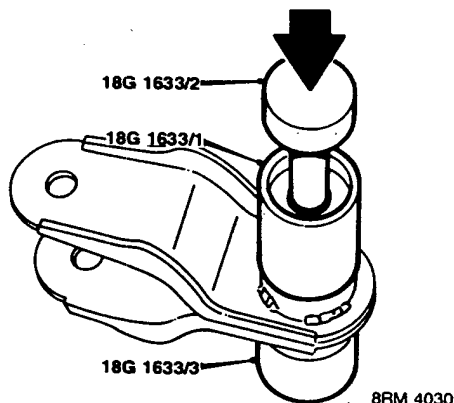


Engine



5. Position tool **18G 1633/3** on bed of press.

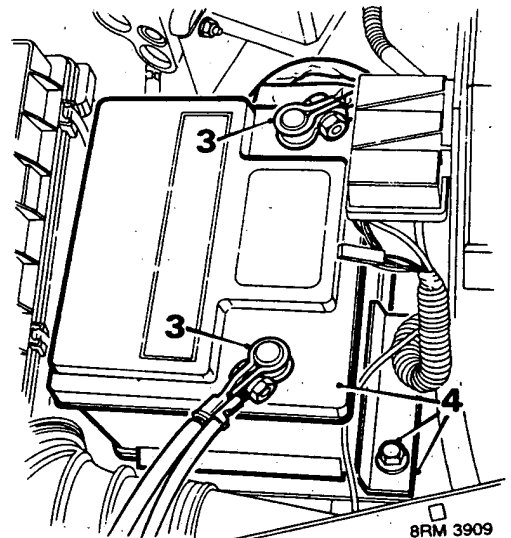
CAUTION: Ensure chamfer on tool faces towards tie rod bush.

6. Position tie rod, new bush and tool **18G 1633/2** to tool **18G 1633/3**.
7. Press bush into tie rod using tool **18G 1633/2**.
8. Position tie rod to support housing and mounting bracket, fit but do not tighten tie rod to support housing and tie rod to mounting bracket bolts.
9. Tighten tie rod to support housing bolt to 100 Nm and tie rod to mounting bracket bolt to 45 Nm.
10. Remove trolley jack from beneath sump.
11. Remove stand(s) and lower vehicle.

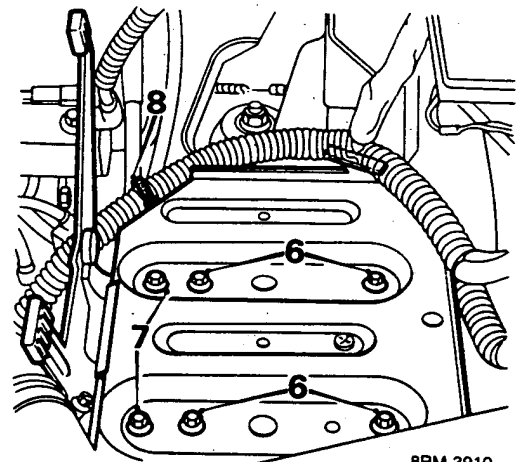
ENGINE AND MANUAL GEARBOX ASSEMBLY

Remove

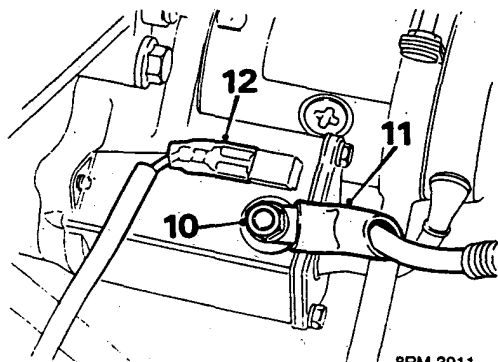
1. Remove bonnet, see **BODY - REPAIR MANUAL - Repairs**.
2. Drain cooling system, see **MAINTENANCE**.



3. Disconnect both battery leads.
4. Remove bolt and battery clamp; lift out battery.
5. Remove air cleaner and air box, see **FUEL SYSTEM - Repairs**.

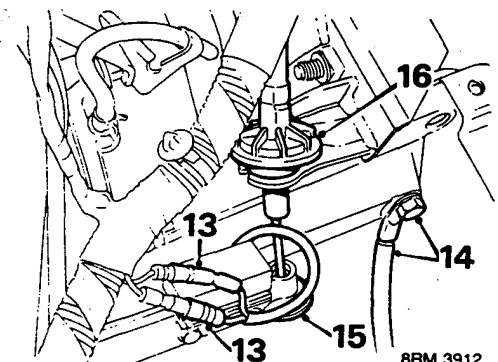


6. Remove 4 screws securing battery tray.
7. *Non - Turbo Models:* Remove 2 screws securing resonator bracket to battery tray.
8. Release harness clip from battery tray; remove tray.
9. *Non - Turbo Models:* Move resonator aside.



