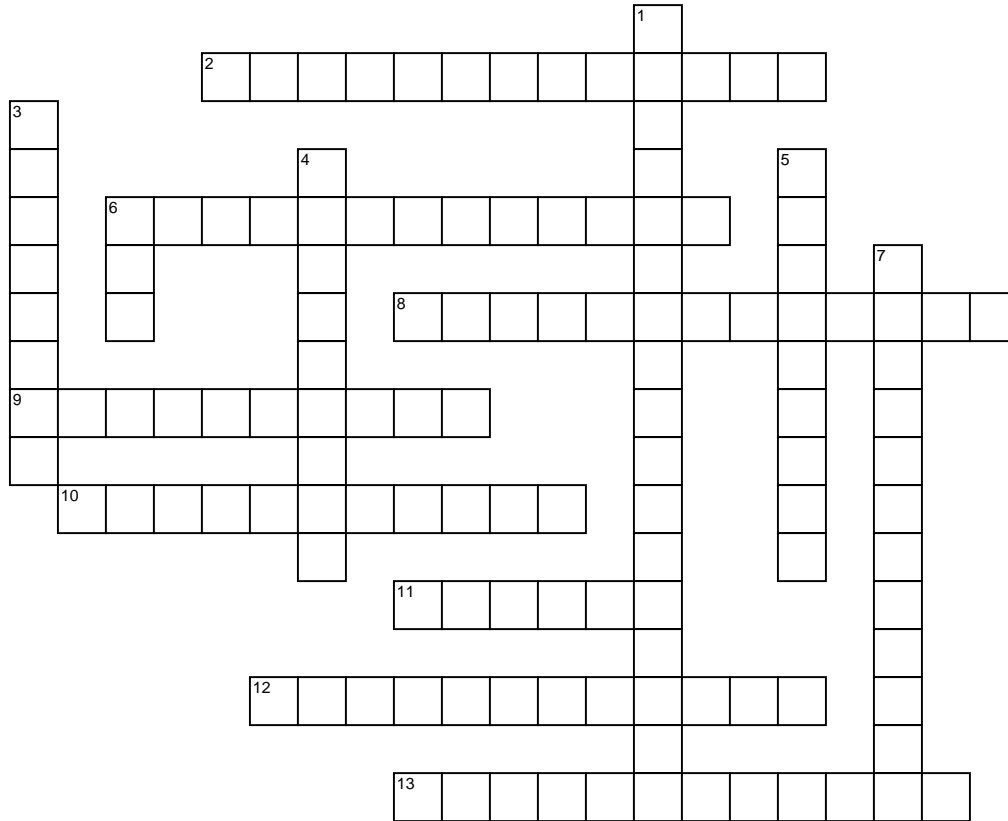


# Chapter 2

## Diesel Engine Blocks and Rotating Assemblies



### ACROSS

- 2 Bearing spread is the difference between a bearing shell and the bearing housing.
- 6 \_\_\_\_\_ are surrounded by cooling passages often called the cooling jacket.
- 8 This refers to where only the outer portion of the surface is hardened. Case hardening involves heating the crankshaft and adding carbon to the journals, where it causes the outer surface to become harder than the rest of the crankshaft.
- 9 A hardening procedure that involves heating the crankshaft in a molten cyanide salt bath. Tuftriding is a trade name of General Motors.
- 10 A lip or tang that helps locate the bearing shell in the housing.
- 11 a \_\_\_\_\_ Ties all of the main bearing caps together, to add strength to the lower part of the block. This type of design uses a solid steel support that attaches to the main bearing caps and ties the entire lower part of the block together.
- 12 \_\_\_\_\_ containing about 3% carbon (graphite), which makes it gray in color.
- 13 When the bearing is installed, each end of the bearing shell is slightly above the parting surface. When the bearing cap is tightened, the ends of the two bearing shells touch and are forced together. This force is called bearing crush

### DOWN

- 1 A \_\_\_\_\_ is a structural member that attaches to the bottom of the block and supports the crankshaft.
- 3 A \_\_\_\_\_ is a structural part of the engine which is attached between the block and the oil pan and supports the crankshaft.
- 4 A process where the crankshaft is heated to about 1,000°F (540°C) in a furnace filled with ammonia gas, and then allowed to cool.
- 5 \_\_\_\_\_ are used to fill the holes in the openings in the side of the block. Core plugs are also called freeze plugs or frost plugs.
- 6 \_\_\_\_\_ has increased strength, ductility, toughness, and stiffness compared to gray iron.
- 7 Oil holes that are drilled from outside the block.