



# Differential

## Troubleshooting

NOTE: Most problems in the unit are to be diagnosed by identifying noises from the gears or bearings. Care should be taken during diagnosis not to confuse differential noises with those from other drivetrain components.

[Noise symptoms will be most prominent]

Symptom	Probable Cause	Remedy
Consistent noise during cruising	<ul style="list-style-type: none"><li>• Lack of oil</li><li>• Foreign matter stuck in gears, etc.</li><li>• Improper tooth contact between ring gear and drive pinion</li><li>• Worn or damaged side bearing</li><li>• Deformed ring gear or differential carrier</li></ul>	<ul style="list-style-type: none"><li>• Replenish oil</li><li>• Clean and inspect</li><li>• Adjust or replace</li><li>• Replace any damaged or faulty parts</li></ul>
Gear noises while accelerating	<ul style="list-style-type: none"><li>• Lack of oil</li><li>• Foreign matter stuck in gears, etc.</li><li>• Improper drive pinion preload</li><li>• Chipped or damaged gears</li></ul>	<ul style="list-style-type: none"><li>• Replenish oil</li><li>• Clean and inspect</li><li>• Adjust</li><li>• Replace</li></ul>
Gear noises while coasting or accelerating	<ul style="list-style-type: none"><li>• Improper drive pinion preload</li><li>• Damaged or chipped gears</li></ul>	<ul style="list-style-type: none"><li>• Adjust or replace</li></ul>
Bearing noises while accelerating or coasting/deceleration	<ul style="list-style-type: none"><li>• Cracked or damaged drive pinion bearing or side bearing</li></ul>	<ul style="list-style-type: none"><li>• Replace</li></ul>
Abnormal noises when rounding a curve	<ul style="list-style-type: none"><li>• Worn (excessive play) or damaged side bearing</li><li>• Damaged side gear, pinion, or pinion shaft</li></ul>	<ul style="list-style-type: none"><li>• Replace</li></ul>
Abnormal noises during acceleration or when first driving away from a stop.	<ul style="list-style-type: none"><li>• Excessive backlash between ring gear and drive pinion.</li><li>• Improper ring gear or drive pinion preload</li><li>• Excessive pinion backlash</li><li>• Worn differential splines</li><li>• Loose companion flange nuts and other fasteners</li></ul>	<ul style="list-style-type: none"><li>• Adjust</li><li>• Replace</li><li>• Recheck torque or replace</li></ul>
Oil leak	<ul style="list-style-type: none"><li>• Oil level too high</li><li>• Clogged breather hole</li><li>• Loose carrier or inadequate sealing</li><li>• Worn or damaged oil seal</li></ul>	<ul style="list-style-type: none"><li>• Lower to proper level</li><li>• Clean or replace</li><li>• Recheck torque or apply sealant</li><li>• Replace</li></ul>
Overheating	<ul style="list-style-type: none"><li>• Lack of oil</li><li>• Insufficient ring gear-to-pinion backlash</li><li>• Excessive ring gear or drive pinion preload</li><li>• Chipped or damaged oil cooler</li></ul>	<ul style="list-style-type: none"><li>• Replenish</li><li>• Adjust</li><li>• Adjust or replace</li><li>• Replace</li></ul>
Coolant leak	<ul style="list-style-type: none"><li>• Inadequate hose or clamp</li></ul>	<ul style="list-style-type: none"><li>• Recheck torque or replace</li></ul>