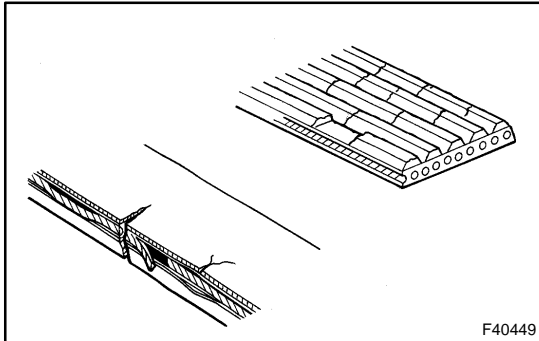


# POWER STEERING SYSTEM (1GR-FE)

## ON-VEHICLE INSPECTION

510BP-01



### 1. INSPECT DRIVE BELT

- (a) Visually check the belt for excessive wear, frayed cords, etc.

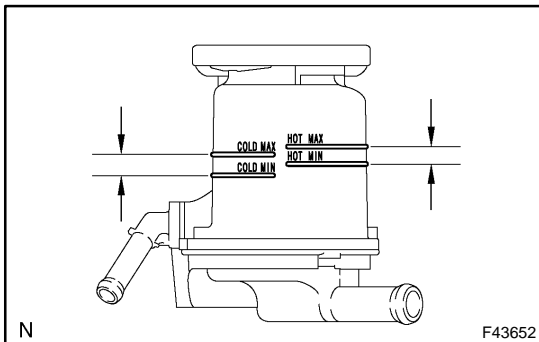
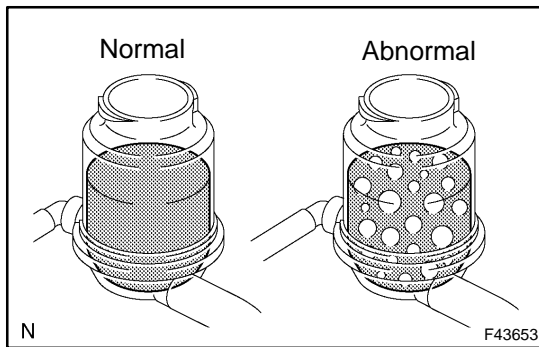
If any defect is found, replace the drive belt.

#### HINT:

Cracks on the rib side of a belt are considered acceptable. If the missing chunks from the ribs are found on the belt, it should be replaced.

### 2. BLEED POWER STEERING SYSTEM

- (a) Check the fluid level.
- (b) Jack up the front of the vehicle and support it with the stands.
- (c) Turn the steering wheel.
- (1) With the engine stopped, turn the wheel slowly from lock to lock several times.
- (d) Lower the vehicle.
- (e) Start the engine.
- (1) Run the engine at idle for a few minutes.
- (f) Turn the steering wheel.
- (1) With the engine idling, turn the wheel to left or right full lock position and keep it there for 2 - 3 seconds, then turn the wheel to the opposite full lock position and keep it there for 2 - 3 seconds.
- (2) Repeat (1) several times.
- (g) Stop the engine.
- (h) Check for foaming or emulsification.
- Especially, if the system has to be bled twice because of foaming or emulsification, check for fluid leaks in the system.
- (i) Check the fluid level.



### 3. CHECK FLUID LEVEL

- (a) Keep the vehicle level.
- (b) With the engine stopped, check the fluid level in the oil reservoir.

If necessary, add fluid.

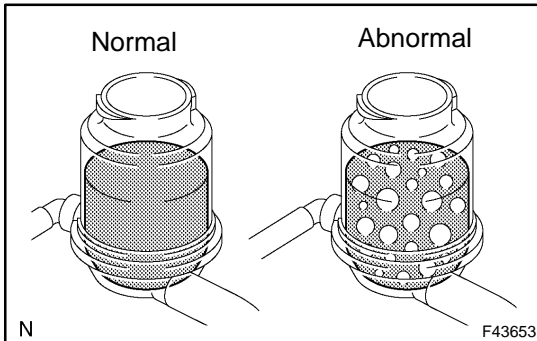
**Fluid: ATF DEXRON® II or III**

#### HINT:

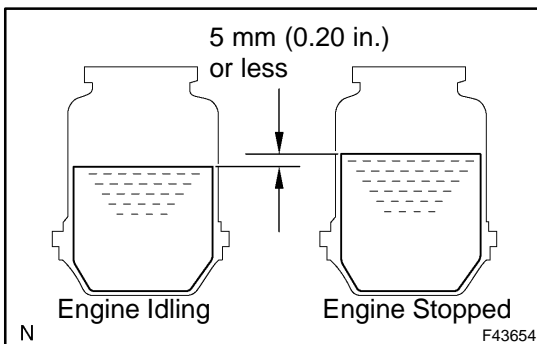
Check that the fluid level is within the HOT LEVEL range on the reservoir tank. If the fluid is cold, check that it is within the COLD LEVEL range.

