

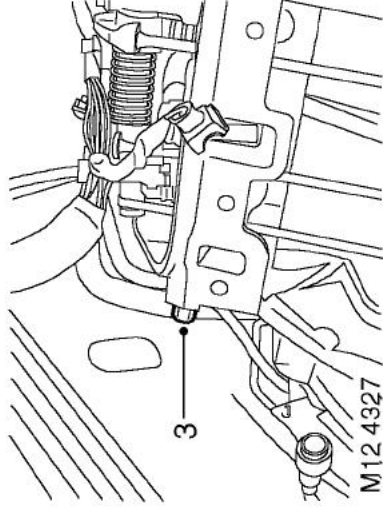
## ENGINE - V8


### Gasket - cylinder head - LH

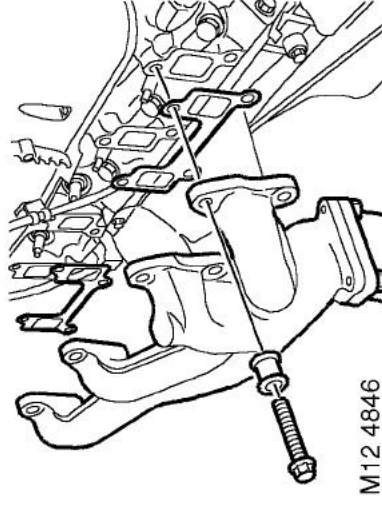
12.29.02

#### Remove

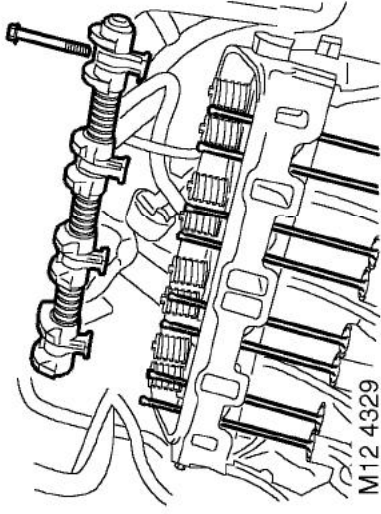
1. Remove inlet manifold gasket.  
 **MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Gasket - inlet manifold - lower.**
2. Noting their fitted order, disconnect ht leads from spark plugs.



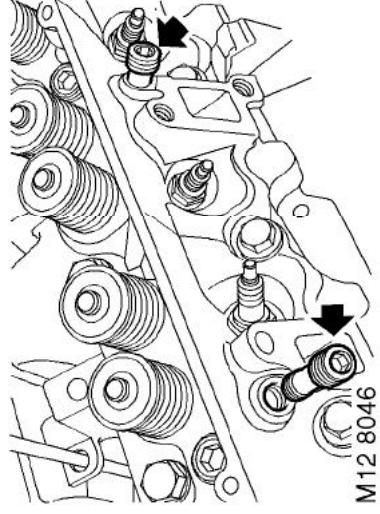
3. Remove bolt securing engine harness to rear of cylinder head.
4. LH drive models: Remove brake servo heat shield.  
 **MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Heat shield - brake servo - Without Secondary Air Injection.**



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



6. Progressively remove 4 bolts securing the rocker shaft and remove rocker shaft.
7. Remove push rods. Store push rods in their fitted order.



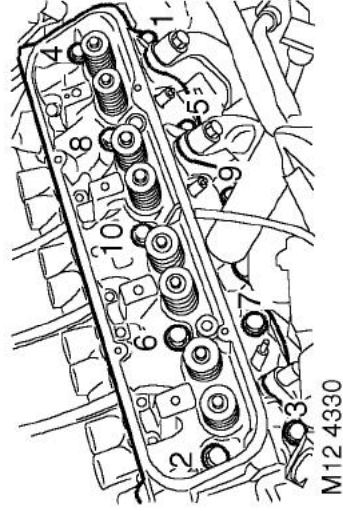
8. Models with SAI: Using a 9 mm hexagonal drive bit, remove 2 air injection adapters from cylinder head; discard adapters.

