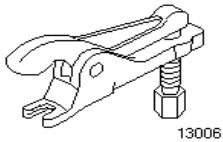


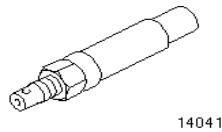
## Transmission Assembly - Remove and Install (16 114 0)

(MTX 75 Transmission 4x4)

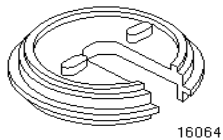
### Special Tools



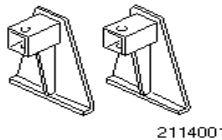
13-006 Ball joint separator



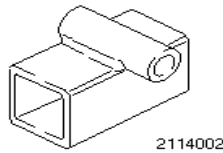
14-041 Driveshaft installer



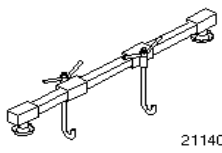
16-064 Aligner, gear lever



21-140-01 Adapter



21-140-02 Adapter



21-140 Support bar, engine

#### Workshop Equipment

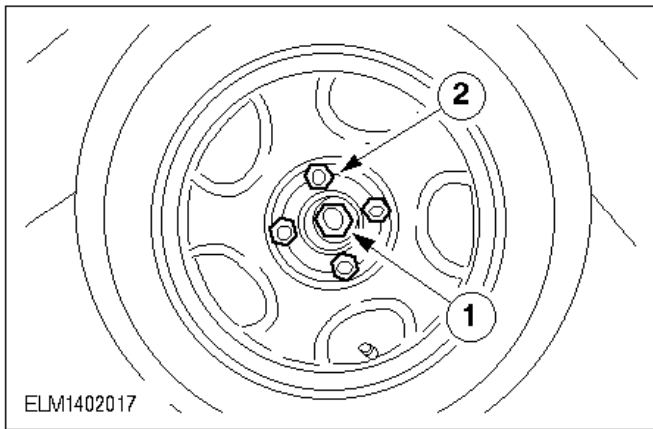
Transmission jack	
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#### Proprietary Tools

Two-legged puller
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### Remove

1. General note:
  - The position of the engine mounting and the engine roll restrictor is described looking from the transmission towards the engine.



2. Preparatory measures.

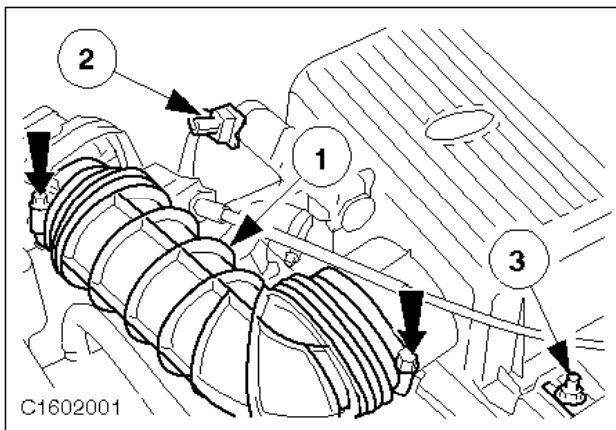
- Make a note of the radio keycode.
- Make a note of the pre-set radio stations.



**CAUTION:**

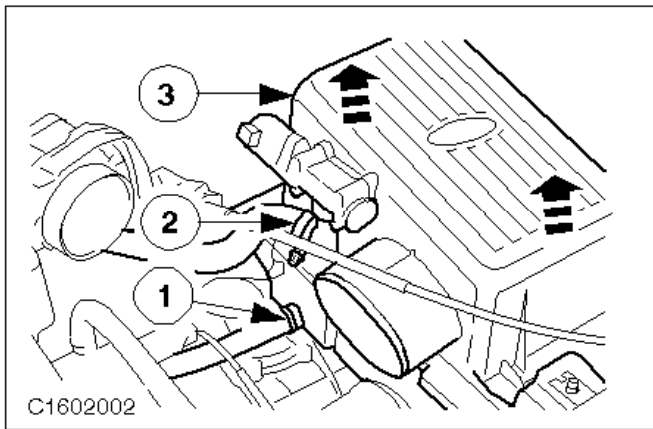
**Disconnect the battery negative lead.**

- 1 Destake and unscrew the stub axle nut on the right-hand side.
- 2 Slacken the front wheel nuts.



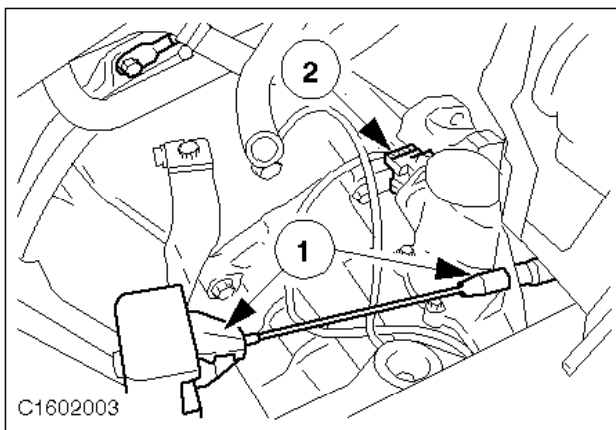
3. Remove the air cleaner.

- 1 Undo the hose clamps and remove the intake hose.
- 2 Disconnect the idle speed control (ISC) plug.
- 3 Take off the nut.



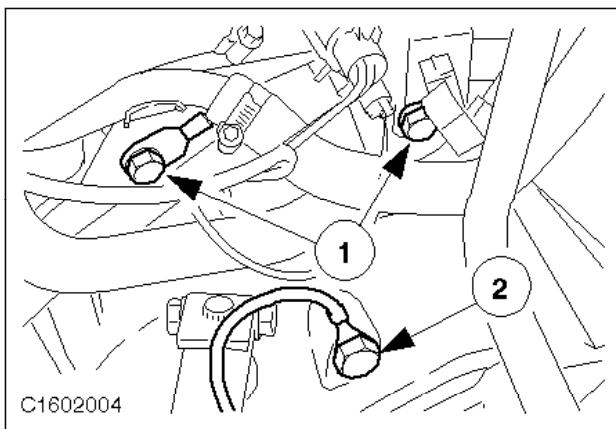
4. Remove the air cleaner (continued).

- 1 Disconnect the crankcase breather hose.
- 2 Undo the hose clamp and disconnect the ISC hose.
- 3 Remove the air cleaner assembly.



