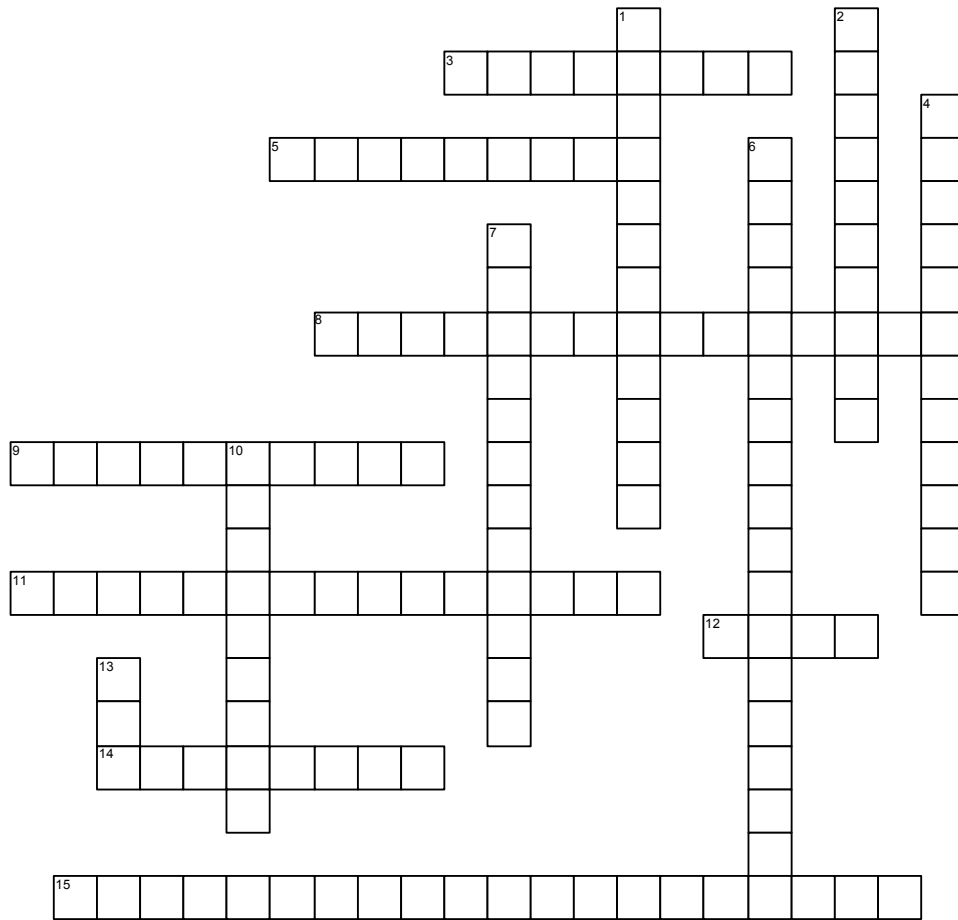


# Cranking System

## Chapter 52



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### ACROSS

- 3 Inside the field coils is an \_\_\_\_\_ that is supported with either bushings or ball bearings at both ends, which permit it to rotate. □
- 5 A \_\_\_\_\_ uses permanent magnets that maintain constant field strength, the same as a shunt-type motor, so they have similar operating characteristics.
- 8 One end of the field housing is called the \_\_\_\_\_ - \_\_\_\_\_.
- 9 Another name for the pole shoes is \_\_\_\_\_.
- 11 Another name for the commutator-end housing is the \_\_\_\_\_ - \_\_\_\_\_.
- 12 Current that works against battery voltage is called \_\_\_\_\_.
- 14 A small current switch operates a \_\_\_\_\_ or relay that controls the high current to the starter.
- 15 One end of the field housing is called the \_\_\_\_\_ - \_\_\_\_\_.

### DOWN

- 1 The \_\_\_\_\_ uses a small pinion gear that contacts the engine flywheel gear teeth and transmits starter motor power to rotate the engine.
- 2 These magnets, when energized, create strong magnetic fields inside the starter housing and, therefore, are called \_\_\_\_\_.
- 4 \_\_\_\_\_ hold the three components of the starter together.
- 6 The ends of the copper armature windings are soldered to \_\_\_\_\_.
- 7 A starter consists of the main structural support of a starter called the main \_\_\_\_\_.
- 10 The soft-iron cores are called \_\_\_\_\_.
- 13 \_\_\_\_\_ 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.