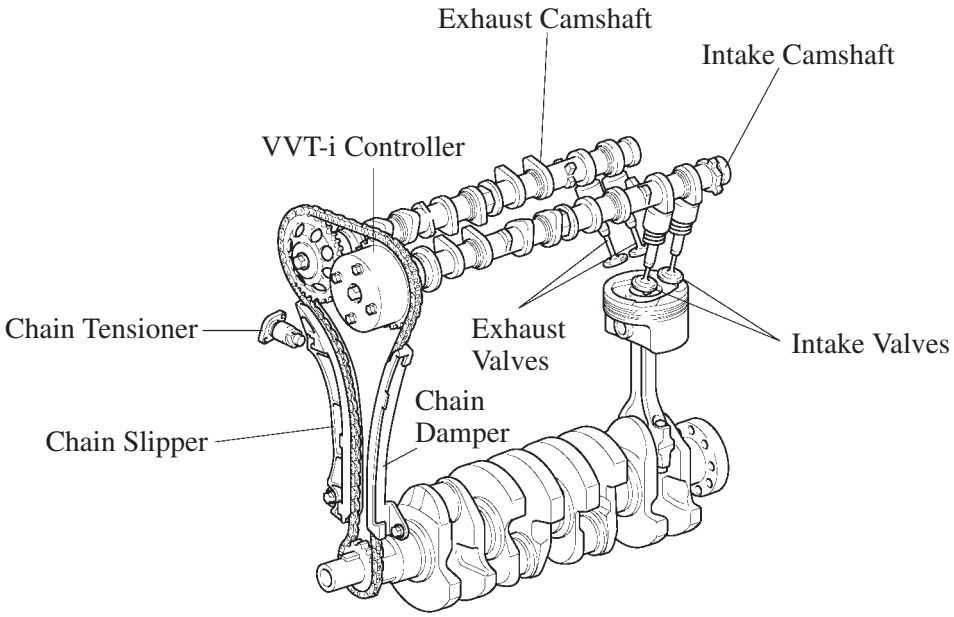
■ VALVE MECHANISM

1. General

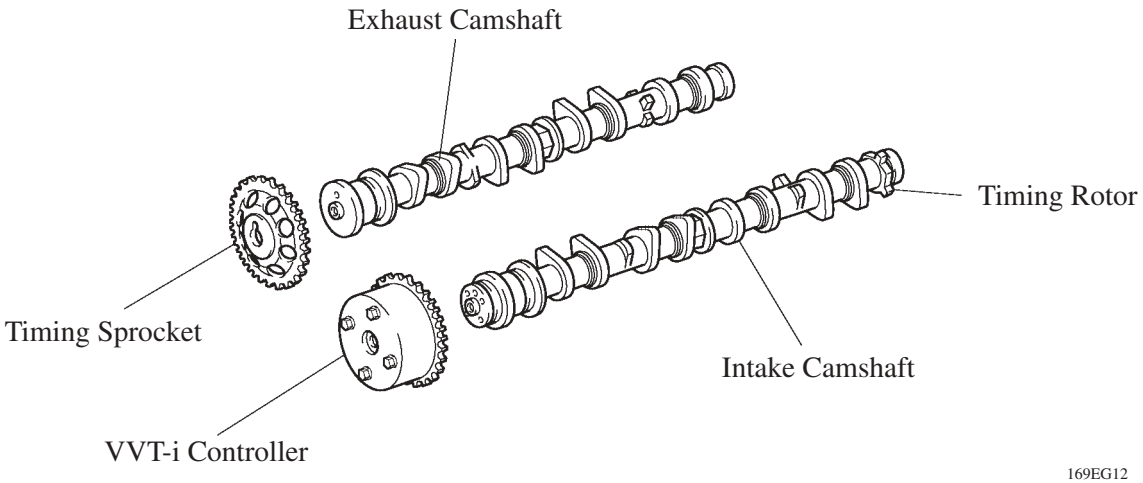
- Each cylinder is equipped with 2 intake valves and 2 exhaust valves. Intake and exhaust efficiency has been increased due to the larger total port areas.
- The valves are directly opened and closed by 2 comshafts.
- The intake and exhaust camshafts are driven by a chain.
  The VVT-i (Variable Valve Timing-intelligent) system is used to improve fuel economy, engine performance and reduce exhaust emissions.



