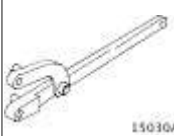
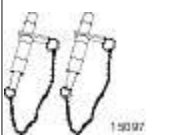
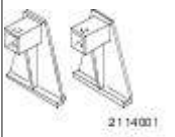
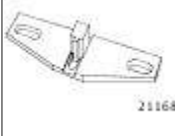


Timing Belt – Renew (21 304 0)

Mondeo 1993 (01/1993-07/1996)

 [Print](#)**Removal and Installation****Special Tools**

	15-030 AU universal flange holding wrench
	15-097 Subframe locating pins
	21-140 Engine support bar
	21-140-02 Adaptor
	21-140-01 Adaptor
	21-140-03 Adaptor
	21-162 Timing tool, camshaft alignment
	21-168 Crankshaft immobilising tool
	21-172 Engine/transmission assembly installation gauge

Remove

1. Standard preparatory measures
 - Make a note of the radio keycode.
 - Make a note of the preset radio stations.

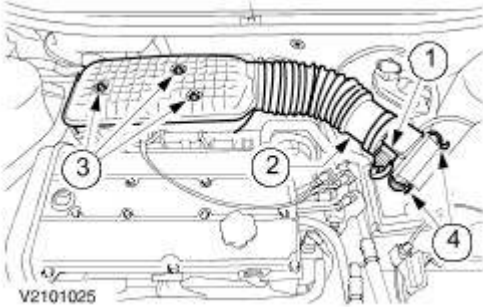


CAUTION:
Disconnect the battery ground lead.

- Remove the right-hand front wheel.
- Cut cable ties when necessary and renew them when assembling.

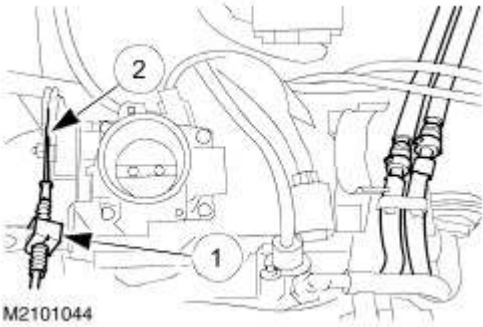
2. Remove the intake pipe.

1. Disconnect the mass air flow (MAF) multiplug.
2. Disconnect the intake air temperature sensor (IAT sensor) multiplug.
3. Remove one bolt and two nuts.
4. Release the retaining clips.



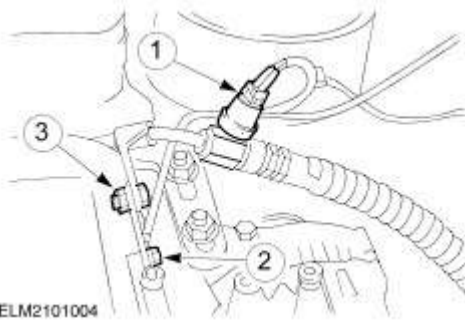
3. Disconnect the throttle cable.

1. Pull off the throttle cable retaining clip.
2. Unhook the throttle cable and move it to the rear.



4. Disconnect the multiplug, the ground cable and the high-pressure pipe.

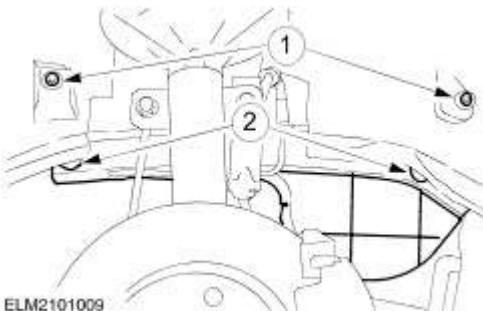
1. Disconnect the multiplug from the power steering pressure (PSP) switch.
2. Detach the ground lead from the engine lifting eye.
3. Detach the power steering high-pressure pipe.

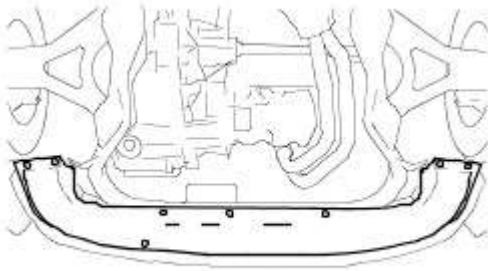


5. Detach the lower wheel arch trim panel.

- Remove the front wheels.

