

Head Gasket Removal Procedure

Land Rover Discovery Series II

Adapted from RAVE CD Workshop Manual – 1999MY ON



Workshop Manual
Werkplaatshandboek
Manual d'Atelier
Werkstatthandbuch
Manuale d'Officina
Manual de Taller
Manual de Oficina



Discovery Series II

FOR LAND ROVER DISCOVERY
SERIES II

BY JYCSALAS

1. Remove Fan Cowl
2. Remove Viscous Fan pg. 388
3. Drain coolant pg. 386
4. Remove top coolant hose pg. 405

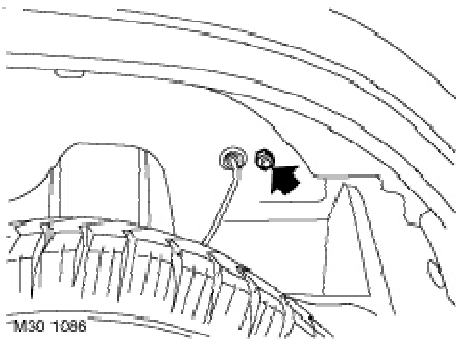
Remove Bonnet if desired pg 827

- . Support bonnet in open position.
- . Fit protection covers to wings and mark hinge outline on bonnet if bonnet is to be refitted.
- . Disconnect windscreen washer tube at elbow joint.
- . With assistance, remove bolts securing hinges to bonnet and remove bonnet.

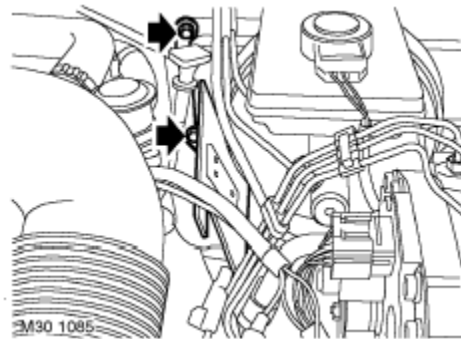
Heat shield - brake servo - With Secondary Air Injection Gasket

Remove pg 405

1. Release fixings and remove battery cover.
2. Disconnect battery earth lead.



3. Remove nut securing heat shield bracket to valance.

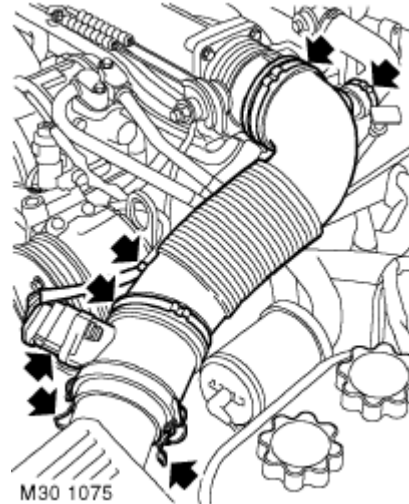


4. Remove 2 bolts securing heat shield and remove heat shield.

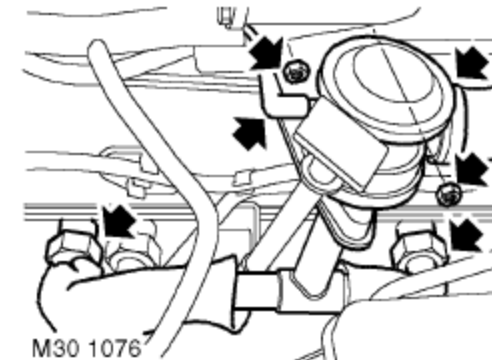
Gasket - inlet manifold - upper - With Secondary Air Injection

Remove pg 412 - 414

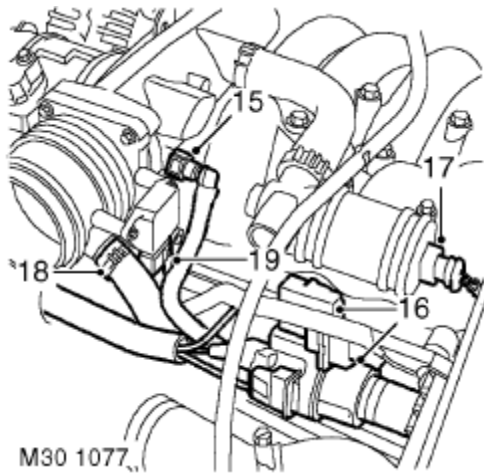
1. Release fixings and remove battery cover.
2. Disconnect battery earth lead.
3. Remove bonnet.