5. Unhook the clutch cable, disconnect the plug.

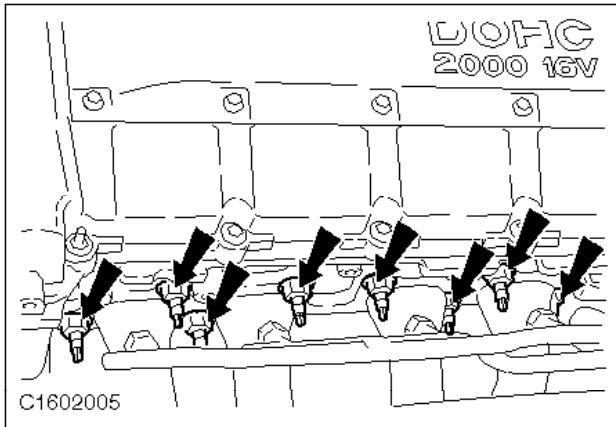
- 1 Unhook the clutch cable from the clutch release lever and withdraw it from the transmission mounting.
- 2 Disconnect the plug of the reversing lamp switch.



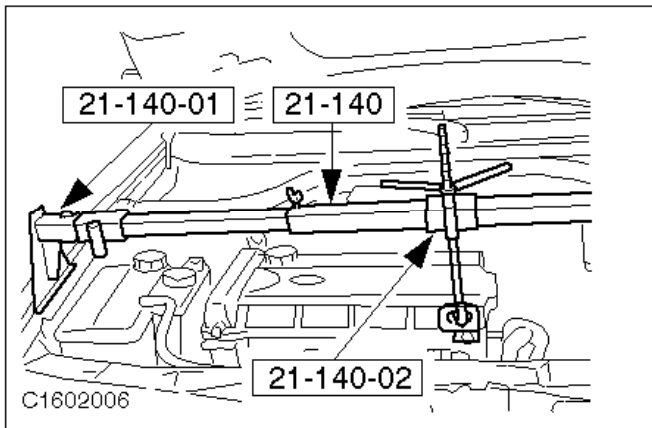
6. Unscrew the flange bolts, disconnect the electrical connections.

- 1 Remove the upper flange bolts.

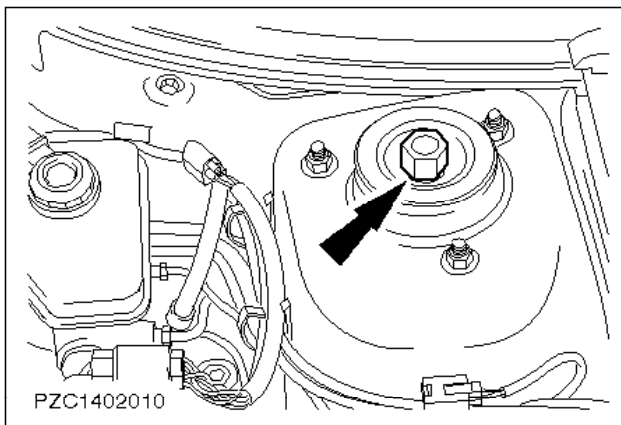
- 2 Detach the ground cable from the transmission.
- Disconnect the vehicle speed (VSS) sensor plug.
- Disconnect the heated oxygen (HO2S) sensor plug and undo the cable ties.



- 6 7. Detach the exhaust manifold from the engine.  
Unscrew the nuts on the exhaust manifold (eight).



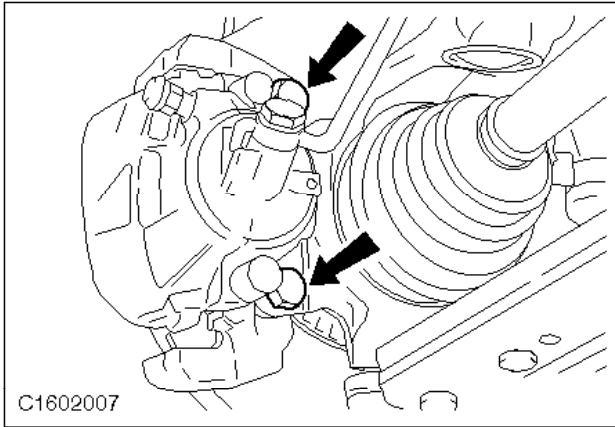
- 6 8. Attach the special tools.
  - Fit the engine support bar and raise the engine and transmission slightly.
  - Raise the vehicle.
  - Remove the wheels.



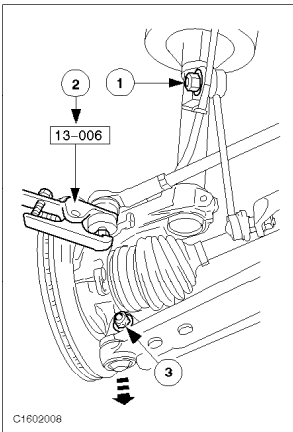
Note:

Stop the piston rod from turning using an Allen key.

9. Slacken the left and right-hand suspension strut nuts five turns.



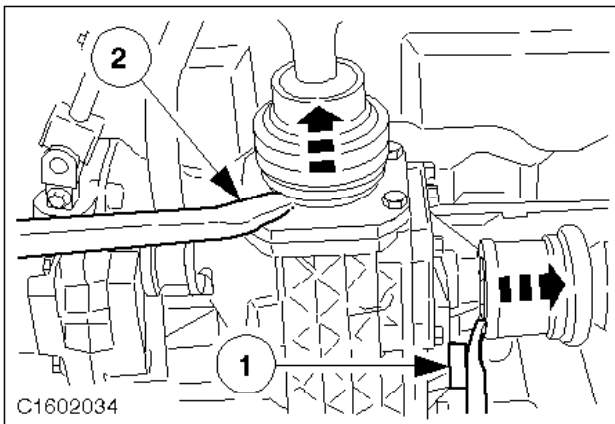
10. Detach the right-hand brake caliper and tie it up.



**CAUTION:**

The inner joint must not be bent more than 18°, the outer joint no more than 45°.

11. Release the wheel suspension on the right and left-hand side.
- 1 Detach the stabiliser bar connecting link from the suspension strut.
  - 2 Detach the track rod end.
  - 3 Detach the lower suspension arm ball joint from the spindle carrier.
- Remove the right-hand brake disc.

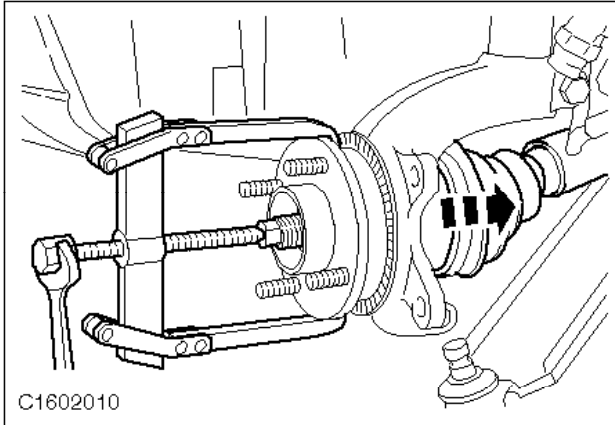


12. Detach the front driveshafts from the transmission and transfer box.

Note:

Use a wooden support to avoid damaging the transmission.