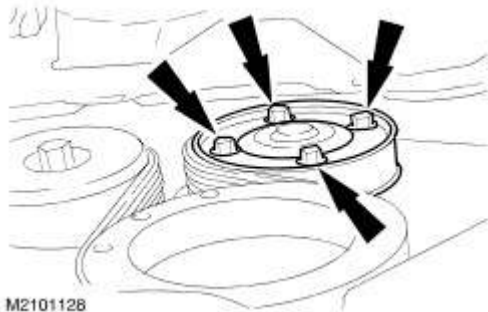
 1. Undo the upper wheel arch trim panel.
 2. Detach the lower wheel arch trim panel.





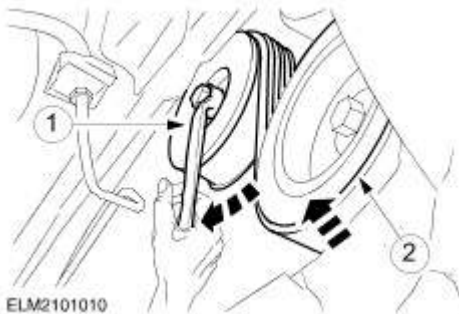
ELM2101047

6. Remove the lower radiator shroud.



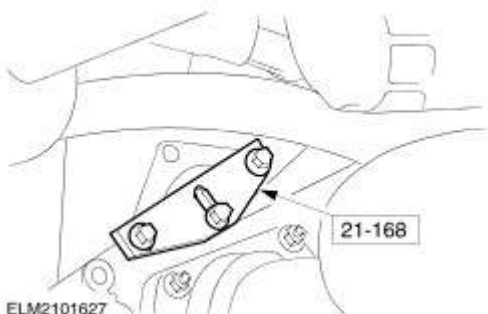
M2101128

7. Slacken the bolts of the coolant pump pulley.



ELM2101010

8. Remove the drive belt.
1. Slacken the drive belt.
2. Take off the drive belt.



ELM2101627

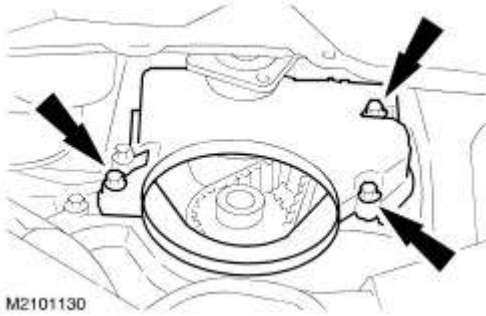
9. Remove the starter motor as described in Operation No. [26](#)
[204 0](#).
10. Fit the crankshaft immobilising tool.



M2101129

11. Remove the crankshaft vibration damper.
• Remove the bolt.
• Remove the crankshaft immobilising tool.
• Remove the coolant pump pulley.

12. Remove the lower timing belt cover.



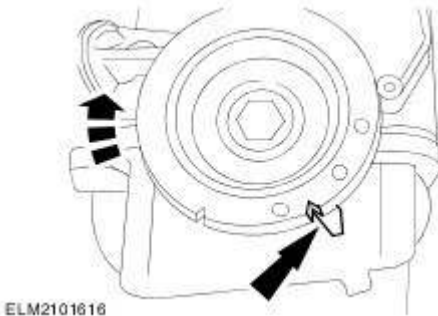
13. Turn the crankshaft to the TDC position.



NOTE:

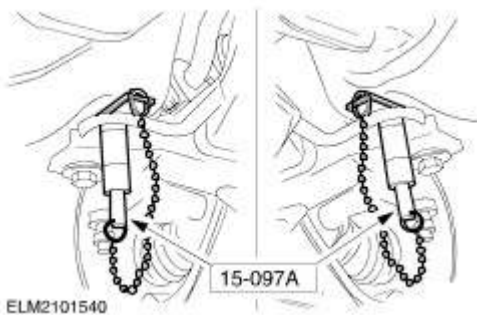
For greater accuracy, extend the mark on the sump using a small strip of metal (25 mm wide) or similar.

Lower the vehicle.