- (c) Start the engine and run it at idle.
- (d) Turn the steering wheel from lock to lock several times to raise fluid temperature.

**Fluid temperature: 75 - 80 °C (167 - 176 °F)**



- (e) Check for foaming or emulsification. If foaming or emulsification is identified, bleed the power steering system.



- (f) With the engine idling, measure the fluid level in the oil reservoir.
- (g) Stop the engine.
- (h) Wait a few minutes and measure the fluid level in the oil reservoir again.

**Maximum fluid level rise: 5 mm (0.20 in.)**

If a problem is found, bleed the power steering system.

- (i) Check the fluid level.

#### 4. CHECK STEERING FLUID PRESSURE

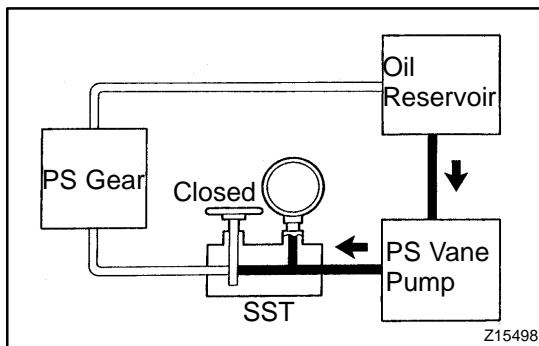
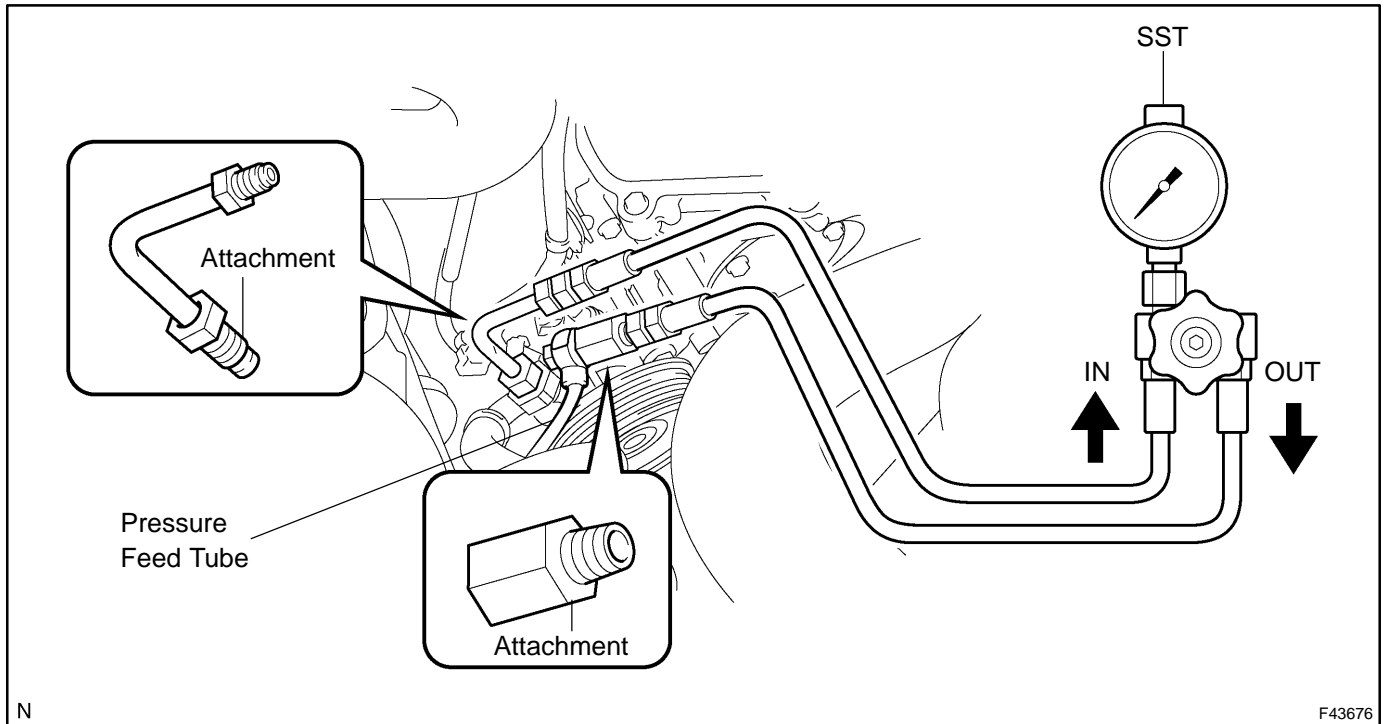
- (a) Disconnect the pressure feed tube from the vane pump (See page 51-6).
- (b) Connect SST, as shown in the illustration.  
SST 09640-10010 (09641-01010, 09641-01020, 09641-01030)