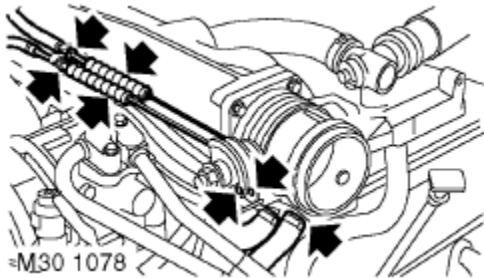
4. Disconnect multiplug from MAF sensor.
5. Release clip on intake hose and release harness.
- Note: Pre 03 MY air intake hose illustrated.*
6. Release and disconnect IACV hose.
7. Loosen clip securing air intake hose to throttle body.
8. Release 2 clips securing MAF sensor.
9. Release and remove air intake hose.



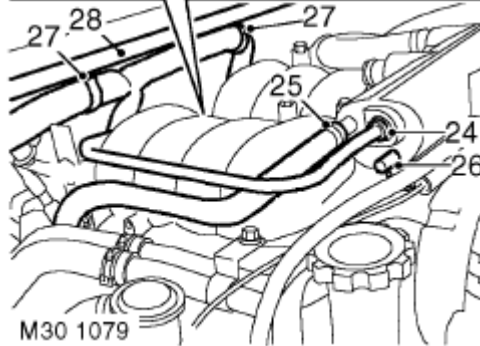
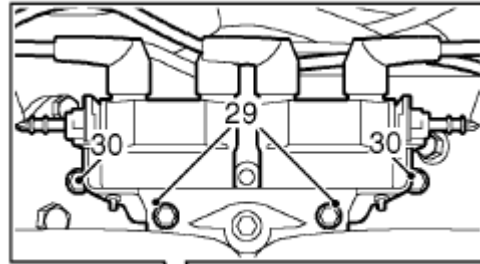
10. Disconnect vacuum hose from air valve.
11. Loosen clip securing air valve hose to air valve.
12. Remove 2 nuts securing air manifold support bracket to upper inlet manifold.
13. Disconnect 2 air manifold unions from adapters in cylinder head.
14. Remove LH air manifold.



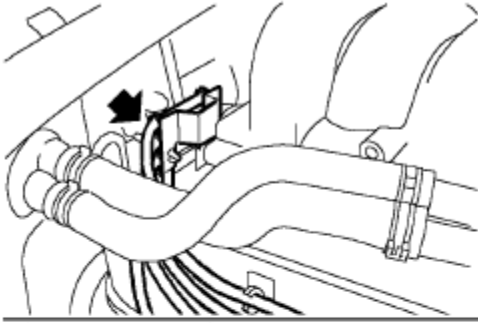
- 15. Disconnect purge valve hose from inlet manifold.
- 16. Release purge valve from clips and air control valve from bracket and lay aside.
- 17. Disconnect multiplug from IACV.
- 18. Release clip and disconnect breather hose from throttle housing.
- 19. Disconnect multiplug from TP sensor.



- 20. Position container to collect spillage.
- 21. Release clips and disconnect 2 coolant hoses from throttle housing.
- 22. Loosen outer cable locknuts and release throttle and cruise control cables from abutment.
- 23. Release throttle and cruise control cables from clips and throttle cams and position aside.

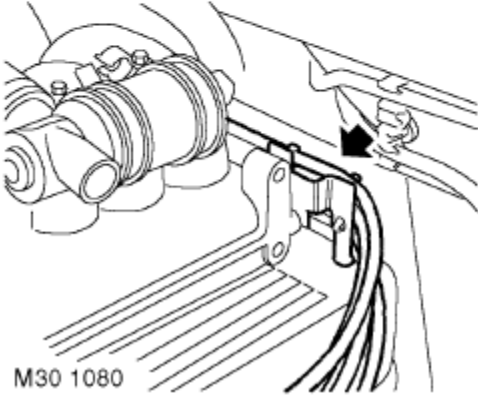


- 24. Depress plastic collar and disconnect brake servo hose from inlet manifold.
- 25. Release clip and disconnect breather hose from manifold.
- 26. Disconnect vacuum hose from manifold.
- 27. Release engine harness from bulkhead clips and position aside.
- 28. Release and remove bonnet seal from rear of engine bay.
- 29. Remove 2 bolts securing air pipe and coil bracket to manifold.
- 30. Loosen 2 lower bolts securing coil bracket sufficiently to allow bracket to clear manifold.