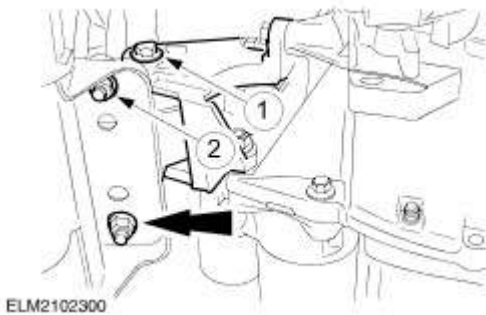
14. Check the position of the sub-frame.

It should be possible to insert the special tools free of stress in the subframe and body locating bores. If not, align the subframe (refer to Operation Number [21 133 0](#)).



15. Remove the left-hand engine roll restrictor.

1. Remove the centre bolt.
2. Detach the engine roll restrictor from the subframe and remove it.



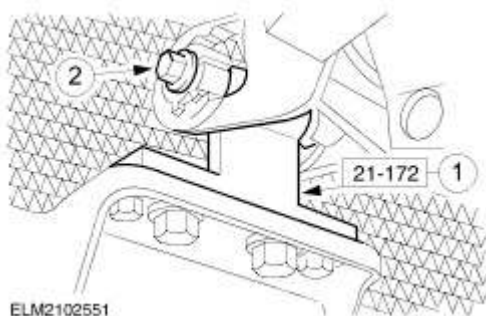
16. Fit the gauge in place of the left-hand engine roll restrictor.

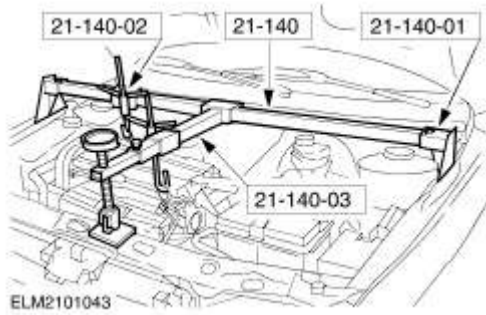


NOTE:

If the gauge cannot be fitted free of tension, then the engine needs to be re-aligned with the transmission as described in Operation No. [12 133 0](#).

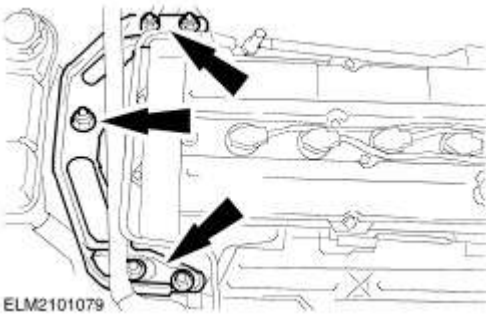
1. Attach the gauge to the subframe.
 2. Screw in the centre bolt.
- Lower the vehicle.



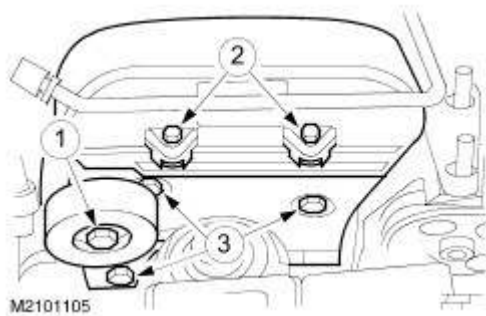


17. Fit the engine support bar.

Attach the engine support bar to the engine lifting eyes and lift the engine slightly.

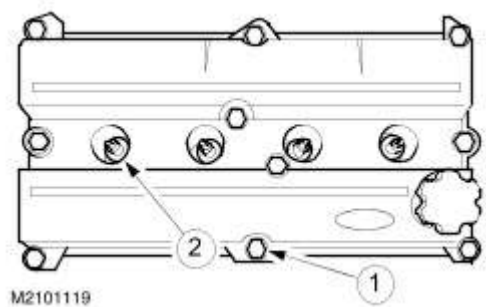


18. Detach the front engine mounting bracket



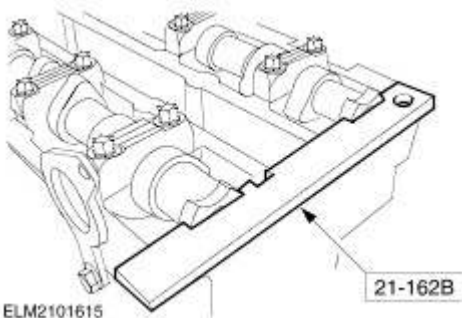
19. Remove the middle and upper timing belt covers.

