



**Engine - V8 S/C 4.2L Petrol - Engine**

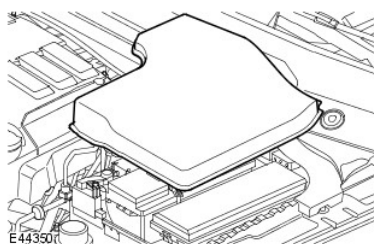
## Removal

**Special Tool(s)**

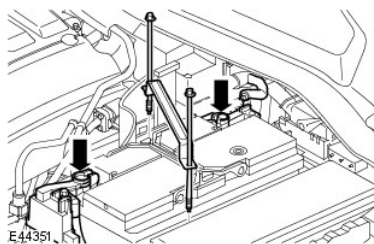
 <p>303-1144 E49956</p>	<p>Engine lifting cradle 303-1144</p>
 <p>310-D005 E45289</p>	<p>Fuel spring lock decoupling tool 310-D005</p>

**Removal**

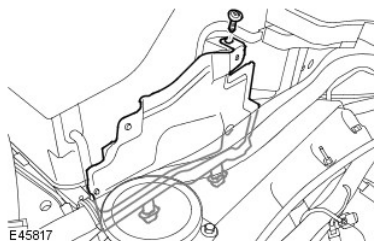
1. Secure the hood in the service position.
2. Disconnect the battery ground cable.  
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
3. Remove the battery cover.
  - Release the 2 mounting clips.



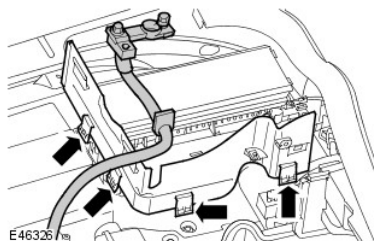
4. Disconnect the battery positive cable.
5. Remove 2 bolts securing the battery clamp and remove the clamp.



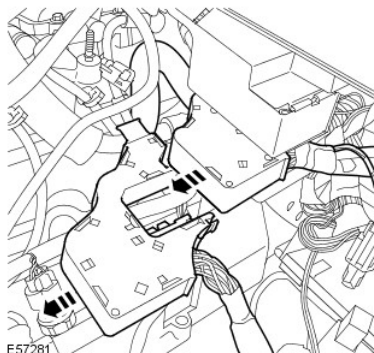
6. Remove the battery.
7. Remove the engine compartment upper heat shield.
  - Remove the 2 screws.
  - Release the 2 mounting clips.



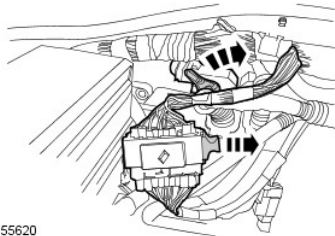
8. Remove the battery compartment side wall.
  - Release the battery positive cable and grommet.
  - Release the 4 clips.



9. Release the cassette.
  - Release the 2 clips.



10. Disconnect the engine wiring harness.
  - Release and disconnect the 2 electrical connectors.



E55620

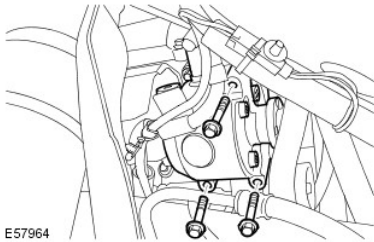
11. Remove the RH air cleaner assembly.  
For additional information, refer to: [Air Cleaner](#) (303-12A Intake Air Distribution and Filtering - V8 S/C 4.2L Petrol, Removal and Installation).

12. **WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

13. Remove the fender splash shields.  
For additional information, refer to: [Fender Splash Shield](#) (501-02 Front End Body Panels, Removal and Installation).

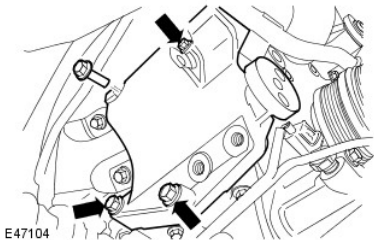
14. Release the dynamic response pump and tie aside.
  - Remove the 3 bolts.



E57964

15. Remove the generator.  
For additional information, refer to: [Generator](#) (414-02A Generator and Regulator - V8 S/C 4.2L Petrol, Removal and Installation).

16. Remove the dynamic response and generator mounting brackets.
  - Remove the 8 bolts.



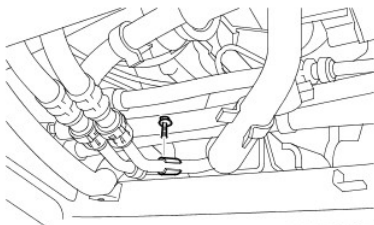
E47104

17. Drain the cooling system.  
For additional information, refer to: [Cooling System Draining, Filling and Bleeding](#) (303-03A Engine Cooling - V8 S/C 4.2L Petrol, General Procedures).

18. Drain the engine oil.  
For additional information, refer to: [Engine Oil Draining and Filling](#) (303-01A Engine - V8 S/C 4.2L Petrol, General Procedures).