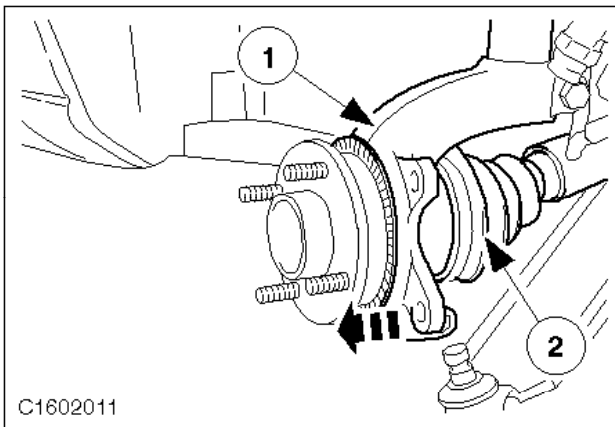
- 1 Release the right and left-hand front driveshafts from their seating.
- 2 Release the driveshaft.



**CAUTION:**

**Do not pull the wheel hub out of the spindle carrier. This would destroy the wheel bearings.**

13. Release the front right-hand driveshaft from the spindle carrier.
- Unscrew the stub axle nut.
  - Press the front driveshaft out of the wheel hub (interference fit).



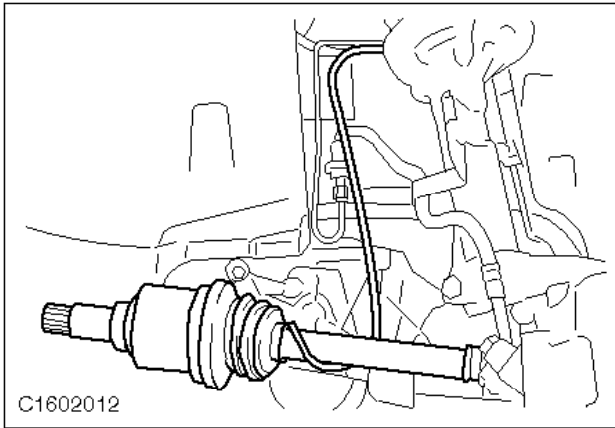
14. Remove the right-hand front driveshaft.

- 1 Pull the wheel suspension outwards and take the front driveshaft out of the spindle carrier.

Note:

Watch out for escaping oil. Close off the transmission with auxiliary plugs.

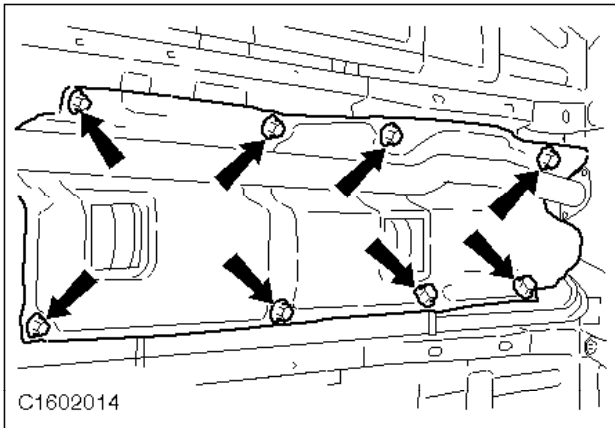
- 2 Pull the front driveshaft out of the transmission and remove it.



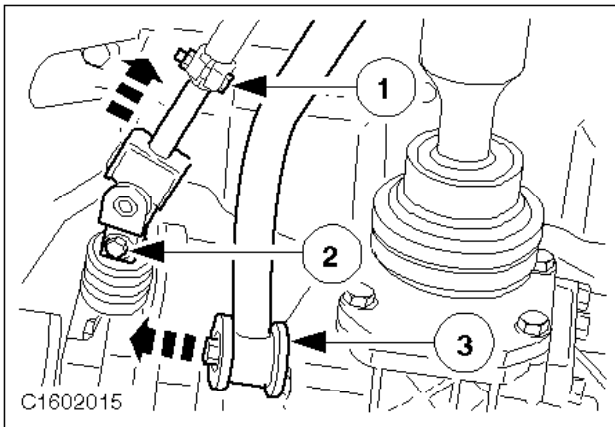
Note:

Watch out for escaping oil. Close off the transmission with auxiliary plugs.

- 15. Take the left-hand front driveshaft out of the transmission and tie it up.

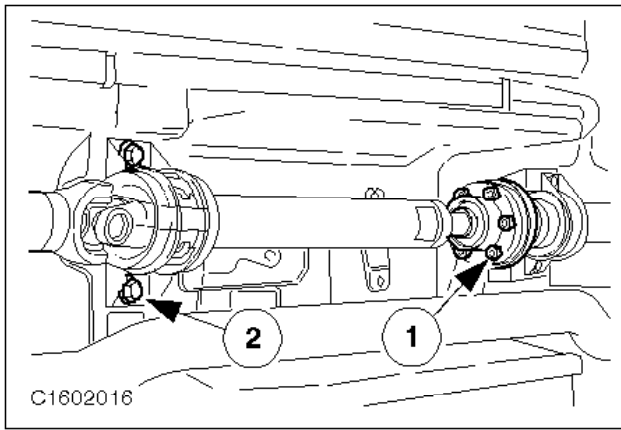


- 16. Remove the heat shield.



- 17. Detach the gearshift mechanism from the transmission.

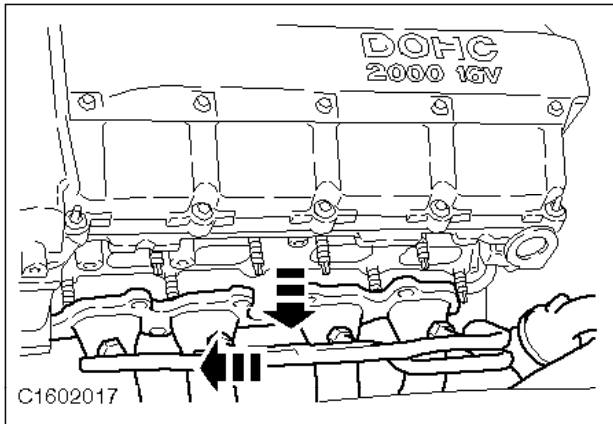
- 1 Slacken the shift rod clamp bolt.
- 2 Detach the shift rod from the transmission and slide the shift rod into itself.
- 3 Remove the shift rod stabiliser.