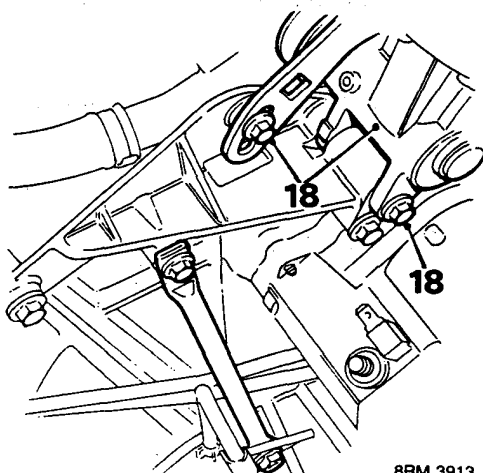
8RM 3911

10. Remove starter solenoid terminal nut.
11. Disconnect lead from terminal.
12. Disconnect starter solenoid Lucar.



8RM 3912

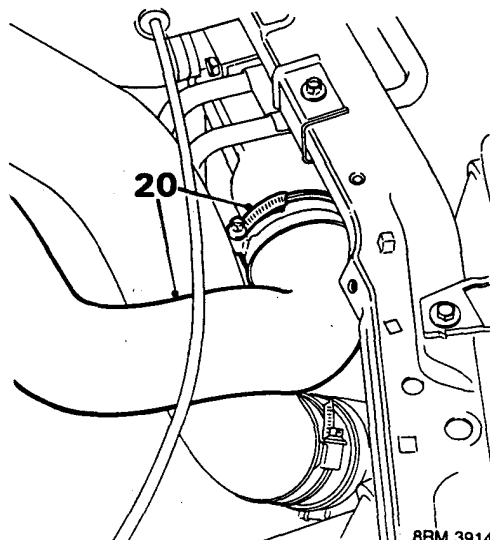
13. Disconnect 2 leads from reverse lamp switch.
14. Remove bolt securing earth lead to gearbox; move lead aside.
15. Release clutch cable from release lever.
16. Release clutch cable from abutment bracket; move cable aside.
17. Remove brake servo vacuum pump drive belt, see **MAINTENANCE**.



8RM 3913

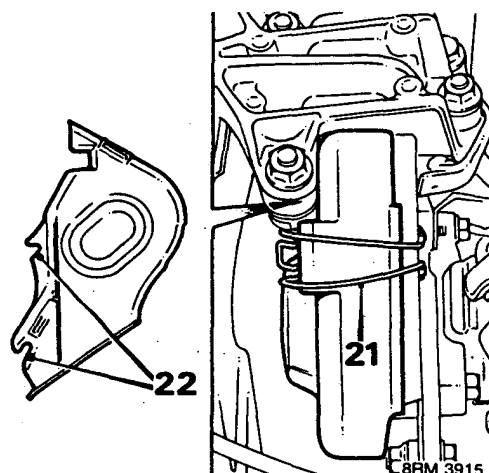
18. Remove 2 bolts securing brake servo vacuum pump to mounting bracket; move pump aside.
19. Remove both front road wheels.

WARNING: Support on safety stands.



8RM 3914

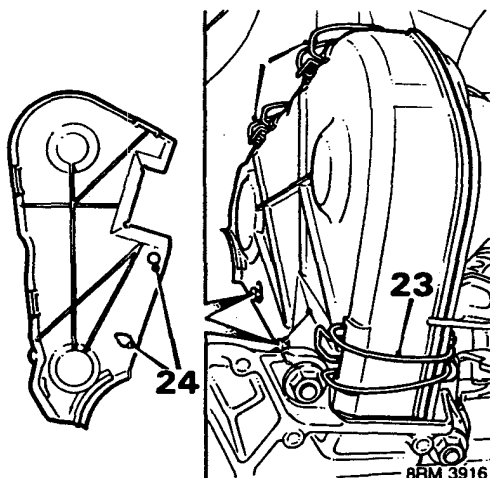
20. *Turbo Models:* Slacken clips, disconnect air box hose from intercooler.



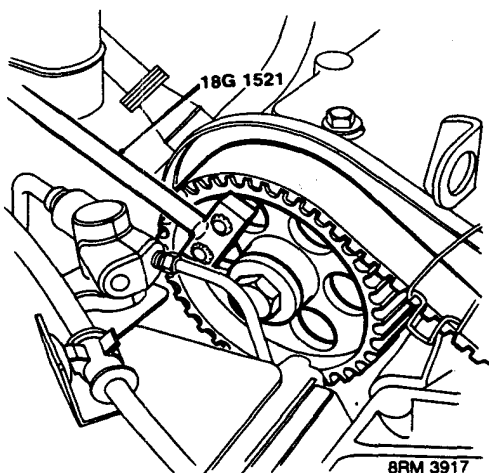
8RM 3915

21. Release clip securing front portion of timing belt top cover to backplate.
22. Release front portion of timing belt top cover from locating pegs.

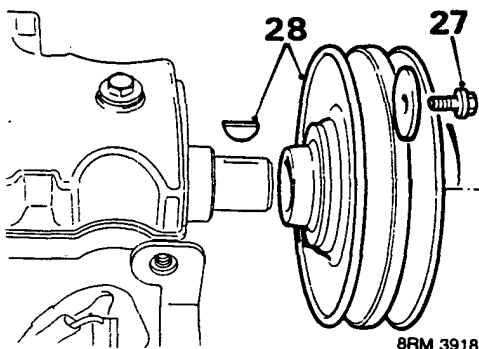
Engine



23. Release clips securing rear portion of timing belt top cover to backplate.
24. Release rear portion of timing belt top cover from locating pegs and bottom cover.
25. Remove power steering pump drive belt, see **MAINTENANCE**.

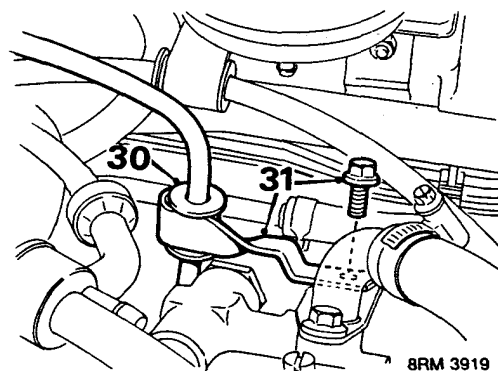


26. Position tool 18G 1521 to camshaft gear.



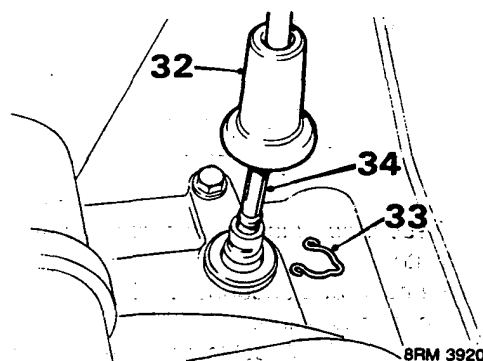
27. Restrain camshaft gear using tool 18G 1521 remove bolt securing brake servo vacuum pump and power steering belt pulley to camshaft.
28. Remove pulley; recover Woodruff key.
29. Remove tool 18G 1521.

