

### 5. Stall Test

#### A: INSPECTION

##### NOTE:

The stall test is extremely important in diagnosing the condition of an automatic transmission and engine. It should be conducted to measure the engine stall speeds in "R" and "2nd of manual mode".

Purposes of the stall test:

- Operational check of the automatic transmission clutch
- Operational check of the torque converter clutch
- Engine performance check

1) Check that the throttle valve fully opens.

2) Check that the engine oil level is correct.

3) Check that the coolant level is correct.

4) Check that the ATF level is correct.

5) Check that the differential gear oil level is correct.

6) Raise the ATF temperature to 70 to 80°C (158 to 176°F) by driving a distance of 5 to 10 km (3 to 6 miles). Confirm the ATF temperature on Subaru Select Monitor. <Ref. to 5AT(diag)-16, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>

7) Place the wheel chocks at the front and rear of all wheels and apply the parking brake.

8) Move the manual linkage to ensure it operates properly, then set to "2nd gear of manual mode".

9) While stepping hard on the brake pedal, gradually step on the accelerator pedal.

10) When the engine speed is stabilized, quickly record the engine speed and release accelerator pedal.

11) Shift the select lever to "N" range, and cool down the engine by idling it for one minute or more.

12) Perform the procedure for "R" range in the same way as "2nd on manual mode".

##### NOTE:

- Do not continue the stall test for FIVE SECONDS OR MORE at a time (from fully closed throttle to fully open throttle until stall speed reading). Doing so will make the engine oil and ATF deteriorate and the clutch and brake to be adversely affected.

- After performing the stall test, be sure to cool down the engine for at least one minute with the select lever set in "P" or "N" range, and at an idle speed of 1,200 rpm or less.

- If the stall speed is higher than the specified range, attempt to finish the stall test in as short a time as possible, in order to prevent the automatic transmission from sustaining damage.

##### **Stall speed (at sea level):**

###### **Turbo model**

**3,100 — 3,500 rpm**

###### **Non-turbo model**

**2,400 — 2,800 rpm**

Stall speed (at sea level)	Range	Possible faulty part
Below specified value	R	<ul style="list-style-type: none"> <li>• Engine</li> <li>• One-way clutch of torque converter clutch</li> </ul>
Over specified value	2nd gear of manual mode	<ul style="list-style-type: none"> <li>• Line pressure too low</li> <li>• Forward brake</li> <li>• Forward brake one-way clutch</li> <li>• Direct clutch</li> <li>• 3rd one-way clutch</li> </ul>
	R	<ul style="list-style-type: none"> <li>• Line pressure too low</li> <li>• Reverse clutch</li> </ul>