*Note: To release the adapter thread locking agent and prevent damage to the cylinder head, remove the adapters by alternately loosening then tightening slightly. Repeat this procedure until adapters are removed.*

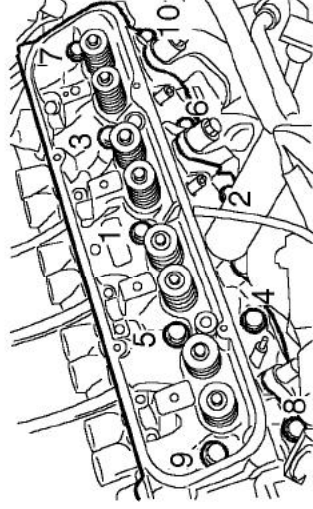
**CAUTION: Do not use air tools to remove adapters.**



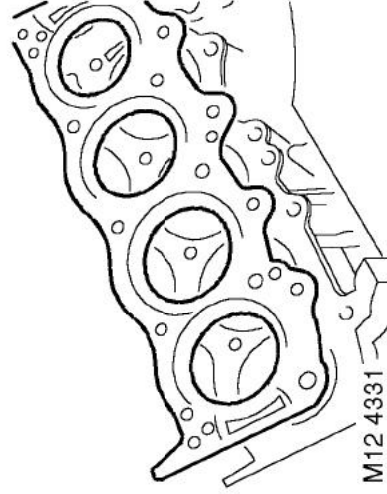
4. Fit cylinder head gasket with the word 'TOP' uppermost.  
**CAUTION: Gaskets must be fitted dry.**
5. Carefully fit cylinder head and locate on dowels.
6. Lightly lubricate new cylinder head bolt threads with clean engine oil.



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.**



7. Noting that bolts 1, 3 and 5 are longer than the remainder, fit cylinder head bolts and tighten in the sequence shown to 20 Nm (15 lbf.ft) then 90° , and finally a further 90° .  
**CAUTION: Do not tighten bolts 180° in one operation.**



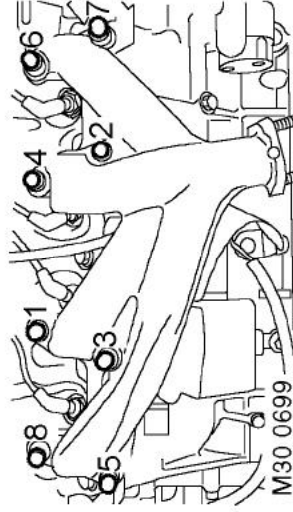
8. **Models with SAI:** Fit new air injection adapters and using a 9 mm hexagonal drive bit, tighten to 33 Nm (24 lbf.ft).  
**CAUTION: Do not use an air tool to tighten adapters.**

11. Remove cylinder head gasket.

**Refit**

1. Clean mating faces of cylinder block and head using suitable gasket removal spray and a plastic scraper, ensure that bolt holes in block are clean and dry. Clean mating faces of cylinder head and exhaust manifold.  
**CAUTION: Do not use a metal scraper or machined surfaces may be damaged.**
2. Check head and block faces for warping and pitting. If out of specification, renew head.
3. **Models with SAI:** Using a 5/8 in x 20 TPI (threads per inch) UNF tap having a class 2A thread, remove deposits from secondary air injection adapter tappings in cylinder head.  
**CAUTION: Ensure that tap used has 20 TPI.**

9. Clean push rods.
10. Lubricate ends of push rods with clean engine oil.
11. Fit push rods in their removed order.
12. Clean bases of rocker pillars and mating faces on cylinder head.
13. Clean contact surfaces on rockers, valves and push rods.
14. Lubricate contact surfaces and rocker shaft with clean engine oil.
15. Fit rocker shaft assembly and engage push rods.
16. Fit rocker shaft bolts and progressively tighten to 40 Nm (30 lbf.ft).



17. Using new gaskets, position exhaust manifold to cylinder head, fit bolts and using sequence shown, tighten initially to 15 Nm (11 lbf.ft), then finally to 36 Nm (28 lbf.ft).

18. LH drive models: Fit brake servo heat shield.  
**MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Heat shield - brake servo - Without Secondary Air Injection.**

