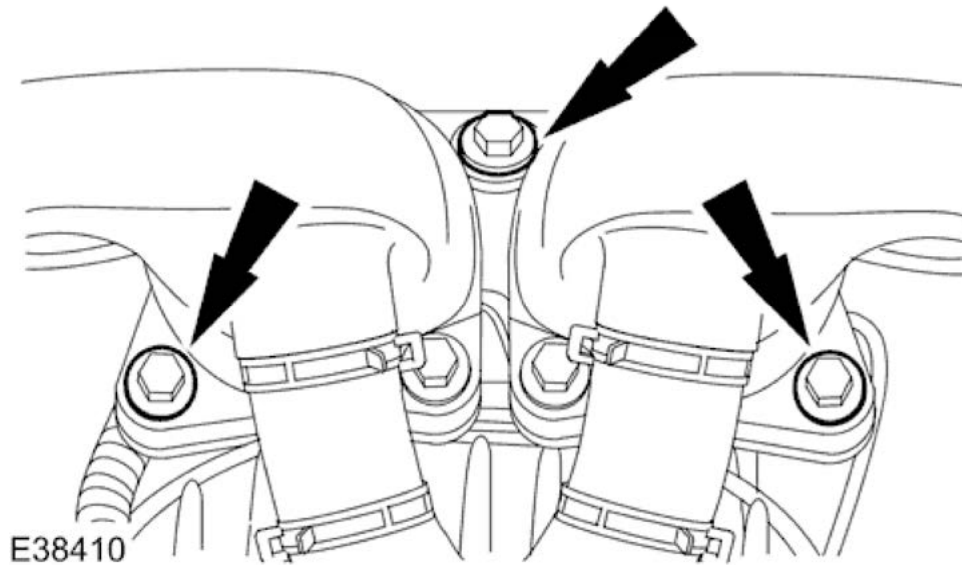
Install new supercharger outlet pipe retaining bolt seals.

NOTE:

Install a new supercharger outlet pipe gasket.

Install the supercharger outlet pipe.

- Tighten to 10 Nm.



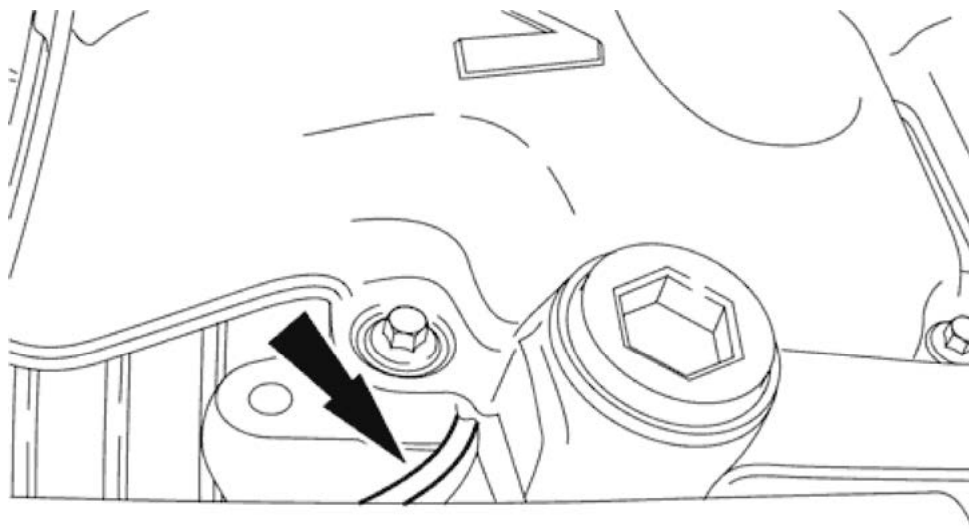
3. NOTE:

Engine shown removed for clarity

Install the supercharger outlet pipe to charge air cooler intake assembly retaining bolts.

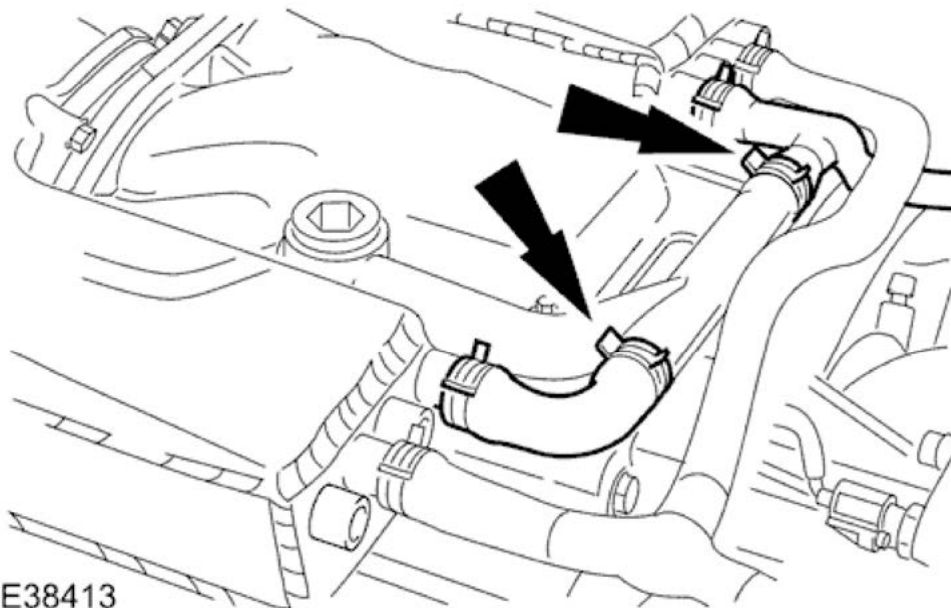
- Tighten to 21 Nm.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38253

4. Connect the vacuum hose.



E38413

5. Connect the coolant hoses.

6. Fill the cooling system. <<303-03A>><<303-03B>>

7. Install the air cleaner outlet pipe. <<Air Cleaner Outlet Pipe - >>

8. Connect the battery ground cable. <<414-01>>

Supercharger 18.50.15

Special Service tools



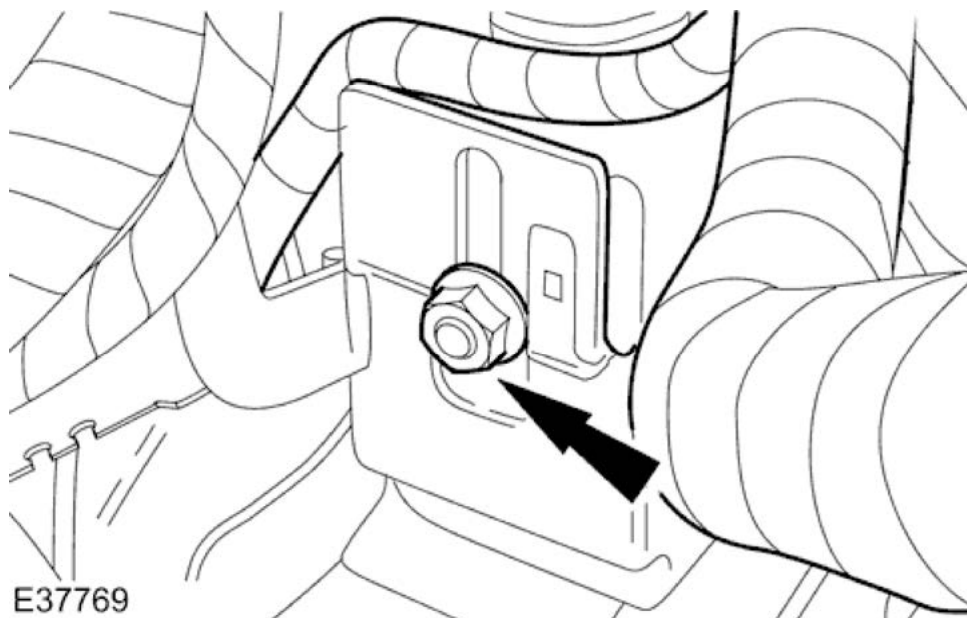
303-631

Belt tensioner release tool

303-631

Removal

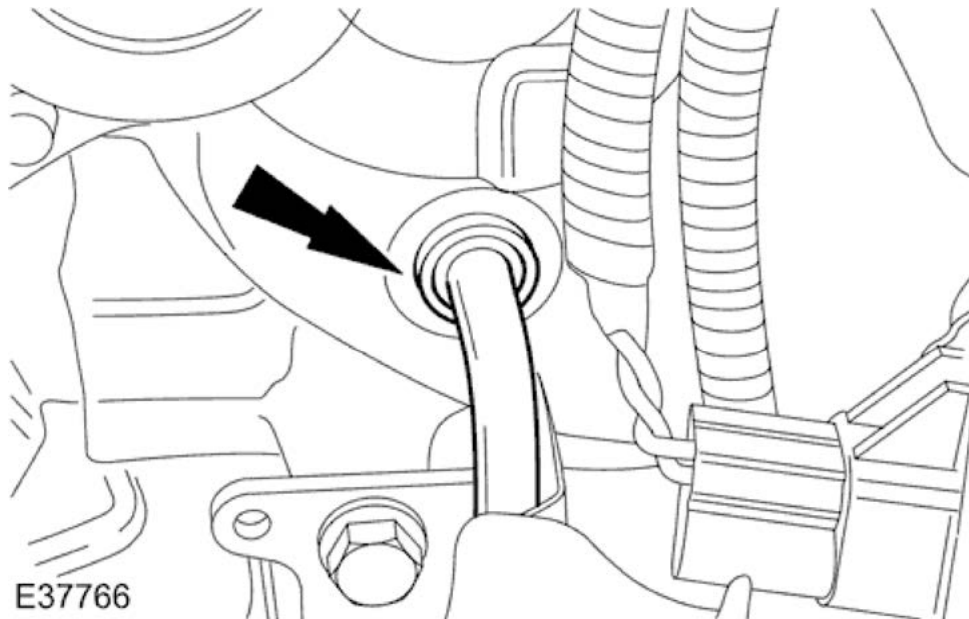
1. Remove the throttle body. <<303-04>>
2. Remove the exhaust manifold to exhaust gas recirculation (EGR) valve tube. <<303-08>>
3. Remove the supercharger outlet pipe. <<Supercharger Outlet Pipe - >>



