

SPECIFICATIONS

ENGINE	Type Cylinder arrangement Bore and stroke Displacement Compression ratio Valve train Oil capacity Coolant capacity Lubrication system Air filtration Cylinder compression Intake valve Exhaust valve Valve clearance (cold) Engine dry weight		Water cooled 4-stroke 2 cylinders 52° V 79.0 x 66.0 mm (3.11 x 2.60 in) 647 cm ³ (39.47 cu in) 9.4:1 Silent, multi-link chain drive and OHC with rocker arms 2.8 liters (2.96 US qt, 2.46 Imp qt) after disassembly 2.4 liters (2.52 US qt, 2.11 Imp qt) at oil filter and oil change 2.2 liters (2.32 US qt, 1.94 Imp qt) after draining 2.5 liters (2.63 US qt, 2.20 Imp qt) 2.0 liters (2.10 US qt, 1.76 Imp qt) after draining Forced pressure and wet sump Paper filter 1,275 ± 196 kPa (13.0 ± 2.0 kg/cm ² , 199 ± 28 psi) 10° BTDC 40° ABDC 40° BBDC 10° ATDC } at 1 mm lift Intake 0.15 ± 0.02 mm (0.006 ± 0.001 in) Exhaust 0.20 ± 0.02 mm (0.008 ± 0.001 in) 60 kg (132 lb)
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ITEM			STANDARD	SERVICE LIMIT	
Compression pressure			1,324 kPa (13.5 ± 2.0 kg/cm ² , 192 ± 28 psi)	—	
Camshaft	Cam lobe height	IN	38.189 (1.5035)	38.17 (1.503)	
		EX	38.213 (1.5044)	38.19 (1.504)	
	Journal O.D.		21.959–21.980 (0.8645–0.8654)	21.95 (0.864)	
	Runout		0.030 (0.0012)	0.05 (0.002)	
	Oil clearance		0.050–0.111 (0.0020–0.0044)	0.13 (0.005)	
Rocker arm	Rocker arm I.D.	IN/EX	12.000–12.018 (0.4724–0.4731)	12.03 (0.474)	
	Rocker arm shaft O.D.	IN/EX	11.966–11.984 (0.4711–0.4718)	11.96 (0.471)	
Valve and valve guide	Valve stem O.D.	IN	5.475–5.490 (0.2156–0.2161)	5.47 (0.215)	
		EX	6.555–6.570 (0.2580–0.2587)	6.55 (0.258)	
	Valve guide I.D.	IN	5.500–5.512 (0.2165–0.2170)	5.53 (0.218)	
		EX	6.600–6.615 (0.2598–0.2604)	6.66 (0.262)	
	Stem-to-guide clearance	IN	0.010–0.037 (0.0004–0.0015)	0.07 (0.003)	
		EX	0.030–0.060 (0.0014–0.0024)	0.11 (0.004)	
	Valve seat width		0.9–1.1 (0.035–0.043)	1.5 (0.06)	
Valve guide projection height	IN	19.4–19.6 (0.76–0.77)	—		
	EX	17.9–18.1 (0.70–0.71)	—		
Valve spring	Free length	OUTER	IN	42.14 (1.659)	40.58 (1.598)
			EX	42.83 (1.686)	41.25 (1.624)
		INNER	IN	38.11 (1.500)	36.47 (1.436)
			EX	38.81 (1.765)	37.51 (1.477)
Cylinder head warpage			—	0.10 (0.004)	

ITEM			STANDARD	SERVICE LIMIT
Cylinder	I.D.		79.000–79.015 (3.1102–3.1108)	79.05 (3.112)
	Warpage across top		—	0.10 (0.004)
	Taper		—	0.06 (0.002)
	Out-of-round		—	0.06 (0.002)
Piston, piston rings and piston pin	Piston ring-to-ring groove clearance	TOP	0.025–0.055 (0.001–0.002)	0.11 (0.004)
		SECOND	0.015–0.045 (0.0006–0.0018)	0.10 (0.004)
	Ring end gap	TOP	0.20–0.35 (0.008–0.014)	0.65 (0.026)
		SECOND	0.35–0.50 (0.014–0.020)	0.65 (0.026)
		OIL	0.20–0.80 (0.008–0.031)	0.95 (0.037)
	Piston O.D.		78.970–78.990 (3.1086–3.1098)	78.92 (3.107)
	Piston pin bore		20.002–20.008 (0.7874–0.7877)	20.02 (0.788)
	Connecting rod small end I.D.		20.016–20.034 (0.7880–0.7887)	20.04 (0.789)
	Piston pin O.D.		19.994–20.000 (0.7871–0.7874)	19.98 (0.787)
	Piston-to-piston pin clearance		0.002–0.014 (0.0001–0.0006)	0.034 (0.0013)
Cylinder-to-piston clearance		0.010–0.045 (0.0004–0.0018)	0.13 (0.005)	
Piston pin-to-connecting rod small end clearance		0.016–0.040 (0.0006–0.0016)	0.060 (0.0024)	

ITEM			STANDARD	SERVICE LIMIT
Crankshaft/ connecting rod	Connecting rod big end side clearance		0.05–0.20 (0.002–0.008)	0.3 (0.012)
	Crankpin oil clearance		0.028–0.052 (0.0011–0.0020)	0.08 (0.003)
	Main journal oil clearance		0.025–0.041 (0.0010–0.0016)	0.05 (0.002)
	Crankshaft runout		—	0.05 (0.002)
Transmission	Gear I.D.	C1	24.000–24.021 (0.9449–0.9457)	24.03 (0.946)
		M4, M5, C2, C3	28.000–28.021 (1.1024–1.1032)	28.03 (1.103)
	Gear bushing O.D.	C1	23.959–23.980 (0.9433–0.9441)	24.95 (0.982)
		M4, M5, C2, C3	27.959–27.980 (1.1007–1.1016)	27.95 (1.100)
	Gear bushing I.D.	C1	20.016–20.037 (0.7880–0.7889)	20.05 (0.789)
		M4, C2, C3	25.000–25.021 (0.9843–0.9851)	25.03 (0.985)
	Bushing-to-shaft clearance	M4, C3	0.020–0.062 (0.0008–0.0024)	0.08 (0.003)
		C2	0.010–0.049 (0.0004–0.0019)	0.07 (0.003)
	Gear-to-bushing clearance	M4, M5, C1, C2, C3	0.020–0.062 (0.0008–0.0024)	0.08 (0.003)
	Mainshaft O.D.	M4 bushing	24.959–24.980 (0.9826–0.9835)	24.95 (0.982)
Countershaft O.D.	C1 bushing	19.980–19.993 (0.7866–0.7871)	19.97 (0.786)	
	C2 bushing	24.972–24.990 (0.9831–0.9839)	24.96 (0.983)	
	C3 bushing	24.959–24.980 (0.9826–0.9835)	24.95 (0.982)	
Shift fork/ fork shaft	Claw thickness		5.93–6.00 (0.233–0.236)	5.83 (0.230)
	Right and left shift fork I.D.		13.000–13.018 (0.5118–0.5125)	13.03 (0.513)
	Shaft O.D.		12.966–12.984 (0.5105–0.5112)	12.96 (0.510)
Shift drum O.D. (at the left side journal)			11.966–11.984 (0.4711–0.4718)	11.96 (0.471)