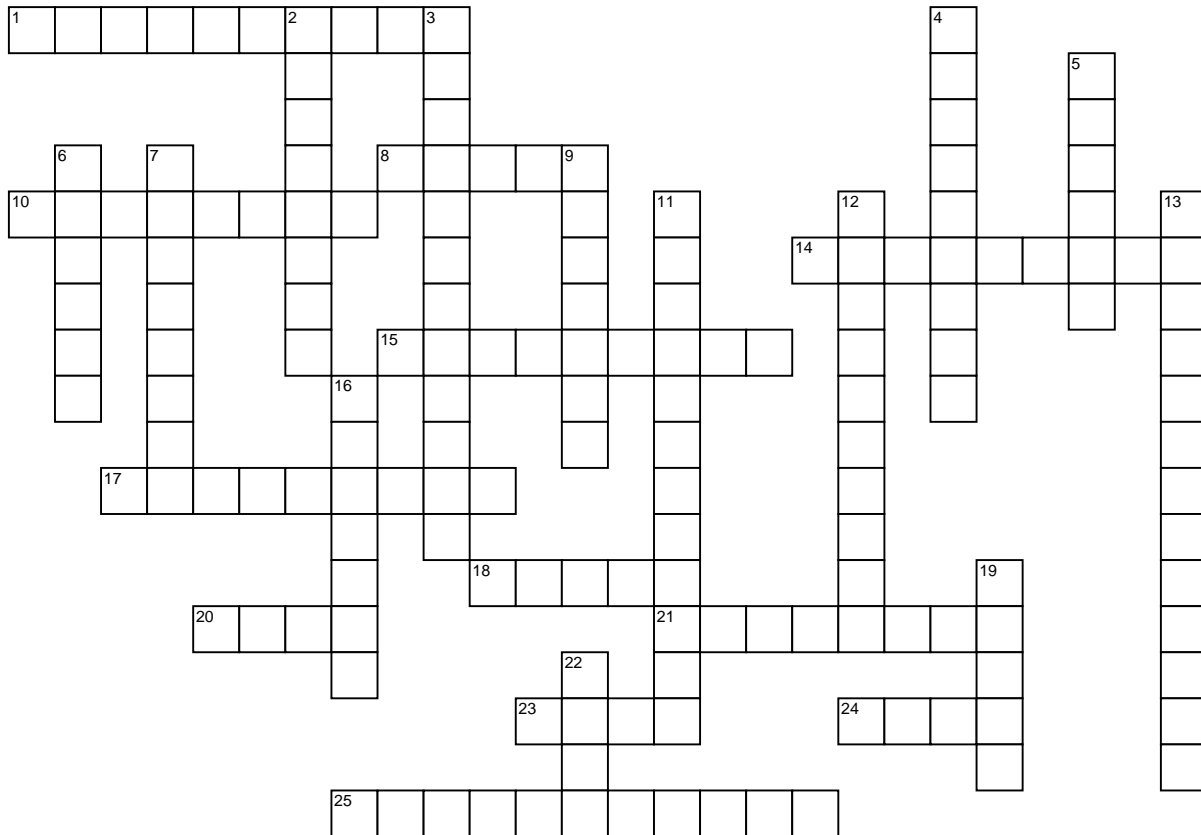# Drive Axles and Differentials
Chapter 12

ACROSS

1 A 1:1 _____ ____ ratio (TBR) indicates that the torque applied to each wheel is the same.

8 In hypoid gears, the _____ line is the design center of contact between the two gears and is about halfway up the tooth.

10 All rear-wheel-drive (RWD) vehicles use a drive axle assembly to transfer power from the driveshaft to the drive wheels. Because it is powered, it is sometimes called a ____ ____.

14 In hypoid gears, the _____ _____of ring gear teeth is the slanted, concave side of the tooth.

15 _____ non-hunting gear sets are gear sets with final drive ratios expressible as a reducible fraction not equaling a whole number.

17 Torque _____ is a computer-controlled system that controls how much engine torque is sent to each individual drive wheel.

18 In hypoid gears, The third tooth-load condition is called _____.

20 In hypoid gears, the _____ of the tooth is above the pitch line, and the flank is below it.

21 Most rear-wheel-drive passenger vehicles and light trucks use _____ carriers, and the axle tubes are welded to extensions of the carrier.

23 The ____ gear and the pinion gear are the final drive reduction gears.

24 An _____ differential is used in most passenger vehicles.

25 A _____ ____ differential can send more torque to the wheel with traction than the wheel with poor traction.

DOWN

2 In hypoid gears, there should be a clearance at the coast side of the tooth which is called _____.

3 Axle shafts can be classified by the way the axle is loaded and how the axle is retained in the housing. Currently, all rear-wheel-drive passenger vehicles use ___-_____ axles.

4 In hypoid gears, The _____ ____ of the ring gear teeth is the vertical, convex side of the tooth.

5 A _____ gear set gear set has the pinion gear below the center line.

6 The ring gear and the _____ gear are the final drive reduction gears.

7 Front-wheel-drive (FWD) vehicles use a ____ _____ or non-powered rear axle.

9 _____ gear sets are gear sets with final drive ratios expressible in a fraction that cannot be reduced to any lower terms.

11 All heavy trucks use a ____ _____ axle design.

12 ___-_____ gear sets are gear sets with final drive ratios expressible as a whole number.

13 A _____-_____-type axle usually uses a ball bearing. With a ball bearing axle, the side thrust is transferred from the axle to the axle tube through the bearing and the retainer plate.

16 The differential case is mounted on a pair of tapered roller bearings, which are commonly called _____ bearings.

19 I n hypoid gears, the face of the tooth is above the pitch line, and the _____ is below it.

22 The differential case is mounted on a pair of tapered roller bearings, which are commonly called carrier bearings or ____ bearings.