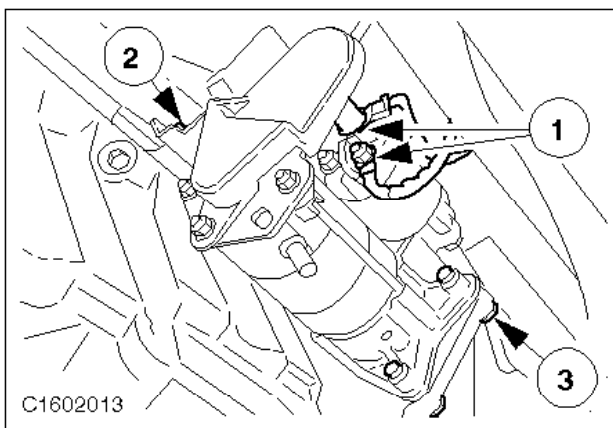
**Note:**

Watch out for escaping oil. Close off the transfer box with auxiliary plugs.

- 18. Remove the driveshaft.
  - 1 Release the driveshaft from the rear axle housing extension (six bolts).
  - 2 Unscrew the centre bearing (two bolts) and remove the driveshaft.



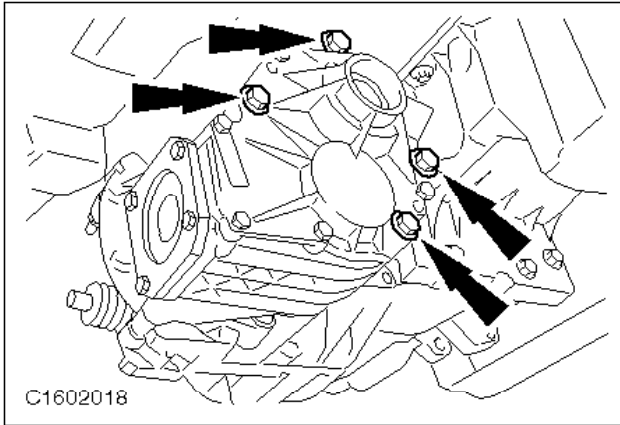
- 19. Detach the exhaust manifold from the engine.
  - Separate the exhaust manifold from the catalytic converter (two bolts).
  - Pull the exhaust manifold (and pulse air system) off the studs and swivel it to the right.



- 20. Remove the starter motor.

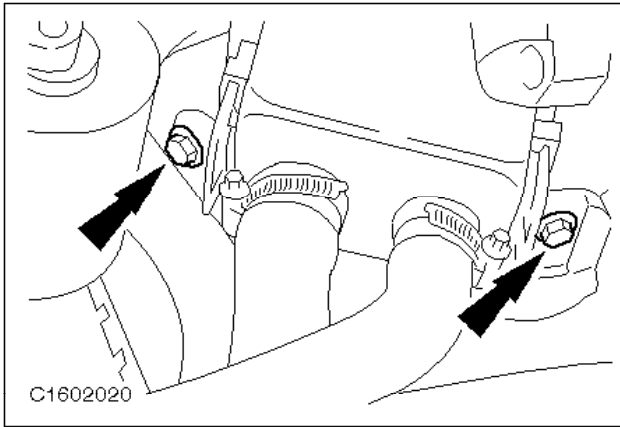


- 1 Disconnect the wiring.
- 2 Undo the engine block bracket.
- 3 Undo the starter motor retaining bolts (three).

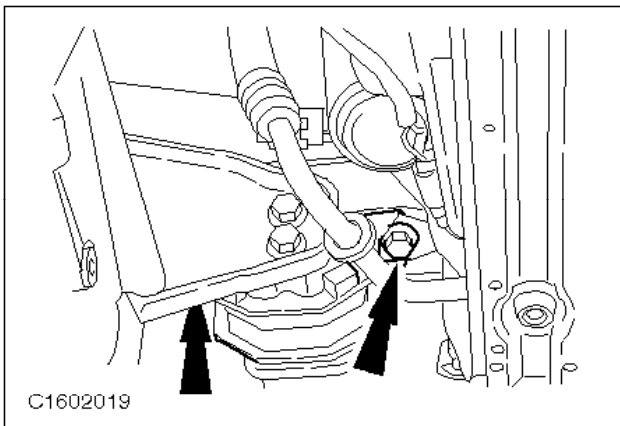


21. Remove the transfer box.

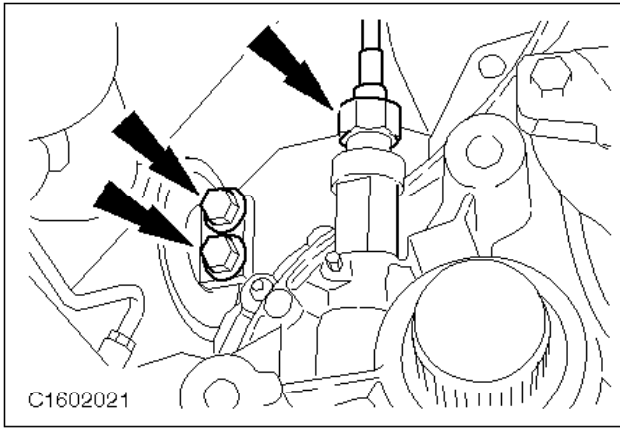
Detach the transfer box from the transmission and remove it.



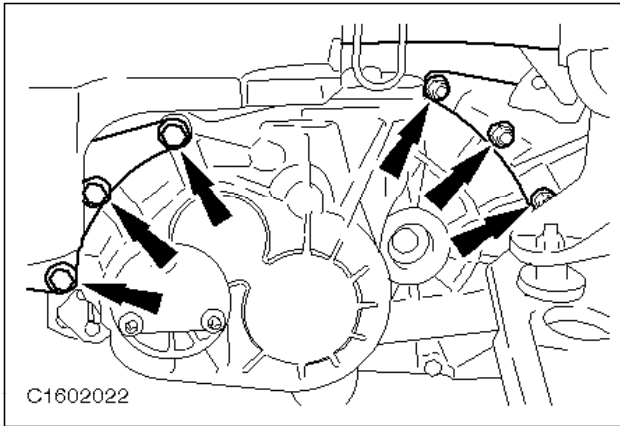
22. Detach the filter of the pulse air system.



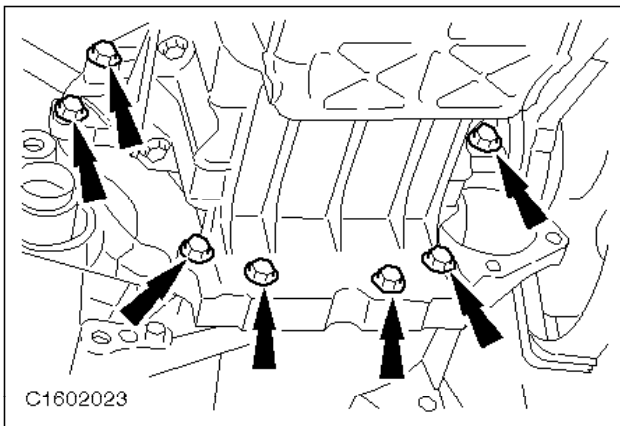
23. Detach the rear left engine mounting from the bodywork.



