CAUTION!

♦ DO NOT re-use fasteners that are worn or deformed in normal use.

♦ Some fasteners are designed to be used only once and are unreliable and may fail the second time. This includes, but is not limited to nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated and any other time when deemed necessary by inspection.

♦ To prevent contact corrosion, use only approved nuts, bolts and washers, etc. These fasteners have a special coating and are identified by green coloring.

Note:

♦ Secure all hose connections with original equipment hose clamps.

♦ Always replace opened or cut ties wraps in the same position when installing.

♦ Replace cylinder head bolts.

♦ Replace seals, gaskets, self-locking nuts and bolts which have specified tightening instructions.

♦ When installing a new cylinder head or cylinder head gasket, drain all old coolant and re-fill with new coolant => Page 19-9.

Unbolt guide tube for oil dipstick from cylinder head.
- Remove engine cover -arrows-.
- Remove cylinder head covers -1- and -2-.
- Remove intake air duct for air cleaner.

**WARNING!**

- Fire hazard! Do not have anything in the area that can ignite fuel or fumes.
- Clean fuel connections and cover with rag to catch fuel spray.

- Disconnect fuel supply and return lines -1-.
- Disconnect hose -2-.
- Remove upper bolt between exhaust manifold and exhaust pipe.
- Disconnect connector for left oxygen sensor -arrow- and move wiring aside.

- Disconnect connector -2- for oxygen sensor and free wiring to oxygen sensor.

- From below remove bolts -arrows- between exhaust manifold and exhaust pipe.
- Remove exhaust pipe from retainer -arrow-.

- Loosen double clamp -1- and move it forward.

- Carefully remove exhaust pipe.

CAUTION!
DO NOT bend swivel joint of exhaust pipe by more than 10 ° to prevent damage.

- Remove toothed belt guard.
- Disconnect connector -2-.
- Disconnect connector -3-.
- Remove toothed belt from camshafts => Page 13-19.
- Remove camshaft sprocket for cylinder bank 5-8.

![Image 1](image1)

- Loosen bolts -1-.
- Remove bolts -2- and remove toothed belt cover.

![Image 2](image2)

- Disconnect hose -1-.
- Remove bolts -2-.
- Disconnect connector -3-.
- Remove bolt -4- and remove oil pipe.
- Remove bolts -5- and take out combination valve.
- Remove coolant line -arrows-. 

- Disconnect hose -1-. 

- Disconnect hose -2-. 

- Remove bracket -3-. 

- Disconnect connectors -4- from ignition coils. 

- Remove ignition coils -5-. 

- Disconnect connector -6-. 

- Remove cylinder head cover.
- Disconnect connector -1- for knock sensor, cylinder bank 5-8.
- Disconnect connectors -arrows- from injectors, cylinder bank 5-8, and move wiring harness clear.
- Disconnect connector for knock sensor, cylinder bank 1-4.
- Disconnect connectors from injectors, cylinder bank 1-4.

- Disconnect connector -1-.
- Disconnect hose -2-.
- Remove bolts -8-.
- Disconnect connector -9-.
- Remove coolant pipe.
- Remove intake manifold.
- Loosen cylinder head bolts in sequence shown.
- Remove cylinder head and place on suitable soft surface.

**Installing**

Cylinder head, installing => Page 15-24