19. Fit engine harness bolt and tighten to 22 Nm (16 lbf.ft).

20. Connect ht leads to spark plugs in their correct fitted order.

21. Fit inlet manifold gasket.

**MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Gasket - inlet manifold - lower.**

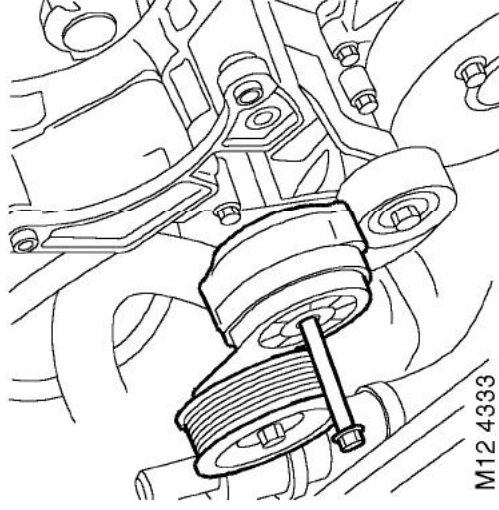
## Gasket - cylinder head - RH

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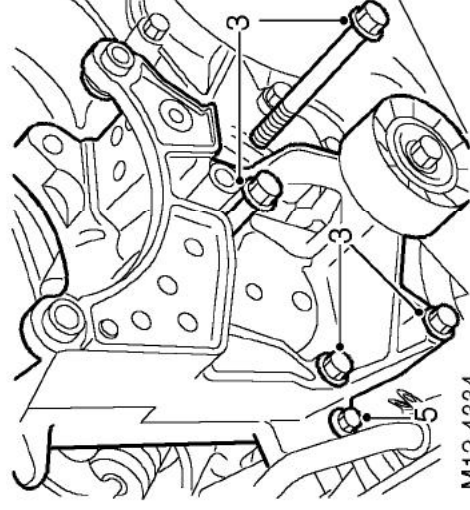
### Remove

1. Remove inlet manifold gasket.

**MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Gasket - inlet manifold - lower.**



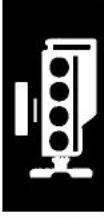
2. Remove bolt securing auxiliary drive belt tensioner and remove tensioner.



3. Remove 4 bolts securing alternator mounting bracket and remove bracket.

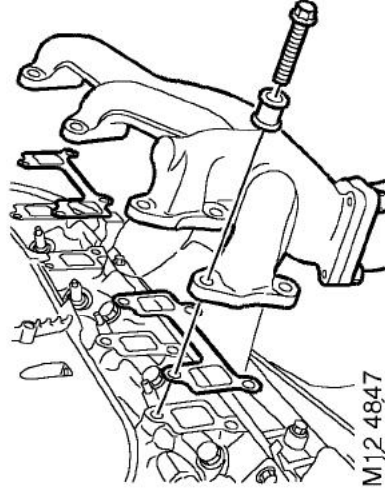
4. Noting their fitted order, disconnect ht leads from spark plugs.

5. Remove bolt securing engine earth lead.



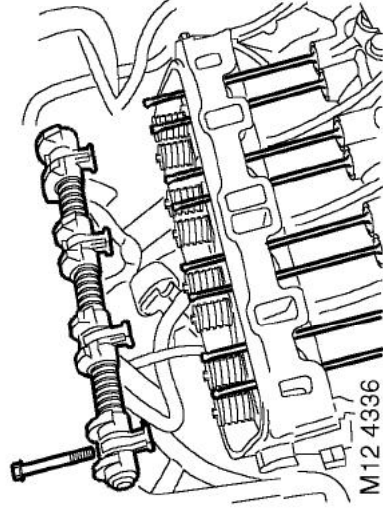
6. RH drive models: Remove brake servo heat shield.

**MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Heat shield - brake servo - Without Secondary Air Injection.**



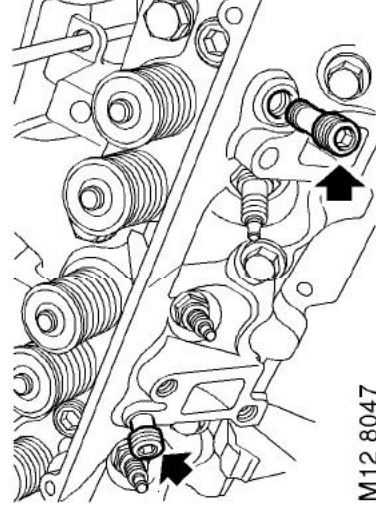
M12 4847

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.**

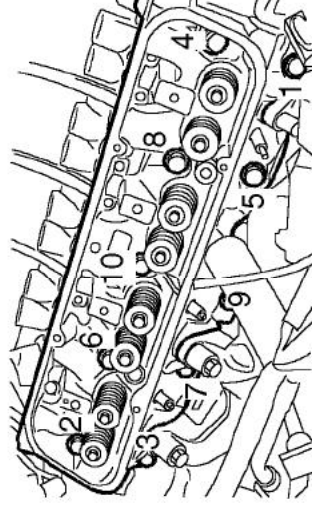


M12 8047

10. **Models with SAI:** Using a 9 mm hexagonal drive bit, remove 2 air injection adapters from cylinder head; discard adapters.

