

Manual Transmission/Transaxle - Transmission Draining and Filling

General Procedures



WARNING: Observe due care when draining, as the fluid can be very hot.

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

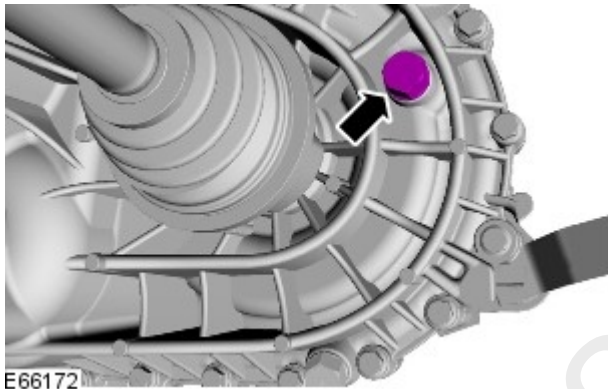
- **NOTE:** Make sure that the vehicle is standing on a level surface.

Raise and support the vehicle.

2. Remove the front undershield.

Refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).

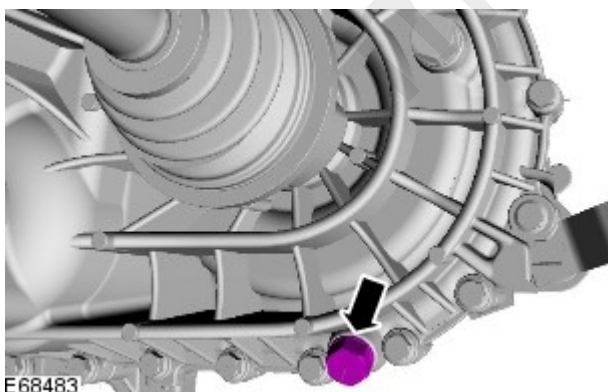
3. Clean the area around the transmission fluid level/filler plug.



4. Remove the transmission fluid filler/level plug.

5. Clean the area around the transmission fluid drain plug.

6. Place a container under the transmission.



7. Remove the transmission fluid drain plug.

8. **8.** **CAUTION:** Replace the washer.

Install the transmission fluid drain plug.

Torque: 30 Nm

9. Fill the transmission with the correct fluid until it runs from the level/filler plug.

10. **10.**  **CAUTION:** Replace the washer.

Install the transmission fluid filler/level plug.

Torque: 35 Nm

11. Install the front undershield.

Refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).

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Manual Transmission/Transaxle - Transmission Fluid Level Check

General Procedures



WARNING: Observe due care when draining, as the fluid can be very hot.

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

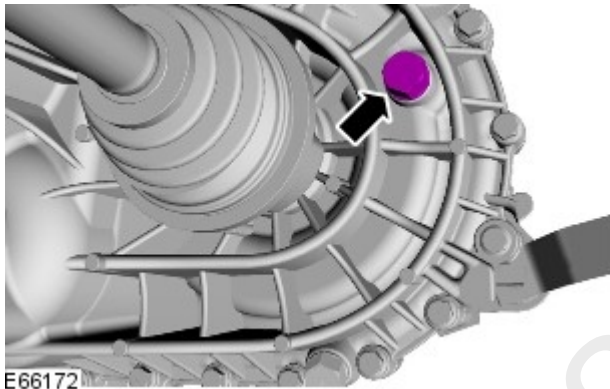
- **NOTE:** Make sure that the vehicle is standing on a level surface.

Raise and support the vehicle.

2. Remove the front undershield.

Refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).

3. Clean the area around the transmission fluid level/filler plug.



4. Remove the transmission fluid filler/level plug.

5. Fill the transmission with the correct fluid until it runs from the level/filler plug.

6.  **CAUTION:** Replace the washer.

Install the transmission fluid filler/level plug.

Torque: 35 Nm

7. Install the front undershield.

Refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).

Manual Transmission/Transaxle - Halfshaft Seal RH

Removal and Installation

Special Tool(s)

 303-1300 E85567	303-1300 Remover, Crankshaft Seal
 303-882 E91956	303-882 Installer, Halfshaft Seal

Removal

1.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

2. Remove the RH halfshaft.

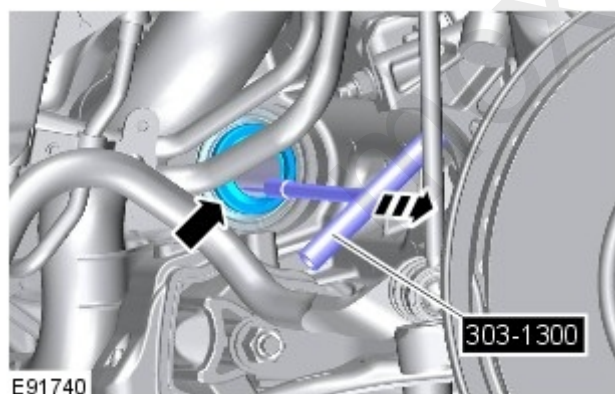
Refer to: [Front Halfshaft RH](#) (205-04 Front Drive Halfshafts, Removal and Installation).

3. **3. CAUTIONS:**

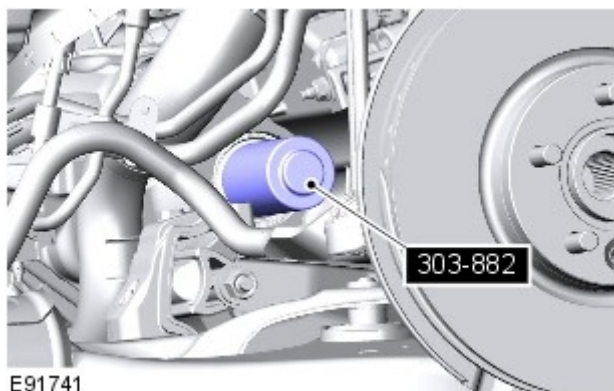
 Make sure that the area around the component is clean and free of foreign material.

 Take extra care not to damage the mating faces.

Special Tool(s): [303-1300](#)



Installation



1. *Special Tool(s):* [303-882](#)

2. Install the RH halfshaft.

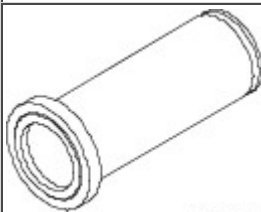
Refer to: [Front Halfshaft RH](#) (205-04 Front Drive Halfshafts, Removal and Installation).

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Manual Transmission/Transaxle - Input Shaft Seal

Removal and Installation

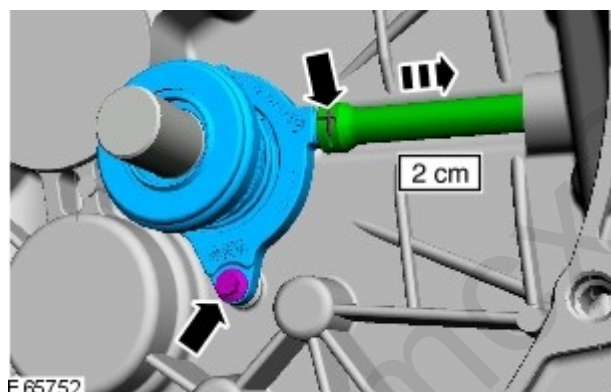
Special Tool(s)

 E46616	303-538 Remover/Installer, Crankshaft Oil Seal
 E65343	308-643 Installer, Input Shaft Seal

Removal

1. Remove the transmission assembly.

Refer to: [Transmission](#) (308-03 Manual Transmission/Transaxle, Removal).



2.  **CAUTION:** If brake fluid is spilt on the paintwork, the affected area must be immediately washed down with cold water.



3.  **CAUTION:** Take special care to avoid damaging the bearing.

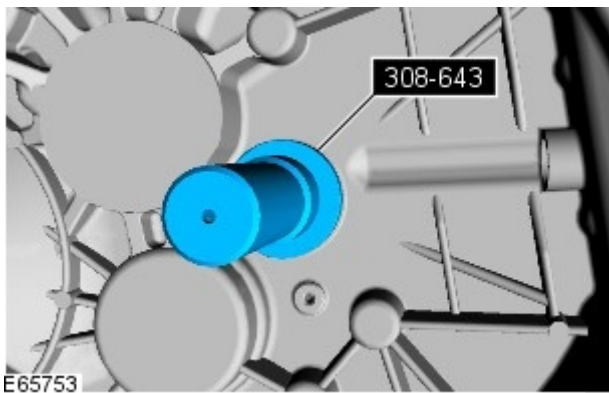
Special Tool(s): [303-538](#)



4. Screw a 2.5 x 15 mm self-tapping screw, a maximum of 2 turns into the input shaft seal and remove the seal using a pair of pliers.

Installation

1. Apply adhesive tape over the splines of the input shaft to prevent the input shaft oil seal being damaged.



2. *Special Tool(s):* [308-643](#)

3. Remove the adhesive tape.
4. Install the clutch slave cylinder.

Torque: 11 Nm

5. Install the transmission assembly.

Refer to: [Transmission](#) (308-03 Manual Transmission/Transaxle, Removal).

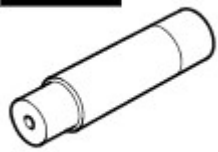
6. Bleed the clutch system.

Refer to: [Clutch System Bleeding](#) (308-00 Manual Transmission/Transaxle and Clutch - General Information, General Procedures).

Manual Transmission/Transaxle - Intermediate Shaft Seal

Removal and Installation

Special Tool(s)

 303-1300 E85567	303-1300 Remover, Crankshaft Seal
 307-595 E88238	307-595 Installer, Intermediate Shaft Seal

Removal

1.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

2. Remove the power transfer unit.

Refer to: [Power Transfer Unit - TD4 2.2L Diesel, Vehicles With: M66 6-Speed Manual Transmission AWD](#) (308-07B Transfer Case, Removal and Installation).



3. **3. CAUTIONS:**



Take extra care not to damage the mating faces.

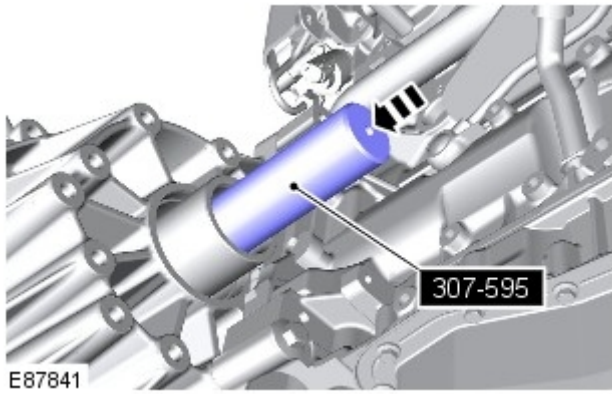


Make sure that the area around the component is clean and free of foreign material.

- **NOTE:** Some oil spillage is inevitable during this operation.

Special Tool(s): [303-1300](#)

Installation



1.  CAUTION: Take extra care not to damage the seal.

Special Tool(s): [307-595](#)

2. Install the power transfer unit.

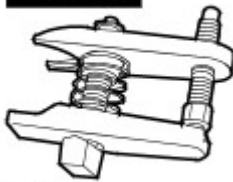
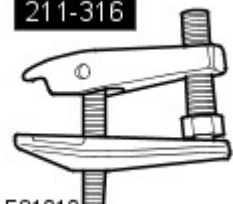
Refer to: [Power Transfer Unit - TD4 2.2L Diesel, Vehicles With: M66 6-Speed Manual Transmission AWD](#) (308-07B Transfer Case, Removal and Installation).

