# 12.General Diagnostic Table

## A: INSPECTION

### 1. CLUTCH SYSTEM

| Symptom | Possible cause | Corrective action |
|---|---|---|
| 1. Clutch slippage.<br>It is hard to perceive clutch slippage in the early stage, but pay attention to the following symptoms.<br>• Engine speeds up when shifting.<br>• High-speed driving is not possible; especially rapid acceleration is not possible and vehicle speed does not increase in proportion to the increase in engine speed.<br>• Power drops particularly when ascending a slope, and there is a burning smell of the clutch plate.<br>• Method of testing: Park the vehicle and fully apply the parking brake. Disengage the clutch and shift the transmission gear into the 1st. Gradually increase the engine speed while gradually allowing the clutch to engage. The clutch function is satisfactory if the engine stalls. However, the clutch is slipping if the vehicle does not move forward and the engine does not stall. | (a) Oil on the clutch face | Replace. |
| | (b) Worn clutch face | Replace. |
| | (c) Deteriorated diaphragm spring | Replace. |
| | (d) Warped pressure plate or flywheel | Replace. |
| | (e) Defective release bearing holder | Replace. |
| 2. Clutch drags.<br>As a symptom of this trouble, a harsh scratching noise occurs and control becomes difficult when shifting gears. The symptom becomes more apparent when shifting into the 1st gear. However, because most trouble of this sort is due to a defective synchronization mechanism, perform the following tests.<br>• Method of testing: <Ref. to CL-31, DIAGNOSTIC DIAGRAM OF CLUTCH DRAG, INSPECTION, General Diagnostic Table.><br>The problem is caused by insufficient disengagement of the clutch if a noise occurs during this test. | (a) Worn or rusty clutch disc hub spline | Replace the clutch disc. |
| | (b) Excessive deflection of clutch disc face | Replace. |
| | (c) Seized crankshaft pilot bearing | Replace. |
| | (d) Cracked clutch disc face | Replace. |
| | (e) Stuck clutch disc (smeared by oil or water) | Replace. |
| 3. Clutch chatters.<br>Clutch chattering is an unpleasant vibration to the whole vehicle when the vehicle is just started with clutch partially engaged. | (a) Adhesion of oil on the clutch face | Replace the clutch disc. |
| | (b) Weak or broken torsion spring | Replace the clutch disc. |
| | (c) Poor contact of the disk surface or excessively worn disc | Replace the faulty clutch disc. |
| | (d) Deformed pressure plate or flywheel | Replace. |
| | (e) Loose disc rivets | Replace the clutch disc. |
| | (f) Loose engine mounting | Retighten or replace mounting. |
| | (g) Improper adjustment of the pitching stopper | Adjust. |
| 4. Noisy clutch<br>Examine whether the noise is generated when the clutch is disengaged, engaged, or partially engaged. | (a) Broken, worn or insufficiently lubricated release bearing | Replace the release bearing. |
| | (b) Insufficient lubrication of the pilot bearing | Replace the pilot bearing. |
| | (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. |

| Symptom | Possible cause | Corrective action |
|---|---|---|
| 5. Clutch grabs suddenly.<br>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 clutch disc or main shaft. |
| | (d) Deteriorated or broken torsion spring | Replace the clutch disc. |
| | (e) Loose engine mounting | Retighten or replace mounting. |
| | (f) Deteriorated diaphragm spring | Replace. |

## 2. CLUTCH PEDAL

| Trouble | Corrective action |
|---|---|
| Insufficient pedal play | Adjust the free play of the pedal. |
| Insufficient clutch pedal free play | Adjust the free play of the pedal. |
| Excessively worn and damaged pedal shaft and/or bushing | Replace with new bushing or shaft. |

## 3. DIAGNOSTIC DIAGRAM OF CLUTCH DRAG

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK GEAR NOISE.**<br>1) Start the engine.<br>2) Quickly shift from neutral to reverse when idling. | Is there any abnormal noise from the transmission gear? | Go to step **2**. | Clutch is normal. |
| 2 | **CHECK GEAR NOISE.**<br>Depress the clutch pedal when idling and shift from neutral to reverse within 0.5 — 1.0 second. | Is there any abnormal noise from the transmission gear? | Go to step **3**. | Defective transmission or excessive clutch drag torque. Inspect Pilot bearing, clutch disc, transmission and clutch disc hub spline. |
| 3 | **CHECK GEAR NOISE.**<br>1) Depress the clutch pedal when idling and shift from neutral to reverse within 0.5 — 1.0 second.<br>2) With the clutch pedal depressed, shift from neutral to reverse, reverse to neutral several times. | Is there any abnormal noise from the transmission gear? | Inadequate clutch disengage. Inspect the clutch disc, clutch cover, release lever, and clutch pedal free play. | Clutch and flywheel seizure. Inspect the clutch disc and the spline of the clutch disc hub. |

# CHASSIS SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

# FRONT SUSPENSION

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