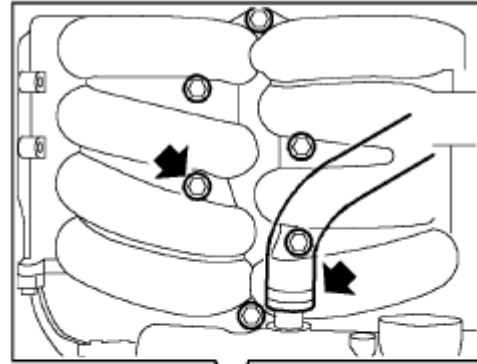
M30 1080

31. Release plug leads from upper manifold clips.



M30 1081

32. Loosen clip and disconnect air hose from air valve.
 33. Remove 2 nuts securing RH air manifold support bracket to upper inlet manifold.



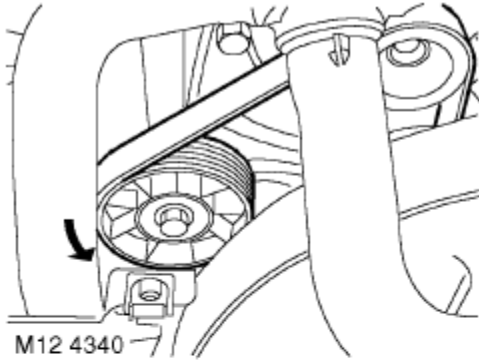
M30 1082

34. Release clip and disconnect IACV hose.
 35. Remove 6 bolts securing upper manifold and remove manifold.
 36. Collect upper manifold gasket.

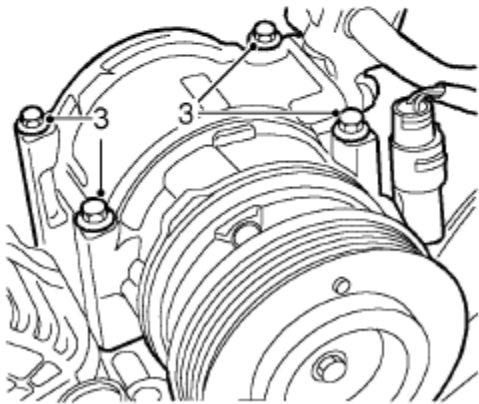
Gasket - rocker cover - LH

Remove pg 152

1. Remove upper inlet manifold gasket.
2. **Models with air conditioning:** Release 4 clips and remove fan cowl.

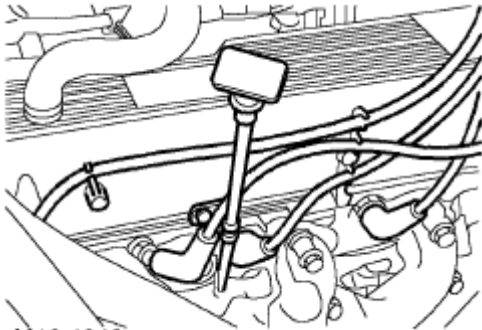


M12 4340



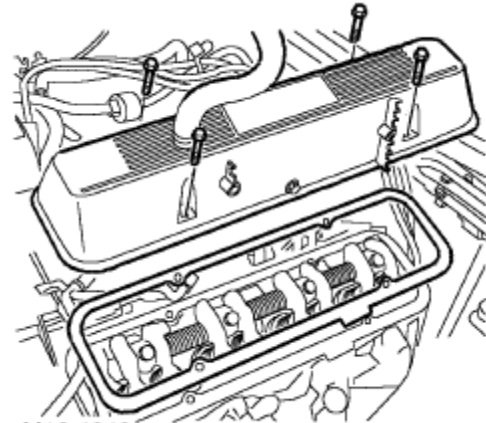
M12 4341

3. Models with air conditioning: Release tension on auxiliary drive belt and remove belt from air conditioning compressor. Disconnect compressor multiplug. Remove 4 bolts securing compressor and position compressor aside.