Power Steering Models



30. Release speedometer cable from bracket on power steering pump.
31. Remove screw securing speedometer cable support bracket to power steering pump; remove bracket.

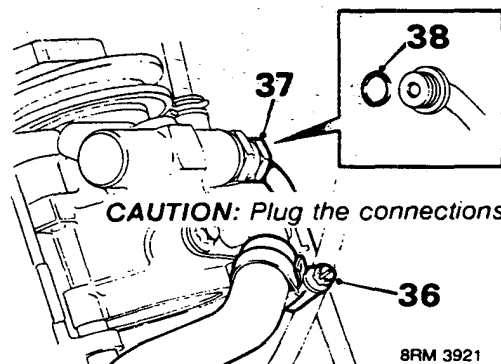
All Models



32. Release speedometer cable cover from gearbox.
33. Remove clip securing speedometer cable at gearbox.
34. Release cable from gearbox; move cable aside.

Power Steering Models

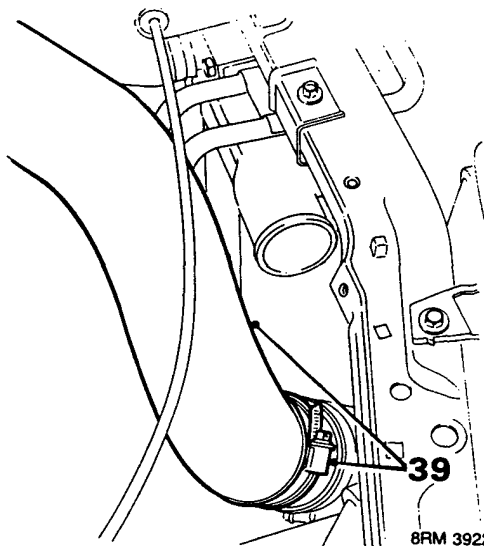
35. Position container beneath power steering pump.



36. Slacken clip; disconnect feed hose from power steering pump.
37. Disconnect union connecting high pressure pipe to power steering pump.

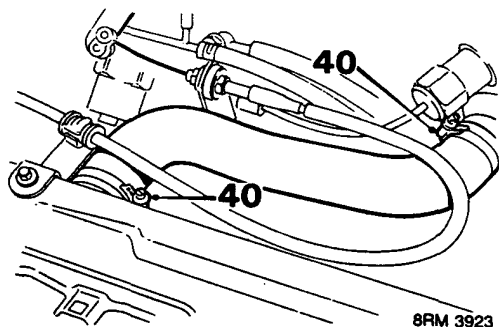


38. Discard 'O' ring.

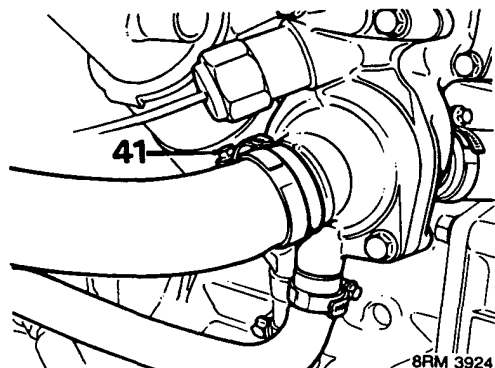


39. Turbo Models: Slacken clip, disconnect air box hose from intercooler adaptor; remove hose.

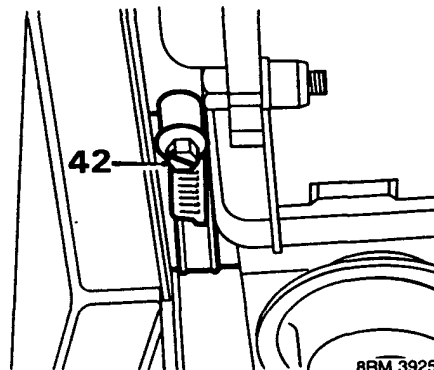
CAUTION: Plug the connections.



40. All Models: Slacken 2 clips; disconnect top hose from thermostat housing and radiator.

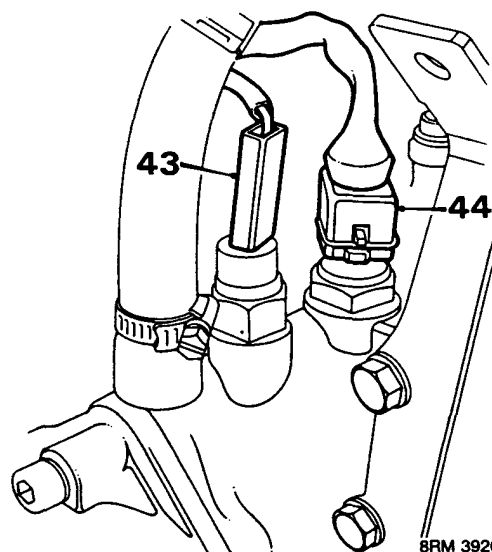


41. Turbo Models: Slacken clip; disconnect radiator bottom hose from thermostat housing.



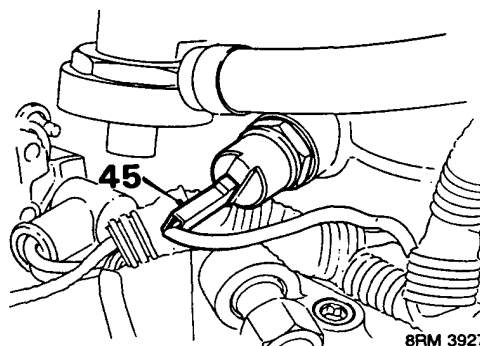
42. Non - Turbo Models: Slacken clip; disconnect bottom hose from radiator.