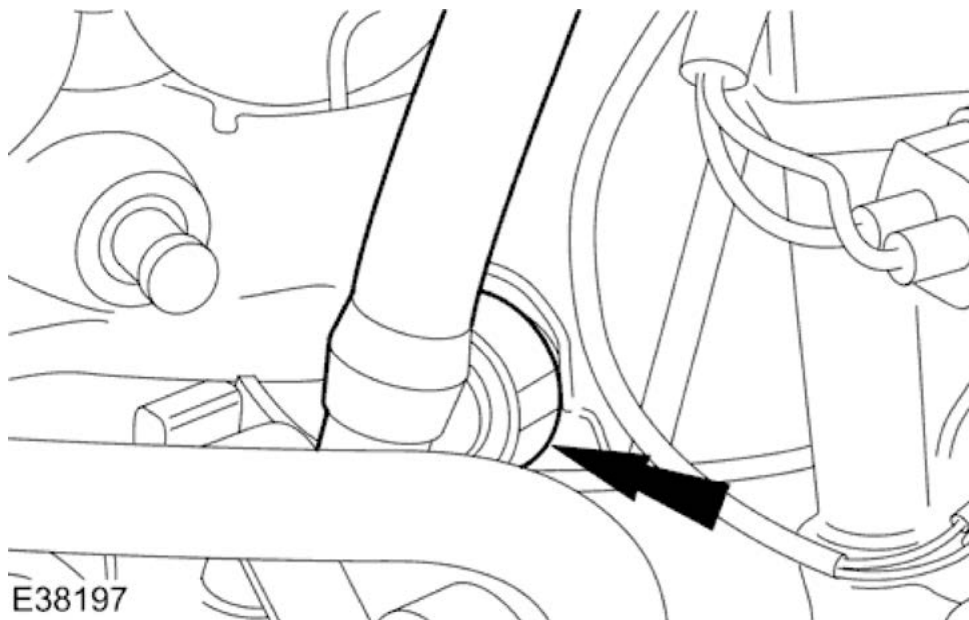
E37769

4. Detach and reposition the engine wiring harness.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12

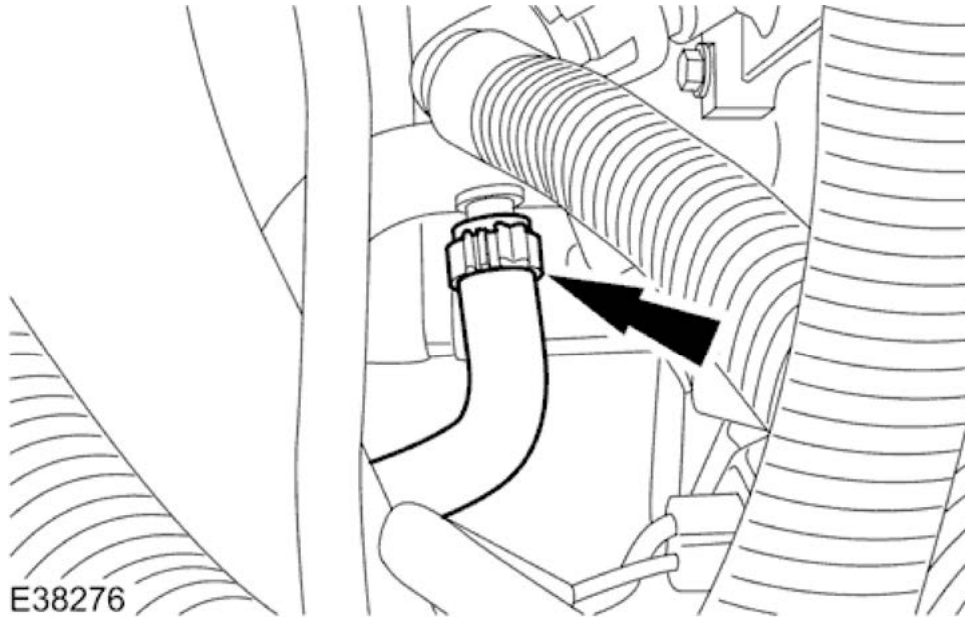


5. Disconnect the brake booster vacuum hose.

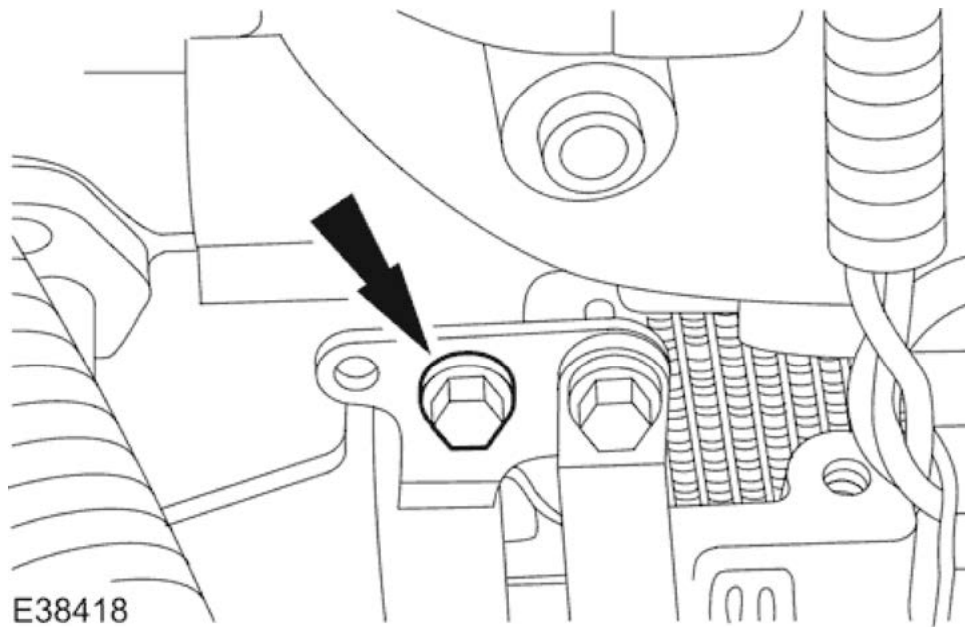


6. Disconnect the crankcase ventilation tube.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12

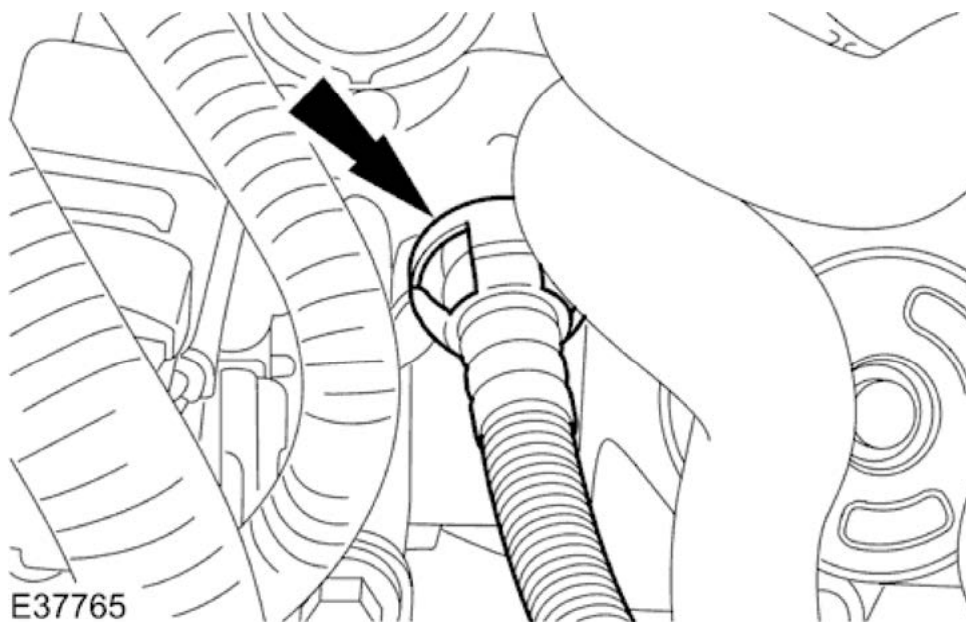


7. Disconnect the EGR valve to heater core inlet coolant hose.
- Remove and discard the coolant hose retaining clip.



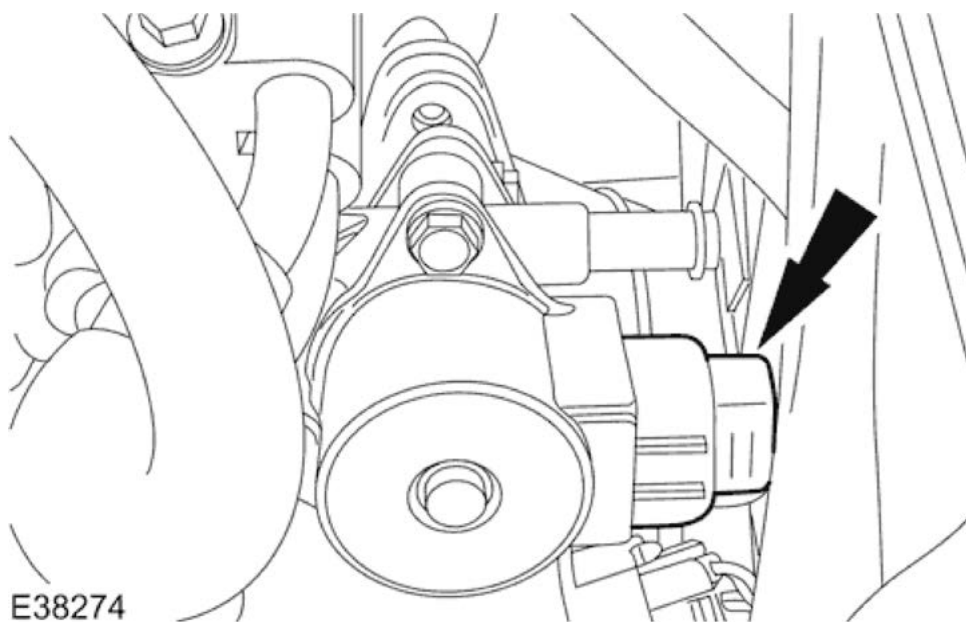
8. Remove the right-hand throttle body elbow retaining bolt.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E37765

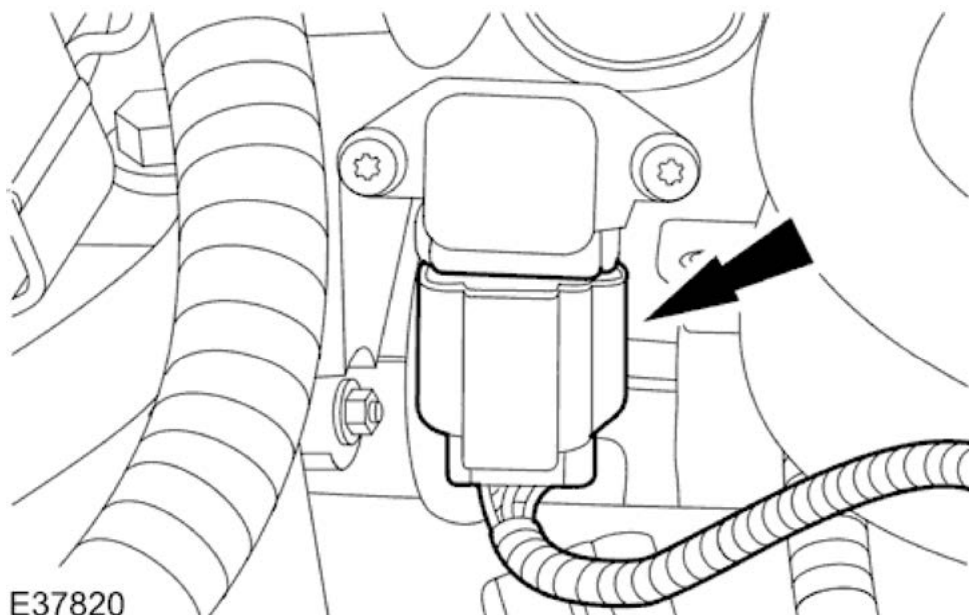
9. Disconnect the evaporative emission purge valve tube.



E38274

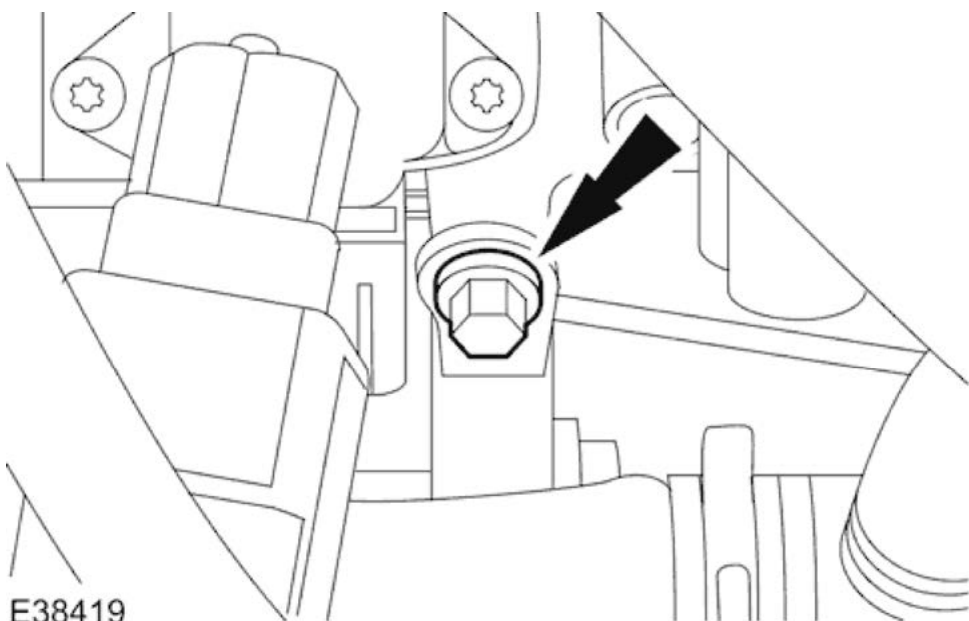
10. Disconnect the EGR valve electrical connector.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



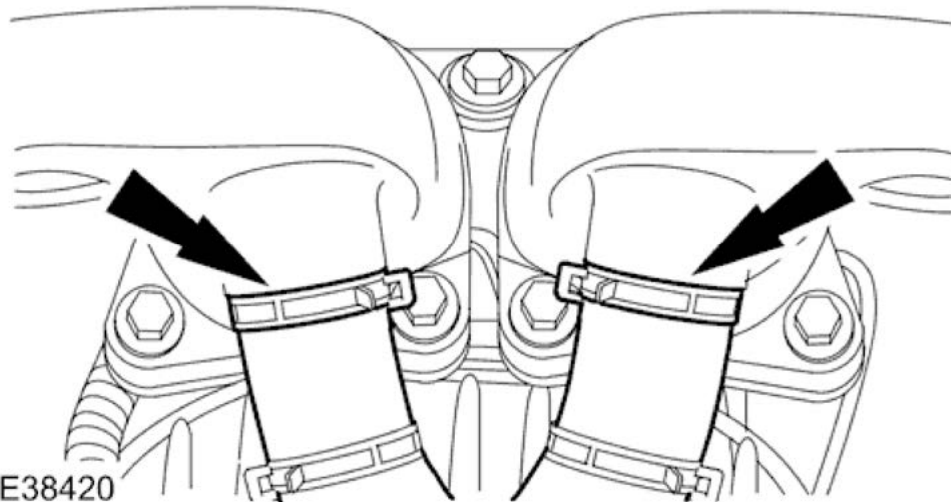
E37820

11. Disconnect the manifold absolute pressure (MAP) sensor electrical connector.

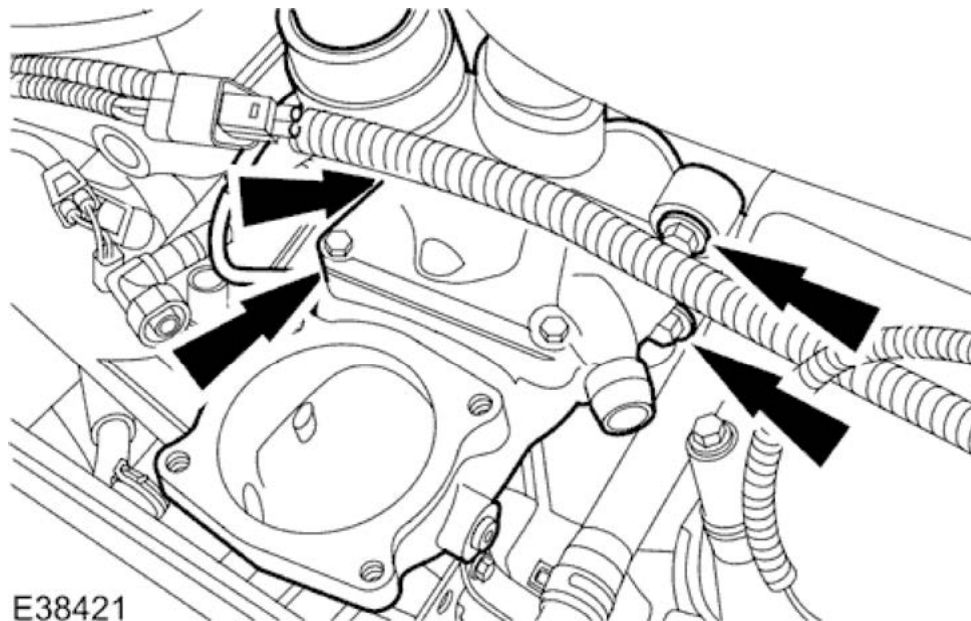


E38419

12. Remove the left-hand throttle body elbow retaining bolt.



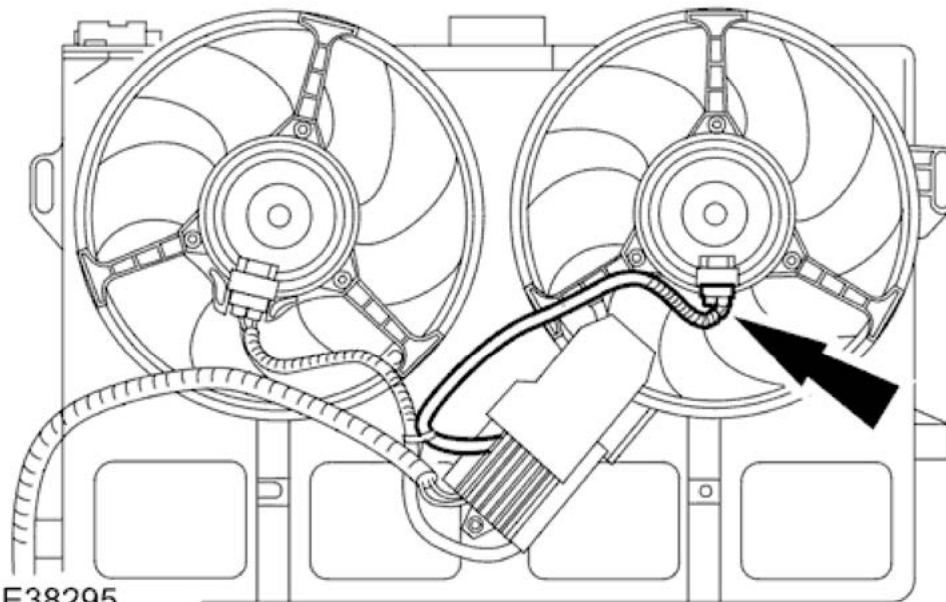
13. Reposition the charge air cooler hose retaining clips.



14. Remove the throttle body elbow.

- Remove and discard the throttle body elbow gasket.
- Remove and discard the retaining bolt seals.

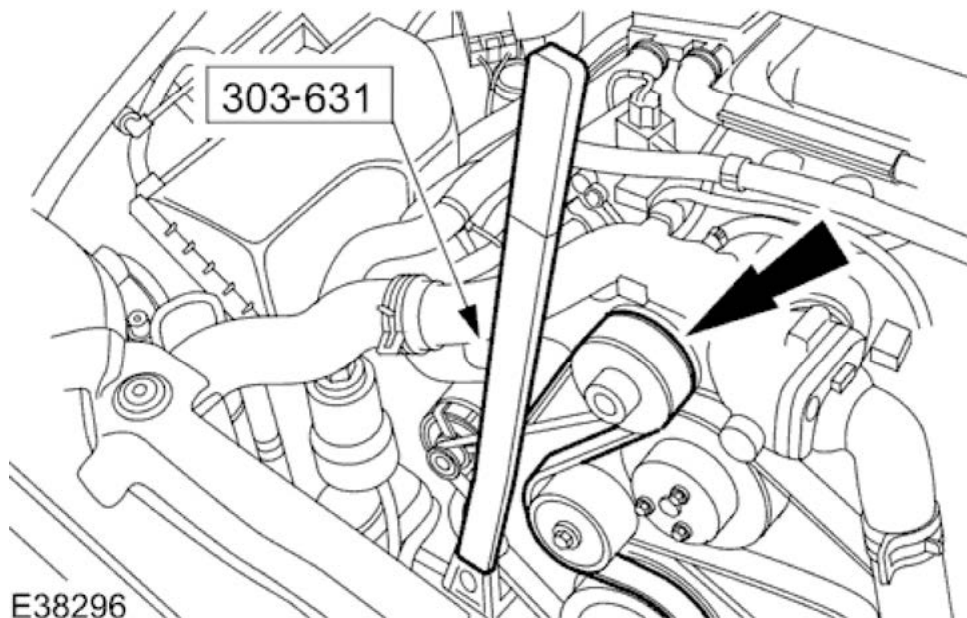
2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



15. NOTE:

Twin fan and motor assembly shown removed for clarity.

Disconnect the right-hand cooling fan electrical connector.

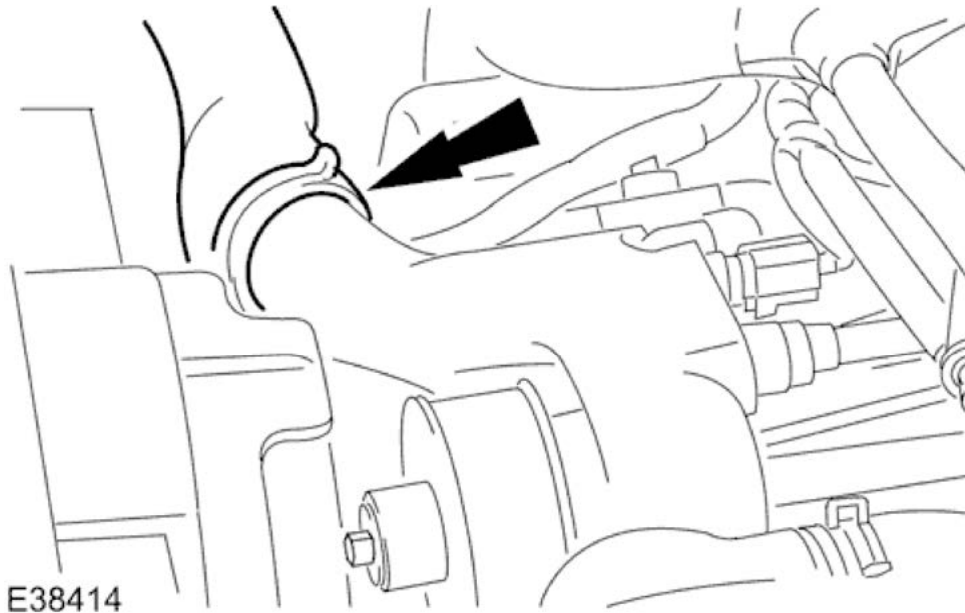


16. NOTE:

Twin fan and motor assembly shown removed for clarity

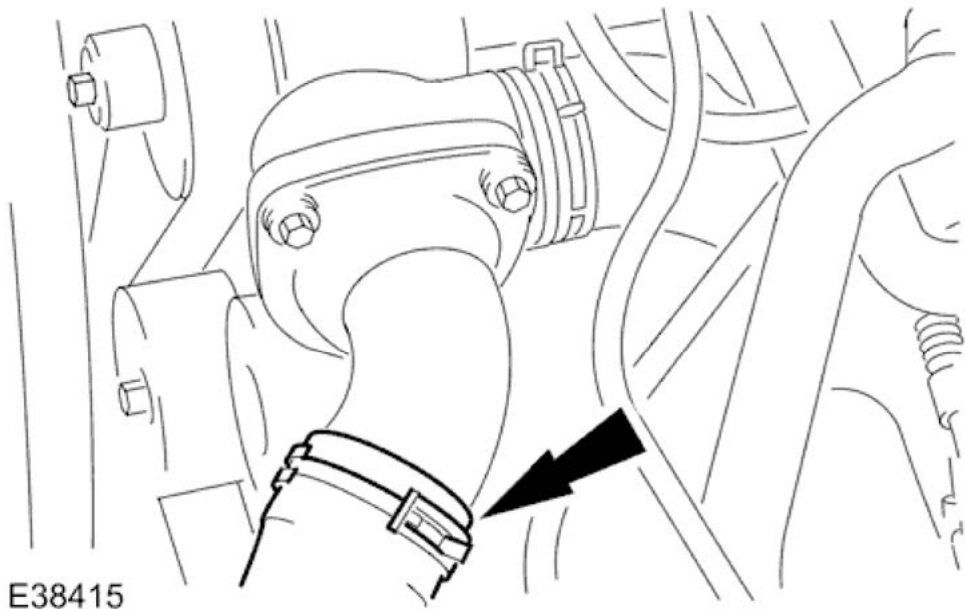
Using the special tool, detach the the supercharger drive belt.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38414