M12 4342

4. Release ht leads from rocker cover clips.
5. Remove screw securing dip stick tube.



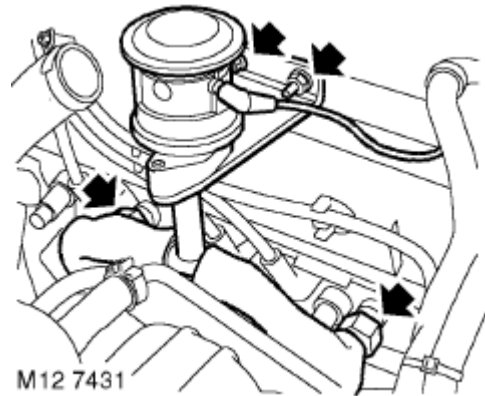
M12 4343

6. Remove 4 bolts securing rocker cover.
7. Remove rocker cover and collect gasket.

Gasket - rocker cover – RH

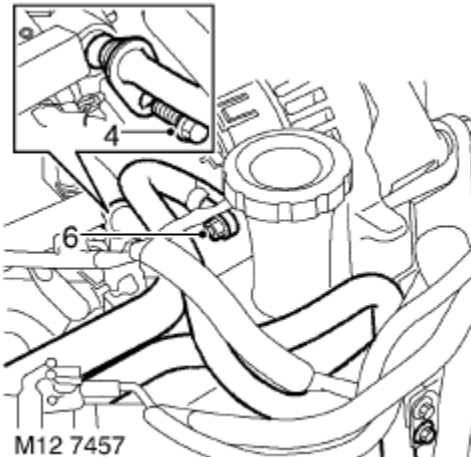
Remove pg 153-154

1. Drain cooling system.
2. Remove upper inlet manifold gasket.



M12 7431

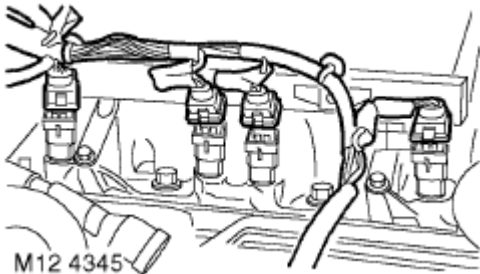
3. Models with SAI: Disconnect 2 air manifold unions from adapters in cylinder head and remove manifold.



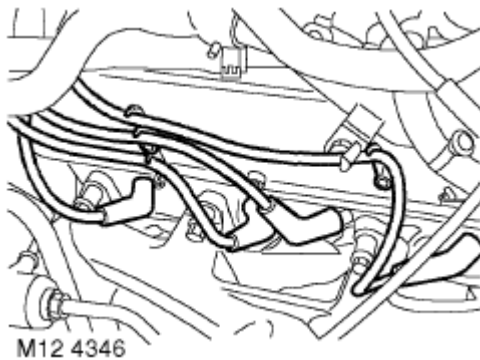
M12 7457

4. Remove 2 bolts securing coolant rails to inlet manifold.

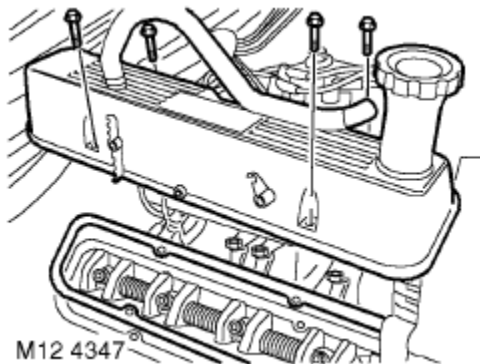
5. Release coolant rail from inlet manifold and discard 'O' ring.
6. Remove nuts securing alternator cables and release cables from alternator.



7. Disconnect multiplugs from RH bank of injectors and release harness from fuel rail.



8. Release ht leads from clips on rocker cover.

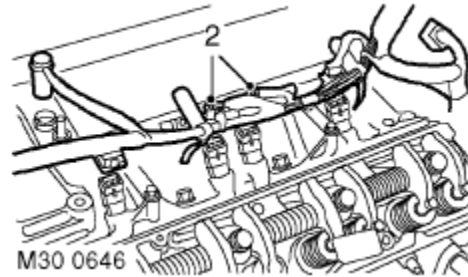


9. Remove 4 bolts securing rocker cover.
10. Remove rocker cover and collect gasket.

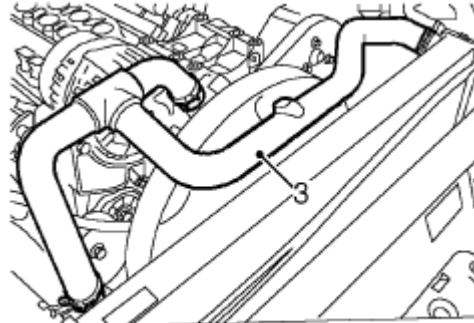
Gasket - inlet manifold - lower

Remove *pg 405-407*

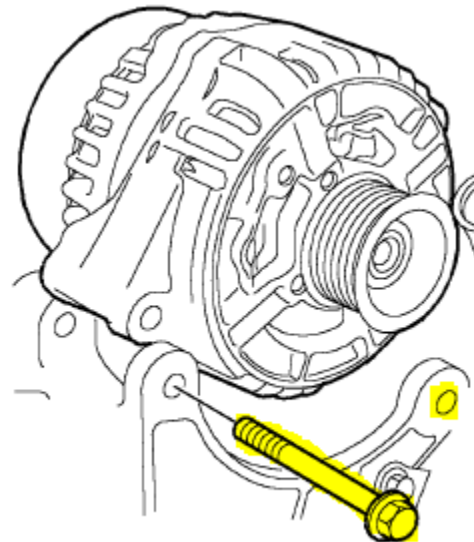
1. Remove both rocker covers.



