


Turbocharger (19.42.01)

Removal


All vehicles

- 1  **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.

- 2 . Open the hood.

Left-hand drive vehicles

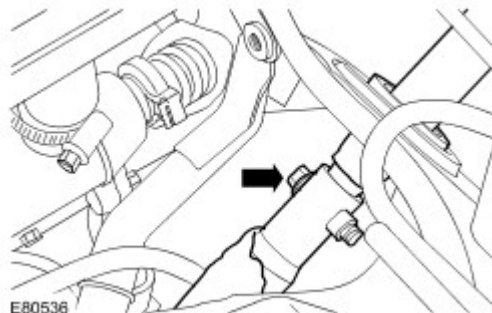
- 3  **CAUTION:** Do not turn the steering wheel with the steering column lower shaft disconnected as damage to the clockspring and steering wheel switches may occur.

 **CAUTION:** Make sure the steering is in the straight ahead position.


NOTE:

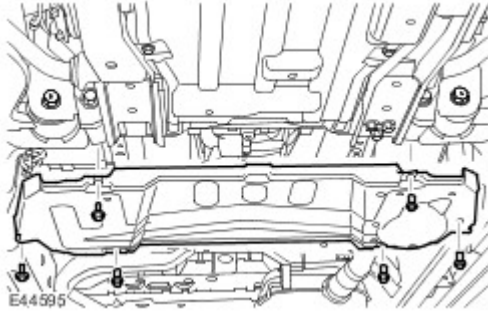
Note the fitted position.

Loosen the steering column lower shaft to steering column upper shaft bolt.



All vehicles

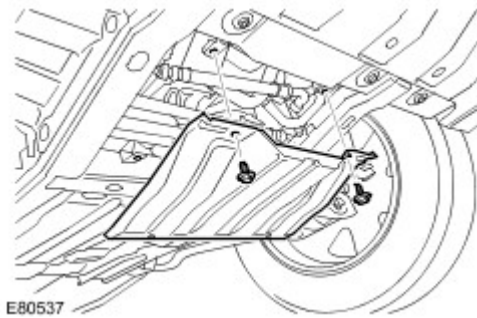
- 4 . Remove the LH front wheel and tire.
- 5 . Remove the transmission undershield.
 Remove the 6 bolts.



- 6 . Remove the engine undershield.
For additional information, refer to [Engine Undershield \(76.10.50\)](#)

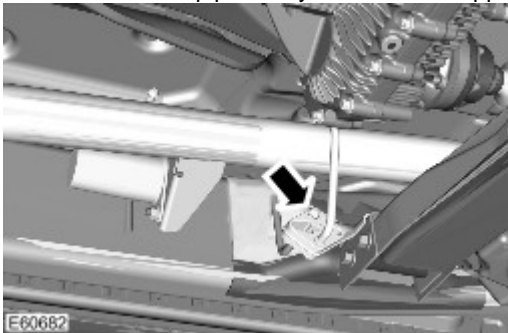
Left-hand drive vehicles

- 7 . Remove the radiator access panel.
▶ Remove the 2 bolts.

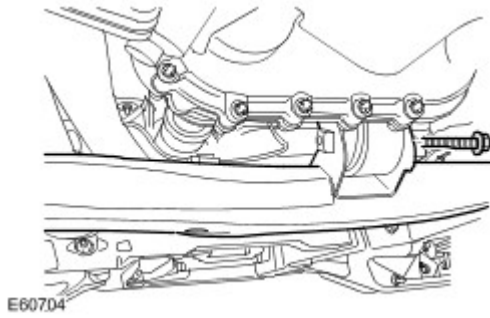


All vehicles

- 8 . Release the downpipe catalytic converter support insulator.

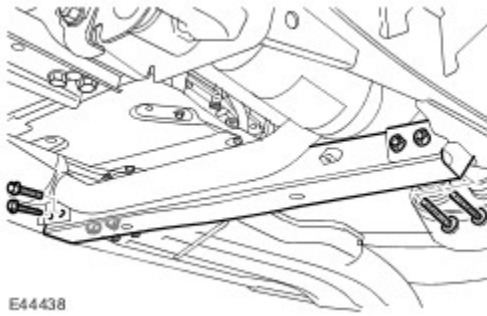


- 9 . Remove the transmission support insulator through-bolt.
▶ Using a transmission jack, support the transmission.