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Manual Transmission/Transaxle - Transmission

Removal

Special Tool(s)

 205-754A E45276	205-754A Splitter, Ball Joints
 211-316 E81010	211-316 Separator, Ball Joint

General Equipment

Powertrain Jack

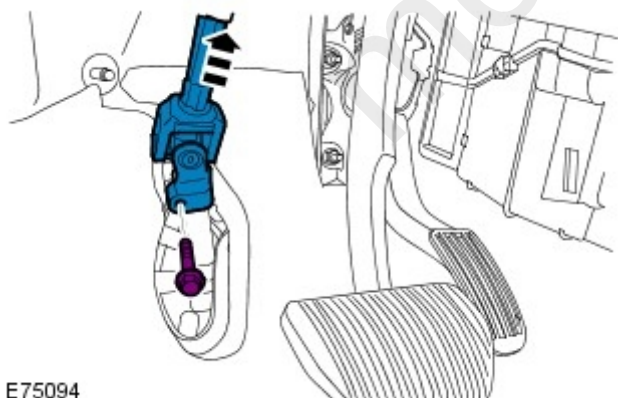
1. Remove the battery tray.

Refer to: [Battery Tray](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

2.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

3. Siphon the fluid from the power steering reservoir.

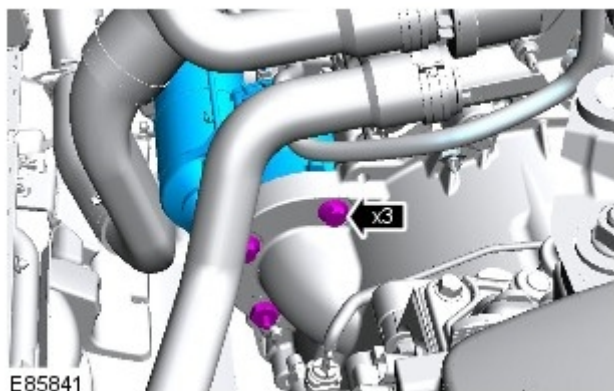


4.  **WARNING:** Make sure that a new steering column flexible coupling bolt is installed.

Disconnect the lower steering column from the steering gear.

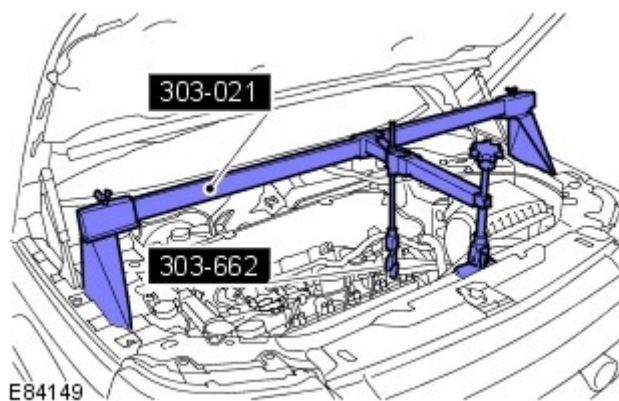
5. Remove the gear selector assembly.

Refer to: [Gearshift Linkage](#) (308-06 Manual Transmission/Transaxle External Controls, Removal and Installation).

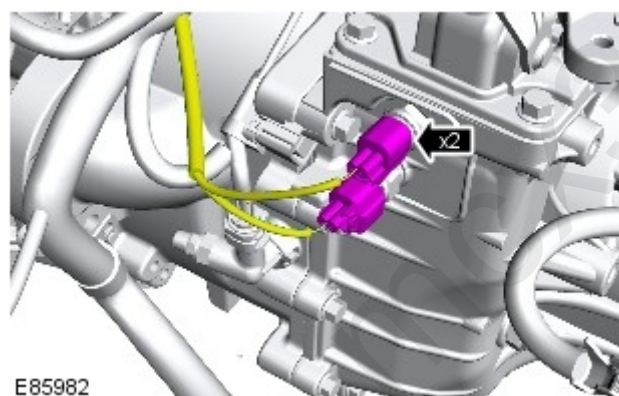


6. Remove the starter motor.

Refer to: [Starter Motor](#) (303-06B Starting System - TD4 2.2L Diesel, Removal and Installation).

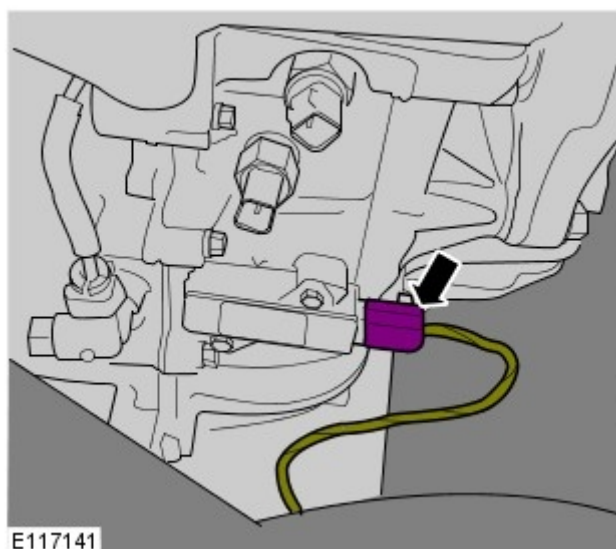


7. Support the engine.



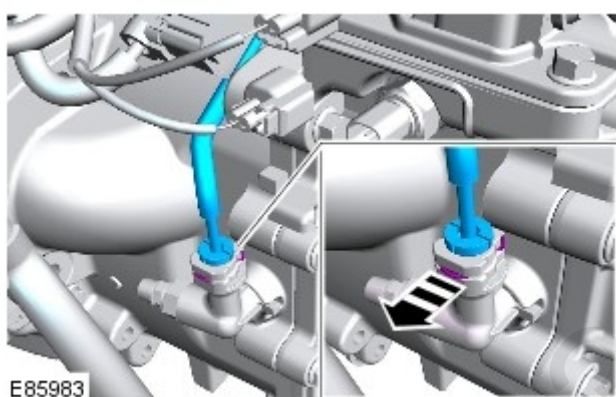
8.

9. **9.** NOTE: If equipped.



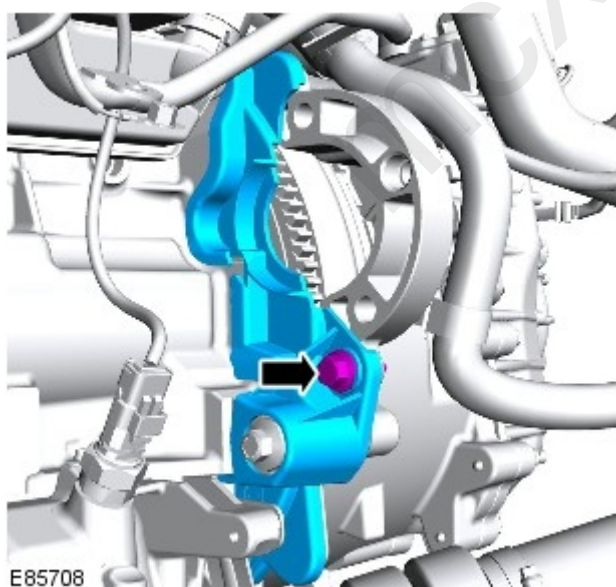
E117141

10.

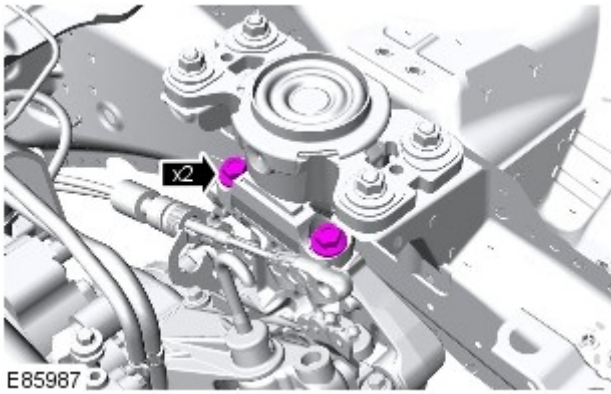


E85983

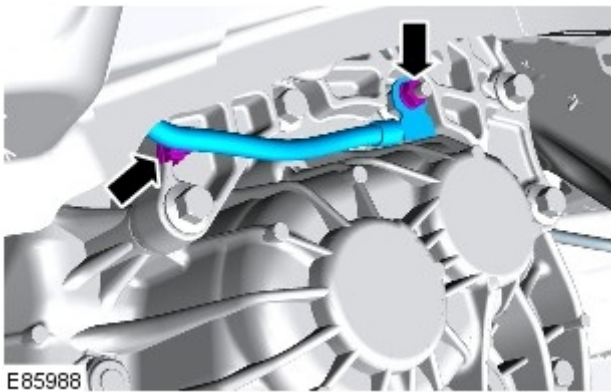
11.



E85708



12.



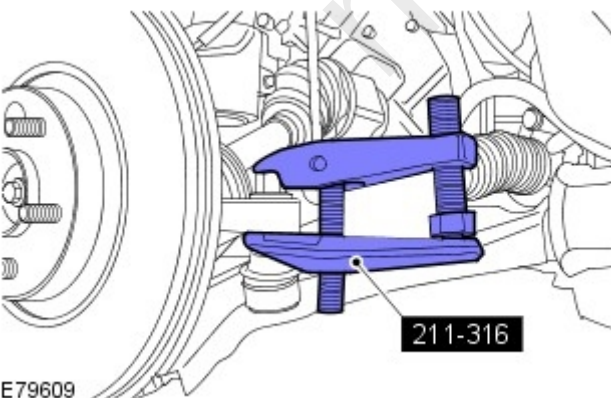
13.

14. Drain the transmission fluid.

Refer to: [Transmission Draining and Filling](#) (308-03 Manual Transmission/Transaxle, General Procedures).

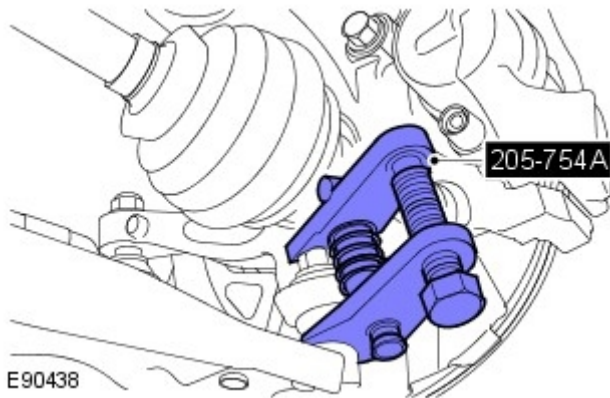
15. Remove the front wheels and tires.

Refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).



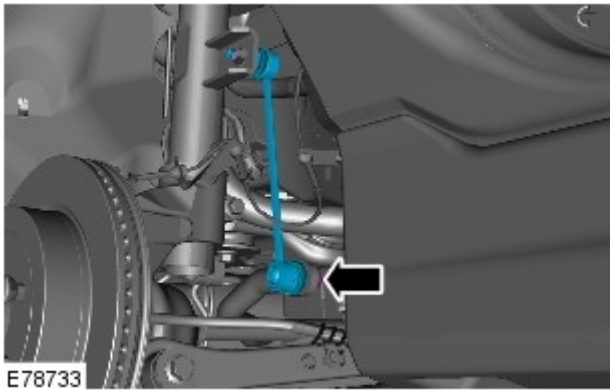
16. Using the special tool, release the LH and RH tie-rod end ball joints.

