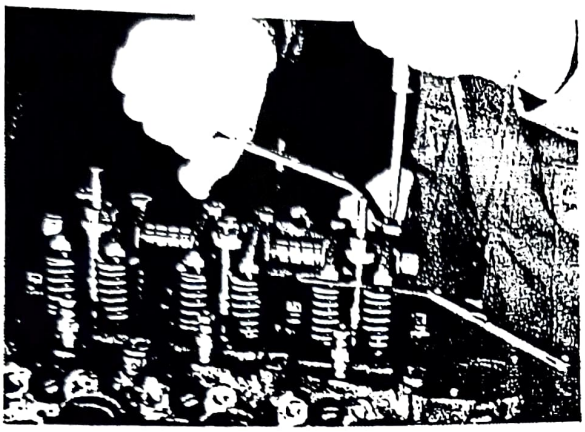
2 ADJUSTMENT

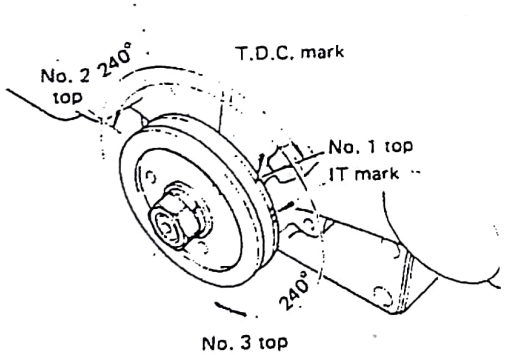
2-1 Adjustment of valve clearance

1) Pull off the air breather pipe from the rocker cover, and then loosen off rocker cover bolts.
Adjust the valve clearance at top dead center of compression stroke (cold) of each cylinder as described below. Prior to the measurement of the valve clearance, tighten cylinder head bolts to a specified torque.



Adjustment of valve clearance

2) Align the timing marks on the gear case and the crankshaft pulley as shown. In this position, No. 1 cylinder is in top dead center of its compression stroke. Check both intake and exhaust valve clearances of the cylinder. If the valves have no specified clearance, adjust by means of the adjusting screws. Remember to align the timing marks properly; if not, the valve will not come to the highest point of the cam.



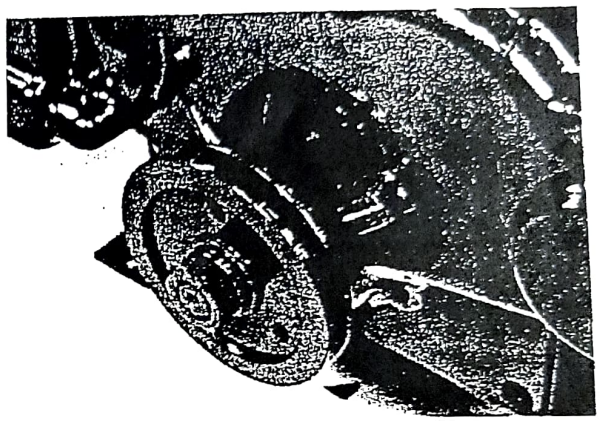
Timing mark

3) Next, the piston of No. 3 cylinder comes to top dead center. Turn the crankshaft 240° clockwise from the above position, aligning the timing mark of the crankshaft with that of the gear case. Then check and adjust the valve clearance.

4) To check No. 2 cylinder valve clearance, turn the crankshaft another 240° clockwise, then align the timing marks and check and adjust the valve clearance in a similar manner.

2-2 Adjustment of injection timing

1) Incorrect fuel injection timing will result in hard engine starting and poor engine performance. Adjust the injection timing in the following manner. First remove No. 1 delivery valve holder. Pull off the delivery valve and spring. Install the delivery valve holder only. Subsequently turn the crankshaft, and find an instant when the fuel flowing out of the outlet port of the holder stops. This instant is the injection timing to be obtained. The injection timing differs with engine specifications; be sure to adjust the timing to specification (align with the timing mark on the crankshaft pulley).



Checking injection timing

2) When the specified injection timing cannot be obtained, adjust by increasing or decreasing the thickness of the injection pump mounting shim. Changing the shim thickness by 0.1 mm changes the injection timing by about 1°. If this adjustment cannot be made, adjust by the following method without removing delivery valve and spring. First disconnect No. 1 injection pipe at the nozzle holder side. Then, using a wrench on the crankshaft pulley nut, gradually turn the nut. The instant the fuel in the forward end of the pipe expands is the injection timing. In this case, the injection timing takes place about 1° later than the specified.

Model	Injection timing
K3A K3B	19° B.T.D.C.

2-3 Adjustment of high speed

1) With the damper spring left free (with the adjusting bolt loosened), set the engine speed to "A" rpm (see below)