169EG11

2. Camshafts

- In conjunction with the adoption of the VVT-i system, an oil passage is provided in the intake camshaft in order to supply engine oil to the VVT-i system.
- A VVT-i controller has been installed on the front of the intake camshaft to vary the timing of the intake valves.
- The intake camshaft is provided with timing rotor to trigger the camshaft position sensor.

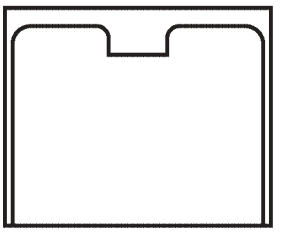


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3. Valve Lifter

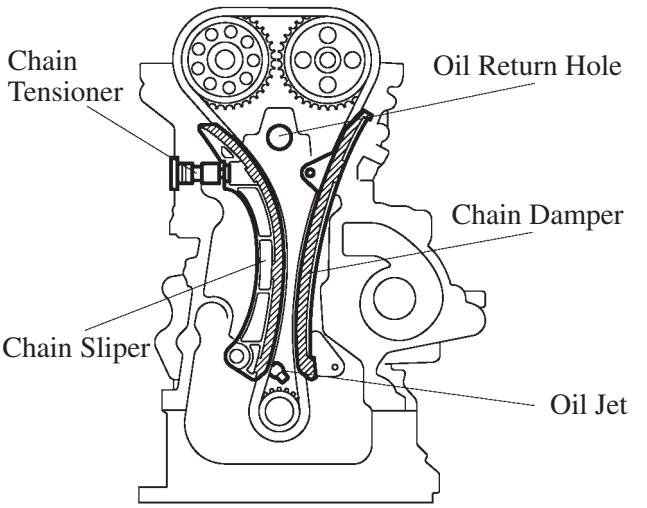
Along with the increase of the amount of valve lift, the valve adjusting shims have been discontinued. The adjustment of the valve clearances is accomplished by selecting and replacing the appropriate valve lifters.



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4. Timing Chain

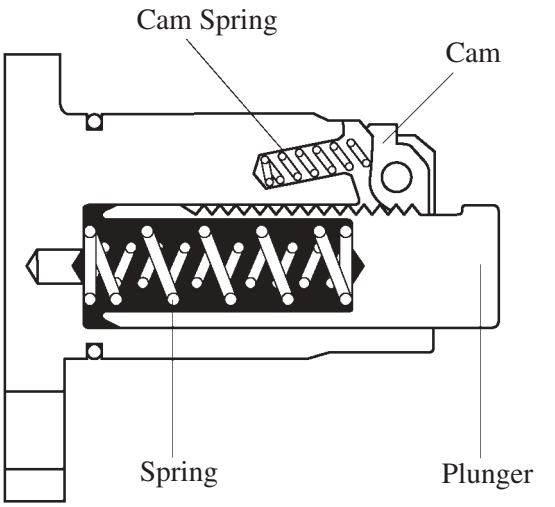
- A roller chain with an 8 mm pitch has been adopted to make the engine more compact.
- A material which has excellent wear resistance has been selected for the timing chain to improve reliability.
- The timing chain is lubricated by an oil jet.



174EG06

5. Chain Tensioner

- The chain tensioner uses a spring and oil pressure to maintain proper chain tension at all times.
  The chain tensioner suppresses noise generated by the chain.
- A ratchet type non-return mechanism is also used.
- To improve serviceability, the chain tensioner is constructed so that it can be removed and installed from the outside of the timing chain cover.



148EG37