J VALVE MECHANISM

1. General

- D Each cylinder of this engine has 2 intake valves and 2 exhaust valves. Intake and exhaust efficiency is increased due to the larger total port areas.
- D This engine uses No.1 valve rocker arm sub-assemblies with built-in needle bearings. This reduces the friction that occurs between the cams and the rocker arms that push the valves down, thus improving fuel economy.
- D Fixed valve rocker arm pivots and No.1 valve rocker arm sub-assemblies are adopted to support the increased maximum engine speed.
- D Shims mounted on the ends of the valve stems are used for adjustment of valve clearance.
- D As a result of adopting titanium intake valves, high valve lift and increased engine speed are assured, improving output performance.
- D As a result of the adoption of a high nickel content heat resistant steel alloy for the umbrella portion of the exhaust valves, high temperature durability is improved.
- D To ensure highly accurate valve timing, separate chain sub-assemblies are driven by the crankshaft in order to rotate the intake camshafts of the left and right banks. The exhaust camshafts are driven by the intake camshaft of the respective bank via a No.2 chain.
- D Net-shape sintered composite camshafts are used.
- D This engine has a dual VVT-i (Variable Valve Timing-intelligent) system which controls the intake and exhaust camshafts to provide optimal valve timing according to driving conditions. With this adoption, lower fuel consumption, higher engine performance, and fewer exhaust emissions have been achieved. For details of dual VVT-i control, refer to page EG-91.