- ⌚ 24. Detach the speedometer cable and the rear right-hand engine mounting.



- ⌚ 25. Detach the rear right and left-hand engine mounting brackets.
- Lower the transmission to the height of the left-hand side member.

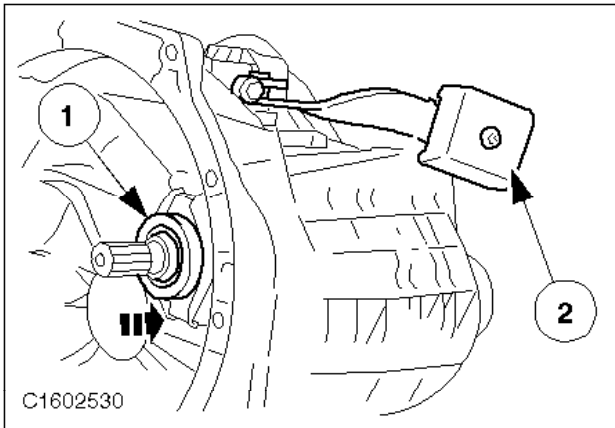


- ⌚ 26. Remove the transmission.
- Put a transmission jack in position.
  - Remove the flange bolts (eight).
  - Separate the transmission from the engine and lower it.

## Install

27. General note.

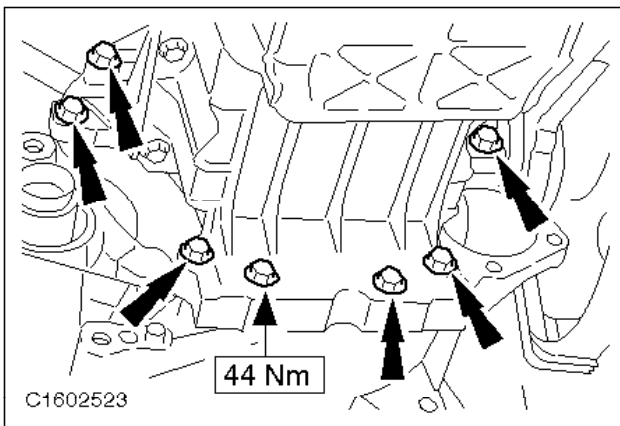
Do not re-use circlips or self-locking nuts.



28. Prepare the transmission for installation.

Apply a thin coating of high-temperature grease (ESD-M1C220-A) to the guide sleeve and clutch splines.

- 1 Put the thrust bearing in place.
- 2 Tie the clutch release lever securely in this position.



Note:

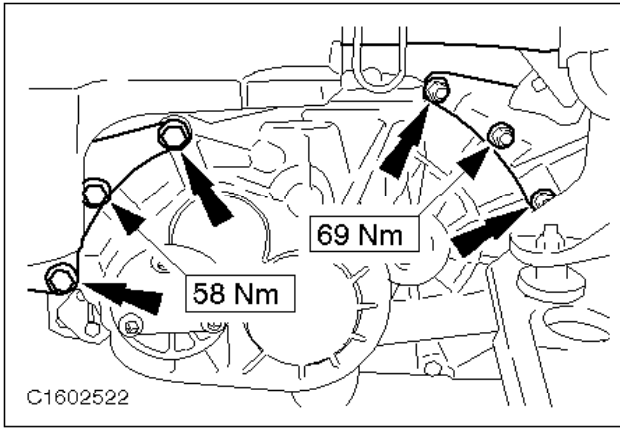
Make sure the adapter plate is correctly positioned.

29. Install the transmission.

Note:

Do not pull the transmission into place using the bolts.

- Raise the transmission with the transmission jack and place it on the engine.
- Tighten the flange bolts (eight).



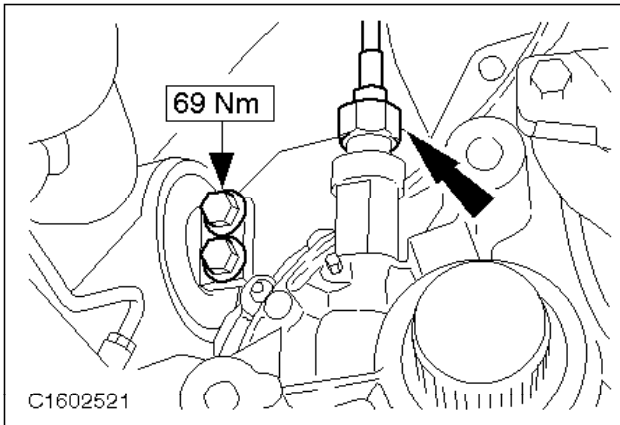
30. Attach the two rear engine mounting brackets to the transmission.

Note:

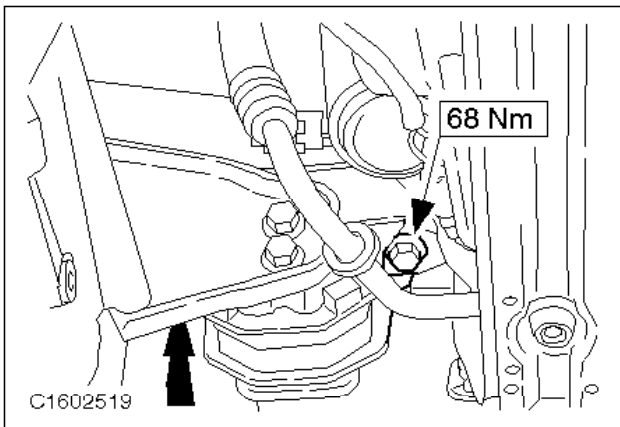
Align the engine/transmission without stress or tension.

31. Fit the rear right and left engine brackets onto the bodywork.

Raise the engine and transmission assembly, put the engine mounting bolts in place (see subsequent steps) but do not tighten them.



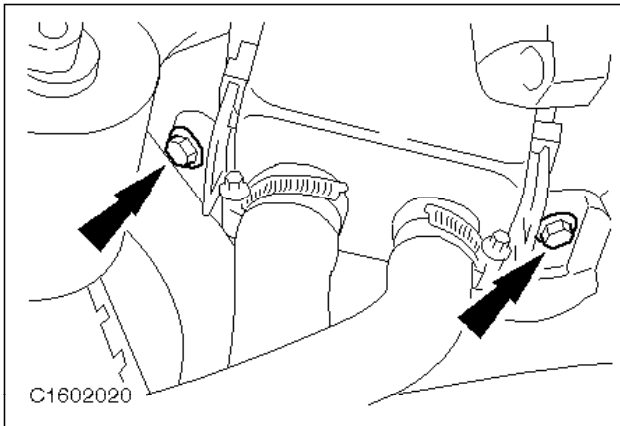
32. Tighten the rear right-hand engine mounting and the speedometer cable.



