GENERAL MOTORS POSITRACTION DIFFERENTIAL

General Motors

DESCRIPTION

Two pinion limited slip with one piece case uses one clutch pack behind each side gear to limit differential action. Preload is maintained on clutch packs by "S" shaped spring between packs.

AXLE RATIO & IDENTIFICATION

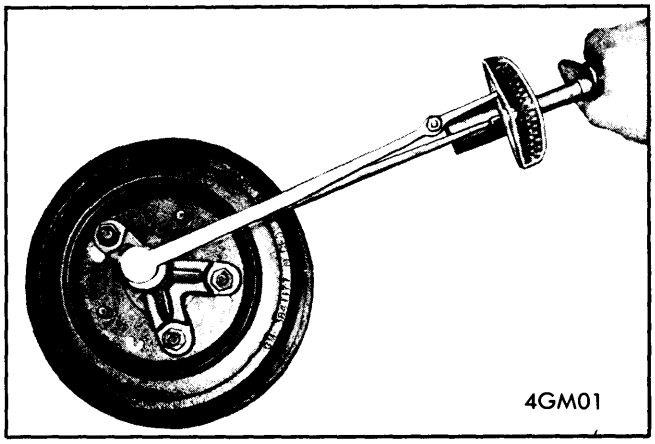
See Drive Axles in this Section.

LUBRICATION

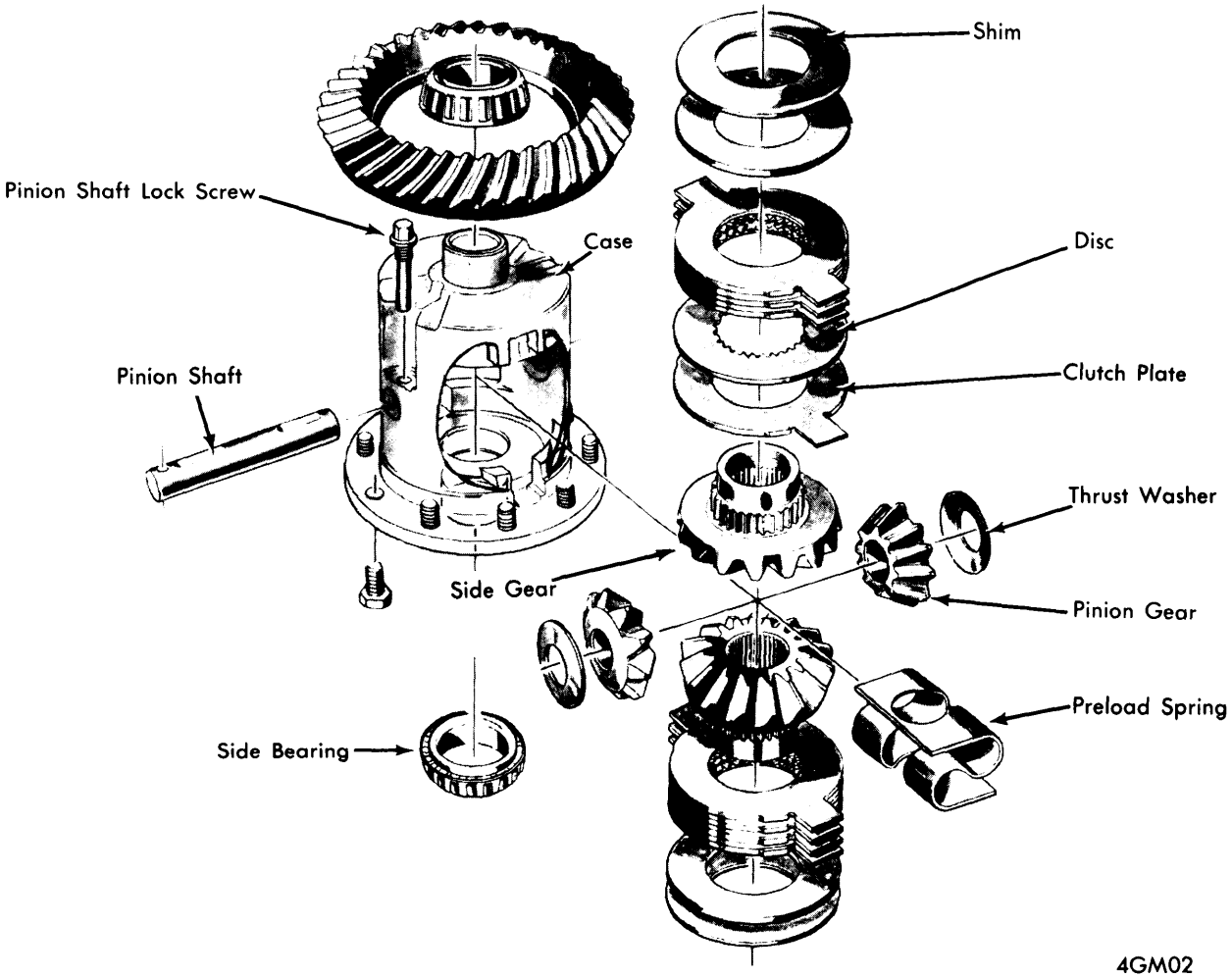
Check level of lubricant every 6,000 miles and drain and refill differntial every 24,000 miles (more often periods of extemely heavy use). When servicing differential use only special Positraction lubricant.

