01–50 TECHNICAL DATA

01 ENGINE 01–50–1

01 ENGINE

W6U150A01

Item			Specification
MECHANICAL			
Cylinder head			
Height (mm {in})			124.45—124.55 {4.8996—4.9035}
Distortion (mm {in})			0.10 {0.004} max.
Grinding (mm {in})			0.15 {0.006} max.
Valve clearance (mm {in})		IN	0.225—0.295 {0.009—0.011} (0.26 ± 0.035 {0.010 ± 0.001})
		EX	0.225—0.295 {0.009—0.011} (0.26 ± 0.035 {0.010 ± 0.001})
Valve and valve guide			
Margin thickness (mm {in})		IN	0.70—1.50 {0.028—0.059}
		EX	0.55—1.55 {0.022—0.061}
Valve length (mm {in})	IN	Standard	89.49—90.09 {3.524—3.546}
		Minimum	89.28 {3.515}
	EX	Standard	89.79—90.39 {3.536—3.558}
		Minimum	89.38 {3.519}
Valve stem diameter (mm {in})	IN	Standard	5.970—5.985 {0.2351—0.2356}
		Minimum	5.920{0.2331}
	EX	Standard	5.965—5.980 {0.2349—0.2354}
		Minimum	5.915 {0.2329}
Guide inner diameter		IN	6.01—6.03 {0.2367—0.2374}
		EX	6.01—6.03 {0.2367—0.2374}
Valve guide protrusion height (mm {in})		IN	13.5—14.1 {0.532—0.555}
		EX	13.5—14.1 {0.532—0.555}
Valve seat			
Seat contact width		IN	0.9—1.3 {0.036—0.051}
		EX	0.9—1.3 {0.036—0.051}
Seat angle		IN	45°
		EX	45°
Seat sinking (Valve protrusion height) (mm {in})	IN	Standard	39.0 {1.535}
		Minimum	39.6 {1.559}
	EX	Standard	39.0 {1.535}
		Minimum	39.6 {1.559}
Valve spring			
Pressing force at valve spring height H (N { kgf, lbf })	IN	H: 36.5 mm {1.44 in }	177.1—200.1{18.05—20.40, 39.71—44.88}
	EX	H: 36.5 mm {1.44 in }	177.1—200.1{18.05—20.40, 39.71—44.88}
Out-of-square (mm {in})		IN	1.54 {0.061} max.
		EX	1.54 {0.061} max.
Camshaft			
Camshaft runout (mm {in})			0.03 {0.0012} max.

Item			Specification
Lobe height (mm {in})		IN	43.2249 {1.7018}
		EX	43.2061 {1.7010}
Journal diameter (mm {in})	No.1, 5	Standard	25.940—25.965 {1.0213—1.0222}
		Minimum	25.890 {1.0193}
	No.2, 3, 4	Standard	25.936—25.965 {1.0212—1.0222}
		Minimum	25.886 {1.0191}
Camshaft journal oil clearance (mm {in})		Standard	0.035—0.081 {0.0014—0.0031}
		Maximum	0.15 {0.006}
Camshaft end play (mm {in})		Standard	0.08—0.20 {0.0032—0.0078}
		Maximum	0.21 {0.008}
Cylinder block			
Height (mm {in})			270.9—271.1 {10.666—10.673}
Distortion (mm {in})			0.05 {0.002} max.
Grinding (mm {in})			0.20 {0.008} max.
Cylinder bore diameter (mm {in})	Standard		83.000—83.019 {3.2678—3.2684}
	0.25 {0.01} oversize		83.250—83.269 {3.2776—3.2783}
	0.50 {0.02} oversize		83.500—83.519 {3.2874—3.2881}
Wear limit (mm {in})			0.15 {0.006}
Piston			
Piston diameter Measured at 90° to pin bore axis and 16.5 mm{0.65 in } below oil ring groove (mm {in})	Standard		82.953—82.975 {3.2659—3.2667}
	0.25 {0.01} oversize		83.203—83.225 {3.2758—3.2765}
	0.50 {0.02} oversize		83.453—83.475 {3.2856—3.2864}
Piston-to-cylinder clearance (mm {in})		Standard	0.025—0.066 {0.0010—0.0025}
		Maximum	0.15 {0.006}
Piston ring			
Piston ring-to-ring groove clearance (mm {in})		Top	0.035—0.065 {0.0014—0.0025}
		Second	0.030—0.065 {0.0012—0.0025}
		Oil	0.022—0.065 {0.0009—0.0025}
		Maximum	0.20 {0.008}
End gap (Measured in cylinder) (mm {in})		Top	0.15—0.25{0.006—0.009}
		Second	0.15—0.30 {0.006—0.011}
		Oil (rail)	0.20—0.70 {0.008—0.027}
		Maximum	1.0 {0.039}
Piston pin			
Diameter (mm {in})			18.988—19.000 {0.7476—0.7480}
Connecting rod-to-piston pin clearance (mm {in})			−0.037—−0.013 {−0.0014—−0.0005}
Piston-to-piston pin clearance (mm {in})			0.008—0.026 {0.0004—0.0010}
Crankshaft			
Crankshaft runout (mm {in})			0.03 {0.0012} max.
Main journal diameter (mm {in})	Standard		55.937—55.955 {2.2023—2.2029}
	0.25 {0.01} undersize		55.687—55.705 {2.1924—2.1931}
Out-of-round (mm {in})			0.05 {0.002} max.
Crankpin diameter (mm {in})	Standard		47.940—47.955 {1.8874—1.8879}
	0.25 {0.01} undersize		47.690—47.705 {1.8776—1.8781}
Out-of-round (mm {in})			0.05{0.002} max.
Main journal oil clearance (mm {in})		Standard	0.024—0.050 {0.0010—0.0019}
		Maximum	0.067 {0.0026}

Item		Specification
Crankshaft end play (mm {in})	Standard	0.080—0.282 {0.0032—0.0111}
	Maximum	0.30 {0.012}
Connecting rod and connecting rod bearing		
Length (Center to center) (mm {in})		135.15—135.25 {5.3209—5.3247}
Bending (mm {in})	Each 50 mm {1.97 in}	0.05 {0.0020} max.
Distortion (mm {in})	Each 50 mm {1.97 in}	0.05 {0.0020} max.
Connecting rod side clearance (mm {in})	Standard	0.110—0.262 {0.005—0.010}
	Maximum	0.30 {0.012}
Connecting rod bearing oil clearance (mm {in})	Standard	0.024—0.061 {0.0010—0.0025}
	Maximum	0.067 {0.0026}
Tensioner spring		
Free length (mm {in})		36.6 {1.44}
Oil pump		
Inner rotor tooth tip to outer rotor clearance (mm {in})	Standard	0.130—0.206 {0.0051—0.0081}
	Maximum	0.30{0.012}
Outer rotor to body clearance (mm {in})	Standard	0.113—0.186 {0.0045—0.0075}
	Maximum	0.22{0.009}
Side clearance (mm {in})	Standard	0.035—0.095 {0.0014—0.0037}
	Maximum	0.14 {0.06}
Plunger spring		
Pressing force at plunger spring height H (N { kgf, lbf })	H: 33.50 mm {1.319 in }	97.68—107.48 {9.96—10.96, 21.91—24.11}