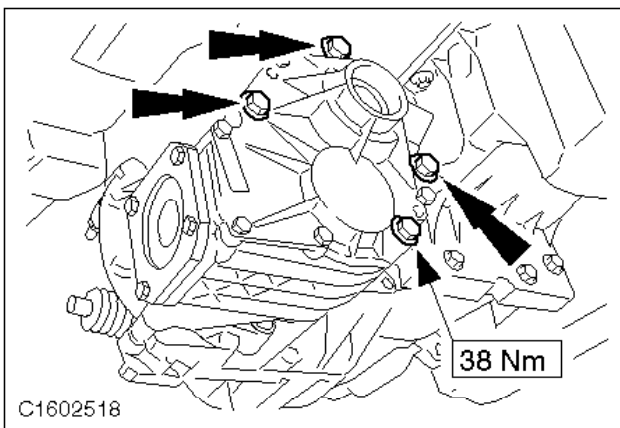
Note:

The engine mounting must not twist as it is tightened into place.

- ⬅ 33. Tighten the rear left-hand engine mounting.

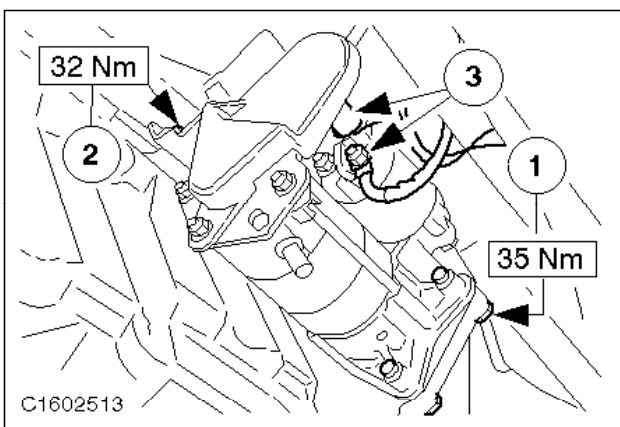


- ⬅ 34. Attach the filter of the pulse air system.



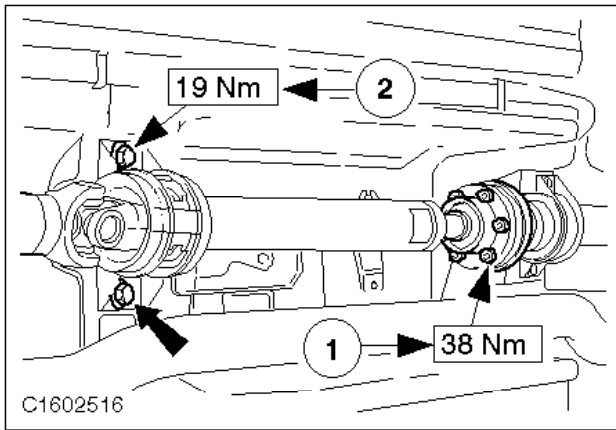
- ⬅ 35. Fit the transfer box.

Place the transfer box on the guide sleeves and tighten the bolts.



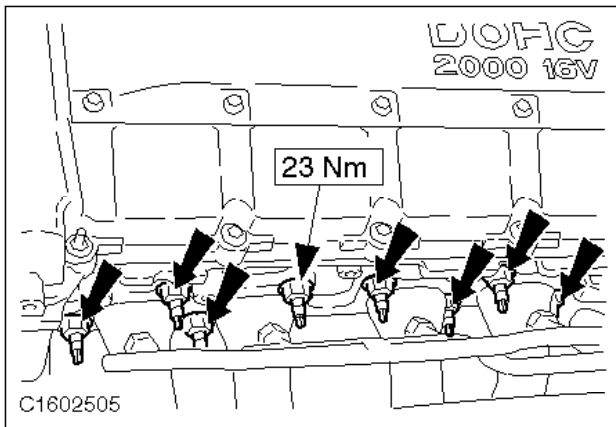
- ⬅ 36. Fit the starter motor.

- 1 Tighten the three screws.
- 2 Secure the engine block mounting.
- 3 Connect the wiring.



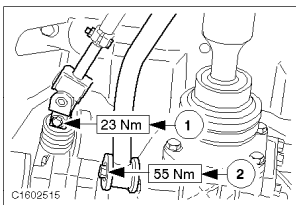
37. Install the driveshaft.

- Insert the driveshaft in the transfer box using a new circlip.
- Put the centre bearing in place (do not tighten).
- 1 Attach the driveshaft to the rear axle housing extension using a new gasket.
- 2 Align the centre bearing and tighten it.



38. Attach the exhaust manifold to the engine.

- Attach the exhaust manifold with a new gasket (eight nuts).
- Secure the exhaust manifold to the catalytic converter (tighten the two bolts to 42 Nm).



Note:

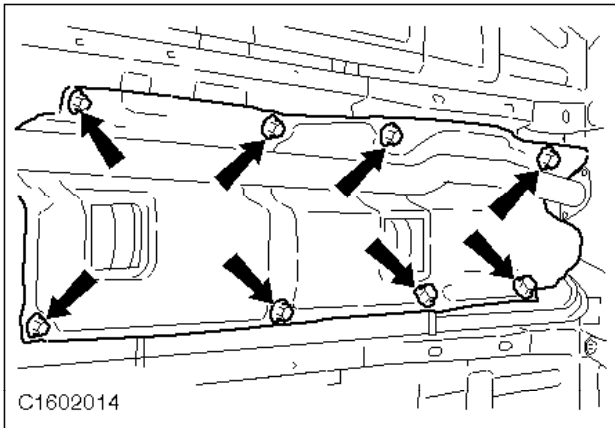
If the stabiliser is under extreme strain, realign the engine mountings according to specification. If

there is only slight strain, detach the gearshift lever housing from the body (see following step).

- 39. Attach the gearshift mechanism to the transmission.

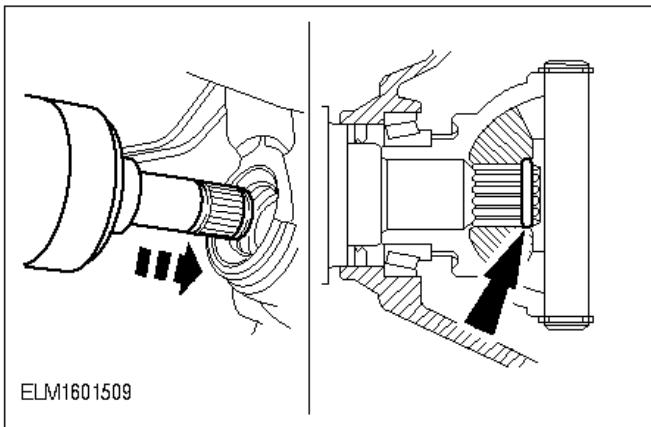
Put the transmission in neutral.