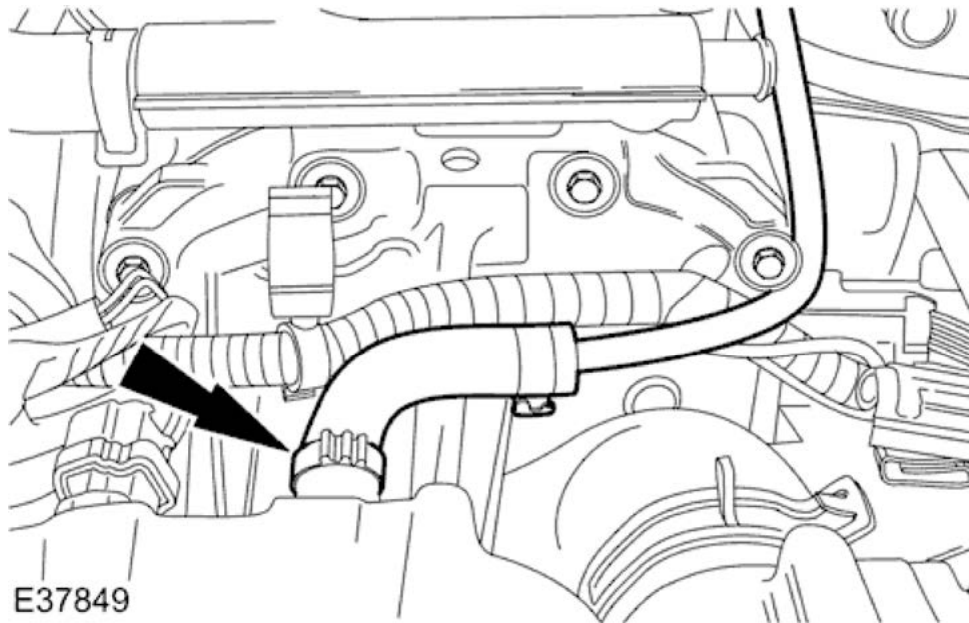
17. Disconnect the radiator to thermostat housing coolant hose.



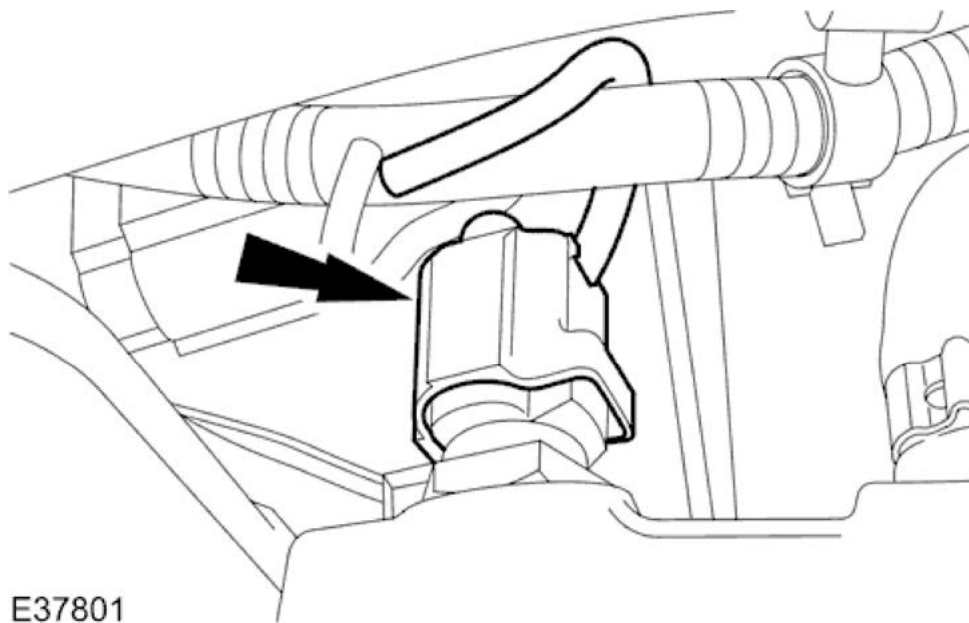
E38415

18. Detach the radiator to thermostat housing cover coolant hose.

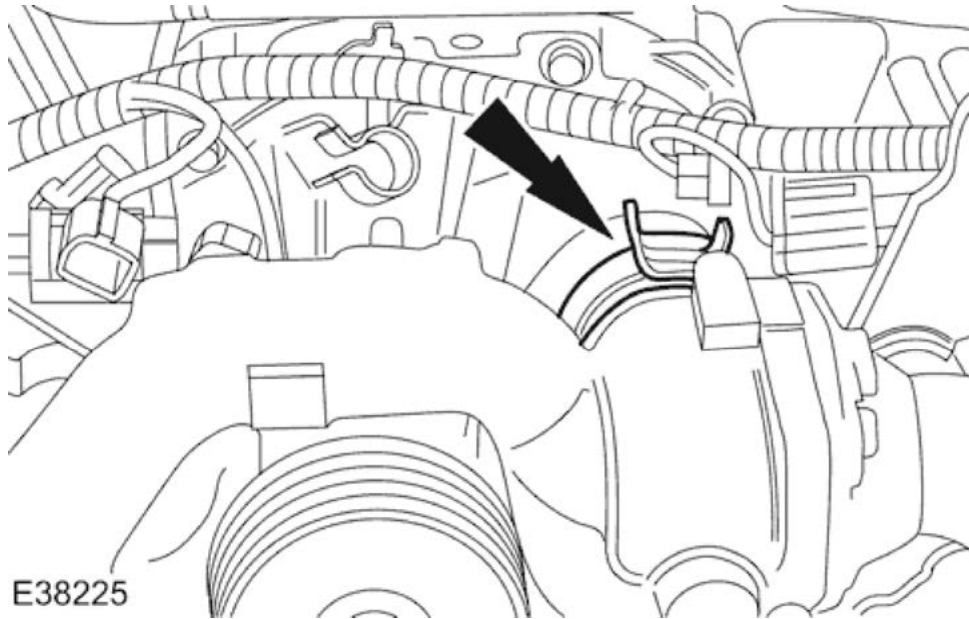
2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



19. Disconnect the expansion tank to thermostat housing coolant hose.

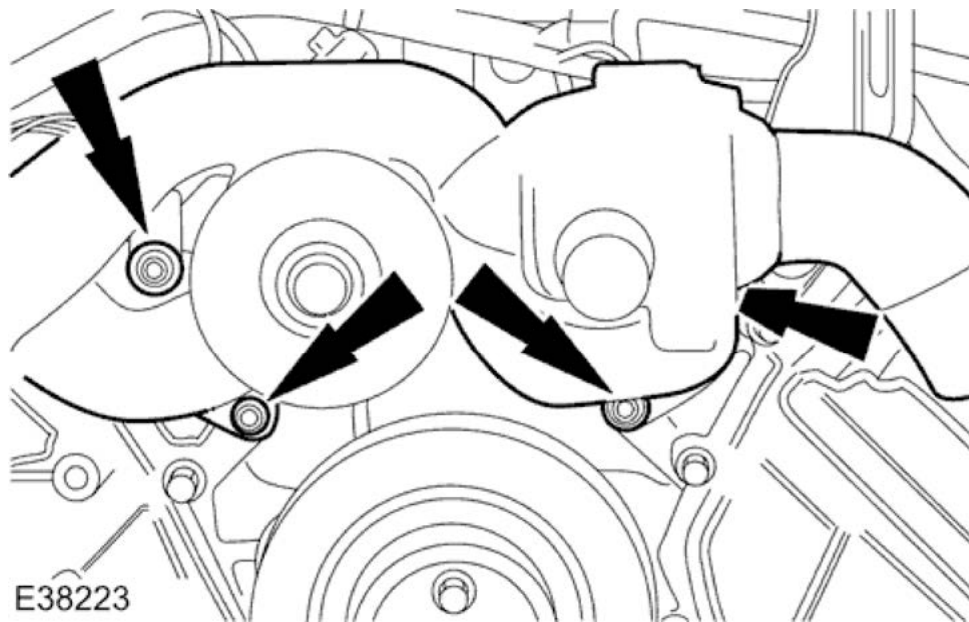


20. Disconnect the engine coolant temperature (ECT) sensor electrical connector.



E38225

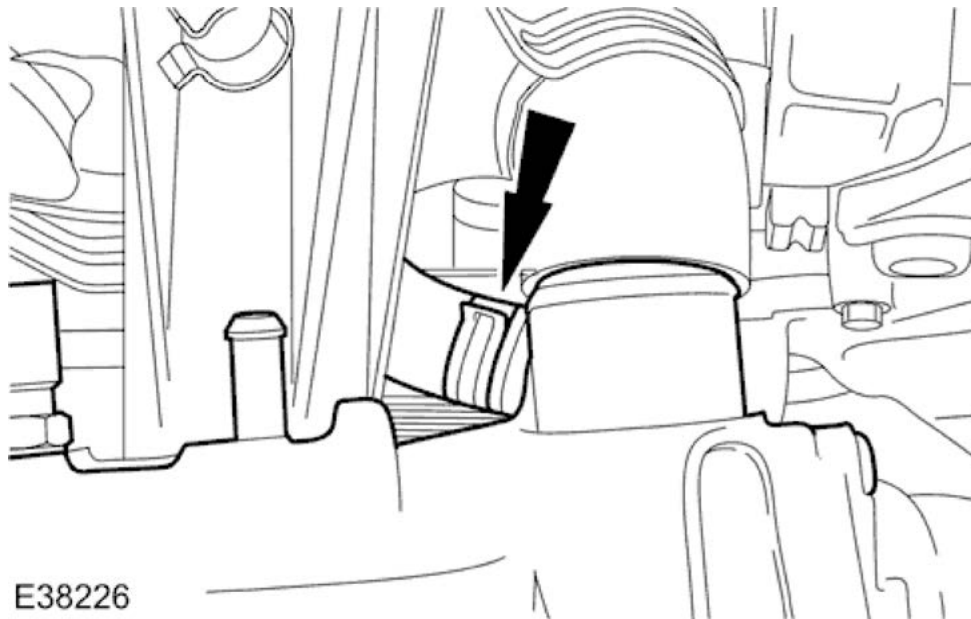
21. Reposition the coolant hose retaining clip.



E38223

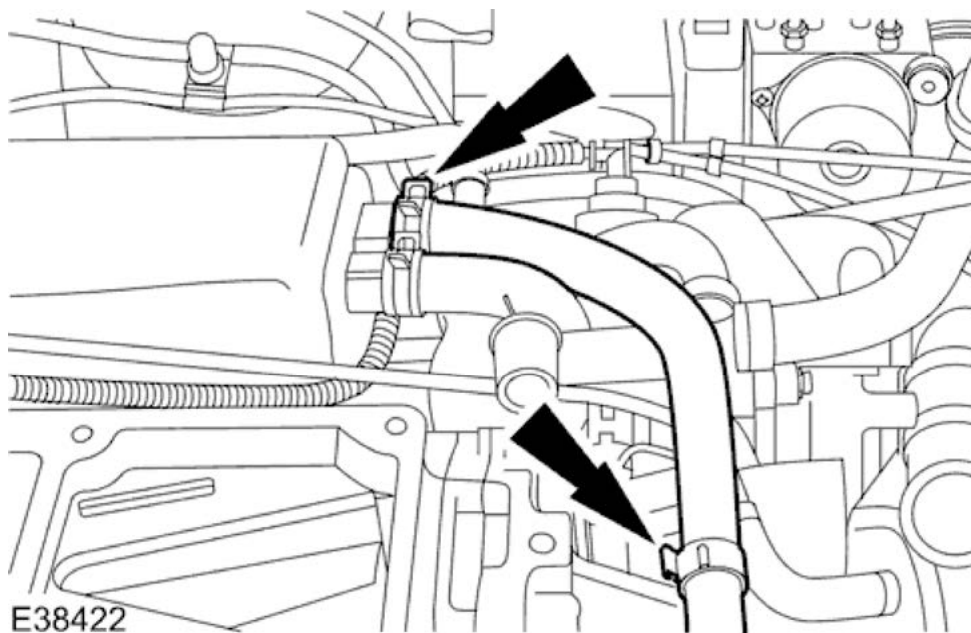
22. Detach the thermostat housing.
• Remove and discard the thermostat housing seals.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38226

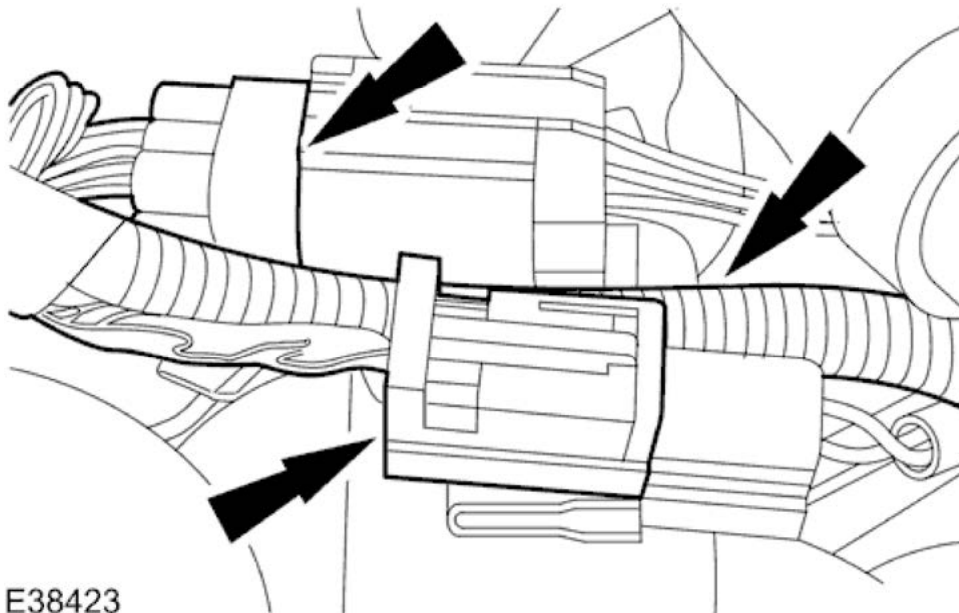
23. Remove the thermostat housing.
 - Detach the heater core to thermostat housing coolant hose.
 - Remove the thermostat housing.



