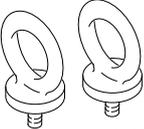


Engine – Remove and Install (21 134 0)

Special Tools

 <p>21-068A</p>	<p>21-068A Engine lifting tackle</p>
 <p>21068A01</p>	<p>21-068A-01 Lifting eyebolts</p>

Workshop Equipment

Trolley jack	
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Materials

High-temperature grease	ESDM-1C220-A
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Proprietary Tools

Engine lifting eye, Finis Code 1 635 720
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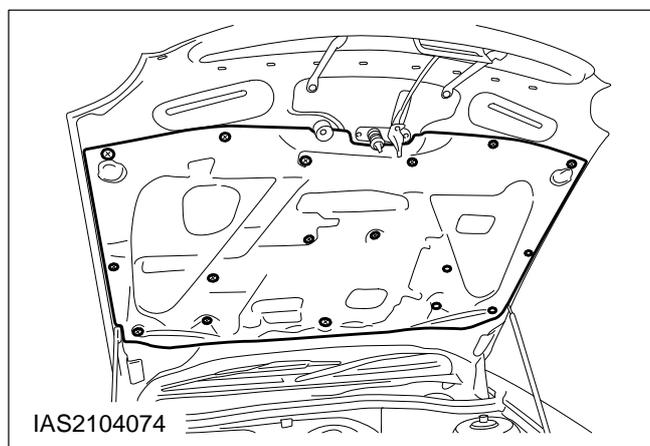
Remove

1. Preparatory measures:

- Make a note of the radio keycode.
- Make a note of the preset radio stations.
- Remove the battery cover (one nut).
- Disconnect the battery earth lead.
- Open the coolant expansion tank.

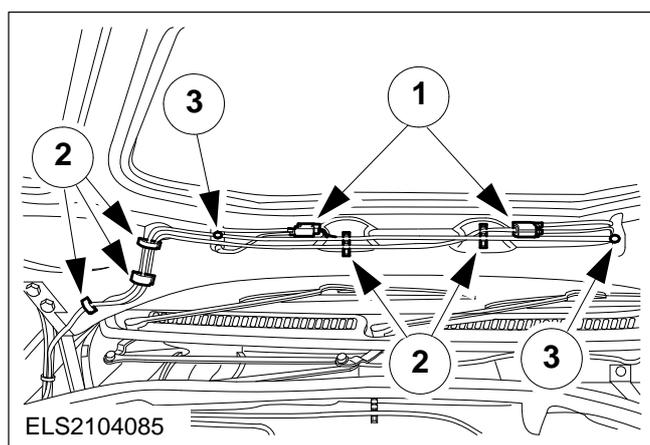
2. Detach the hood.

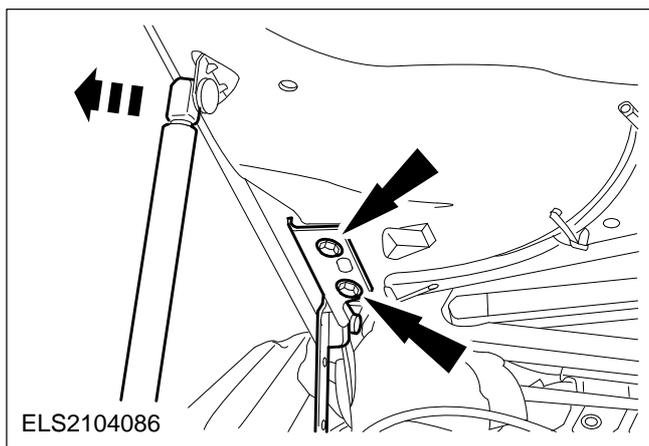
Remove the hood insulation panel (17 clips).



3. Remove the hood (continued).

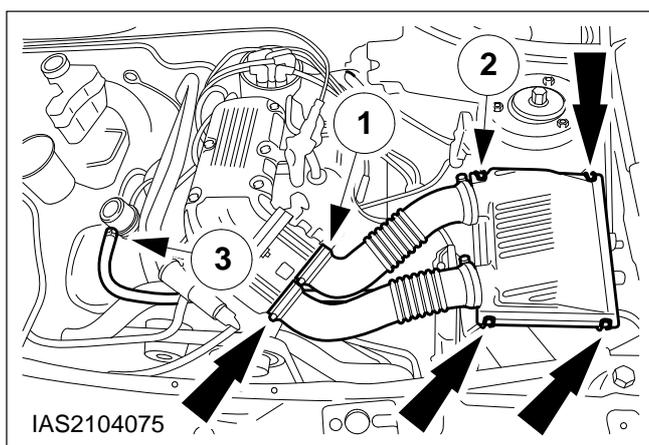
- 1 Disconnect the two plugs of the heated washer nozzles.
- 2 Release the wiring loom from the clips.
- 3 Disconnect the two washer hose connections.





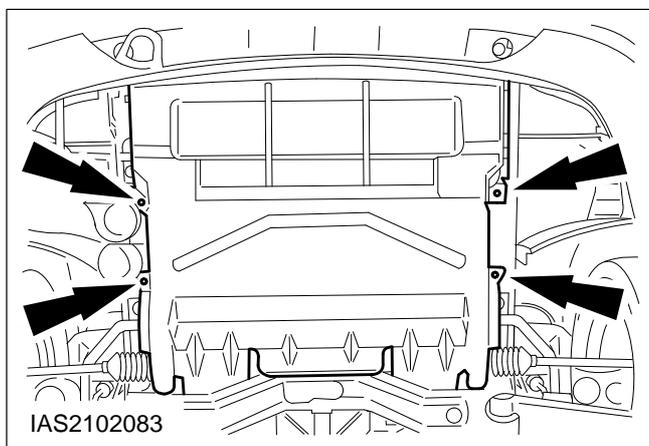
4. Remove the hood (continued).

- Unhook the hydraulic struts on both sides.
- Detach the hood hinges on both sides.
- Lift the hood off and rest it on a soft support.



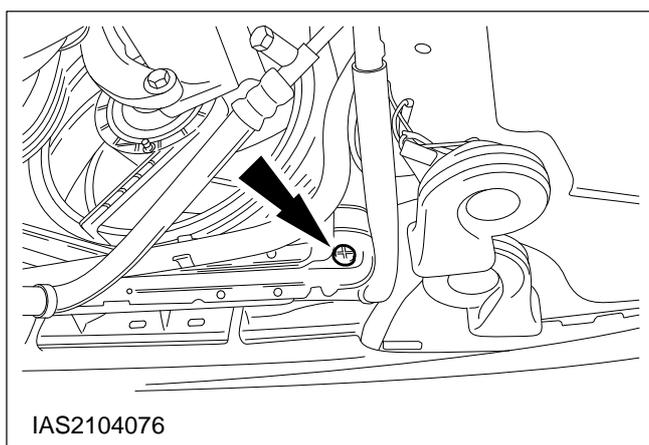
5. Detach the upper section of the air cleaner housing.

- 1 Disconnect the intake pipes from the throttle body (TB) (two clips).
- 2 Unclip the upper section of the air cleaner housing (four clips).
- 3 Disconnect the positive crankcase ventilation (PCV) hose.



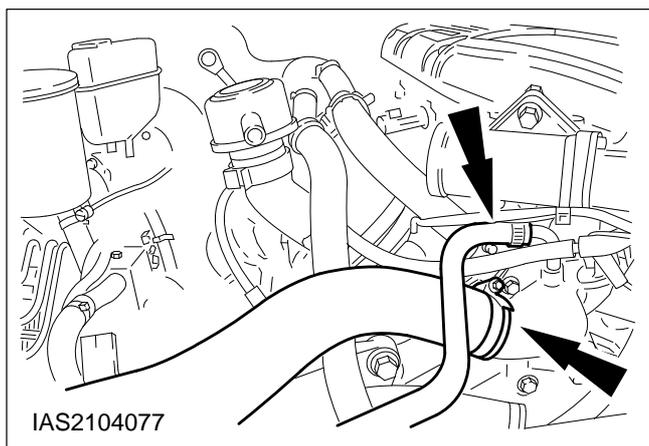
6. Raise the vehicle.

7. Detach the engine undershield.

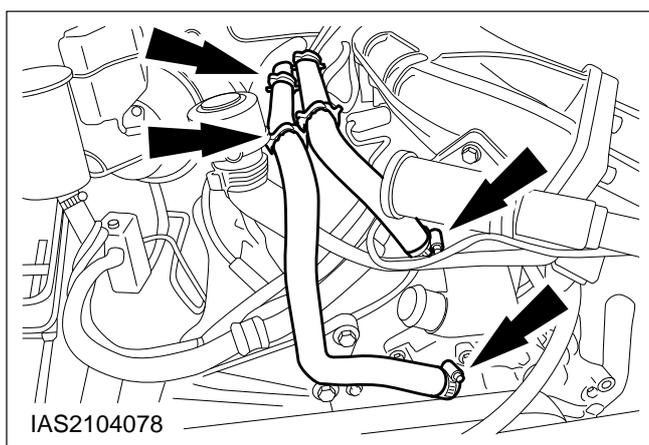


8. Drain off the coolant.

Lower the vehicle.