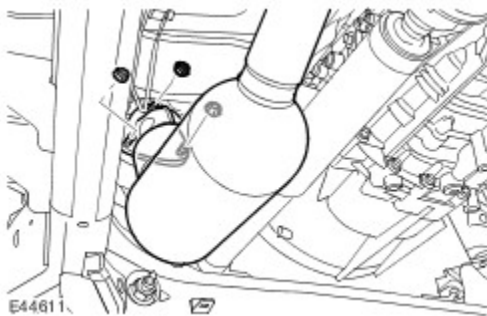
10 . With assistance, remove the transmission support crossmember.

- ▶ Remove the 4 nuts and bolts.



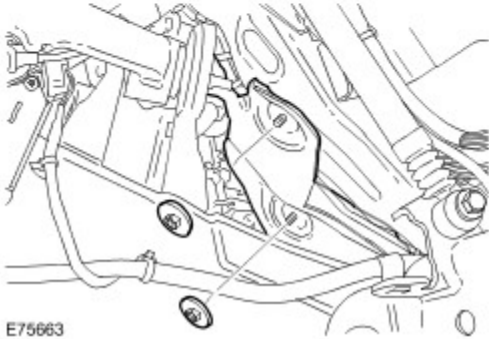
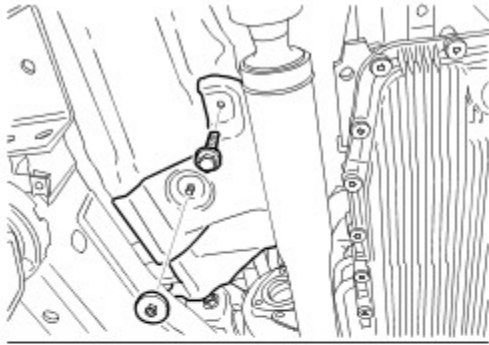
11 . With assistance, remove the downpipe catalytic converter.

- ▶ Loosen the clamp.
- ▶ Remove and discard the 3 nuts.
- ▶ Remove and discard the gasket.



12 . Remove the exhaust front heat shield.

- ▶ Remove the 3 nuts.
- ▶ Remove the bolt.



13 . Install the transmission support crossmember.

- Install but do not fully tighten at this stage the 2 transmission support crossmember bolts.
- Install but do not fully tighten at this stage the transmission support insulator through-bolt.
- Remove the transmission jack.

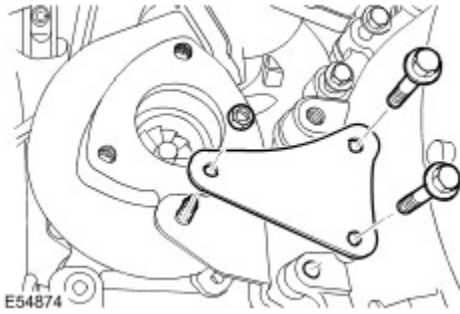
14 . Remove the differential mounting bracket heat shield.

- Remove the 2 bolts.

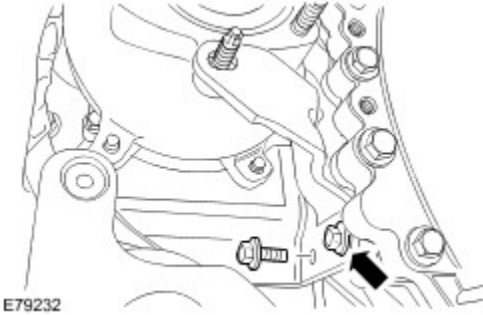


15 . Remove the turbocharger support bracket.

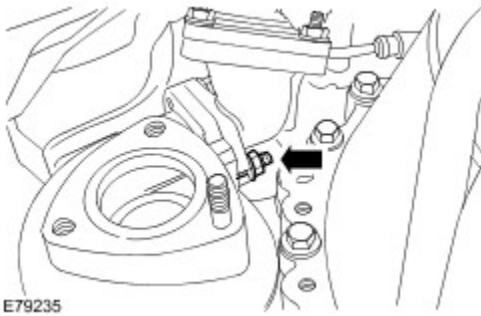
- Remove the 2 bolts.
- Remove the nut.



16 . Remove the 2 bolts from the turbocharger support bracket.



