ENGINE MECHANICAL

SERVICE DATA

SS0ZE–05

A/C idle–up speed			775 – 875 rpm
Timing belt tensioner	Protrusion from husing end		9.0 – 9.8 mm (0.354 – 0.386 in.)
Timing gear	Idler gear thrust clearance	STD	0.07 – 0.12 mm (0.0028 – 0.0047 in.)
		Maximum	0.012 mm (0.0047 in.)
	Idler gear inside diameter		45.045 – 45.065 mm (1.7734 – 1.7742 in.)
	Idler gear shaft diameter		44.950 – 44.975 mm (1.7697 – 1.7707 in.)
	Idler gear oil clearance	STD	0.070 – 0.115 mm (0.0028 – 0.0045 in.)
		Maximum	0.115 mm (0.0045 in.)
Cylinder head	Warpage	Maximum	0.20 mm (0.079 in.)
	Valve seat		
	Refacing angle	Intake	25° 45° 70°
		Exhaust	25° 45° 65°
	Contacting angle		45°
	Contacting width	Intake	1.4 – 1.8 mm (0.055 – 0.071 in.)
		Exhaust	1.6 – 2.0 mm (0.063 – 0.079 in.)
	Cylinder head bolt outer diameter	STD	10.800 – 11.000 mm (0.4252 – 0.4331 in.)
		Minimum	10.550 mm (0.4154 in.)
	New cylinder head gasket thickness		
		Cut number ”1”	0.85 – 0.95 mm (0.0335 – 0.0374 in.)
		Cut number ”3”	0.95 – 1.05 mm (0.0374 – 0.0414 in.)
		Cut number ”5”	1.05 – 1.15 mm (0.0414 – 0.0453 in.)
Valve guige bushing	Inside diameter		7.010 – 7.030 mm (0.2760 – 0.2768 in.)
Valve	Valve overall length	STD Intake	126.85 – 127.45 mm (4.9941 – 5.0177 in.)
		Exhaust	126.83 – 127.43 mm (4.9933 – 5.0169 in.)
		Mimimum Intake	126.85 mm (4.9941 in.)
		Exhaust	126.83 mm (4.9933 in.)
	Stem diameter	Intake	6.970 – 6.985 mm (0.2744 – 0.2750 in.)
		Exhaust	6.960 – 6.975 mm (0.2740 – 0.2746 in.)
	Stem oil clearance	STD Intake	0.025 – 0.060 mm (0.0010 – 0.0024 in.)
		Exhaust	0.035 – 0.070 mm (0.0014 – 0.0028 in.)
		Maximum Intake	0.08 mm (0.0031 in.)
		Exhaust	0.10 mm (0.0039 in.)
	Margin thickness	STD	1.00 mm (0.394 in.)
		Minimum	0.083 mm (0.0327 in.)
Valve spring	Free length		49.60 mm (1.9527 in.)
	Install tension	at 39.5 mm (1.555 in.)	237 – 263 N (24.2 – 26.8 kgf, 53.4 – 59.1 lbf)
	Deviation	Maximum	2.0 mm (0.079in.)
Valve rocker arm and shaft	Valve rocker arm inside diameter		20.012 – 20.033 mm (0.7879 – 0.7887 in.)
	Valve rocker shaft diameter		19.972 – 19.993 mm (0.7879 – 0.7887 in.)
	Oil clearance	STD	0.019 – 0.061 mm (0.0007 – 0.0024 in.)
		Maximum	0.10 mm (0.0039 in.)