19. Remove the exhaust system.  
For additional information, refer to: [Exhaust System](#) (309-00A Exhaust System - V8 S/C 4.2L Petrol, Removal and Installation).

20. Remove the oil cooler pipe support bracket.
  - Remove the bolt.

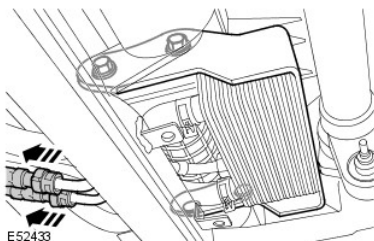


E52432

21. **CAUTION:** Before disconnecting or removing the components, make sure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.

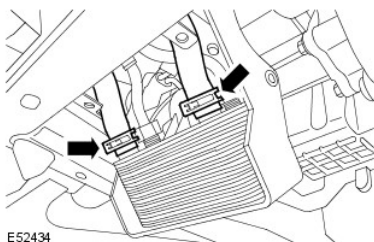
Release the oil cooler.

- Disconnect the oil cooler hoses.
- Remove the 4 bolts.



E52433

22. Disconnect the engine oil cooler coolant hoses.
  - Position a container to collect the fluid spillage.
  - Clamp the relevant hoses, to minimise the coolant loss.
  - Release the 2 clips.

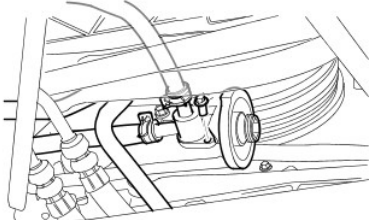


E52434

23. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

Release and tie aside the oil filter housing.

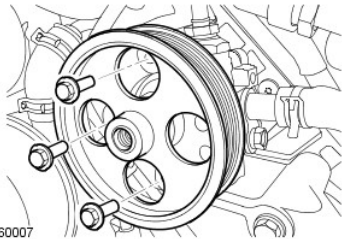
- Remove the oil union bolt for access.
- Remove the 3 bolts.



E60006

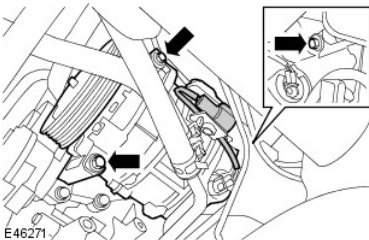
24. Remove the LH charge air cooler.  
For additional information, refer to: [Charge Air Cooler](#) (303-12A Intake Air Distribution and Filtering - V8 S/C 4.2L Petrol, Removal and Installation).

25. Remove the RH charge air cooler.



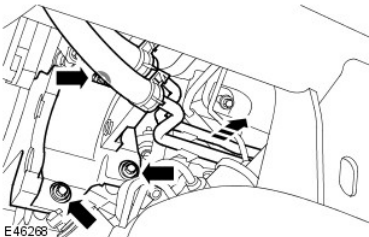
E60007

26. Release the power steering pump and tie aside.
- Remove the 3 bolts.



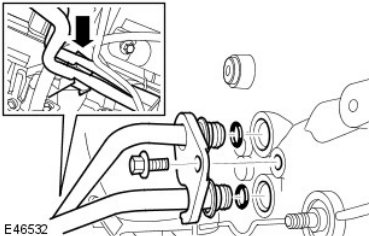
E46271

27. Release the A/C compressor and tie aside.
- Remove the 3 bolts.
  - Disconnect the electrical connector.



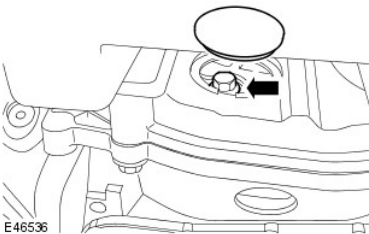
E46268

28. Remove the A/C compressor mounting bracket.
- Remove the 3 bolts.



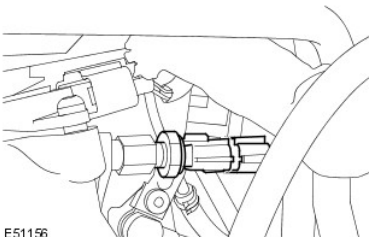
E46532

29. Release the transmission cooler pipes.
- Position a container to collect the fluid.
  - Remove the bolt.
  - Release the 2 clips.
  - Move the transmission pipes aside.




E46536

30. Release the flexplate.
- Remove the grommet.
  - Rotate the crankshaft to access the retaining bolts.
  - Remove the 3 bolts.




E51156

31.  **WARNING:** The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.

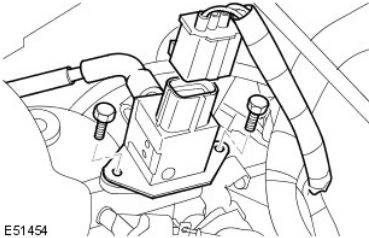
Remove the fuel temperature sensor.

- Disconnect the electrical connector.
- Position an absorbent cloth to collect fluid spillage.

