SERVICE DATA

Date: May 15, 2007
Model: LT-Z90K8

4 STROKE

VALVE + VALVE GUIDE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	22.5 (0.89)	—
	EX.	19 (0.75)	—
Valve clearance (when cold)	IN.	0.05 – 0.10 (0.002 – 0.004)	—
	EX.	0.10 – 0.15 (0.004 – 0.006)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0018 – 0.0022)	—
Valve guide I.D.	IN. & EX.	5.500 – 5.512 (0.2165 – 0.2170)	—
Valve stem O.D.	IN.	4.975 – 4.990 (0.1958 – 0.1964)	—
	EX.	4.955 – 4.970 (0.1950 – 0.1956)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve stem end length	IN. & EX.	—	3.0 (0.12)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve seat width	IN. & EX.	—	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	IN. & EX.	—	32.8 (1.29)
Valve spring tension	IN. & EX.	110 – 126 N (11.0 – 12.6 kgf, 79.5 – 91.1 lbs) at length 26.8 mm (1.05 in)	—

CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	27.92 – 27.97 (1.099 – 1.101)	27.62 (1.087)
	EX.	27.80 – 27.85 (1.094 – 1.096)	27.50 (1.082)
Rocker arm I.D.	IN. & EX.	10.003 – 10.018 (0.393 – 0.394)	—
Rocker arm shaft O.D.	IN. & EX.	9.981 – 9.990 (0.3929 – 0.3933)	—
Cylinder head distortion	—		0.05 (0.002)

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure	1 500 kPa (15 kgf/cm², 213 psi)		1 300 kPa (13 kgf/cm², 185 psi)
Piston-to-cylinder clearance	0.020 – 0.030 (0.0008 – 0.0012)		0.120 (0.0047)
Cylinder bore	45.500 – 45.515 (1.7913 – 1.7919)		Nicks or Scratches
Piston diam.	45.490 – 45.475 (1.7909 – 1.7903) Measure at 10 mm (0.4 in) from the skirt end.		45.380 (1.7860)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	Approx. 5.5 (0.22)	—
	2nd	Approx. 5.3 (0.21)	—
Piston ring end gap	1st	0.10 – 0.25 (0.003 – 0.009)	0.80 (0.031)
	2nd	0.10 – 0.25 (0.003 – 0.009)	0.80 (0.031)
Piston ring to groove clearance	1st	—	0.180 (0.0071)
	2nd	—	0.150 (0.0059)

ITEM	STANDARD		LIMIT
Piston ring groove width	1st	1.01 – 1.03 (0.0397 – 0.0405)	—
	2nd	1.04 – 1.03 (0.0397 – 0.0405)	—
	Oil	2.01 – 2.03 (0.0791 – 0.0799)	—
Piston ring thickness	1st	0.97 – 0.99 (0.0382 – 0.0390)	—
	2nd	0.97 – 0.99 (0.0382 – 0.0390)	—
Piston pin bore I.D.	14.002 – 14.008 (0.5512 – 0.5514)		14.030 (0.5523)
Piston pin O.D.	13.986 – 14.000 (0.5506 – 0.5511)		13.980 (0.5503)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	14.006 – 14.024 (0.5514 – 0.5521)	14.040 (0.5527)
Conrod deflection	—	3.0 (0.12)
Conrod big end side clearance	0.10 – 0.45 (0.006 – 0.019)	1.0 (0.04)
Conrod big end width	16.95 – 17.00 (0.67 – 0.669)	—
Crank web to web width	49.0 ± 1 (1.9291 ± 0.004)	—
Crankshaft runout	—	0.08 (0.003)

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch housing I.D.	110.00 – 110.15 (4.331 – 4.337)	110.50 (4.350)
Clutch shoe thickness	4.0 (0.16)	2.5
Clutch engagement	2 800 – 3 400 r/min.	—
Clutch lock-up	5 400 – 6 000 r/min.	—