All Models



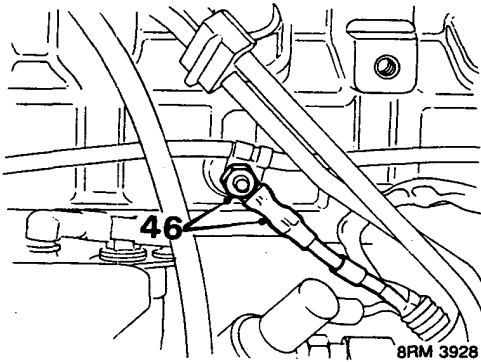
43. Disconnect Lucar from high temperature warning lamp switch.

44. Disconnect multiplug from coolant temperature gauge sensor.

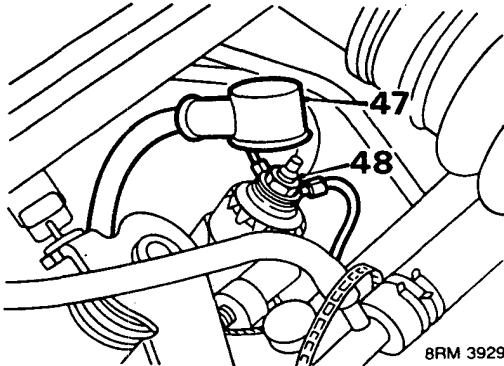


45. Disconnect Lucar from oil pressure switch.

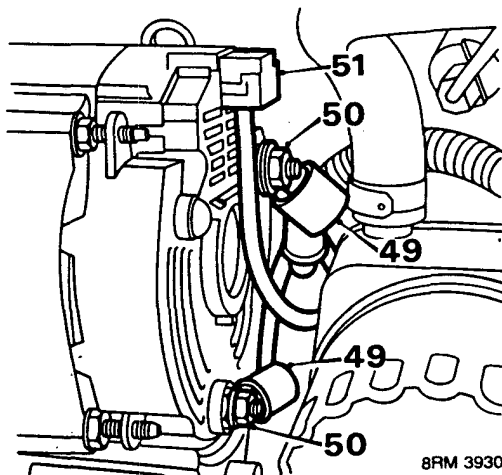
Engine



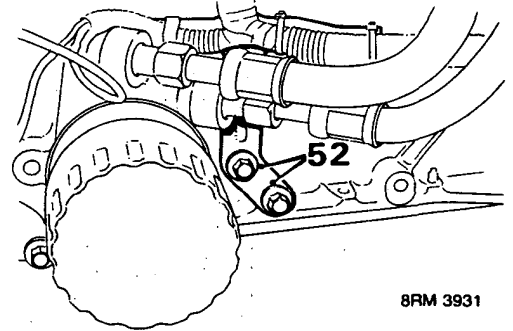
46. Remove nut securing feed lead to No. 3 glow plug terminal; disconnect lead.



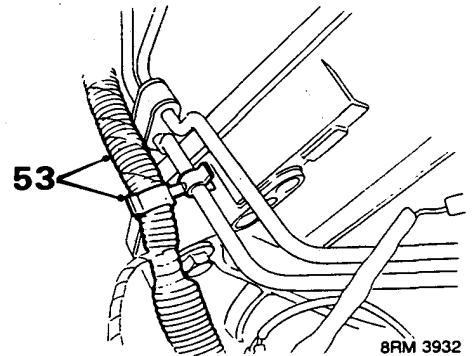
47. Release cover from fuel cut - off solenoid nut.
48. Remove nut from fuel cut - off solenoid terminal; disconnect 2 leads.



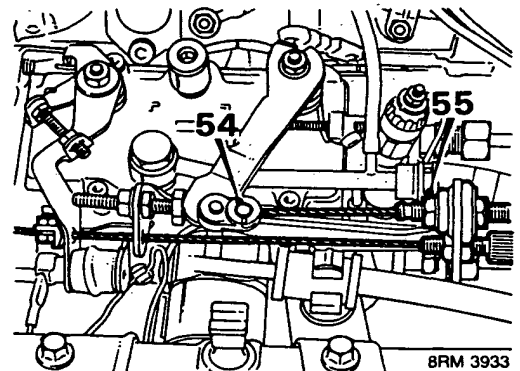
49. Release 2 covers from alternator terminal nuts.
50. Remove 2 nuts securing alternator harness terminals; disconnect terminals.
51. Release alternator multiplug.



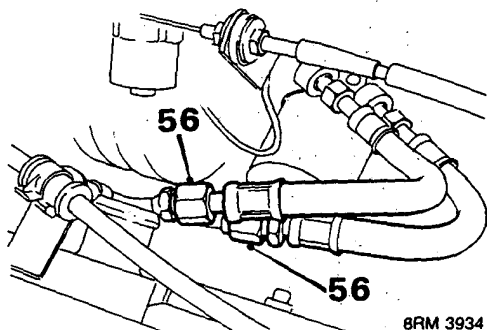
52. Remove 2 bolts securing harness bracket cylinder block.



53. Release harness from clip on fuel pipe; move harness aside.

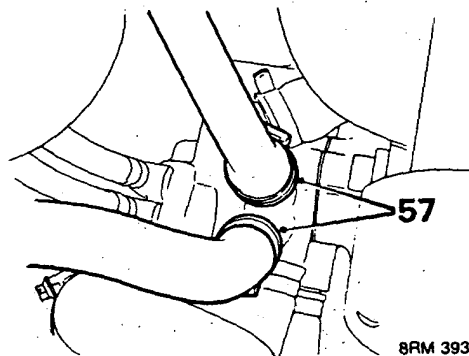


54. Release throttle inner cable from fuel injection pump throttle lever.
55. Slacken locknut securing throttle outer cable, release grommet and move throttle cable aside.

