1. Rear Differential

Symptom and possible cause	Remedy
1. Oil leakage	
① Worn, scratched, or incorrectly seated front or side oil seal. Scored, battered, or excessively worn sliding surface of companion flange.	Repair or replace.
② Clogged or damaged air breather.	Clean, repair or replace.
③ Loose bolts on differential spindle or side retainer, or incorrectly fitted O-ring.	Tighten bolts to specified torque. Replace O-ring.
④ Loose rear cover attaching bolts or damaged gasket.	Tighten bolts to specified torque. Replace gasket and apply liquid packing.
⑤ Loose oil filler or drain plug.	Retighten and apply liquid packing.
⑥ Wear, damage or incorrectly fitting for spindle, side retainer and oil seal.	Repair or replace.
2. Seizure Seized or damaged parts should be replaced, and also other parts should be thoroughly checked for any defect and should be repaired or replaced as required.	
① Insufficient backlash for hypoid gear.	Readjust or replace.
② Excessive preload for side, rear, or front bearing.	Readjust or replace.
③ Insufficient or improper oil used.	Replace seized part and fill with specified oil to specified level.
3. Damage Damaged parts should be replaced, and also other parts should be thoroughly checked for any defect and should be repaired or replaced as required.	
① Improper backlash for hypoid gear.	Replace.
② Insufficient or excessive preload for side, rear, or front bearing.	Readjust or replace.
③ Excessive backlash for differential gear.	Replace gear or thrust washer.
④ Loose bolts and nuts such as crown gear bolt.	Retighten.
⑤ Damage due to overloading.	Replace.
4. Noises when starting or shifting gears Noises may be caused by differential assembly, universal joint, wheel bearing, etc. Find out what is actually making noise before disassembly.	
① Excessive backlash for hypoid gear.	Readjust.
② Excessive backlash for differential gear.	Replace gear or thrust washer.
③ Insufficient preload for front or rear bearing.	Readjust.
④ Loose drive pinion nut.	Tighten to specified torque.
⑤ Loose bolts and nuts such as side bearing retainer attaching bolt.	Tighten to specified torque.

Symptom and possible cause	Remedy
5. Noises when cornering	
① Damaged differential gear.	Replace.
② Excessive wear or damage of thrust washer.	Replace.
③ Broken pinion mate shaft.	Replace.
④ Seized or damaged side bearing.	Replace.
6. Gear noises Since noises from engine, muffler, transmission, propeller shaft, wheel bearings, tires, and body are sometimes mistaken for noises from differential assembly, be careful in checking them. Inspection methods to locate noises include coasting, accelerating, cruising, and jacking-up all four wheels. Perform these inspections according to condition of trouble. When listening to noises, shift gears into four wheel drive and fourth speed position, trying to pick up only differential noise.	
① Improper tooth contact of hypoid gear.	Readjust or replace hypoid gear set.
② Improper backlash for hypoid gear.	Readjust.
③ Scored or chipped teeth of hypoid gear.	Replace hypoid gear set.
④ Seized hypoid gear.	Replace hypoid gear set.
⑤ Improper preload for front or rear bearings.	Readjust.
⑥ Seized, scored, or chipped front or rear bearing.	Replace.
⑦ Seized, scored, or chipped side bearing.	Replace.
⑧ Vibrating differential carrier.	Replace.

2. Propeller Shaft

Symptom and possible cause	Remedy
1. Vibration of propeller shaft Vibration is caused by propeller shaft during operation and is transferred to vehicle body. Generally vibration increase in proportion to vehicle speed.	
① Worn or damaged universal joint.	Replace.
② Unbalanced propeller shaft due to bend or dent.	Replace.
③ Loose installation of propeller shaft.	Retighten.
④ Worn or damaged center bearing and damaged center mounting rubber.	Replace.
2. Tapping when starting and noise while cruising, caused by propeller shaft.	
① Worn or damaged universal joint.	Replace.
② Worn spline of sleeve yoke.	Replace.
③ Loose installation of propeller shaft.	Retighten.
④ Loose installation of joint.	Replace.
⑤ Worn or damaged center bearing and damaged center mounting rubber.	Replace.

NOTE:
Vibration while cruising may be caused by an unbalanced tire, improper tire inflation pressure, improper wheel alignment, etc.