TESTING ON VEHICLE

With transmission in neutral, engine off and rear wheels raised off ground, remove ONE wheel and tire assembly. Attach suitable adapter to axle shaft flange. Hold remaining tire firmly in place and rotate axle shaft using a torque wrench. Rotation should require a minimum torque of 40 ft. lbs. (70 ft. lbs. for new differential).



MEASURING POSITRACTION ROTATING TORQUE



GENERAL MOTORS CORP. POSITRACTION DIFFERENTIAL

GENERAL MOTORS POSITRACTION DIFFERENTIAL (Cont.)

REMOVAL & INSTALLATION

See Drive Axles in this Section.

OVERHAUL

DISASSEMBLY

1) Remove ring gear and differential side bearings. Remove pinion shaft lock screw and pinion shaft. Using a wide blunt tool such as a drift or wood block, drive preload spring from case.

2) Plaxe axle shaft in vise, splined end up, and slide case onto shaft until splines in side gears engages splines on axle shaft. Turn case until pinion gears and thrust washers can be removed. *NOTE — Pinion shaft may be partially installed to aid in rotating case.* Remove pinion gears from case. Remove case from axle shaft and remove side gears, clutch packs and shims from case. Mark all parts for reassembly reference.

INSPECTION

Check clutch plates and discs for signs of wear and overheating. Check condition of preload spring and gears. Replace parts as necessary and clean all parts to be used for reassembly.

REASSEMBLY

1) Lubricate clutch discs and plates with positraction lubricant. Alternately place clutch plates and discs on one side gear, beginning and ending with a clutch plate. Position side gear, clutch pack and original shim in case.

2) Install both pinion gears and thrust washers into case and install pinion shaft. Place case onto splined end of axle shaft supported in vise until splines in side gear engages splines on axle shaft. Insert screwdriver between pinion shaft and face of side gear and force in until clutch pack is compressed.

3) With clutch pack fully compressed, measure backlash between side gear and pinion gears. Adjust shims as necessary to obtain backlash of .005-.008". Remove pinion shaft, pinion gears and thrust washers, side gear, clutch pack and shims from case. Repeat backlash procedure for opposite side gear.

4) With proper shim thickness determined, install shims, clutch packs, and side gears into case. Position differential case on axle shaft supported in vise. Place both pinion gears and thrust washers into position, 180° apart, and carefully roll into position by turning case on shaft. *NOTE — Large "C" clamp may be used to apply slight compression against pinion gears to aid in "rolling in" procedure.*

5) With internal gears in correct position, gently tap reload spring into place. Install pinion shaft and lock screw. Press differential side bearings onto journals on case and install ring gear.