

INSPECTION

NOTICE:

When using a vise, do not overtighten it.

1. MEASURE OIL CLEARANCE BETWEEN VANE PUMP SHAFT AND BUSHING

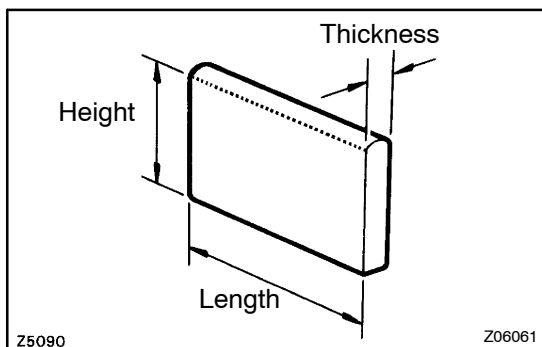
Using a micrometer and caliper gauge, measure the oil clearance.

Standard clearance:

0.030 – 0.045 mm (0.00118 – 0.00177 in.)

Maximum clearance: 0.07 mm (0.0028 in.)

If it is more than the maximum, replace the front housing and vane pump shaft.



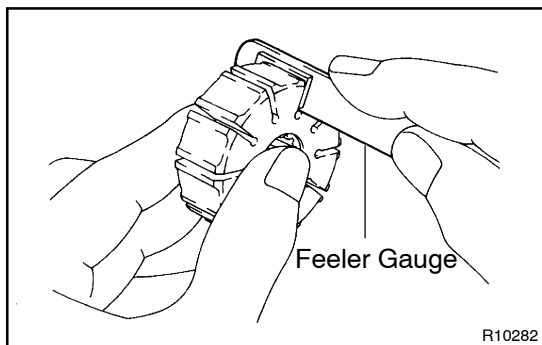
2. INSPECT VANE PUMP ROTOR AND VANE PLATES

- (a) Using a micrometer, measure the height, thickness and length of the 10 plates.

Minimum height: 8.0 mm (0.315 in.)

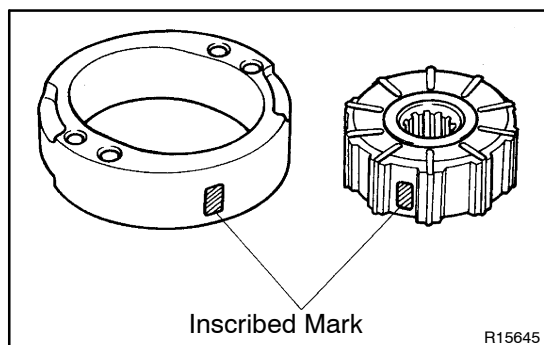
Minimum thickness: 1.77 mm (0.0697 in.)

Minimum length: 14.97 mm (0.5894 in.)



- (b) Using a feeler gauge, measure the clearance between the rotor groove and plate.

Maximum clearance: 0.03 mm (0.0012 in.)



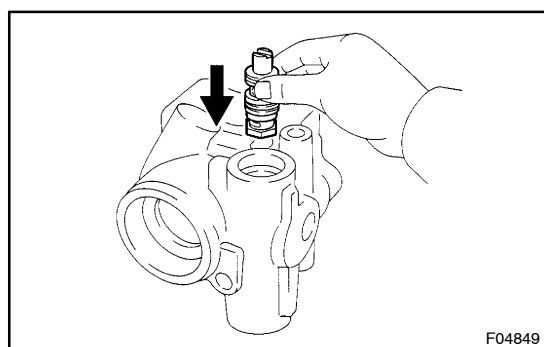
If it is more than the maximum, replace the plate and/or rotor with the one having the same mark stamped on the cam ring.

Inscribed mark: 1, 2, 3, 4 or None

HINT:

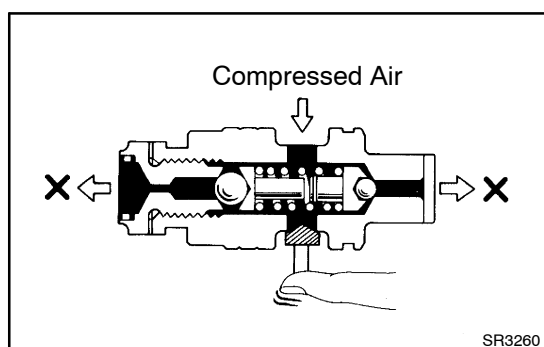
There are 5 vane lengths with the following rotor and cam ring marks:

Rotor and cam ring mark	Vane plate part number	Vane plate length mm (in.)
None	44345-12010	14.996 – 14.998 (0.59039 – 0.59047)
1	44345-12020	14.994 – 14.996 (0.59032 – 0.59039)
2	44345-12030	14.992 – 14.994 (0.59024 – 0.59032)
3	44345-12040	14.990 – 14.992 (0.59016 – 0.59024)
4	44345-12050	14.988 – 14.990 (0.59008 – 0.59016)

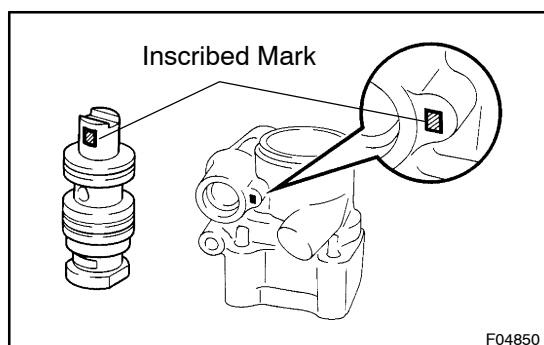


3. INSPECT FLOW CONTROL VALVE

- Coat the flow control valve with power steering fluid and check that it falls smoothly into the valve hole by its own weight.