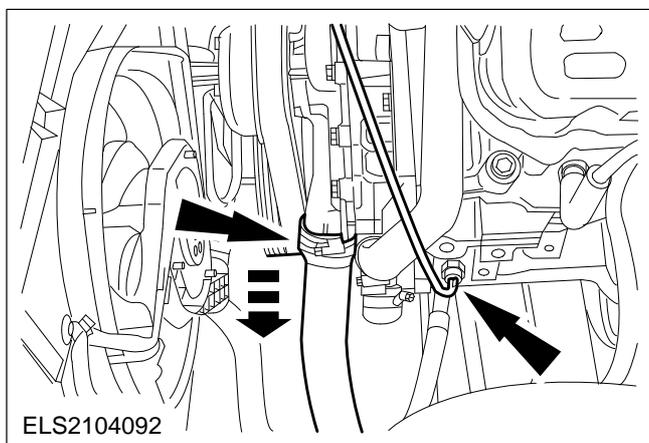


9. Disconnect the expansion tank connecting hose and the upper coolant hose from the thermostat housing.

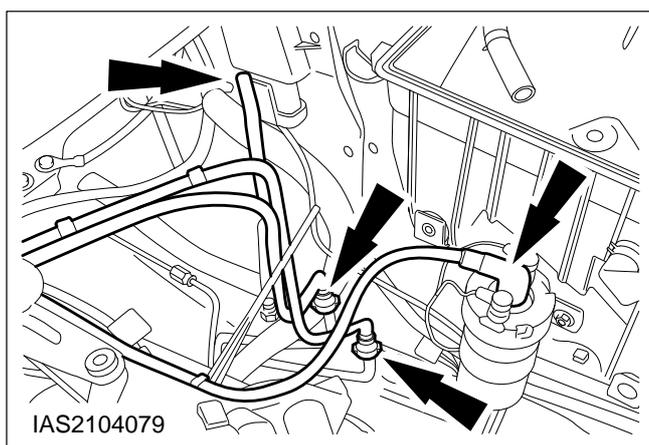


10. Disconnect the heater coolant hose from the thermostat housing and the coolant hose from the coolant pump.

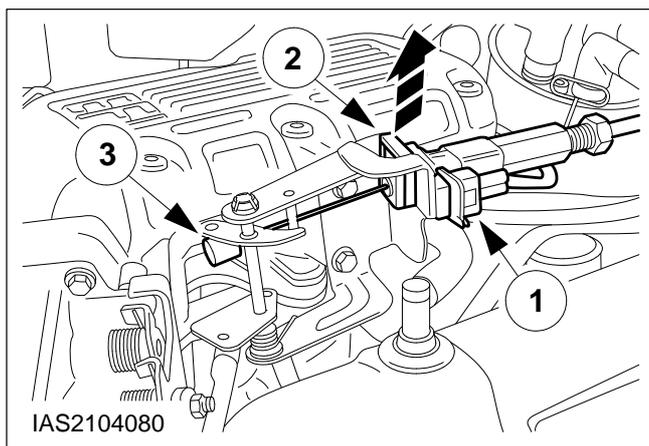
Unclip the two hoses.



11. Disconnect the lower coolant hose from the coolant pump.
12. Disconnect the plug of the oil pressure switch.

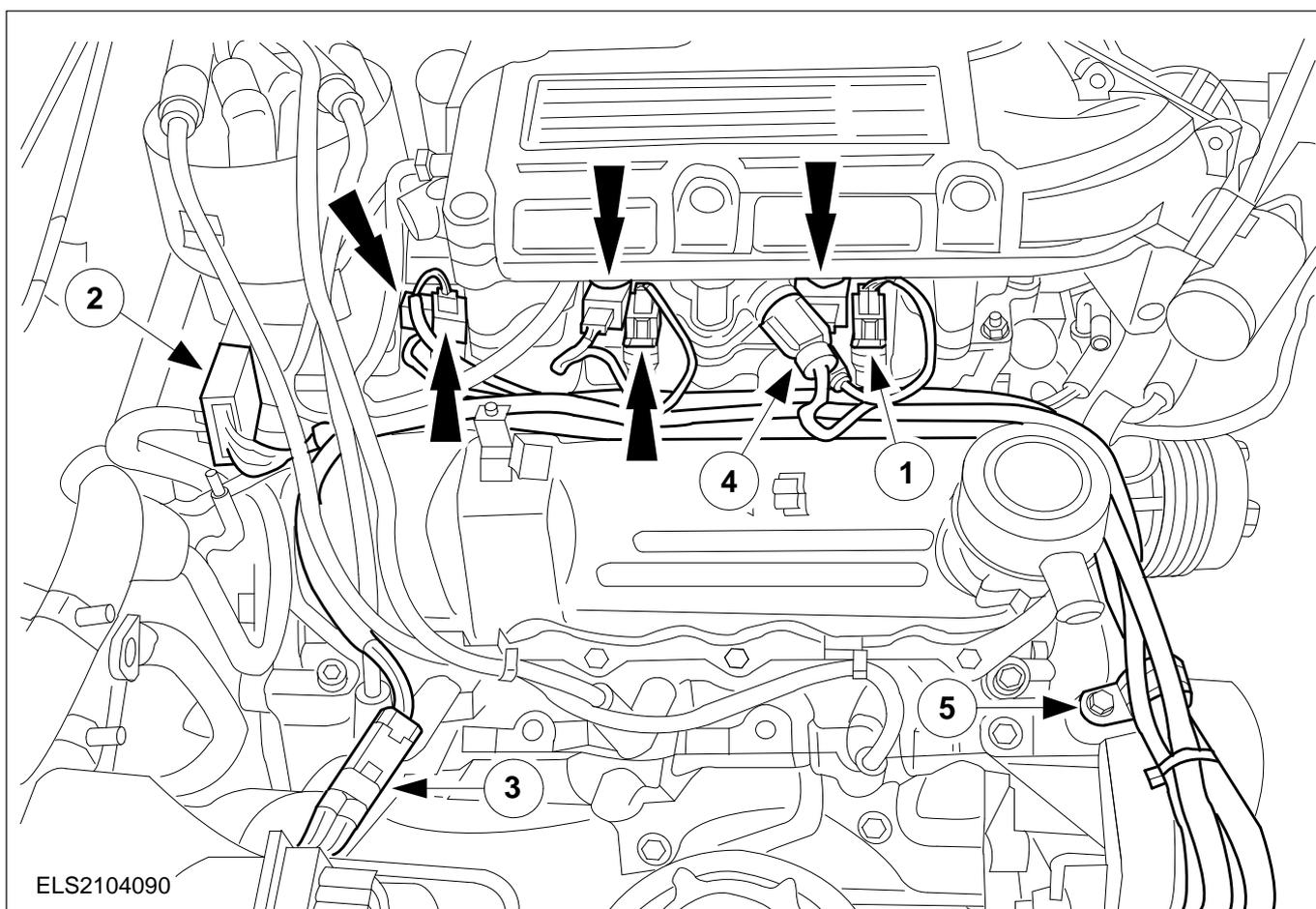


13. Disconnect the two fuel pipe quick-release couplings.
14. Disconnect the vacuum hose.
15. Disconnect HT lead no. 4 from the ignition coil.



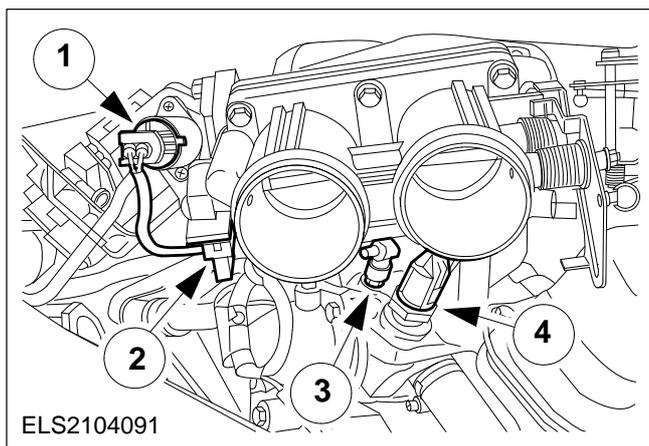
16. Detach the throttle cable.

- 1 Disconnect the kick down switch plug.
- 2 Remove the clip.
- 3 Unhook the cable.



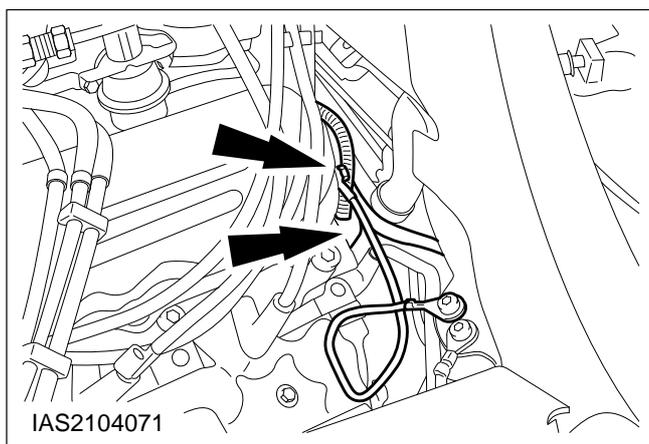
17. Disconnect the engine wiring loom.

- 1 Disconnect the injector plug.
 - Separate the following plugs:
 - 2 From the distributor
 - 3 Right-hand heated oxygen sensor (HO2S) plug connection
 - 4 From the intake air temperature (IAT) sensor.
- 5 Remove the wiring loom clip.



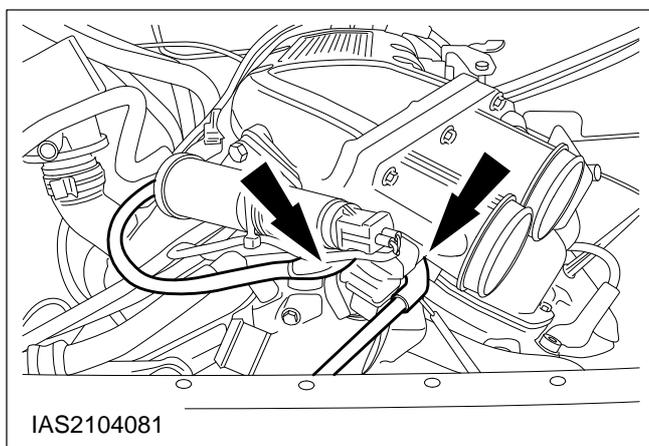
18. Disconnect the engine wiring loom (continued).

- Disconnect the following plugs:
 - 1 From the idle speed control (ISC) valve.
 - 2 From the throttle position sensor (TPS).
 - 3 From the coolant temperature sender unit.
 - 4 From the engine coolant temperature (ECT) sensor.

