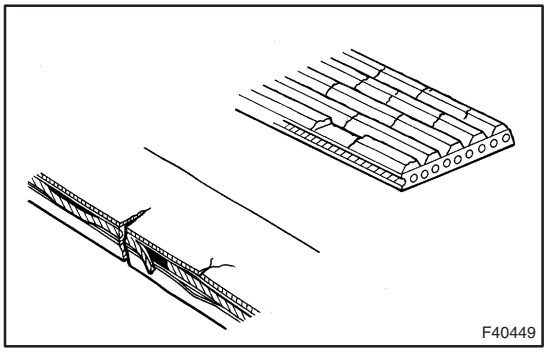
510K5–01

ON–VEHICLE INSPECTION



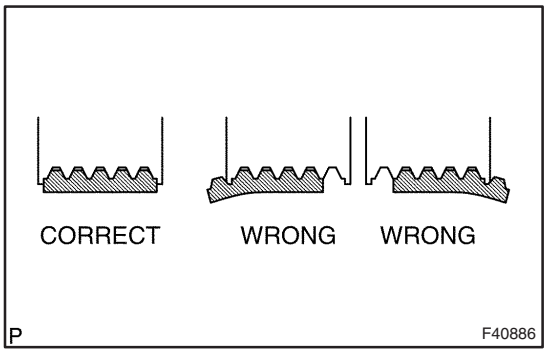
1. INSPECT DRIVE BELT

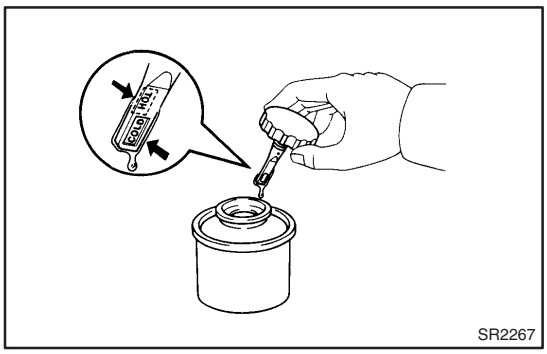
(a) Visually check the belt for excessive wear, frayed cords, etc.

If any defect is found, replace the drive belt.

HINT:

Cracks on the rib side of a belt are considered acceptable. Replace the belt if there are any missing ribs.





2. CHECK FLUID LEVEL

(a) Keep the vehicle level.

(b) With the engine stopped, check the fluid level in the reservoir. If necessary, add fluid.

Fluid: ATF DEXRON® II or III

HINT:

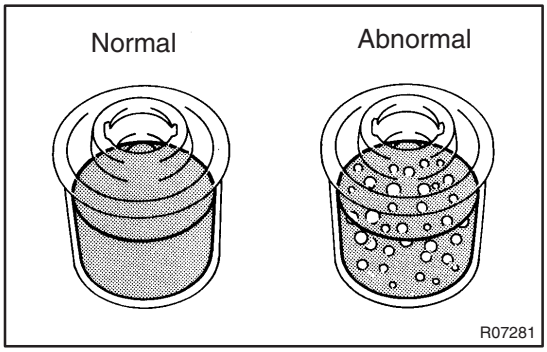
When the fluid is hot, check that the fluid level is within the HOT range on the reservoir cap dipstick.

If the fluid is cold, check that it is within the COLD range.

(c) Start the engine and run at idle.

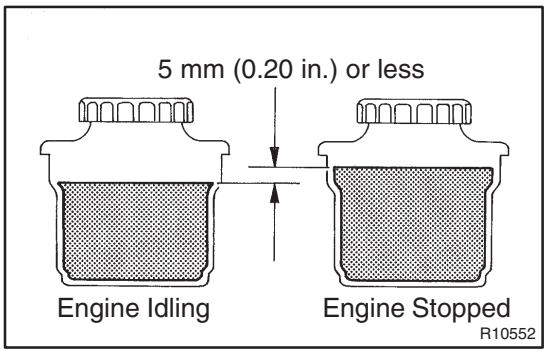
(d) Turn the steering wheel from lock to lock several times to raise fluid temperature.

Fluid temperature: 75 to 80˚C (167 to 176˚F)



(e) Check for foaming or emulsification.

If foaming or emulsification is identified, bleed air from the power steering system. (See step 3.)



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

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

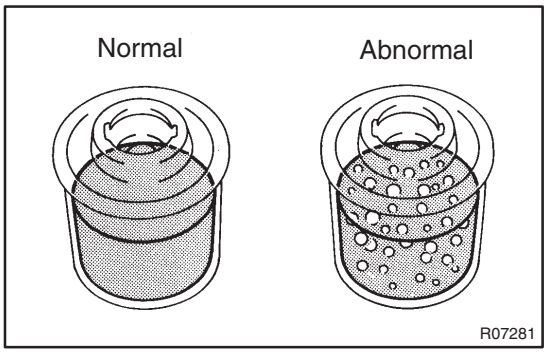
If the fluid level rise exceeds the maximum, bleed air from the power steering system. (See step 3.)

(i) Check the fluid level.