Special Tool(s): [211-316](#)



17. Using the special tool, remove the lower arm ball joint.

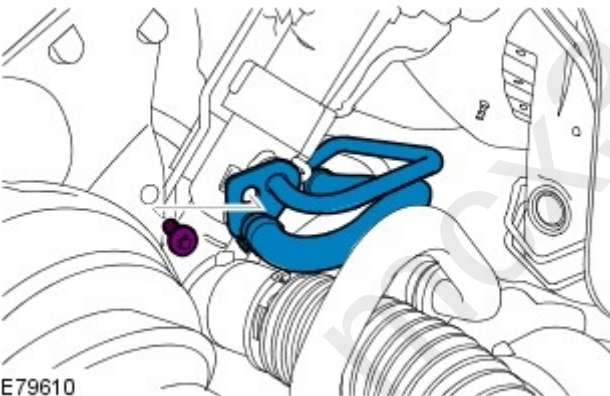
Special Tool(s): [205-754A](#)



18. **18.**  **CAUTION:** Make sure that the ball joint ball does not rotate.

- **NOTE:** Discard the 2 nuts.

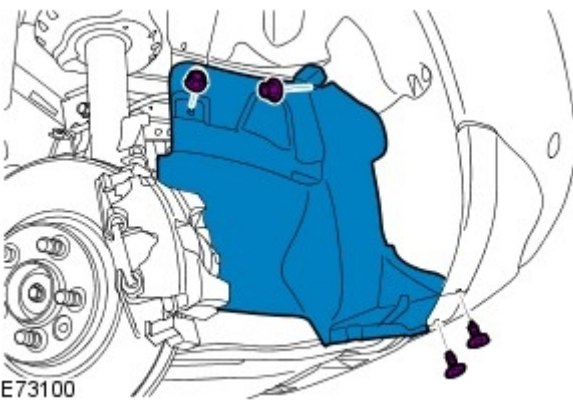
Disconnect both front stabilizer bar links from the stabilizer bar.



19. **19.**  **CAUTION:** Be prepared to collect escaping fluids.

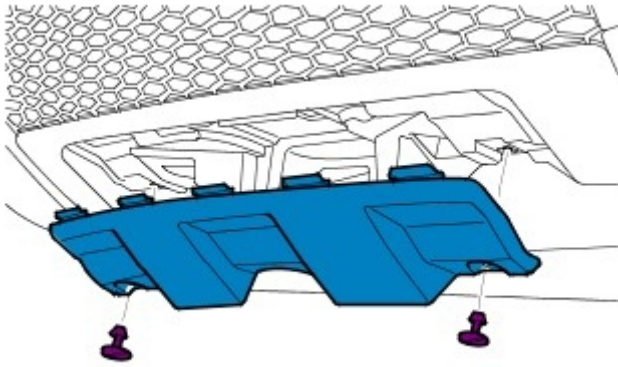
- **NOTE:** Make sure that all openings are sealed.

Disconnect the pressure lines from the power steering gear.



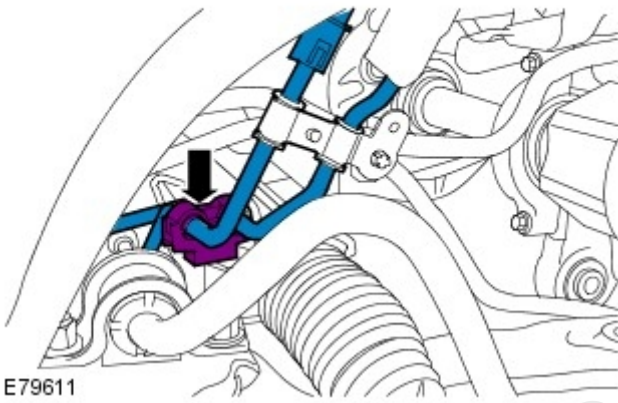
20. **20.** **NOTE:** RH illustration shown, LH is similar.

Remove both the fender splash shield extension panels.



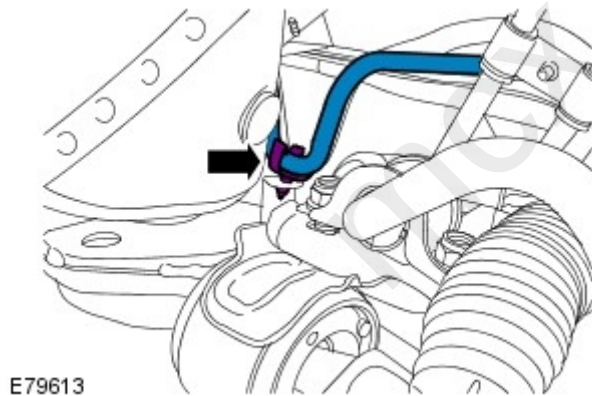
E73341

21. Remove the towing eye cover.
22. Remove the 2 bolts securing bumper cover.



E79611

23. Release the PAS lines.

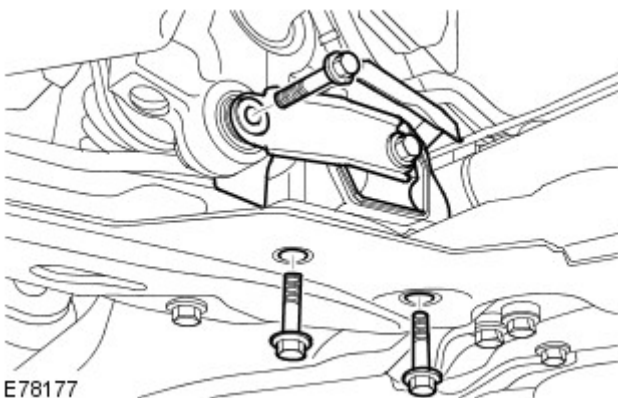


E79613

24. **24.**  **CAUTION:** Be prepared to collect escaping fluids.

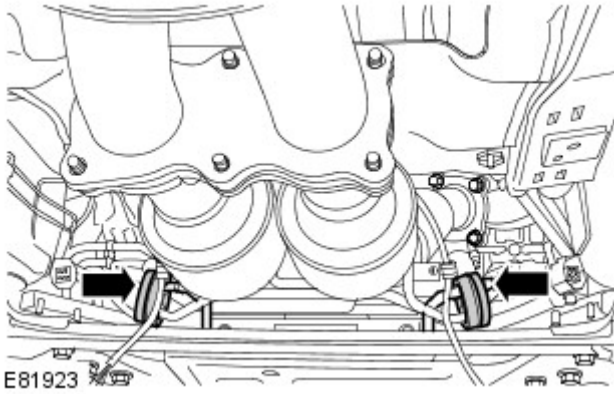
- **NOTE:** Make sure that all openings are sealed.

Release the fuel line.

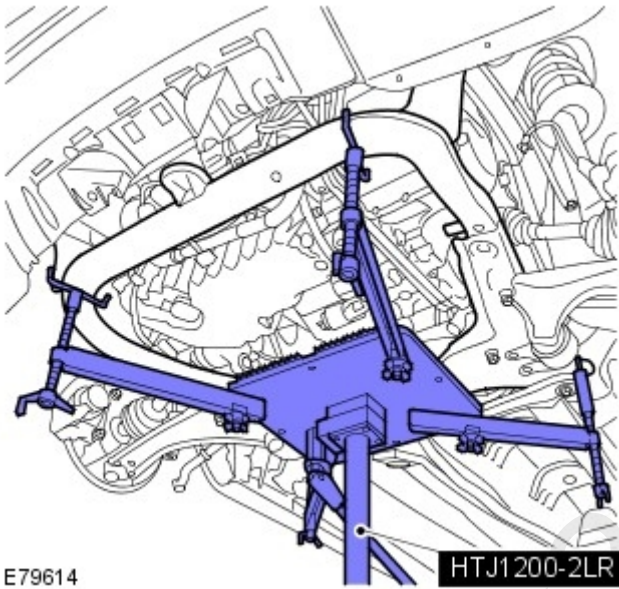


E78177

25. Remove the lower support insulator.

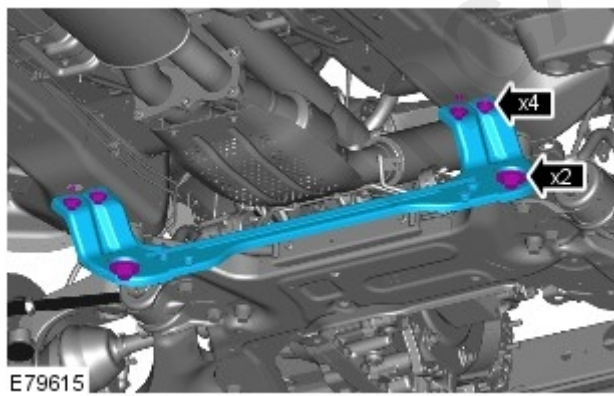


26. Release the downpipe catalytic converter.



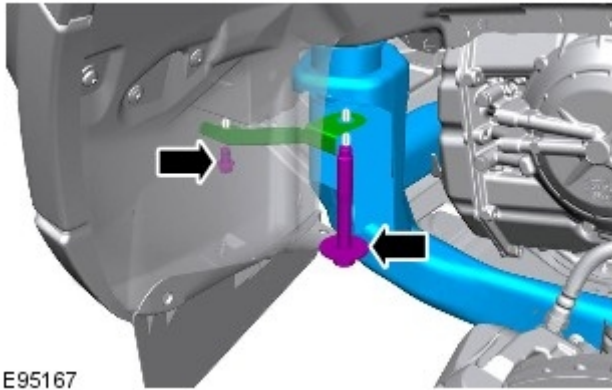
27. Support the subframe.

General Equipment: [Powertrain Jack](#)



28. **28.**  **CAUTION:** Make sure that new subframe bolts are installed.

Remove the front subframe cross-brace.



29. **29. CAUTIONS:**

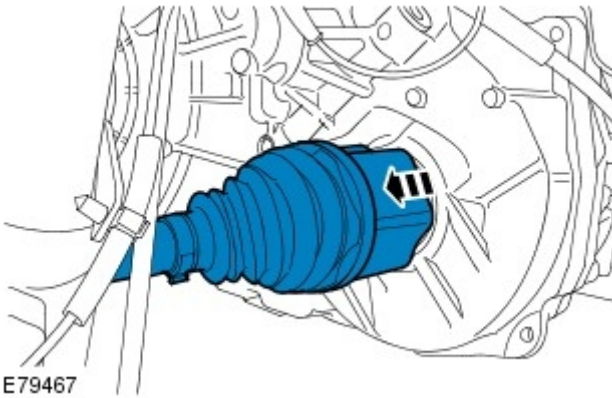


Mark the components to aid installation.

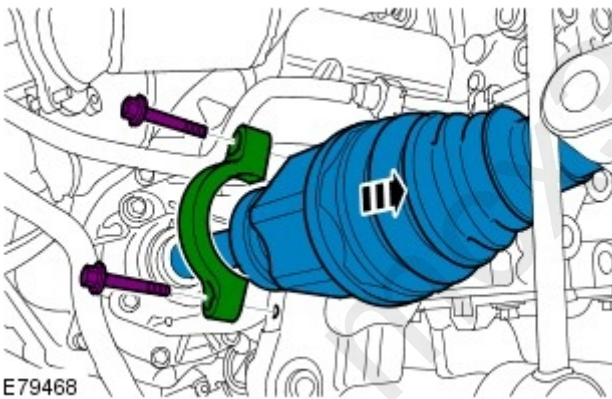


Make sure that new subframe bolts are installed.