*Note: To release the adapter thread locking agent and prevent damage to the cylinder head, remove the adapters by alternately loosening then tightening slightly. Repeat this procedure until adapters are removed.*

**CAUTION: Do not use air tools to remove adapters.**

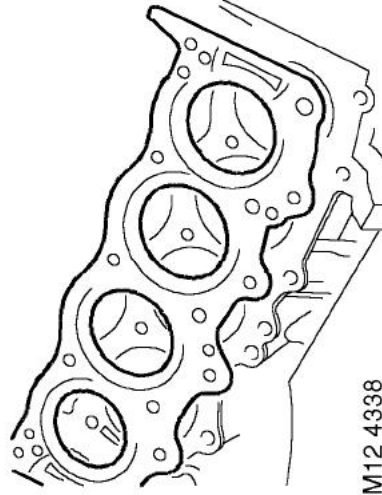


M12 4337

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.

#### Refit

1. Clean mating faces of cylinder block and head using suitable gasket removal spray and a plastic scraper, ensure that bolt holes in block are clean and dry. Clean mating faces of cylinder head and exhaust manifold.

**CAUTION: Do not use a metal scraper or machined surfaces may be damaged.**

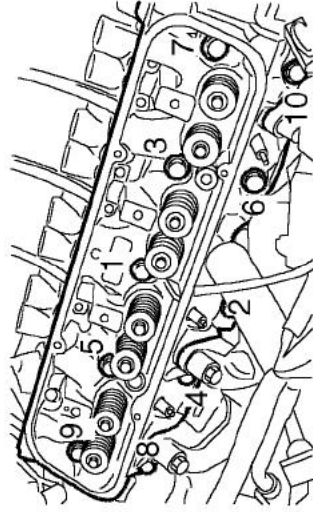
2. Check head and block faces for warping and pitting. If out of specification, renew head.
3. **Models with SAI:** Using a 5/8 in x 20 TPI (threads per inch) UNF tap having a class 2A thread, remove deposits from secondary air injection adapter tappings in cylinder head.

**CAUTION: Ensure that tap used has 20 TPI.**

4. Fit cylinder head gasket with the word 'TOP' uppermost.

**CAUTION: Gasket must be fitted dry.**

5. Carefully fit cylinder head and locate on dowels.
6. Lightly lubricate new cylinder head bolt threads with clean engine oil.



M12 4361

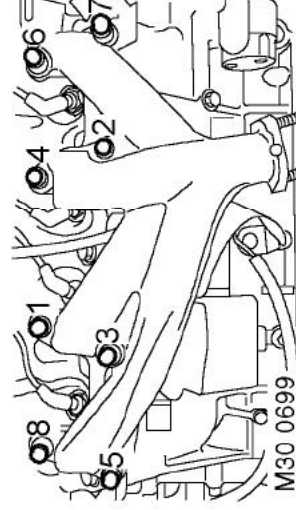
7. Noting that bolts 1, 3 and 5 are longer than the remainder, fit bolts and tighten in the sequence shown to 20 Nm (15 lbf.ft) then 90°, and finally a further 90°.

**CAUTION: Do not tighten bolts 180° in one operation.**

8. **Models with SAI:** Fit new air injection adapters and using a 9 mm hexagonal drive bit, tighten to 33 Nm (24 lbf.ft).

**CAUTION: Do not use an air tool to tighten adapters.**

9. Clean push rods.
10. Lubricate ends of push rods with clean engine oil.
11. Fit push rods in their removed order.
12. Clean bases of rocker pillars and mating faces on cylinder head.
13. Clean contact surfaces on rockers, valves and push rods.
14. Lubricate contact surfaces and rocker shaft with clean engine oil.
15. Fit rocker shaft assembly and engage push rods.
16. Fit rocker shaft bolts and progressively tighten to 40 Nm (30 lbf.ft).
17. Position alternator mounting bracket, fit bolts and tighten to 40 Nm (30 lbf.ft).
18. Position auxiliary drive belt tensioner, fit bolt and tighten to 45 Nm (33 lbf.ft).
19. Connect ht leads to spark plugs in their fitted order.



M30 0699

20. Using new gaskets, fit exhaust manifold to cylinder head. Fit bolts and using sequence shown, tighten initially to 15 Nm (11 lbf.ft), then finally tighten to 36 Nm (28 lbf.ft).

21. **RH drive models:** Fit brake servo heat shield. **MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Heat shield - brake servo - Without Secondary Air Injection.**

22. Position engine earth lead, fit bolt and tighten to 22 Nm (16 lbf.ft).

23. Fit inlet manifold gasket.

**MANIFOLDS AND EXHAUST SYSTEMS - V8, REPAIRS, Gasket - inlet manifold - lower.**