

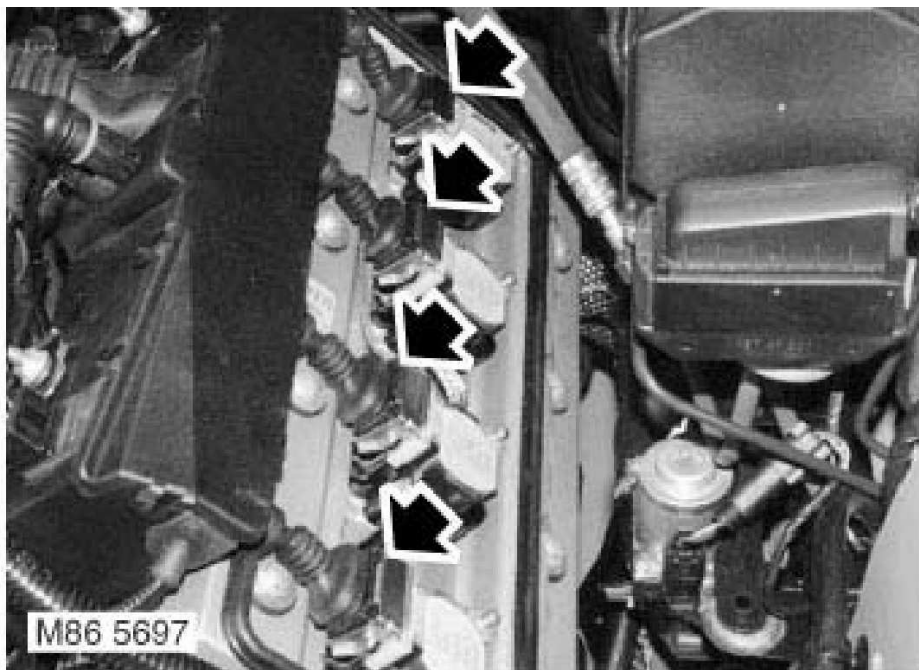
## Fuel Rail: Service and Repair

### 19.60.04.99 Fuel Rail - Remove For Access & Refit

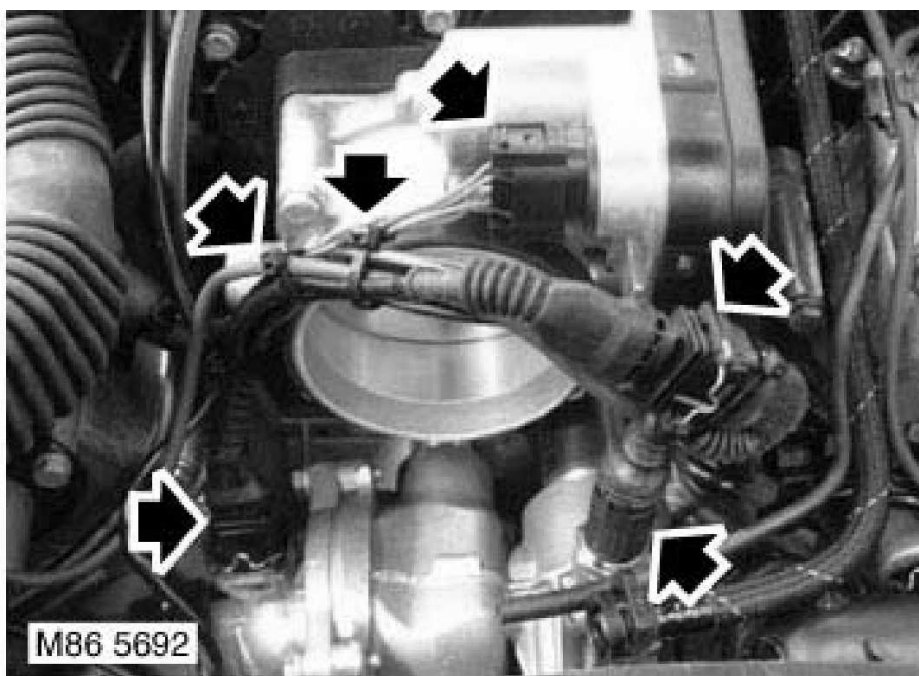
Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

