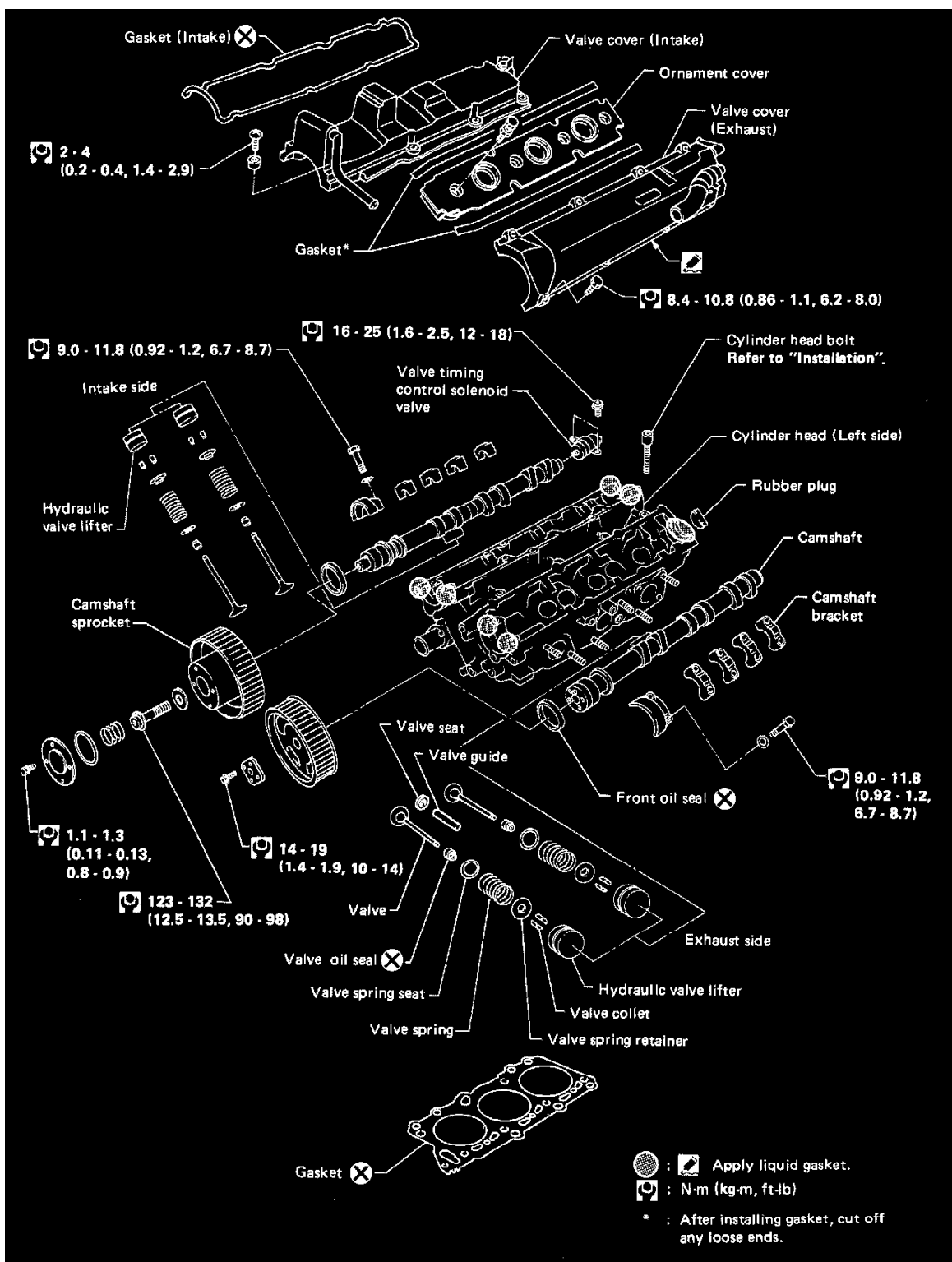
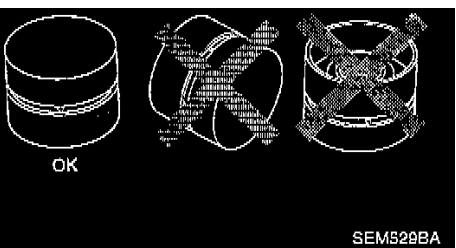