2. Release and disconnect LH injector harness and multiplugs.

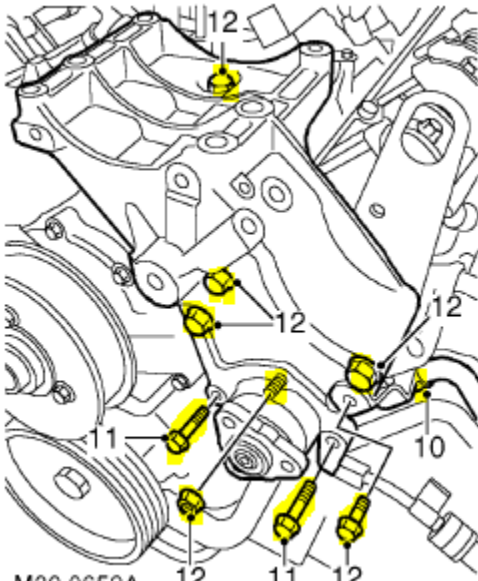


3. Release 3 clips securing top hose and remove top hose.
4. Remove auxiliary drive belt.
5. Remove 3 bolts securing ACE pump, release pump and position aside.

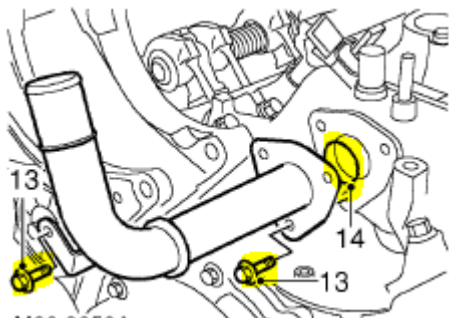


6. Remove 2 bolts securing alternator and remove alternator.
7. Remove 3 bolts securing PAS pump pulley and remove pulley.
8. Remove jockey pulley.
9. Position tray to catch spillage, release PAS pump high pressure pipe.

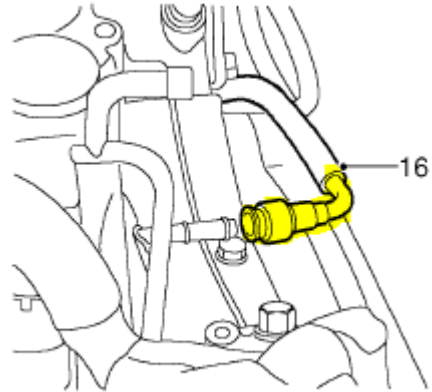
CAUTION: Always fit plugs to open connections to prevent contamination.



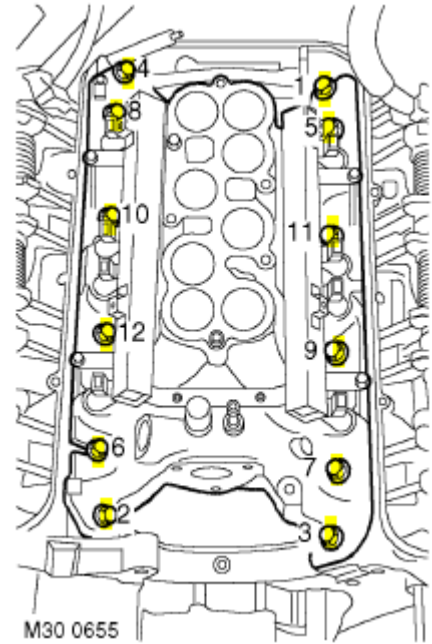
- 10. Remove bolt securing oil cooling pipe and release bracket from auxiliary housing.
- 11. Remove two bolts securing PAS pump.
- 12. Remove 5 bolts and one nut securing auxiliary housing. Pull housing forward, release PAS pump and remove housing.



