Standard dimensions of the valves and valve guides are as shown in Fig. 15. At the time of replacing the valve guides, the inside diameter of new guides should always be finished 0.316 in (8.015 mm) after installed in the cylinder head, 0.315 in (8.000 mm) as shown in the diagram. Sinking of the valve disk from the surface of head should be 0.040 to 0.043 in (1.0 to 1.1 mm). (See Fig. 16.) Be sure to inspect this. If the dimension were smaller than the specified, the valve may hit the piston against the crown top and cause damages.

(b) Adjustment of valve clearance

Valve clearance is very important as it governs the engine performance. The adjustment should be effected correctly, in the following manner and order:

i. Remove cylinder head cover. With piston at compression top dead center, aline the "TC" marked on the outside of flywheel with notched mark of peephole on the side of flywheel housing. This is the position where rocker arm is playing, not pushing valve downward with its tip. Make adjustment. For this adjustment, engine should be cold.

ii. Referring to Fig. 17, loosen lock nut (1) and adjust clearance of rocker arm to valve stem to 0.007 to 0.009 in (0.18 to 0.22 mm) by thickness gage. After adjusting, tighten lock nut securely.

iii. If there is no thickness gage available, first make the clearance "0" by using adjust bolt (2). While doing this, be careful not to push the stem downward. Next, unturn the bolt 65 to 80°. Standard clearance of 0.007 to 0.009 in (0.18 to 0.22 mm) will then be attained. Thread pitch of bolt (2) is 0.039 in (1 mm). After adjustment, lock the bolt with lock nut securely.

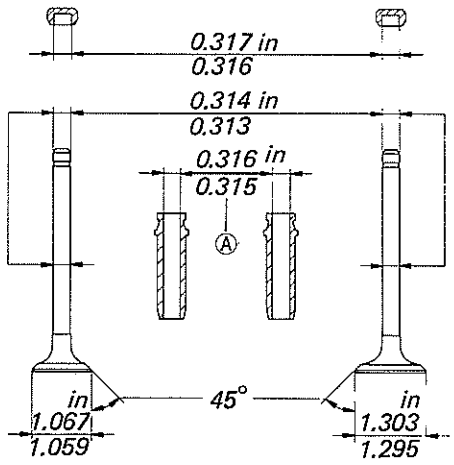

Fig. 15. Standard Dimensions of Valves, Valve Guides, Valve Gap

A: Finished ID of guide installed in cylinder head.

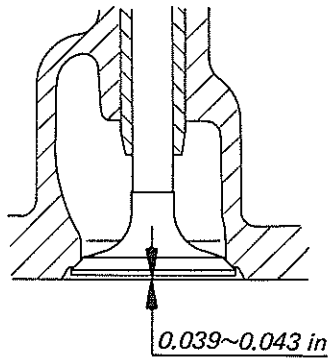

Fig. 16. Sinking of Valve

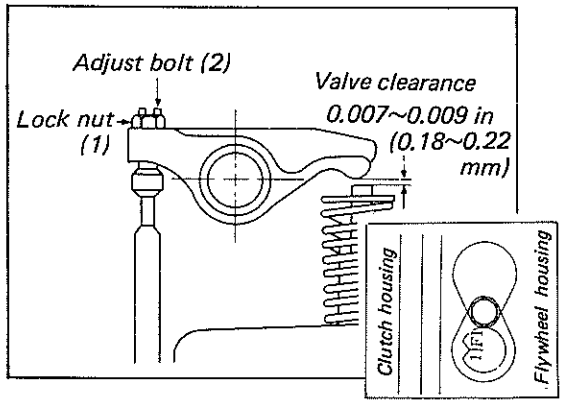

Fig. 17. Adjustment of Valve Clearance

(c) Valve timing

When the valve clearance has been adjusted as shown in Fig. 17, the standard valve timing shown in the chart can be attained:

"IO"	Intake valve opens	TDC - 20°
"IC"	Intake valve closes	BDC + 45°
"EO"	Exhaust valve opens	BDC - 50°
"EC"	Exhaust valve closes	TDC + 15°

Valve clearance: 0.007 to 0.009 in (0.18 to 0.22 mm) with engine cold

(d) Rocker arms should be assembled correctly, as shown in Fig. 18.

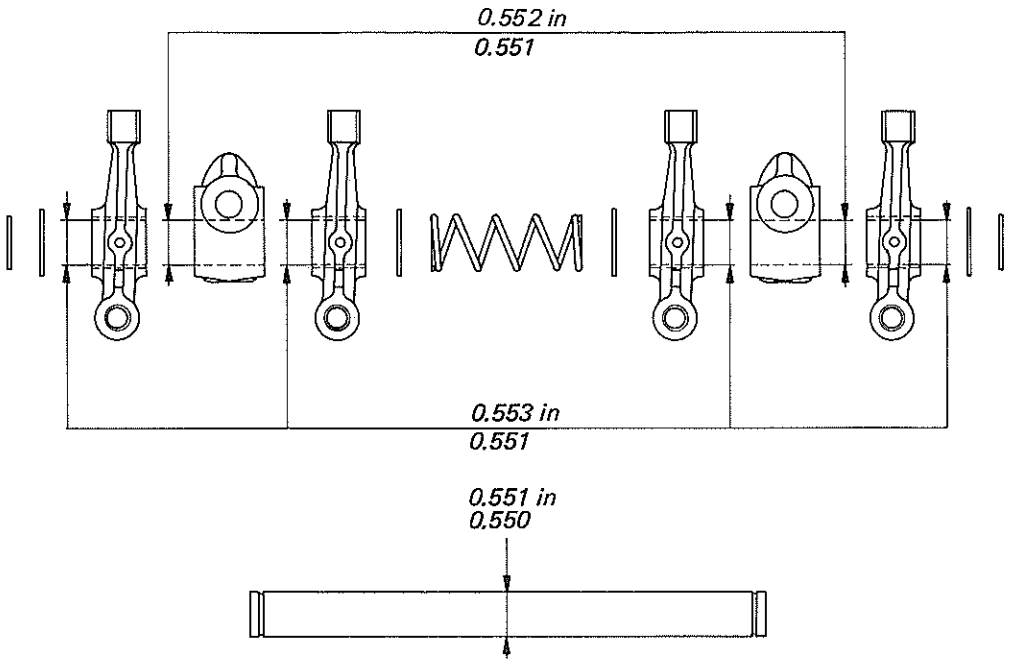

Fig. 18. Standard Relative Position of Rocker Arms

(e) Decompression device

Assemble the related parts in the manner shown in Fig. 19 and pull the lever from the position of operation to that of decompression to see if the device is working properly. In case the battery seems to be over-discharged or in case the atmospheric temperature is low and the starter does not work well, pull the decompression lever. The engine will then be partially released from compression and then be easier to turn, the speed of rotation of the engine be increased and it would be possible to give momentum to the flywheel. In this manner the device serves to make it easier to start up the engine. After the engine gets its self-turning speed, let go hold of the lever. It will return to the operation position. Make certain of this.

CAUTION: Do not pull the decompression lever when the engine is running at high speed. If the occasion requires to do so, be sure to reduce the speed to idling before giving a pull to the lever.

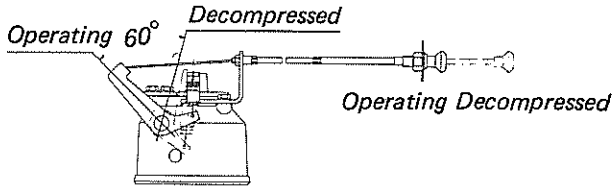

Fig. 19. Decompression Device