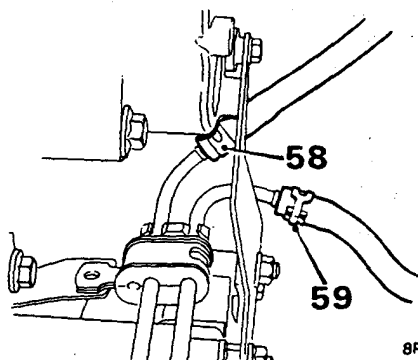


56. Turbo Models: Disconnect 2 unions, release oil feed and return pipes from oil cooler.

CAUTION: Plug the connections.

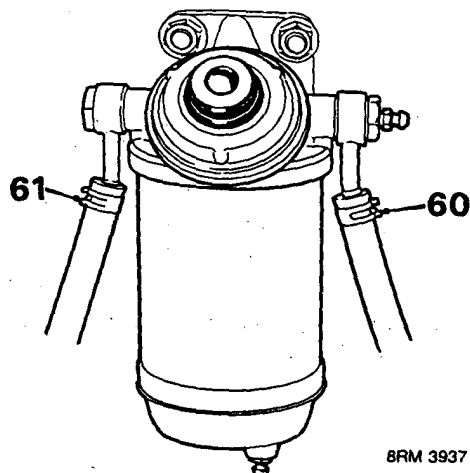


57. Slacken 2 clips, disconnect 2 coolant hoses from fuel heater.



58. Release clip; disconnect fuel feed hose from pipe.

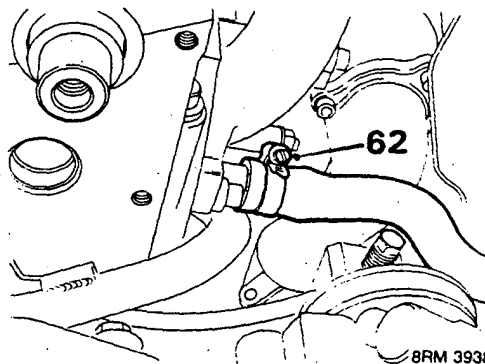
59. Release clip; disconnect fuel spill return hose from pipe.



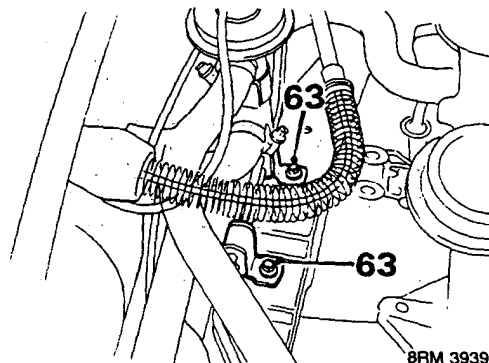
60. Release clip; disconnect fuel inlet hose from fuel filter.

61. Release clip; disconnect fuel outlet hose from fuel filter.

CAUTION: Plug the connections.

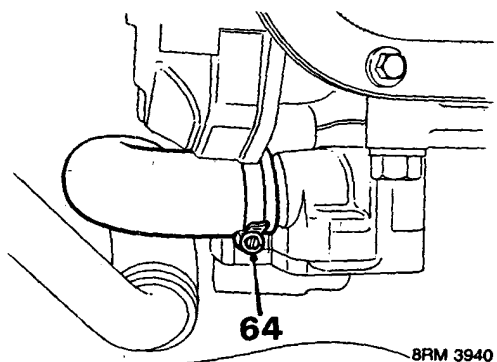


62. Slacken clip; disconnect heater hose from cylinder head.

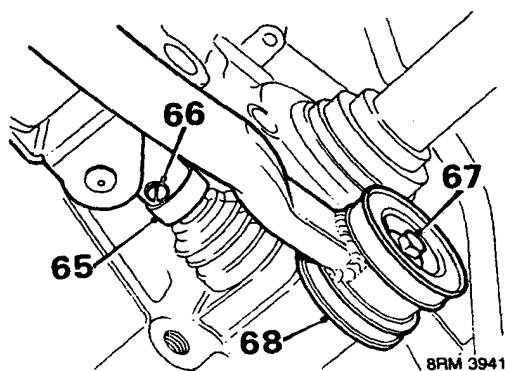


63. Remove 2 screws securing fuel pipe brackets to sub - frame; remove 2 brackets.

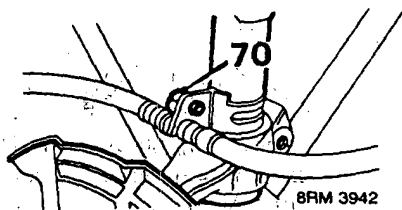
Engine



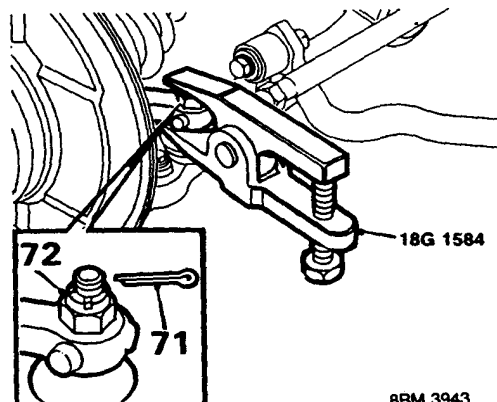
64. Slacken clip; disconnect coolant hose from beneath fuel heater.



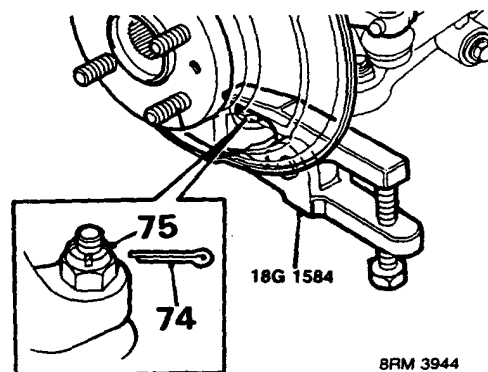
65. Remove clip retaining gear selector rod roll pin.
 66. Using a suitable punch, drive out selector rod roll pin.
 67. Remove bolt securing gear change steady rod to gearbox; release selector rod and steady rod.
 68. Recover washer from gearbox spigot.
 69. **ABS Models:** Remove starter motor, see **ELECTRICAL - Repairs**.



