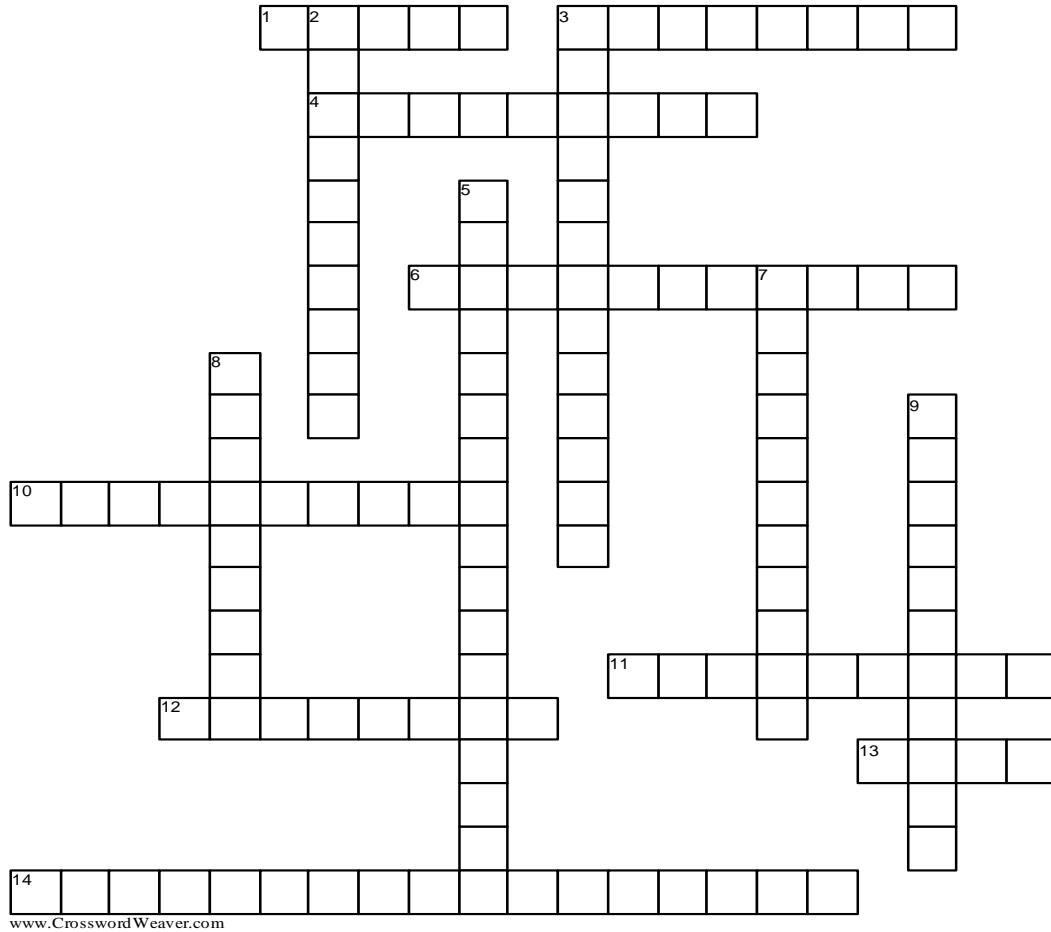


# Diesel and Biodiesel Fuel

## Chapter 11



### ACROSS

- 1 It is imperative that the fuel used in a diesel engine be clean and free from \_\_\_\_\_.
- 3 E-diesel, also called \_\_\_\_\_ outside of the United States, is standard No. 2 diesel fuel that contains up to 15% ethanol. While E-diesel can have up to 15% ethanol by volume, typical blend levels are from 8% to 10%.
- 4 The \_\_\_\_\_ restriction gauge allows the service technician to determine the condition of the air filter element by opening the air filter housing.
- 6 A \_\_\_\_\_ sensor is a sensor that is used to illuminate an indicator on the instrument panel when service is needed.
- 10 \_\_\_\_\_ is the low-temperature point when the waxes present in most diesel fuels tend to form crystals that can clog the fuel filter.
- 11 Diesel fuel must be able to flow freely at all expected ambient temperatures. One specification for diesel fuel is its " \_\_\_\_\_" which is the temperature below which the fuel would stop flowing.
- 12 The emission controls used on 2007 and newer diesel engines require the use of \_\_\_\_\_-\_\_\_\_-Sulfur diesel for reliable operation.
- 13 Abbreviation for the American Society for Testing Materials.
- 14 The \_\_\_\_\_ institute is an organization that specifies a specific type, grade, and viscosity of oil.

### DOWN

- 2 \_\_\_\_\_ is an arbitrary scale expressing the gravity or density of liquid petroleum products devised jointly by the American Petroleum Institute and the National Bureau of Standards.
- 3 \_\_\_\_\_ fluid is a fluid consisting of a mixture of 32.5% laboratory grade ammonia and 67.5% deionized water.
- 5 \_\_\_\_\_ codes indicate needed service or issues related to customer driving habits.
- 7 Diesel \_\_\_\_\_, either coolant or electric, help prevent power loss and stalling in cold weather.
- 8 \_\_\_\_\_ is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases.
- 9 Regular diesel fuel is often called \_\_\_\_\_.