REDUCTION GEAR + DRIVE BELT + DRIVE CHAIN

Unit: mm (in) Except raito

ITEM	STANDARD		LIMIT
Reduction ratio	Variable change (2.645 – 1.621)		—
Reduction gear ratio	8.294 (47/17 × 47/15)		—
Final reduction ratio	2.181 (24/11)		—
Drive belt width	19.9 (0.78)		18.9 (0.74)
Movable driven face spring free length	105.0 (4.13)		99.8 (3.92)
Drive chain	Type	RK 530	—
	Links	60	—
	20-pitch length	—	319.4 (12.57)
Drive chain slack	15 – 25 (0.6 – 1.0)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM16H
Bore size	16 mm
I.D.No.	08H0
Idle r/min	1 800 ± 100 r/min.
Float height	16 ± 1.0 mm (0.6 ± 0.04 in)
Main jet (M.J.)	#80
Jet needle (J.N.)	4LA43-1
Needle jet (N.J)	E-1M
Pilot jet (P.J)	#17.5
Air screw (A.S.)	PRE-SET (1, 3/4)
Throttle cable play	3 – 5 mm (0.12 – 0.20 in)

ELECTRICAL

Unit: mm (in)

ITEM		STANDARD/SPECIFICATION		LIMIT	NOTE
Spark plug		Type	NGK: CR6HSA DENSO: U20FSR-U	—	
		Gap	0.7 – 0.8 (0.028 – 0.031)	—	
Spark performance		Over 8 (0.3) at 1 atm.		—	
Ignition coil resistance		Primary	0.1 – 0.7 Ω	—	Terminal – Terminal
		Secondary	14 – 20 kΩ	—	Plug cap – Terminal
Ignition coil primary peak voltage		150 V and more		—	⊕: Ground ⊖: B
CKP sensor peak voltage		1.5 V and more		—	⊕: Br ⊖: Ground
Generator coil resistance		Charging	0.5 – 2.0 Ω	—	W/R – Ground
		CKP sensor	150 – 230 Ω	—	Br – Ground
Generator no-load voltage (when engine is cold)		20 V (AC) and more at 2 800 r/min.		—	
Generator output		70 W at 5 000 r/min.		—	
Regulated voltage		13.5 – 15.2 V		—	
Starter relay resistance		3 – 6 Ω		—	
Battery	Type designation	YTX7A-BS		—	
	Capacity	12 V 21.6 kC (6 Ah)/10 HR		—	
Fuse size	Main	10 A		—	
Starter motor brush length		7.0 (0.27)		5.0 (0.19)	

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Front brake lever play	4 – 6 (0.16 – 0.24)		—
Rear brake lever play	3 – 5 (0.12 – 0.26)		—
Brake drum I.D.	Front	—	110.7 (4.35)
	Rear	—	130.7 (5.14)
Rear axle runout	Rear	—	6.0 (0.23)
Wheel rim size	Front & Rear	AT19 × 7 – 8 ☆	—
Toe-in (with 63 kg)	4.5 ± 3 (0.17 ± 0.1)		—
Turning radius	2.5 m (8.2 ft)		—
Camber	+0.6		—
Caster	3°		—
Trail	11 (0.4)		—
Steering angle	37.5° (Right & Left)		—

TIRE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cold inflation tire pressure (Solo riding)	Front	22.5 kPa (0.225 kgf/cm², 3.3 psi)	—
	Rear	20 kPa (0.20 kgf/cm², 2.9 psi)	—
Tire size	Front	AT 19 × 7-8 ☆, tubeless	—
	Rear	AT 19 × 7-8 ☆, tubeless	—
Tire tread depth	Front	—	4.0 (0.16)
	Rear	—	4.0 (0.16)

SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT
Front wheel travel	62 (2.4)	—
Rear wheel travel	61 (2.4)	—
Swingarm pivot shaft runout	—	0.6 (0.02)

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 87 pump octane (R/2 + M/2) or 91 octane or higher rated by the Research Method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10 % ethanol, or less than 5 % methanol with appropriate cosolvents and corrosion inhibitor is permissible.		P-28, 33
	Gasoline used should be graded 91 octane or higher. An unleaded gasoline is recommended.		Others
Fuel tank capacity	6.0 L (0.7/0.6 US/Imp gal)		
Engine oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	950 ml (1.6/1.3 US/Imp qt)	
	Filter charge	1 050 ml (2.21/1.84 US/Imp qt)	
	Overhaul	1 100 ml (1.2/1.0 US/Imp qt)	
Final reduction gear box oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Final reduction gear box oil capacity	Change	90 ml (3.0/3.2 US/Imp oz)	
	Overhaul	100 ml (3.4/3.5 US/Imp oz)	