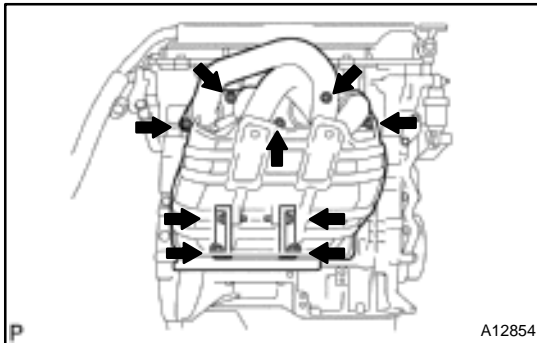


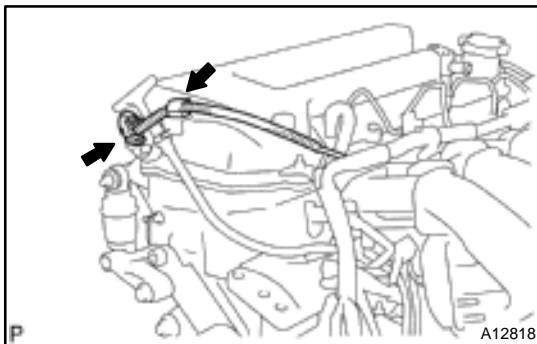
REMOVAL

1. REMOVE ENGINE UNIT (See page EM-54)
2. REMOVE GENERATOR (See page CH-7)
3. REMOVE IGNITION COILS (See page IG-4)
4. REMOVE SPARK PLUGS (See page IG-1)
5. REMOVE INJECTORS (See page SF-23)



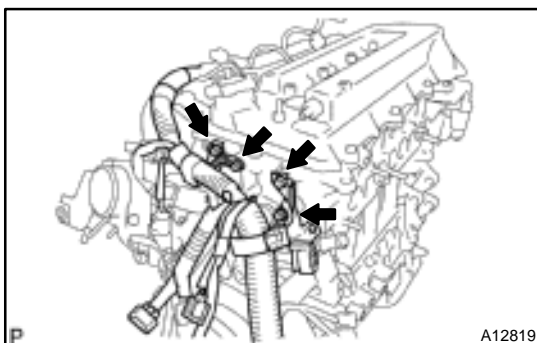
6. REMOVE EXHAUST MANIFOLD

- (a) Disconnect the 2 heated oxygen sensor connectors, and remove the 2 heated oxygen sensors.
- (b) Remove the 4 bolts and upper heat insulator.
- (c) Remove the 4 bolts and 2 exhaust manifold stays.
- (d) Remove the 5 nuts, exhaust manifold and gasket.

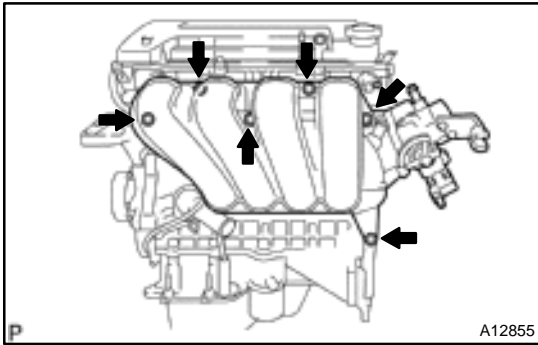


7. DISCONNECT ENGINE WIRE

- (a) Disconnect the heated oxygen sensor (bank 1 sensor 1) wire from the 2 wire brackets.
- (b) Disconnect the camshaft timing oil control valve connector.
- (c) Disconnect the crankshaft position sensor connector.
- (d) Disconnect the knock sensor connector.
- (e) Disconnect the oil pressure switch connector and wire.
- (f) Disconnect the camshaft position sensor connector.
- (g) Disconnect the ECT sensor connector.
- (h) Disconnect the throttle position sensor connector.
- (i) Disconnect the IAC valve connector.
- (j) Disconnect the noise filter.



- (k) Remove the 2 bolts, and disconnect the 2 ground straps.
 - (l) Remove the 2 bolts and engine wire.
- ### 8. REMOVE OIL FILLER CAP
- ### 9. REMOVE PCV HOSES AND VALVE
- (a) Remove the 2 PCV hoses.
 - (b) Remove the PCV valve and grommet.