#### Remove

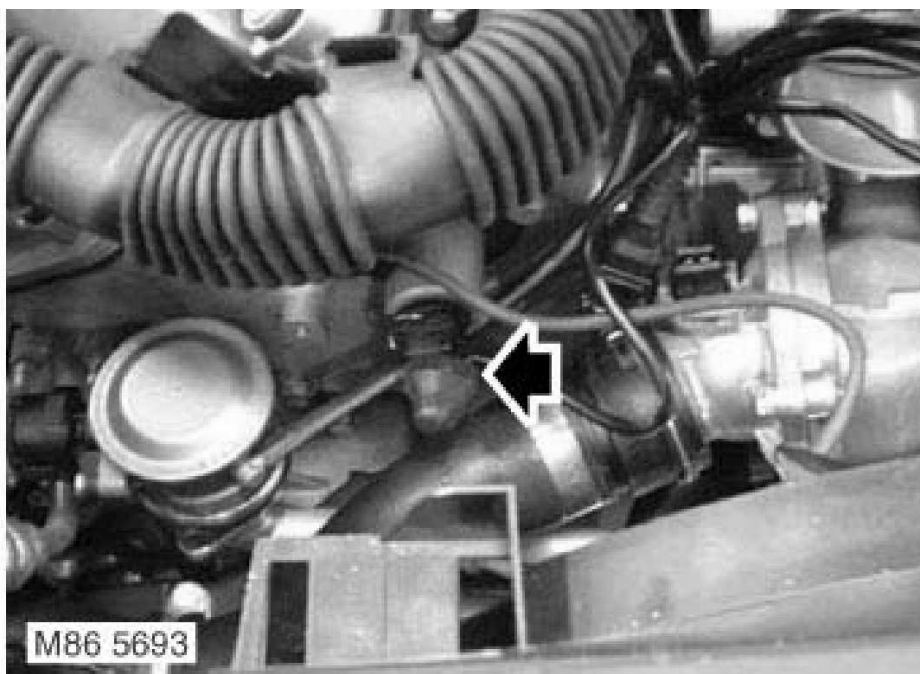
1. Disconnect battery earth lead.
2. Remove air intake hose.
3. Remove LH ignition coil cover.
4. Remove RH ignition coil cover.



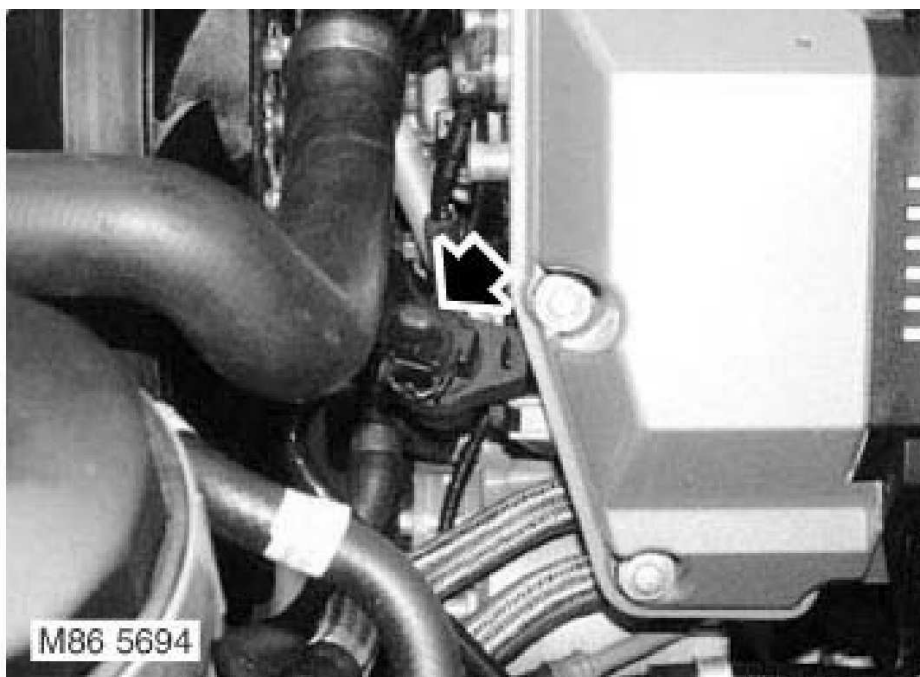
5. Disconnect multiplugs from ignition coils.