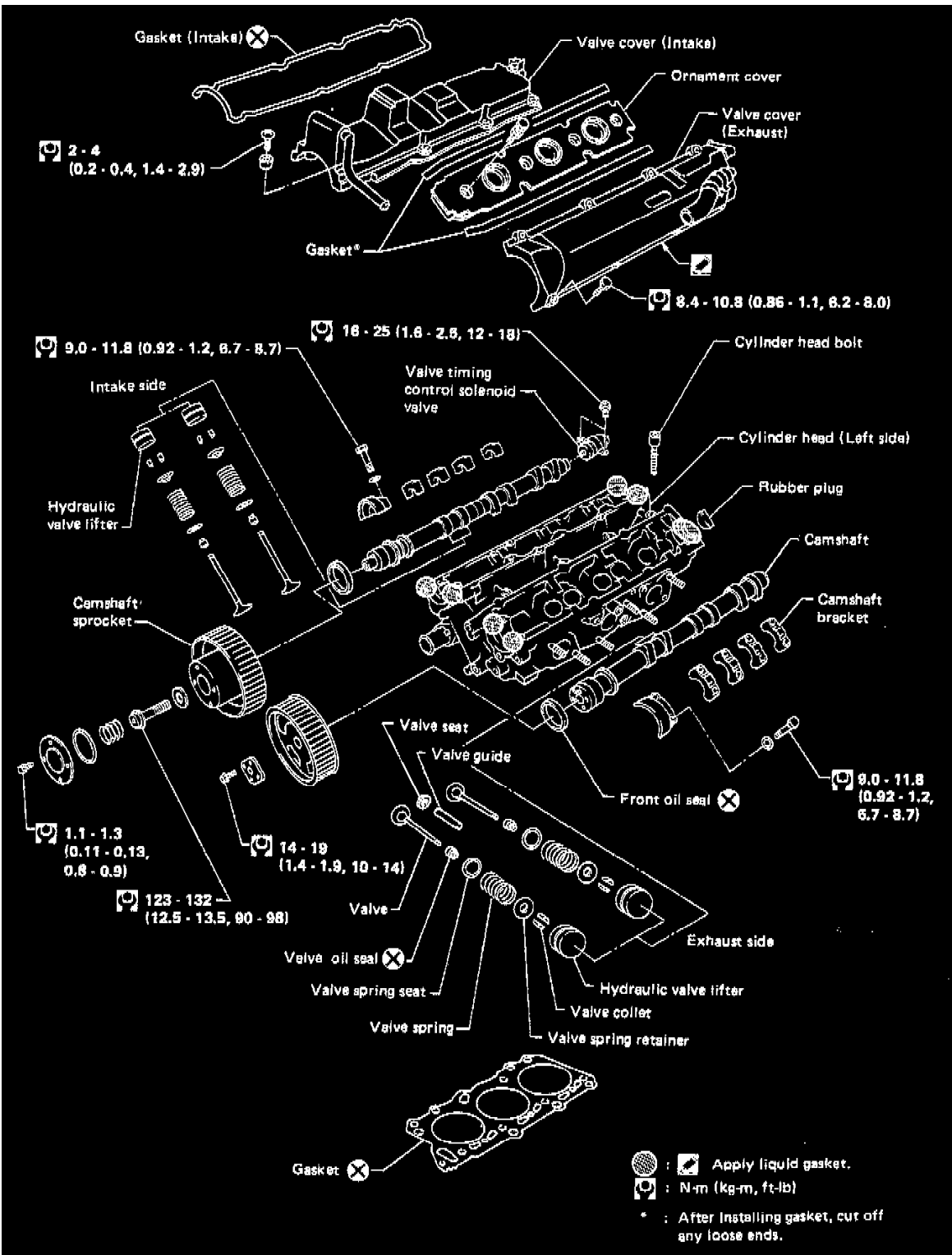


