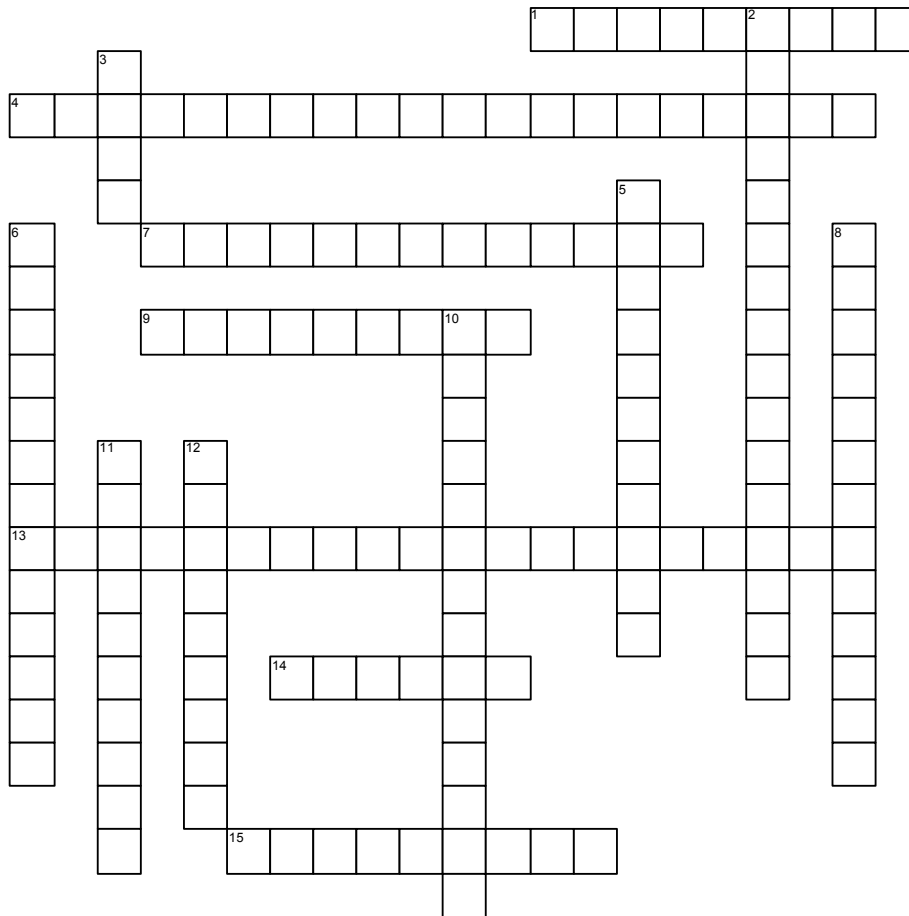


# Crankshafts, Balance Shafts, And Bearings

## Chapter 35



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### ACROSS

- 1 Another name for the rod bearing journals are the \_\_\_\_\_.
- 4 The crank throw is offset from the \_\_\_\_\_.
- 7 A \_\_\_\_\_ supports the thrust loads and maintains the front-to-rear position of the crankshaft in the block.
- 9 When back-and-forth deflections occur at the same vibration \_\_\_\_\_ as that of another engine part, the parts will vibrate together.
- 13 A crankshaft that has counterweights on both sides of each connecting rod journal is called \_\_\_\_\_.
- 14 A \_\_\_\_\_ crankshaft is machined from a solid piece of forged steel.
- 15 The inertia ring size is selected to control the \_\_\_\_\_ of the crankshaft vibrations for each specific engine model.

### DOWN

- 2 When pistons move up and down in the cylinders they create a \_\_\_\_\_, which is a strong low-frequency vibration.
- 3 On a V-8 engine, each group of four inline cylinders is called a \_\_\_\_\_.
- 5 A balancer usually consists of a cast-iron \_\_\_\_\_ mounted to a cast-iron hub with an elastomer sleeve.
- 6 \_\_\_\_\_ is measured in microinches and the smaller the number, the smoother the surface.
- 8 \_\_\_\_\_ is where only the outer portion of the crankshaft journal surface is hardened.
- 10 Crankshafts are balanced by \_\_\_\_\_, which are cast, forged, or machined as part of the crankshaft.
- 11 The angle between the crankpins on the crankshaft throws is called a \_\_\_\_\_.
- 12 The flange between the splayed crankpin journals is sometimes called a \_\_\_\_\_.