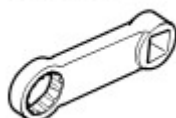




Transmission (44.20.01)

Special Service Tools


303-1069



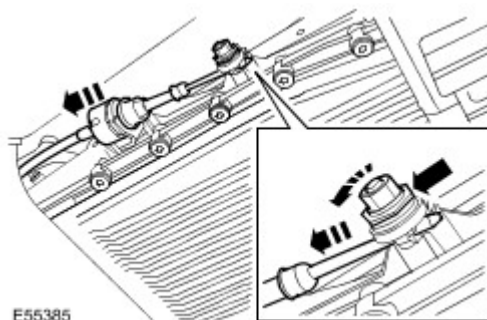
E53727

Wrench adapter
303-1069

Removal

1. Disconnect the battery ground cable. For additional information, refer to [Specifications](#) (Section 414-00)
2.  **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.
3. Remove the front driveshaft. For additional information, refer to [Front Driveshaft - 2.7L Diesel \(47.15.02\)](#) (Section 205-01)
4. Remove the rear driveshaft. For additional information, refer to [Rear Driveshaft \(47.15.03\)](#) (Section 205-01)
5. Remove the starter motor. For additional information, refer to [Starter Motor \(86.60.01\)](#) (Section 303-06)
6. Release the selector cable.
 - ▶ Using an additional wrench, restrain the clamping bush and loosen the locknut.
 - ▶ Compress the latch and release the cable.



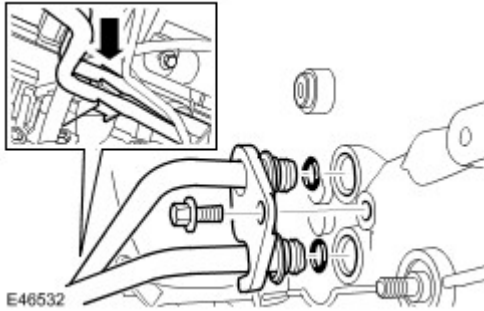
- 7.



CAUTION: Always plug any open connections to prevent contamination.

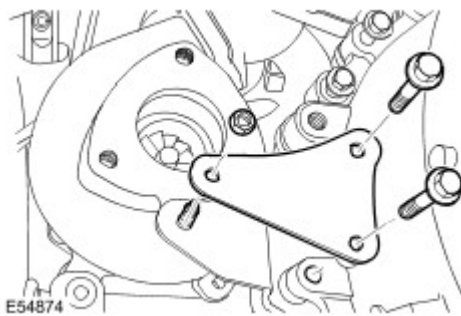
Disconnect the transmission fluid lines.

- Remove the retaining bolt.
- Release the retaining clip.
- Remove and discard both O-ring seals.



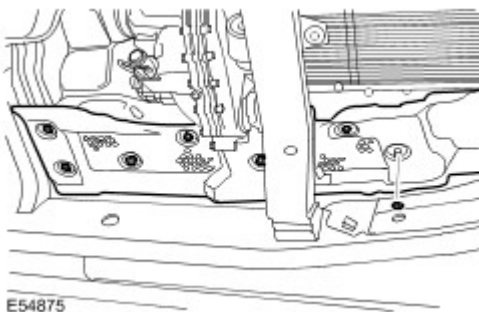
8. Remove the turbocharger support bracket.

- Remove the retaining nut and two bolts.



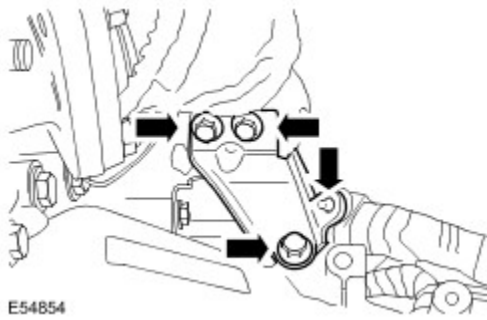
9. Remove the exhaust heat shield.