- 1 Attach the shift rod to the transmission.
- 2 Attach the shift rod stabiliser to the transmission so that it is free of strain.



- 40. Fit the heat shield.

Fit the heat shield and secure it.



**CAUTION:**

The inner joint must not be bent more than 18°, the outer joint no more than 45°.



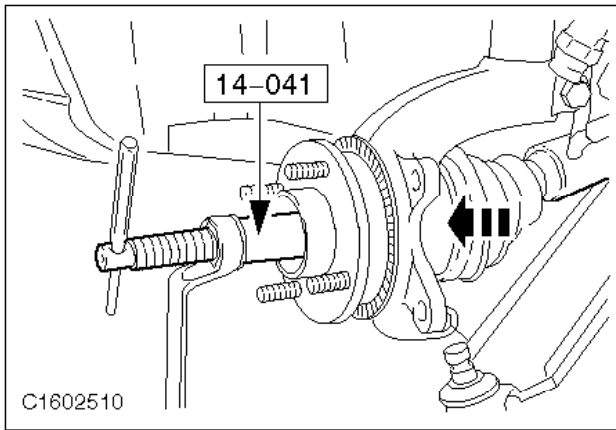
**CAUTION:**

During installation of the front axle driveshaft use the installation sleeve (supplied with every new radial oil seal) to protect the oil seal.

Note:

Make sure the circlip engages securely.

- 41. Insert the right and left-hand front driveshaft in the transmission using new circlips.



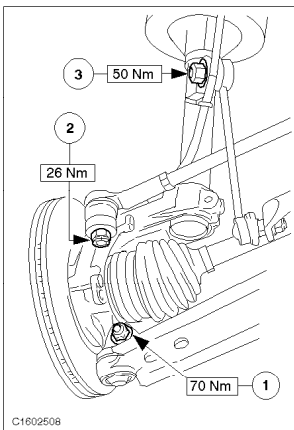
42. Fit the right-hand driveshaft to the spindle carrier.



**CAUTION:**

**Do not pull the wheel hub out of the spindle carrier. This would destroy the wheel bearing.**

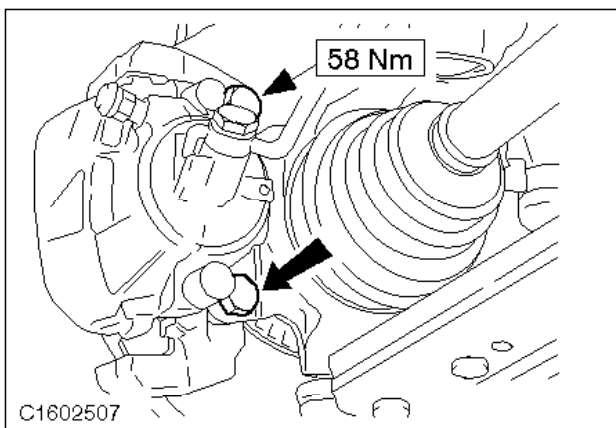
- Draw the driveshaft into the wheel hub using the special tool.
- Screw on the stub axle nut.



43. Secure the wheel suspension on the right and left-hand side.

Attach and secure the right-hand brake disc.

- 1 Attach the lower suspension arm ball joint to the spindle carrier.
- 2 Fasten the track rod end and secure it with a new split pin.
- 3 Attach the stabiliser bar connecting link to the suspension strut.



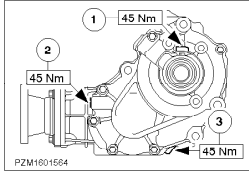


- 44. Fit the right-hand brake caliper.

Fit the wheels.

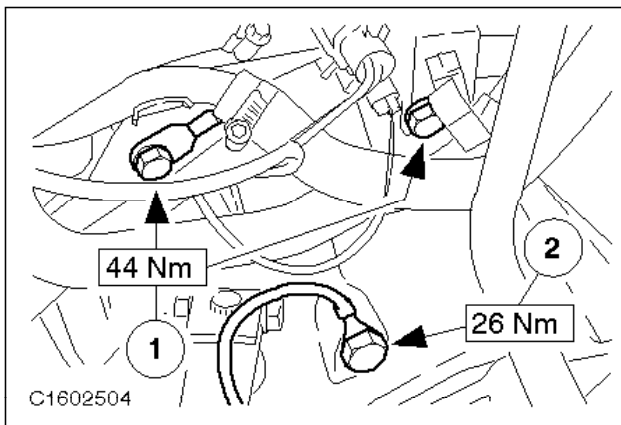
- 45. Check the transmission fluid level.

- Fill up the transmission to 0-5 mm below the lower edge of the level check hole.



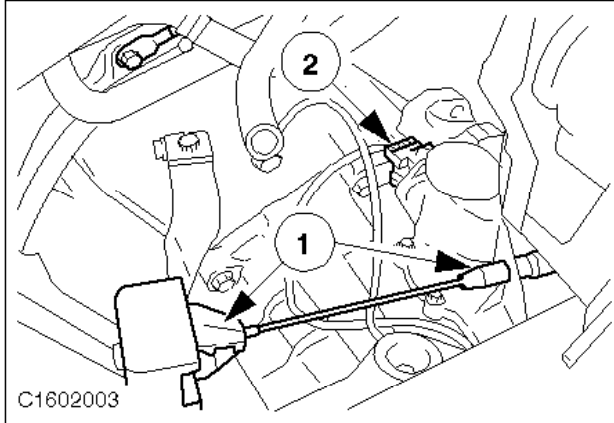
- 46. Fill up the transfer box with transmission fluid to the lower edge of the level check hole.

- 1 Oil filler plug
- 2 Oil level check plug
- 3 Oil drain plug



- 47. Tighten the flange bolts, connect the wiring.

- 1 Tighten the upper flange bolts.
- 2 Fit the transmission ground cable.
- Connect the plug of the vehicle speed sensor (VSS).
- Connect the plug of the heated oxygen (HO2S) sensor.



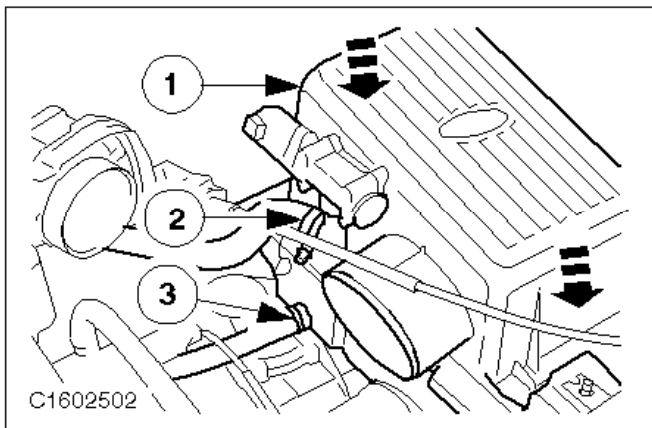
- ⬅ 48. Hook the clutch cable in place, make the electrical connections.