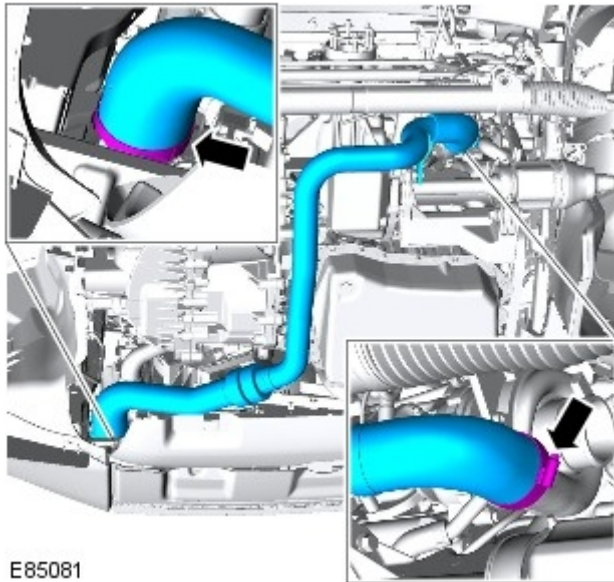
Lower the front subframe assembly.



30. Release the LH halfshaft.



31. Release the RH halfshaft.



E85081

32. Remove the turbocharger outlet pipe.

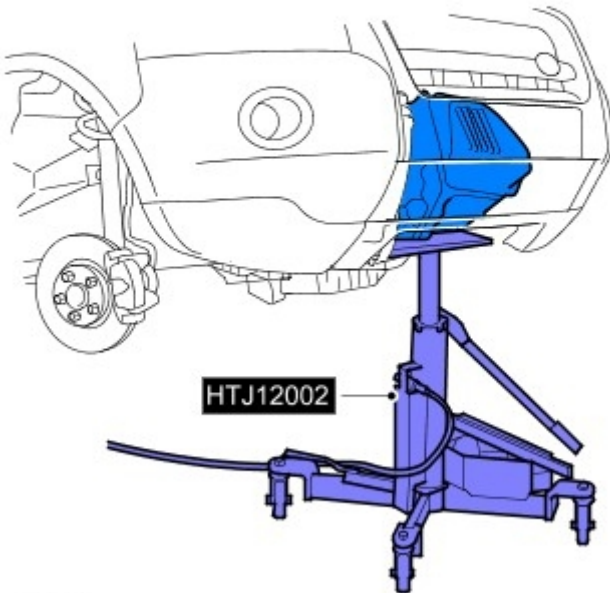


E85989

33.

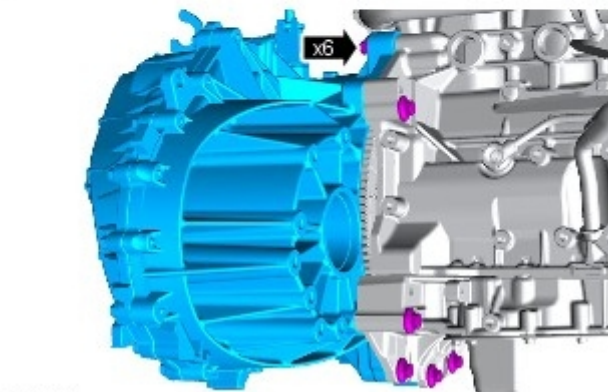
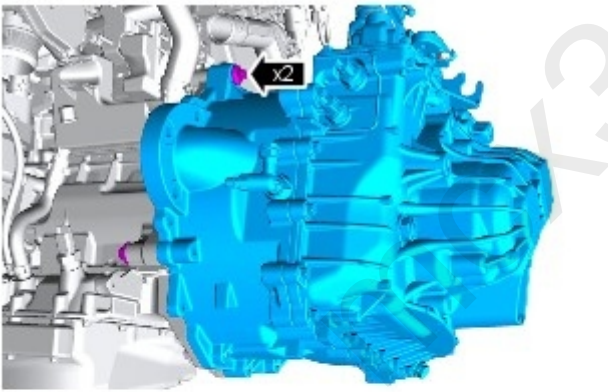
34. Support the transmission.

General Equipment: [Powertrain Jack](#)

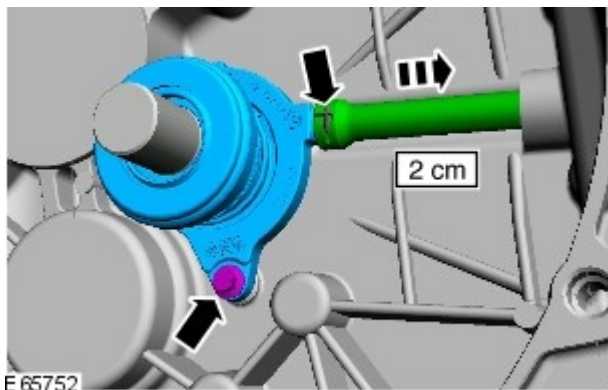


E84150

35.



E85991



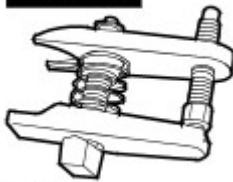
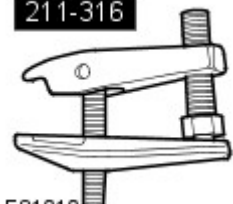
36. **36.**  **CAUTION:** If brake fluid is spilt on the paintwork, the affected area must be immediately washed down with cold water.

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Manual Transmission/Transaxle - Transmission

Removal

Special Tool(s)

 205-754A E45276	205-754A Splitter, Ball Joints
 211-316 E81010	211-316 Separator, Ball Joint

General Equipment

Powertrain Jack

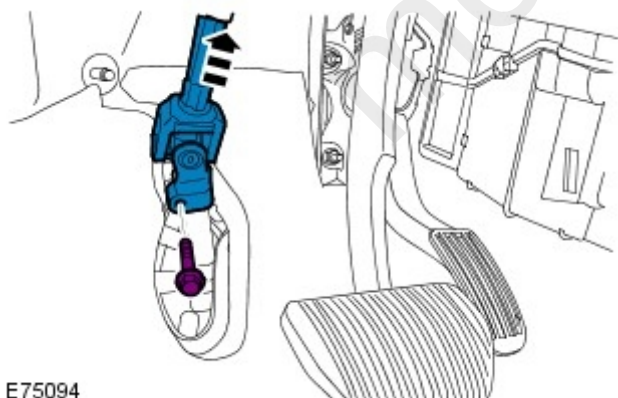
1. Remove the battery tray.

Refer to: [Battery Tray](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

2.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

3. Siphon the fluid from the power steering reservoir.

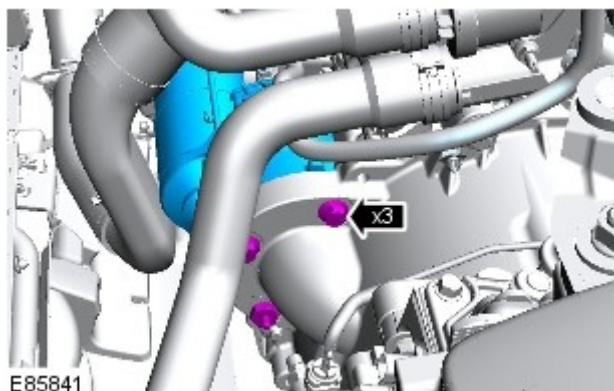


4.  **WARNING:** Make sure that a new steering column flexible coupling bolt is installed.

Disconnect the lower steering column from the steering gear.

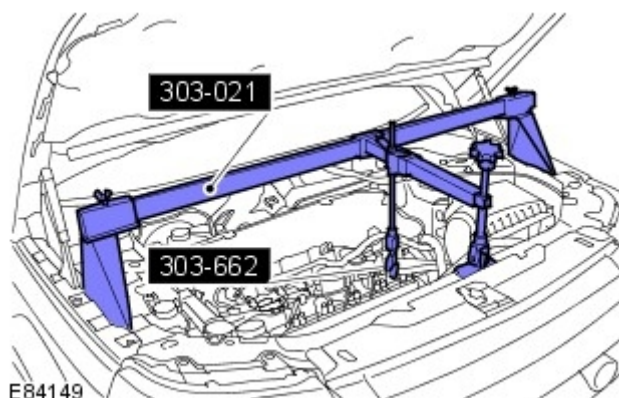
5. Remove the gear selector assembly.

Refer to: [Gearshift Linkage](#) (308-06 Manual Transmission/Transaxle External Controls, Removal and Installation).

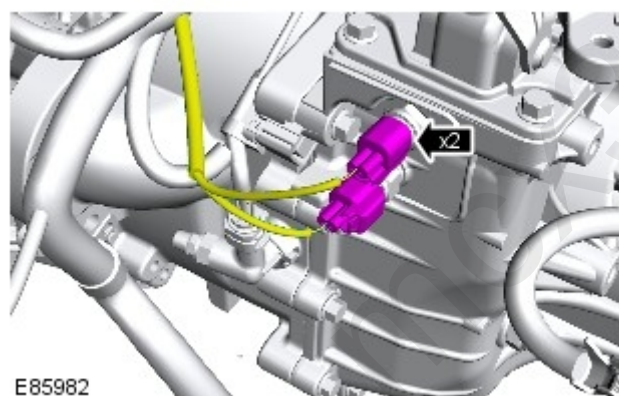


6. Remove the starter motor.

Refer to: [Starter Motor](#) (303-06B Starting System - TD4 2.2L Diesel, Removal and Installation).

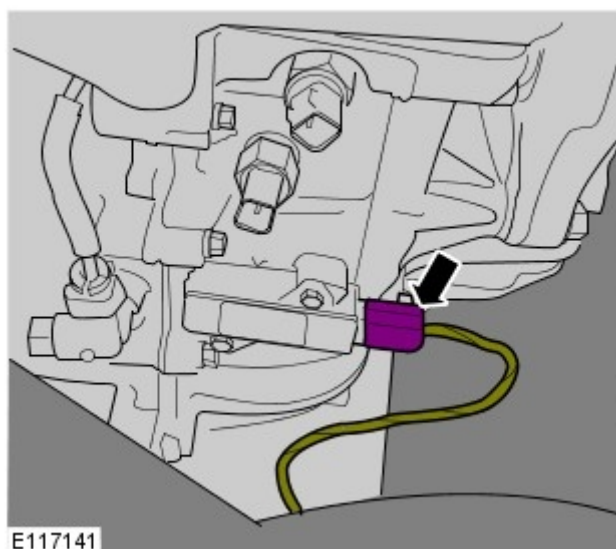


7. Support the engine.



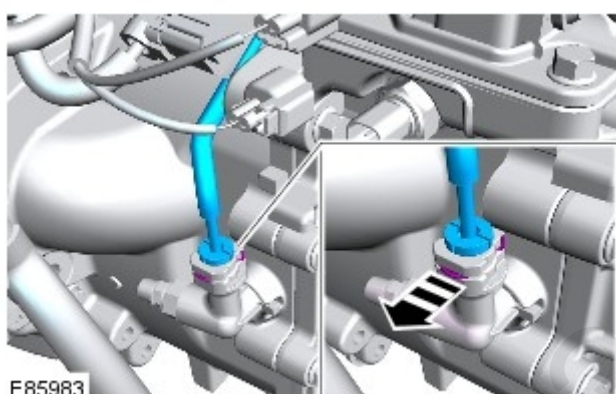
8.

9. **9.** NOTE: If equipped.