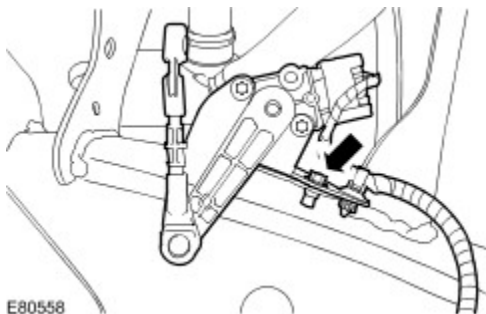
17 . Loosen the turbocharger lower nut.



18 . Remove the LH upper arm.
For additional information, refer to [Upper Arm \(60.35.01\)](#)

Left-hand drive vehicles

19 . Remove the height sensor bracket bolt.
▶ Position the height sensor bracket aside.



20 Turn the ignition key to position I.

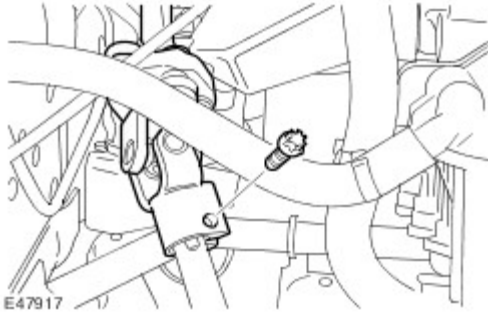
- ▶ Turn the steering wheel until the head of the steering column lower shaft bolt can be seen through the LH wheel arch.

21



CAUTION: Do not turn the steering wheel with the steering column lower shaft disconnected as damage to the clockspring and steering wheel switches may occur.

Remove and discard the steering column lower shaft bolt.

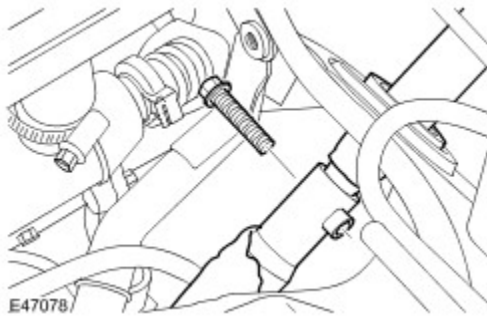


22 . Turn the steering wheel to the straight ahead position.

- ▶ Remove the ignition key.

23 . Remove the steering column lower shaft.

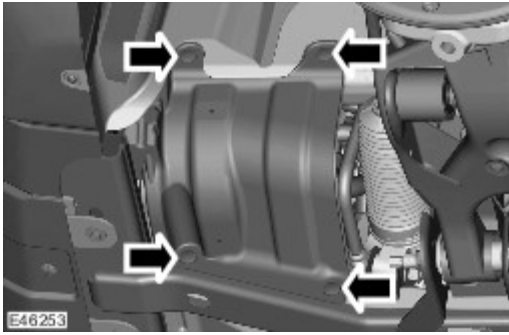
- ▶ Remove and discard the steering column lower shaft upper bolt.



All vehicles

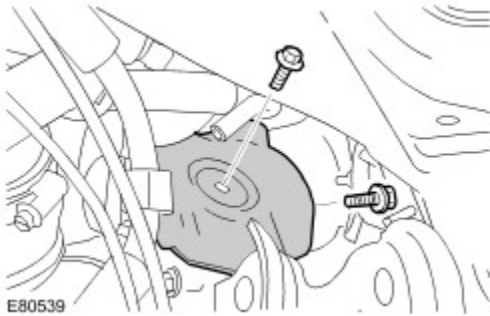
24 . Remove the fender splash shield lower trim.

- ▶ Remove the 4 clips.



25 . Remove the turbocharger heat shield.

- ▶ Remove the 2 bolts.



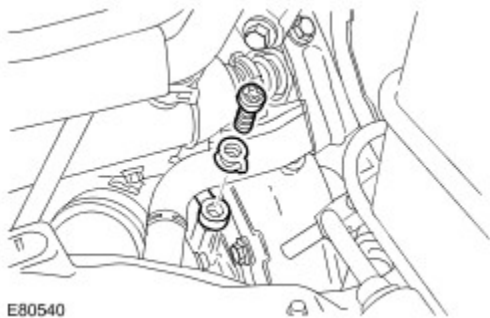
26 .



CAUTION: Always plug any open connections to prevent contamination.

Disconnect the turbocharger oil supply tube.

- ▶ Remove the turbocharger banjo bolt.
- ▶ Remove and discard the sealing washers.