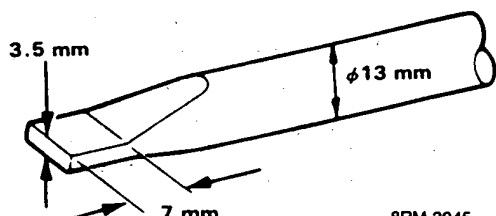
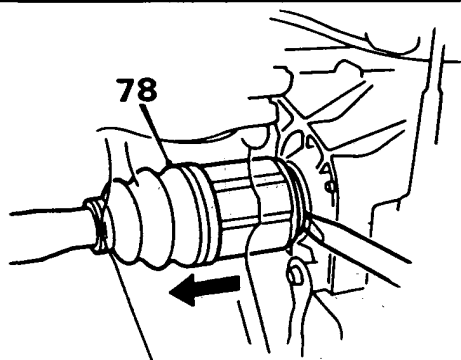
70. Remove bolt securing brake hose bracket to L.H. suspension strut.



71. Remove split pin from L.H. steering arm ball joint nut; discard split pin.
 72. Remove ball joint nut.
 73. Release L.H. track rod from steering arm using tool 18G 1584.

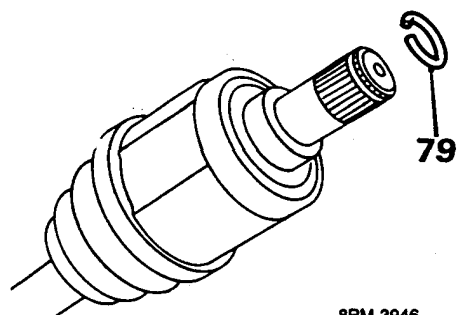


74. Remove split pin from L.H. lower arm ball joint nut; discard split pin.
 75. Slacken but do not remove lower arm ball joint nut.
 76. Release lower arm ball joint from hub using tool 18G 1584; remove ball joint nut as hub is released.
 77. Drain gearbox oil, see **MAINTENANCE**.



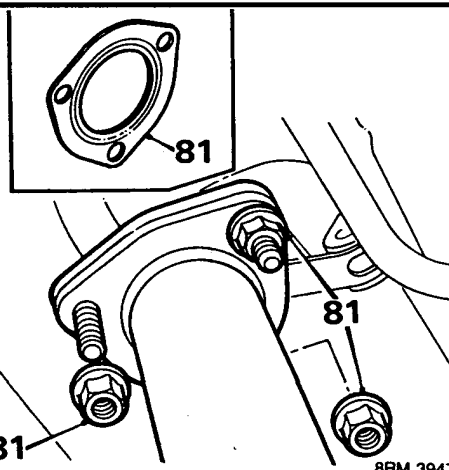
78. Using a screwdriver with dimensions as shown, release drive shaft from differential; move drive shaft aside.

CAUTION: Keep drive shaft horizontal to avoid damaging differential oil seal.

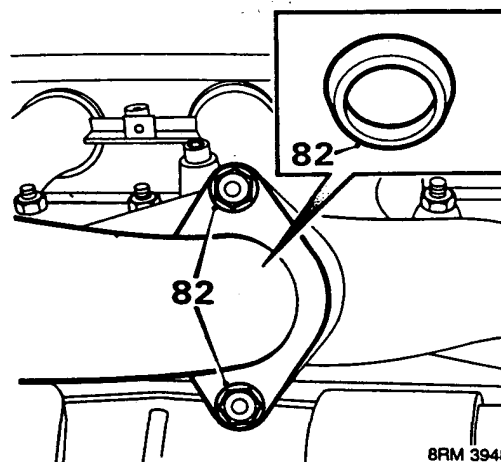


79. Remove circlip from drive shaft; discard circlip.

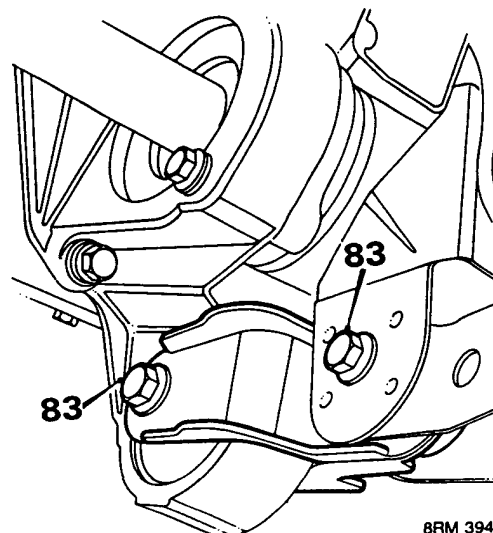
80. Remove R.H. drive and intermediate shafts, see **DRIVE SHAFTS - Repairs**.



81. **Turbo Models:** Remove 3 nuts securing exhaust down pipe to turbocharger elbow; recover flange packing.

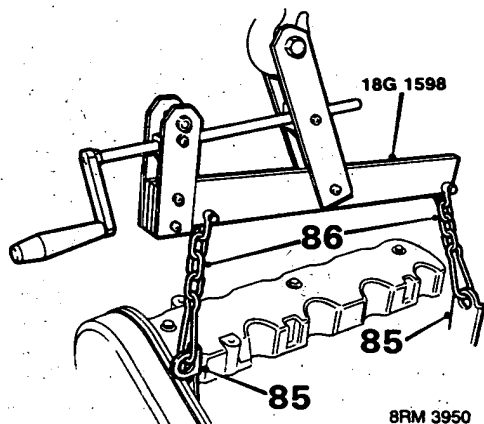


82. **Non - Turbo Models:** Remove 2 nuts securing exhaust down pipe to exhaust manifold; recover flange packing.