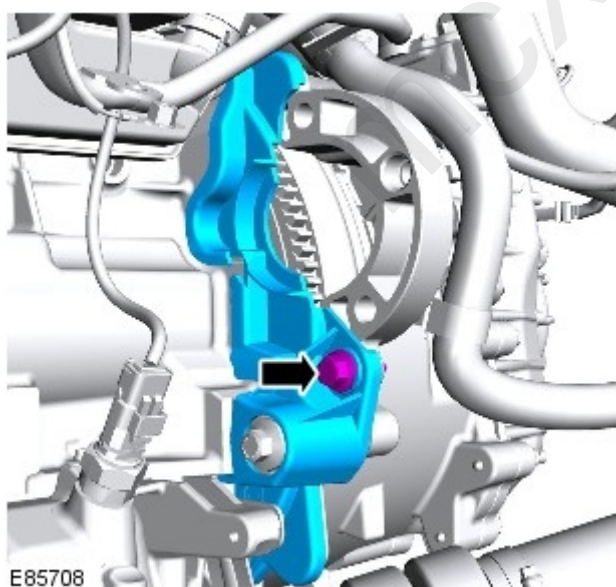
E117141

10.

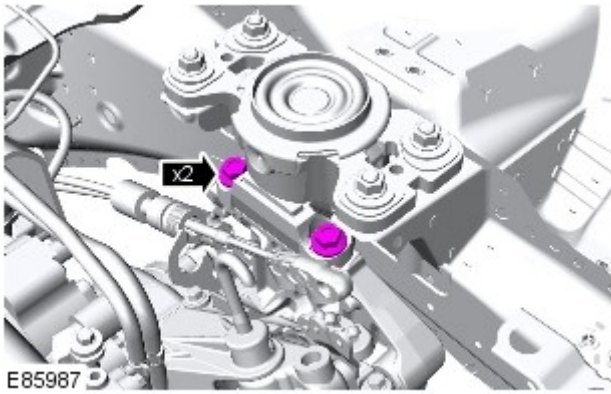


E85983

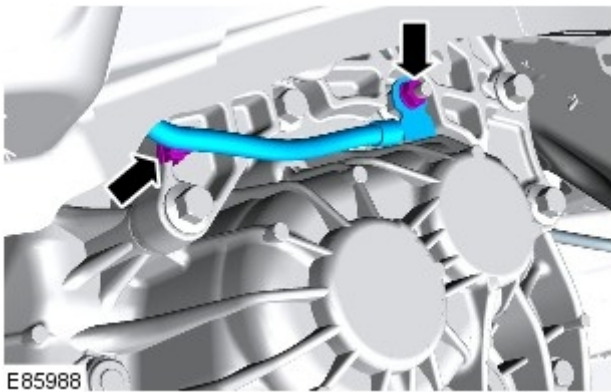
11.



E85708



12.



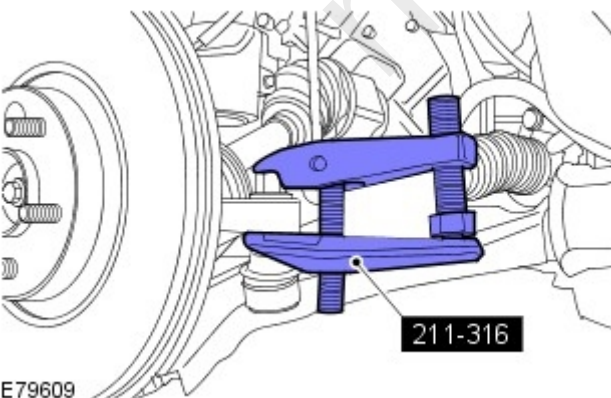
13.

14. Drain the transmission fluid.

Refer to: [Transmission Draining and Filling](#) (308-03 Manual Transmission/Transaxle, General Procedures).

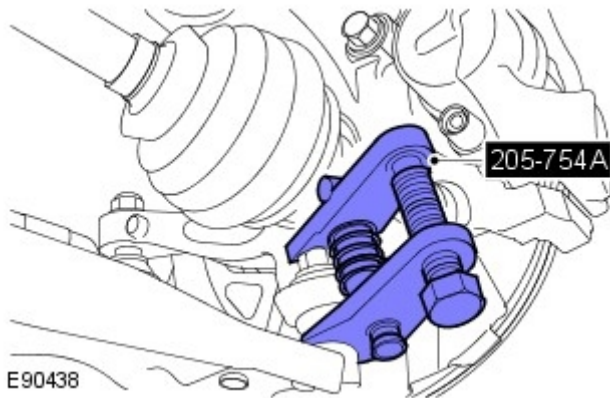
15. Remove the front wheels and tires.

Refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).



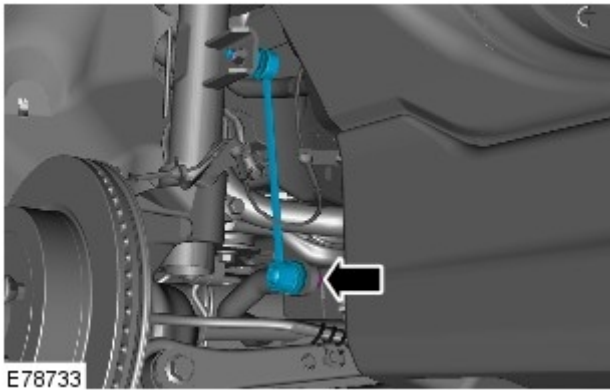
16. Using the special tool, release the LH and RH tie-rod end ball joints.

Special Tool(s): [211-316](#)



17. Using the special tool, remove the lower arm ball joint.

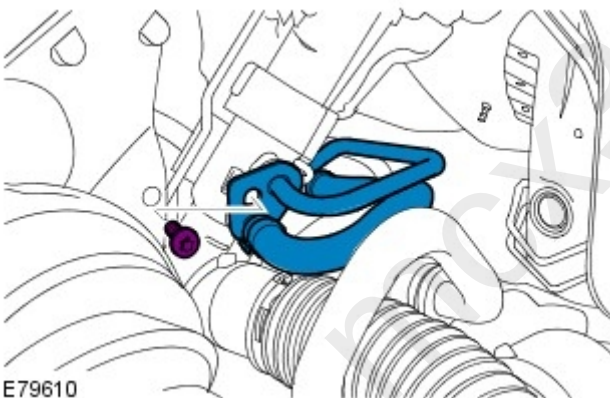
Special Tool(s): [205-754A](#)



18. **18.**  **CAUTION:** Make sure that the ball joint ball does not rotate.

- **NOTE:** Discard the 2 nuts.

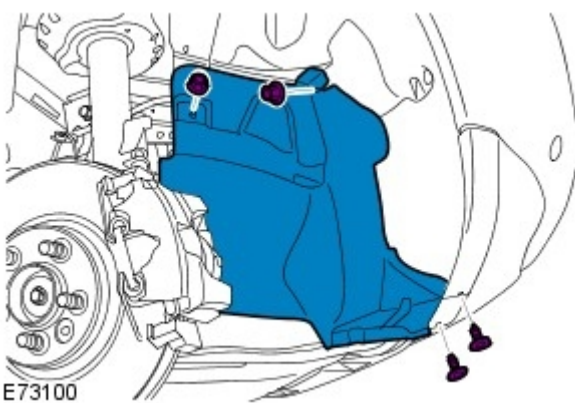
Disconnect both front stabilizer bar links from the stabilizer bar.



19. **19.**  **CAUTION:** Be prepared to collect escaping fluids.

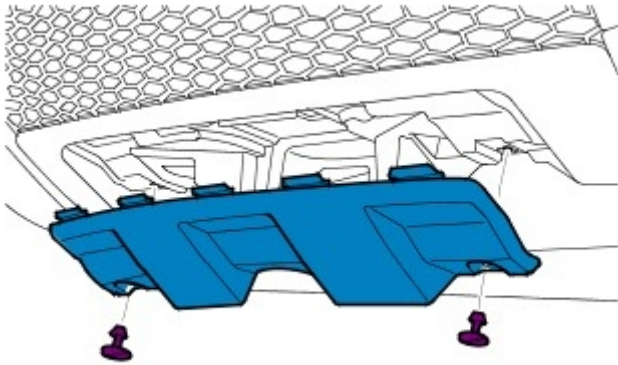
- **NOTE:** Make sure that all openings are sealed.

Disconnect the pressure lines from the power steering gear.



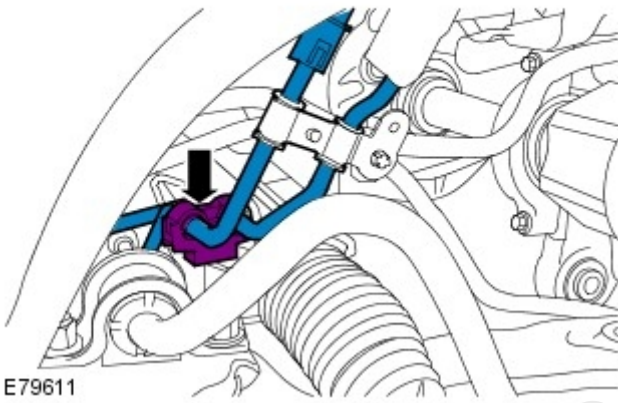
20. **20.** **NOTE:** RH illustration shown, LH is similar.

Remove both the fender splash shield extension panels.



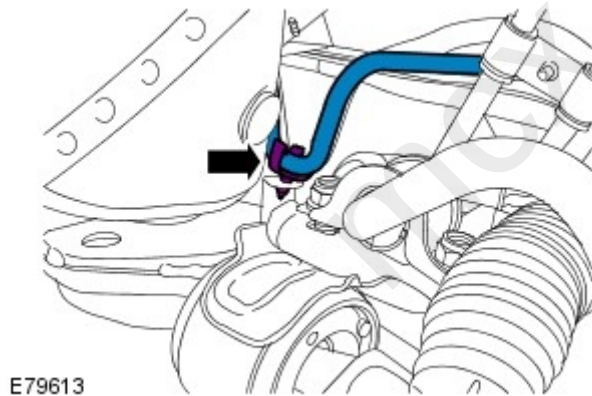
E73341

21. Remove the towing eye cover.
22. Remove the 2 bolts securing bumper cover.



E79611

23. Release the PAS lines.

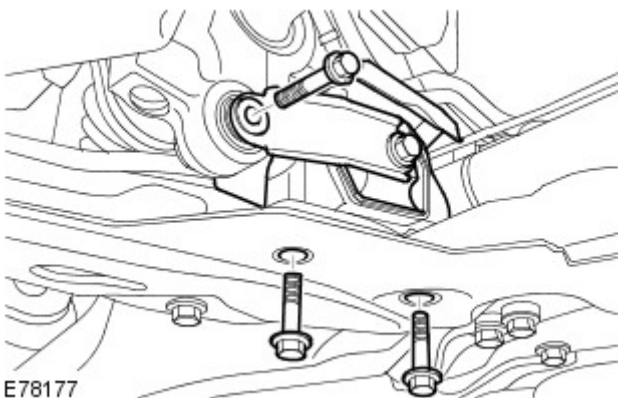


E79613

24. **24.**  **CAUTION:** Be prepared to collect escaping fluids.

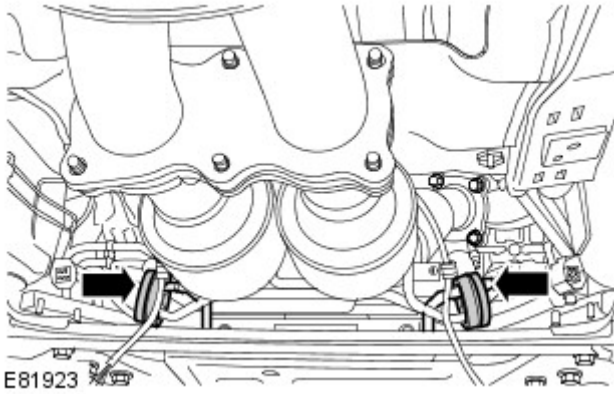
- **NOTE:** Make sure that all openings are sealed.

Release the fuel line.