E38422

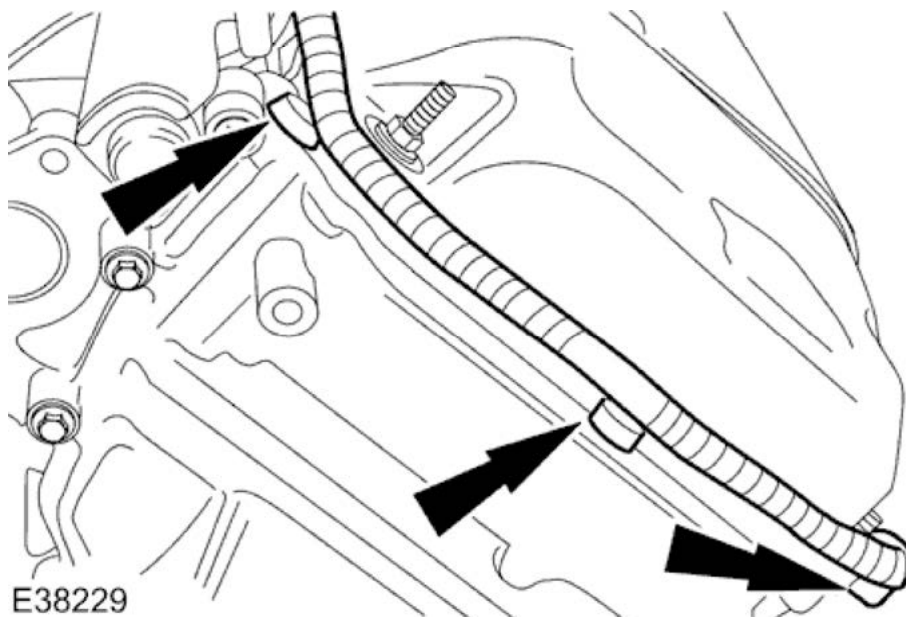
24. Disconnect the charge air cooler to supercharger water pump coolant hose.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38423

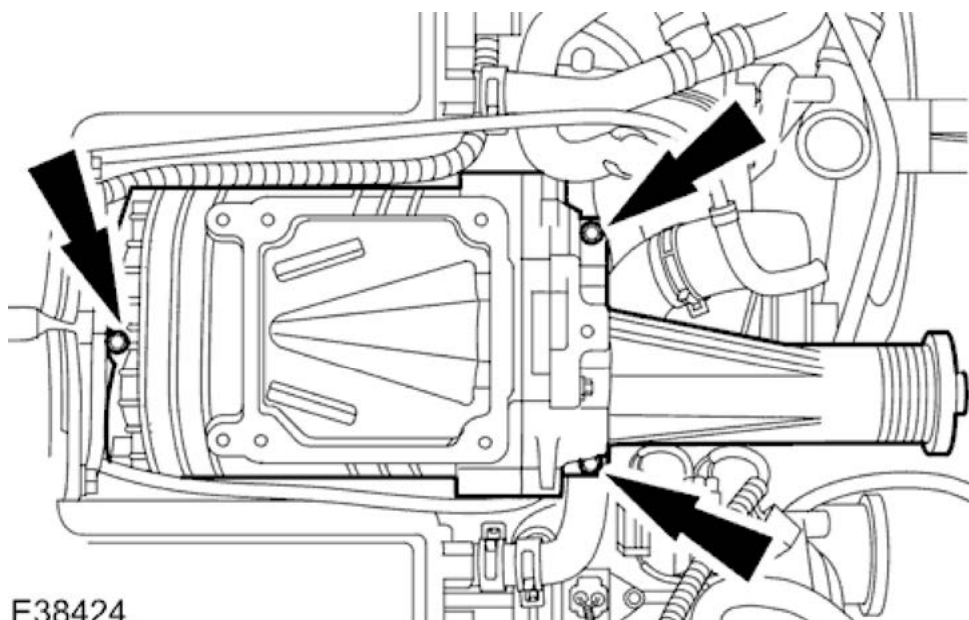
25. Detach the engine wiring harness from the engine wiring harness retaining bracket.



E38229

26. Detach the engine wiring harness from the left-hand valve cover.

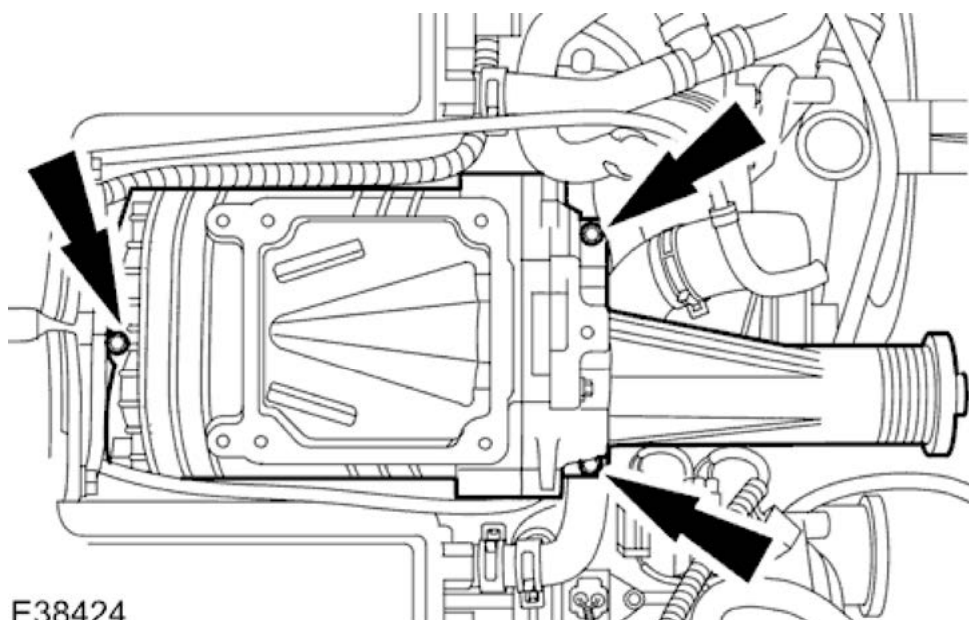
27. Reposition engine wiring harness to enable the supercharger to be removed.



E38424

28. Remove the supercharger.

Installation



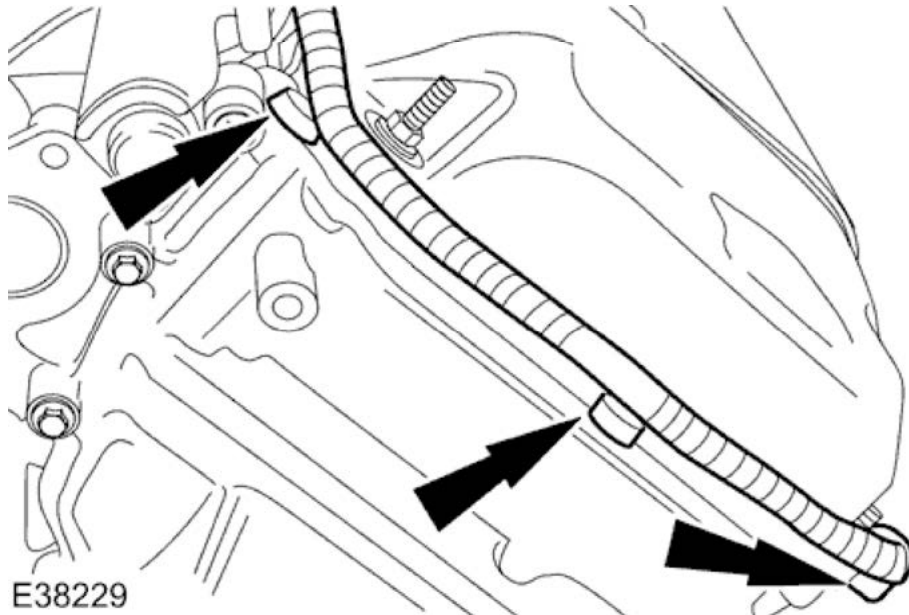
E38424

1.  **CAUTION:**
Make sure the supercharger to cylinder block spacer plate is correctly aligned before installing the supercharger. Failure to carry out this instruction may result in damage to the vehicle.

Install the supercharger.

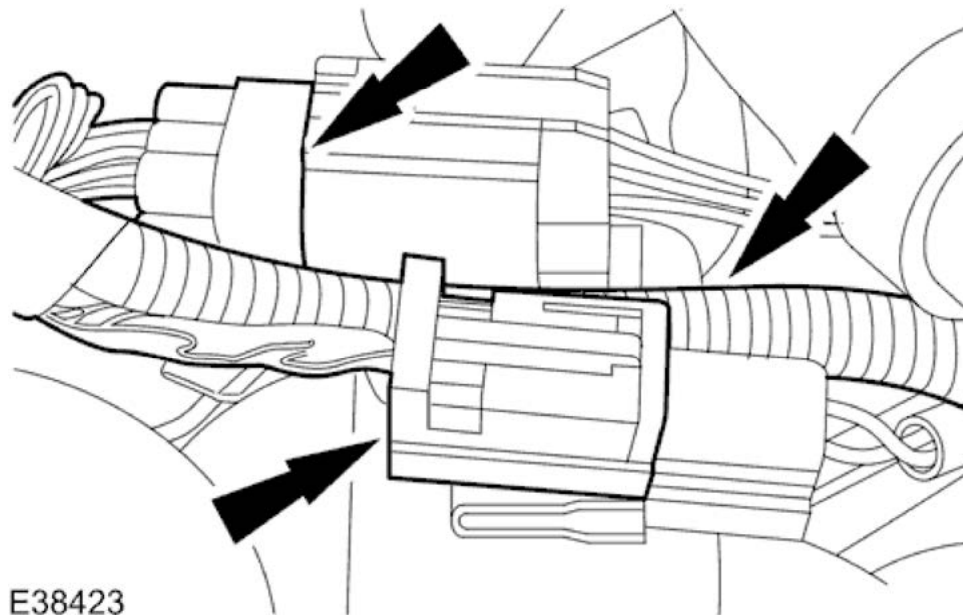
- Tighten to 24 Nm.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38229

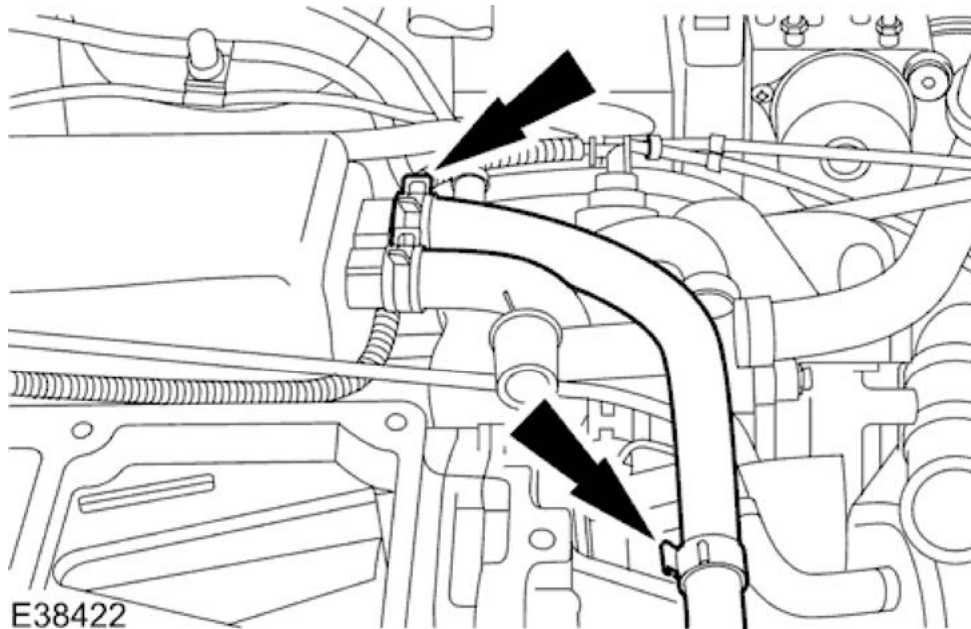
2. Attach the engine wiring harness to the left hand valve cover.



E38423

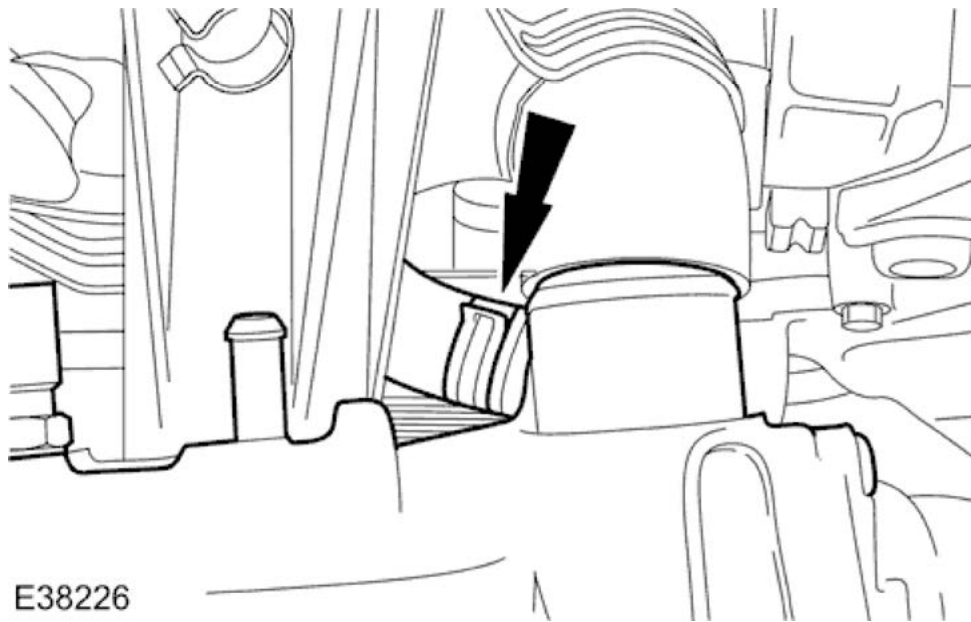
3. Attach the engine wiring harness to the engine wiring harness retaining bracket.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38422

4. Connect the charge air cooler to supercharger water pump coolant hose.



E38226

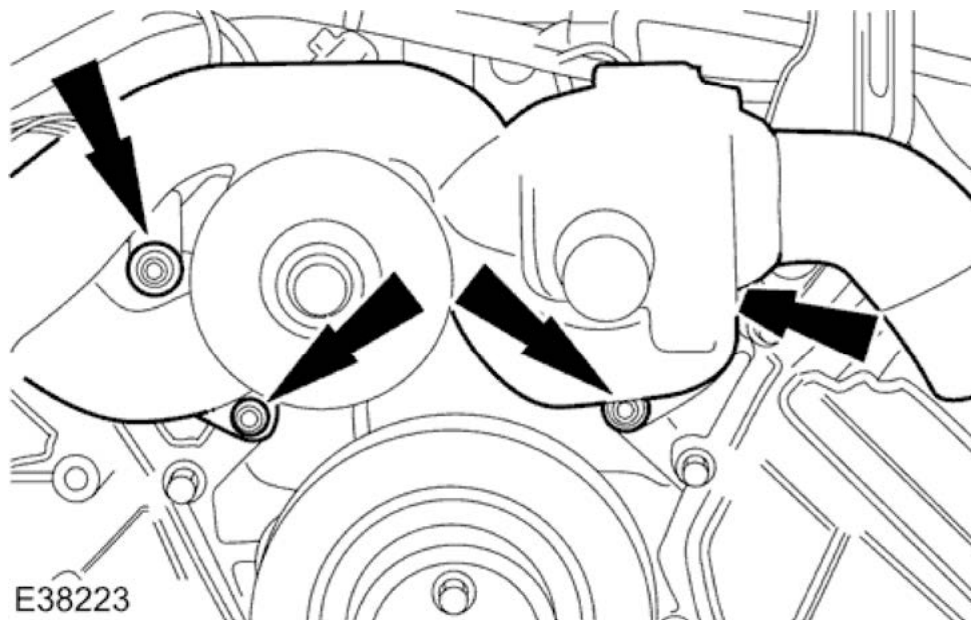
5. **NOTE:**

Install new coolant pipe seals.

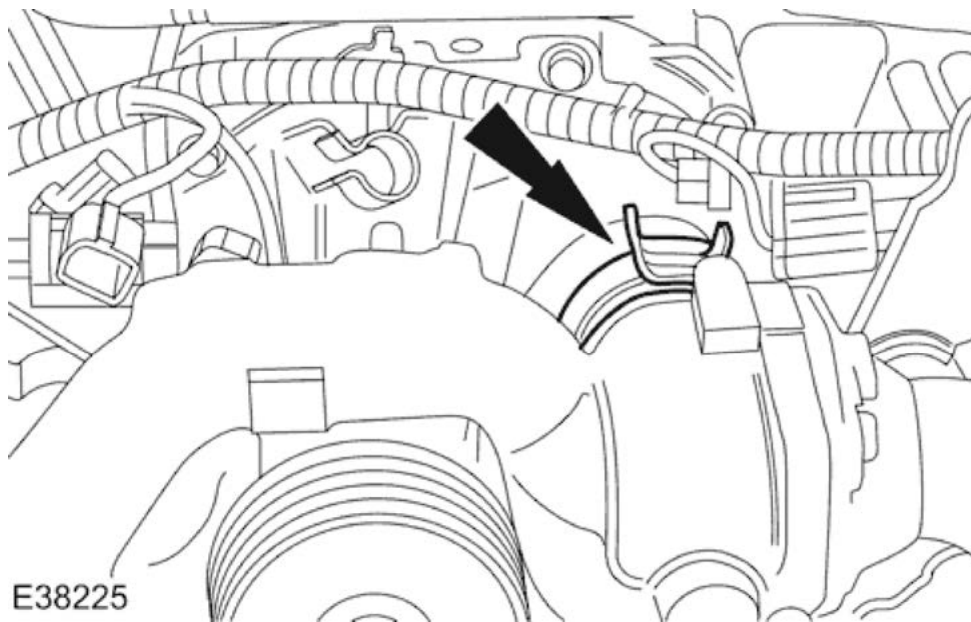
Install the thermostat housing.