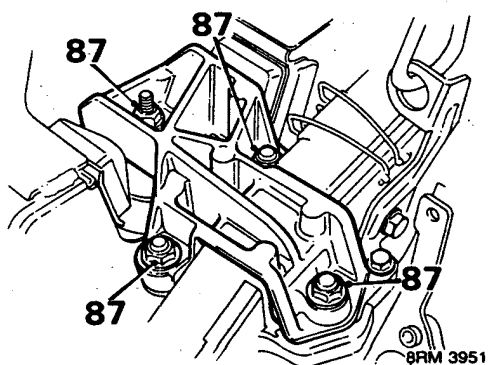


83. Remove 2 bolts securing engine rear mounting tie rod to bracket and engine; remove tie rod.

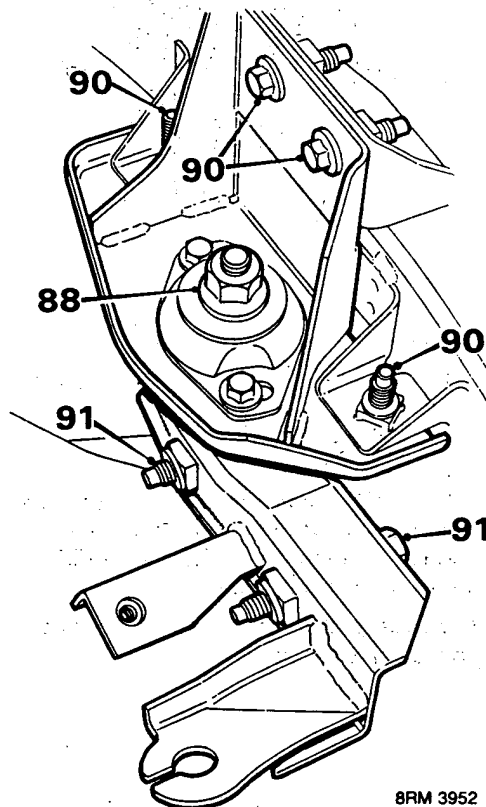
Engine



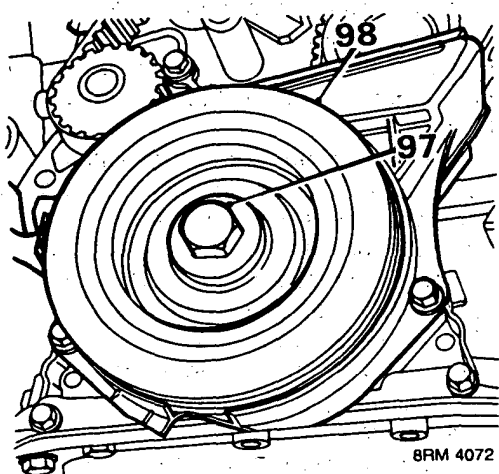
84. Fit tool 18G 1598 to suitable lifting chains.
85. Connect hooks to engine lifting brackets.
86. Raise lifting chains to just support weight of engine.



87. Remove 4 nuts securing engine R.H. mounting bracket to engine and mounting rubber; remove bracket.



88. Remove centre nut from engine L.H. mounting.
89. Lower lifting chains 30 cms.
90. Remove 4 bolts securing engine L.H. mounting bracket to body; remove bracket.
91. Remove 2 bolts securing engine L.H. mounting bracket to gearbox; remove bracket.
92. Raise lifting chains 30 cms and using assistance, tilt engine and gearbox assembly rearwards.
93. Using assistance, raise engine and lift it clear of engine compartment.
94. Remove alternator drive belt, see **MAINTENANCE**.
95. *Non ABS Models:* Remove starter motor, see **ELECTRICAL - Repairs**.
96. Remove clutch, see **CLUTCH - Repairs**.



97. Remove crankshaft pulley bolt.
98. Remove crankshaft pulley; recover Woodruff key.
99. Remove and discard 7 bolts securing flywheel to crankshaft.
100. Remove tool **18G 1547**.
101. Release flywheel from locating dowel; remove flywheel.
102. Remove fuel injectors, fuel injection pump and glow plugs, see **FUEL SYSTEM - Repairs**.

Refit

1. Thoroughly clean crankshaft pulley, fuel injection pump, injectors and clutch components.
2. Remove all traces of Loctite from crankshaft pulley bolt.
3. Position tool **18G 1547** to gearbox adaptor plate; secure tool using M12 bolt.

CAUTION: Ensure locking portion of tool is fully engaged with starter ring gear as tool securing bolt is tightened.

4. Fit Woodruff key to crankshaft, fit crankshaft pulley.
5. Coat threads of crankshaft pulley bolt with Loctite 601; fit bolt and tighten to 40 Nm then a further 60°.
6. Remove tool **18G 1547**.
7. Fit clutch, see **CLUTCH - Repairs**.
8. Fit fuel injection pump, fuel injectors and glow plugs, see **FUEL SYSTEM - Repairs**.

Note: Do not tighten injector pipe unions until fuel pump timing has been set.

9. Fit and tension alternator drive belt, see **MAINTENANCE**.
10. Fit tool **18G 1598** to suitable lifting chains; connect hooks to engine lifting brackets.
11. Using assistance, lower engine and gearbox into engine compartment until engine is 30 cm below its fitted position.