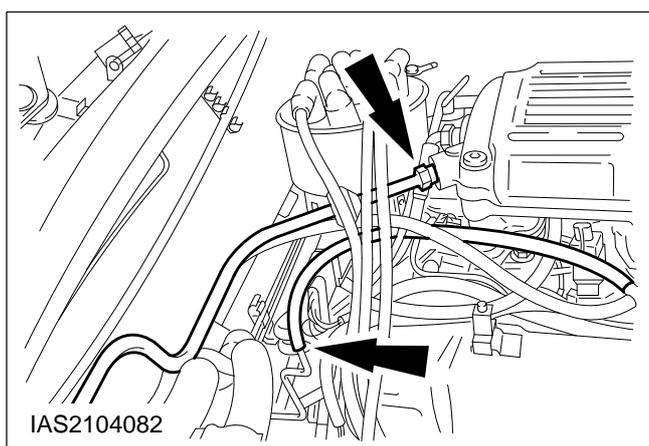


19. Disconnect the plug of the left-hand heated oxygen sensor (HO2S) wiring loom.

20. Disconnect the ground lead from the back of the cylinder head.

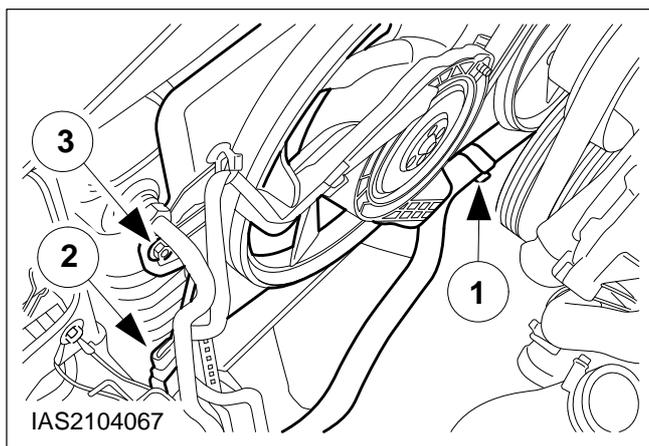


21. Detach both vacuum hoses from the throttle housing.



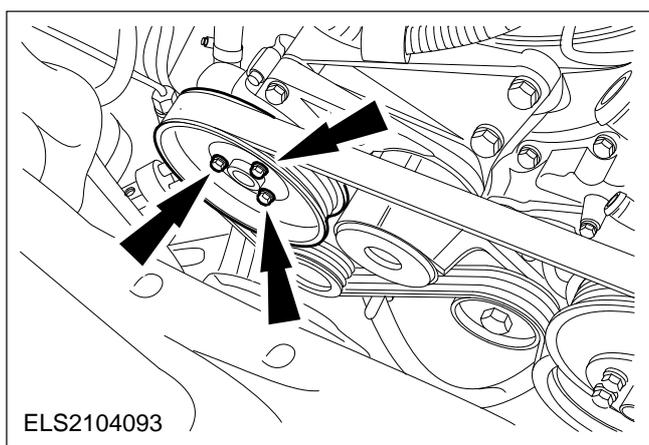
22. Disconnect the vacuum hose from the throttle valve diaphragm pipe.

23. Disconnect the brake servo vacuum pipe from the air plenum chamber.

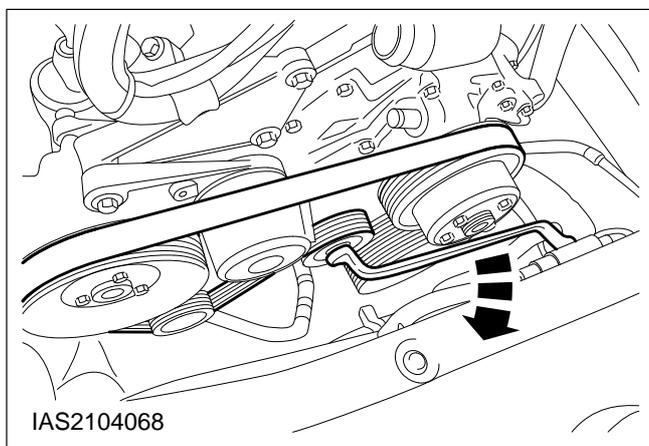


24. Remove the fan motors complete with the retaining plate.

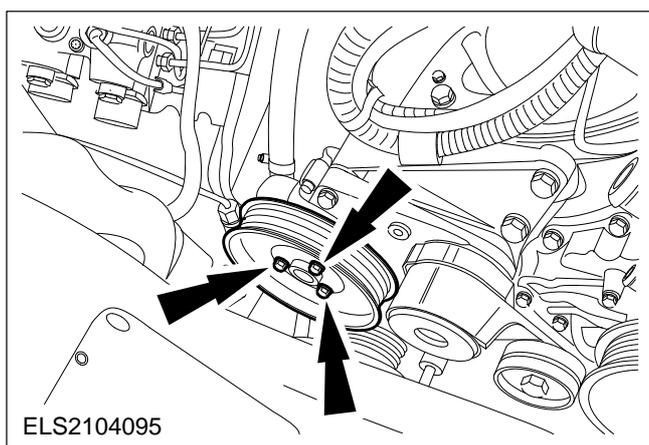
- 1 Unclip the lower coolant hose.
- 2 Disconnect the plugs on both sides and unclip the leads.
- 3 Unscrew one nut on both sides.



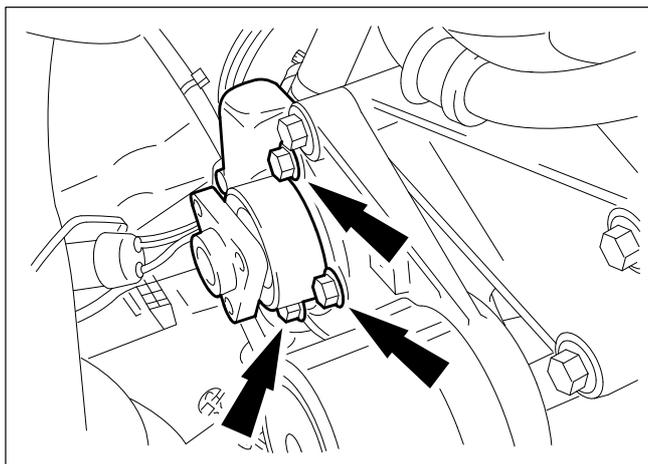
25. Slacken the power steering pump pulley.



26. Detach the drive belt.

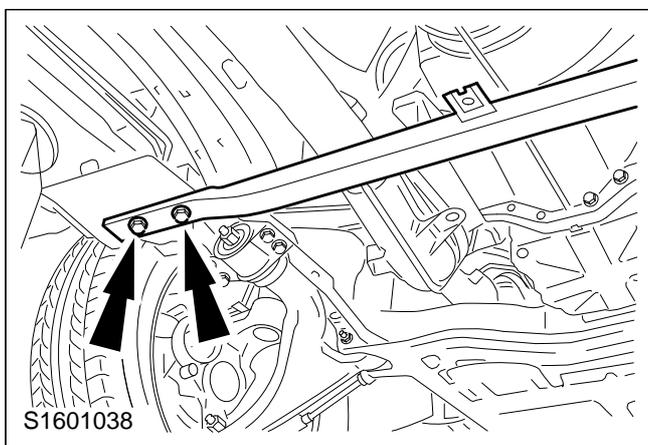
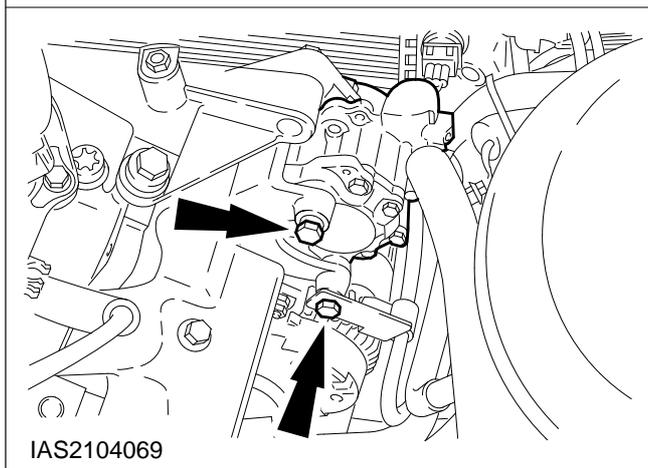


27. Detach the power steering pump pulley.



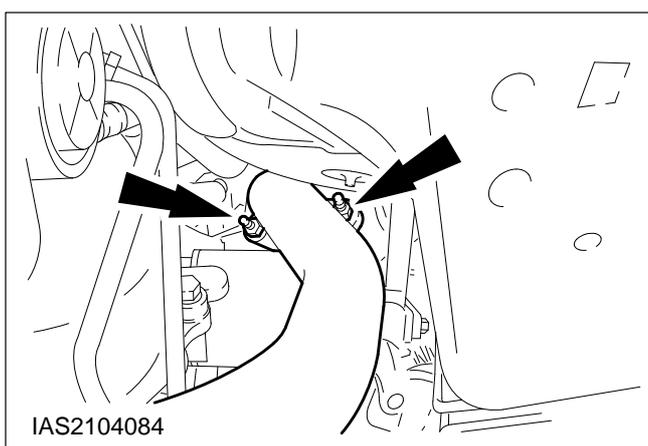
28. Detach the power steering pump (five bolts).

Clip the pump to the side.

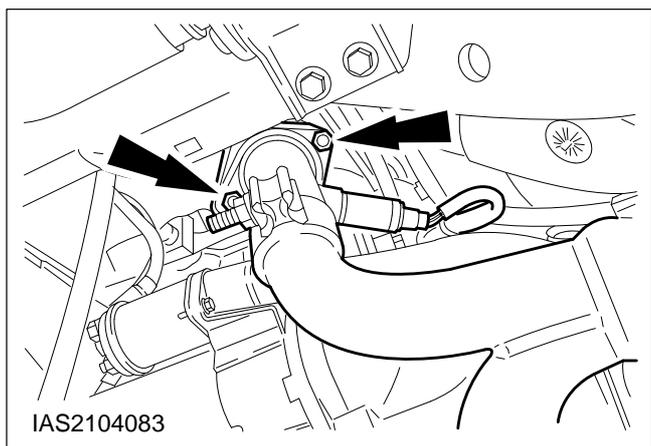


29. Raise the vehicle.

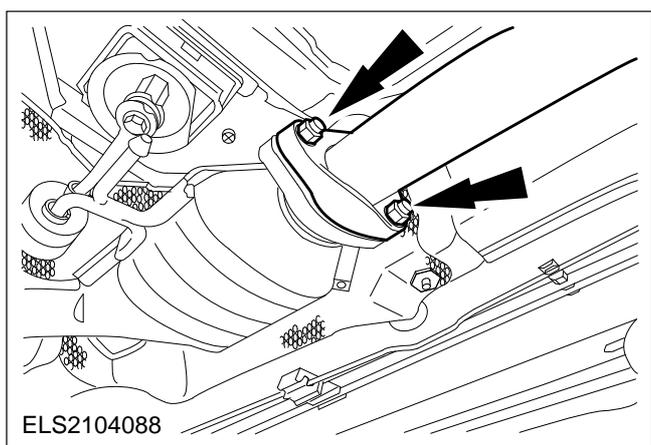
30. Disconnect the front axle transverse brace from the chassis side member.