- Remove the seven retaining nuts.



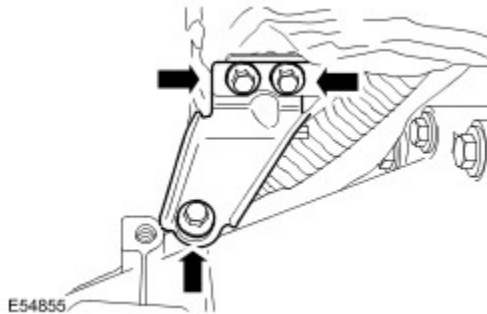
10. Remove the exhaust cross-over pipe LH support bracket.

- Remove the three retaining bolts.
- Release the transmission wiring harness.



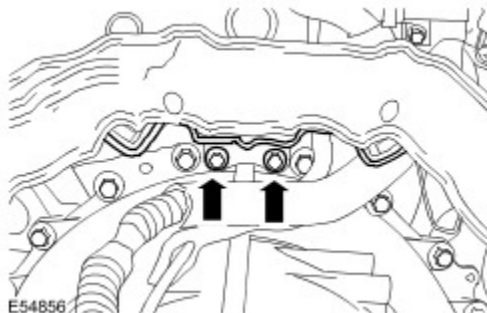
11. Remove the exhaust cross-over pipe RH support bracket.

➤ Remove the three retaining bolts.



12. Remove the exhaust cross-over pipe center support bracket.

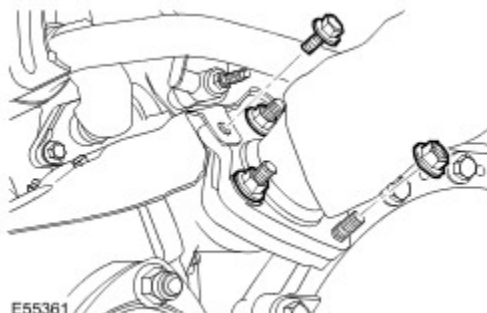
➤ Remove the two retaining bolts.



13. Release the exhaust cross-over pipe from the LH exhaust manifold.

➤ Remove the exhaust manifold heatshield retaining bolt.

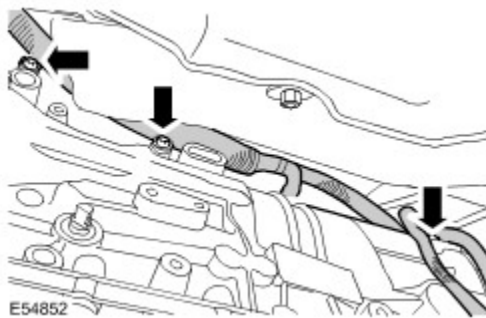
➤ Remove and discard the three retaining nuts.



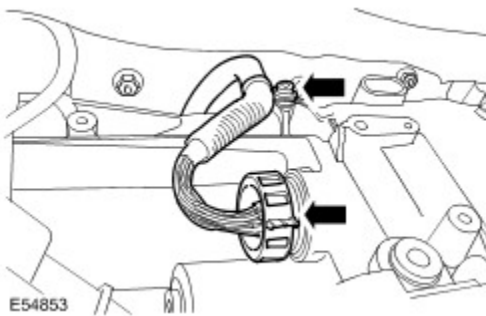
- 14 . Remove the exhaust cross-over pipe.
- Remove the exhaust manifold heatshield retaining bolt.
 - Remove and discard the three retaining nuts.
 - Remove and discard the two gaskets.



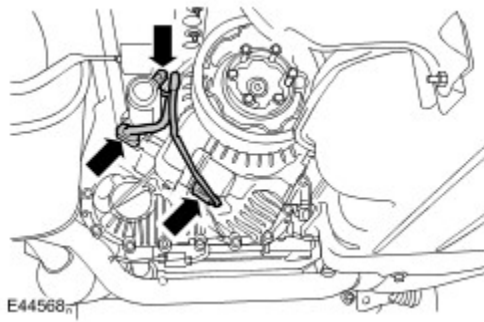
- 15 . Release the wiring harness from the LH side of the transmission.
- Remove the two retaining bolts.
 - Release the retaining clip.



