

Rear Drive Axle and Differential

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The rear M275 axle assembly consists of the following:

- Integral-type housing hypoid gear design (center of the pinion set below the centerline of the ring gear)
- Hypoid differential ring gear and pinion consisting of a 275 mm ring gear and an overhung drive pinion that is supported by 2 opposed tapered roller bearings
- Pinion bearing preload that is maintained by a drive pinion preload shim
- Cast center section with a stamped steel differential housing cover
- Differential housing cover using silicone rubber based sealant as a gasket
- Differential pinion shaft that is retained by a roll pin attached to the differential case
- Differential case that is mounted in the rear axle housing between 2 opposing differential bearings that are retained in the rear axle housing by 2 removable bearing caps
- Differential bearing preload and ring gear backlash which are adjusted by differential bearing adjusters that are located between the differential bearing cups and the rear axle housing
- Optional ELD

The rear drive axle receives rotational torque from the driveshaft. The direction of the rotation determines movement of the vehicle. The rotation enters the rear drive axle through the drive pinion flange, turning the drive pinion and rotating the ring gear. The ring gear is bolted to the differential case. The differential case houses the pinion shaft upon which the differential pinion gears ride. The pinion gears are in mesh with the differential side gears to which the axle shafts are splined. It is the unique arrangement of the differential that allows the axle shafts to be driven at different speed when needed, such as when driving around corners.

The ELD system consists of the following components:

- ELD field coil, located at the rear differential
- Rear differential with dog clutch
- MSS (unique for ELD equipped vehicles, the ELD switch is integrated with the MSS), located on the instrument panel

The optional ELD system allows the operator to lock the rear differential side gears on slippery and/or off road surfaces. ELD operation is requested by pulling out (4WD electronic shift vehicles) or turning the MSS to the ON position (2WD vehicles).

The operator can engage the ELD per the charts below:

ELD engagement/disengagement speeds - 4WD Vehicles

Switch Position	Engage	Disengage	Re-engage
2H	32 km/h (19 mph)	41 km/h (25 mph)	32 km/h (19 mph)
4H	32 km/h (19 mph)	41 km/h (25 mph)	32 km/h (19 mph)
4L	90 km/h (56 mph)	100 km/h (62 mph)	90 km/h (56 mph)

ELD engagement/disengagement speeds - 2WD Vehicles

Switch Position	Engage	Disengage	Re-engage
Off	N/A	N/A	N/A
On	32 km/h (19 mph)	41 km/h (25 mph)	32 km/h (19 mph)

