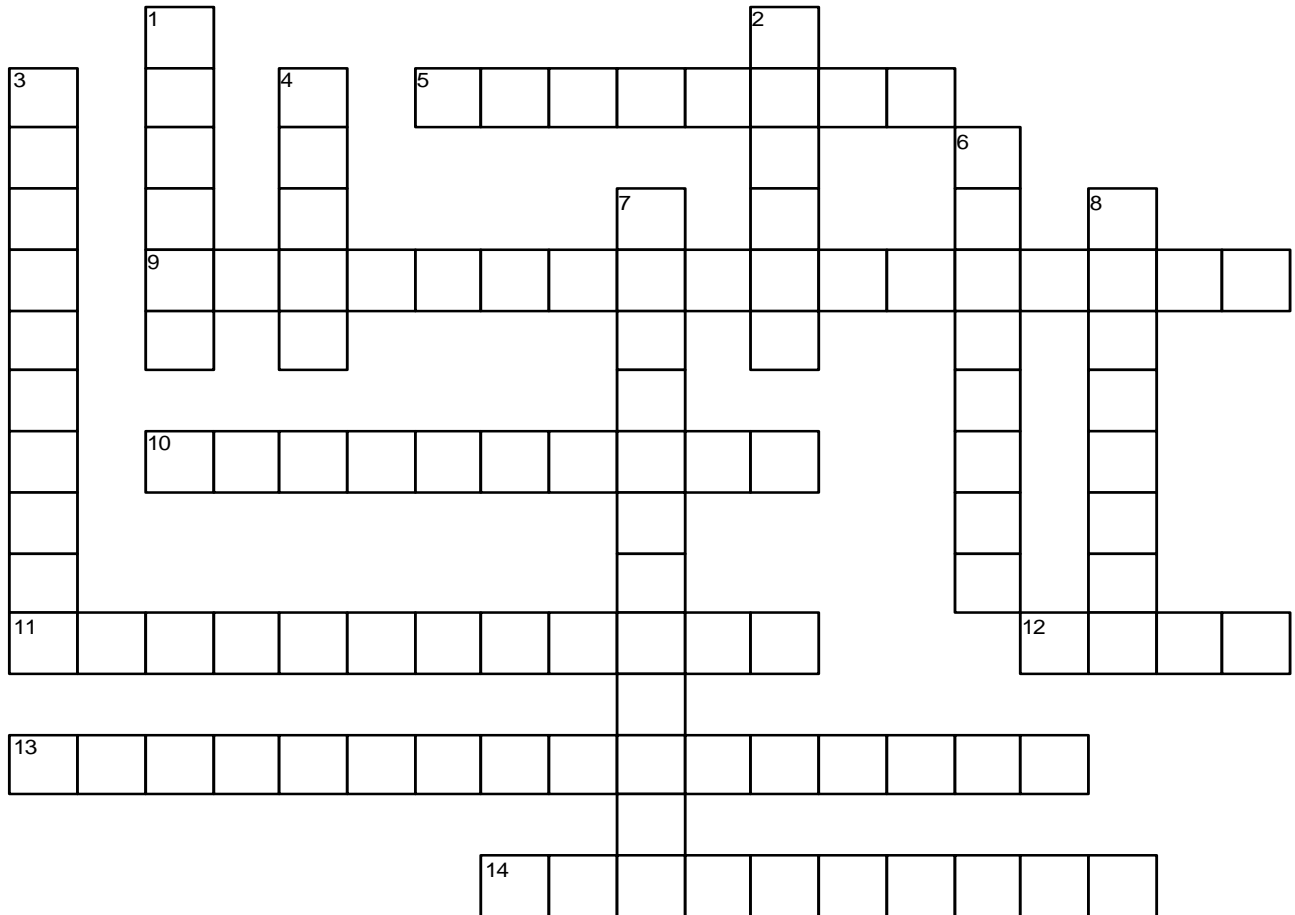


# EV and HEV Transmissions

## Chapter 17



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### ACROSS

- 5 Routine service is all that is needed or required of the \_\_\_\_-\_\_\_\_ transmission.
- 9 In order to adapt a conventional automatic transmission to a hybrid powertrain, an \_\_\_\_\_ pump is used to maintain fluid pressure in the transmission during ICE idle-stop.
- 10 The Toyota \_\_\_\_-\_\_\_\_ transaxle is a series-parallel hybrid technology.
- 11 In a four-wheel-drive (4WD) or all-wheel-drive (AWD) vehicle, a \_\_\_\_\_ or rear electric motor is used to distribute power to all four wheels.
- 12 An ICE is most efficient when it is operating near its torque \_\_\_\_\_.
- 13 \_\_\_\_\_ storage accumulator is used to provide fluid pressure as the ICE restarts after the idlestop mode.
- 14 Some full-hybrid systems have a \_\_\_\_\_ of operation, using a single planetary gear set to split engine power to drive the wheels or charge the battery.

### DOWN

- 1 Transmission service for the 4L60E model M33 is limited to fluid and \_\_\_\_\_ changes.
- 2 To move a vehicle, \_\_\_\_\_ must be applied to the drive wheels.
- 3 In rear-wheel-drive (RWD) applications, it is most common to use a transmission along with a \_\_\_\_\_ and differential at the rear axle to transmit torque to the drive wheels.
- 4 HEV transmissions are different based on the \_\_\_\_\_ of the hybrid vehicle in which they are installed.
- 6 In \_\_\_\_-\_\_\_\_ mode the engine stops, which will in turn stop the transmission oil pump and cause the transmission to go to "neutral."
- 7 All vehicles, regardless of the power source, require the use of a transmission to achieve reasonable \_\_\_\_\_ and efficiency.
- 8 The two-mode unit is effectively an electronically \_\_\_\_\_ transmission (EVT).