

ENGINE MECHANICAL

SERVICE DATA

03000-05

Cylinder head Warpage	Cylinder block side Intake manifold side Exhaust manifold side	0.08 mm (0.0031 in.) 0.20 mm (0.0079 in.) 0.20 mm (0.0079 in.)
Intake valve Overall length	Standard Minimum	102.53 mm (4.0366 in.) 102.10 mm (4.0197 in.)
Valve stem diameter		5.970 – 5.985 mm (0.2350 – 0.2356 in.)
Margin thickness	Standard Minimum	0.9 (0.035 in.) 0.6 mm (0.0247 in.)
Exhaust valve Overall length	Standard Minimum	101.97 mm (4.0146 in.) 101.55 mm (3.9980 in.)
Valve stem diameter		5.960 – 5.975 mm (0.2346 – 0.2352 in.)
Margin thickness	Standard Minimum	0.9 mm (0.035 in.) 0.6 mm (0.024 in.)
Inner compression spring Free length		40.45 mm (1.5925 in.)
Deviation	Maximum	2.0 mm (0.079 in.)
Installed tension	at 31.1 mm (1.224 in.)	177–195 N (18.0 – 19.9 kgf, 39.7 – 44.1 lbf)
Intake Valve guide bush Bushing inside diameter		6.010 – 6.030 mm (0.2366 – 0.2374 in.)
Oil clearance	Standard Maximum	0.025 – 0.060 mm (0.0010 – 0.0024 in.) 0.08 mm (0.0031 in.)
Diameter		10.985 – 11.006 mm (0.4325 – 0.4333 in.)
Protrusion height		10.05 – 10.45 mm (0.3957 – 0.4114 in.)
Exhaust valve guide bush Bushing inside diameter		6.010 – 6.030 mm (0.2366 – 0.2374 in.)
Oil clearance	Standard Maximum	0.035 – 0.070 mm (0.0014 – 0.0028 in.) 0.10 mm (0.0039 in.)
Diameter		10.985 – 11.006 mm (0.4325 – 0.4333 in.)
Protrusion height		9.65 – 10.05 mm (0.3799 – 0.3957 in.)
Valve lifter Lifter diameter		27.975 – 27.985 mm (1.1014 – 1.1018 in.)
Lifter bore diameter		28.010 – 28.031 mm (1.1028 – 1.1036 in.)
Oil clearance	Standard Maximum	0.025 – 0.056 mm (0.0010 – 0.0022 in.) 0.08 mm (0.0031 in.)
Camshaft Circle runout	Maximum	0.06 mm (0.0024 in.)
Cam lobe height (No.1)	Standard Minimum	46.57 – 46.67 mm (1.8335 – 1.8374 in.) 46.10 mm (1.8150 in.)
Cam lobe height (No.2)	Standard Minimum	47.52 – 47.62 mm (1.8709 – 1.8748 in.) 47.05 mm (1.8524 in.)
Journal diameter		26.969 – 26.985 mm (1.0618 – 1.0624 in.)
Thrust clearance		0.035 – 0.11 mm (0.0014 – 0.0043 in.)
Oil clearance	Standard Minimum	0.025 – 0.062 mm (0.0010 – 0.0024 in.) 0.08 mm (0.0031 in.)
Gear backlash	Standard Maximum	0.014 – 0.070 mm (0.0006 – 0.0028 in.) 0.17 mm (0.0067 in.)
Connecting rod Thrust clearance	Standard Maximum	0.08 – 0.30 mm (0.0031 – 0.0118 in.) 0.40 mm (0.0157 in.)
Oil clearance	Standard Maximum	0.038 – 0.056 mm (0.0015 – 0.0022 in.) 0.10 mm (0.0039 in.)

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Cylinder block			
Warpage	Maximum		0.05 mm (0.0020 in.)
Bore diameter	Standard		82.200 – 82.213 mm (3.2362 – 3.2367 in.)
	Maximum		82.400 mm (3.2441 in.)
Piston			
Piston diameter			82.118 – 82.132 mm (3.2330 – 3.2335 in.)
Piston oil clearance	Standard		0.068 – 0.095 mm (0.0027 – 0.0037 in.)
	Maximum		0.14 mm (0.0055 in.)
Bushing inside diameter			31.015 – 31.027 mm (1.2211 – 1.2215 in.)
Piston pin			
Piston pin diameter			31.000 – 31.012 mm (1.2205 – 1.2209 in.)
Oil clearance	Standard		0.030 – 0.027 mm (0.0001 – 0.0011 in.)
	Maximum		0.025 mm (0.0010 in.)
Cylinder head set bolt			
Out side diameter	Standard		10.75 – 11.00 mm (0.4234 – 0.4331 in.)
	Minimum		10.40 mm (0.4904 in.)
Connecting rod bolt			
Diameter	Standard		8.2 – 8.3 mm (0.323 – 0.327 in.)
	Minimum		8.0 mm (0.315 in.)
Connecting rod			
Out-of-alignment	Maximum per 100 mm (3.94 in.)		0.05 mm (0.0020 in.)
Rod twist	Maximum per 100 mm (3.94 in.)		0.15 mm (0.0059 in.)
Crankshaft			
Thrust clearance	Standard		0.040 – 0.240 mm (0.0016 – 0.0094 in.)
	Maximum		0.30 mm (0.0118 in.)
Circle runout	Maximum		0.025 mm (0.0010 in.)
Crank pin taper and out- of -round	Maximum		0.01 mm (0.0004 in.)
Crank pin diameter			50.482 – 50.500 mm (1.9875 – 1.9882 in.)
Main journal diameter			56.992 – 57.010 mm (2.2438 – 2.2445 in.)
Oil clearance	Standard		0.032 – 0.050 mm (0.0013 – 0.0020 in.)
	Maximum		0.10 mm (0.0039 in.)