Camshaft	Thrust clearance	STD	0.10 – 0.20 mm (0.0039 – 0.00 in.)
		Maximum	0.30 mm (0.0118 in.)
	Standard oil clearance	STD No.1	0.022 – 0.074 mm (0.0009 – 0.0029 in.)
		Other	0.023 – 0.075 mm (0.0009 – 0.0030 in.)
		Maximum	0.10 mm (0.0039 in.)
	Journal diameter	No.1	34.969 – 34.985 mm (1.3767 – 1.3774 in.)
		Other	27.986 – 28.002 mm (1.1018 – 1.1024 in.)
	Cam lobe height	STD Intake	48.203 – 48.303 mm (1.8978 – 1.9017 in.)
		Exhaust	50.734 – 50.834 mm (1.9974 – 2.0013 in.)
		Minimum Intake	47.998 mm (1.8897 in.)
		Exhaust	50.234 mm (1.9777 in.)
	Circle runout		0.10 mm (0.0039 in.)
Manifold	Warpage	Maximum	0.40 mm (0.0157 in.)
Cylinder block	Cylinder head surface warpage	Maximum	0.20 mm (0.0079 in.)
	Cylinder bore diameter	STD Mark ”1”	94.000 – 94.010 mm (3.7001 – 3.7012 in.)
		Mark ”2”	94.010 – 94.020 mm (3.7012 – 3.7016 in.)
		Mark ”3”	94.020 – 94.030 mm (3.7016 – 3.7020 in.)
		Maximum STD	94.23 mm (3.7098 in.)
		O/S 0.50	94.73 mm (3.7295 in.)
	Main bearing cap stud bolt		
	Tension portion diameter	STD	11.80 – 12.00 mm (0.4646 – 0.4724 in.)
		Minumum	11.50 mm (0.4528 in.)
Piston and piston ring	Piston diameter	STD Mark ”1”	93.870 – 93.880 mm (3.69566 – 3.69606 in.)
		Mark ”2”	93.881 – 93.890 mm (3.69609 – 3.69645 in.)
		Mark ”3”	93.891 – 93.900 mm (3.69649 – 3.69684 in.)
		O/S 0.50	94.370 – 94.400 mm (3.71535 – 3.71653 in.)
	Piston oil clearance	STD	0.070 – 0.090 mm (0.0028 – 0.0035 in.)
		Maximum	0.090 mm (0.0035 in.)
	Piston ring grove clearance	No.1 STD	0.070 – 0.110 mm (0.0028 – 0.0043 in.)
		Maximum	0.20 mm (0.0079 in.)
		No.2 STD	0.040 – 0.080 mm (0.0016 – 0.0031 in.)
		Maximum	0.20 mm (0.0079 in.)
		Oil ring STD	0.030 – 0.070 mm (0.0012 – 0.0028 in.)
		Maximum	0.20 mm (0.0079 in.)
	Piston ring end gap	No.1 STD	0.270 – 0.330 mm (0.0106 – 0.0130 in.)
		Maximum	0.850 mm (0.0335 in.)
		No.2 STD	0..400 – 0.550 mm (0.0157 – 0.0119 in.)
		Maximum	0.900 mm (0.0354 in.)
		Oil ring STD	0.200 – 0.500 mm (0.0079 – 0.0157 in.)
		Maximum	0.880 mm (0.0346 in.)

Connecting rod	Rod bend maximum per 100 mm (3.94 in.)		0.03 mm (0.0012 in.)
	Rod twist maximum per 100 mm (3.94 in.)		0.15 mm (0.0059 in.)
	Busing inside diamater		33.008 – 33.020 mm (1.2995 – 1.3000 in.)
	Piston pin diameter		33.000 – 33.012 mm(1.2992 – 1.2997 in.)
	Bushing oil clearance	STD	0.004 – 0.012 mm (0.0002 – 0.0005 in.)
		Maximum	0.030 mm (0.0012 in.)
	Connecting rod bolt tension portion diameter	STD	8.300 – 8.400 mm (0.3268 – 0.3307 in.)
		Maximum	7.950 mm (0.3130 in.)
Crankshaft	Main journal diameter	STD	66.982 – 67.000 mm (2.6371 – 2.6378 in.)
		U/S 0.25	66.745 – 66.755 mm (2.6278 – 2.6281 in.)
		U/S 0.50	66.495 – 66.505 mm (2.6179 – 2.6183 in.)
	Main bearing center wall thickness		
	(Reference)	Mark ”3”	1.982 – 1.985 mm (0.07803 – 0.07815 in.)
		Mark ”4”	1.985 – 1.988 mm (0.07815 – 0.07827 in.)
		Mark ”5”	1.988 – 1.991 mm (0.07827 – 0.07839 in.)
		Mark ”6”	1.991 – 1.994 mm (0.07839 – 0.07850 in.)
		Mark ”7”	1.994 – 1.997 mm (0.07850 – 0.07862 in.)
		Mark ”8”	1.997 – 2.000 mm (0.07862 – 0.07874 in.)
	Circle runouit		0.06 mm (0.0024 in.)
	Main journal taper and out–of–round		0.02 mm (0.0008 in.)