

1. Clutch System

Condition	Possible cause and testing	Corrective action
1. Clutch slip-page	It is hard to perceive clutch slippage in the early stage, but pay attention to the following symptoms.	
	(a) Engine revs up when shifting. (b) High speed driving is impossible; especially rapid acceleration impossible and vehicle speed does not increase in proportion to an increase in engine speed. (c) Power falls, particularly when ascending a slope, and there is a smell of burning of the clutch facing. ● Method of testing: Put the vehicle in stationary condition with parking brake fully applied. Disengage the clutch and shift the transmission gear into the first. Gradually allow the clutch to engage while gradually increasing the engine speed. The clutch function is satisfactory if the engine stalls. However, the clutch is slipping if the vehicle does not start off and the engine does not stall.	
2. Clutch drags.	(a) No clutch pedal play (b) No release lever end play (c) Clutch facing smeared by oil (d) Worn clutch facing (e) Deteriorated diaphragm spring (f) Distorted pressure plate or flywheel (g) Defective release bearing holder (h) Defective pedal and cable system	
	Readjust. Readjust. Replace. Replace. Replace. Correct or replace. Correct or replace. Correct or replace.	
3. Clutch chatters.	As a symptom of this trouble, a harsh scratching noise develops and control becomes quite difficult when shifting gears. The symptom becomes more apparent when shifting into the first gear. However, because much trouble of this sort is due to defective synchronization mechanism, carry out the test as described after.	
	● Method of testing: Refer to DIAGNOSTIC DIAGRAM on page after. It may be judged as insufficient disengagement of clutch if any noise occurs during this test.	
3. Clutch chatters.	(a) Excessive clutch pedal play (b) Excessive clutch release lever play (c) Worn or rusty clutch disc hub spline (d) Excessive deflection of clutch disc facing (e) Seized crankshaft pilot needle bearing (f) Malfunction of pedal and cable system (g) Cracked clutch disc facing (h) Sticked clutch disc (smeared by oil or water)	
	Readjust. Readjust. Replace clutch disc. Correct or replace. Replace. Correct or replace. Replace. Replace.	
3. Clutch chatters.	Clutch chattering is an unpleasant vibration to the whole body when the vehicle is just started with clutch partially engaged.	
	(a) Improper clutch cable routing (b) Adhesion of oil on the facing (c) Weak or broken torsion spring (d) Defective facing contact or excessive disc (e) Warped pressure plate or flywheel (f) Loose disc rivets (g) Loose engine mounting (h) Improper adjustment of pitching stopper	
		Correct. Replace clutch disc. Replace clutch disc. Replace clutch disc deflection. Correct or replace. Replace clutch disc. Retighten or replace mounting. Adjustment.

Condition	Possible cause and testing	Corrective action
4. Noisy clutch	Examine whether the noise is generated when the clutch is disengaged, engaged, or partially engaged.	
	(a) Broken, worn or unlubricated release bearing	Replace release bearing.
	(b) Insufficient lubrication of pilot bearing	Apply grease.
	(c) Loose clutch disc hub	Replace clutch disc.
	(d) Loose torsion spring retainer	Replace clutch disc.
	(e) Deteriorated or broken torsion spring	Replace clutch disc.
5. Clutch grabs.	When starting the vehicle with the clutch partially engaged, the clutch engages suddenly and the vehicle jumps instead of making a smooth start.	
	(a) Grease or oil on facing	Replace clutch disc.
	(b) Deteriorated cushioning spring	Replace clutch disc.
	(c) Worn or rusted spline of clutch disc or main	Take off rust, apply grease or replace clutch shaft disc or mainshaft.
	(d) Deteriorated or broken torsion spring	Replace clutch disc.
	(e) Loose engine mounting	Retighten or replace mounting.
	(f) Deteriorated diaphragm spring	Replace.

1. DIAGNOSTIC DIAGRAM OF CLUTCH DRAG

