STEERING

SERVICE DATA

SS0Z0–01

POWER STEERING FLUID		
Oil level rise	Maximum	5 mm (0.20 in.)
Oil pressure at idle speed with valve closed	Minimum	8,336 kPa (85 kgf/cm^2, 1,209 psi)
STEERING WHEEL		
Steering wheel freeplay	Maximum	40 mm (1.58 in.)
Steering effort at idle speed	Maximum	4.9 N·m (50 kgf·cm, 43 in.·lbf)
POWER STEERING VANE PUMP (1FZ–FE)		
Vane pump rotating torque		0.3 N·m (2.8 kgf·cm, 2.4 in.·lbf) or less
Pump shaft and front housing bushing oil clearance	STD	0.03 – 0.05 mm (0.0012 – 0.0020 in.)
	Maximum	0.07 mm (0.0028 in.)
Vane plate height	Minimum	8.6 mm (0.339 in.)
Vane plate thickness	Minimum	1.397 mm (0.05500 in.)
Vane plate length	Minimum	14.991 mm (0.59020 in.)
Vane plate and pump rotor groove clearance	Maximum	0.033 mm (0.00130 in.)
Vane plate length (RFS)	Pump rotor mark (Cam ring mark)	
	2 (None)	14.995 – 14.997 mm (0.59035 – 0.59043 in.)
	3 (1)	14.993 – 14.995 mm (0.59027 – 0.59035 in.)
	4 (2)	14.991 – 14.993 mm (0.59020 – 0.59027 in.)
Vane plate length (IFS)	Pump rotor mark (Cam ring mark)	
	1 (None)	14.997 – 14.999 mm (0.59043 – 0.59051 in.)
	2 (1)	14.995 – 14.997 mm (0.59035 – 0.59043 in.)
	3 (2)	14.993 – 14.995 mm (0.59027 – 0.59035 in.)
	4 (3)	14.991 – 14.993 mm (0.59020 – 0.59027 in.)
Flow control valve spring length	STD	35 – 37 mm (1.38 – 1.46 in)
POWER STEERING VANE PUMP (2UZ–FE Europe)		
Vane pump rotating torque		0.3 N·m (2.8 kgf·cm, 2.4 in.·lbf) or less
Pump shaft and front housing bushing oil clearance	STD	0.03 – 0.05 mm (0.0012 – 0.0020 in.)
	Maximum	0.07 mm (0.0028 in.)
Vane plate height	Minimum	8.6 mm (0.339 in.)
Vane plate thickness	Minimum	1.397 mm (0.05500 in.)
Vane plate length	Minimum	14.991 mm (0.59020 in.)
Vane plate and pump rotor groove clearance	Maximum	0.033 mm (0.00130 in.)
Vane plate length	Pump rotor and cam ring mark	
	None	14.999 – 15.001 mm (0.59051 – 0.59059 in.)
	1	14.997 – 14.999 mm (0.59043 – 0.59051 in.)
	2	14.995 – 14.997 mm (0.59035 – 0.59043 in.)
	3	14.993 – 14.995 mm (0.59027 – 0.59035 in.)
	4	14.991 – 14.993 mm (0.59020 – 0.59027 in.)
Flow control valve spring length	Minimum	33.2 mm (1.307 in.)
POWER STEERING VANE PUMP (2UZ–FE Except Europe)		
Vane pump rotating torque		0.25 N·m (2.5 kgf·cm, 2.2 in.·lbf) or less
Pump shaft and front housing bushing oil clearance	STD	0.030 – 0.045 mm (0.00118 – 0.00177 in.)
	Maximum	0.07 mm (0.0028 in.)
Vane plate height	Minimum	8.0 mm (0.315 in.)
Vane plate thickness	Minimum	1.77 mm (0.0697 in.)
Vane plate length	Minimum	14.97 mm (0.5894 in.)

Vane plate and pump rotor groove clearance	Maximum	0.03 mm (0.0012 in.)
Vane plate length	Pump rotor and cam ring mark	
	None	14.996 – 14.998 mm (0.59039 – 0.59047 in.)
	1	14.994 – 14.996 mm (0.59032 – 0.59039 in.)
	2	14.992 – 14.994 mm (0.59024 – 0.59032 in.)
	3	14.990 – 14.992 mm (0.59016 – 0.59024 in.)
	4	14.988 – 14.990 mm (0.59008 – 0.59016 in.)
Flow control valve spring length	Minimum	36.0 mm (1.42 in.)
POWER STEERING VANE PUMP (1HZ)		
Vane pump rotating torque		0.3 N·m (2.8 kgf·cm, 2.4 in.·lbf) or less
Vane plate height	Minimum	8.9 mm (0.350 in.)
Vane plate thickness	Minimum	1.965 mm (0.07736 in.)
Vane plate length	Minimum	15.953 mm (0.62807 in.)
Vane plate and pump rotor groove clearance	Maximum	0.03 mm (0.0012 in.)
Flow control valve spring length	STD	50 – 55 mm (1.97 – 2.17 in.)
POWER STEERING VANE PUMP (1HD–T, 1HD–FTE)		
Vane pump rotating torque		0.3 N·m (2.8 kgf·cm, 2.4 in.·lbf) or less
Pump shaft and rear housing oil clearance	STD	0.020 – 0.087 mm (0.00079 – 0.00343 in.)
	Maximum	0.087 mm (0.00343 in.)
Vane plate height	Minimum	9.2 mm (0.362 in.)
Vane plate thickness	Minimum	1.965 mm (0.07736 in.)
Vane plate length	Minimum	15.953 mm (0.62807 in.)
Vane plate and pump rotor groove clearance	Maximum	0.03 mm (0.0012 in.)
Flow control valve spring length	Minimum	33.4 mm (1.315 in.)
POWER STEERING GEAR (RFS)		
Worm gear valve body ball clearance	Maximum	0.15 mm (0.0059 in.)
Sector shaft adjusting screw thrust clearance	STD	0.03 – 0.05 mm (0.0012 – 0.0020 in.)
	Maximum	0.05 mm (0.0020 in.)
Worm gear preload		0.3 – 0.5 N·m (3 – 5.5 kgf·cm, 2.6 – 4.8 in.·lbf)
Total preload		0.74 – 1.08 N·m (7.5 – 11 kgf·cm, 6.5 – 9.5 in.·lbf)
POWER STEERING GEAR (IFS)		
Steering rack runout	Maximum	0.30 mm (0.0118 in.)
Total preload		1.3 – 1.8 N·m (13.3 – 18.4 kgf·cm, 11.5 – 16.0 in.·lbf)