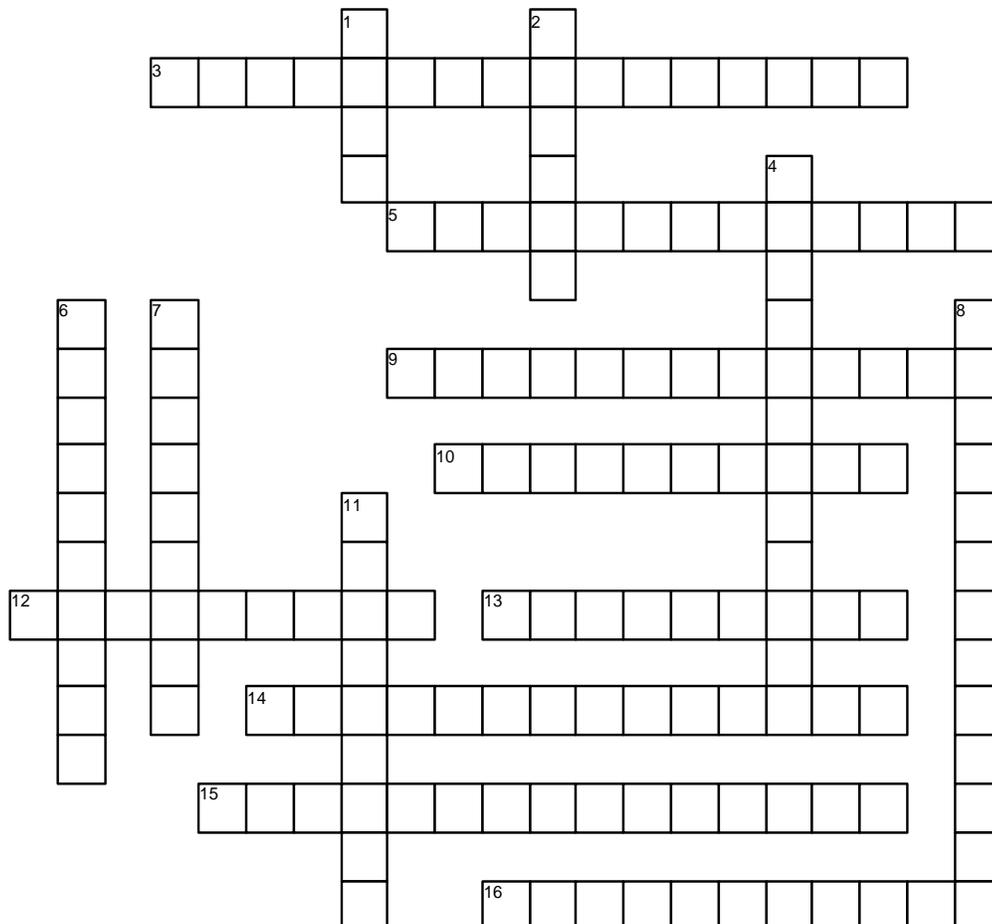


Crankshafts, Balance Shafts, And Bearings

Chapter 32



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ACROSS

- 3 When pistons move up and down in the cylinders they create a _____, which is a strong low-frequency vibration.
- 5 _____ is where only the outer portion of the crankshaft journal surface is hardened.
- 9 _____ is measured in microinches; and the smaller the number, the smoother the surface.
- 10 The angle between the crankpins on the crankshaft throws is called a _____.
- 12 The flange between the splayed crankpin journals is sometimes called a _____.
- 13 The inertia ring size is selected to control the _____ of the crankshaft vibrations for each specific engine model.
- 14 Crankshafts are balanced by _____, which are cast, forged, or machined as part of the crankshaft.
- 15 A crankshaft that has counterweights on both sides of each connecting rod journal is called fully _____.
- 16 A balancer usually consists of a cast-iron _____ mounted to a cast-iron hub with an elastomer sleeve.

DOWN

- 1 On a V-8 engine, each group of four inline cylinders is called a _____.
- 2 A _____ crankshaft is machined from a solid piece of forged steel.
- 4 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 _____.
- 6 The crank throw is offset from the crankshaft _____.
- 7 Another name for the rod bearing journals are the _____.
- 8 A _____ supports the thrust loads and maintains the front-to-rear position of the crankshaft in the block.
- 11 When back-and-forth deflections occur at the same vibration _____ as that of another engine part, the parts will vibrate together.