

# Stall Test

## AUTOMATIC TRANSMISSION

### 5. Stall Test

#### A: INSPECTION

##### NOTE:

The stall test is extremely important in diagnosing the condition of an automatic transmission and engine. The test is necessary to measure the engine stall speeds in "2nd gear 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)-18, Read Current Data.>
- 7) Place the wheel chocks at the front and rear of all wheels and apply the parking brake.
- 8) Move the select lever 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.

##### NOTE:

- Do not perform a stall test for over 5 seconds at a time. (Perform with the throttle from fully closed to fully open to end up reading the stall speed.) 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.
  - Perform the stall test in S mode.
  - When depressing the accelerator pedal again after performing the stall test for 5 seconds or more, the electronic throttle control remains closed for approx. 60 seconds.
  - When the stall test is performed for 15 seconds or more continuously, the test is completed forcibly to protect the transmission unit.
- When depressing the accelerator pedal again, the electronic throttle control remains closed for approx. 60 seconds.

**Stall speed (at sea level):**  
**2,100 — 2,600 rpm**

Stall speed (at sea level)	Range	Possible faulty parts
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>• Direct clutch</li><li>• 3rd one-way clutch</li></ul>