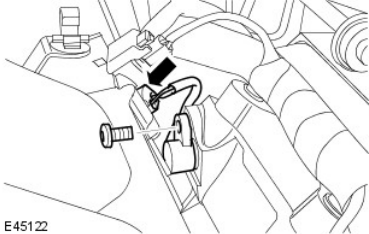
32.  **CAUTION:** Before disconnecting or removing components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.

Remove the fuel rail pressure sensor.

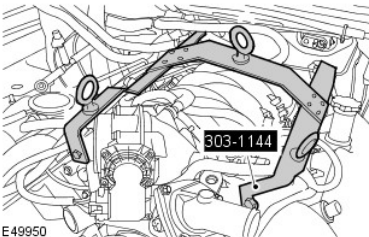
- Remove the 2 bolts.
- Remove and discard the 2 O-ring seals.



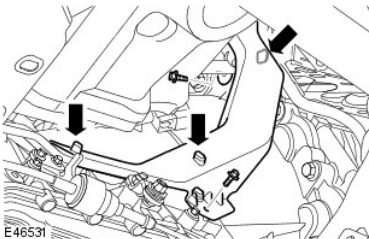
E51454



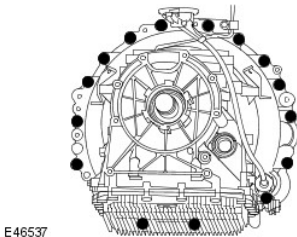
E45122



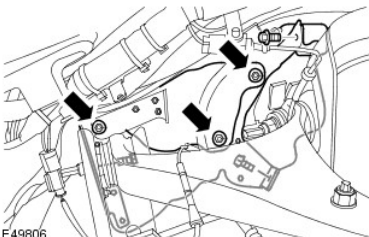
E49950



E46531



E46537



E49806

33. Remove both camshaft position (CMP) sensors and brackets for access.
  - Remove the Torx screw.
  - Release the harness brackets.

34. **NOTE: Naturally aspirated illustrated, mounting points are identical on the supercharged engine.**

Install the engine lifting cradle.

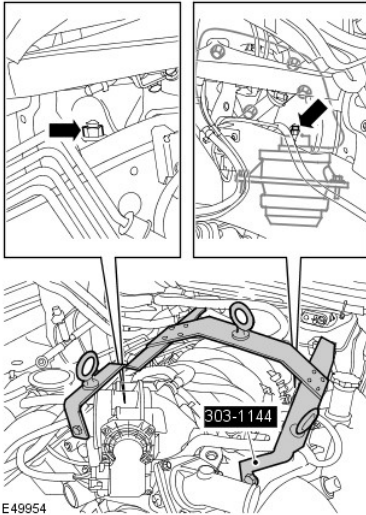
35. Release the heat shield for access to the transmission bolts.
  - Remove the 2 bolts.
  - Move the shield aside.

36. Remove the transmission bolts.
  - Support the transmission.
  - Remove the 16 bolts.

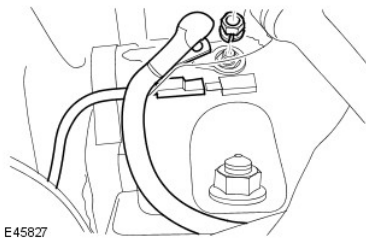
37. Remove the upper suspension arm and brake line heat shields for access.

38. **NOTE: Naturally aspirated graphic shown.**

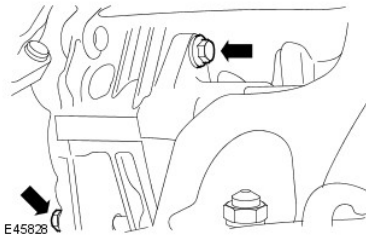
Remove the 2 engine mount nuts.




39. Release the engine from mounts and the transmission.
  - Install the lifting chains.
  - Raise the RH side of the engine by approximately 40 mm.
40. Disconnect the starter motor electrical connections.
  - Remove the nut.



41. Remove the starter motor.
  - Remove the starter motor retaining bolts.

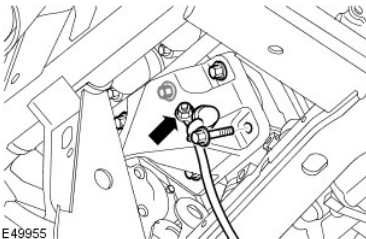


42. CAUTIONS:

 Make sure the torque converter remains connected to the transmission.

 Care must be taken to avoid damaging the steering rack and differential.

- Remove the engine front mount bracket.
- Remove 4 bolts securing the engine mount bracket to the cylinder block.
  - Disconnect the engine ground cable from the RH mounting bracket.
  - Carefully and progressively raise and remove the engine.



43. CAUTIONS:

 Make sure the torque converter remains connected to the transmission.

 Care must be taken to avoid damaging the steering rack and differential.

Carefully and progressively raise and remove the engine.

44. Disconnect the lifting chains.
  - Remove the engine lifting cradle.
45. Position the engine.
  - Install the lifting chains.
  - Raise the engine.
  - Clean the component mating faces.
  - Clean the locating dowels.