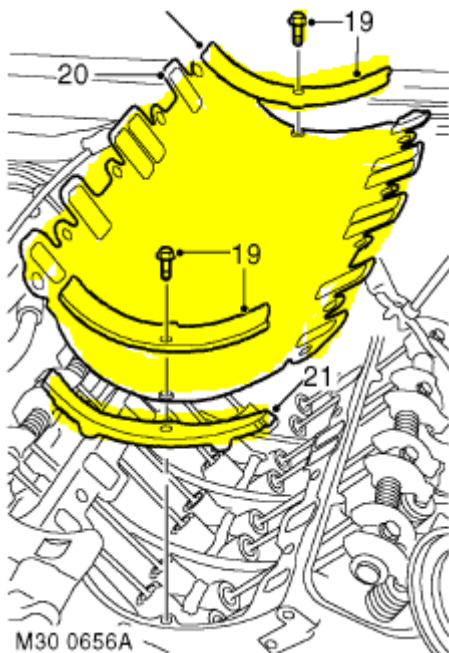
- 13. Remove 4 bolts securing top hose outlet and remove outlet pipe.
- 14. Remove and discard 'O' ring.
- 15. Position absorbent cloth to catch spillage.



- 16. Disconnect fuel pipe.
- CAUTION: Always fit plugs to open connections to prevent contamination.**



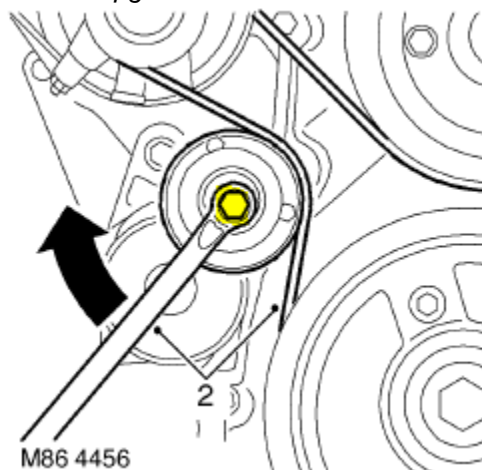
- 17. Using the sequence shown, remove 12 bolts securing the inlet manifold.
- 18. Remove inlet manifold.



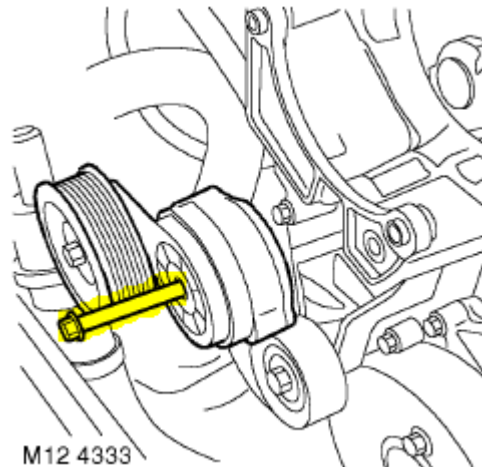
- M30 0656A
19. Remove 2 bolts securing inlet manifold gasket and collect gasket clamps.
 20. Remove inlet manifold gasket.
 21. Remove gasket seals.

Belt - auxiliary drive

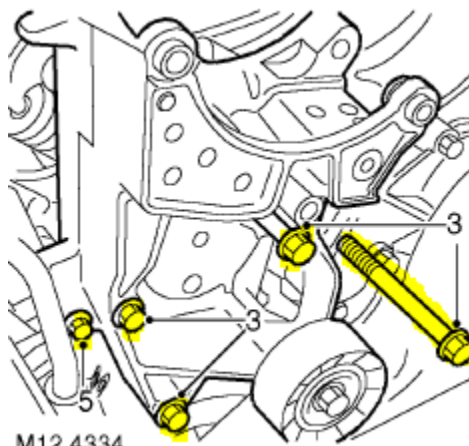
Remove pg 1134



- M86 4456
1. Turn drive belt tensioner using a 15 mm ring spanner and release belt from pulleys



- M12 4333
2. Remove bolt securing auxiliary drive belt tensioner and remove tensioner. Pg 149

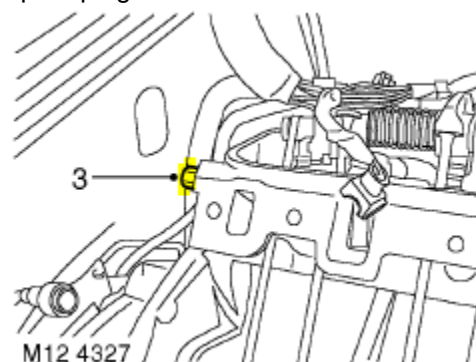


- M12 4334
3. Remove 4 bolts securing alternator mounting bracket and remove bracket.