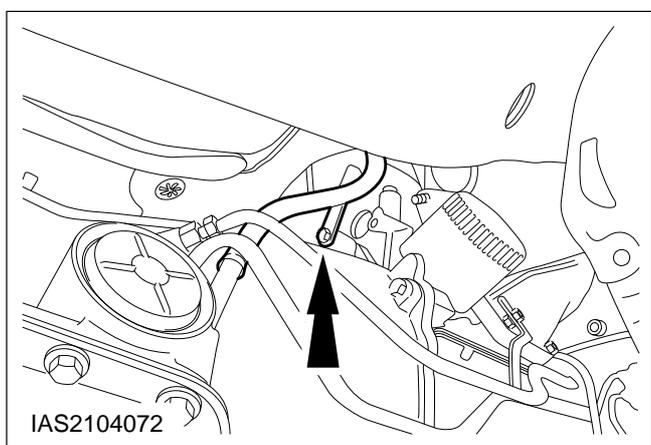
31. Disconnect the front right-hand exhaust pipe.



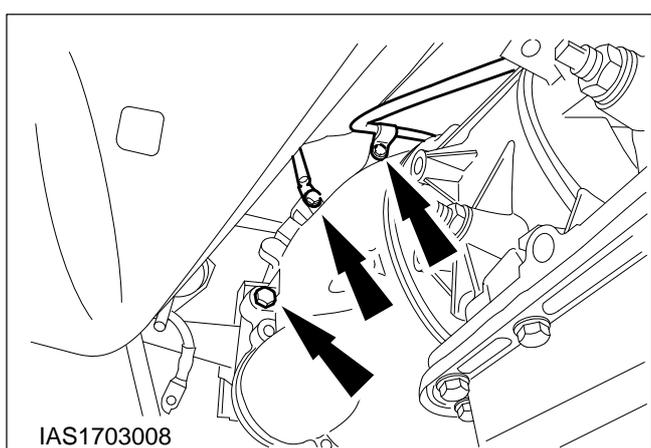
32. Disconnect the front left-hand exhaust pipe.



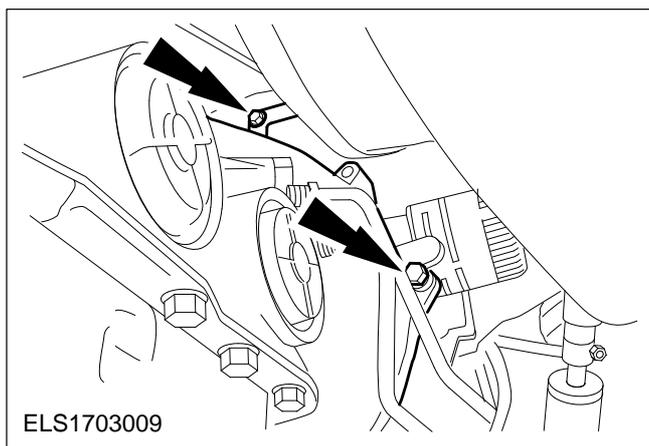
33. Detach and remove the exhaust pipe from the front catalytic converter.



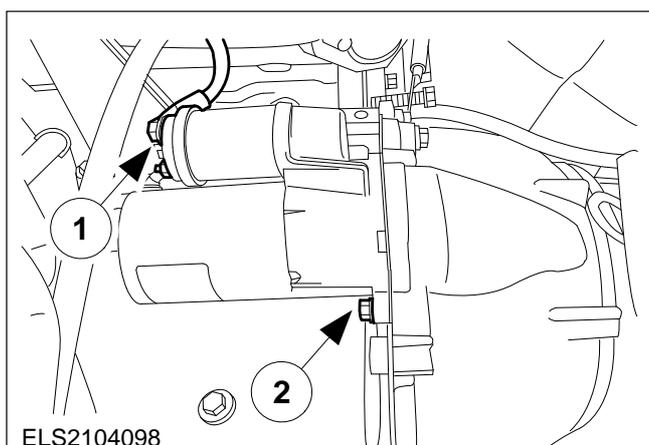
34. Detach the dipstick tube bracket.



35. Unscrew the transmission flange bolts on the right-hand side.

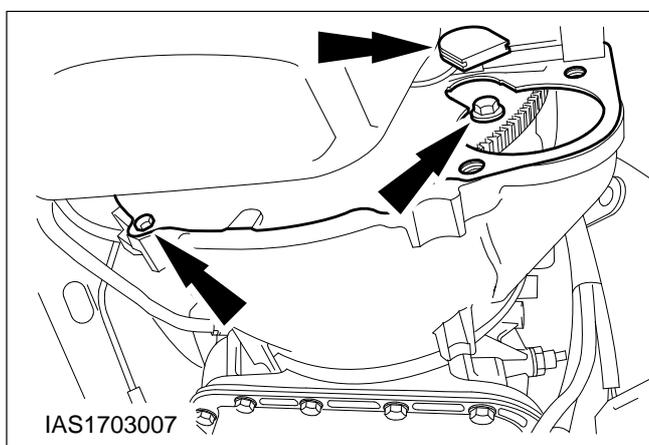


36. Unscrew the transmission flange bolts on the left-hand side.



37. Disconnect the starter motor wiring and remove the starter motor.

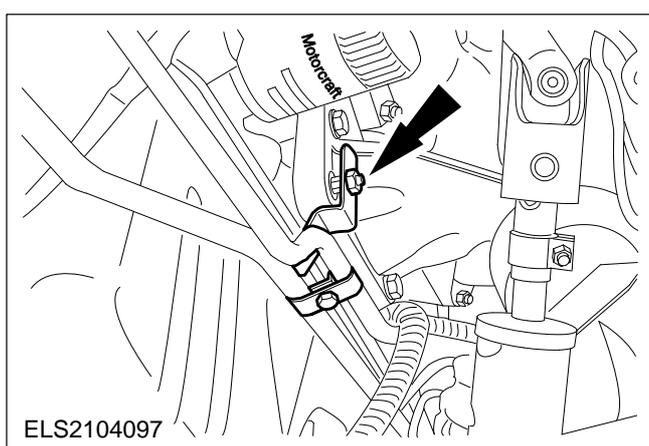
- 1 Disconnect the starter motor wiring.
- 2 Remove the two bolts.



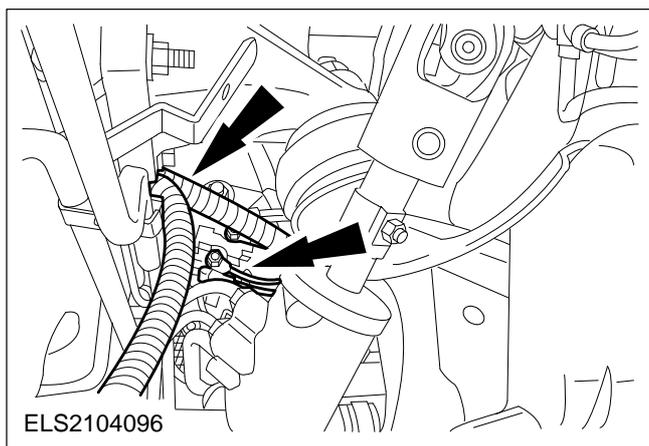
38. Detach the torque converter from the drive plate (four bolts).

Remove the rubber cover.

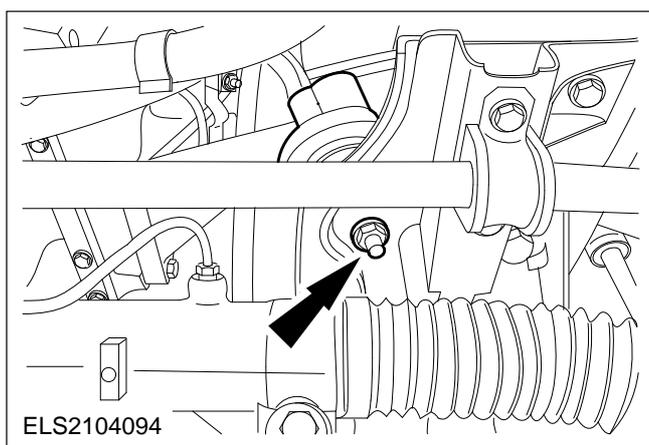
39. Unscrew the adaptor plate bolt.



40. Detach the oil pipe bracket from the engine mounting bracket.

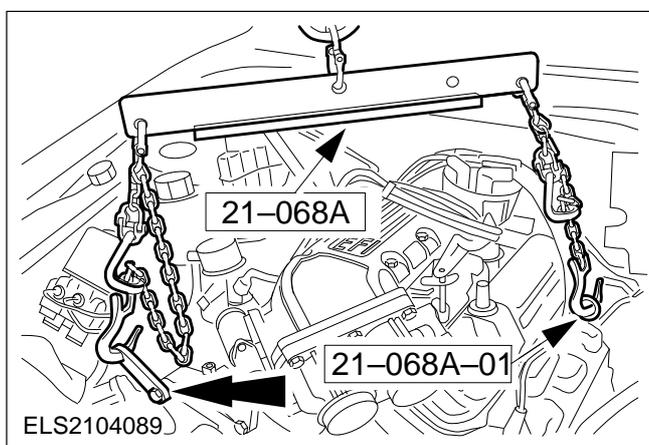


41. Disconnect the alternator and unclip the wiring loom.



42. Detach the two lower engine mountings (one bolt on either side).

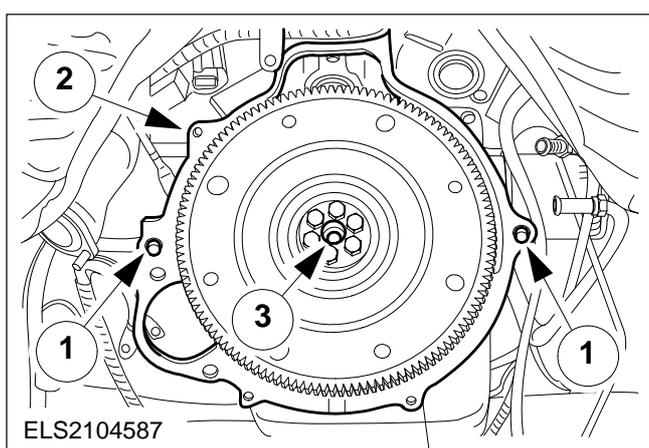
43. Lower the vehicle and support the transmission with a trolley jack.



44. Lift the engine out of the vehicle.

NOTE: The front engine lifting eye is a proprietary tool.

