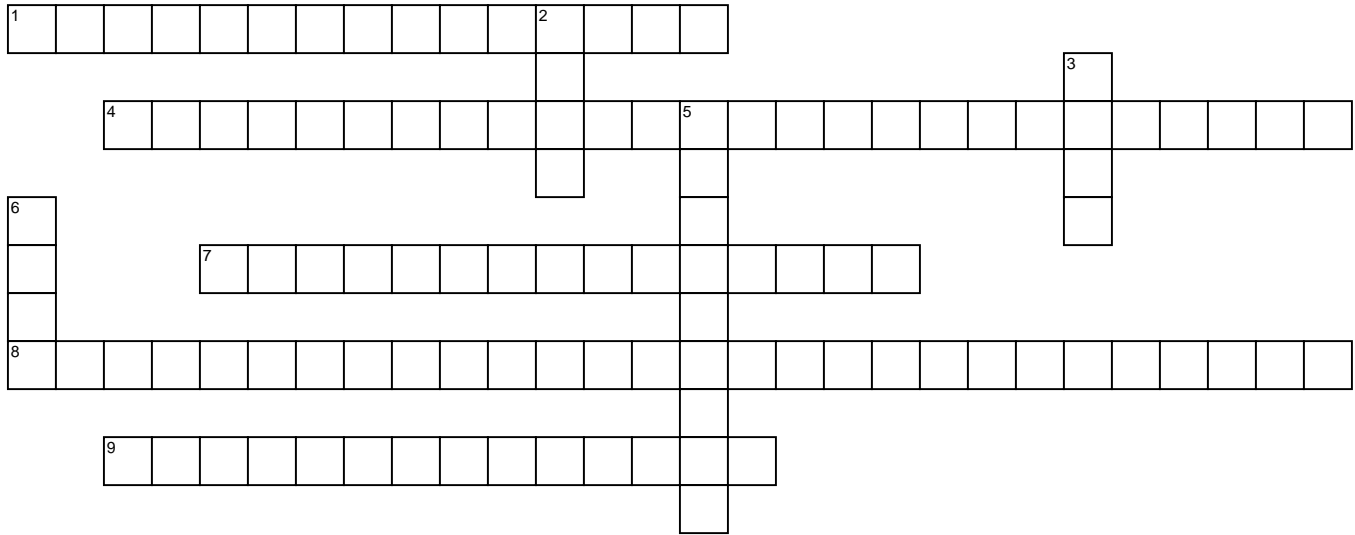


# Chapter 4

## Diesel Engine Lubrication Systems



### ACROSS

- 1 \_\_\_\_\_ of mixing with other oils without causing any problems, such as sludge.
- 4 \_\_\_\_\_ is an organization working with the engine manufacturers and oil companies, has established an engine oil performance classification.
- 7 \_\_\_\_\_ is a number of chemicals that will help each other can be used for oil additive requirements.
- 8 \_\_\_\_\_ is a U.S.-based, globally active professional association and standards developing organization for engineering professionals in various industries.
- 9 \_\_\_\_\_ is the change in oil viscosity between the cold and hot extremes.

### DOWN

- 2 \_\_\_\_\_ is a European association that rates oil.
- 3 \_\_\_\_\_ is high temperature/high shear rate viscosity.
- 5 \_\_\_\_\_ is the use of engine oil as a coolant, typically to remove surplus heat from an internal combustion engine.
- 6 \_\_\_\_\_ is sulfated ash, phosphorous, and sulfur.