12. Position engine L.H. mounting bracket to gearbox.
13. Fit bolts and tighten to 45 Nm.
14. Position engine L.H. mounting bracket to body.
15. Fit bolts and tighten to 45 Nm.
16. Using assistance, level engine and gearbox, raise engine 30 cm and position engine to L.H. mounting stud.
17. Fit centre nut to engine L.H. mounting stud and tighten to 72 Nm.
18. Slacken but do not remove screws securing engine L.H. mounting rubber to align mountings.
19. Fit engine R.H. mounting bracket to engine and mounting rubber; fit nuts and tighten to 50 Nm.
20. Tighten screws securing engine L.H. mounting rubber.
21. Lower lifting chains, release hooks from lifting brackets and remove tool **18G 1598**.
22. Fit engine rear mounting tie rod to bracket and engine; fit bolts and tighten tie rod to bracket bolt to 45 Nm and tie rod to engine bolt to 100 Nm.

Turbo Models

23. Fit exhaust down pipe flange packing, fit down pipe to turbocharger elbow.
24. Fit exhaust down pipe securing nuts and tighten to 30 Nm.

Non - Turbo Models

25. Fit exhaust down pipe flange packing, fit down pipe to exhaust manifold.
26. Fit exhaust down pipe securing nuts and tighten to 30 Nm.

All Models

27. Fit washer to gearbox spigot, fit selector rod and steady rod.
28. Fit selector rod roll pin; secure roll pin with clip.
29. Fit gear change steady rod securing bolt and tighten to 35 Nm.
30. Connect coolant hose beneath fuel heater; fit and tighten clip.
31. Fit R.H. drive and intermediate shafts, see **DRIVE SHAFTS - Repairs**.
32. Thoroughly clean L.H. drive shaft and differential oil seal.
33. Lubricate differential oil seal with gearbox oil, see **INFORMATION - CAPACITIES, FLUIDS AND LUBRICANTS**.
34. Fit new circlip to drive shaft.
35. Engage drive shaft in differential; push drive shaft fully home.

CAUTION: Pull drive shaft away from differential to ensure circlip is fully engaged.

Engine

- 36. Engage lower arm ball joint to hub.
- 37. Fit lower arm ball joint nut and tighten to 83 Nm.
- 38. Secure nut with a new split pin.
- 39. Fit steering arm ball joint.
- 40. Fit steering arm ball joint nut and tighten to 44 Nm.
- 41. Secure nut with a new split pin.
- 42. Position brake hose bracket to suspension strut; fit bolt and tighten to 25 Nm.
- 43. Clean drive end of speedometer inner cable, connect cable to gearbox.
- 44. Fit speedometer cable retaining clip; secure cover.

Power Steering

- 45. Position speedometer cable support bracket to power steering pump; fit and tighten screw.
- 46. Secure speedometer cable to support bracket.

ABS Models

- 47. Fit Woodruff key to camshaft, fit brake servo vacuum pump and power steering belt pulley; fit but do not tighten bolt.
- 48. Position tool 18G 1521 to camshaft gear, restrain gear and tighten belt pulley bolt to 35 Nm.
- 49. Remove tool 18G 1521.
- 50. Position rear portion of timing belt cover to backplate, bottom cover and locating pegs; fasten clips.
- 51. Position front portion of timing belt cover to backplate and locating pegs; fasten clip.
- 52. *Turbo Models:* Connect air box hose to intercooler; tighten clip.
- 53. *Power Steering:* Fit and tension power steering pump drive belt, see **MAINTENANCE**.

All Models

- 54. Position brake servo vacuum pump to mounting bracket; fit but do not tighten bolts.
- 55. Fit and tension brake servo vacuum pump drive belt, see **MAINTENANCE**.
- 56. Position fuel pipes to sub-frame brackets, fit and tighten screws.
- 57. Connect fuel spill return hose; secure clip.
- 58. Connect fuel inlet and outlet hoses to fuel filter; fit and secure clips.
- 59. Connect fuel feed hose to pipe; fit and secure clip.
- 60. Connect heater hose to cylinder head; tighten clip.
- 61. Connect top coolant hose to fuel heater; tighten clip.
- 62. *Turbo Models:* Position oil feed and return pipes to oil cooler; tighten unions.

- 63. Position throttle outer cable to abutment bracket; secure grommet.
- 64. Connect throttle inner cable to fuel injection pump throttle lever, tighten outer cable locknut.
- 65. Connect alternator harness multiplug, connect harness terminals to alternator, fit and tighten nuts; secure covers.
- 66. Connect Lucar to oil pressure switch.
- 67. Connect feed lead to No. 3 glow plug terminal; fit and tighten nut.
- 68. Connect leads to fuel cut-off solenoid, fit and tighten nut and secure cover.
- 69. Connect multiplug to coolant temperature gauge sensor.
- 70. Position harness bracket to cylinder block; fit and tighten bolts.
- 71. Secure harness to clip on fuel pipe.
- 72. *Turbo Models:* Connect radiator bottom hose to thermostat housing; tighten clip.
- 73. *Non-Turbo Models:* Connect bottom hose to radiator; tighten clip.
- 74. Connect top hose to thermostat housing and radiator; tighten clips.

Turbo Models

- 75. Connect air box hose to intercooler adaptor; tighten clip.

Power Steering

- 76. Lubricate a new 'O' ring with Dexron IID fluid and fit to high pressure pipe.
- 77. Position high pressure pipe to power steering pump; tighten union.
- 78. Connect feed hose to power steering pump; tighten clip.
- 79. Fit speedometer cable support bracket to power steering pump, fit and tighten screw; secure cable to bracket.

All Models

- 80. Secure clutch cable to abutment bracket; connect cable to release lever.
- 81. Position earth lead to gearbox; fit and tighten bolt.
- 82. Connect reverse lamp switch leads.

CAUTION: Ensure leads are positioned clear of clutch lever.

- 83. Connect Lucar to starter solenoid, connect lead to solenoid terminal; fit and tighten nut.
- 84. Position battery tray, position harness to tray and secure clips.
- 85. *Non-Turbo Models:* Position resonator bracket to battery tray; fit and tighten screws.
- 86. Fit battery tray; fit and tighten securing screws.
- 87. Fit battery into tray, fit clamp and tighten bolt; connect both battery leads.
- 88. Fill gearbox with oil, see **MAINTENANCE**.