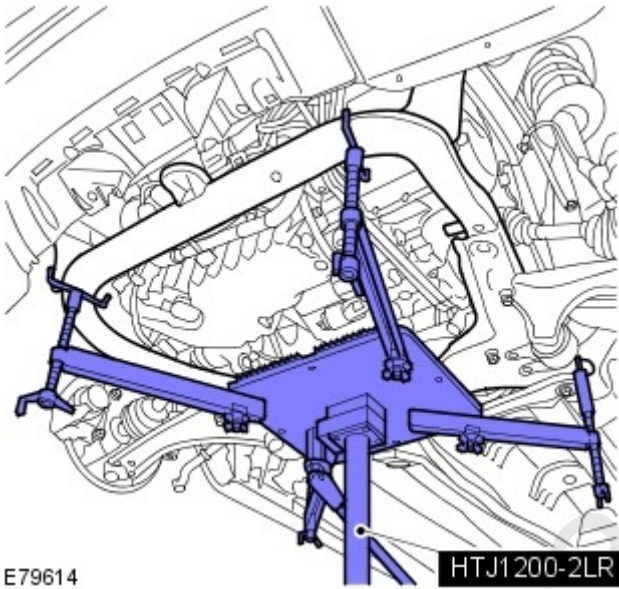


E78177

25. Remove the lower support insulator.

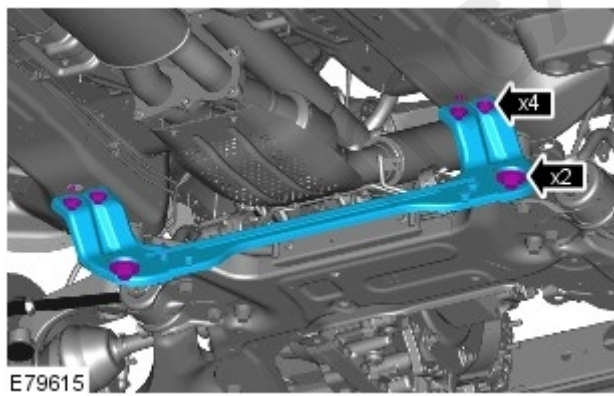


26. Release the downpipe catalytic converter.



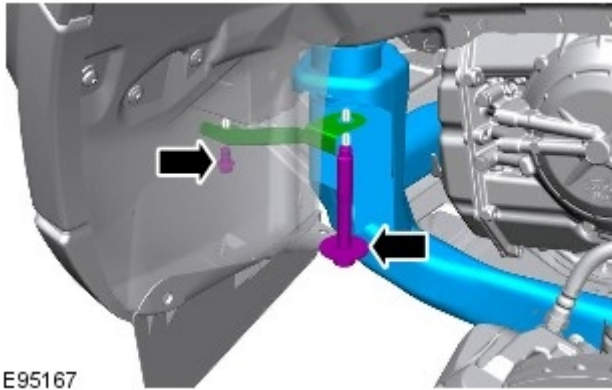
27. Support the subframe.

General Equipment: [Powertrain Jack](#)



28. **28.**  **CAUTION:** Make sure that new subframe bolts are installed.

Remove the front subframe cross-brace.



29. **29. CAUTIONS:**

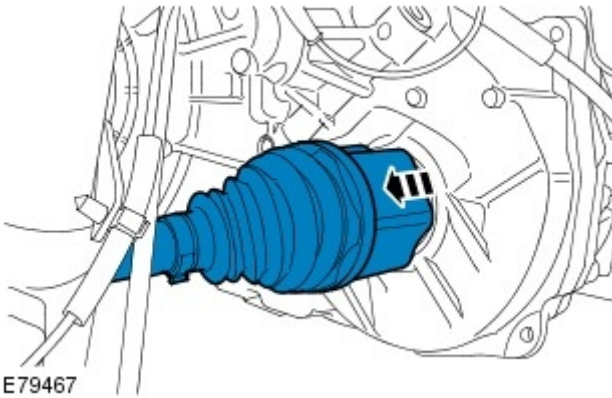


Mark the components to aid installation.

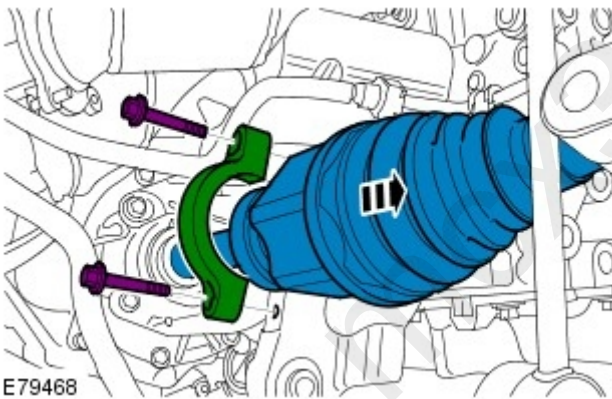


Make sure that new subframe bolts are installed.

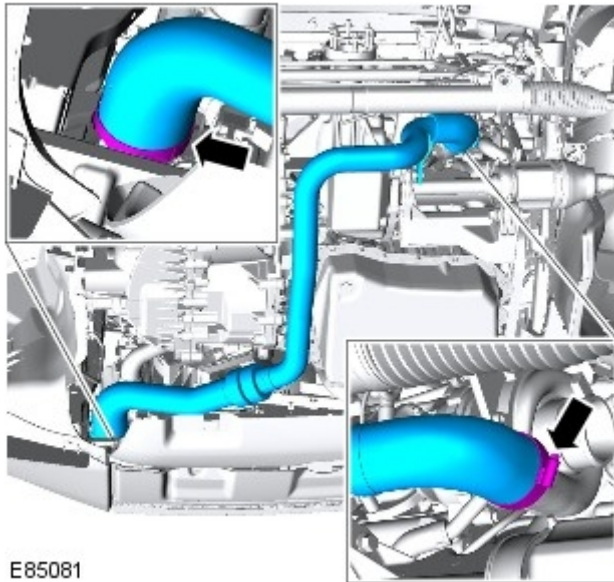
Lower the front subframe assembly.



30. Release the LH halfshaft.



31. Release the RH halfshaft.



E85081

32. Remove the turbocharger outlet pipe.

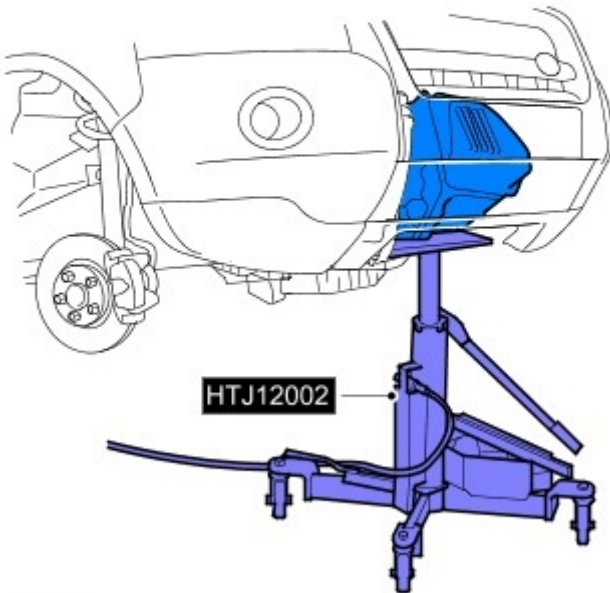


E85989

33.

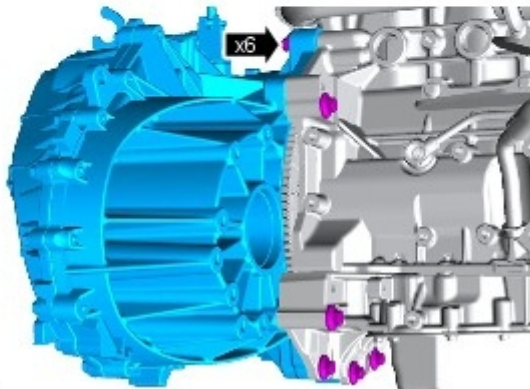
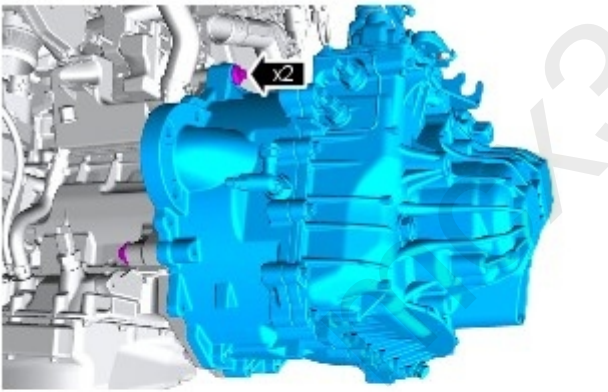
34. Support the transmission.

General Equipment: [Powertrain Jack](#)

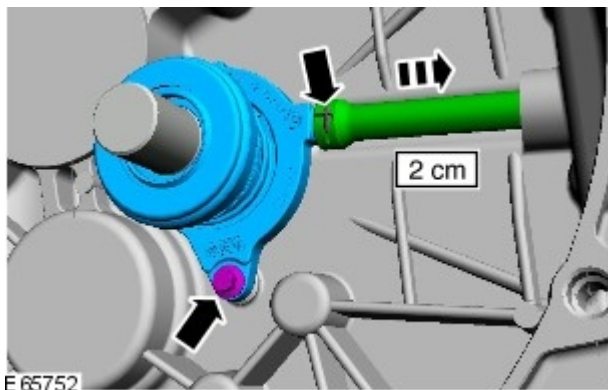


E84150

35.



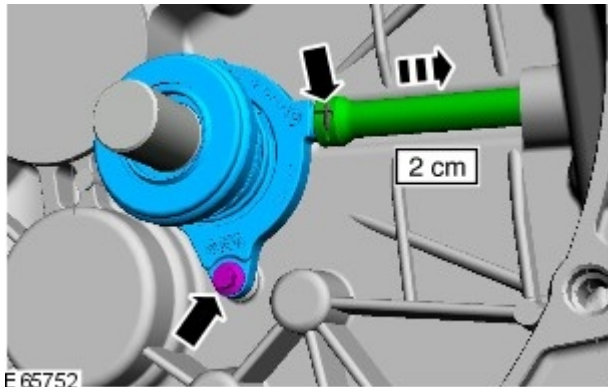
E85991



36. **36.**  **CAUTION:** If brake fluid is spilt on the paintwork, the affected area must be immediately washed down with cold water.

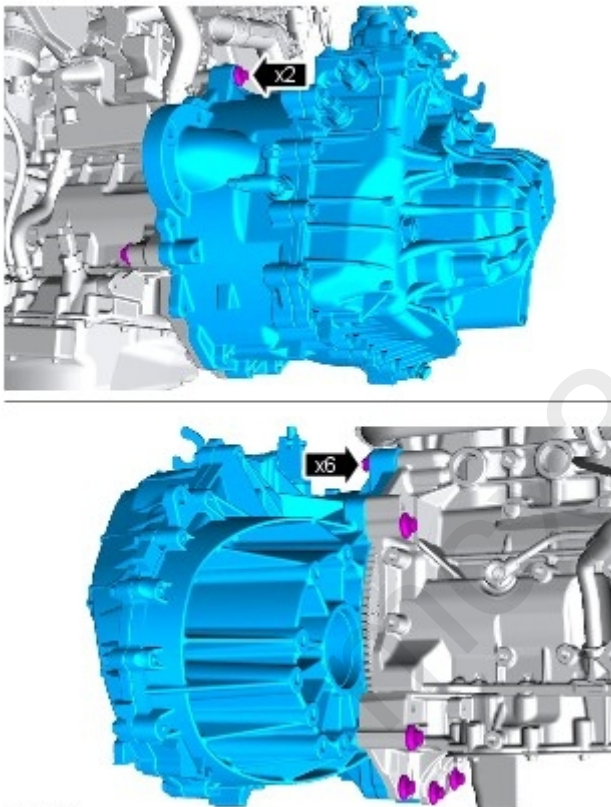
mcx30.com

Manual Transmission/Transaxle - Transmission Installation



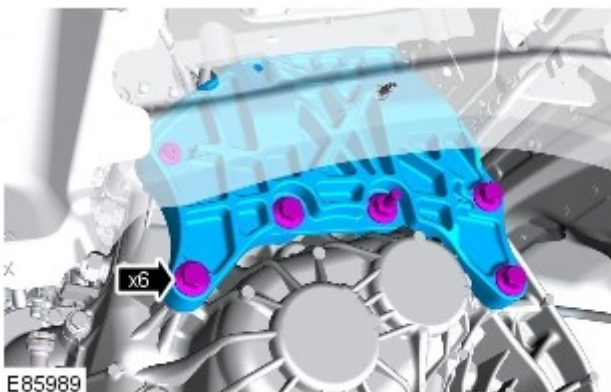
1. Install the clutch slave cylinder.