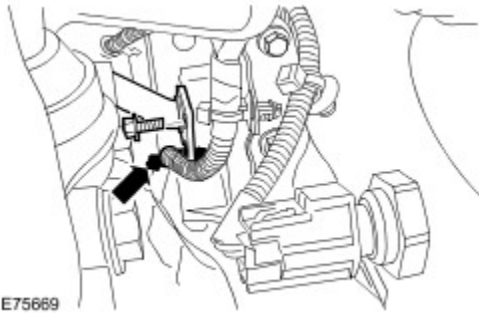
27 .



CAUTION: Always plug any open connections to prevent contamination.

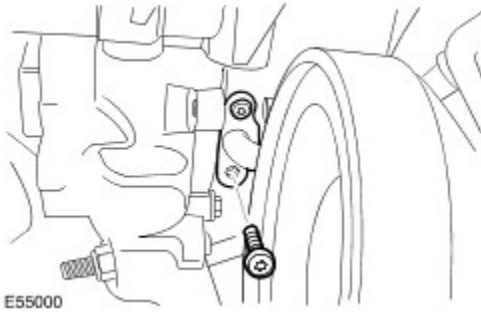
Remove the turbocharger oil return tube bolt.

- ▶ Release the wiring harness clip.



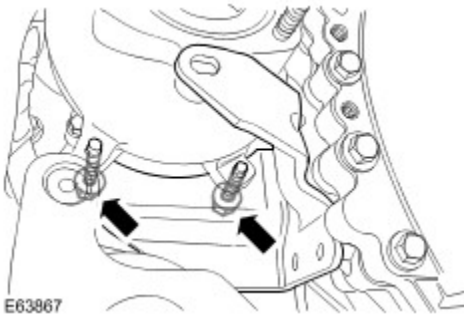
28 . Remove the turbocharger oil return tube.

- ▶ Remove the 2 bolts.
- ▶ Remove and discard the gasket.
- ▶ Remove and discard the O-ring seal.



29 . Remove the turbocharger support bracket.

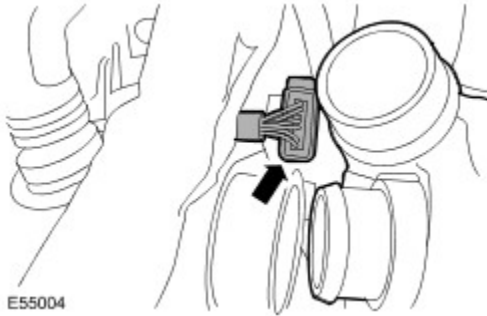
- ▶ Remove the 2 bolts.



30 . Loosen the turbocharger intake and outlet pipe clips.



31 . Disconnect the turbocharger electrical connector.



32



WARNING: Eye protection must be worn.



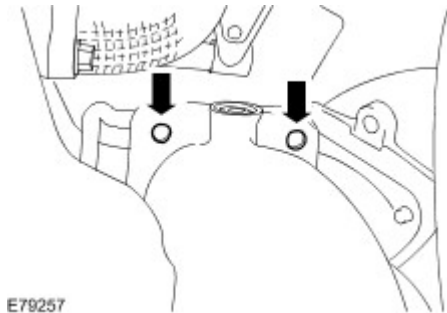
CAUTION: Make sure that only the turbocharger studs are drilled.



CAUTION: Make sure that the depth of the drill does not exceed 14 mm (0.6 inch).

Carefully drill the turbocharger 2 upper studs.

- ▶ Center punch the turbocharger 2 upper studs.
- ▶ Drill a pilot hole in the center of the turbocharger studs progressively drill out the studs until a 8 mm (0.3 inch) hole is achieved.



33 . With assistance, remove the turbocharger.

- ▶ Loosen the turbocharger lower nut.

Installation

All vehicles

1



WARNING: Eye protection must be worn.



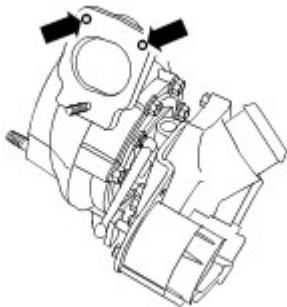
WARNING: Never direct a high-pressure nozzle at the skin as the high-pressure air may penetrate to the underlying tissue, and cause serious injury.



CAUTION: Always keep high-pressure equipment in good condition, and regularly maintained, particularly at joints and unions.

Drill two 8 mm (0.3 inches) holes in the turbocharger as shown.