- Attach the heater core to thermostat housing coolant hose.
- Install the heater core to thermostat housing.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12

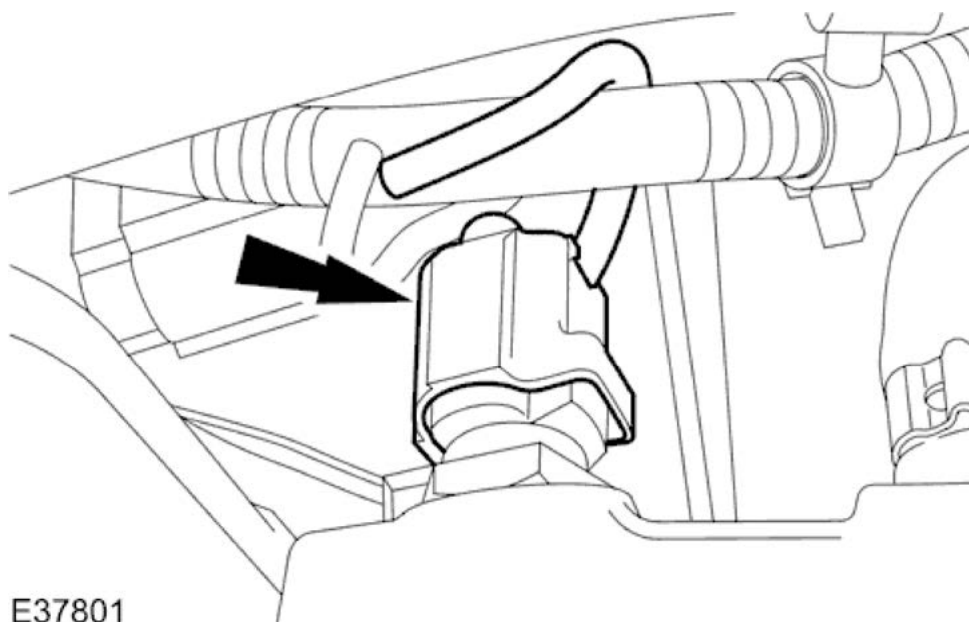


6. Attach the thermostat housing.



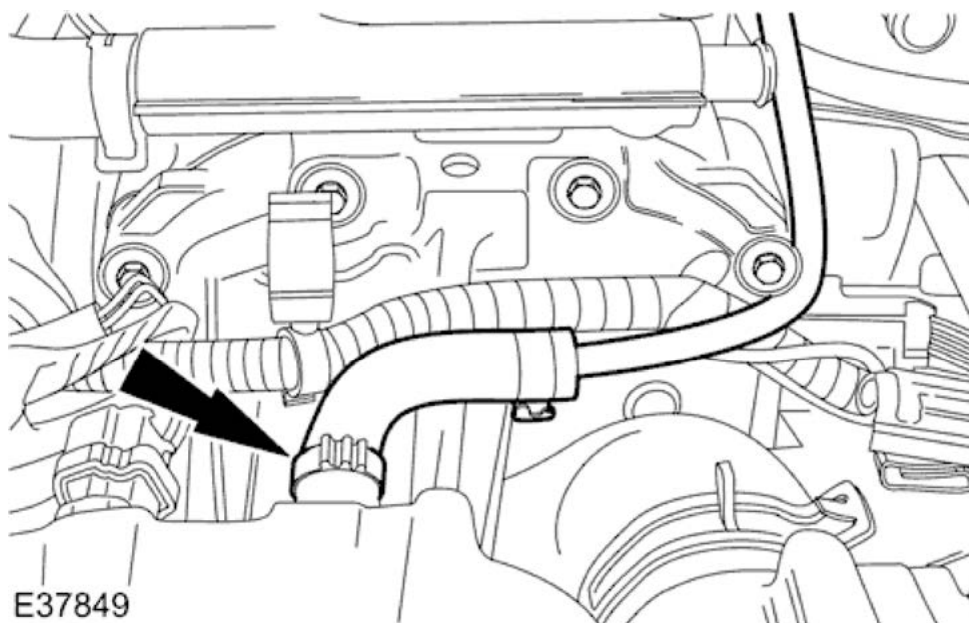
7. Reposition the coolant hose retaining clip.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E37801

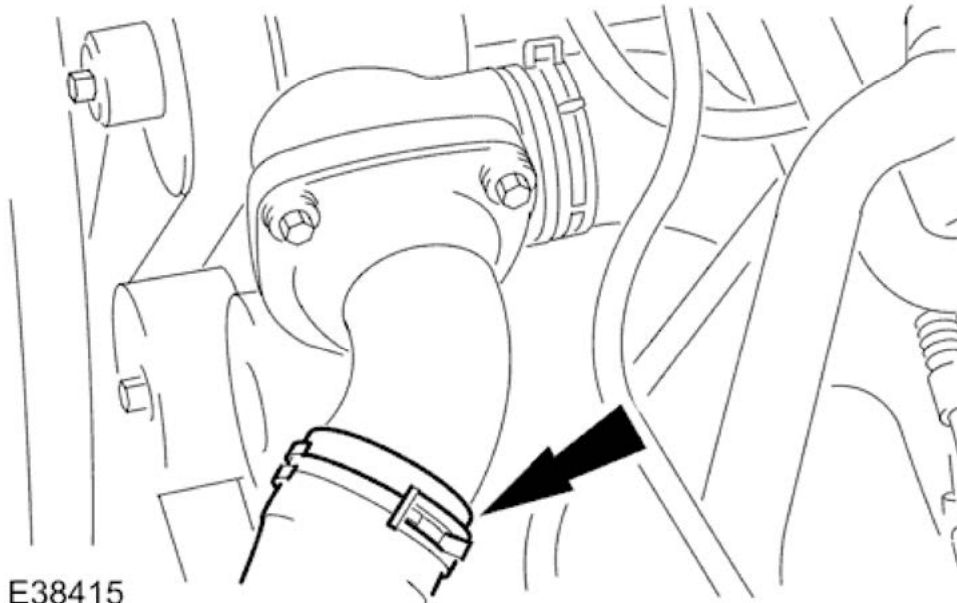
8. Connect the ECT sensor electrical connector.



E37849

9. Connect the expansion tank to thermostat housing coolant hose.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38415

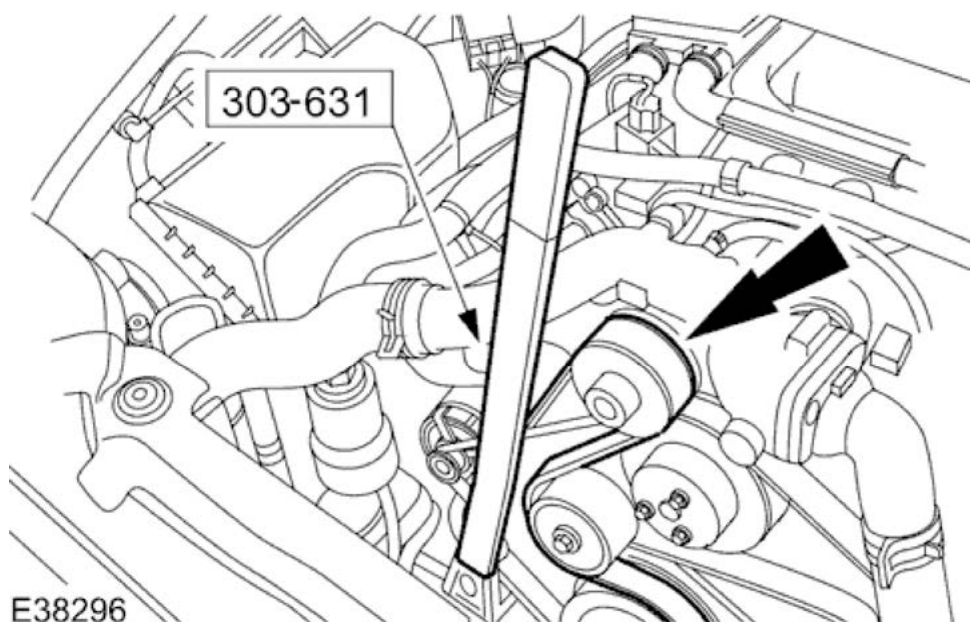
10. Connect the radiator to thermostat housing cover coolant hose.



E38414

11. Connect the radiator to thermostat housing coolant hose.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12

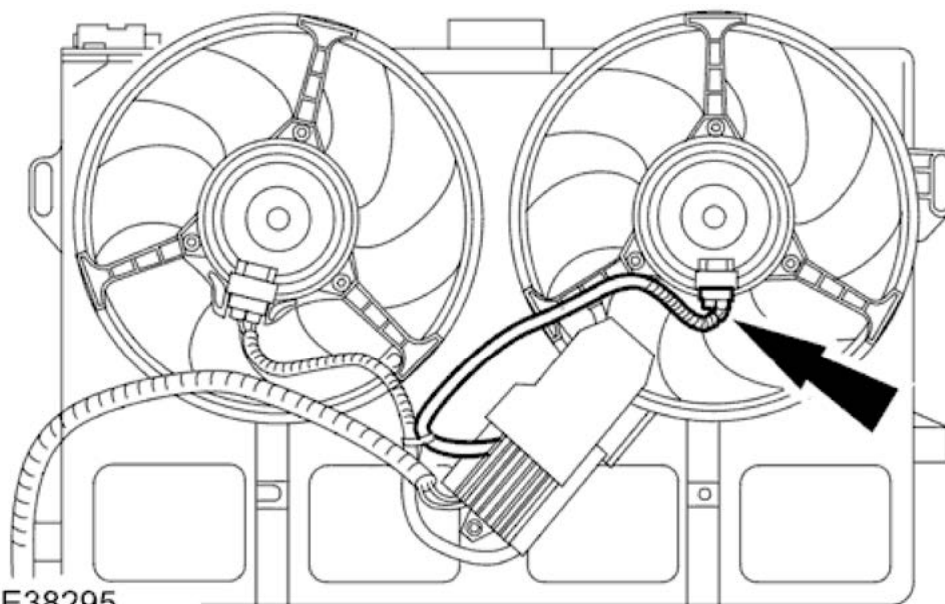


E38296

12. **NOTE:**

Twin fan and motor assembly shown removed for clarity.

Using the special tool, attach the supercharger belt.

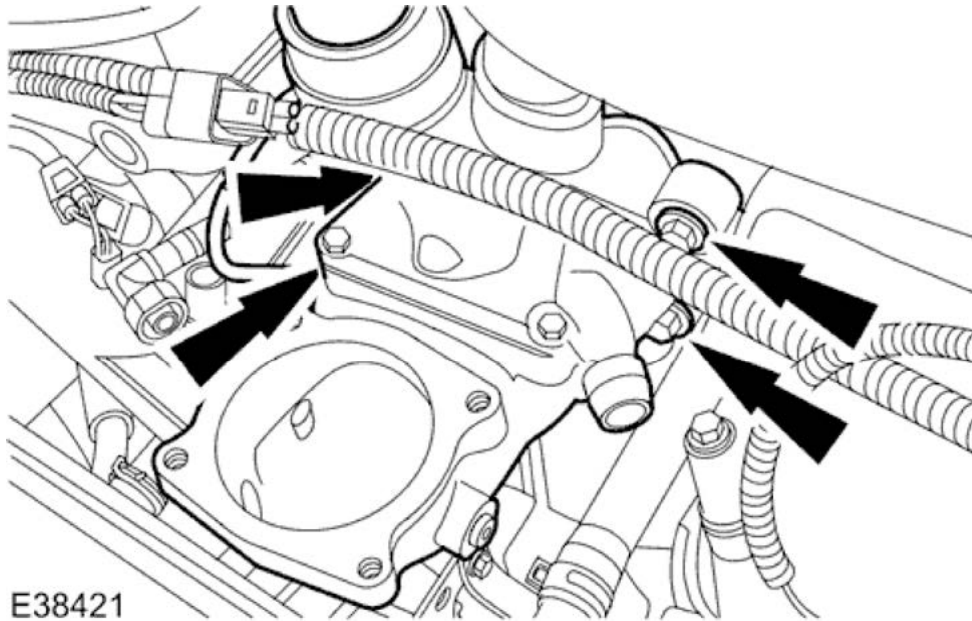


E38295

13. **NOTE:**

Twin fan and motor assembly shown removed for clarity.

Connect the right-hand cooling fan electrical connector.



E38421

14. **NOTE:**

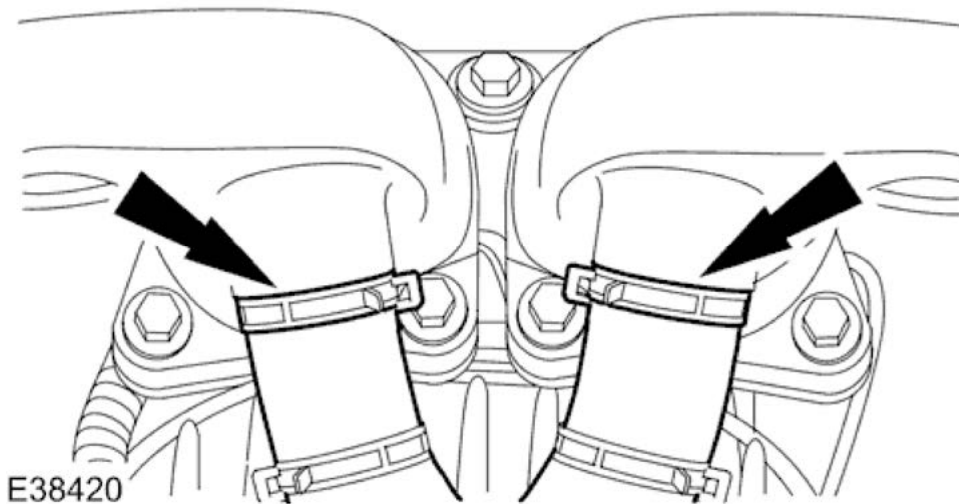
Install new throttle body elbow retaining bolt seals.

NOTE:

Install a new throttle body elbow gasket.

Install the throttle body elbow.

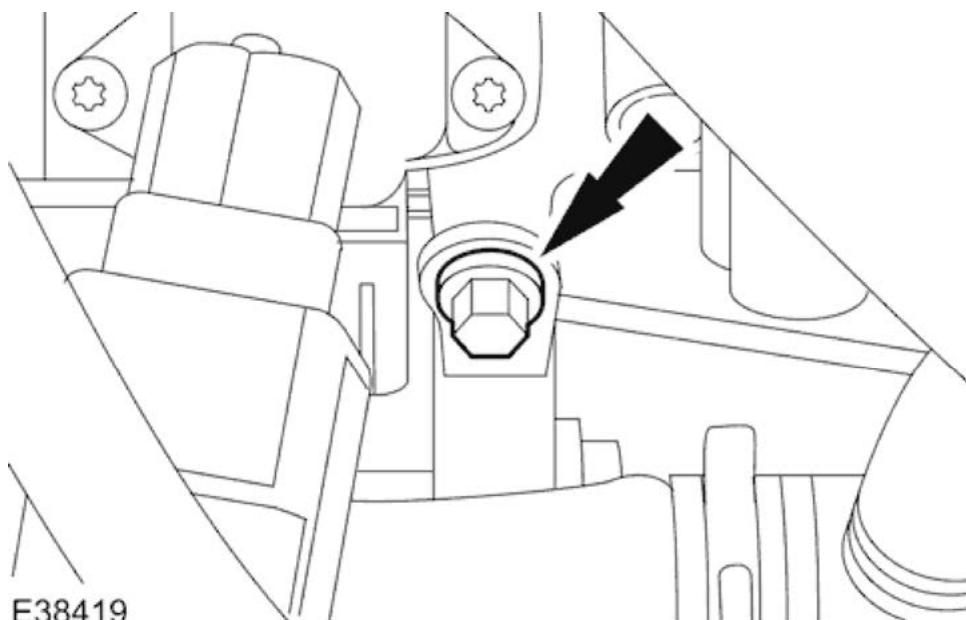
- Tighten to 24 Nm.