Torque: 11 Nm



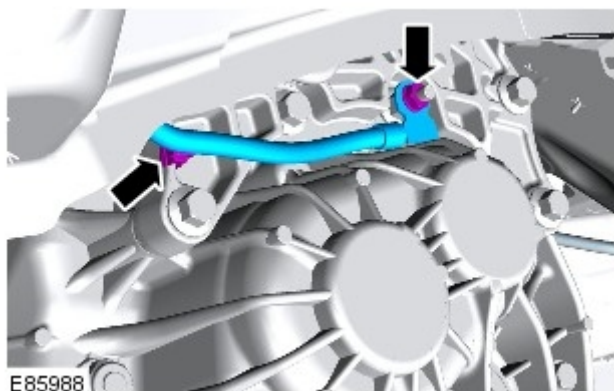
2. Install the transmission assembly.

Torque: 65 Nm



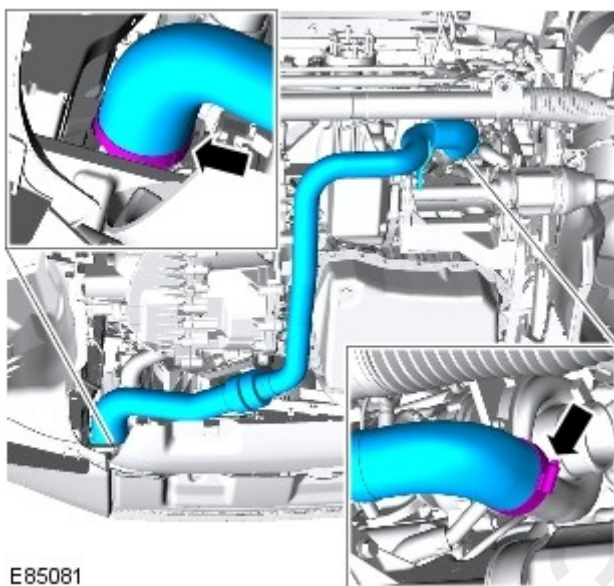
3. Install the transmission mounting bracket.

Torque:
M12 80 Nm
M8 24 Nm

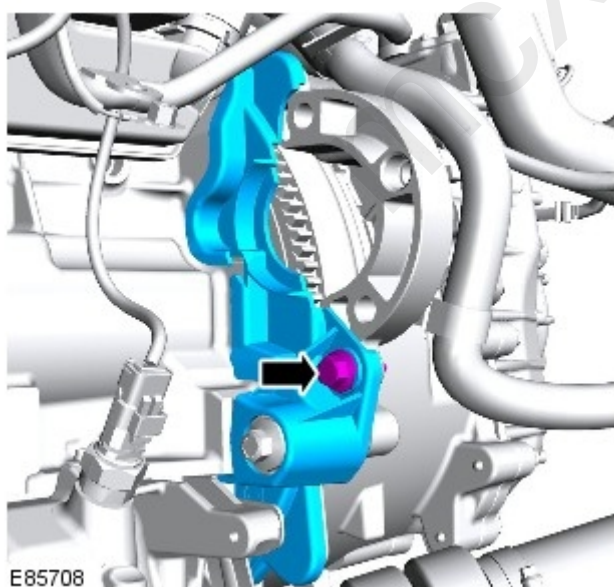


4. Secure the earth cable to the transmission mounting bracket.

Torque: 25 Nm

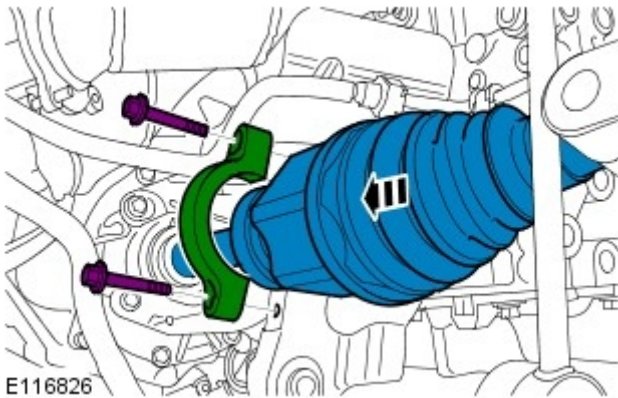


5. Install the turbocharger outlet pipe.



6. Install the front flywheel closing panel.

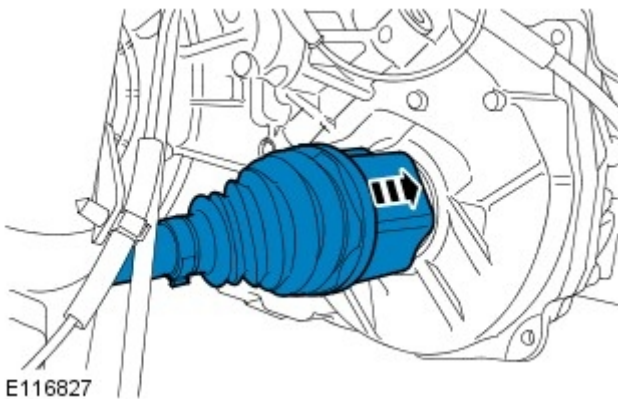
Torque: 60 Nm



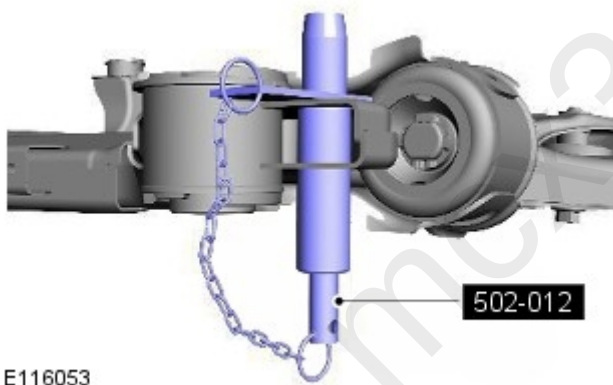
7. Install the RH halfshaft.

Torque:

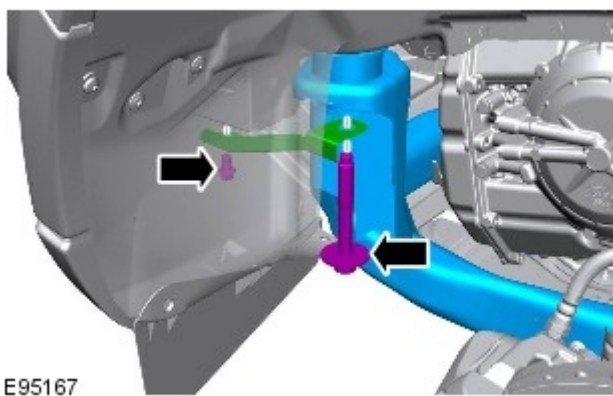
Drive shaft support 25 Nm



8. Install the LH halfshaft.



9. Install the alignment tool to the front subframe.



10. **10.**  **CAUTION:** Make sure that new subframe bolts are installed.

• **NOTE:** Install but do not fully tighten the front subframe mounting bolts.

Install the front subframe.

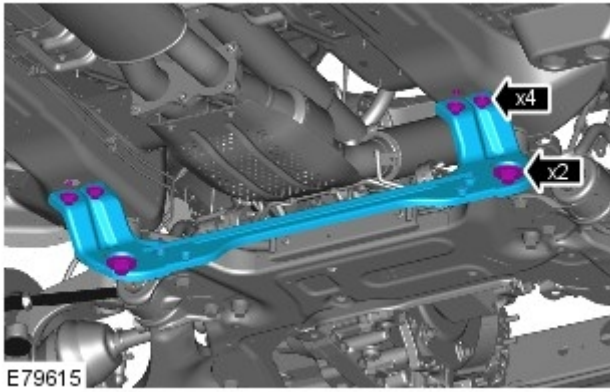
Torque:

Support bracket bolts 25 Nm

Subframe bolts

Stage 1: 140 Nm

Stage 2: 240°



11. **11.**  **CAUTION:** Make sure that new bolts are installed.

• **NOTE:** Install but do not fully tighten the rear subframe mounting bolts.

Install the subframe cross-brace.

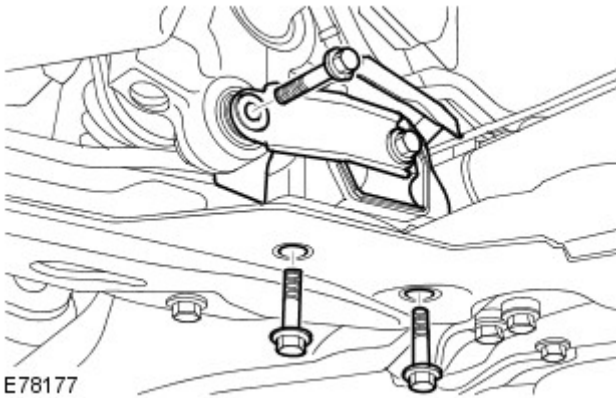
Torque:

Cross brace bolts 45 Nm

Subframe bolts

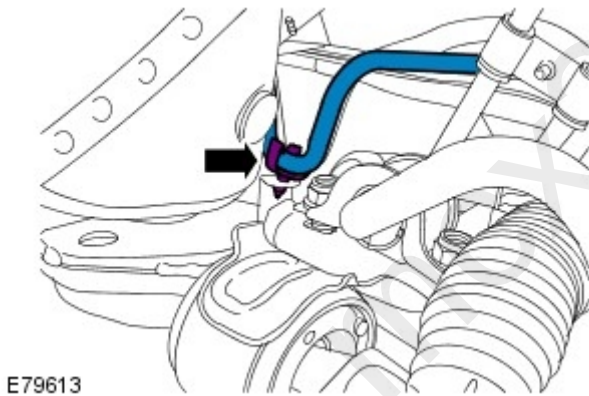
Stage 1: 140 Nm

Stage 2: 240°

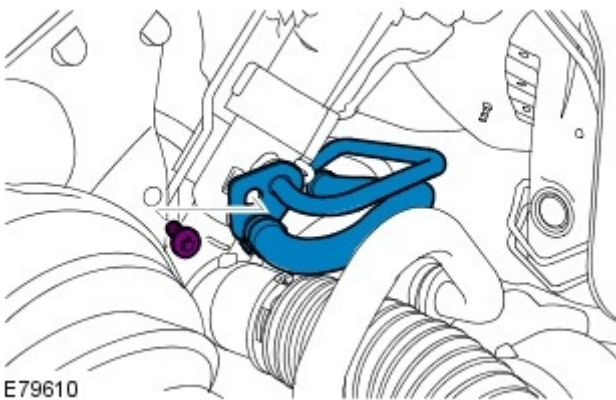


12. Install the lower support insulator.

Torque: 110 Nm



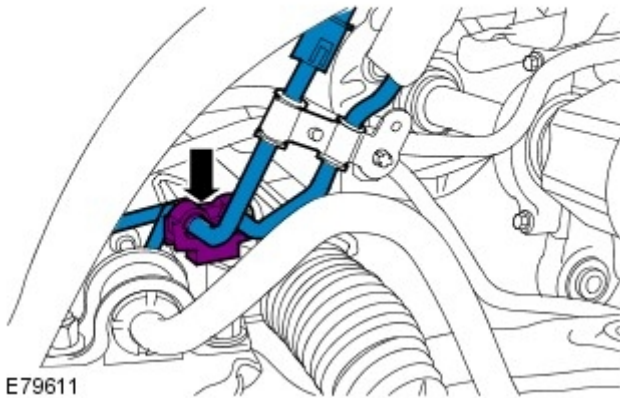
13. Install the fuel line.



