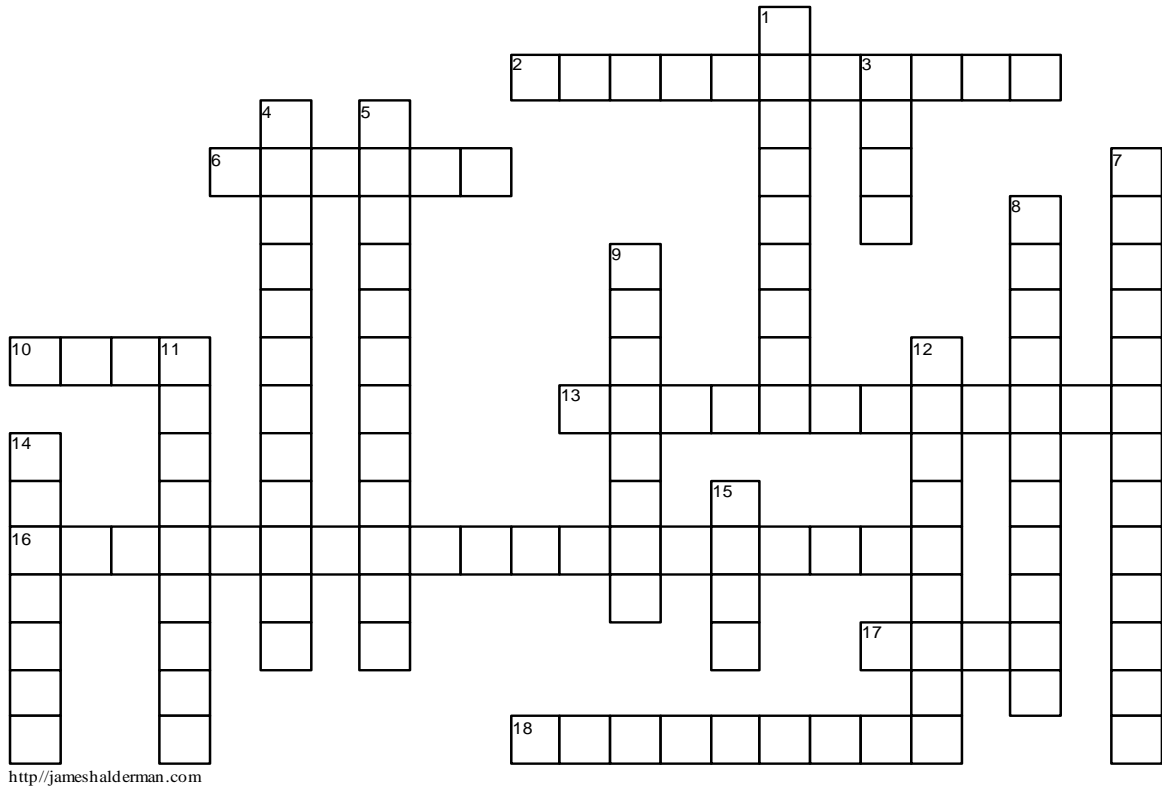


Diesel Engine Parts, Operation and Aftertreatment

Chapter 16



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ACROSS

- 2 The diesel engine requires compression ratios of 16:1 and higher. Incoming air is compressed until its temperature reaches about 1,000°F (540°C). this is called heat of _____.
- 6 In a _____ injection (abbreviated DI) diesel engine, fuel is injected directly into the cylinder.
- 10 a ____ plug is a heating element that uses 12 volts from the battery and aids in the starting of a cold engine by providing heat to help the fuel to ignite.
- 13 pressure sensor (DPS)
- 16 Ford 7.3, 6.0, and 6.4 liter (and navistar) diesels use a system called a _____ unit injection system, or HEUI system.
- 17 The diesel fuel is usually drawn from the fuel tank by a separate pump, called a ____ pump, and delivers the fuel to the injection pump.
- 18 Diesel _____ catalysts (DOC) are used in all light-duty diesel engines, since 2007.

DOWN

- 1 _____ catalytic reduction (SCR) is a method used to reduce NOx emissions by injecting urea into the exhaust stream.
- 3 Particulate Matter, also called _____, refers to tiny particles of solid or semisolid material suspended in the atmosphere.
- 4 Newer diesel engines use a fuel delivery system referred to as a _____-_____ common rail design. Diesel fuel under high pressure, over 20,000 PSI (138,000 kPa), is applied to the injectors, which are opened by a solenoid controlled by the computer.
- 5 the process of purging soot from the DPF is described as _____.
- 7 Urea is called _____ fluid (DEF) in North America and AdBlue in Europe
- 8 _____ matter (PM), also called soot, refers to tiny particles of solid or semisolid material suspended in the atmosphere.
- 9 In an _____ injection (abbreviated IDI) diesel engine, fuel is injected into a small prechamber, which is connected to the cylinder by a narrow opening.
- 11 Between the fuel tank and the lift pump is a _____-_____ separator.
- 12 Older diesel engines use a fuel system with a mechanical _____ pump and individual fuel injectors.
- 14 Diesel _____ particulate filters (DPFs) are used in all light-duty diesel vehicles, since 2007, to meet the exhaust emissions standards.
- 15 _____ is called diesel exhaust fluid (DEF) in North America and AdBlue in Europe.