VARIABLE VALVE TIMING

VARIABLE VALVE TIMING & LIFT ELECTRONIC CONTROL SYSTEM (VTEC)

Civic 1.5L (D15Z1)

Engine is equipped with 4 valves per cylinder. At low engine speeds, the primary intake valve operates with normal lift characteristics and secondary intake valve lifts slightly to prevent fuel accumulation in intake port.

When engine speed exceeds 2500 RPM and other conditions are met (determined by ECM), oil pressure is applied through a spool valve to timing and synchronizing pistons located in valve rocker arms. Synchronizing piston locks primary and secondary rocker arms together. In this way both valves operate at the higher lift and duration of the primary cam and valve. This system of locking rocker arms together is designated VTEC-E.

Civic & Civic Del Sol 1.6L (D16Z6)

VTEC system used on the 1.6L engine differs from the VTEC-E system used on the 1.5L engine. This system utilizes 3 different intake cam lobes and rocker arms. At low speed, the primary and secondary intake valves are operated by their own separate cam lobes. The connecting (middle) rocker is being operated by the high speed cam lobe at all times. At low speed the connecting rocker arm is not connected to either primary or secondary rocker arms or valves and has no effect on engine operation.

When engine speed exceeds 4800 RPM and other conditions are met (as determined by ECM), oil pressure is applied (through spool valve) to synchronizer pistons located in primary and connecting rocker arms. This locks primary, connecting (middle) and secondary rocker arms together so they are driven as a single unit by the higher lift and duration cam that operates the connecting (middle) rocker arm