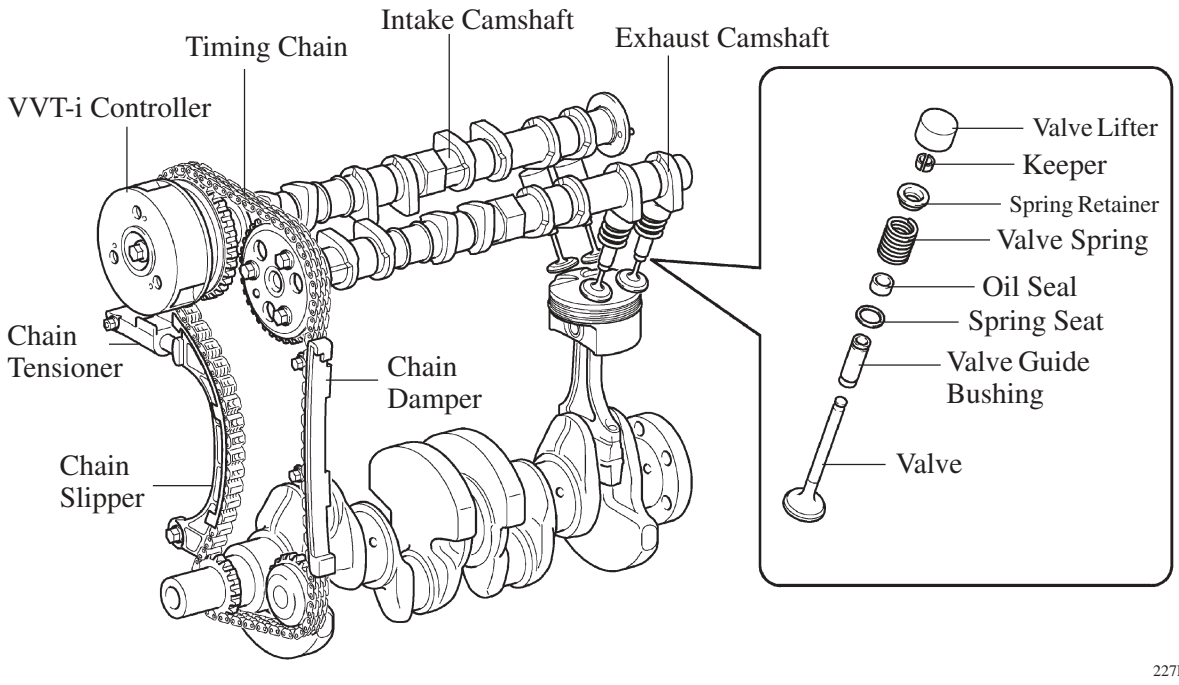
■VALVE MECHANISM

1. General

- A shimless type valve lifter is used to increase the amount of the valve lift.
- The intake and exhaust camshafts are driven by a timing chain.
- The VVT-i system is used to achieve low fuel consumption, high engine performance and reduce exhaust emissions. For details of VVT-i system, see page EG-101.