- 16 . Release the wiring harness from the RH side of the transmission.
- Remove the retaining bolt.
 - Disconnect the electrical connector.



- 17 . Disconnect the transfer case electrical connectors.
- Disconnect the three electrical connectors.



18.



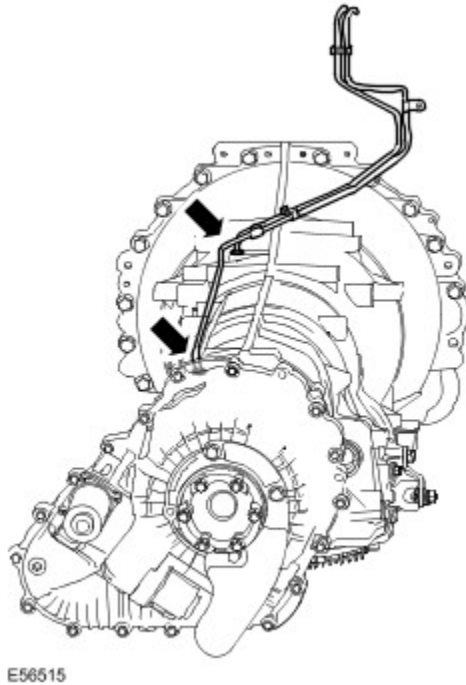
CAUTION: Always plug any open connections to prevent contamination.

NOTE :

Transmission shown removed for clarity.

Disconnect the breather line.

➤ Depress the locking ring.

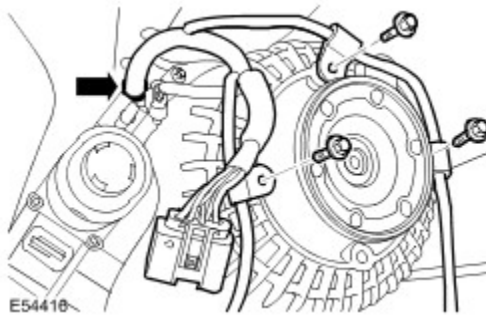


19.

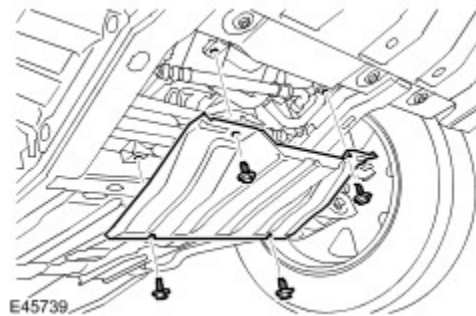
Release the wiring harness from the transfer case.

➤ Remove the 3 bolts.

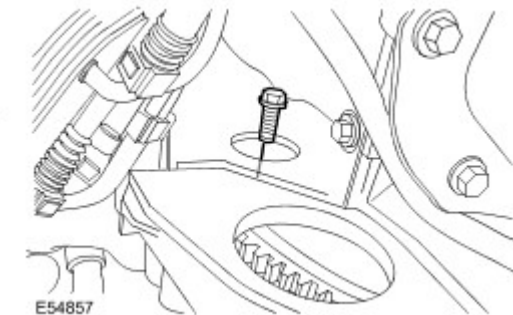
➤ Release the clip.



- 20 . Remove the radiator access panel.
- ▶ Remove the four retaining bolts.




- 21 . Release the flexplate.
- ▶ Remove the access plug.
 - ▶ Rotate the crankshaft in a clockwise direction to access the retaining bolts.
 - ▶ Remove the four retaining bolts.



- 22 . Using a transmission jack, support the transmission.