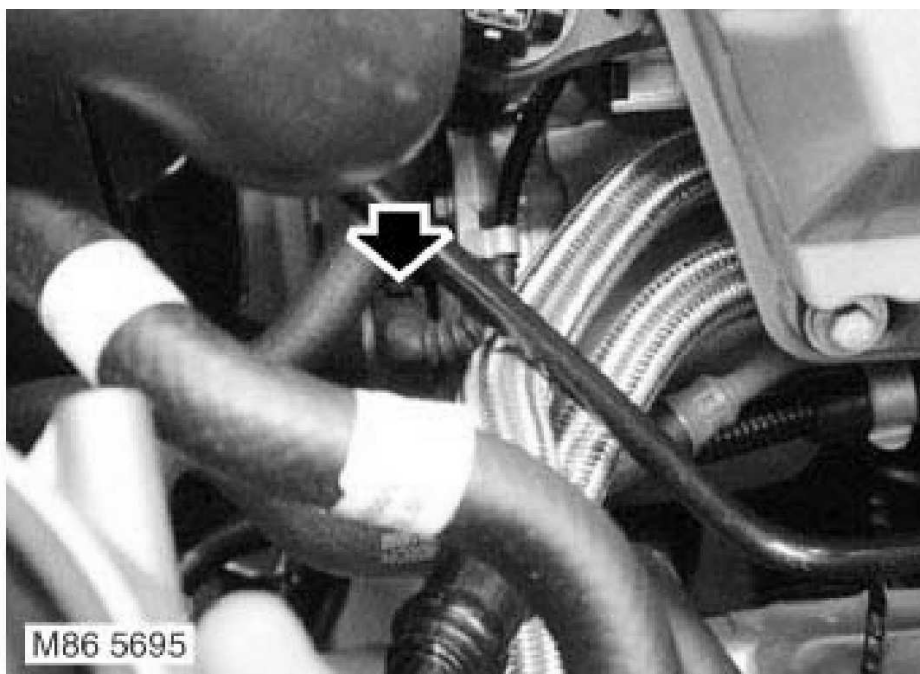
6. Disconnect multiplugs from throttle body, thermostat heater, CMP sensor and ECT sensor.
7. Cut 2 cable ties and release engine harness.



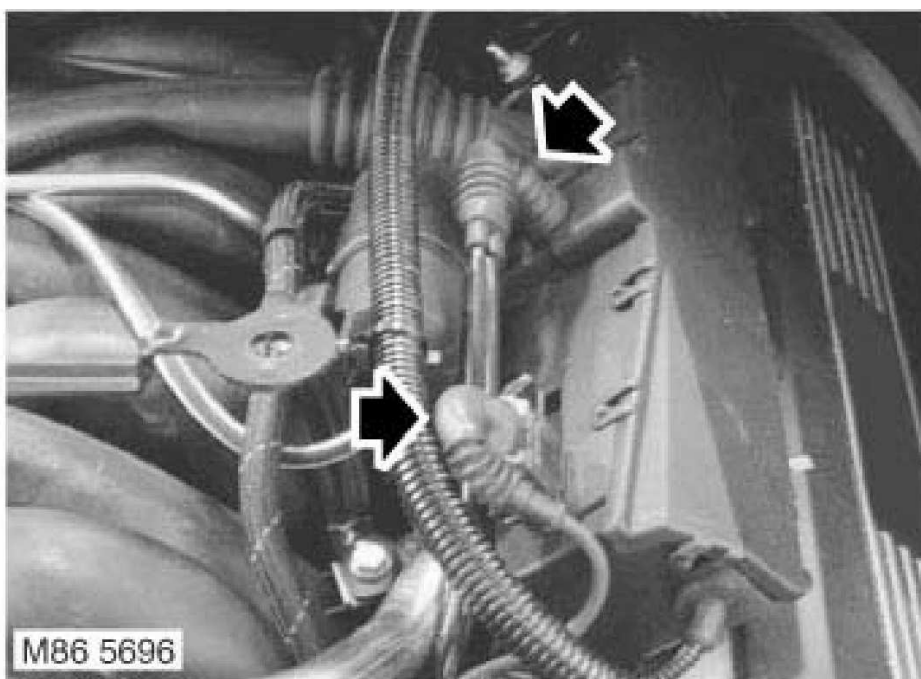
8. Disconnect multiplugs from VCC solenoids.
9. Release VCC multiplug harness from clip.