3. BLEED AIR IN POWER STEERING SYSTEM

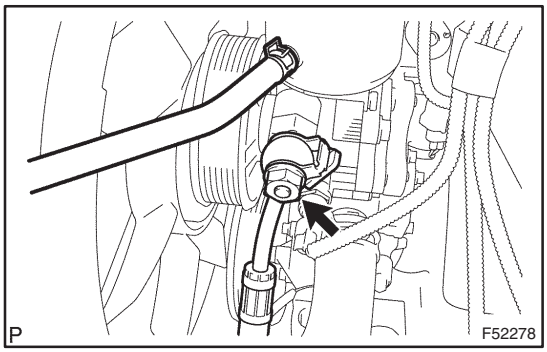
NOTICE:

If you replace or separate the components for the power steering fluid pressure line, bleed air from the power steering system after the operation.



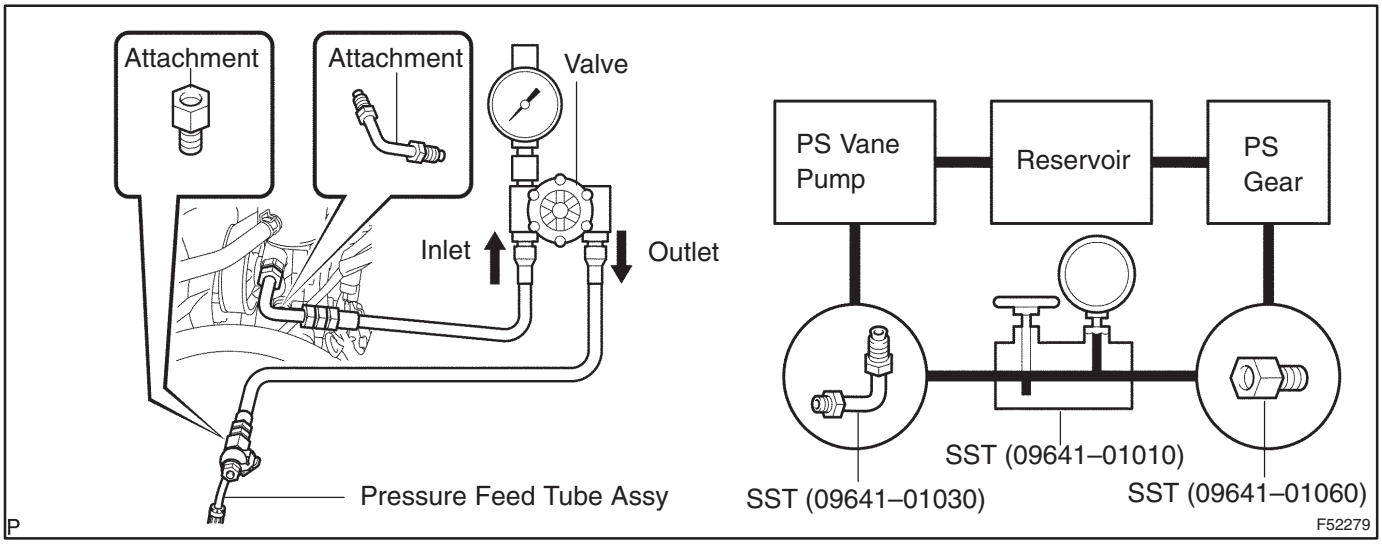
(a) Idle the engine at 1,000 rpm or less until bubbles in the fluid disappear. (Be sure not to turn the steering wheel.)
(b) When the bubbles disappear, slowly turn the steering wheel from lock to lock 2 or 3 times.
(c) Repeat procedures (a) and (b) until the fluid level in the reservoir becomes stable and bubbles disappear. If the fluid level goes below the MAX line, add fluid.
(d) When the fluid level becomes stable, increase and decrease oil pressure 2 or 3 times for both left and right by turning the steering wheel to the full lock positions and jiggling it there.
(e) Make sure that no bubbles exist in the reservoir. When turning the steering wheel quickly or turning it from lock to lock, check that the steering wheel is not heavy to turn and there is no abnormal noise or vibration.
(f) When there are fluid leaks or abnormalities after bleeding air, repair them and repeat procedures (a) to (e). If the abnormalities still exist, replace the related parts.

4. CHECK STEERING FLUID PRESSURE



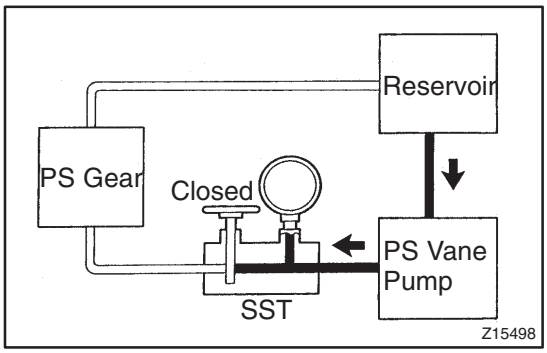
(a) Remove the union bolt and disconnect the pressure feed tube assy from the vane pump assy.
(b) Remove the gasket from the pressure feed tube assy.