- 23 .  **WARNING:** Secure the transmission to the transmission jack.

 **WARNING:** Support the engine. The engine will move forward when the transmission is removed.

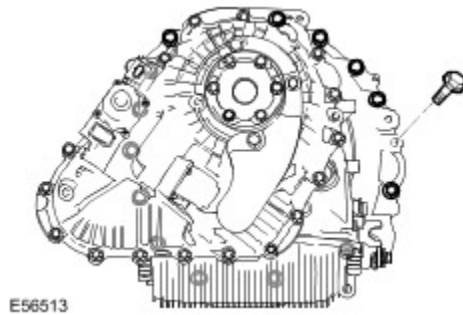
 **CAUTION:** Make sure the torque converter remains connected to the transmission.

NOTE :

Transmission shown removed for clarity.

With assistance, remove the transmission.

- ▶ Remove the 15 transmission retaining bolts.



- 24 . Using a suitable tool retain the torque converter.

- 25 . **NOTE :**

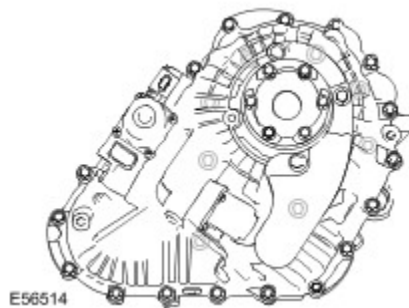
Do not disassemble further if the component is removed for access only.

Remove the transmission from the transmission jack.

- 26 . Drain the transmission fluid.

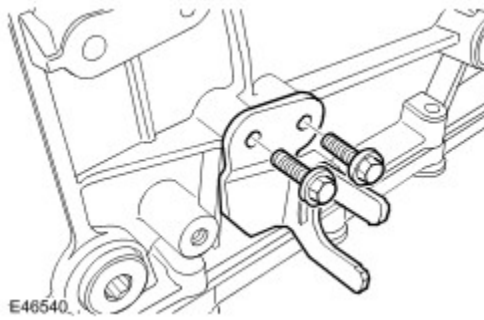
- 27 . With assistance, remove the transfer case.

- ▶ Remove the 8 bolts.
- ▶ Remove and discard the O-ring seal.

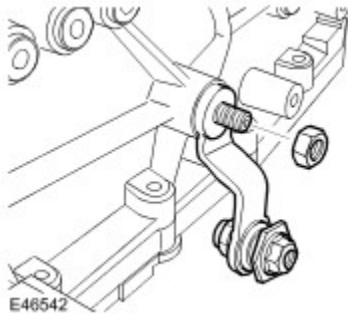


- 28 . Remove the selector cable bracket.

- ▶ Remove the two retaining bolts.

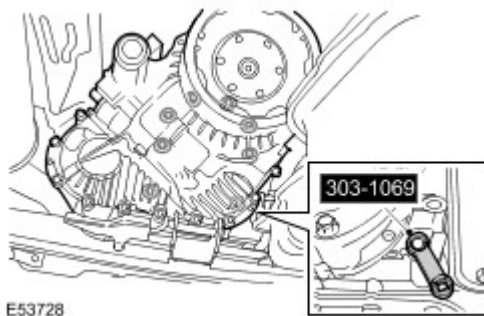


- 29 . Remove the selector lever.
- ▶ Remove the retaining nut.




Installation

- 1 . With assistance, install the transfer case.
- ▶ Clean the component mating faces.
 - ▶ Lubricate input shaft splines with 'Weicon TL7391' grease.
 - ▶ Install a new O-ring seal.
 - ▶ Install the eight retaining bolts.
 - ▶ Using the special tool, tighten the bolts to 45 Nm (33 lb.ft).



- 2 . Secure the selector lever.
- ▶ Tighten the nut to 12 Nm (9 lb.ft).
- 3 . Attach the selector cable bracket.
- ▶ Install the two bolts and tighten to 10 Nm (7 lb.ft).