10. REMOVE INTAKE MANIFOLD AND THROTTLE BODY ASSEMBLY

- (a) Disconnect the 2 water hoses from the throttle body.
- (b) Disconnect the 2 vacuum hoses from the intake manifold.
- (c) Remove the 4 bolts, 2 nuts, 2 wire brackets, the intake manifold and throttle body assembly.
- (d) Remove the gasket from the intake manifold and throttle body assembly.

11. REMOVE CAMSHAFT TIMING CHAIN

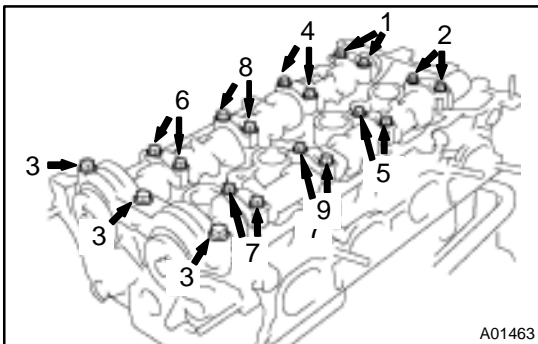
(See page [EM-13](#))

12. REMOVE TIMING SPROCKET AND VVT SPROCKET

(See page [EM-13](#))

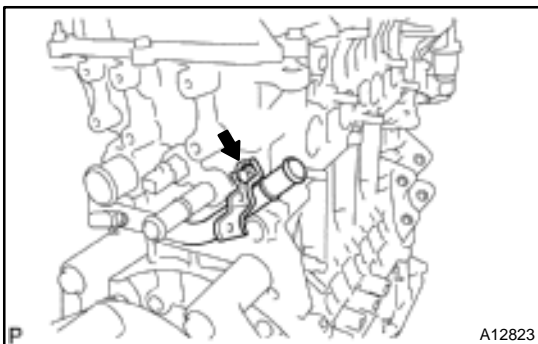
13. REMOVE CAMSHAFT TIMING OIL CONTROL VALVE

(See page [SF-42](#))



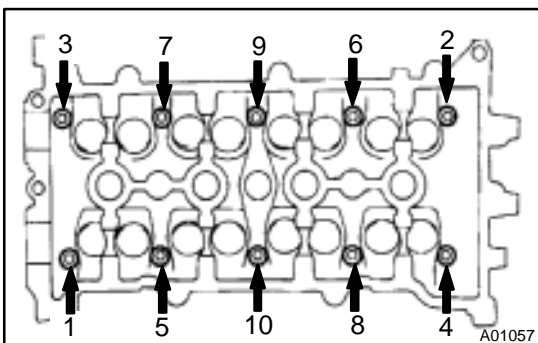
14. REMOVE CAMSHAFTS

Uniformly loosen and remove the 19 bearing cap bolts in several passes, in the sequence shown, and remove the 9 bearing caps, intake and exhaust camshafts.



15. REMOVE CYLINDER HEAD ASSEMBLY

- (a) Remove the bolt of the water bypass pipe from the cylinder head.

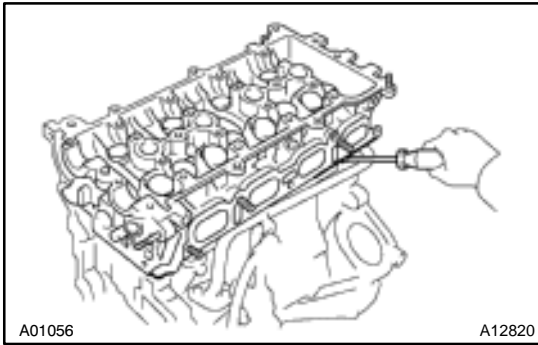


- (b) Using a 10 mm bi-hexagon wrench, uniformly loosen and remove the 10 cylinder head bolts in several passes, in the sequence shown.

NOTICE:

Head warpage or cracking could result from removing bolts in an incorrect order.

- (c) Remove the 10 plate washers.



- (d) Using a screwdriver, pry between the cylinder head and cylinder block, and remove the cylinder head.

NOTICE:

Be careful not to damage the contact surfaces of the cylinder head and cylinder block.

16. REMOVE CAMSHAFT TIMING OIL CONTROL VALVE FILTER (See page [SF-42](#))
17. REMOVE CAMSHAFT POSITION SENSOR (See page [IG-5](#))
18. REMOVE ECT SENSOR (See page [SF-55](#))