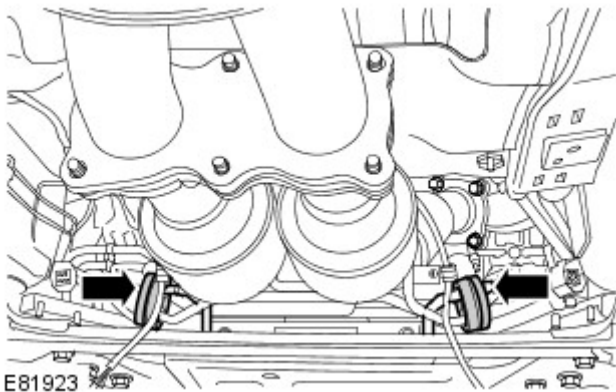
14. Connect the steering gear pressure lines.

Torque: 25 Nm

15. Install the power steering fluid line to the clip.



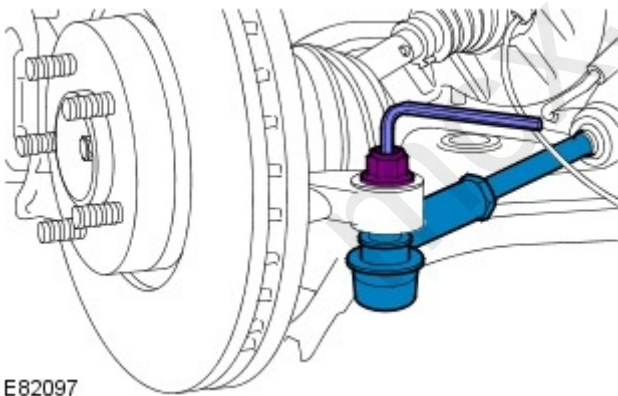
16. Secure the downpipe catalytic converter.



17. **17.**  **WARNING:** Make sure that new nuts are installed.

Connect the LH and RH tie-rod end ball joints.

Torque: 80 Nm

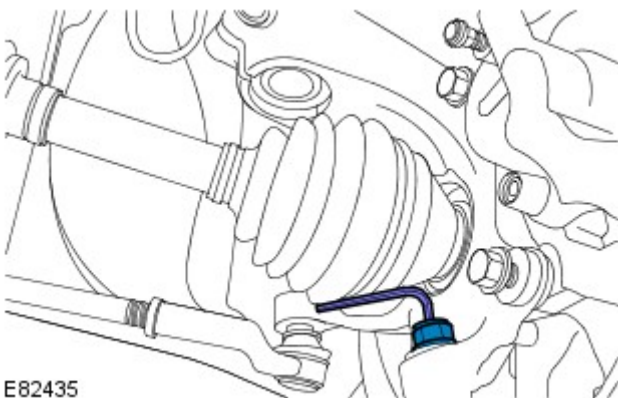


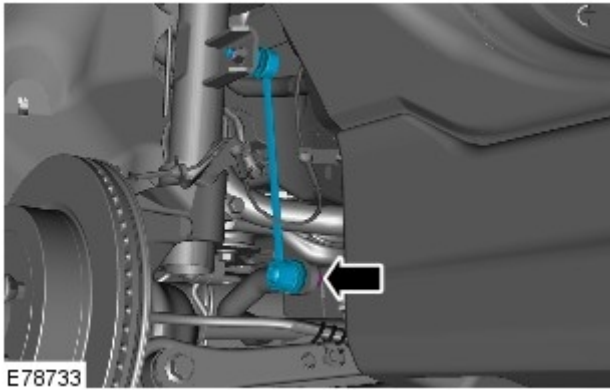
18. **18.**  **WARNING:** Make sure that a new lower arm ball joint nut is installed.

 **CAUTION:** Make sure that the ball joint ball does not rotate.

Install the lower arm ball joint

Torque: 110 Nm





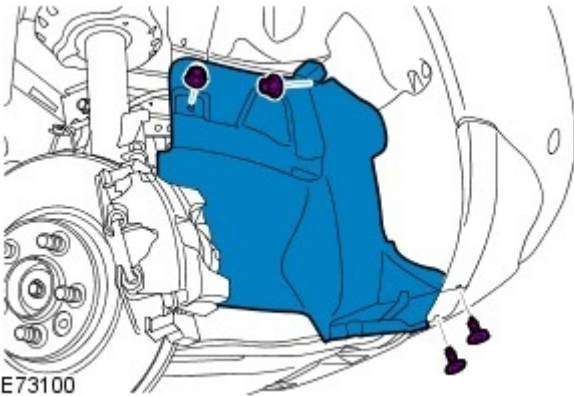
19. **19.**  **WARNING:** Make sure that new nuts are installed.



CAUTION: Make sure that the ball joint ball does not rotate.

Connect both front stabilizer bar links to the stabilizer bar.

Torque: 55 Nm



20. **20.** **NOTE:** RH illustration shown, LH is similar.

Install both the fender splash shield extension panels.

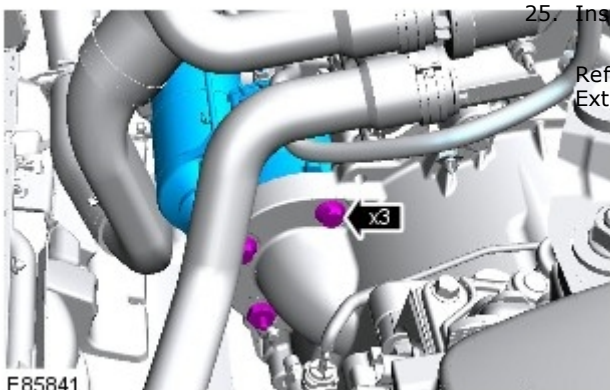
21. Install the front wheels and tires.

Refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).



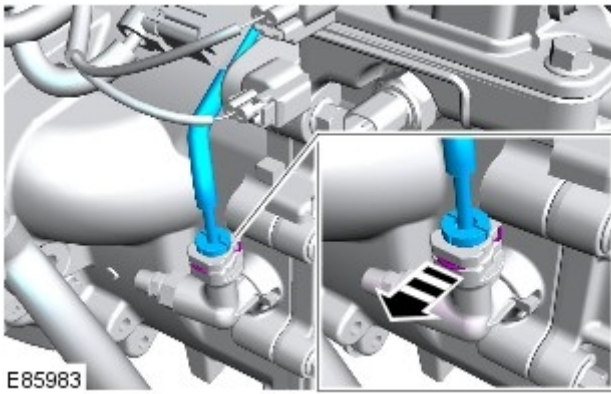
22. Install the 2 bolts securing the transmission mounting to the body mounting.

Torque: 175 Nm

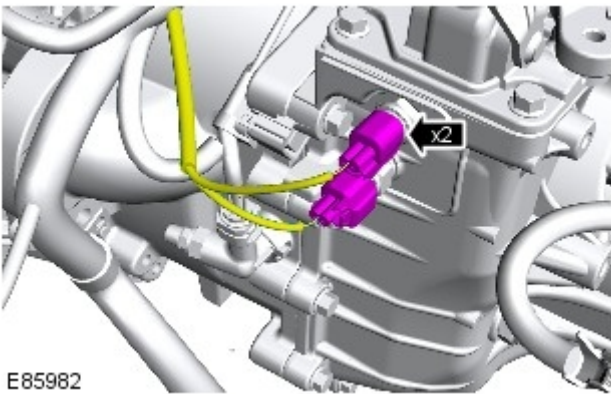


23. Remove the engine support.
25. Install the gear selector assembly.

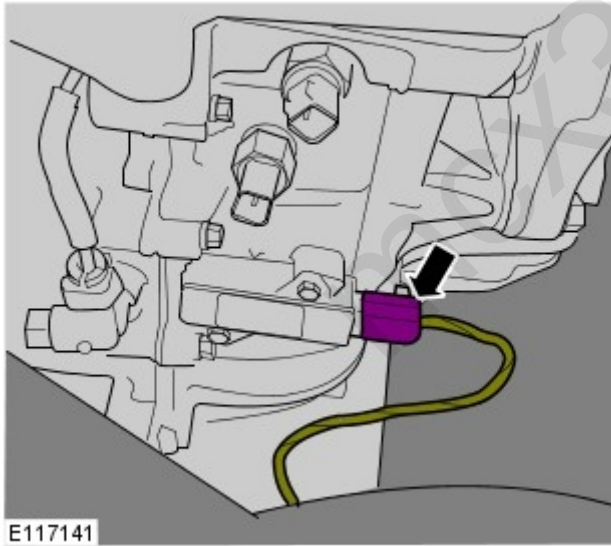
Refer to: [Starter Motor](#) (303-06B Starting System, TD4 Diesel, Removal and Installation).
Refer to: [Gearshift Linkage](#) (308-06 Manual Transmission/Francis External Controls, Removal and Installation).



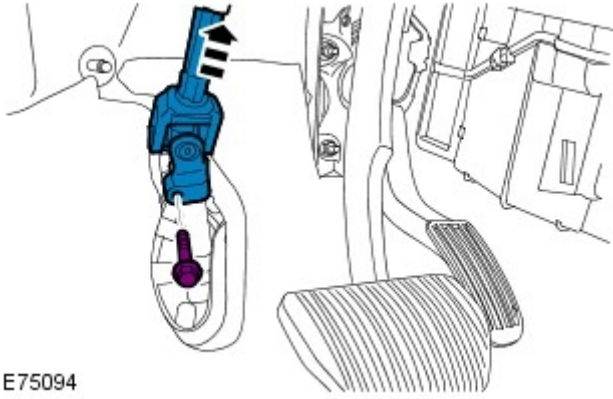
26. Connect the clutch slave cylinder hydraulic hose and secure with the clip.



27. Connect the 1st and reverse gear position switch electrical connectors.



28. **28.** NOTE: If equipped.
- NOTE: An audible click is heard when the clips are fully latched.



29. **29.**  **WARNING:** Make sure that a new steering column flexible coupling bolt is installed.

Connect the steering column to the steering gear.

Torque: 25 Nm

30. Refill the transmission with fluid.

Refer to: [Transmission Draining and Filling](#) (308-03 Manual Transmission/Transaxle, General Procedures).

31. Install the battery tray.

Refer to: [Battery Tray](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

32. Bleed the clutch system.

Refer to: [Clutch System Bleeding](#) (308-00 Manual Transmission/Transaxle and Clutch - General Information, General Procedures).

33. Refill and bleed the power steering.

Refer to: [Power Steering System Bleeding](#) (211-00 Steering System - General Information, General Procedures).