- Detach the bracket of the power steering high-pressure pipe from the engine lifting eye.
- 1. Detach the drive belt idler pulley.
- 2. Remove the upper timing belt cover.
- 3. Remove the middle timing belt cover.



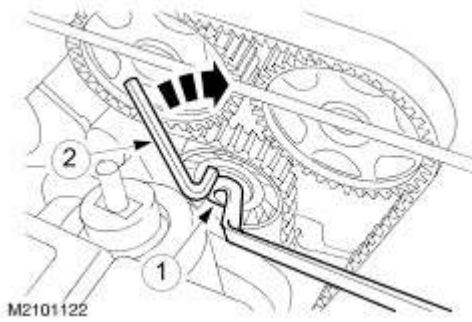
20. Remove the cylinder head cover.

- Disconnect the HT leads from the spark plugs.
- 1. Remove the cylinder head cover (ten bolts).
- 2. Remove the spark plugs.



21. Align the camshafts.

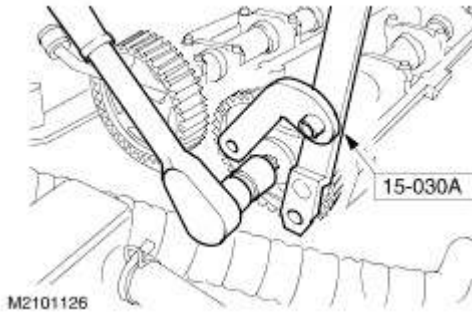
Place the aligning tool on the camshafts.



22. Remove the timing belt.

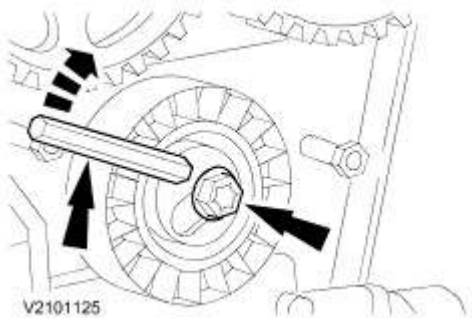
1. Release the belt tensioner pulley.
2. Back off the tensioning pulley using an Allen key.
 - Secure the belt tensioner pulley.
 - Remove the timing belt.

Install



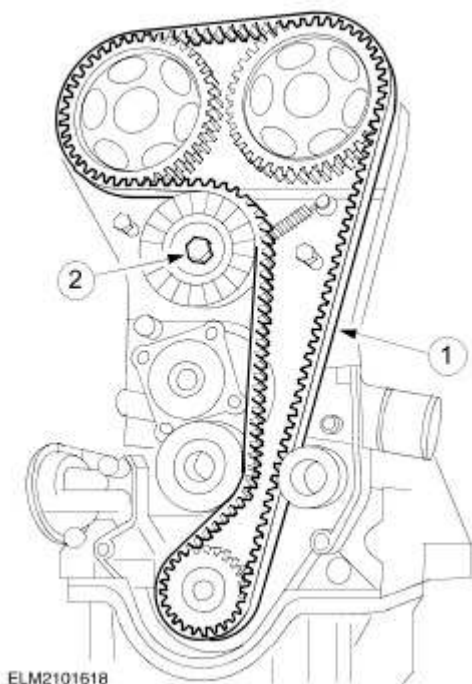
23. Release the camshaft pulleys.

The camshaft pulleys must turn freely on the camshafts.



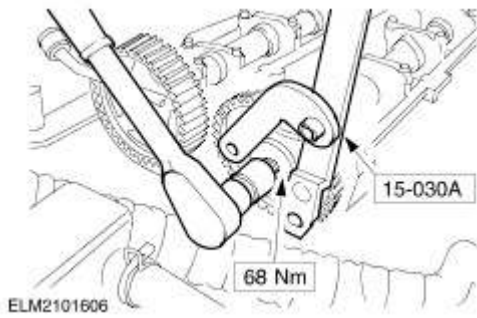
24. Pre-tension the timing belt tensioner and tighten it.

Tension the pulley against the spring by turning in a clockwise direction with an Allen key and secure it.



25. Fit the timing belt.

- Check the TDC position of the crankshaft.
1. Fit the timing belt in an anti-clockwise direction, starting at the crankshaft pulley.
 2. Release the belt tensioner pulley.