E38420

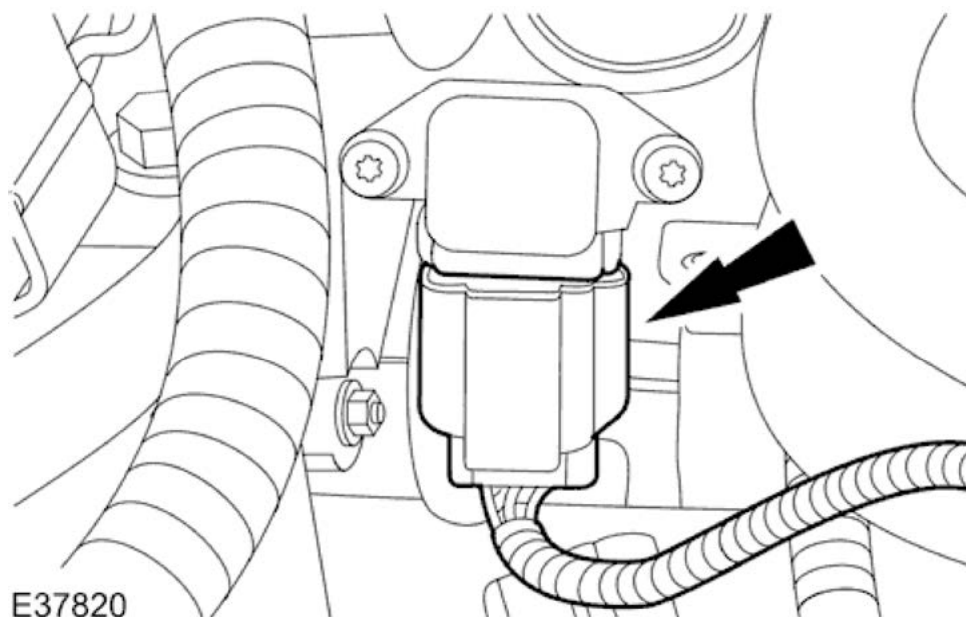
15. Reposition the charge air cooler hose retaining clips.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



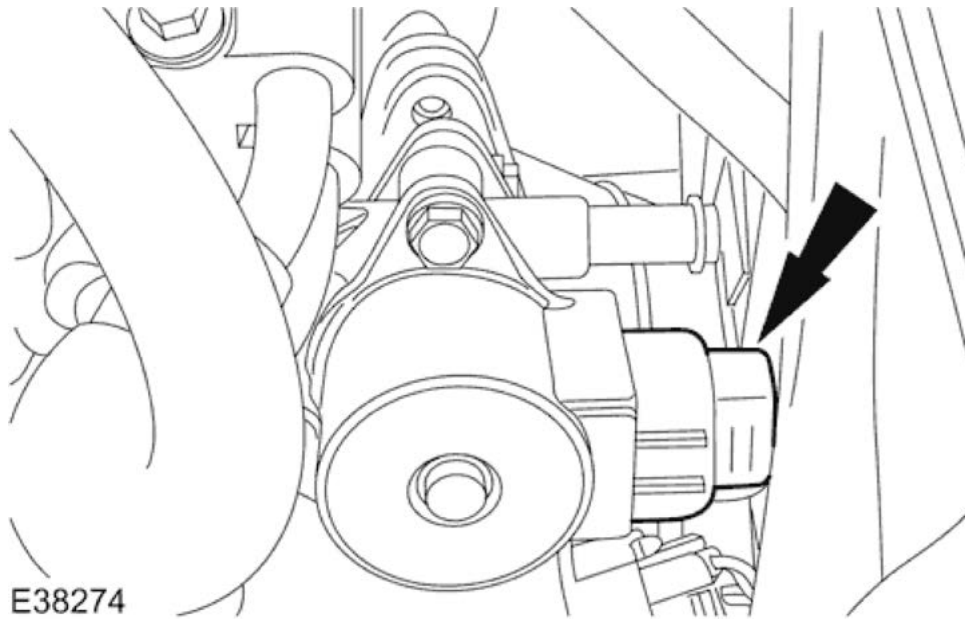
E38419

16. Install the left-hand throttle body elbow retaining bolt.



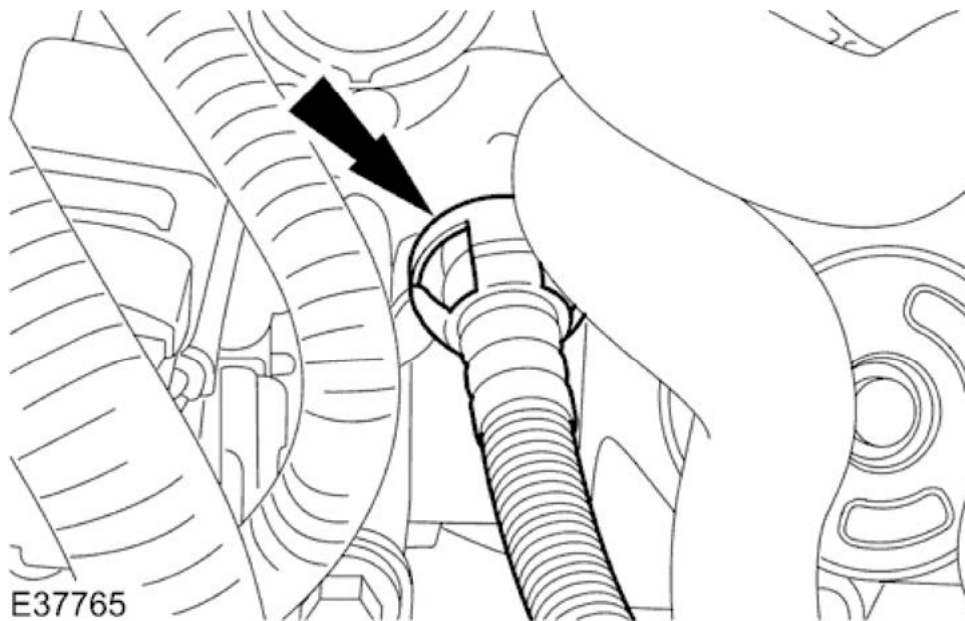
E37820

17. Connect the MAP sensor electrical connector.



E38274

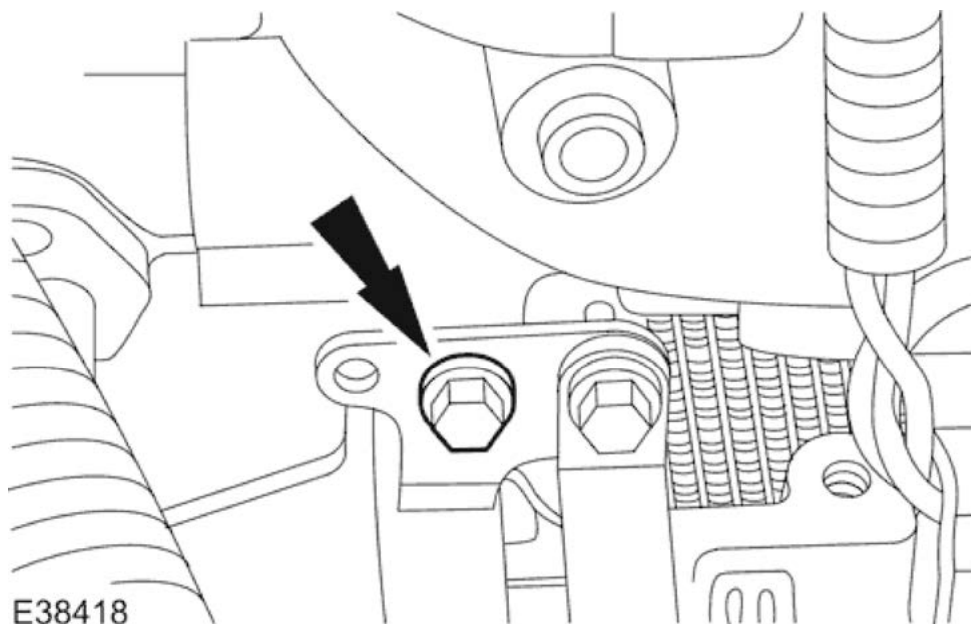
18. Connect the EGR valve electrical connector.



E37765

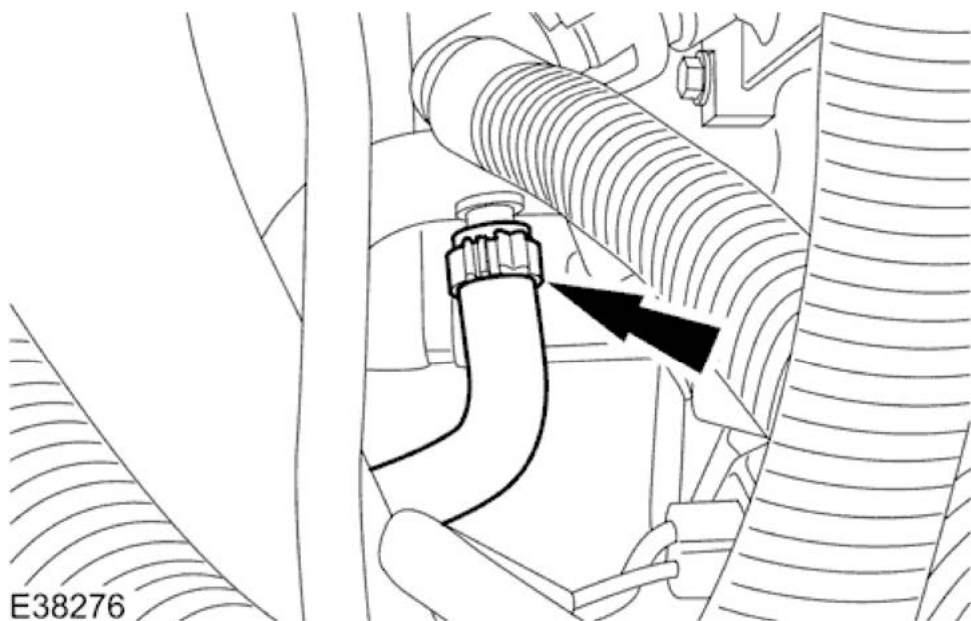
19. Connect the evaporative emission purge valve tube.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38418

20. Install the left-hand throttle body elbow retaining bolt.

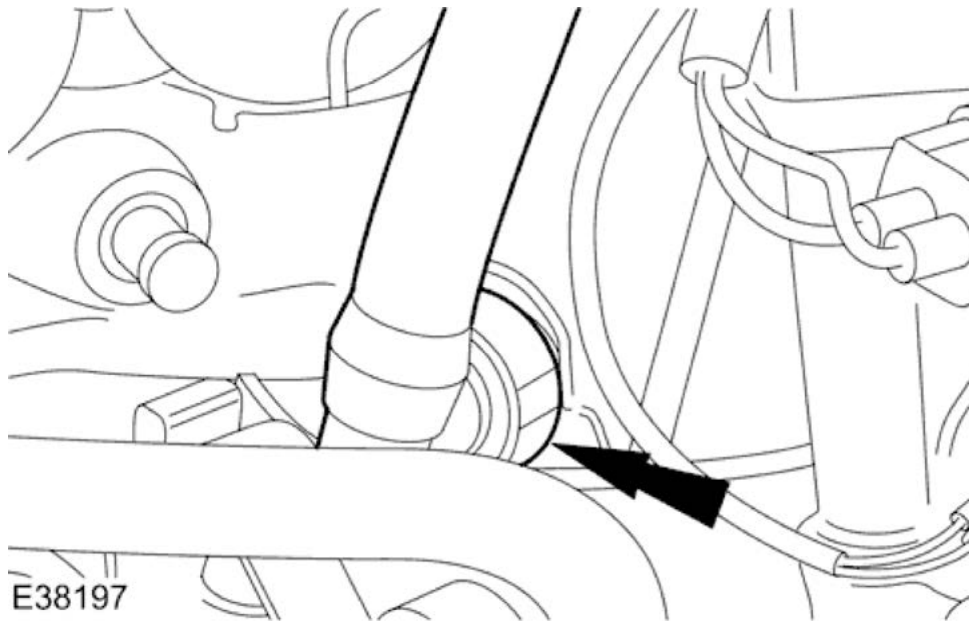


E38276

21. **NOTE:**
Install a new coolant hose retaining clip.

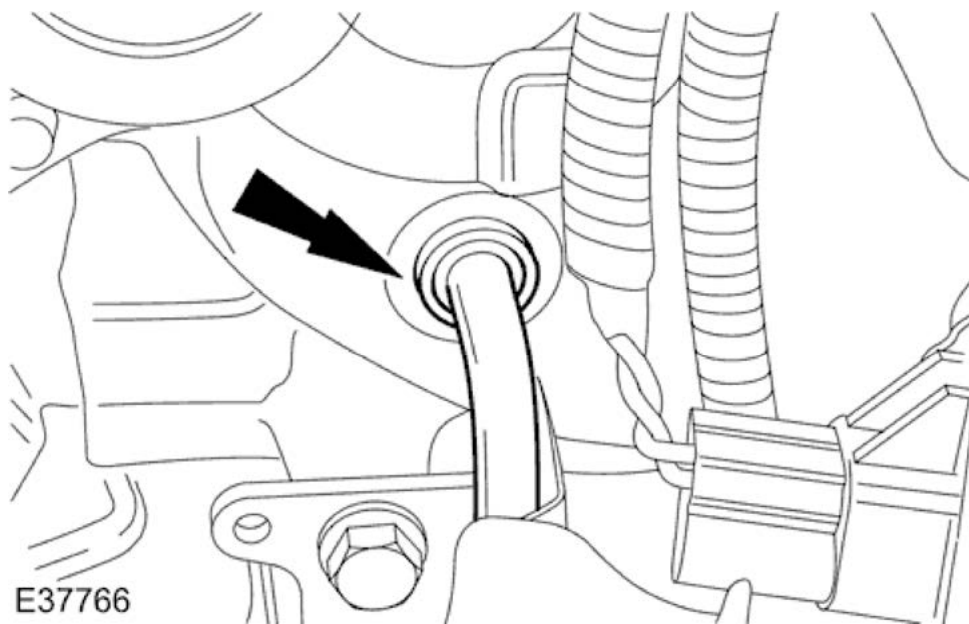
Connect the EGR valve to heater core inlet coolant hose.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E38197

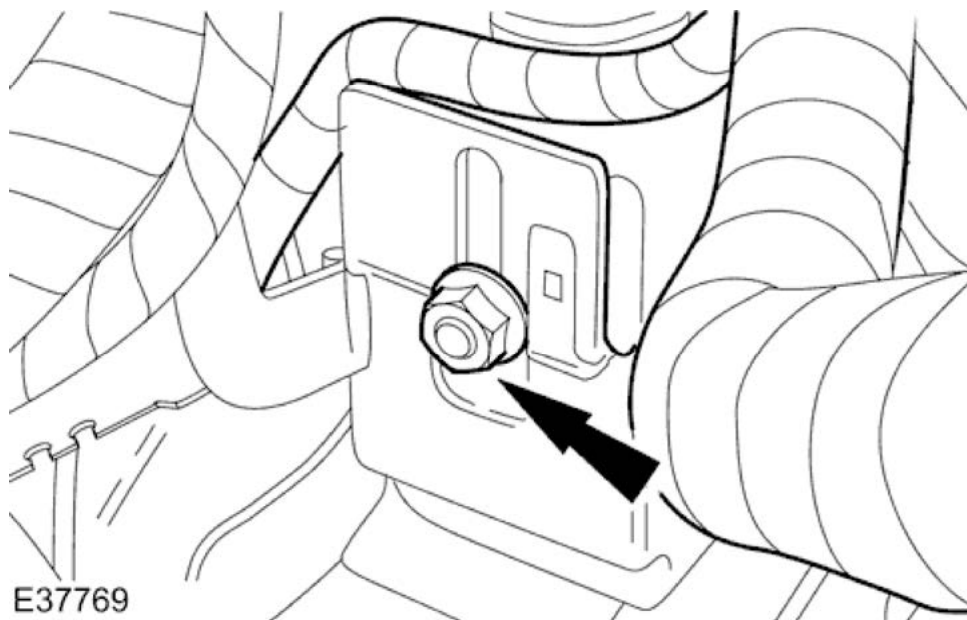
22. Connect the crankcase ventilation tube.



E37766

23. Connect the brake booster vacuum hose.

2003 XK RANGE - Intake Air Distribution and Filtering - 303-12



E37769

24. Attach the engine wiring harness retaining nut.

25. Install the supercharger outlet pipe. <<Supercharger Outlet Pipe - >>

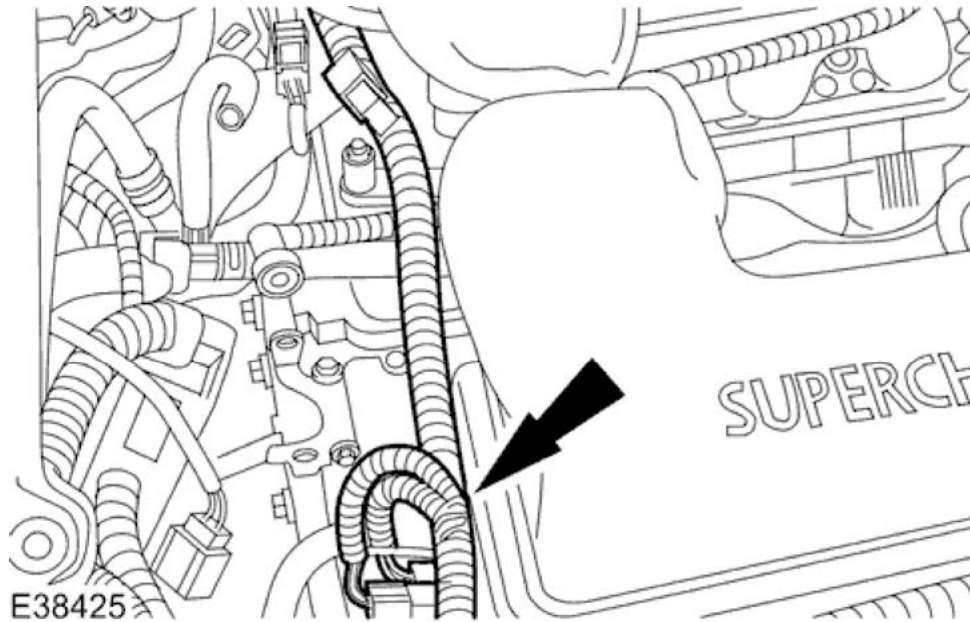
26. Install the exhaust manifold to exhaust gas recirculation (EGR) valve tube. <<303-08>>

