

rear pinion bearing cup bore machine surfaces should be smooth. Raised metal on shoulders of bores incurred in removal of cups should be flattened by use of a flat nosed punch.

(3) Axle shaft oil seal bores at both ends of housing should be smooth and free of rust and corrosion. This also applies to brake support plate and housing flange face surface.

(4) Axle shaft bearings should be washed and cleaned and inspected for pitting, spalling or imperfections in axle shaft roller surface or bearing rollers. If either or both are found to be unfit for further use, discard and replace with new parts. (The axle shaft and bearing should not be serviced separately).

(5) The axle shaft splines should be smooth and free of excessive wear. The axle shaft oil seal journal should be smooth and free of nicks, scratches or blemishes. To remove any imperfections, polish with No. 600 crocus cloth (without reducing diameter of axle shaft oil seal surface). Use circumferential motion only.

(6) Differential bearings and front and rear pinion bearing cone and cup assemblies should have a smooth appearance with no broken or dented surfaces on rollers or roller contact surfaces. The bearing roller retainer cages must not be distorted or cracked. **When replacing bearings, always replace the cup and cone in a set only.**

(7) Inspect drive gear and pinion for worn or chipped teeth or damaged attaching bolt threads. If replacement is necessary, replace both the drive gear and drive pinion as they are available in matched sets only.

(8) Inspect universal joint flange for cracks, worn splines, pitted, rough or corroded oil seal contact surface. Repair or replace universal joint flange as necessary.

(9) Inspect drive pinion bearing shim for breakage or distortion and replace if necessary during the establishment of setting depth of mesh.

(10) Differential side gears and pinions should have smooth teeth with a uniform contact pattern without excessive wear or broken surfaces. The differential side gear hub surfaces and thrust washer contact surfaces should be smooth and free from any scoring or metal pickup.

(11) The machined thrust washer surface areas inside the differential case should be polished and with no surface imperfections. The pinion shaft bore in differential case should be round and without excessive wear in areas of contact with either differential case or differential pinions.

The differential pinion shaft should be smooth and free of any wear. If either of the differential side gear or differential pinions require replacement, they must be replaced as a package. Under no circumstances should these components

be replaced separately.

(12) Inspect axle shaft "C" locks for signs of cracks or wear and replace if necessary.

(13) Check each adjuster to determine that it rotates freely. If adjuster binds, repair damaged threads or replace adjuster as required to allow adjusters to turn freely.

Assembly and Installation

Liberalily lubricate all components with rear axle lubricant.

(1) Install thrust washers on differential side gears and position gears in counterbores of differential. If assembling with new differential gears or thrust washers refer to "Differential Side Gear Clearance and Adjustment".

(2) Position thrust washers on both differential pinion gears and mesh the pinion gears with the side gears, having pinion gears exactly 180 degrees apart.

(3) Rotate side gears to align pinion gears and washers with differential pinion shaft holes in case. Install lock screw and tighten to 90 in. lbs. (10 N·m).

(4) The contact surface of the drive gear and differential case flange must be clean and free of all burrs.

(5) On axles requiring ring gear to be installed on differential case, relieve the sharp edge of the chamfer on the inside diameter of the ring gear using an Arkansas stone (Fig. 18). This is very important, otherwise during the installation of ring gear on differential case, the sharp edge will remove metal from the pilot diameter of case, which can get imbedded between differential case flange and gear, causing ring gear not to seat properly.

(6) Heat the ring gear with a heat lamp or by immersing the gear in a hot fluid (water or oil). The temperature should not exceed 300 degrees

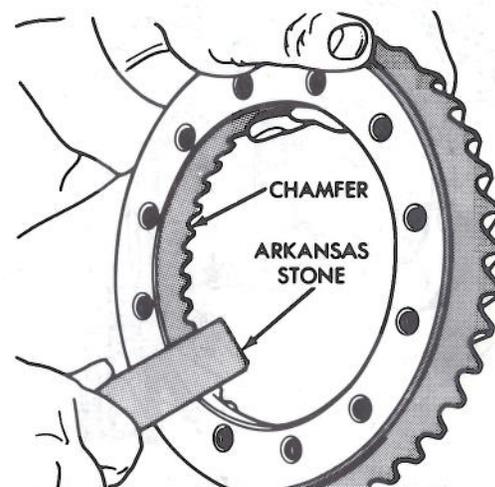


Fig. 18—Stoning Chamfer of Ring Gear