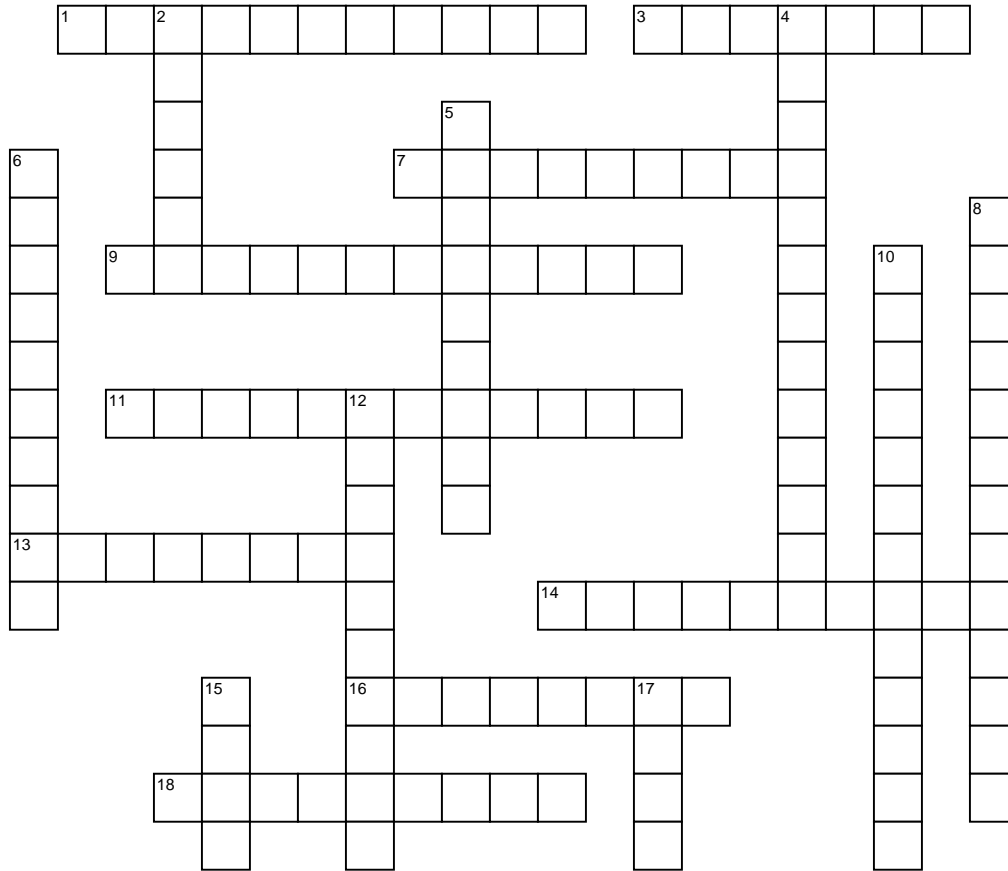


# Four-Wheel and All-Wheel Drive

## Chapter 15



<http://jameshalderman.com>

### ACROSS

- 1 The transfer case also applies power to the front differential. Power is then applied to the front wheels through the drive axles to the \_\_\_\_\_.
- 3 \_\_\_\_\_ coupling is a series of steel plates housed in a sealed steel drum.
- 7 \_\_\_\_\_ is achieved by the use of a floor-mounted lever to engage and disengage a clutch inside the transfer case.
- 9 There is a need for a unit, usually a \_\_\_\_\_, where the engine torque can be split to either one drive axle or both to provide for four-wheel drive.
- 11 \_\_\_\_\_-\_\_\_\_\_ wheel drive has a positive, mechanical connection between the front and rear driveshafts when shifted into 4WD.
- 13 \_\_\_\_\_-\_\_\_\_\_ 4WD is also called all-wheel drive (AWD) or anytime 4WD.
- 14 Most front drive axles use an \_\_\_\_\_ with ball joints for the steering pivots and a Cardan U-joint.
- 16 Full-time 4WD is also called \_\_\_\_\_-\_\_\_\_\_ drive (AWD) or anytime 4WD.
- 18 The type of chain used in transfer cases is usually assembled from pin links and chain links and is called "\_\_\_\_\_ " type chain.

### DOWN

- 2 All-the-time four-wheel-drive, all-wheel-drive, and full-time four-wheel-drive systems use a \_\_\_\_\_ differential.
- 4 Part of the motor assembly is an encoder, which is a position sensor that sends the actual position of the transfer case shift shaft to the transfer case \_\_\_\_\_.
- 5 A \_\_\_\_\_-\_\_\_\_\_ drive vehicle, therefore, requires two differentials — one for the front wheels and one for the rear wheels.
- 6 A \_\_\_\_\_ means either low or high gear ratios.
- 8 4WD/AWD vehicles that are based on FWD vehicles integrate a \_\_\_\_\_ unit (PTU) into the transaxle.
- 10 A \_\_\_\_\_ device is used to control torque between two outputs and is connected in parallel.
- 12 An \_\_\_\_\_ wheel end disconnect system is used to connect or disconnect the outboard CV joint with the wheel hub.
- 15 Abbreviation for manual shift on-the-fly.
- 17 Abbreviation for electronic shift-on-the-fly.