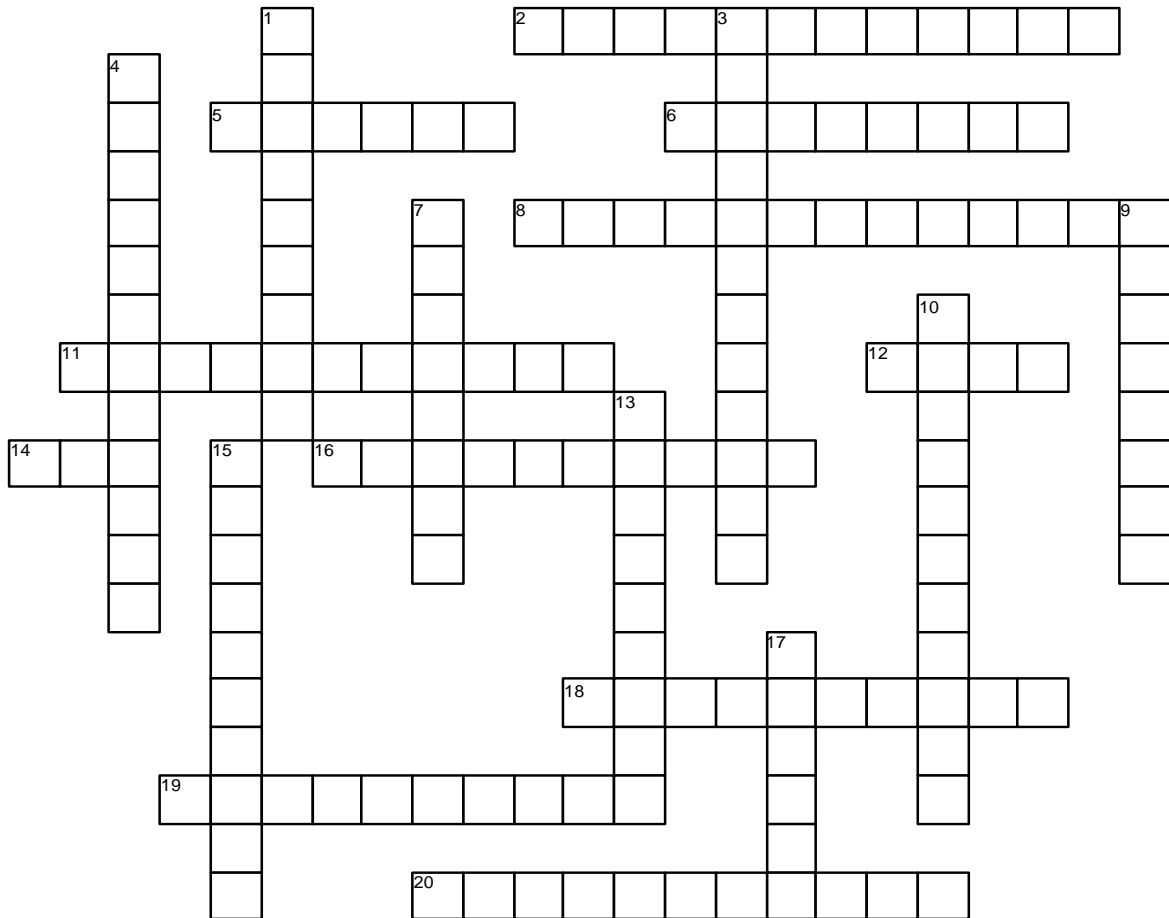


Starting System Parts And Operation

Chapter 49



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ACROSS

- 2 The _____ uses a small pinion gear that contacts the engine flywheel gear teeth and transmits starter motor power to rotate the engine.
- 5 In solenoid windings, A lighter-gauge winding (called the ____-__ winding) which is grounded through the starter frame, produces enough magnetic force to keep the plunger in position.
- 6 Inside the field coils is an _____ that is supported with either bushings or ball bearings at both ends, which permit it to rotate.
- 8 One end of the field housing is called the _____-__ housing.
- 11 A mesh spring is also called a _____ spring, because the starter solenoid or starter yoke compresses the spring and the spring tension causes the starter pinion to engage the engine flywheel.
- 12 Current that works against battery voltage is called ____.
- 14 ____ is a system that allows the driver to start the engine of the vehicle from inside the house or a building at a distance of about 200 ft.
- 16 These magnets, when energized, create strong magnetic fields inside the starter housing and, therefore, are called _____.
- 18 The ends of the copper armature windings are soldered to

_____ segments.

- 19 Another name for the pole shoes is _____.
- 20 In a starter drive mechanism, an _____ clutch, protects the starter motor from damage if the ignition switch is held in the start position after the engine starts.

DOWN

- 1 ____-____ systems are designed to increase fuel economy and reduce exhaust emissions.
- 3 _____ hold the three components of the starter together.
- 4 A starter consists of the main structural support of a starter called the main _____.
- 7 Another name for the commutator-end housing is the ____-__ housing.
- 9 One end of the field housing is called the ____-__ housing.
- 10 A _____ engaged starter delivers the quickest and quietest restart times of all starter motor-based systems.
- 13 The soft-iron cores are called _____.
- 15 The spring between the drive tang or pulley and the overrunning clutch and pinion is called a _____.
- 17 In solenoid windings, A heavier-gauge winding (called the ____-__ winding) is needed to draw the plunger into the solenoid and is grounded through the starter motor.