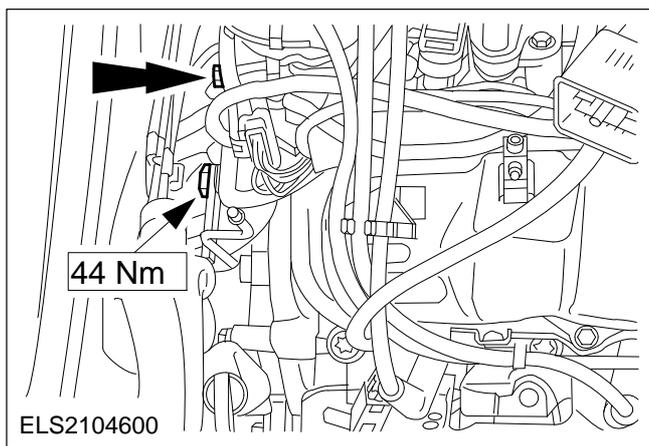
- Fit the engine lifting bracket.
- Separate the engine from the transmission and lift it out of the vehicle.



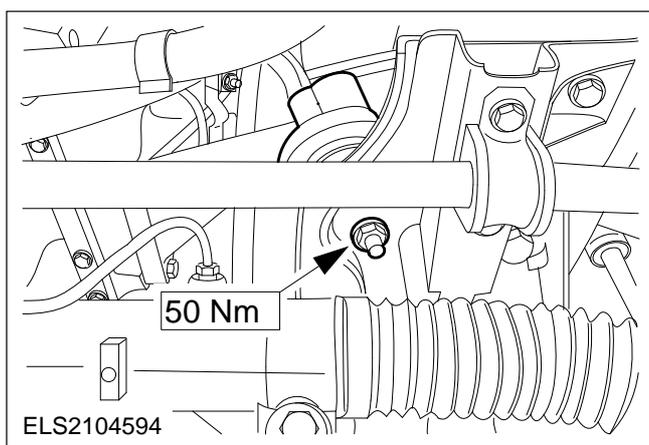
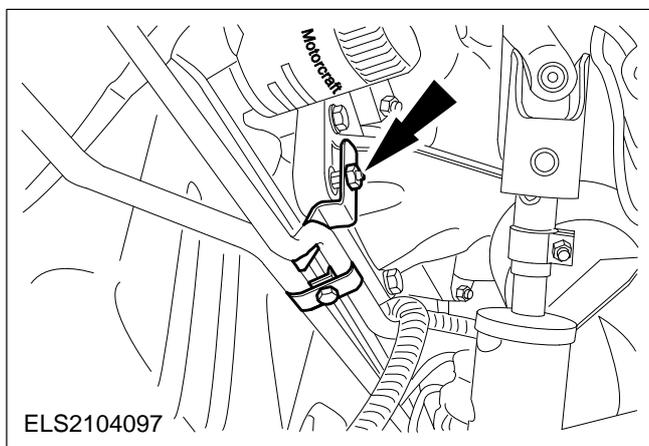
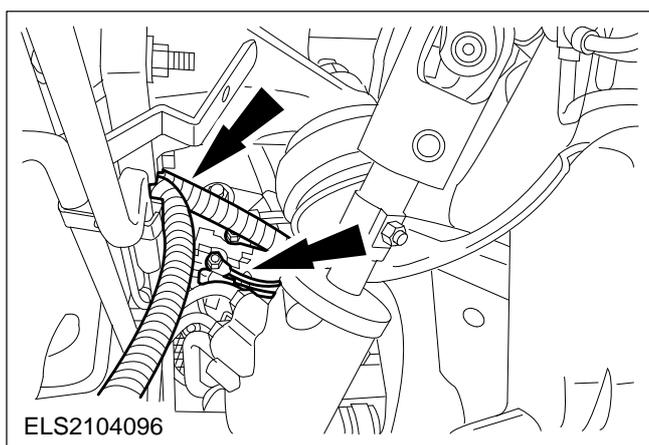
Install

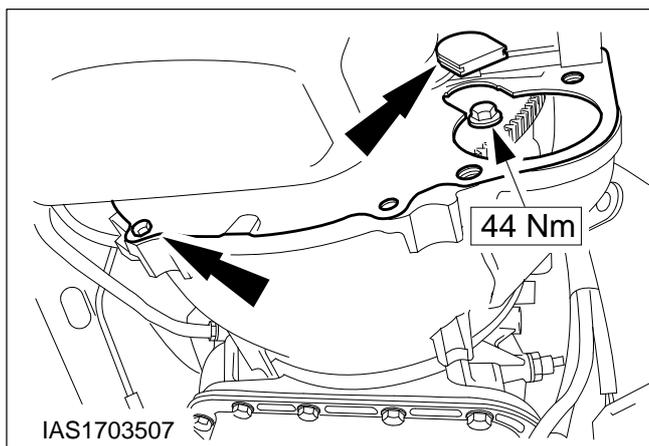
45. Install the engine.

- 1 If necessary move the guide bushes from the transmission to the engine flange.
- 2 Align the adaptor plate.
- 3 Apply a thin coating of high temperature grease (ESDM-1C220-A) to the torque converter guide bore.

**46. Install the engine (continued).**

- Insert the engine in the vehicle, attach it to the transmission and secure it with two flange bolts.
- Guide the engine mounting into the engine support bar bores.

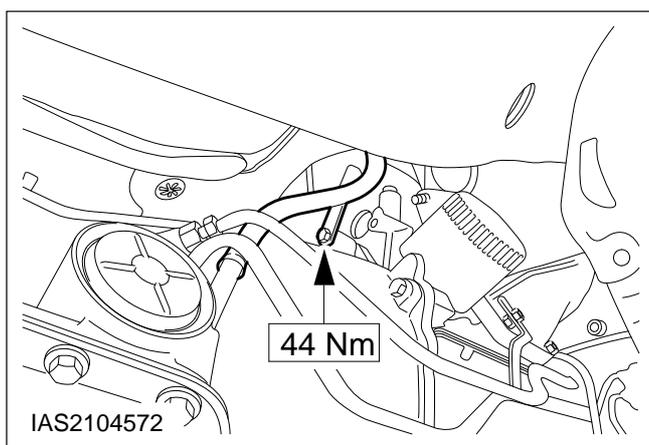
**47. Raise the vehicle.****48. Tighten the two lower engine mountings (one nut on each side).****49. Fit the oil pipe bracket onto the engine mounting bracket.****50. Connect the alternator and clip the wiring loom in place.**



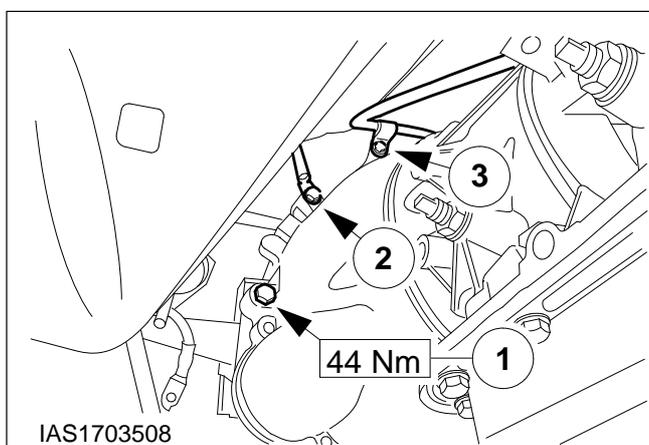
51. Bolt the torque converter onto the drive plate (four bolts).

Fit the rubber cover.

52. Fit the adaptor plate (one bolt).



53. Fit the dipstick tube bracket.

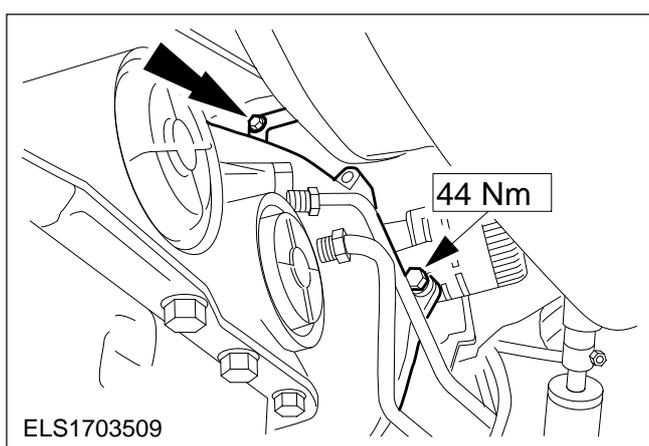


54. Tighten the transmission flange bolts on the right-hand side.

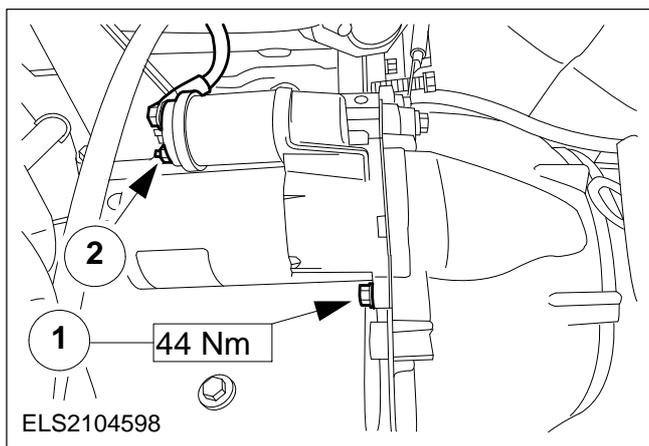
1 Bolt.

2 Bolt with ground lead.

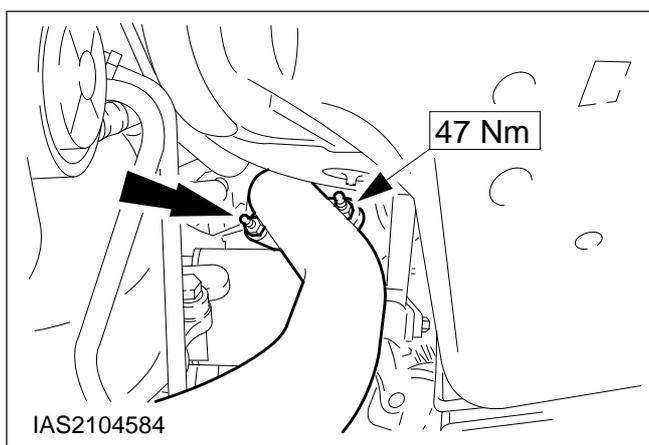
3 Bolt with wiring clamp.