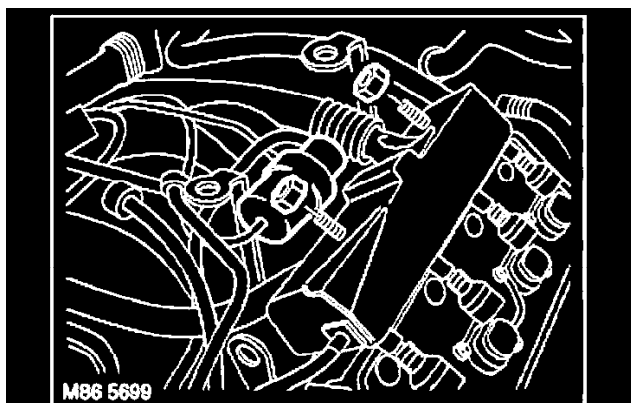
10. Disconnect multiplug from charcoal canister purge solenoid valve.



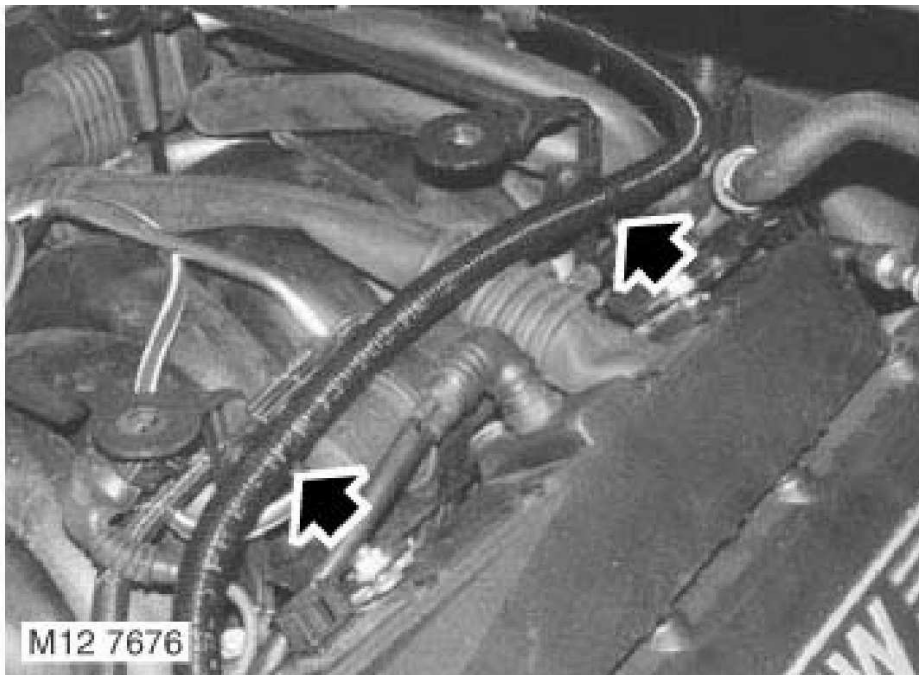
11. Disconnect alternator multiplug.
12. Release alternator harness from 4 clips.



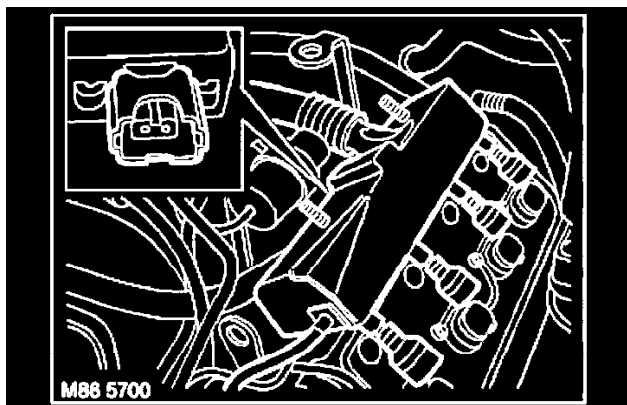
13. Disconnect multiplugs from KS and CMP sensor.



