

The unit injector pressurizes the fuel. The correct amount of fuel is then injected into the cylinder block at precise times. The ECM determines the injection timing and the amount of fuel that is delivered. The unit injector is operated by a camshaft lobe and a rocker arm. The camshaft has three camshaft lobes for each cylinder. Two lobes operate the inlet and exhaust valves, and the other lobe operates the unit injector mechanism. Force is transferred from the unit injector lobe on the camshaft through the lifter to the pushrod (4). The force of the pushrod is transferred through rocker arm assembly (2) and to the top of the unit injector. The adjusting nut (1) allows setting of the unit injector adjustment. Refer to Systems Operation/Testing and Adjusting, "Electronic Unit Injector - Adjust" for the proper setting of the unit injector adjustment.

Unit Injector

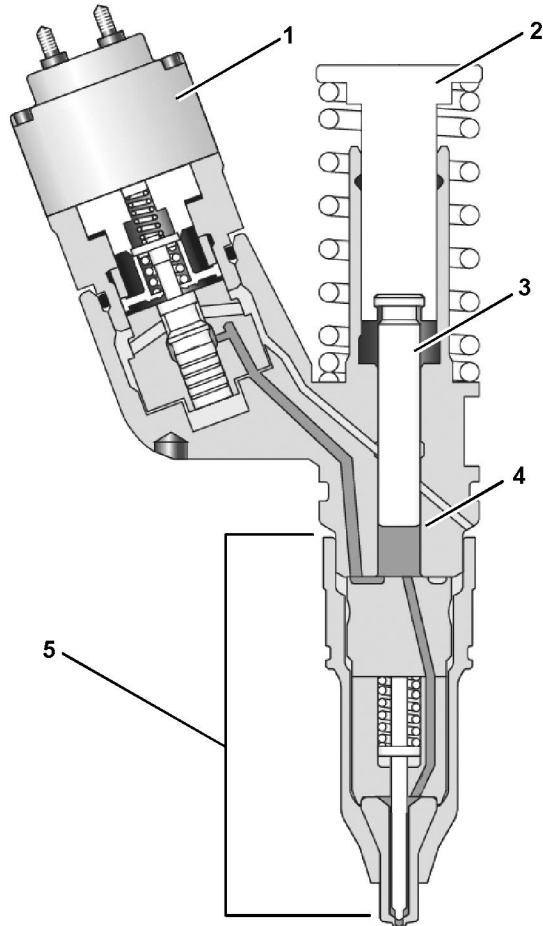


Illustration 8

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- (1) Solenoid
- (2) Tappet
- (3) Plunger
- (4) Barrel
- (5) Nozzle assembly

Operation of the Electronic Unit Injector

The operation of the electronic unit injector consists of the following four stages: Pre-injection, Injection, End of injection, and Fill. Unit injectors use a plunger and barrel to pump high pressure fuel into the combustion chamber. Components of the injector include the tappet, the plunger, the barrel and nozzle assembly. Components of the nozzle assembly include the spring, the nozzle check, and a nozzle tip. The cartridge valve is made up of the following components: solenoid, armature, poppet valve, and poppet spring.

The injector is mounted in an injector bore in the cylinder head which has an integral fuel supply passage. The injector sleeve separates the injector from the engine coolant in the water jacket. Some engines use a stainless steel sleeve. The stainless steel sleeve fits into the cylinder head with a light press fit.