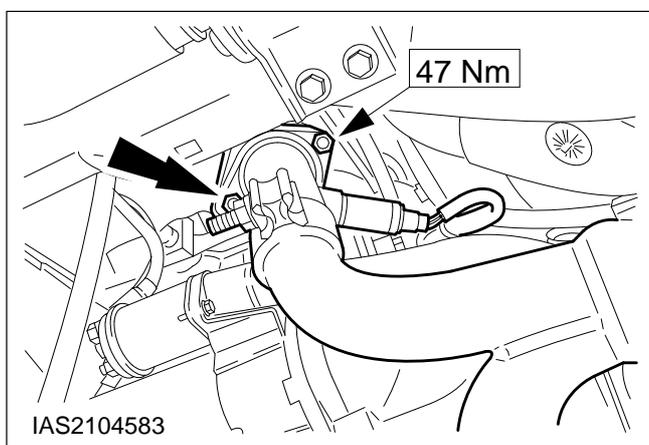
55. Tighten the transmission flange bolts on the left-hand side.

**56. Fit the starter motor and connect the wiring.**

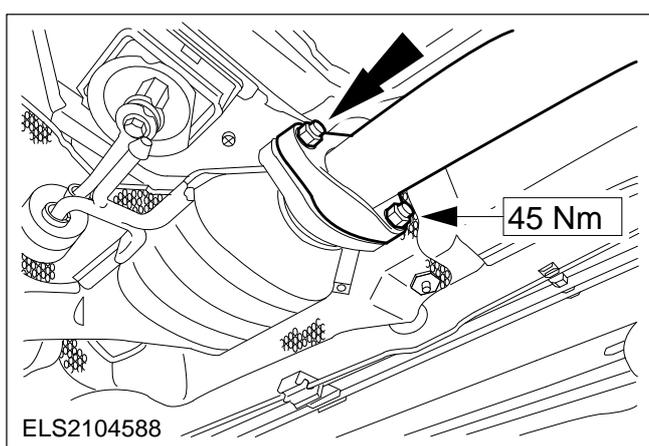
- 1 Secure it with two bolts.
- 2 Connect the starter motor wiring.

**57. Connect the front right-hand exhaust pipe.**

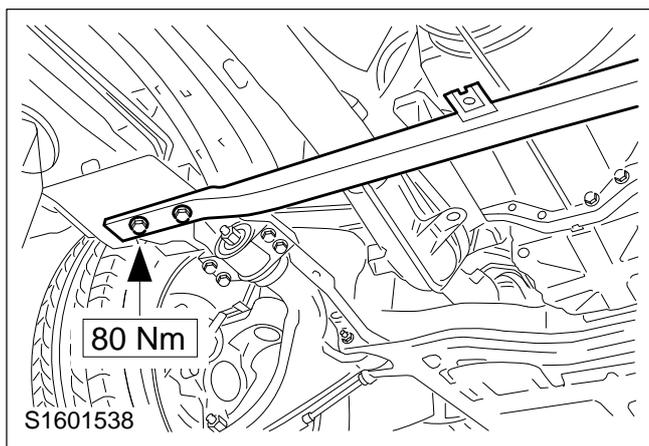
Raise the cable connection for the heated oxygen sensor (HO2S).

**58. Connect the front left-hand exhaust pipe.**

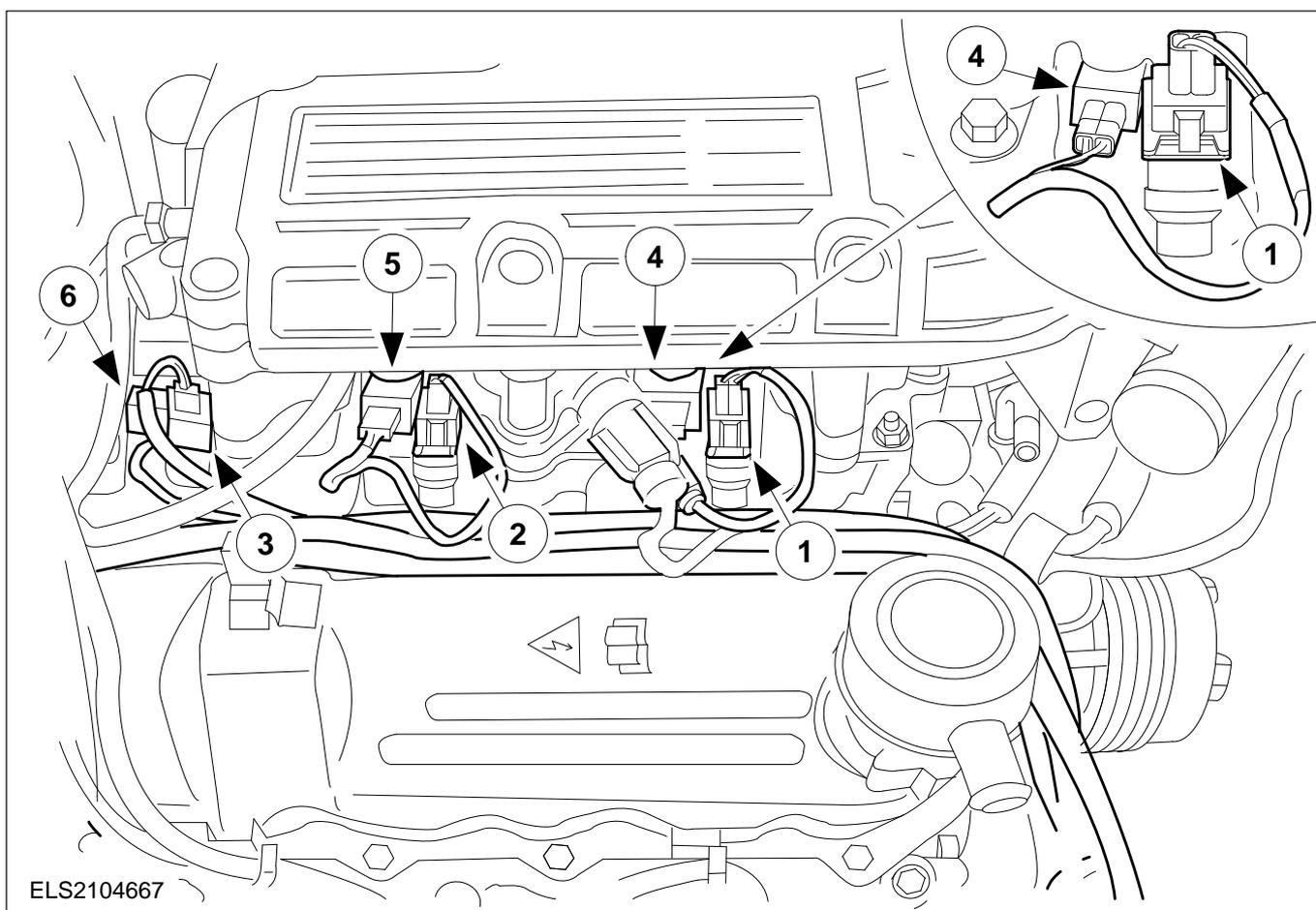
Raise the cable connection for the heated oxygen sensor (HO2S).

**59. Connect the front exhaust pipe (continued).**

Attach the exhaust pipe to the front catalytic converter.



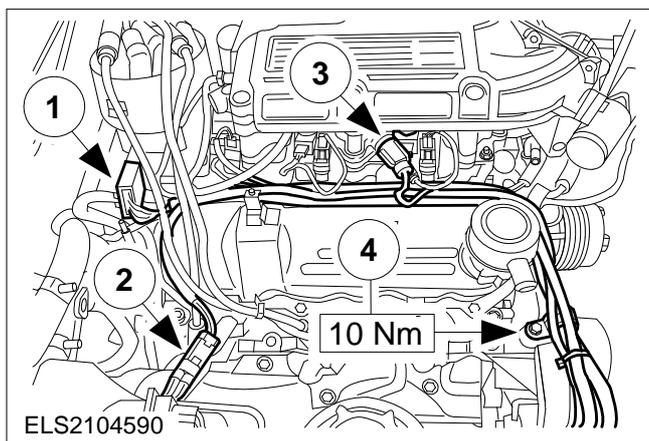
60. Attach the front axle transverse brace to the side member.



61. Lower the vehicle.

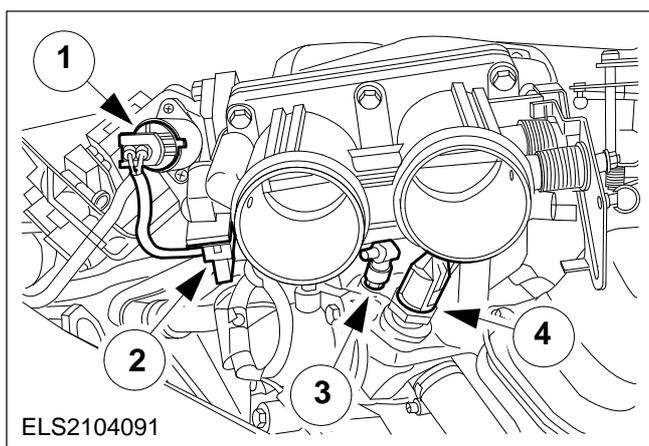
62. Connect the engine wiring loom.

- Connect the plugs following the cylinder sequence.



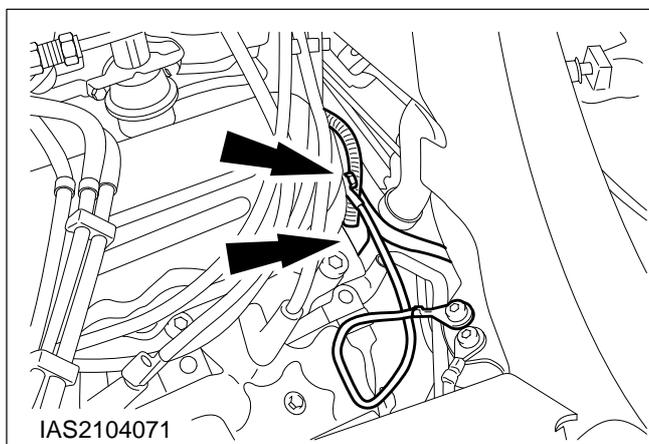
63. Connect the engine wiring loom (continued).

- Join the following plugs on the right-hand side.
- 1 Distributor plug
 - 2 Join the right-hand side heated oxygen (HO2S) sensor plug.
 - 3 Intake air temperature sensor (IAT-Sensor).
 - 4 Fit the wiring loom clamp.