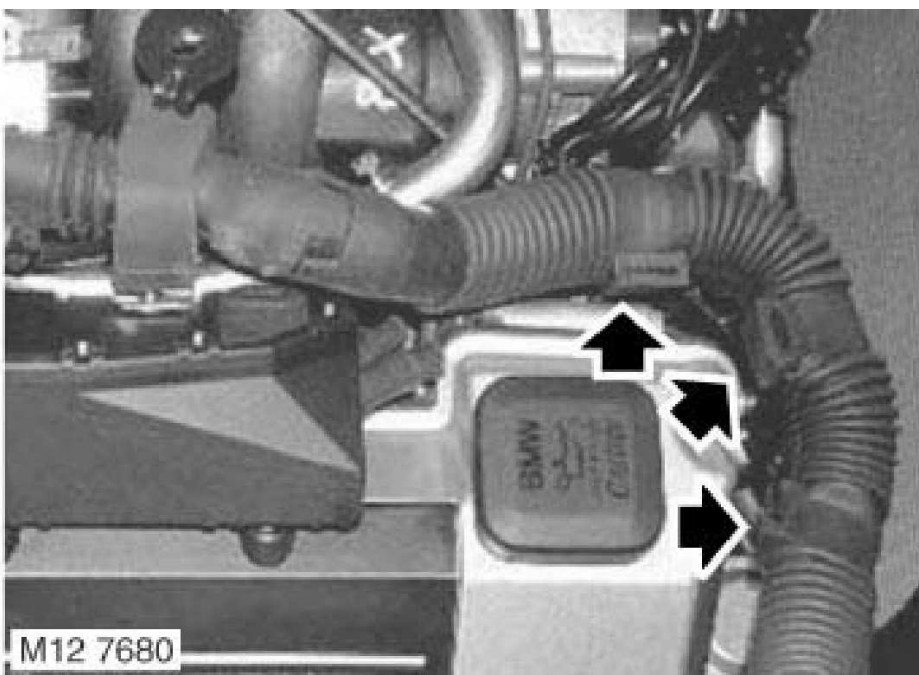
14. Remove 2 nuts securing fuel injector harness to fuel rail.
15. Release vacuum reservoir and mounting bracket from LH fuel injector harness securing stud.
16. Remove fuel hose and mounting bracket from LH fuel injector harness securing stud.



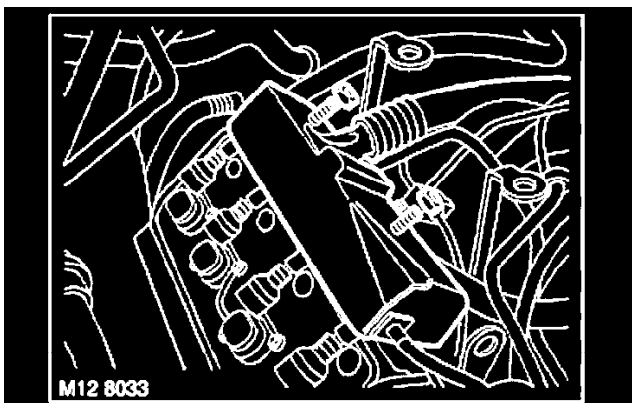
17. Release alternator harness from 2 clips on engine cover mounting brackets.



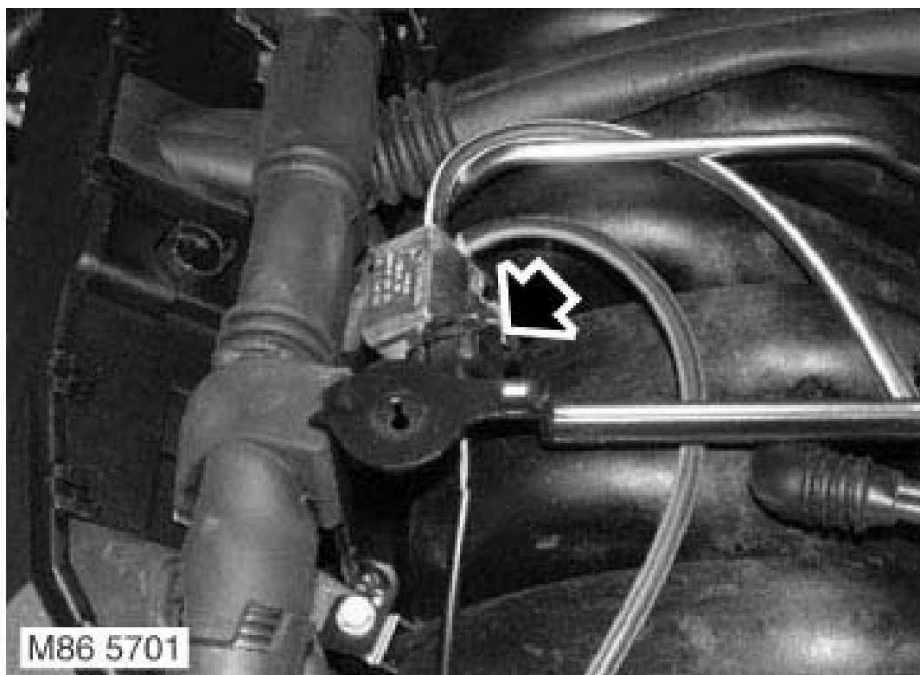
18. Disconnect multiplugs from LH fuel injectors.



