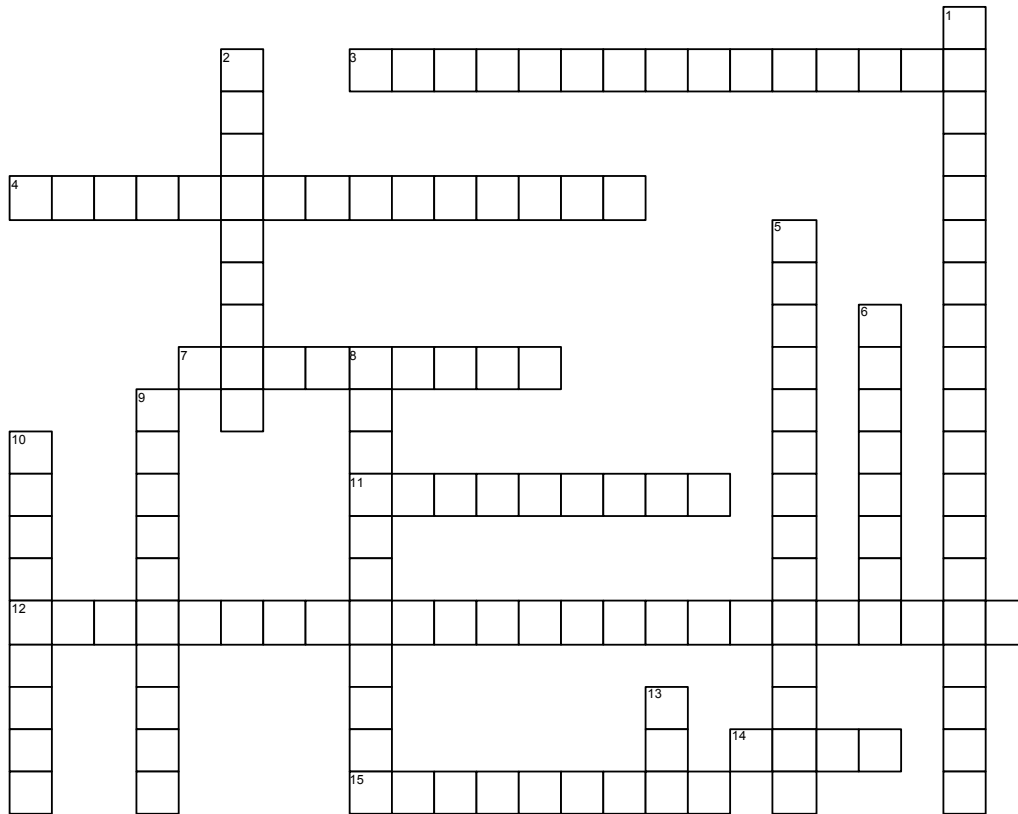


Front Suspension Service

Chapter 48



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ACROSS

- 3 _____ can be of several types, including a MacPherson.
- 4 Early versions of the twin I-beam systems used kingpins, while later models used ball joints to support the _____ and spindle.
- 7 A _____ front suspension is very strong and is still being used in the manufacture of medium and heavy trucks.
- 11 Some ball joint studs have a slot or groove where a _____ is used to hold the ball joint to the steering knuckle.
- 12 A _____ uses two control arms as well as a structural strut assembly.
- 14 Another name for an SLA suspension is the _____ suspension.
- 15 A _____ front suspension was used for over 30 years on Ford pickup trucks and vans.

DOWN

- 1 Many load-carrying ball joints have wear indicators with a raised area around the grease fitting, called _____.
- 2 To control longitudinal support, a _____ is attached to each beam and is anchored to the frame of the truck using rubber bushings.
- 5 Defective shock absorbers can cause _____.
- 6 At the end of many solid I-beam or tube axles are _____ that allow the front wheels to rotate for steering.
- 8 A _____ can also be used to help locate worn or defective suspension components.
- 9 Many GM front-wheel-drive vehicles use a MacPherson strut with a large-diameter spring seat area, this is called a _____.
- 10 Some replacement control arm bushings have a higher _____ rating than the original.
- 13 The two main links in a _____ suspension are the upper control arm and the lower control arm.