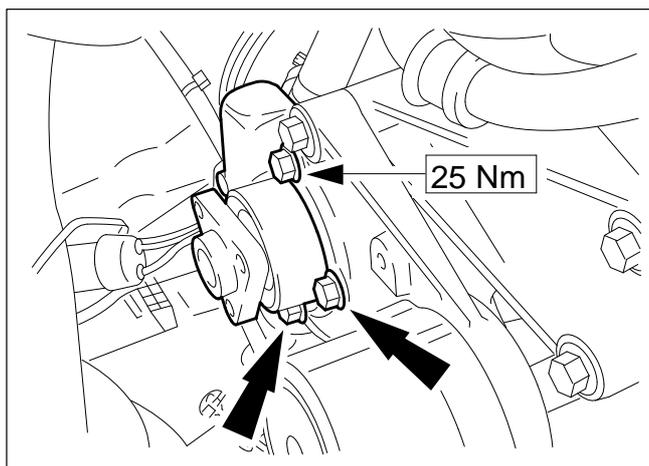
64. Connect the engine wiring loom (continued).

- Join the following plugs on the left-hand side:
- 1 ISC valve plug
 - 2 TP sensor plug.
 - 3 Plug to the coolant temperature sender unit
 - 4 Engine coolant temperature (ECT) sensor plug.

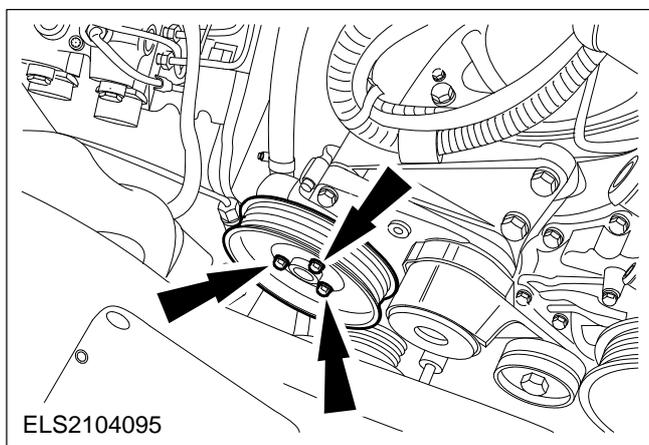
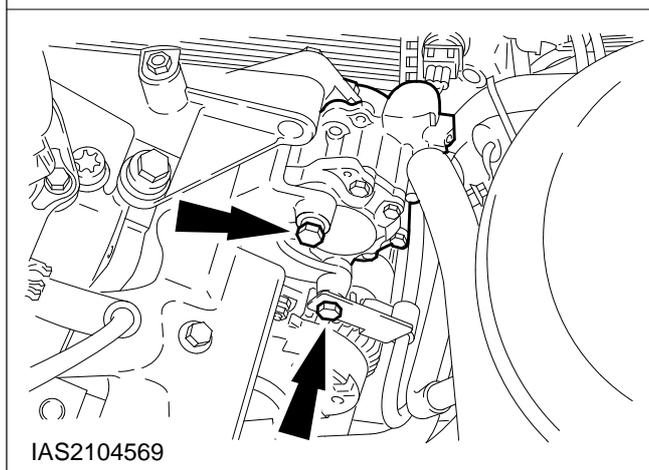


65. Connect the left-hand heated oxygen sensor (HO2S) plug.

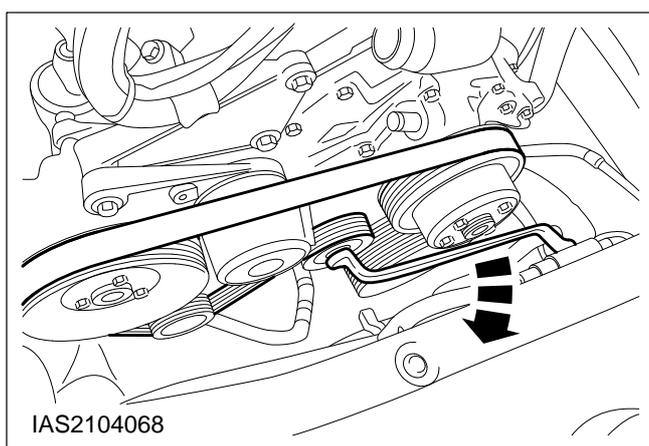
66. Connect the ground lead at the rear of the cylinder head.



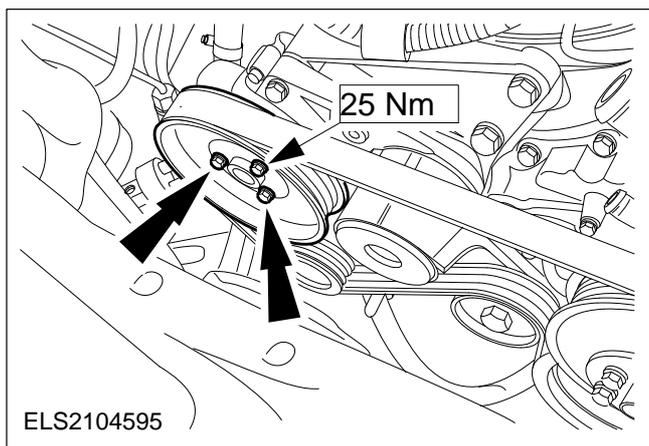
67. Fit the power steering pump.



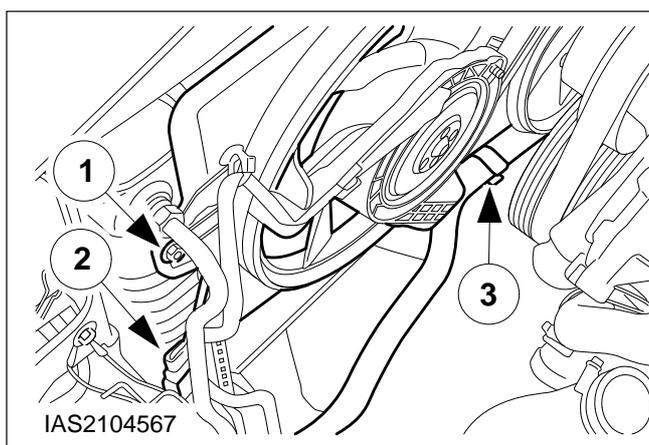
68. Loosely screw on the power steering pump pulley.



69. Slacken the belt tensioner and fit the drive belt.

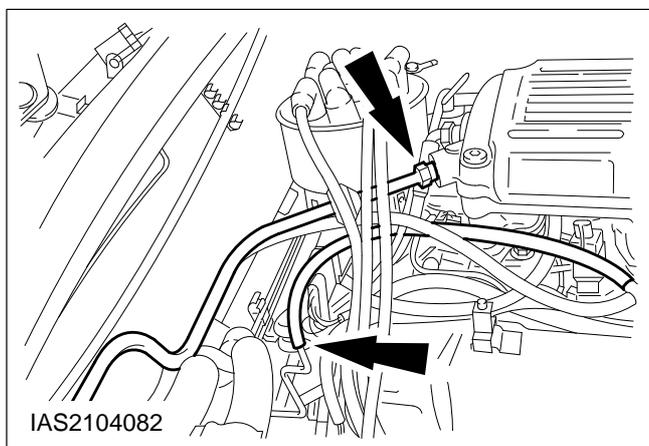


70. Tighten the power steering pump pulley.



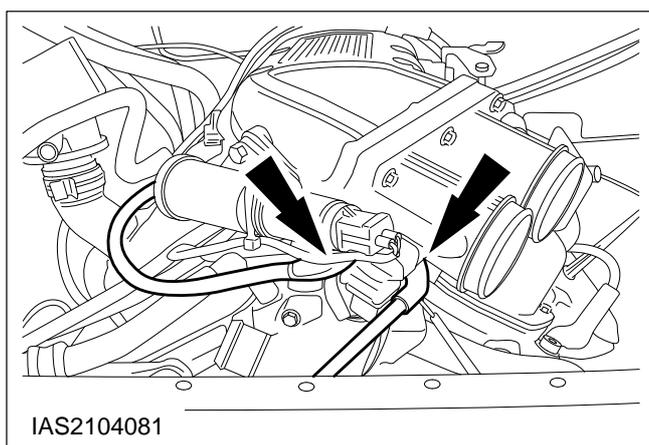
71. Fit the fan motors complete with the retaining plate.

- 1 Screw on one nut on each side.
- 2 Connect the plug on both sides and clip the lead in place.
- 3 Clip the lower coolant hose in place.