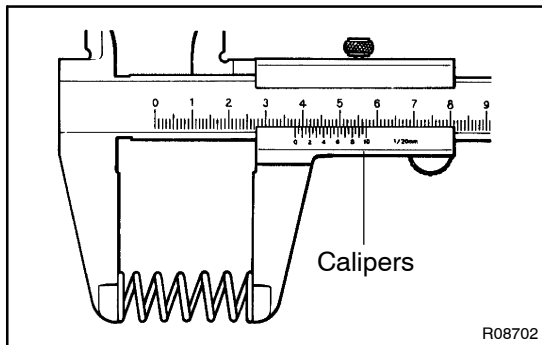


- Check the valve for leakage. Close one of the holes and apply compressed air 392 – 490 kPa (4 – 5 kgf/cm², 57 – 71 psi) into the opposite side hole, and confirm that air does not come out from the end holes.



If necessary, replace the valve with the one having the same letter as inscribed on the front housing.

Inscribed mark: A, B, C, D, E or F

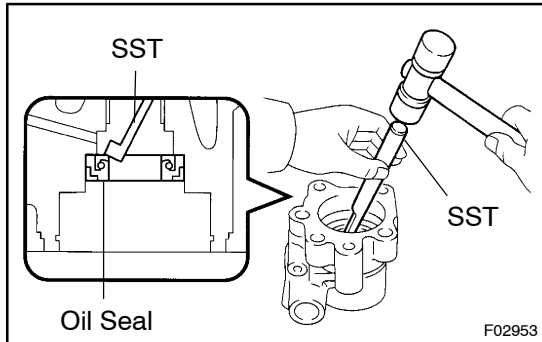


4. INSPECT SPRING

Using calipers, measure the free length of the spring.

Minimum free length: 36.0 mm (1.42 in.)

If it is not within the specification, replace the spring.



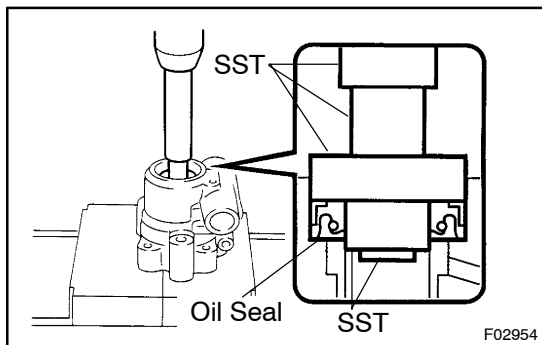
5. IF NECESSARY, REPLACE OIL SEAL

(a) Using SST, tap out the oil seal.

SST 09631-10030

NOTICE:

Be careful not to damage the front housing.



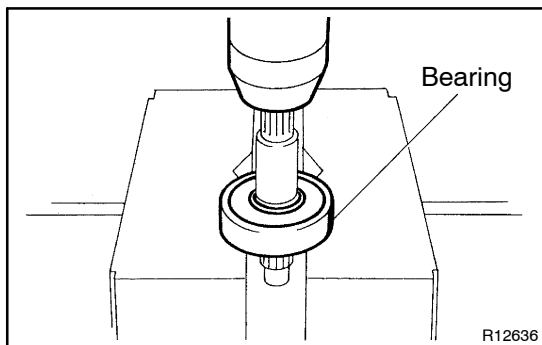
(b) Coat a new oil seal lip with power steering fluid.

(c) Using SST, press in the oil seal.

SST 09950-60010 (09951-00180, 09951-00300, 09952-06010), 09950-70010 (09951-07100)

NOTICE:

Make sure to install the oil seal facing the correct direction.



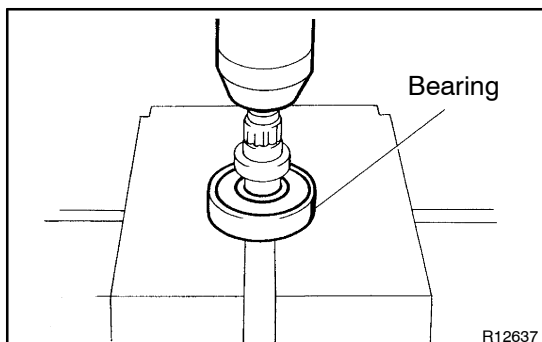
6. IF NECESSARY, REPLACE BEARING

(a) Using a snap ring expander, remove the snap ring from the vane pump shaft.

NOTICE:

Be careful not to damage the shaft.

(b) Press out the bearing.



(c) Coat a new bearing with power steering fluid.

(d) Press in the bearing.

(e) Using a snap ring expander, install a new snap ring.

NOTICE:

Be careful not to damage the shaft.