- ▶ Clean the turbocharger and blow out with an air line.



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- 2 . Install a new stud to turbocharger lower hole.
- 3 . With assistance, install the turbocharger.
 - ▶ Clean the turbocharger mating faces.
 - ▶ Align the turbocharger intake and outlet pipes.
- 4 . With assistance, tighten the turbocharger upper nuts and bolts to 24 Nm (18 lb.ft).
- 5 . Tighten the turbocharger lower nut to 24 Nm (18 lb.ft).
- 6 . Connect the turbocharger electrical connector.
- 7 . Tighten the turbocharger intake and outlet pipe clips.
- 8 . Install the turbocharger support bracket.
 - ▶ Tighten the bolts to 23 Nm (17 lb.ft).
- 9 . Connect the turbocharger oil supply tube.
 - ▶ Install new sealing washers.
 - ▶ Tighten the turbocharger oil supply tube bolt to 30 Nm (22 lb.ft).
- 10 . Install the turbocharger heat shield.
 - ▶ Install the 2 bolts.
- 11 . Install the 2 turbocharger oil return tube bolts.
 - ▶ Install a new gasket.
 - ▶ Install a new O-ring seal.
 - ▶ Tighten the 2 bolts to 10 Nm (7 lb.ft).
- 12 . Install the turbocharger oil return tube bolt.
 - ▶ Attach the wiring harness clip.

13 . Install the fender splash shield lower trim.

- ▶ Install the 4 clips.

Left-hand drive vehicles

14 . Install the steering column lower shaft.

- ▶ Connect the steering column lower shaft to the steering column upper shaft.
- ▶ Connect the universal joint to the steering gear.

15 . Install but do not fully tighten at this stage a new steering column lower shaft to steering column upper shaft bolt.

16



CAUTION: Do not turn the steering wheel with the steering column lower shaft disconnected as damage to the clockspring and steering wheel switches may occur.

Turn the ignition key to position I.

- ▶ Turn the steering wheel until the steering column lower shaft bolt hole can be seen through the LH wheel arch.

17 . Install the steering column lower shaft to steering gear bolt.

- ▶ Install a new bolt and tighten to 30 Nm (22 lb.ft).

18 . Turn the steering wheel to the straight ahead position.

- ▶ Remove the ignition key.

19 . Tighten the steering column lower shaft to steering column upper shaft bolt to 30 Nm (22 lb.ft).

20 . Install the height sensor bracket bolt.

- ▶ Position the height sensor bracket to the intergrated body frame.

All vehicles

21 . Install the LH upper arm.

For additional information, refer to [Upper Arm \(60.35.01\)](#)

22 . Install the 2 turbocharger support bracket bolts.

- ▶ Tighten the 2 bolts to 23 Nm (17 lb.ft).

23 . Install the turbocharger support bracket.

- ▶ Install the turbocharger support bracket stud.
- ▶ Tighten the 2 bolts to 48 Nm (35 lb.ft).
- ▶ Tighten the nut to 25 Nm (18 lb.ft).

24 . Install the differential mounting bracket heat shield.

- ▶ Install the 2 bolts and tighten to 10 Nm (7 lb.ft).

25 . Remove the transmission support crossmember.

▶ Using a transmission jack, support the transmission.

26 . Install the exhaust front heat shield.

▶ Install the 3 nuts.

▶ Install the bolt.

27 . With assistance, install the downpipe catalytic converter.

▶ Install new studs and nuts.

▶ Install a new gasket.

▶ Tighten the downpipe catalytic converter nuts and clamp to 48 Nm (35 lb.ft).

28 . Install the transmission support crossmember.

▶ Tighten the nuts and bolts to 90 Nm (66 lb.ft).

▶ Install the transmission support insulator through-bolt and tighten to 175 Nm (129 lb.ft).

▶ Remove the transmission jack.

29 . Attach the downpipe catalytic converter hanger.

Left-hand drive vehicles

30 . Install the radiator access panel.

▶ Tighten the 2 bolts to 10 Nm (7 lb.ft).

All vehicles

31 . Install the engine undershield.

For additional information, refer to [Engine Undershield \(76.10.50\)](#).

32 . Install the transmission undershield.

▶ Tighten the bolts to 10 Nm (7 lb.ft).

33 . Install the LH front wheel and tire.

▶ Tighten the wheel nuts to 140 Nm (103 lb.ft).

34 . Check and top-up the engine oil.

35 . Close the hood.