27. Install the throttle body. <<303-04>>

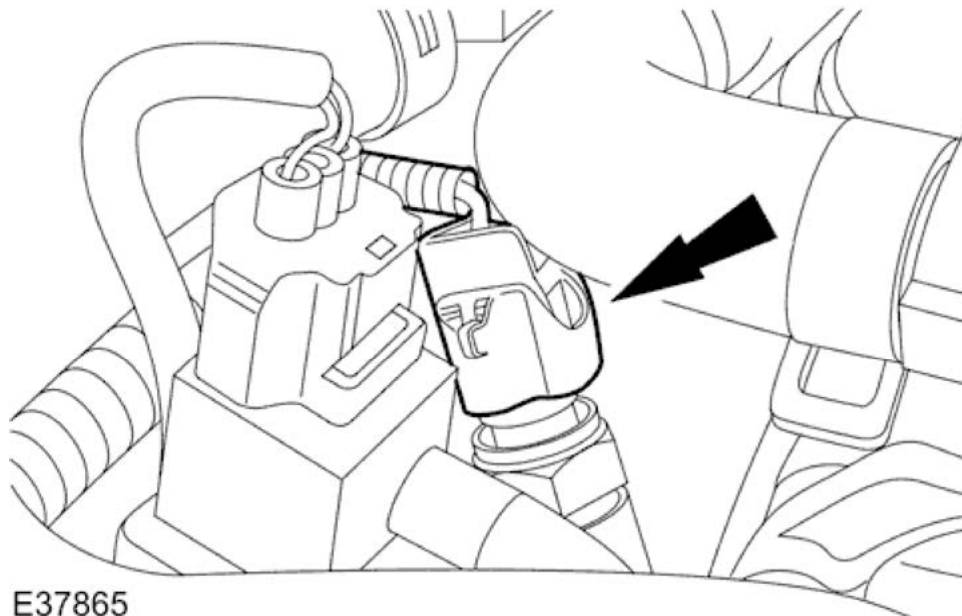
Charge Air Cooler RH 18.50.18

Removal

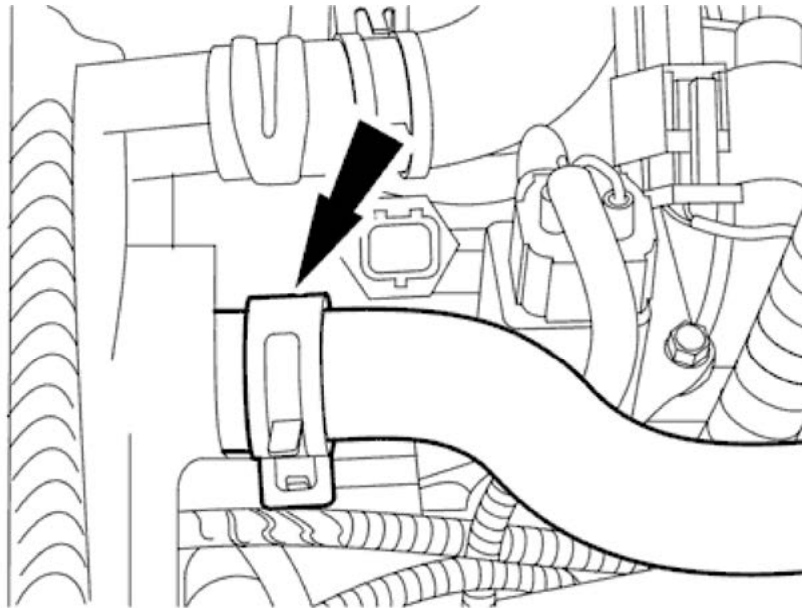
1. Remove the supercharger. <<Supercharger - >>



2. Detach the engine wiring harness.

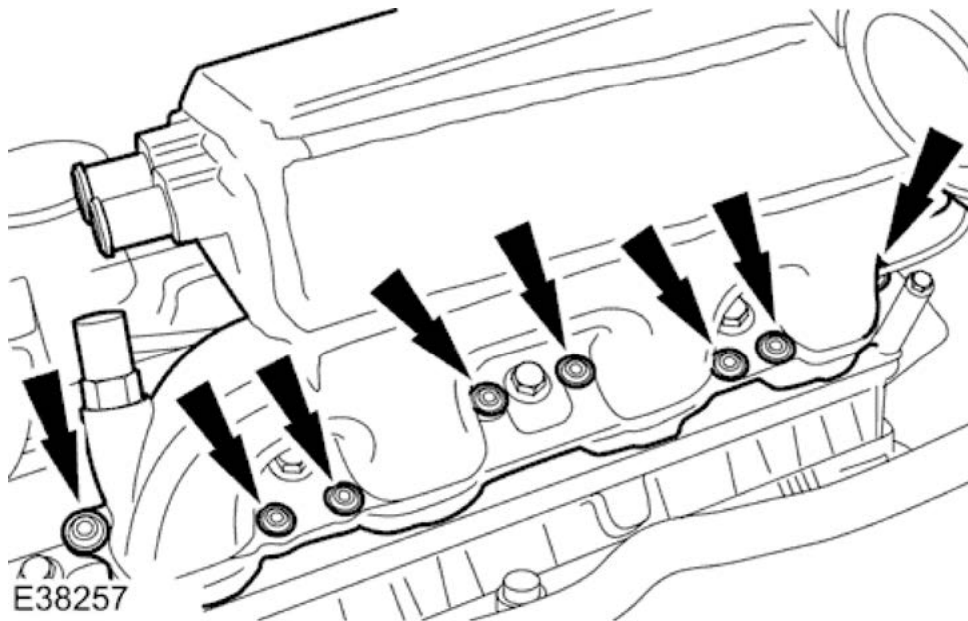


3. Disconnect the intake air temperature (IAT) sensor electrical connector.



E38426

4. Detach the coolant hose.

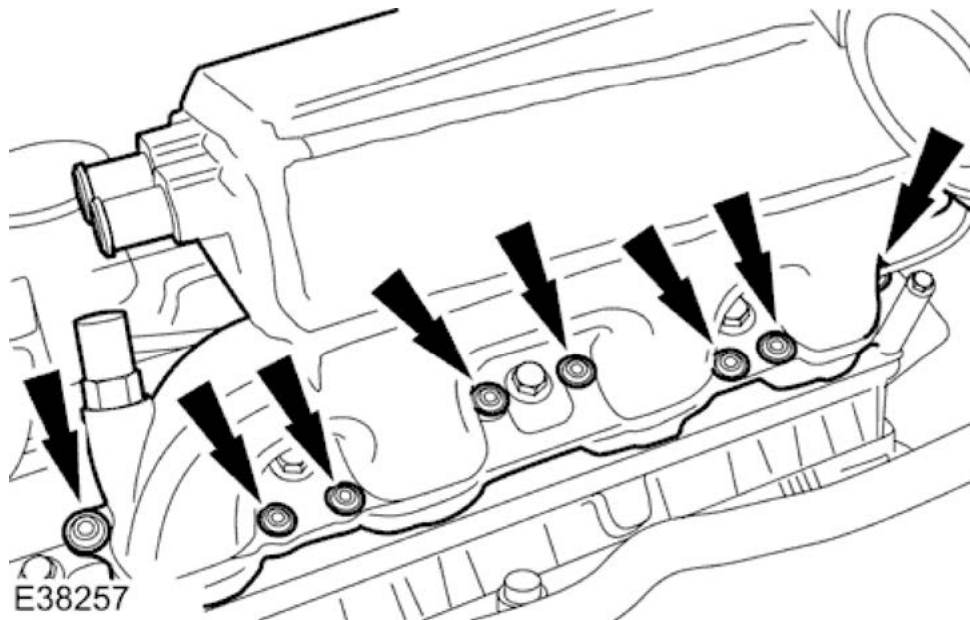


E38257

5. Remove the charge air cooler.

Installation


2003 XK RANGE - Intake Air Distribution and Filtering - 303-12




1. To install, reverse the removal procedure.
 - Tighten to 13 Nm.

Fuel Injection Supply Manifold 19.60.13


Removal  **WARNING:**
PLACE THE VEHICLE IN A QUARANTINED AREA AND ARRANGE 'NO SMOKING/PETROL FUMES' SIGNS ABOUT THE VEHICLE.

 **WARNING:**
BEFORE ANY WORK IS CARRIED OUT ON THE FUEL SYSTEM, GROUND THE VEHICLE TO EARTH AND MAINTAIN THE GROUND CONNECTION UNTIL THE WORK IS COMPLETE.

 **WARNING:**
DO NOT SMOKE OR CARRY LIGHTED TOBACCO OR OPEN FLAME OF ANY TYPE WHEN WORKING ON OR NEAR ANY FUEL RELATED COMPONENTS. HIGHLY FLAMMABLE VAPORS ARE ALWAYS PRESENT AND MAY IGNITE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.


 **WARNING:**
THE FUEL SYSTEM REMAINS PRESSURIZED FOR A LONG TIME AFTER THE IGNITION IS SWITCHED OFF. THE FUEL PRESSURE MUST BE RELIEVED BEFORE ATTEMPTING ANY REPAIRS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.


 **WARNING:**
AFTER CARRYING OUT REPAIRS, THE FUEL SYSTEM MUST BE CHECKED VISUALLY FOR LEAKS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

 **WARNING:**
THIS PROCEDURE INVOLVES FUEL HANDLING. BE PREPARED FOR FUEL SPILLAGE AT ALL TIMES AND ALWAYS OBSERVE FUEL HANDLING PRECAUTIONS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

 **WARNING:**
IF TAKEN INTERNALLY DO NOT INDUCE VOMITING, SEEK IMMEDIATE MEDICAL ATTENTION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

 **WARNING:**
IF FUEL CONTACTS THE EYES, FLUSH THE EYES WITH COLD WATER OR EYEWASH SOLUTION AND SEEK MEDICAL ATTENTION.

 **WARNING:**
WASH HANDS THOROUGHLY AFTER HANDLING, AS PROLONGED CONTACT MAY CAUSE IRRITATION. SHOULD IRRITATION DEVELOP, SEEK MEDICAL ATTENTION.

 **WARNING:**
DO NOT CARRY OR OPERATE CELLULAR PHONES WHEN WORKING ON OR NEAR ANY FUEL RELATED COMPONENTS. HIGHLY FLAMMABLE VAPOURS ARE ALWAYS PRESENT AND MAY IGNITE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

All vehicles

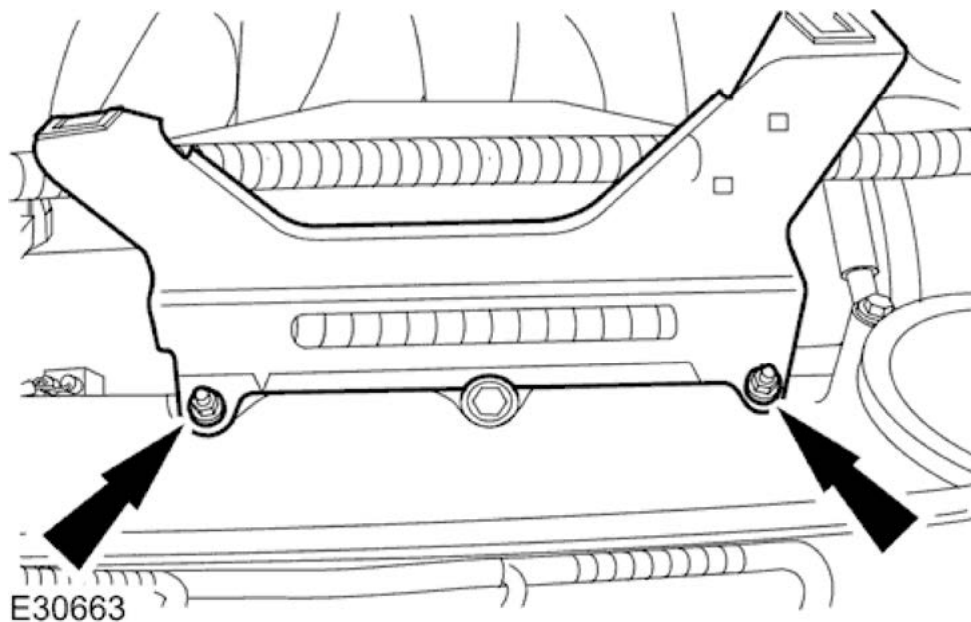
2003 XK RANGE - Fuel Charging and Controls - 303-04

1. Release the fuel system pressure. <<310-00>>
2. Disconnect the fuel injection supply manifold fuel line. <<310-00>>

Vehicles with supercharger

3. Remove the charge air coolers. <<303-12>>

Vehicles without supercharger



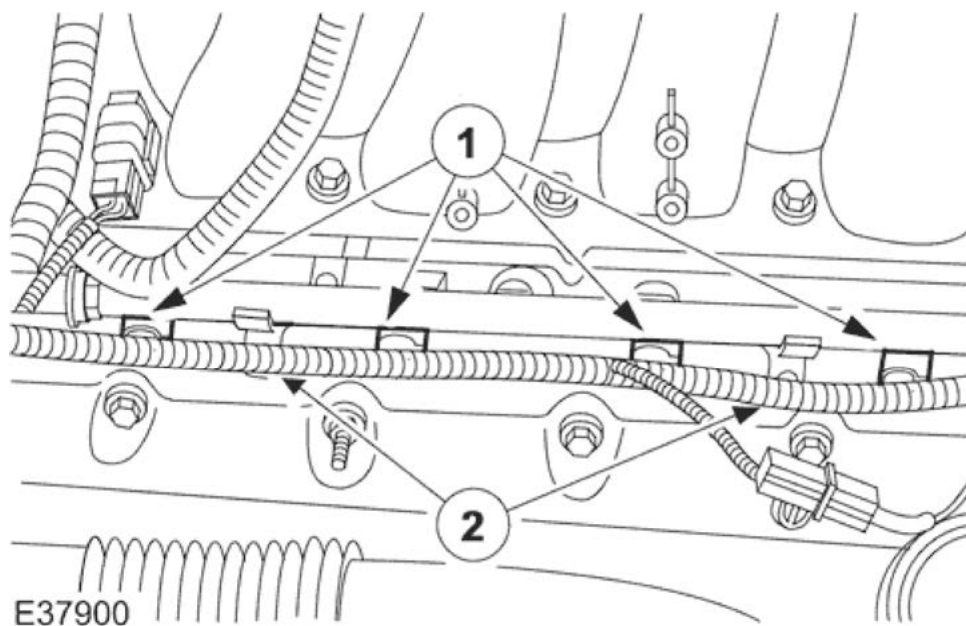
4. **NOTE:**
Right-hand shown, left-hand similar.

Remove the engine cover retaining brackets.
 - Detach the knock sensor (KS) wiring harnesses.

All vehicles

- NOTE:**
Vehicles without supercharger shown, vehicles with supercharger similar.

2003 XK RANGE - Fuel Charging and Controls - 303-04



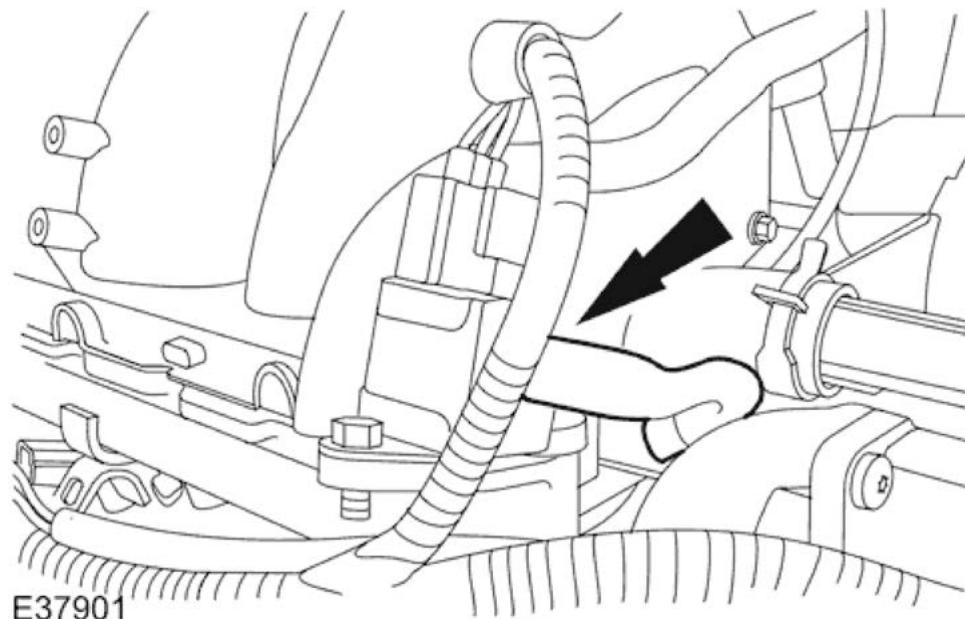
E37900

5. NOTE:

Right-hand shown, left-hand similar.

Detach the fuel charging wiring harness.

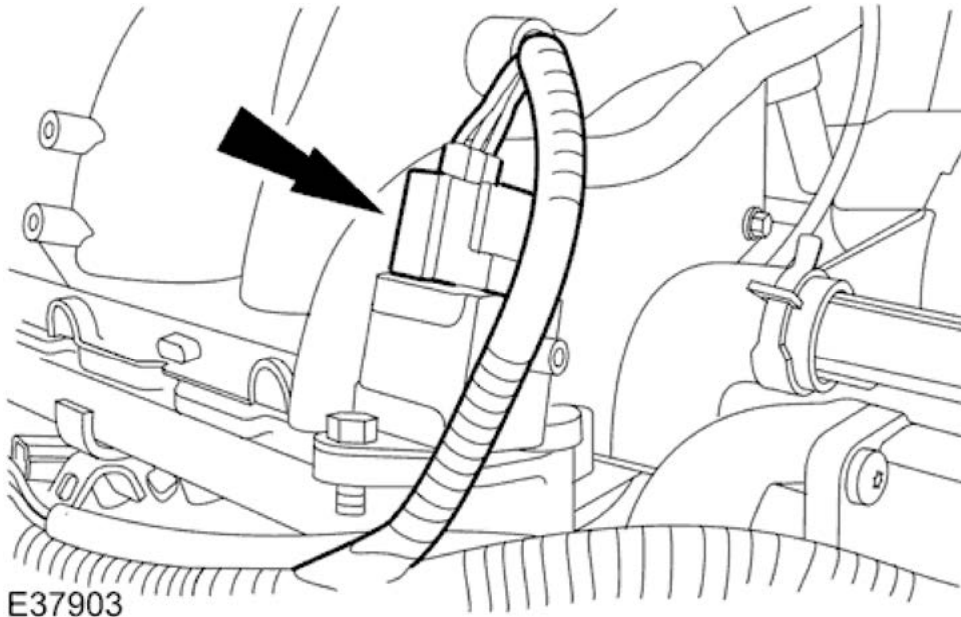
1. Disconnect the fuel injector electrical connectors.
2. Detach the fuel charging wiring harness.