(c) Connect SST, as shown in the illustration below.
SST 09640–10010 (09641–01010, 09641–01030, 09641–01060)



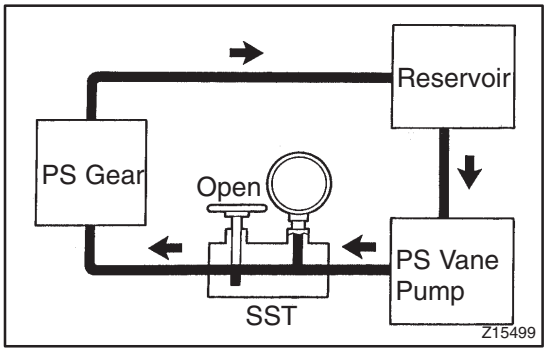
NOTICE:
Check that the valve of the SST is in the open position.

(d) Bleed air from the power steering system. (See step 3.)
(e) Start the engine and run at idle.
(f) Turn the steering wheel from lock to lock several times to raise fluid temperature.
Fluid temperature: 75 to 80˚C (167 to 176˚F)



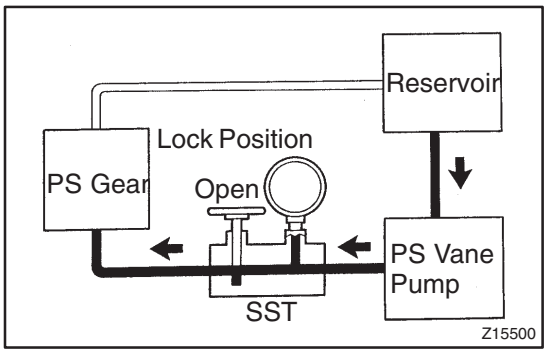
(g) With the engine idling, close the valve of the SST and observe the reading on the SST.
Standard fluid pressure:
8,300 to 8,800 kPa (85 to 90 kgf/cm^2, 1,209 to 1,280 psi)

NOTICE:
- **Do not keep the valve closed for more than 10 seconds.**
- **Do not allow the fluid temperature to become too high.**



(h) With the engine idling, fully open the valve.
(i) Measure the fluid pressure at engine speeds of 1,000 rpm and 3,000 rpm.
Standard fluid pressure difference:
490 kPa (5 kgf/cm^2, 71 psi) or less

NOTICE:
Do not turn the steering wheel.
If the observed value exceeds the standard, check the flow control valve.

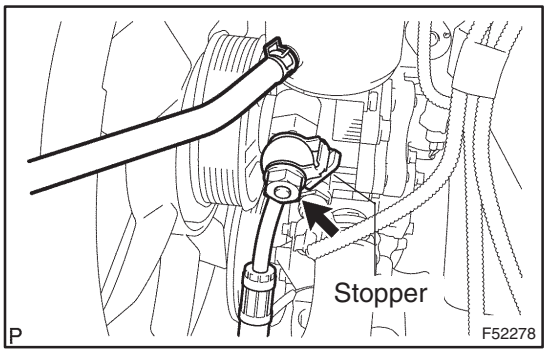


(j) With the engine idling and the valve fully opened, turn the steering wheel left or right to the full lock position.
Standard fluid pressure:
8,300 to 8,800 kPa (85 to 90 kgf/cm^2, 1,209 to 1,280 psi)

NOTICE:

- **Do not keep the steering wheel in the full lock position for more than 10 seconds.**
- **Do not allow the fluid temperature to become too high.**

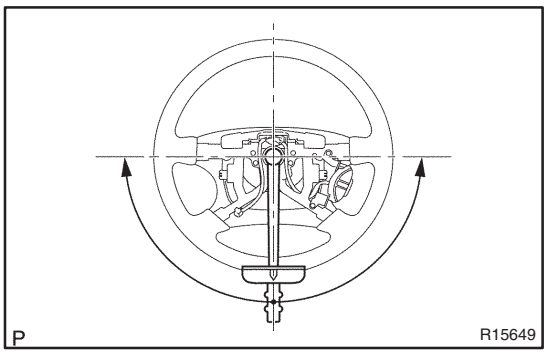
(k) Disconnect the SST.
SST 09640–10010 (09641–01010, 09641–01030, 09641–01060)



(l) Connect the pressure feed tube assy and install a new gasket with the union bolt.
Torque: 51 N·m (520 kgf·cm, 38 ft·lbf)

NOTICE:
Make sure that the stopper of the tube is contacting the vane pump housing front as shown, then tighten the union bolt.

(m) Bleed air from the power steering system. (See step 3.)



5. CHECK STEERING EFFORT

(a) Center the steering wheel assy.
(b) Remove the horn button assy (see Pub. No. RM990E, page 60–14).
(c) Start the engine and run at idle.
(d) Measure the steering effort in both directions.
Steering effort (Reference):
6.0 N·m (60 kgf·cm, 53 in.·lbf) or less

HINT:
Check tire type, pressure and road surface before making a diagnosis.

(e) Check that the steering wheel assy set nut is tightened.
Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)
(f) Install the horn button assy (see Pub. No. RM990E, page 60–14).