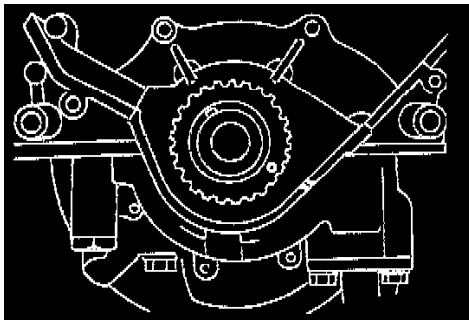
Cylinder Head Assembly: Service and Repair Installation





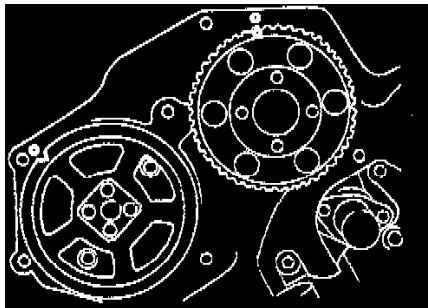
- Do not put hydraulic lash adjusters (HLA) upside down, otherwise air will enter HLA, causing it to make a noise.
- Do not disassemble HLA.
- Attach tags to HLA so as not to mix them up.
- HLA should be immersed in engine oil.



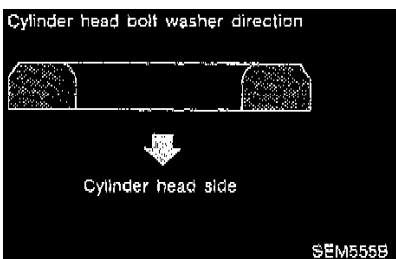


Installation

1. Set No.1 piston at TDC on its compression stroke as follows:
 - a. Align crankshaft sprocket aligning mark with mark on oil pump body.



- b. Align camshaft sprocket aligning mark with mark on timing belt rear cover.
2. Install cylinder head with new gasket.

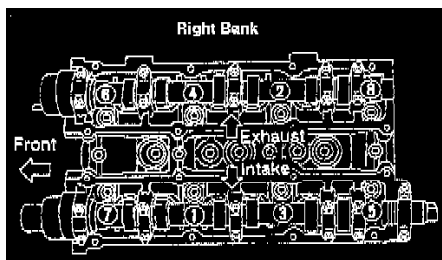


Caution:

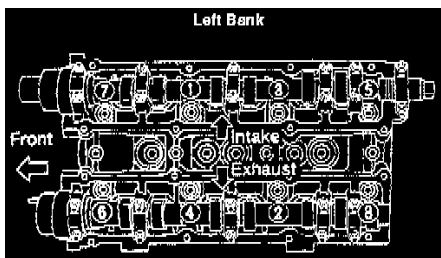
- Be sure to install washers between bolts and cylinder head.
- Do not rotate crankshaft and camshaft separately, or valves will hit piston heads.

3. Install cylinder head bolts.

Install short bolts "L2" into the correct holes of cylinders #1 and #6 as shown in image of step 4 f.
Apply engine oil to threads and seating surfaces of cylinder head bolts before installing them.



Tightening Sequence

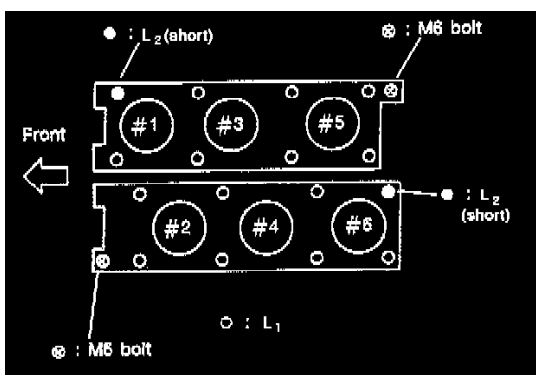


Tightening Sequence

4. Tighten cylinder head bolts in numerical order as shown.

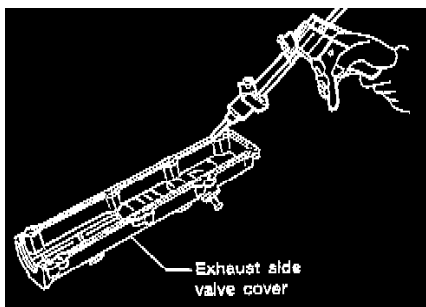
Tightening procedure

- Tighten all bolts to **39 Nm (4.0 kg/m, 29 ft/lb)**.
- Tighten all bolts to **123 Nm (12.5 kg/m, 90 ft/lb)**.
- Loosen all bolts completely.
- Tighten all bolts to **34 to 44 Nm (3.5 to 4.5 kg/m, 25 to 33 ft/lb)**.
- Tighten all bolts to **123 Nm (12.5 kg/m, 90 ft/lb)** or if an angle wrench is available, tighten bolts **70 to 75 degrees (L1)**, **65 to 70 degrees (L2)** clockwise.



Head Bolt Arrangement

- f. Tighten the M6 bolts as shown to **10 to 12 Nm (1.0 to 1.2 kg/m, 7 to 9 ft/lb)**.



5. Install valve covers.

Note: When installing exhaust side valve cover, apply liquid gasket as shown.

- Install intake manifold.
- Install remaining parts.