- 4 . Secure the wiring harness to the transmission.
 - Repeat the above procedure for the other side.
 - Tighten the Torx retaining bolt to 10 Nm (7 lb.ft).
- 5 . Using a suitable tool retain the torque converter.
- 6 . Position the transmission to the transmission jack.
- 7 . Remove the torque converter retainer.
- 8 .  **CAUTION: Apply grease of the correct specification to the torque converter spigot.**

With assistance, install the transmission.

 - Clean the component mating faces.
 - Tighten the 15 retaining bolts to 45 Nm (33 lb.ft).
- 9 . Connect the breather line.
- 10 . Secure the wiring harness to the transmission.
 - Connect the electrical connector.
 - Tighten the Torx retaining screws.
- 11 . Attach the transmission fluid lines.
 - Clean the components mating faces.
 - Install the new O-ring seals.
 - Secure the transmission fluid lines to the retaining clip.
 - Tighten the retaining bolt to 10 Nm (7 lb.ft).
- 12 . Attach the flexplate to the torque converter.
 - Rotate the crankshaft to access the retaining bolts.
 - Install the access plug.
 - Tighten the four retaining bolts to 45 Nm (33 lb.ft).
- 13 . Install the starter motor. For additional information, refer to [Starter Motor \(86.60.01\)](#) (Section 303-06)
- 14 . Install the radiator access panel.
 - Install the four retaining bolts and tighten to 10 Nm (7 lb.ft).
- 15 . Install the exhaust cross-over pipe.
 - Install new gaskets.

- ▶ Install new retaining nuts.
 - ▶ Tighten the nuts to 22 Nm (16 lb. ft).
 - ▶ Install the exhaust manifold heatshield retaining bolt.
 - ▶ Tighten the bolt to 10 Nm (7 lb.ft).
- 16 . Attach the exhaust cross-over pipe to the LH exhaust manifold.
- ▶ Install new retaining nuts.
 - ▶ Install the exhaust manifold heatshield retaining bolt.
 - ▶ Tighten the nuts to 22 Nm (16 lb. ft).
 - ▶ Tighten the bolts to 10 Nm (7 lb.ft).
- 17 . Secure the exhaust cross-over pipe center support bracket.
- ▶ Tighten the retaining bolts to 25 Nm (18 lb.ft).
- 18 . Install the exhaust cross-over pipe RH support bracket.
- ▶ Align the exhaust cross-over pipe support bracket assembly.
 - ▶ Tighten the retaining bolts to 25 Nm (18 lb.ft).
- 19 . Install the exhaust cross-over pipe LH support bracket.
- ▶ Tighten the retaining bolts to 25 Nm (18 lb.ft).
 - ▶ Attach the transmission wiring harness to the support bracket.
- 20 . Install the exhaust heat shield.
- 21 . Install the turbocharger support bracket.
- ▶ Tighten the retaining nut and two bolts to 22 Nm (16 lb.ft).
- 22 . Install the rear driveshaft. For additional information, refer to [Rear Driveshaft \(47.15.03\)](#) (Section 205-01)
- 23 . Install the front driveshaft. For additional information, refer to [Front Driveshaft - 2.7L Diesel \(47.15.02\)](#) (Section 205-01)
- 24 . **NOTE :**
Do not tighten the locking nut at this stage.
Connect the selector cable to the transmission.
- ▶ Engage the inner cable with the lever clamping bush.
 - ▶ Install the selector cable to its abutment bracket.
- 25 . Adjust the selector cable. For additional information, refer to [Selector Lever Cable Adjustment \(44.30.04\)](#) (Section 307-05)
- 26 . Connect the battery ground cable. For additional information, refer to [Specifications](#) (Section 414-00)

- 27 . Check and top up the transfer case fluid level.
- 28 . Check and top-up the transmission fluid level. For additional information, refer to [Transmission Fluid Level Check \(44.24.06\)](#) (Section 307-01)
- 29 . Lower the vehicle.