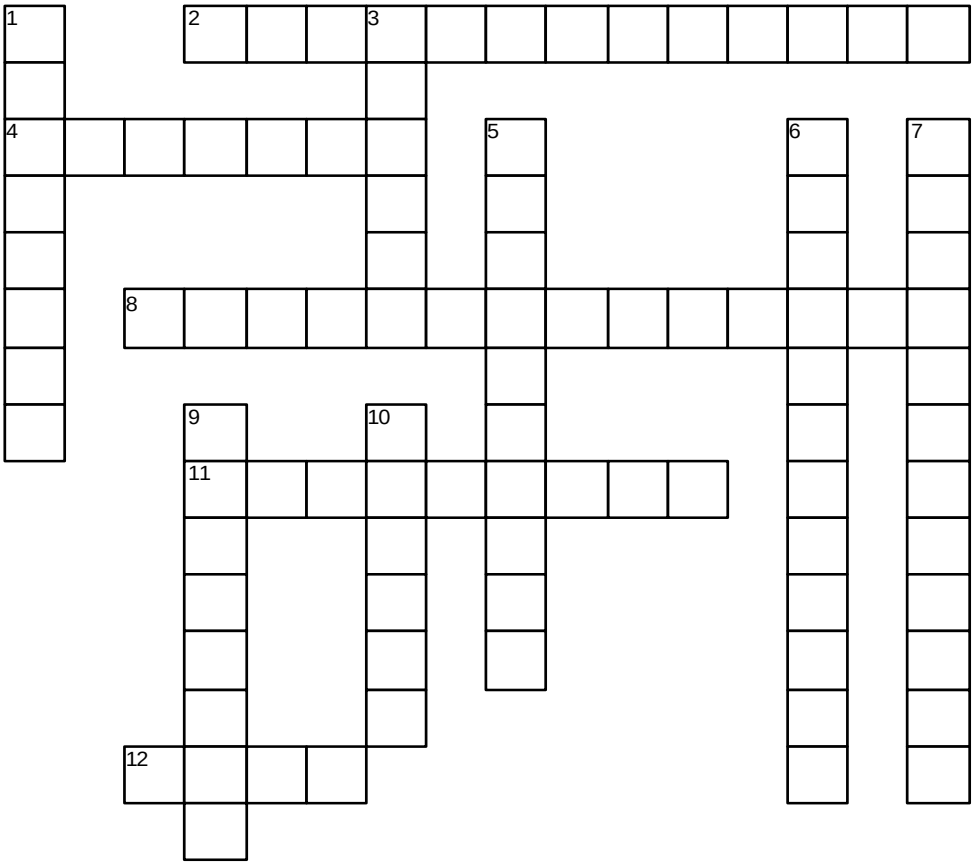
Variable Valve Timing and Displacement Systems

Chapter 29



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ACROSS

2 _____ _____ timing (VVT) involves the use of electric and hydraulic actuators that are used to change the timing of the camshaft(s) in relation to the crankshaft.

4 An engine that uses VVT on the _____ only is used to create an EGR affect, thereby eliminating the need for an exhaust gas recirculation (EGR) valve.

8 Variable camshafts such as the system used by honda/acura are called variable valve timing and _____ _____ control (VTEC).

11 The ___ _____ is located on the exhaust cams and is part of the exhaust cam sprocket.

12 Many double overhead camshaft (DOHC) engines use VVT on ____ the intake and the exhaust camshafts.

DOWN

1 Some _____ valve (OHV) engines that use a single camshaft to control the valves are equipped with a phaser that allows the cam to be rotated in relation to the crankshaft to achieve VVT.

3 Changing the _____ camshaft timing results in improved engine performance. This is due to commanding the intake valve to close earlier in the compression stroke, resulting in less of the air/fuel charge being pushed back into the intake port (reversions).

5 The ____ _____ system used on OHC engines uses a camshaft position (CMp) sensor on each camshaft.

6 A _____ controlled vane phaser is controlled by the pCM by using a 12-volt pulse-width-modulated signal to an electromagnet, which operates the OCV.

7 Conventional camshafts are permanently _____ to the crankshaft so that they operate the valves at a specific point in each combustion cycle.

9 The camshaft position oil control valve (OCV) directs oil from the oil feed in the head to the appropriate camshaft position actuator oil passages.

10 A _____ phaser is used on overhead camshaft (OhC) engines.