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DESCRIPTION

Continuous Variable Valve Timing (CVVT) system advances or retards the valve timing of the intake and exhaust valve in accordance with the ECM control signal which is calculated by the engine speed and load. By controlling CVVT, the valve overlap or underlap occurs, which in turn improves fuel efficiency, reduces exhaust gases (NOx, HC) and improves engine performance by reducing pumping loss, generating internal EGR effect, improving combustion stability, improving volumetric efficiency and increasing expansion work. This system consists of the Variable Force Solenoid (VFS) which supplies the engine oil to the cam phaser or cuts the engine oil from the cam phaser in accordance with the ECM PWM (Pulse With Modulation) control signal, the Cam Phaser which varies the cam phase by using the hydraulic force of the engine oil.

Variable force solenoid (VFS) [intake] changes its force depending on the PWM duty to control the stroke of the CVVT oil control valve (OCV) [intake] bolt. The delivered oil rotates the rotor connected to the camshaft of the cam phaser and rotates the camshaft to the engine rotating direction (intake advanced / exhaust retarded) or the opposite direction (intake retarded / exhaust advanced) to change the phase angle of the cam.

Variable Force Solenoid (VFS) [Banks 1, 2/Intake]



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