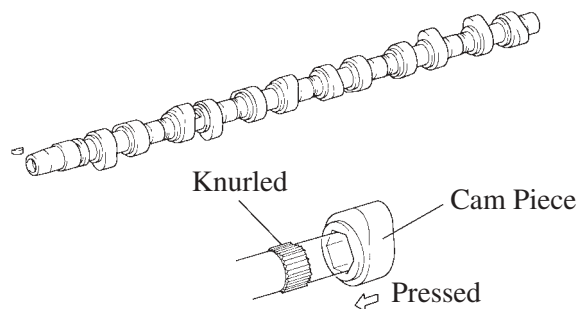


## ■ VALVE MECHANISM

### 1. Camshaft

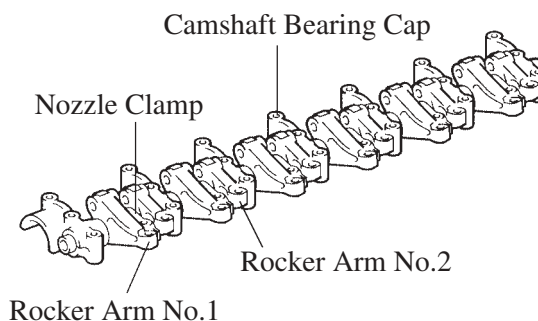
- As in the previous engine, an assembled type camshaft in which cam pieces that are pressed over the knurled shaft has been adopted.
- The shaft is made of carbon steel and is hollow for weight reduction.



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### 2. Rocker Arm Shaft

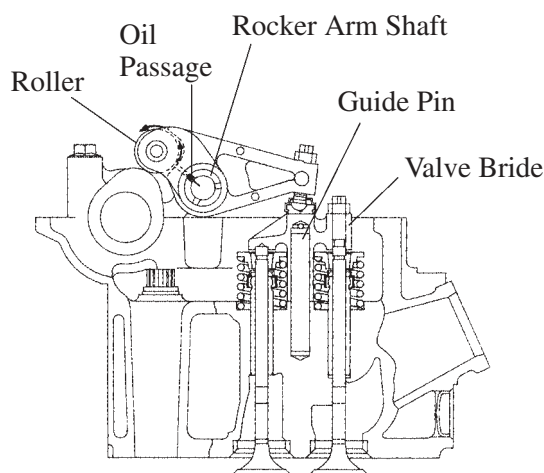
The rocker arm shaft, to which the rocker arms, nozzle clamps, and camshaft bearing caps are attached, is mounted on the cylinder head via the camshaft bearing caps.



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### 3. Rocker Arm and Valve

- As in the previous engine, the rocker arms are made of aluminum and use rollers to improve wear resistance and to reduce friction loss.
- The length of the exhaust valve has been extended so that the valve in its fully closed state is positioned closer to the piston in order to reduce the unnecessary amount of space in the combustion chamber. As a result, the combustion efficiency has been improved and exhaust emissions have been reduced.



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#### 4. Timing Gear Train

- As in the previous engine, an OHC mechanism that is driven by a belt and gears has been adopted.
- The backlash between the crankshaft timing gear, idle gear, and the injection pump drive gear has been reduced and the precision of the gear tooth flank has been improved to reduce noise.
- A bearing is used between the idle gear and the idler gear shaft to improve reliability.
- The timing belt cover has adopted a dual construction cross sectional shape containing an air layer and the portion that attaches to the engine has adopted a floating construction to reduce noise.
- The timing belt cover gasket uses foam rubber that is integrated with the cover to improve serviceability.
- A hydraulic type automatic tensioner has been adopted.