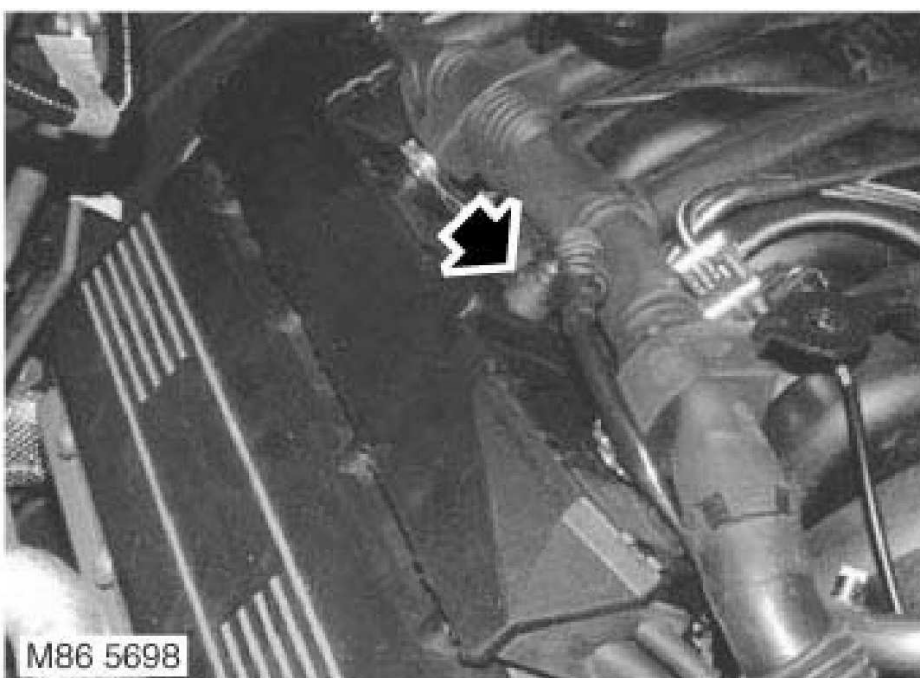
19. Release engine harness from clips and move clear of camshaft cover.