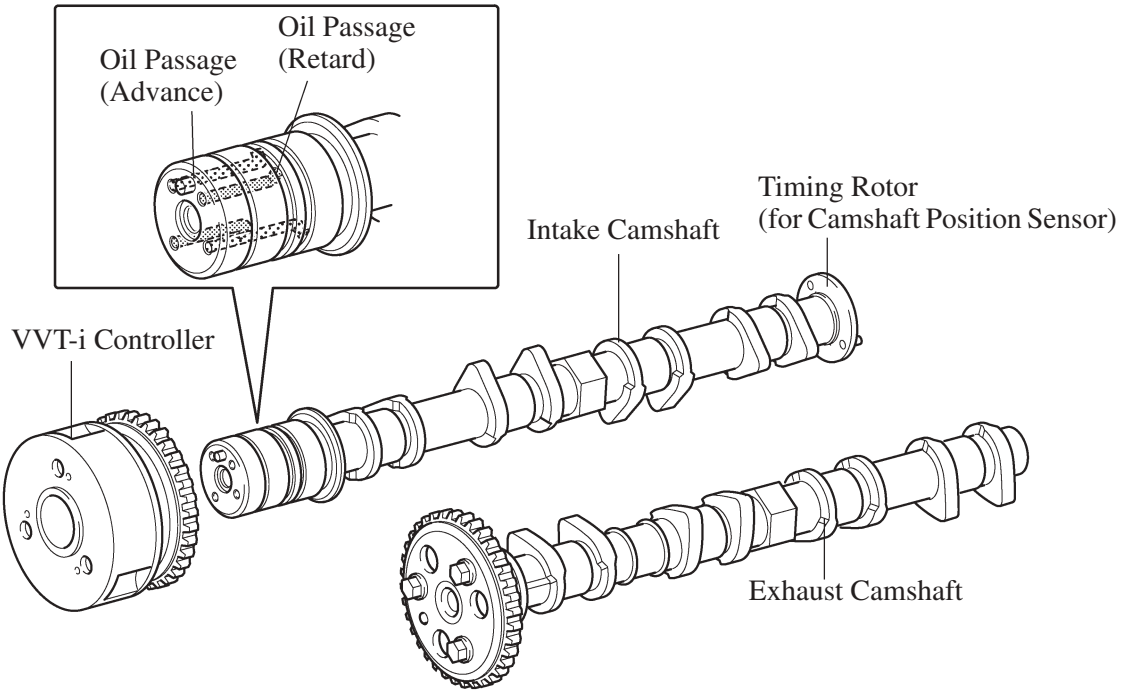


Service Tip

The adjustment of the valve clearance is accomplished by selecting and replacing the appropriate valve lifters. Adjusting valve lifters are available in 29 increments of 0.020 mm (0.0008 in.), from 5.120 mm (0.2016 in.) to 5.680 mm (0.2236 in.).
For details, refer to the Yaris Repair Manual (Pub. No. RM00S1E).

2. Camshaft

- Oil passages are provided in the intake camshaft in order to supply engine oil pressure to the VVT-i system.
- A VVT-i controller is installed on the front of the intake camshaft to vary the timing of the intake valves.

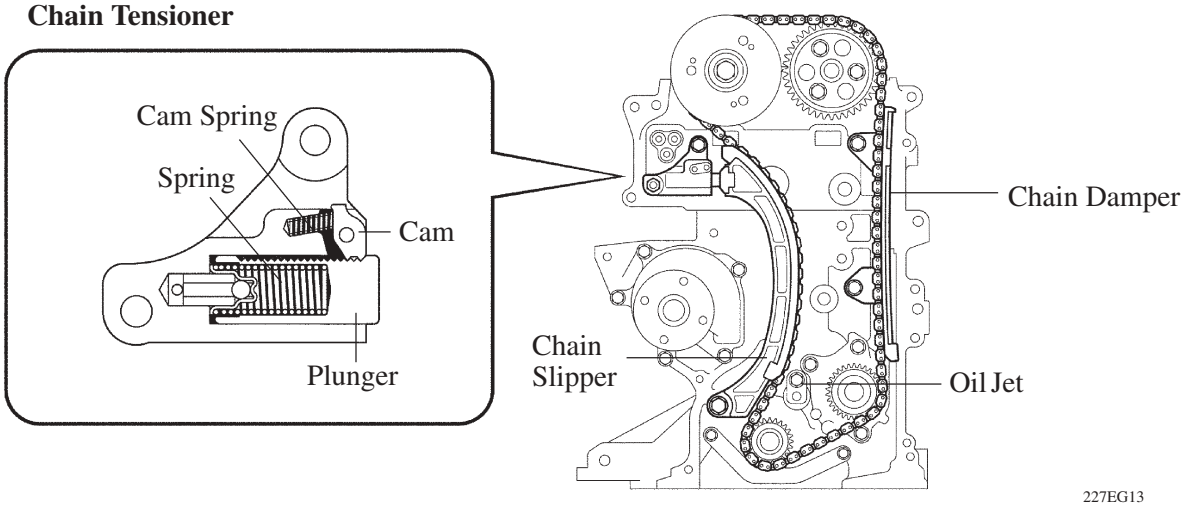


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3. Timing Chain and Chain Tensioner

- A silent type timing chain with a 6.35 mm (0.25 in.) pitch is used to make the engine compact and reduce noise.
- The timing chain is lubricated by an oil jet.
- 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 timing chain.
- A ratchet type non-return mechanism is used in the chain tensioner.

Chain Tensioner



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