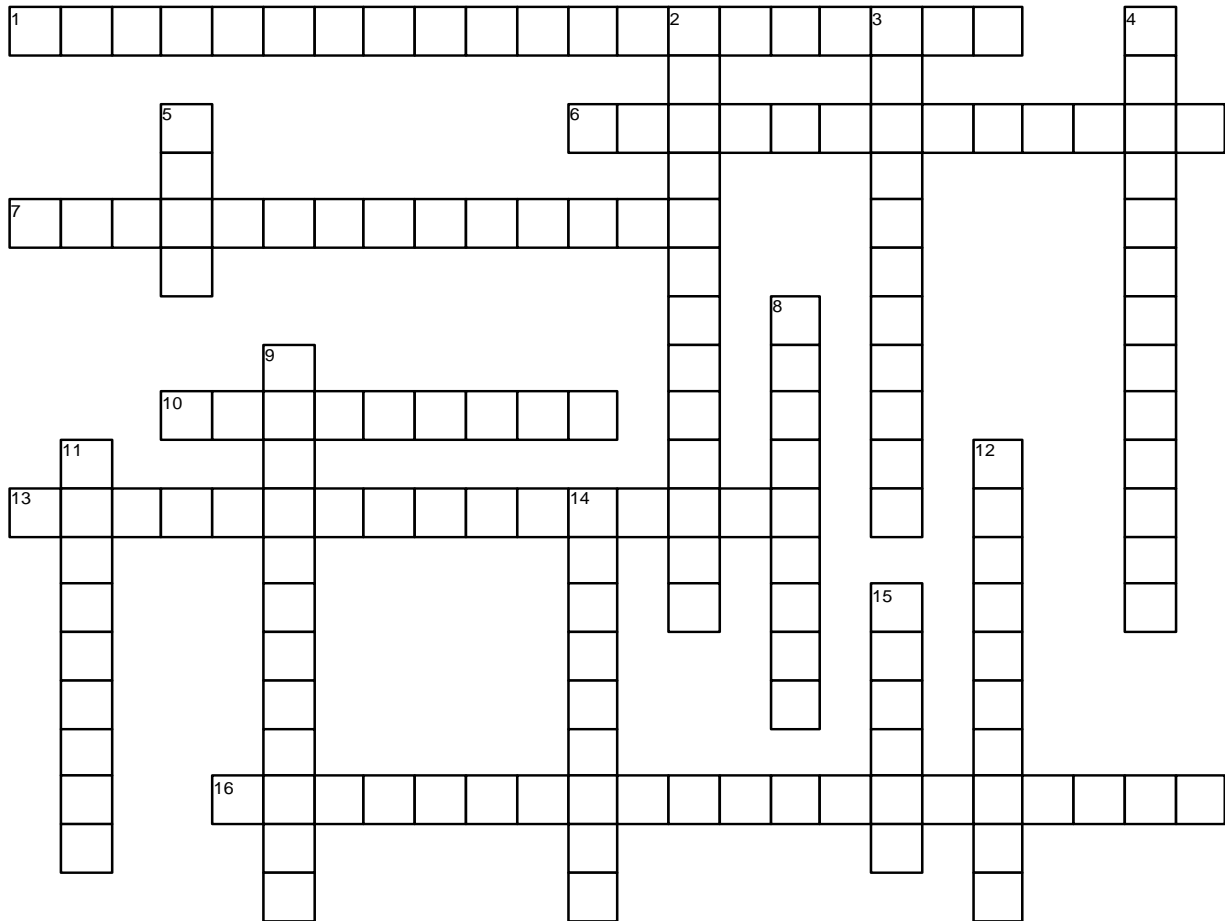


# Crankshafts, Balance Shafts, And Bearings

## Chapter 31



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### ACROSS

- 1 The crank throw is offset from the \_\_\_\_\_.
- 6 \_\_\_\_\_ is measured in microinches; and the smaller the number, the smoother the surface.
- 7 Crankshafts are balanced by \_\_\_\_\_, which are cast, forged, or machined as part of the crankshaft.
- 10 When back-and-forth deflections occur at the same vibration \_\_\_\_\_ as that of another engine part, the parts will vibrate together.
- 13 When pistons move up and down in the cylinders they create a \_\_\_\_\_, which is a strong low-frequency vibration.
- 16 A crankshaft that has counterweights on both sides of each connecting rod journal is called \_\_\_\_\_.

### DOWN

- 2 A \_\_\_\_\_ supports the thrust loads and maintains the front-to-rear position of the crankshaft in the block.
- 3 A balancer usually consists of a cast-iron \_\_\_\_\_ mounted to a cast-iron hub with an elastomer sleeve.
- 4 \_\_\_\_\_ is where only the outer portion of the crankshaft journal surface is hardened.
- 5 On a V-8 engine, each group of four inline cylinders is called a \_\_\_\_\_.
- 8 The flange between the splayed crankpin journals is sometimes called a \_\_\_\_\_.
- 9 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 shell touch and are forced together. This force is called \_\_\_\_\_.
- 11 Another name for the rod bearing journals are the \_\_\_\_\_.
- 12 The angle between the crankpins on the crankshaft throws is called a \_\_\_\_\_.
- 14 The inertia ring size is selected to control the \_\_\_\_\_ of the crankshaft vibrations for each specific engine model.
- 15 A \_\_\_\_\_ crankshaft is machined from a solid piece of forged steel.