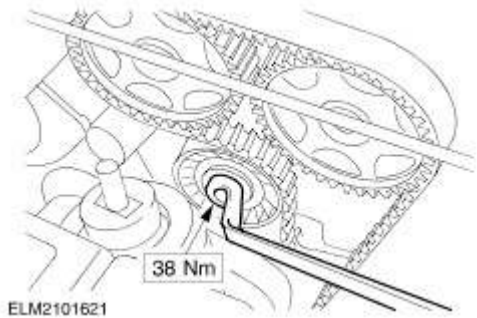


NOTE:

The crankshaft must remain in the TDC position.

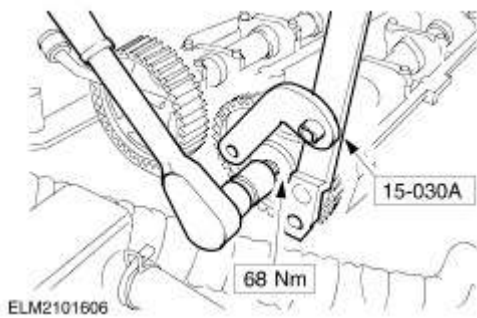
26. Secure the camshaft pulleys.

- Secure the camshaft pulleys.
- Remove the Special Tool 21-162.
- Turn the crankshaft two revolutions in a clockwise direction to the TDC position.



27. Secure the timing belt tensioner.

- Secure the belt tensioner pulley.
- Check that the crankshaft and camshafts are at TDC.
- If there is a tiny error:
- Align the camshaft with a flange-holding wrench so that aligning tool 21-162 can be inserted. The crankshaft must remain in the TDC position.



28. Adjusting tool 21-162 cannot be inserted.

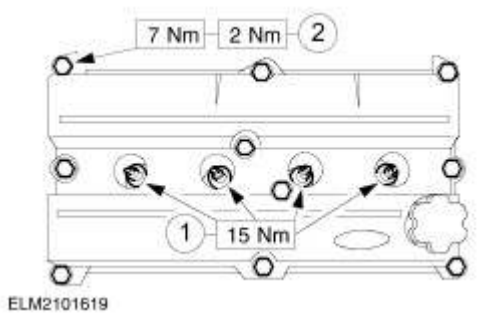
- Undo the camshaft pulley on the affected camshaft, using a flange-holding wrench to stop it from turning.
- Rotate the camshaft until aligning tool 21-162 can be inserted.



NOTE:

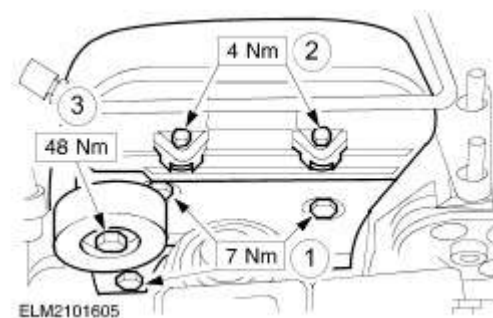
The crankshaft must remain in the TDC position.

- Secure the camshaft pulley.



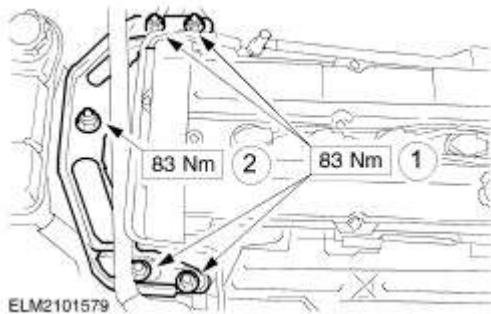
29. Fit the cylinder head cover.

- Coat the spark plug threads with "Never-Seez".
- 1. Screw in the spark plugs and tighten them.
- 2. Fit the cylinder head cover with a new gasket.
- Connect the HT leads to the spark plugs.



30. Fit the middle and the upper timing belt covers.

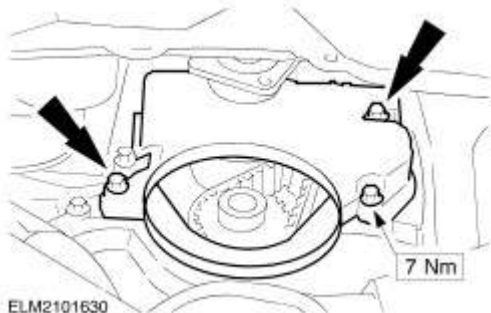
1. Fit the middle timing belt cover.
 2. Fit the upper timing belt cover.
 3. Fit the drive belt idler pulley.
- Fit the bracket of the power steering high-pressure pipe to the engine lifting eye.



