

GENERAL DIAGNOSTIC TABLE

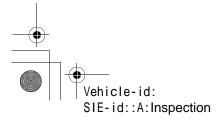
CLUTCH SYSTEM

12.General Diagnostic Table

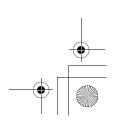
A: INSPECTION

1. CLUTCH

Symptom	Possible cause	Corrective	
Clutch slippage. It is hard to perceive clutch slippage in the early stage, but	(a) Clutch facing smeared by oil	Replace.	
	(b) Worn clutch facing	Replace.	
pay attention to the following symptoms	(c) Deteriorated diaphragm	Replace.	
Engine speed up when shifting.	spring	110,000	
High speed driving is impossible; especially rapid	(d) Distorted pressure plate or	Correct or replace.	
acceleration impossible and vehicle speed does not increase in proportion to an increase in engine speed.	flywheel	·	
 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 	(e) Defective release bearing holder	Correct or replace.	
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.			
Clutch drags.	(a) Worn or rusty clutch disc hub	Replace the clutch disc.	
As a symptom of this trouble, a harsh scratching noise	spline	•	
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,	(b) Excessive deflection of clutch disc facing	Replace.	
	(c) Malfunction of crankshaft pilot bearing	Replace.	
carry out the test as described after. • Method of testing: <ref. cl-28,="" dia-<="" diagnostic="" td="" to=""><td>(d) Cracked clutch disc facing</td><td>Replace.</td></ref.>	(d) Cracked clutch disc facing	Replace.	
Method of testing: <ref. cl-28,="" dia-<br="" diagnostic="" to="">GRAM OF CLUTCH DRAG, INSPECTION, General Diag- nostic Table.> It may be judged as insufficient disengagement of clutch if any noise occurs during this test.</ref.>	(e) Sticked clutch disc (smeared by oil or water)	Replace.	
3. Clutch chatters.	(a) Adhesion of oil on the facing	Replace the clutch disc.	
Clutch chattering is an unpleasant vibration to the whole body when the vehicle is just started with clutch partially engaged.	(b) Weak or broken torsion spring	Replace the clutch disc.	
	(c) Defective facing contact or excessive disc worn	Replace the clutch disc defection.	
	(d) Warped pressure plate or fly- wheel	Correct or replace.	
	(e) Loose disc rivets	Replace the clutch disc.	
	(f) Loose engine mounting	Retighten or replace the mounting.	
	(g) Improper adjustment of pitching stopper	Adjustment.	
4. Noisy clutch Examine whether the noise is generated when the clutch	(a) Broken, worn or unlubricated release bearing	Replace the release bearing.	
is disengaged, engaged, or partially engaged.	(b) Insufficient lubrication of pilot bearing	Replace the clutch disc.	
	(c) Loose clutch disc hub	Replace the clutch disc.	
	(d) Loose torsion spring retainer	Replace the clutch disc.	
	(e) Deteriorated or broken torsion spring	Replace the clutch disc.	
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Symptom	Possible cause	Corrective	
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 the clutch disc.	
	(b) Deteriorated cushioning spring	Replace the clutch disc.	
	(c) Worn or rusted spline of clutch disc or main shaft	Take off rust, apply grease or replace the clutch disc or main shaft.	
	(d) Deteriorated or broken torsion spring	Replace the clutch disc.	
	(e) Loose engine mounting	Retighten or replace the mounting.	
	(f) Deteriorated diaphragm spring	Replace.	

2. CLUTCH PEDAL

Trouble	Corrective action	
Insufficient pedal play	Adjust pedal play.	
Clutch pedal free play insufficient	Adjust pedal free play.	
Excessively worn and damaged pedal shaft and/or bushing	Replace the bushing and/or shaft with a new one.	

3. DIAGNOSTIC DIAGRAM OF CLUTCH DRAG

	Step	Value	Yes	No
1	CHECK GEAR NOISE.1) Start the engine.2) Disengage the clutch and shift quickly from neutral to reverse in idling condition. Is there any abnormal noise from the transmission gear?	There is abnormal noise from transmission gear.	Go to step 2.	Clutch is normal.
2	CHECK GEAR NOISE. Disengage the clutch at idle and shift from neutral to reverse within 0.5 — 1.0 seconds. Is there any abnormal noise from the transmission gear?	There is abnormal noise from transmission gear.	Go to step 3.	Defective trans- mission or exces- sive clutch drag torque. Inspect the pilot bearing, clutch disc, transmission and clutch disc hub spline.
3	 CHECK GEAR NOISE. 1) Disengage the clutch at idle and shift from neutral to reverse within 0.5 — 1.0 seconds. 2) With the clutch disengaged, shift from N to R, R to N several times. Is there any abnormal noise from the transmission gear? 	There is abnormal noise from transmission gear.	Defect in clutch disengaging. Inspect the clutch disc, clutch cover, clutch release, and clutch pedal free play.	