Gasket - cylinder head - LH

Remove pg 147

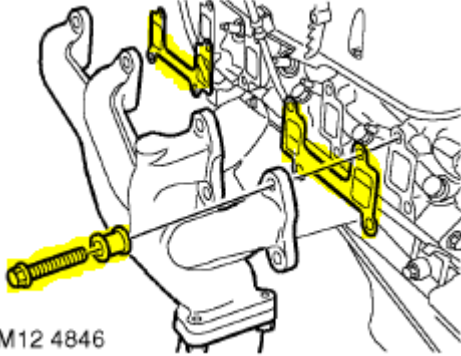
1. Remove inlet manifold gasket.
2. Noting their fitted order, disconnect ht leads from spark plugs.



M12 4327

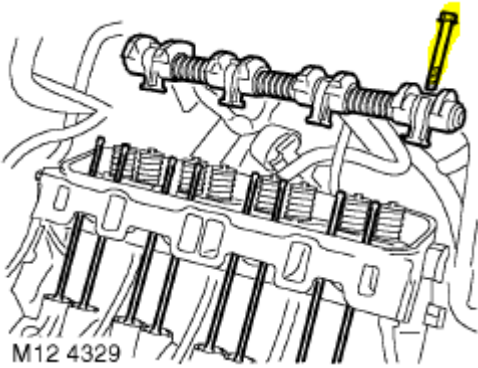
3. Remove bolt securing engine harness to rear of cylinder head.

4. **LH drive models:** Remove brake servo heat shield.



M12 4846

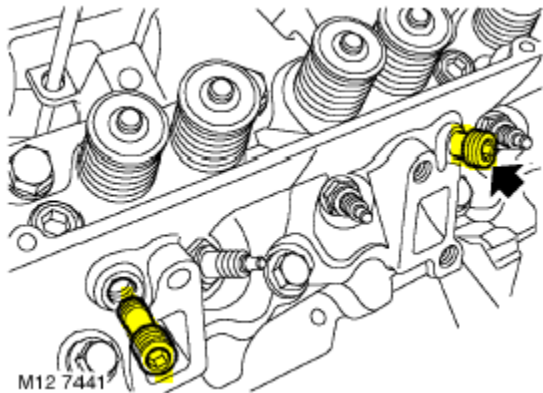
5. Remove 8 bolts securing exhaust manifold to cylinder head, release manifold and collect 2 gaskets.



M12 4329

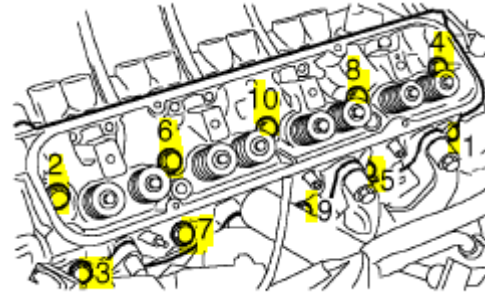
6. Progressively remove 4 bolts securing the rocker shaft and remove rocker shaft.

7. Remove push rods. **Store push rods in their fitted order.**



M12 7441

8. **Models with SAI:** Remove 2 air injection adapters from cylinder head and discard.

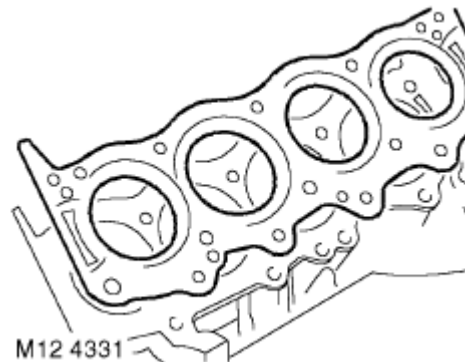


M12 4330

9. In the sequence shown, remove 10 bolts securing the cylinder head to block. Discard the bolts.

10. Remove cylinder head.

CAUTION: Support both ends of cylinder head on blocks of wood.