CAUTION:

Do not turn or distort the engine mounting.

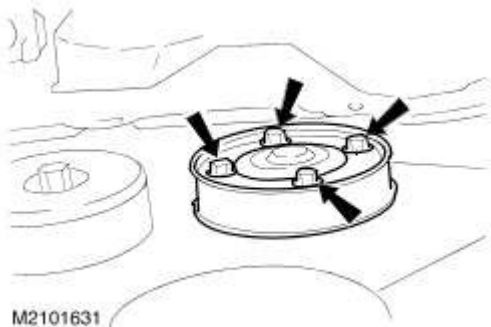
31. Attach the front engine mounting bracket.
 1. Tighten new nuts on the engine.
 - Detach the engine support bar.
 2. Tighten a new nut on the engine mounting.
 - Raise the vehicle.



NOTE:

Make sure that the lower cover is seated correctly in the middle cover.

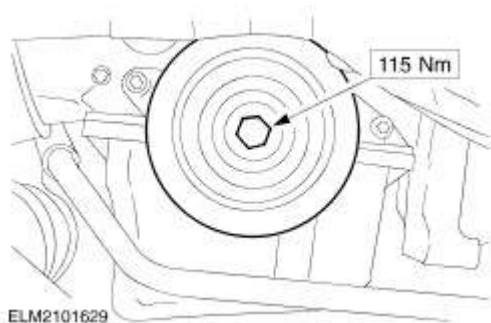
32. Fit the lower timing belt cover.



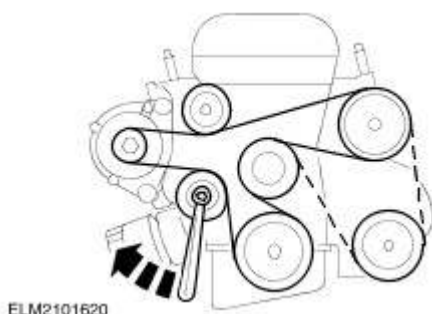
NOTE:

The bolts cannot be tightened until the drive belt is in place.

33. Fit the coolant pump pulley.

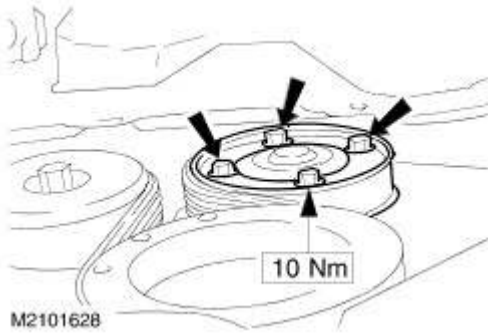


34. Fit the crankshaft vibration damper.
 - Fit the crankshaft immobilising tool (see sub-operation).
 - Tighten the bolt.
 - Remove the crankshaft immobilising tool.



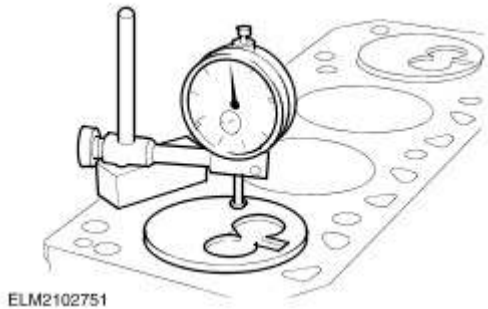
35. Lay the drive belt in place and tension it.
The diagram shows the routing with and without an air conditioning compressor.

36. Tighten the coolant pump pulley bolts.



37. Remove the gauge.

1. Remove the centre bolt.
2. Detach the gauge from the subframe.

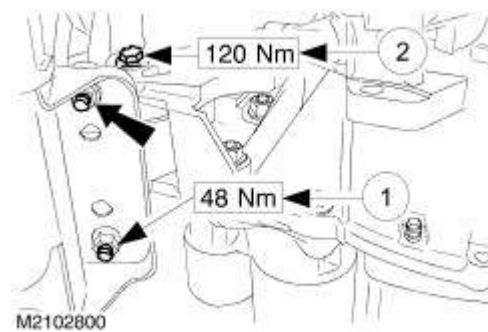


CAUTION:

Do not tilt the engine roll restrictor.