#### NOTICE:

**Check that the valve of the SST is in the open position.**

- (c) Bleed the power steering system.
- (d) Start the engine and run it at idle.
- (e) Turn the steering wheel from lock to lock several times to raise fluid temperature.

**Fluid temperature: 75 - 80 °C (167 - 176 °F)**



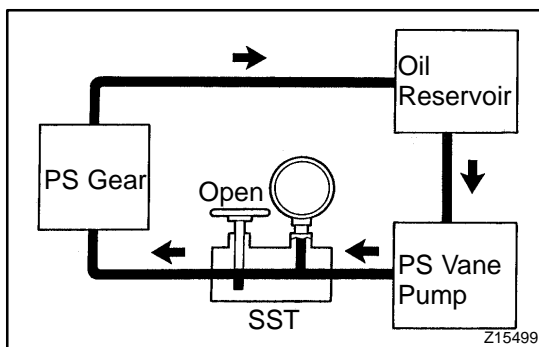
- (f) With the engine idling, close the valve of the SST and observe the reading on the SST.

**Fluid pressure:**

**8,300 - 8,800 kPa (85 - 90 kgf/cm<sup>2</sup>, 1,209 - 1,280 psi)**

**NOTICE:**

- Do not keep the valve closed for more than 10 seconds.
- Do not let the fluid temperature become too high.



- (g) With the engine idling, open the valve fully.

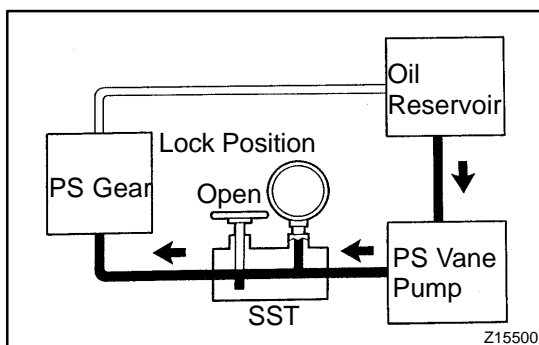
- (h) Measure the fluid pressure at engine speeds of 1,000 rpm and 3,000 rpm.

**Fluid pressure difference:**

**490 kPa (5 kgf/cm<sup>2</sup>, 71 psi) or less**

**NOTICE:**

**Do not turn the steering wheel.**



- (i) With the engine idling and valve fully opened, turn the steering wheel to full lock position.

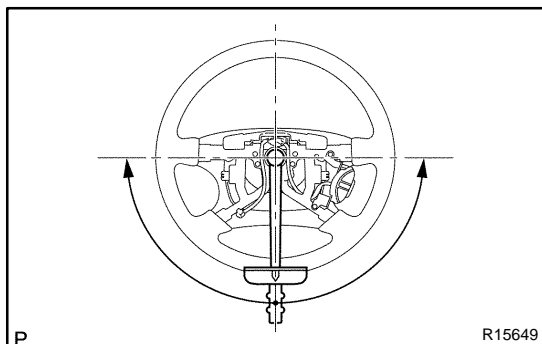
**Fluid pressure:**

**8,300 - 8,800 kPa (85 - 90 kgf/cm<sup>2</sup>, 1,209 - 1,280 psi)**

**NOTICE:**

- Do not maintain lock position for more than 10 seconds.
- Do not let the fluid temperature become too high.

- (j) Disconnect the SST.  
SST 09640-10010 (09641-01010, 09641-01020, 09641-01030)
- (k) Connect the pressure feed tube to the vane pump  
(See page 51-6).
- (l) Bleed the power steering system.



## 5. CHECK STEERING EFFORT

- (a) Center the steering wheel assy.
- (b) Remove the horn button assy  
(See Pub. No. RM1001U on page 50-8).
- (c) Start the engine and run it at idle.
- (d) Measure the steering effort in both directions.

### Steering effort (Reference):

**6 N·m (60 kgf·cm, 53 in.-lbf) or less**

### HINT:

Take the tire type, pressure and contact surface into consideration before making your diagnosis.

- (e) Install the steering wheel assy set nut.  
**Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)**
- (f) Install the horn button assy  
(See Pub. No. RM1001U on page 50-8).