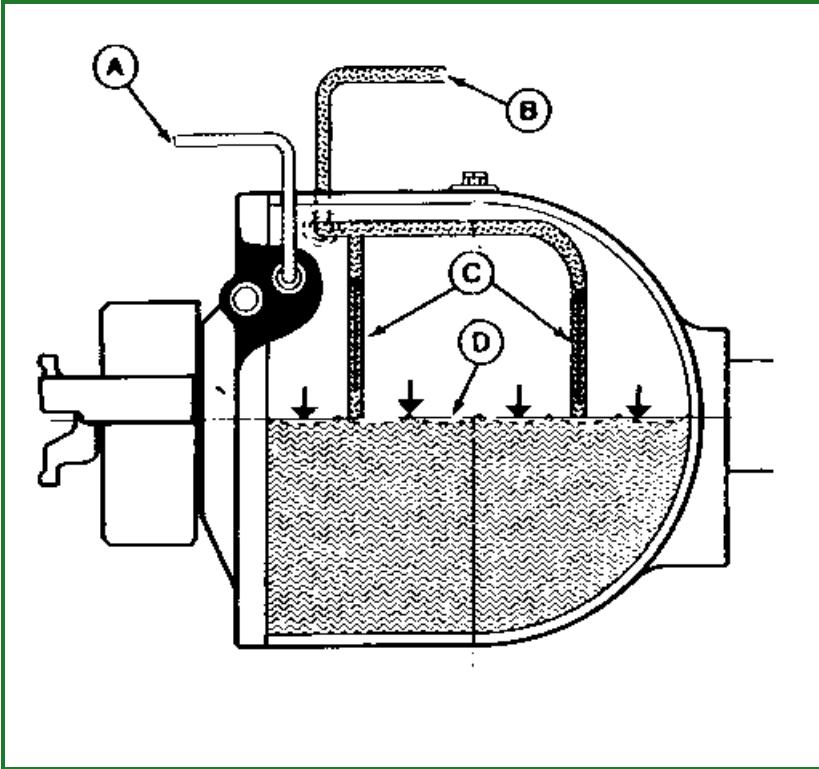


## Pressurized Differential Case Operation



### RW20769-UN: Pressurized Differential Case Operation

#### LEGEND:

- A - Pressurized Air
- B - Drain Line
- C - Oil Level Tubes
- D - Axle Center Line

Oil level stability is accomplished by pressurizing the differential case with air from the engine turbocharger or an air compressor.

The pressurized air (A) flows into the top of the case. Drain line (B) connects to two vertical tubes (C) that extend from the top of the differential case down to the axle center line (D).

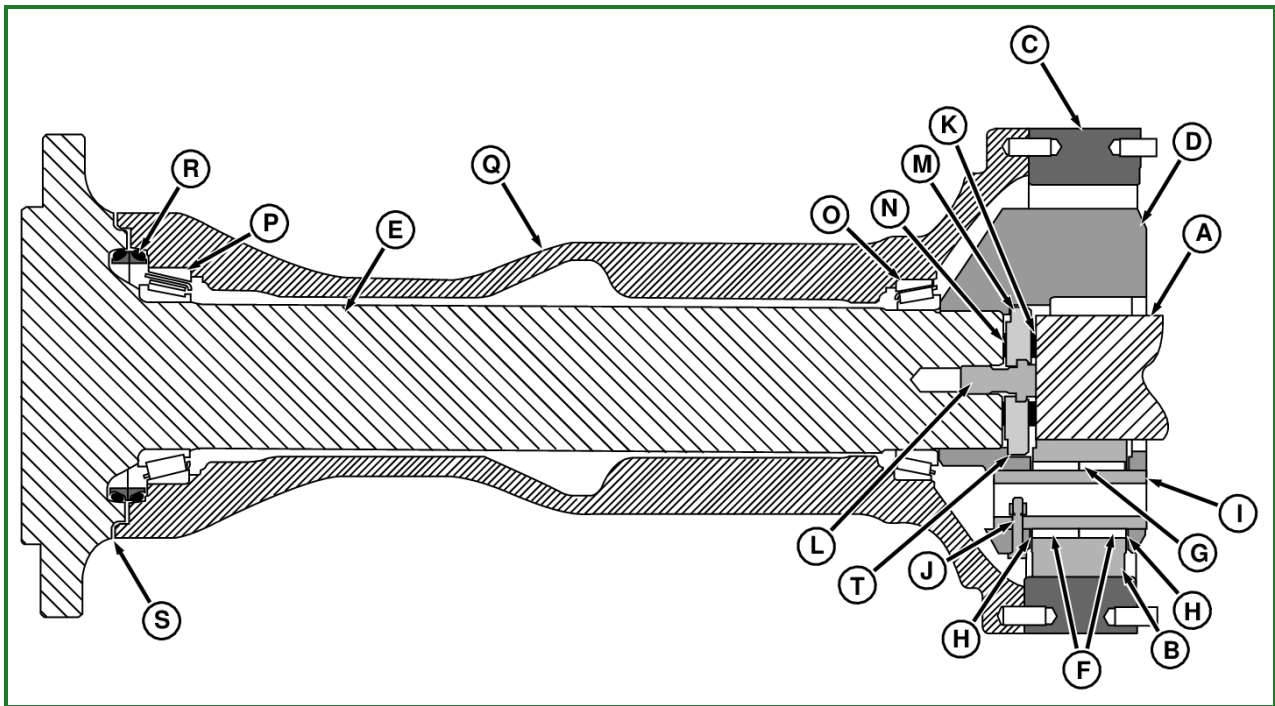
If the oil level is below the end of the pipes, air flows through the axle and the drain line to sump and is vented to atmosphere.

If the oil level rises above the end of the pipes due to differential lock seal ring leakage, it is forced by the pressurized air, up the pipes and through the drain line to sump.

Go to [Section\\_03:Group\\_100](#)

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## Super Wide Extreme Duty Final Drive/Axle Operation



### RW37388-UN: Final Drive/Axle

#### **LEGEND:**

- A - Sun Gear/Pinion Shaft
- B - Planet Pinions
- C - Final Drive Ring Gear
- D - Planetary Carrier
- E - Axle Shaft
- F - Needle Rollers
- G - Needle Bearing Spacer
- H - Thrust Washers
- I - Pinion Shaft
- J - Cap Screw and Nut
- K - Thrust Washer/Lock Plate
- L - Cap Screw
- M - Special Washer
- N - Shim Pack
- O - Inboard Bearing
- P - Outboard Bearing
- Q - Axle Housing
- R - Face Seal
- S - Labyrinth
- T - Thrust Washer

The sun gear/pinion shaft (A) rotates the three planet pinions (B) that “walk around” the final drive ring gear (C). The planet pinion gears rotate the planetary carrier (D) which is splined to the axle shaft (E). The planetary carrier rotates the axle shaft.

The planet pinion gears consist of a double row of needle rollers (F), needle bearing spacer (G), and thrust washers (H) that rotate in the planetary carrier on pinion shafts (I). The pinion shafts are retained in the carrier by a cap screw and nut (J).