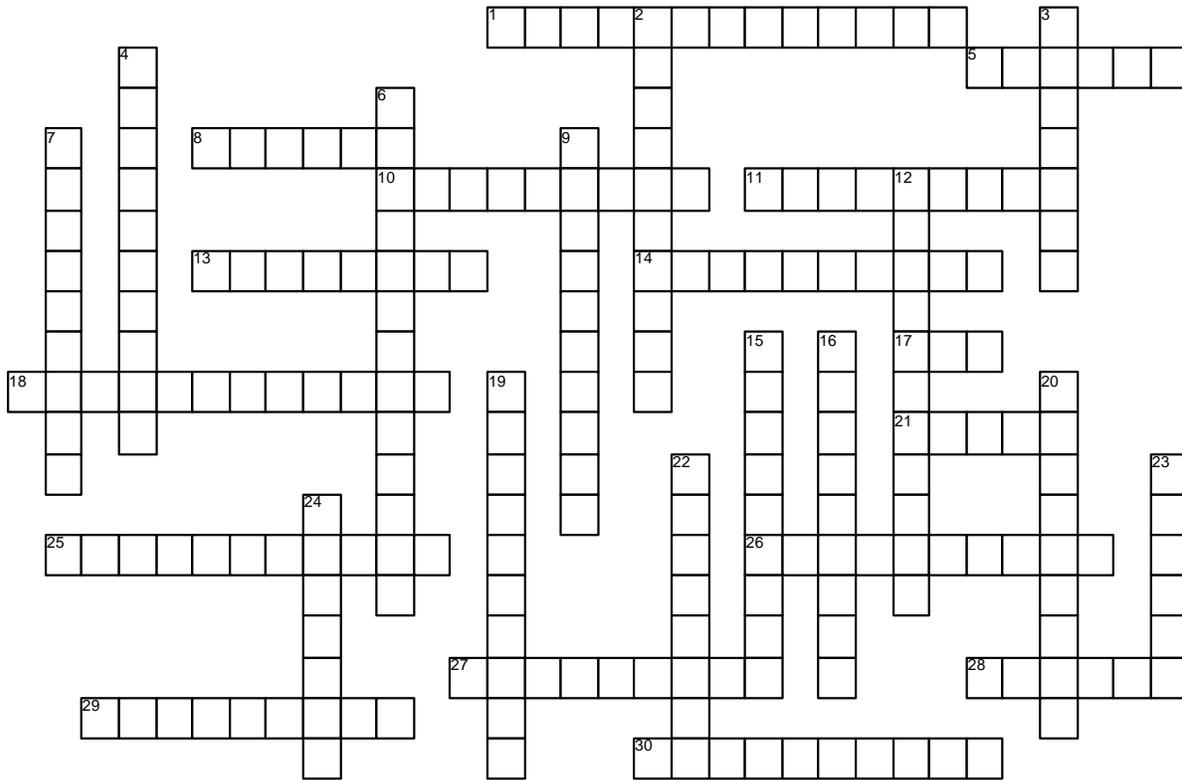


# Introduction To Drivetrains

## Chapter 1



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### ACROSS

- 1 The effective diameter of a gear is the \_\_\_\_\_ or pitch line.
- 5 The \_\_\_\_\_ is used to stop the power flow to allow the transmission to be shifted.
- 8 A \_\_\_\_\_ transmission is also called a standard transmission.
- 10 The purpose and function of an \_\_\_\_\_ transmission is to provide the forward and reverse gear ratios needed without requiring the driver to make a change in gearing.
- 11 A \_\_\_\_\_ is a compact combination of a transmission, the final drive gear reduction, and the differential.
- 13 A gear set used with shafts that cross each other but do not intersect is a \_\_\_\_\_.
- 14 \_\_\_\_\_ can be determined by dividing the number of teeth on the driven gear (output) by the number of teeth on the driving gear (input).
- 17 \_\_\_\_\_ is also called full-time four-wheel drive.
- 18 The \_\_\_\_\_ used in transaxles or drive axles is a torque-splitting device that allows the two axle shafts to operate at different speeds so that the vehicle can turn corners.
- 21 \_\_\_\_\_ gears are used on nonparallel shafts. The outer edge of the gear must

be cut on the angle that bisects the angle of the two shafts.

- 25 To determine horsepower, a \_\_\_\_\_ is used to measure the amount of torque an engine can produce at various points through its operating range.
- 26 One \_\_\_\_\_ is the power required to move 550 pounds on foot in one second.
- 27 \_\_\_\_\_ drive has a transmission mounted behind the engine and uses a driveshaft to transfer power to the rear axle and driving wheels.
- 28 A \_\_\_\_\_ converter replaces the manual transmission clutch. It is a type of fluid coupling that can release the power flow at slow engine speeds and also multiply the engine torque during acceleration.
- 29 \_\_\_\_\_ are the simplest gears and are on parallel shafts with teeth cut straight or parallel to the shaft.
- 30 Many vehicles use a transaxle to drive the front wheels, called \_\_\_\_\_ drive.

### DOWN

- 2 A variation of the spiral bevel gear is the \_\_\_\_\_, also called an offset-bevel gear.
- 3 In a planetary gear set the \_\_\_\_\_ is the gear in the center.
- 4 A \_\_\_\_\_ is also called a propeller shaft.

- 6 In a planetary gear set the \_\_\_\_\_ hold the planet gears in position.
- 7 If the driving gear has more teeth than the driven gear there will be an increase in speed and a reduction in torque. This is called an \_\_\_\_\_.
- 9 Two short driveshafts, called \_\_\_\_\_, are used to connect the transaxle to the front wheels.
- 12 \_\_\_\_\_ gears, like helical gears, have curved teeth for more quiet operation.
- 15 \_\_\_\_\_ drive is often designated as "4X4" and refers to a vehicle that has four driven wheels.
- 16 Rear-wheel-drive vehicle driveshafts are usually made from steel tubing, and normally have either a \_\_\_\_\_ joint or a CV joint at each end.
- 19 The smaller gears in a gear set may also be called a \_\_\_\_\_.
- 20 Most automatic transmissions use \_\_\_\_\_ gear sets, which are a combination of gears.
- 22 In a planetary gear set the \_\_\_\_\_ is also called an annulus gear or internal gear.
- 23 \_\_\_\_\_ is a rotating or twisting force that may or may not result in motion.
- 24 \_\_\_\_\_ gears are the most used of all gears used in transmissions. The gears have teeth cut in a spiral or helix shape.