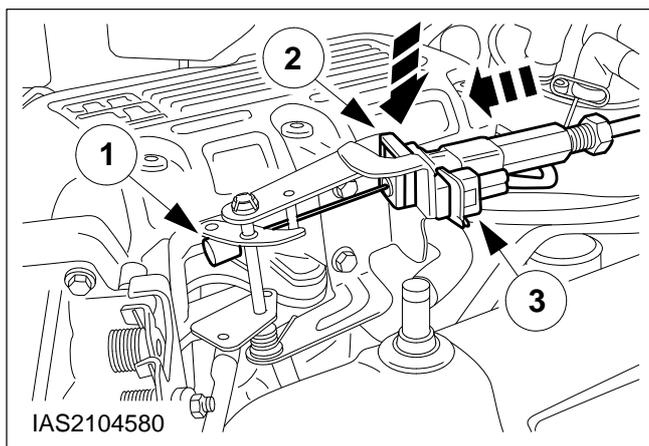


72. Connect the vacuum hose to the throttle valve diaphragm pipe.

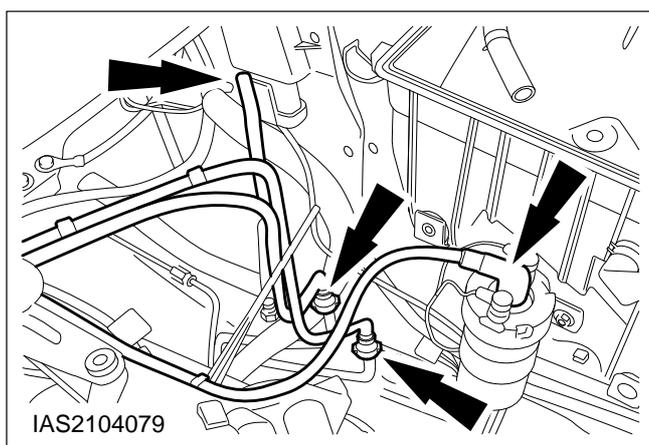
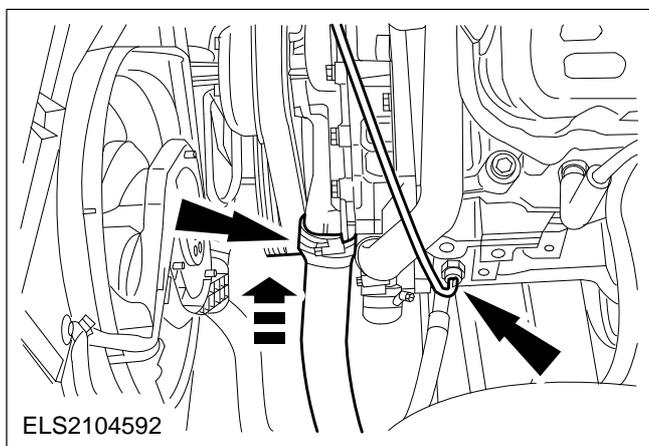
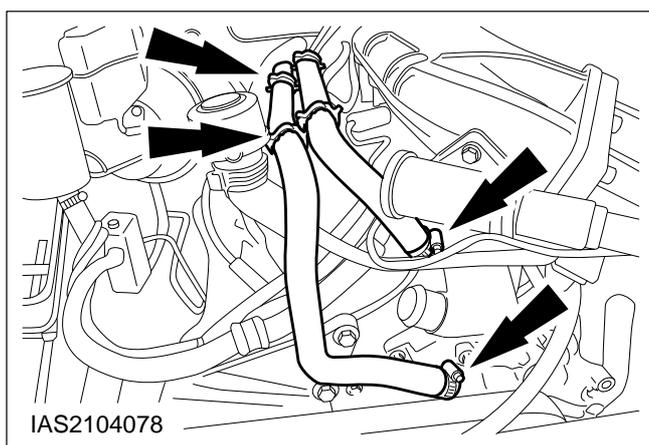
73. Fit the brake servo vacuum tube to the air plenum chamber.



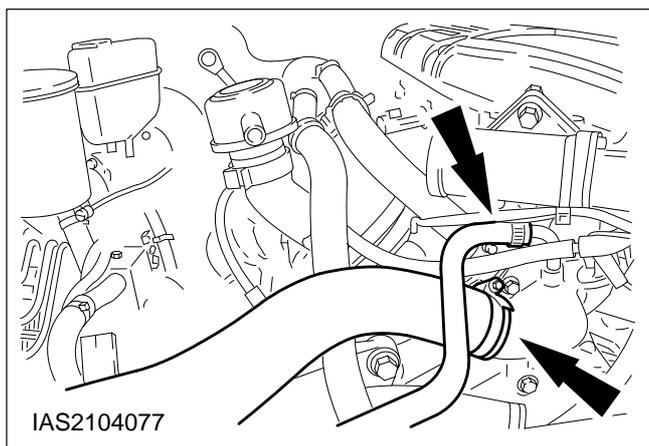
74. Fit both vacuum tubes on the throttle housing.

**75. Attach the throttle cable.**

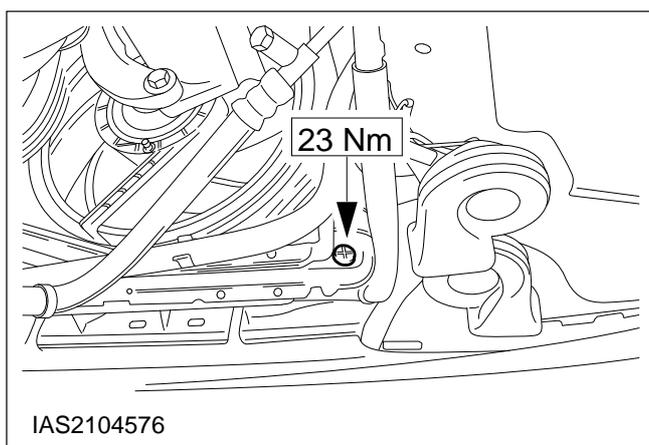
- 1 Hook the cable in place.
- 2 Secure the cable with a clip.
- 3 Push on the kickdown switch plug.

**76. Connect the two fuel pipe quick-release couplings.****77. Connect the vacuum hose.****78. Push HT lead number 4 onto the ignition coil.****79. Connect the lower coolant hose to the coolant pump.****80. Connect the plug of the oil pressure switch.****81. Fit the coolant hose for the heating on the thermostat housing and the coolant hose onto the coolant pump.**

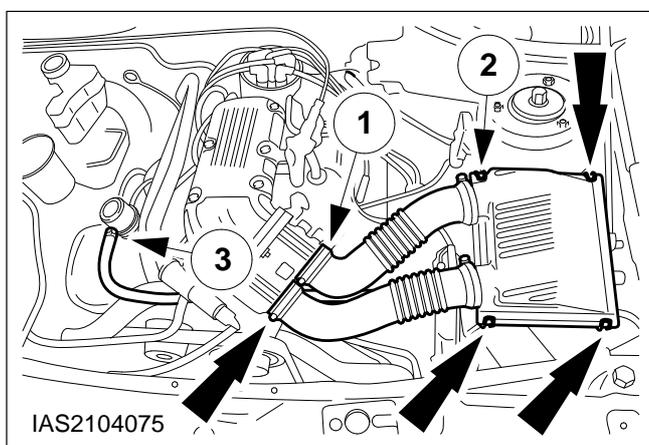
Clip the two hoses in place.



82. Connect the expansion tank connecting hose and the upper coolant hose to the thermostat housing.

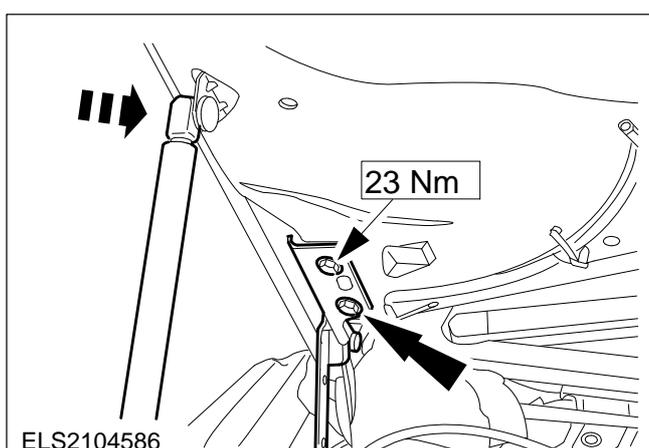


83. Tighten the drain plug and fill up with coolant.



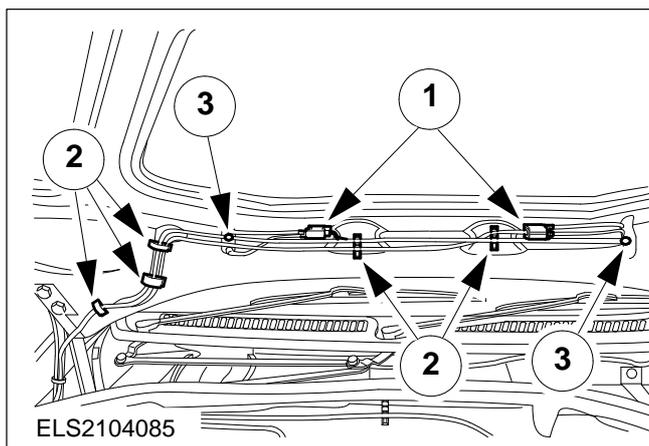
84. Attach the upper part of the air cleaner housing.

- 1 Fit the intake pipes onto the throttle housing (two clamps).
- 2 Clip the upper part of the air cleaner housing in place (four clips).
- 3 Connect the crankcase breather hose.

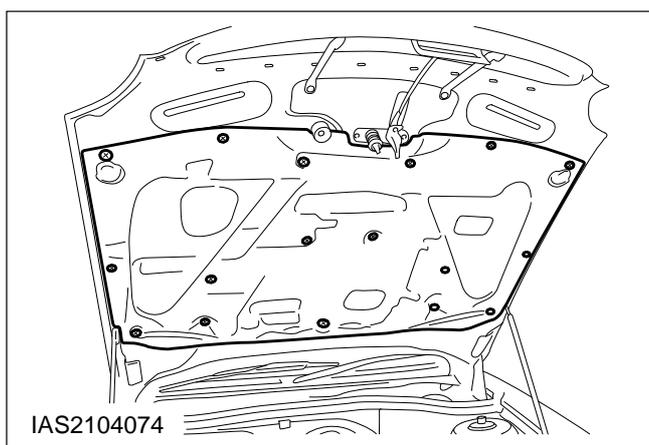


85. Fit the hood.

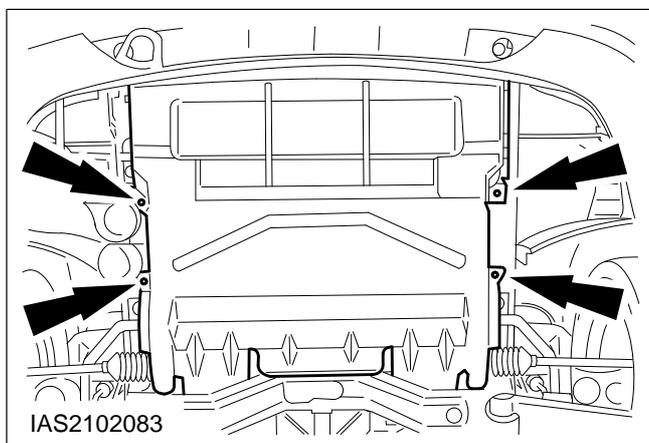
- Position the hood ready for installation.
- Fit the hood hinges on both sides.
- Hook the hydraulic struts in place on both sides.

**86. Fit the hood (continued).**

- 1 Connect the two plugs of the heated nozzles.
- 2 Clip the wiring loom in place.
- 3 Connect the two hose couplings for the washer system.

**87. Fit the hood (continued).**

Fit the hood insulation panel (17 clips).

**88. Finishing operations:**

- Top up the coolant.
- Check the engine oil level and top up as necessary.
- Check the fluid levels and rectify as necessary.
- Connect the battery negative lead.
- Attach the battery cover (one nut).
- Enter the radio keycode.
- Reprogramme the preset radio stations.
- Reset the clock.
- Check the routing of the vacuum hoses and the wiring and secure them using cable ties as required.
- Carry out a road test to enable the PCM module to collect data.
- Check the engine and cooling system for leaks (visual check).
- Attach the engine undershield.