
Rear Drive Axle and Differential

The rear drive axle in this section consists of the following:

- Axle housing with a cast center section and 2 steel tube assemblies and a stamped differential housing cover
- Differential housing cover that uses silicone sealant as a gasket
- Hypoid-design gearset consisting of 7.5-in ring gear and a drive pinion gear
- Two opposed tapered roller bearings (drive pinion bearings) that support the drive pinion in the axle housing
- Drive pinion collapsible spacer, located on the differential pinion shaft that maintains drive pinion bearing preload
- Pinion nut that adjusts the drive pinion bearing preload
- Differential bearing shims that control the differential bearing preload and the differential ring gear backlash
- Two opposed tapered roller bearings (differential bearings) that support the differential assembly in the axle housing
- Removable bearing caps that retain the differential assembly in the axle housing
- Differential case that is a one-piece design with 2 openings to allow for assembly of the internal components and lubricant flow
- Differential pinion shaft that supports 2 differential pinion gears inside the differential assembly
- Pinion gears that engage the differential side gears, to which the axle shafts are splined
- Differential pinion shaft lock bolt that retains the differential pinion shaft in the differential case
- Semi-floating axle shafts held in the housing by U-washers positioned in the slot on the axle shaft splined end
- U-washers which also fit into a recess in the differential side gears within the differential case

The rear axle assembly receives rotational input from the driveshaft through a piloted pinion flange. The drive pinion drives the ring which is bolted to the differential case. The design of the differential allows the side gears in the case to rotate at different speeds. The axle shafts are splined to the side gears permitting the vehicle to manipulate corners without sliding the inside tire. The weight of the vehicle is carried through the axle shaft bearing located in the tubes of the axle housing.

The axle identification tag identifies a particular axle design, a specific ratio and if it is a conventional or limited slip (Traction-Lok) type. In addition, the plant code will not change as long as that particular axle assembly never undergoes an external design change. If, however, an internal design change takes place during the production life of the axle and that internal change affects parts interchangeability, a dash and numerical suffix is added to the plant code. This means that as an assembly, both axles are interchangeable; however, internally they are different. Therefore, each requires different internal parts at the time of repair.