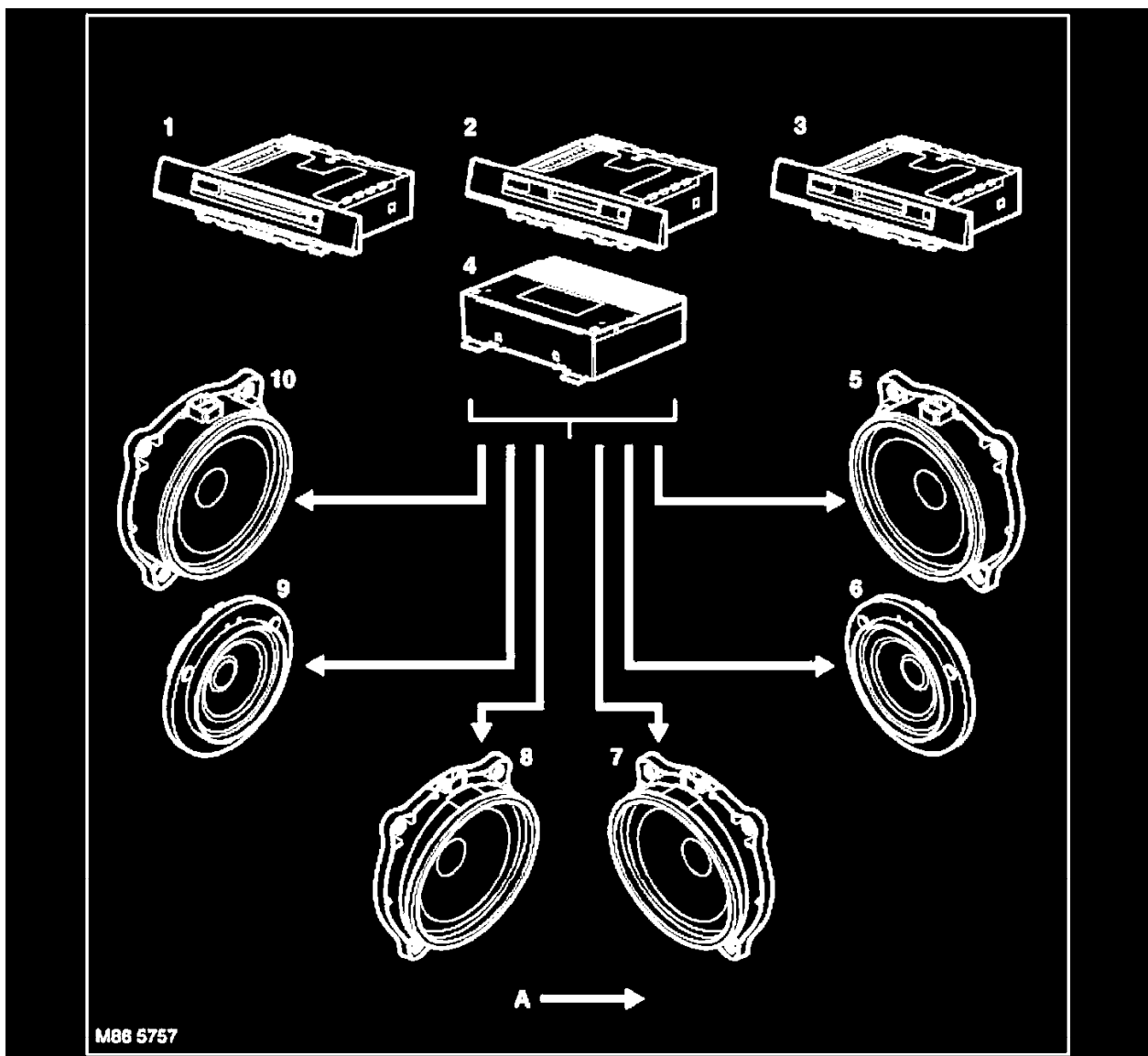
20. Remove 2 nuts securing engine harness to induction manifold



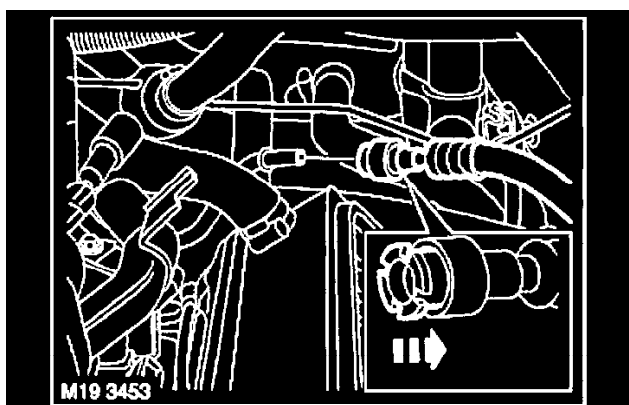
21. If fitted: Disconnect multiplug from SAI solenoid.  
22. If fitted: Remove SAI solenoid valve from RH fuel injector harness securing stud.  
23. Remove washer from fuel injector harness securing stud.