38. Fit the left-hand engine roll restrictor.

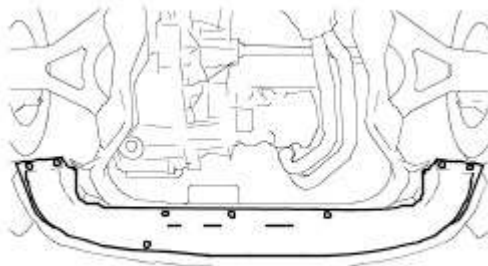
1. Attach the engine roll restrictor to the subframe.
2. Fit the centre bolt.



39. Fit the radiator undershield.

40. Fit the starter motor as described in Operation No. [26 204 0](#).

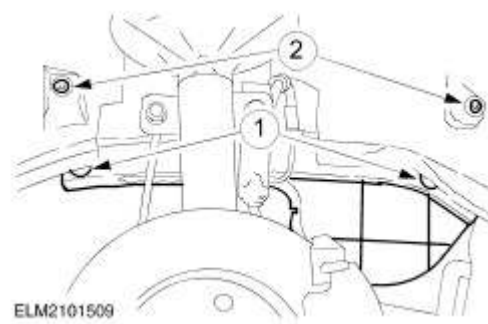
Lower the vehicle.

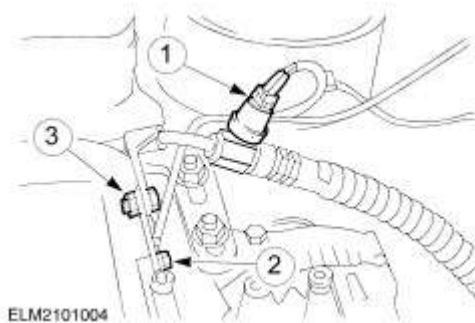


41. Fit the lower wheel arch trim panel.

1. Fit the lower wheel arch trim panel.
2. Fit the upper wheel arch trim panel.

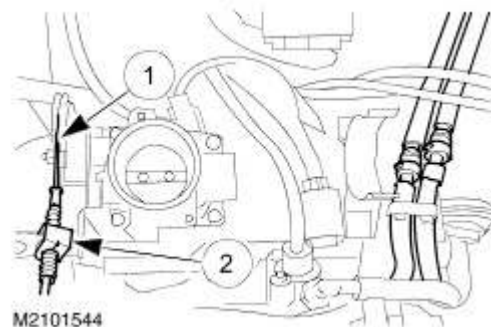
42. Attach the front wheel.





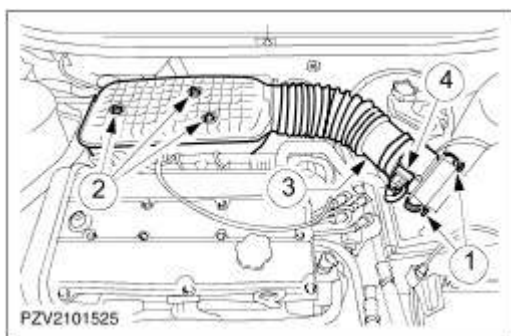
43. Connect the multiplug, ground cable and high-pressure pipe.

1. Connect the PSP switch multiplug.
2. Connect the ground lead to the engine lifting eye.
3. Connect the power steering high-pressure pipe.



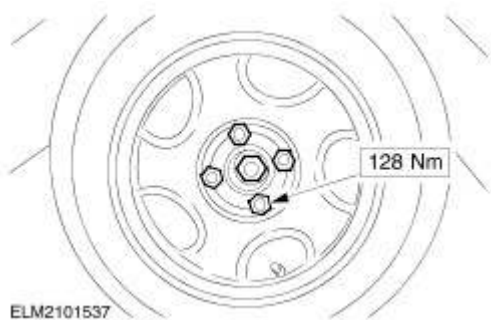
44. Fit the throttle cable.

1. Attach the throttle cable.
2. Fit the throttle cable retaining clip.



45. Install the intake pipe.

1. Secure the retaining clips.
2. Tighten the bolt and the two nuts.
3. Connect the IAT sensor multiplug.
4. Connect the MAF multiplug.



46. Secure the right-hand front wheel.

47. Standard finishing operations.

- Connect the battery ground lead.
- Enter the radio keycode.
- Reprogramme the preset radio stations.
- Reset the clock.
- Carry out a road test to enable the powertrain control module (PCM) to gather data.