9. General Diagnostic Table

A: INSPECTION

Symptom or trouble	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.	Correct 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 the bolts to specified torque. Replace the O-ring.
	(4) Loose rear cover attaching bolts or damaged gasket.	Tighten the bolts to specified torque. Replace gasket and apply liquid gasket.
	(5) Loose oil filler or drain plug.	Retighten and apply liquid gasket.
	(6) Wear, damage or incorrect fitting of spindle, side retainer or oil seal.	Correct or replace.
2. Seizure	(1) Insufficient backlash for hypoid gear.	Readjust or replace.
NOTE: Seized or damaged parts should be re-	(2) Excessive preload for side, rear or front bearing.	Readjust or replace.
placed, and also other parts should be thoroughly checked for any defect and should be repaired or replaced as required.	(3) Insufficient or improper oil used.	Replace seized part and fill with specified oil to specified level.
3. Damage	(1) Improper backlash for hypoid gear.	Replace.
NOTE: Damaged parts should be replaced, and	(2) Insufficient or excessive preload for side, rear or front bearing.	Readjust or replace.
also other parts should be thoroughly checked for any defect and should be re-	(3) Excessive backlash for differential gear.	Replace gear or thrust washer.
paired or replaced as required.	(4) Loose bolts and nuts such as hypoid driven gear bolt	Retighten.
	(5) Damage due to overloading.	Replace.
4. Noises when starting or shifting	(1) Excessive backlash for hypoid gear.	Readjust.
gears NOTE:	(2) Excessive backlash for differential gear.	Replace gear or thrust washer.
Noises may be caused by differential assembly, universal joint, wheel bearing, etc.	(3) Insufficient preload for front or rear bearing.	Readjust.
Find out what is actually making noise before disassembling.	(4) Loose drive pinion nut.	Tighten to the specified torque.
Total diseases maining.	(5) Loose bolts and nuts such as side bearing retainer attaching bolt.	Tighten to the specified torque.
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 Noise NOTE:	(1) Improper tooth contact of hypoid gear.	Readjust or replace hypoid gear set.
Since noises from engine, muffler, trans-	(2) Improper backlash of the hypoid gear.	Readjust.
mission, propeller shaft, wheel bearings, tires, and body are sometimes mistaken for noises from differential assembly, be care-	(3) Scored or chipped teeth of hypoid gear.	Replace hypoid gear set.
ful in checking them. Inspection methods to	(4) Seized hypoid gear.	Replace hypoid gear set.
locate noises include coasting, accelerating, cruising, and jacking-up all four wheels. Perform these inspections according to the condition of trouble. When listening to nois-	(5) Improper preload for front or rear bearings.	Readjust.
	(6) Seized, cut-away or chipped front or rear bearing.	Replace.
es, shift gears into four wheel drive and fourth speed position, trying to pick up only	(7) Seized, cut-away or chipped side bearing.	Replace.
differential noise.	(8) Vibrating differential gear.	Replace.

TRANSFER CASE

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