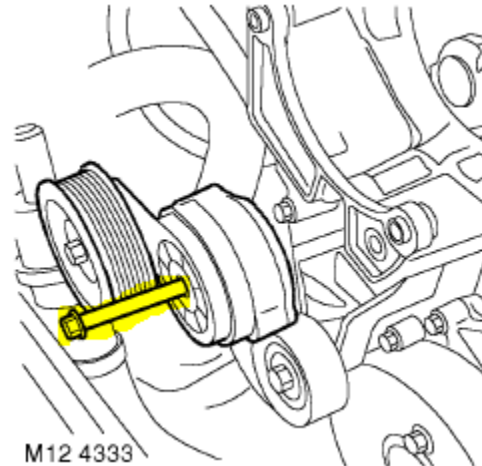
M12 4331

11. Remove cylinder head gasket.

Gasket - cylinder head - RH

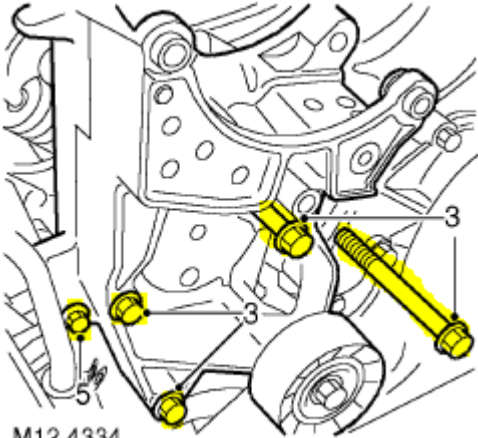
Remove pg 149-150

1. Remove inlet manifold gasket.



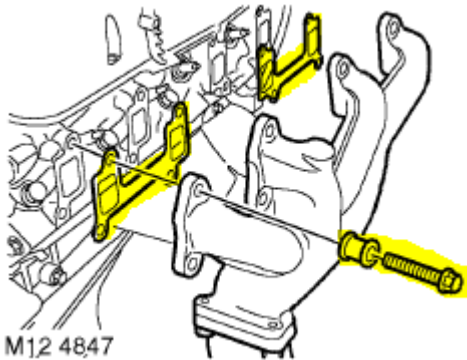
M12 4333

2. Remove bolt securing auxiliary drive belt tensioner and remove tensioner.



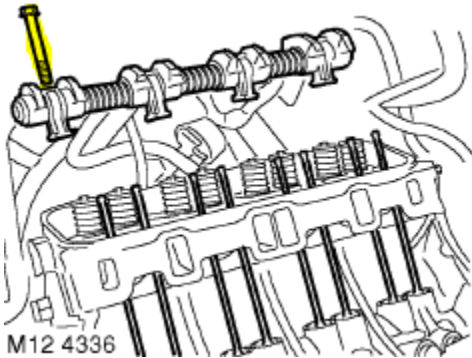
M12 4334

3. Remove 4 bolts securing alternator mounting bracket and remove bracket.
4. Noting their fitted order, disconnect ht leads from spark plugs.
5. Remove bolt securing engine earth lead.
6. **RH drive models:** Remove brake servo heat shield.



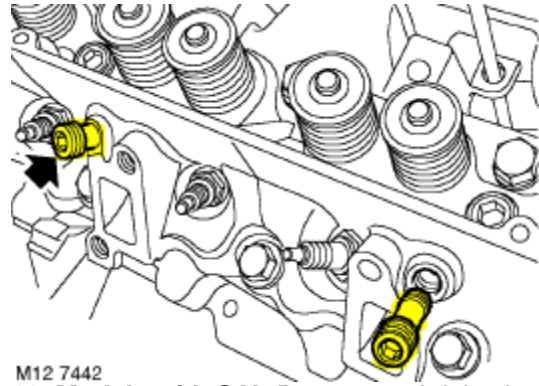
M12 4847

7. Remove 8 bolts securing exhaust manifold to cylinder head, release manifold and collect 2 gaskets.



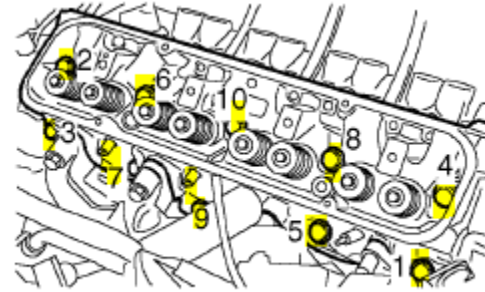
M12 4336

8. Progressively remove 4 bolts securing the rocker shaft and remove rocker shaft.
9. Remove push rods. **Store push rods in their fitted order.**



M12 7442

10. **Models with SAI:** Remove 2 air injection adapters and discard.

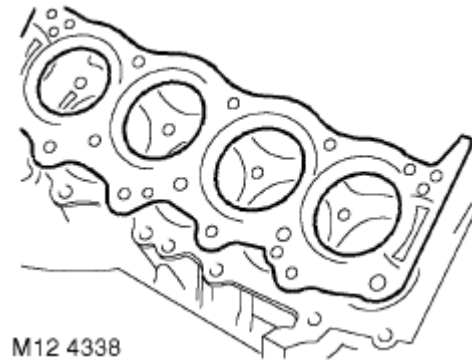


M12 4337

11. In the sequence shown, remove 10 bolts securing the cylinder head to block. Discard the bolts.

12. Remove cylinder head.

CAUTION: Support both ends of cylinder head on blocks of wood.



M12 4338

13. Remove cylinder head gasket.