24. Disconnect multiplug from RH KS.



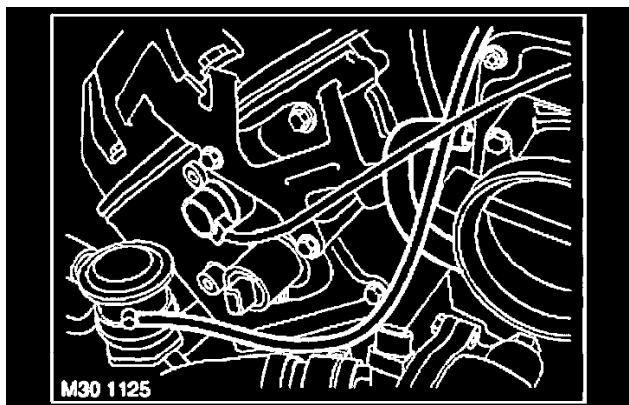
25. Disconnect multiplugs from RH fuel injectors.
26. Reposition injector harness.
27. Remove air intake plenum.
28. Depressurise fuel system.



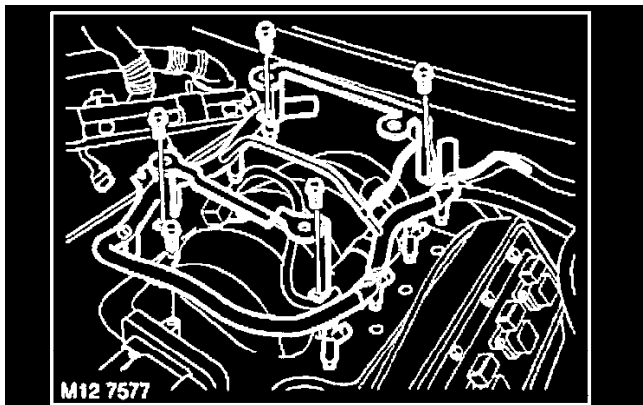
29. Disconnect fuel feed hose from fuel rail.

**CAUTION:** Always fit plugs to open connections to prevent contamination.

30. Release clip and disconnect breather hose from camshaft cover.



31. Remove clip and disconnect purge solenoid valve vacuum hose.
32. If fitted: Disconnect SAI vacuum pipe.



33. Remove 4 bolts securing engine cover brackets and remove brackets from induction manifold.
34. Remove bolt securing fuel rail to induction manifold and remove fuel rail with injectors.

### Refit

1. Clean injectors and recesses in inlet manifold.
2. Fit fuel rail with injectors to induction manifold and fit bolt.
3. Fit 2 new brackets to manifold and tighten 5 bolts to **10 Nm (7 lbf.ft)**.
4. Fit solenoid valve and connect vacuum pipe.
5. Reposition brake servo vacuum pipe.
6. Connect brake vacuum hose and secure with clip.
7. Connect breather hose to camshaft cover and secure with clip.
8. Clean fuel hose connections.
9. Connect fuel feed hose to fuel rail.
10. Fit air intake plenum.
11. Reposition injector harness.
12. Connect multiplugs to RH fuel injectors.
13. Connect KS multiplug.
14. Fit washer to fuel injector harness securing stud.
15. If fitted: Fit SAI solenoid valve to RH fuel injector securing stud.
16. Fit 2 nuts securing fuel injector harness to induction manifold and tighten.
17. If fitted: Connect multiplug to SAI solenoid.
18. Position and secure engine harness to brackets with clips.
19. Connect multiplugs to LH fuel injectors
20. Connect alternator harness to 2 clips on engine cover mounting brackets.
21. Fit fuel hose and mounting bracket to LH fuel injector harness securing stud.
22. Fit vacuum reservoir and mounting bracket to LH fuel injector harness securing stud.
23. Fit 2 nuts securing fuel injector harness to induction manifold and tighten.
24. Connect KS multiplug.
25. Connect multiplug to CMP sensor.
26. Connect alternator harness to 4 clips.
27. Connect alternator multiplug.
28. Connect multiplug to charcoal canister purge solenoid valve.
29. Connect VCC multiplug harness to clip.
30. Connect multiplugs to VCC solenoids.
31. Fit new cable ties, align and secure harness.
32. Connect multiplug to CMP sensor.
33. Connect multiplug to throttle body.
34. Connect multiplugs to ECT sensors.

35. Connect multiplugs to ignition coils.
36. Fit LH ignition coil cover.
37. Fit RH ignition coil cover.
38. Connect air intake hose.
39. If a new fuel rail has been fitted, reset adaptations using TestBook/T4.