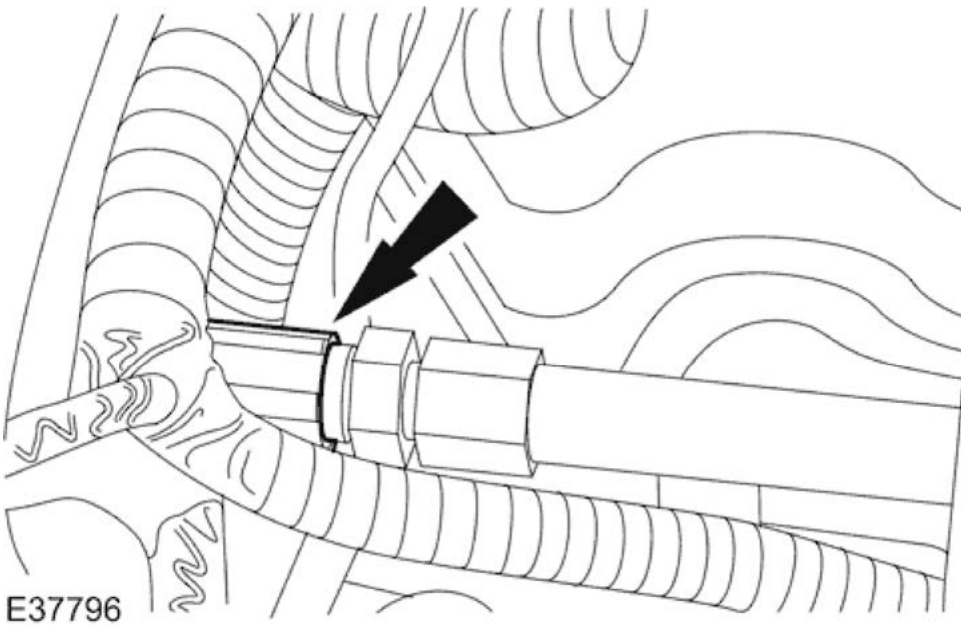
E37901

6. Disconnect the fuel pressure regulator vacuum hose.

2003 XK RANGE - Fuel Charging and Controls - 303-04



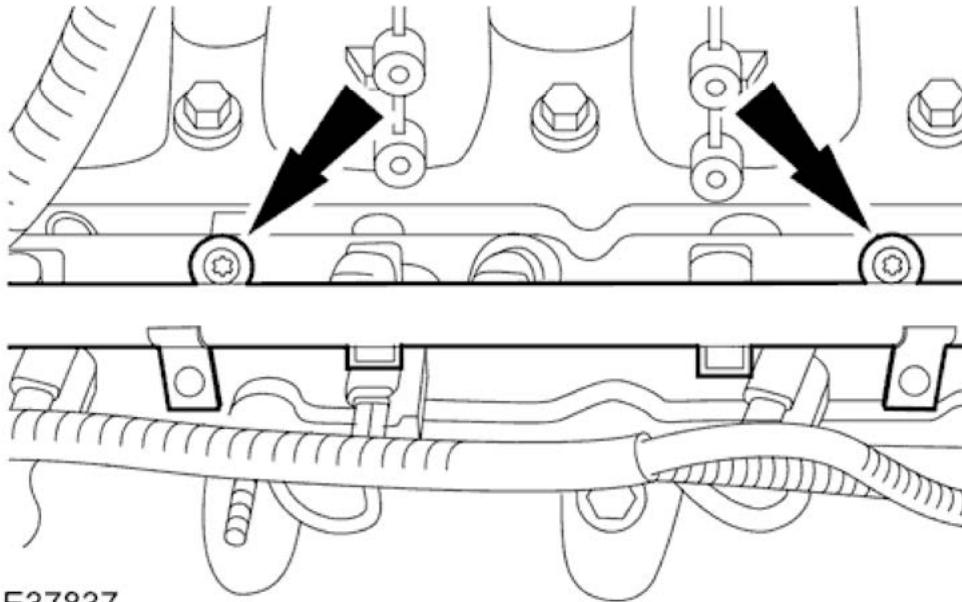
7. Disconnect the fuel pressure regulator electrical connector.



8. Disconnect the fuel temperature sensor electrical connector.

Vehicles without supercharger

2003 XK RANGE - Fuel Charging and Controls - 303-04

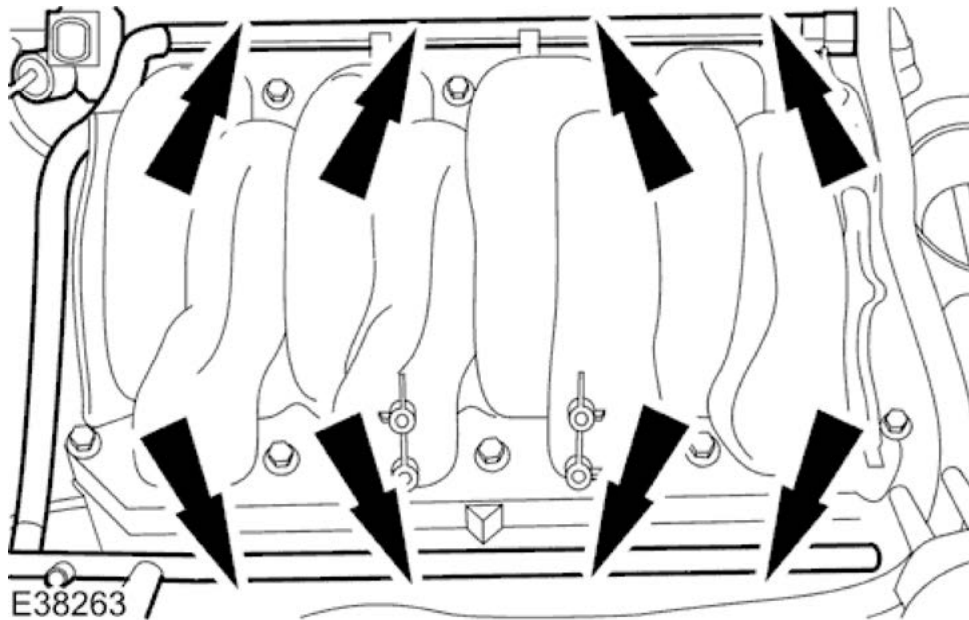


E37837

9. **NOTE:**

Right-hand shown, left-hand similar.

Remove the fuel injection supply manifold retaining bolts.



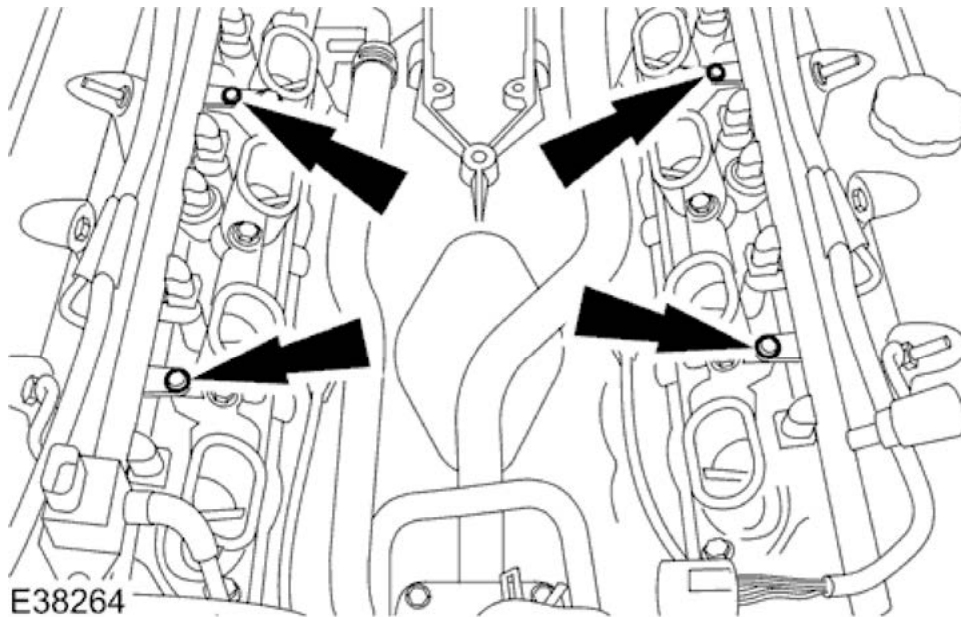
E38263

10. Remove the fuel injection supply manifold.

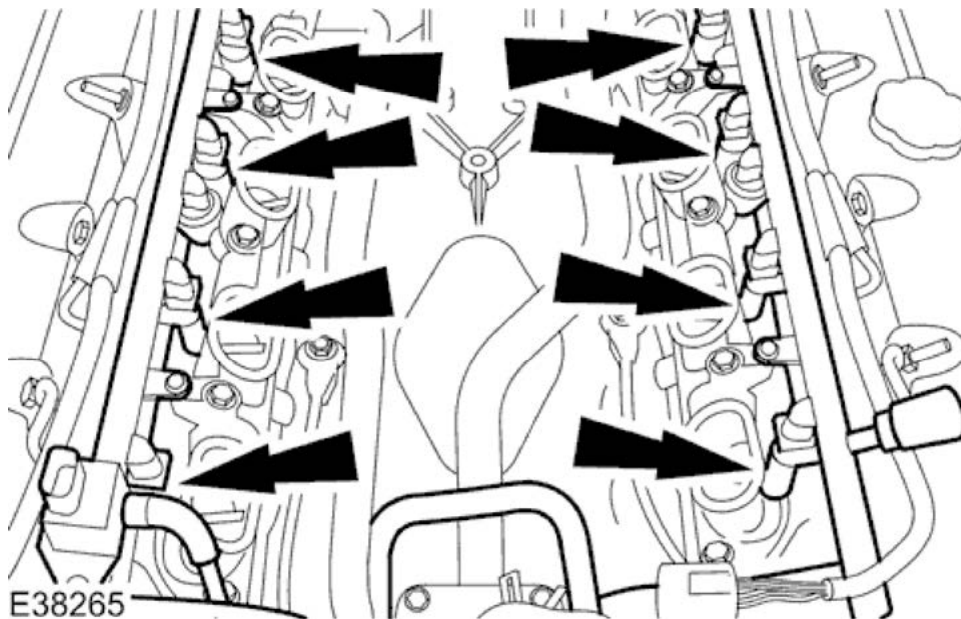
11. Remove and discard the fuel injector O-ring seals.

Vehicles with supercharger

2003 XK RANGE - Fuel Charging and Controls - 303-04



12. Remove the fuel injection supply manifold retaining bolts.



13. Remove the fuel injection supply manifold.

14. Remove and discard the fuel injector O-ring seals.

Installation

All vehicles

2003 XK RANGE - Fuel Charging and Controls - 303-04

1. **NOTE:**

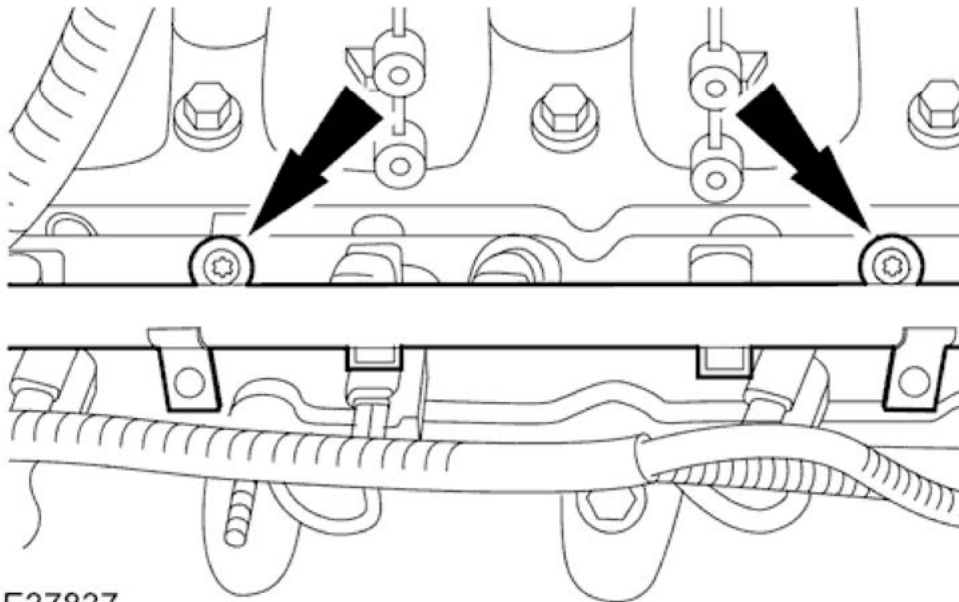
Install new fuel injector O-ring seals.

NOTE:

Lubricate the fuel injector O-ring seals with clean engine oil to aid installation.

To install, reverse the removal procedure.

Vehicles without supercharger



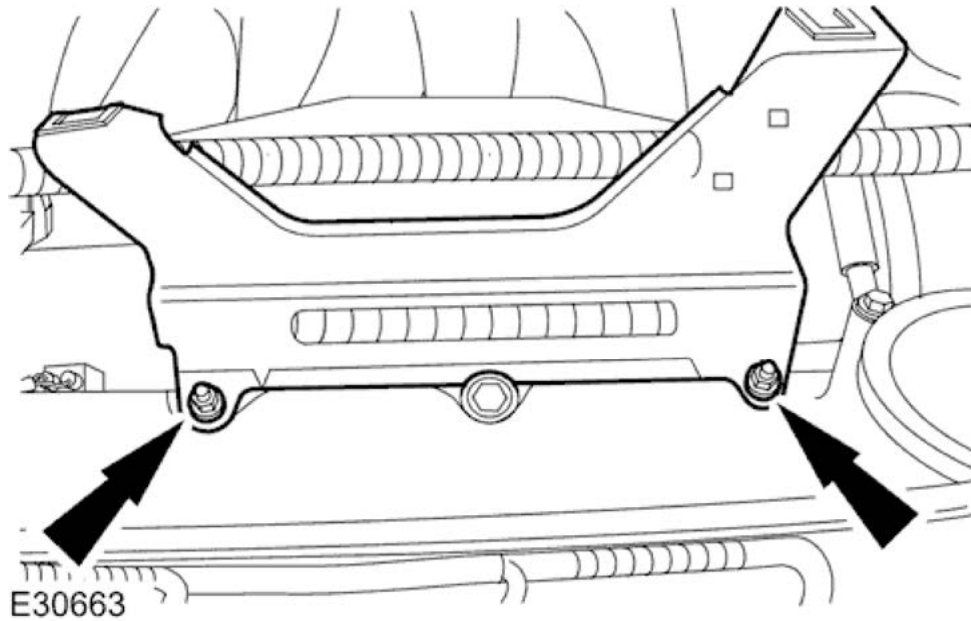
E37837

2. **NOTE:**

Right-hand shown, left-hand similar.

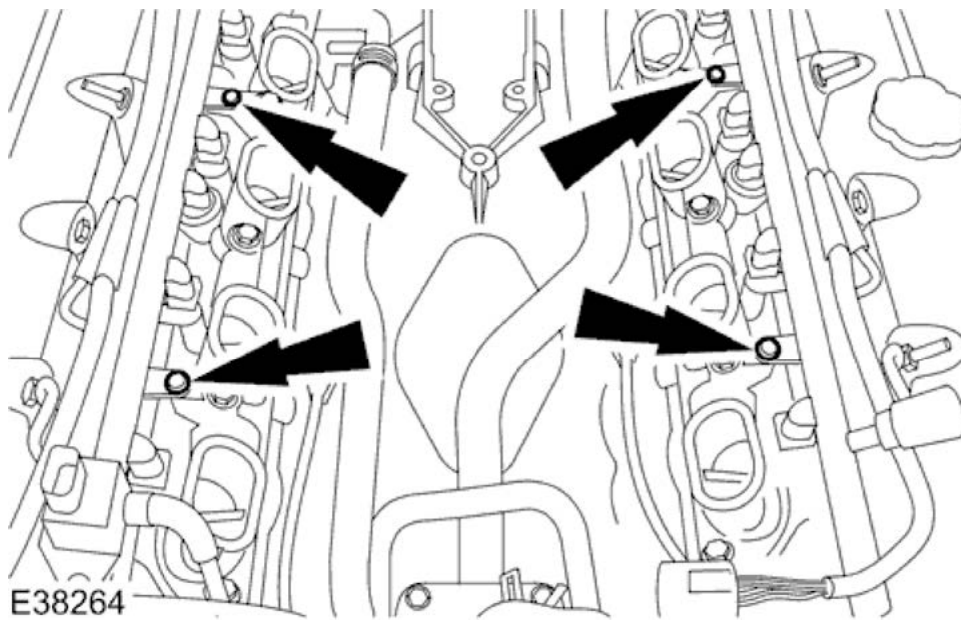
Tighten to 9 Nm.

2003 XK RANGE - Fuel Charging and Controls - 303-04



3. Tighten to 6 Nm.

Vehicles with supercharger



4. Tighten to 9 Nm.