

22 April 2015

TOYOTA'S DUAL VVTI TECHNOLOGY

Toyota's Dual VVTi Technology

More modern & efficient

Toyota always implement the results of technology development on each of their products. Their latest application is Dual VVT-i (Variable Valve Timing with intelligent) technology. The technology is a smarter ways that could make engine more efficient and more eco-friendly.

The sistem is located on the cylinder head which is used as automatic time controller of the engine's inlet and exhaust valves. Today's 4-stroke engine has inlet and exhaust valves to control air-fuel mixture flowing into the combustion chamber then go out through the exhaust pipe.

By implementing VVT-i, the valve timing could be adjusted depend on engine requirement. Previously, this system only being applied only on intake valve. On the next development, it also controlled the exhaust valve. And, that's how the Dual VVT-i systme was born.

By controlling the inhaust and exhaust pipe, air flow, and emission on any condition, as the result, engine performance will become better. As example, when starting the engine, it could maximize the control so the engine could be set on its ideal temperature. The advantage is the engine power and torque could be available in instan. Even so, the catalytic converter, the hot temperature could be obtained faster so it could work better on filtering emission, therefore more eco-friendly.

Not being left out is when the engine already achieve its working temperature, the exhaust valve could be adjusted with engine rotation. Of course, the setting should be different between while we are in a traffic jam or cruising on the highway.

Not a surprise that Toyota's power source nowadays has better performance and efficiency even though the capacity is still the same. For example the Toyota Altis' 2ZR-FE 1.798 cc four cylinder 16 Valve engine which now could burst 151 dk/6.400 rpm power and 190,2 Nm/4.000 rpm torque. More powerful, but economical and eco-friendly