

DRIVELINE/AXLES

Differential (Inspection) - Sienna

DIFFERENTIAL SYSTEM

PRECAUTION

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- Prior to starting any work, clean the differential assembly to prevent sand or mud deposits from entering the assembly.
- When removing any light alloy components such as the differential cover, do not pry on the component with a screwdriver or similar tool. Tap the component loose using a plastic hammer.
- Always organize removed parts in the order they were removed and protect them from dirt.
- Apply differential gear oil LT to each part after it is cleaned and completely dry prior to installation.
- Do not use alkaline chemicals to clean aluminum parts, rubber parts, or ring gear set bolts.
- Do not use any cleaning solutions (ex. non-residue solvent) to clean rubber parts such as oil seals. Apply sufficient hypoid gear oil to any sliding or rotating parts.
- Do not hold any parts directly in a vise. Always use aluminum plates between the part and the vise.
- Replace any damaged or deformed snap rings.
- Do not allow scratches on the differential case contact surfaces. Scratches may lead to oil leakage.
- Before applying seal packing, completely remove any old seal packing remaining on the components using a non-residue solvent.
- After sealing components, do not allow oil to contact the seal for at least 1 hour. Do not allow scratches on any oil seal or gasket contact surface. Scratches may lead to oil leakage.
- When press-fitting an oil seal, be careful not to damage the lip of the oil seal or the surrounding surfaces.
- When replacing a bearing, replace both outer and inner races as one set.
- When replacing a bearing, do not apply load to the contact surfaces of the rollers or races.
- When replacing a hypoid gear, replace the ring gear and pinion gear as a set.
- New bearings are coated with anti-rust oil. If using new bearings, do not wash it off.
- If any bolts have excessive rust or other damage to the threads or seating surfaces, replace them.

PROBLEM SYMPTOMS TABLE

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HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

DIFFERENTIAL SYSTEM

Symptom	Suspected Area	See
Noise in rear differential	Oil (Level too low or wrong grade)	Refer to <u>REPLACEMENT</u>
	Ring gear or drive pinion (Worn or chipped)	Refer to <u>DISASSEMBLY</u>
	Backlash adjustment (Defective)	Refer to <u>DISASSEMBLY</u>
	Preload adjustment (Defective)	Refer to <u>DISASSEMBLY</u>
	Tooth contact between ring gear and drive pinion (Defective)	Refer to <u>DISASSEMBLY</u>
	Bearing (Worn)	Refer to <u>DISASSEMBLY</u>
Oil leaks from rear differential	Oil (Level too high or wrong grade)	Refer to <u>REPLACEMENT</u>
	Carrier oil seal (Worn or damaged)	Refer to <u>REPLACEMENT</u>
	Side gear shaft oil seal (Worn or damaged)	Refer to <u>REPLACEMENT</u>
	Seal packing (Damaged)	Refer to <u>DISASSEMBLY</u>