- 1 Insert the clutch cable into the transmission mounting bracket and hook it on to the clutch release lever.

Note:

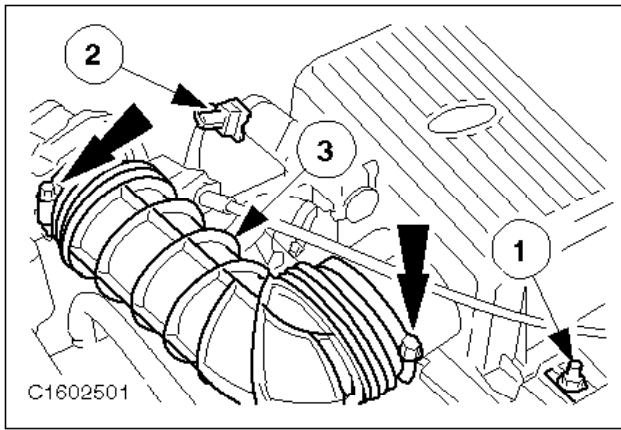
If the cable cannot be pulled out, pull back the clutch pedal.

- 2 Connect the plug for the reversing lamp switch.



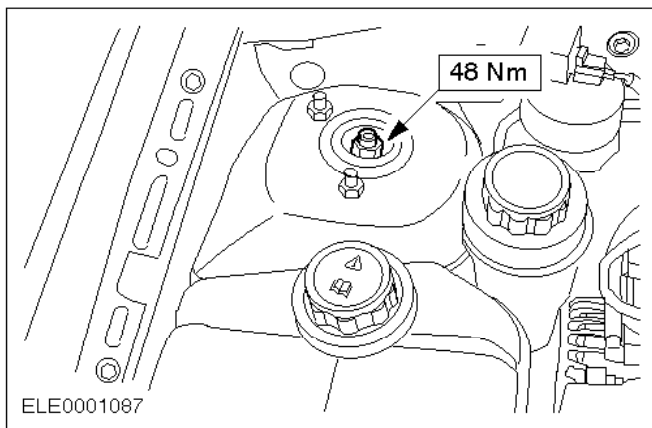
- ⬅ 49. Install the air cleaner.

- 1 Fit the air cleaner into the retaining tabs.
- 2 Connect the ISC hose and tighten the hose clamp.
- 3 Connect the crankcase breather hose.



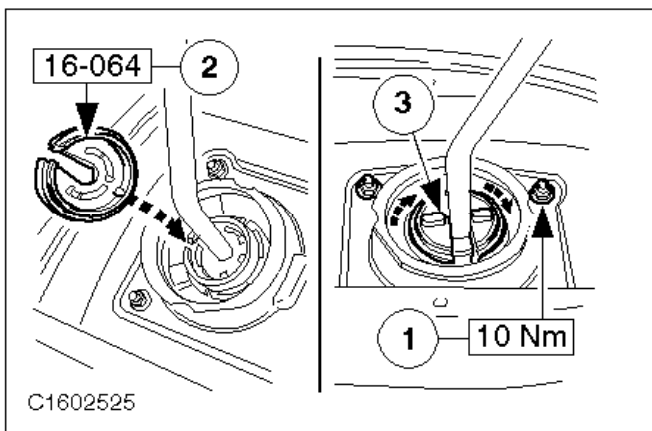
50. Install the air cleaner (continued).

- 1 Tighten the retaining nut.
- 2 Connect the idle speed control (ISC) plug.
- 3 Connect the intake hose and tighten the hose clamps.



51. Tighten the right and left-hand suspension strut nuts.

- Hold with an Allen key.
- Tighten by hand with a ring spanner.
- Use a torque wrench to tighten to torque.

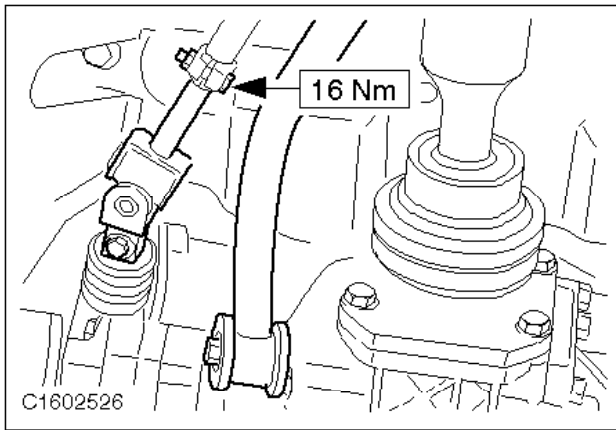


**Adjust the gearshift mechanism.**

52. Adjust the gearshift mechanism.

Pull off the gaiter and bellows.

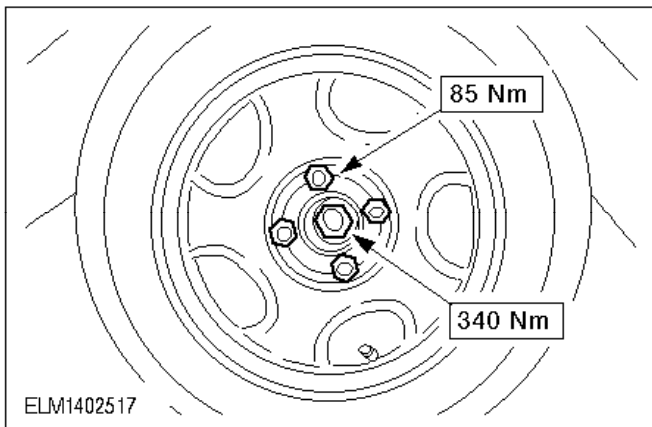
- 1 Loosen the four retaining nuts. Align the gearshift housing so that it is free of strain and tighten the nuts.
- 2 Fit the alignment tool.
- 3 Turn the tool upper part.
  - Tighten the shift rod clamp bolt (see following step).
  - Remove the special tool.
  - Fit the gaiter and bellows.



Note:

The shift rod must not move or turn during tightening.

53. Tighten the shift rod clamp bolt.
  - Raise the vehicle.
  - Put the transmission in neutral.
  - Tighten the shift rod clamp bolt.



54. Tighten the wheel nuts and the stub axle nut.

Note:

After tightening the hub nut, secure it by staking.

55. Finishing operations.
  - Connect the battery earth lead.
  - Reset the radio and the clock.
  - Check the routing of vacuum hoses and wiring and secure with cable ties.
  - Check the fluid levels after a road test and rectify as necessary.

