



SERVICE MANUAL SUPPLEMENT

CHAIN SAW ECHO: CS-355T

(Serial number : 11000001-11999999)

(Serial number : 12000001-12999999)

(Serial number : 13000001-13999999)

INTRODUCTION

We are constantly working on technical improvement of our products. For this reason, technical data, equipment and design are subject to change without notice. All specifications and directions in this SERVICE MANUAL SUPPLEMENT are based on the latest product information available at the time of publication.

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Reference No. **00-36H-01**

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1 SERVICE INFORMATION

1-1 Specifications

Model			CS-355T
Dimensions	Length*	mm(in)	287 (11.30)
	Width	mm(in)	244 (9.61)
	Height	mm(in)	220 (8.66)
Dry weight*		kg(lb)	3.5 (7.7)
Engine	Type		YAMABIKO, air-cooled, two-stroke, single cylinder
	Rotation		Clockwise as viewed from the output end
	Displacement	cm ³ (in ³)	35.8 (2.184)
	Bore	mm(in)	39.0 (1.535)
	Stroke	mm(in)	30.0 (1.181)
	Compression ratio		7.1
Carburetor	Type		Diaphragm horizontal-draught with separated purge bulb
	Model		WALBRO WT-1049
	Venturi size-Throttle bore	mm(in)	13.5 - 15.85 (0.531 - 0.624)
Ignition	Type		CDI (Capacitor discharge ignition) system Digital Magneto with stop holding function
	Spark plug		BPM8Y (CANADA : BPMR8Y)
Starter	Type		i-15
	Rope diameter x length	mm(in)	3.0 x 950 (0.12 x 36.2)
Fuel	Type		Premixed two-stroke fuel
	Mixture ratio		50 : 1 (2 %)
	Petrol		Minimum 89 octane petrol
	Two-stroke air cooled engine oil		ISO-L-EGD (ISO/CD13738), JASO M345-FC/FD
	Tank capacity	L (U.S.fl.oz.)	0.33 (11.2)
Exhaust	Muffler type		Spark arrester muffler
Clutch	Type		Centrifugal, 3-shoe slide with 3-tension spring
Guide bar / Saw chain lubrication type			Adjustable automatic oil pump
Oil	Tank capacity	L (U.S.fl.oz.)	0.243 (8.2)
Auto oiler	Type		Clutch related type
Sprocket	Type		Spur
	Number of teeth		6
	Pitch	in	3/8

* Without guide bar and saw chain.

Cutting devices				
Guide bar	Part No.		14A0ED3752	16A0ED3757
	Called length	in	14	16
	Gauge	in	0.050	
Saw chain	Type		Oregon 91PX	
	Number of drive links		52	57
	Pitch	in	3/8	
	Gauge	in	0.050	

1-2 Technical data

Engine			
Idling speed	RPM	2,800 ⁻¹⁰⁰ / ₊₅₀₀	
Wide open throttle speed*	RPM	13,800 - 14,500	
Clutch engagement speed	RPM	4,300	
Engagement Minimum [†]	RPM	3,600	
Compression pressure	MPa (kgf/cm ²) (psi)	1.03 (10.5) (149)	
Ignition system with stop holding function			
Spark plug gap	mm(in)	0.6 - 0.7 (0.024 - 0.028)	
Minimum secondary voltage at 1,000 RPM	kV	20	
Primary coil resistance (Red Probe on stop terminal of module)	MΩ	2.2 - 2.6	
Secondary coil resistance	Ω	970 - 1010	
Pole shoe air gaps	mm(in)	0.3 - 0.4 (0.012 - 0.016)	
Ignition timing	at 3,000 RPM	°BTDC	6
	at 8,000 RPM	°BTDC	34
	at 10,000 RPM	°BTDC	33
	at 14,000 RPM	°BTDC	Revolution limiter
Carburetor			
Idle adjust screw initial setting	turns in**	1 3/8	
L mixture needle initial setting			
H mixture needle initial setting			
Test Pressure, minimum	MPa (kgf/cm ²) (psi)	0.05 (0.5) (7.0)	
Metering lever height	mm(in)	1.65 (0.06) lower than diaphragm seat	
Chain oil discharge volume at 7,000 RPM	mL/min(U.S.fl.oz./min)	Fixed 7.0 mL/min	

BTDC: Before top dead center.

* With 14 in. guide bar and properly adjusted saw chain.

**Set Idle adjust screw to the point that its tip contacts throttle plate before initial setting.

† If clutch engagement speed is lower than minimum clutch engagement speed, replace clutch assembly with new one.

1-3 Torque limits

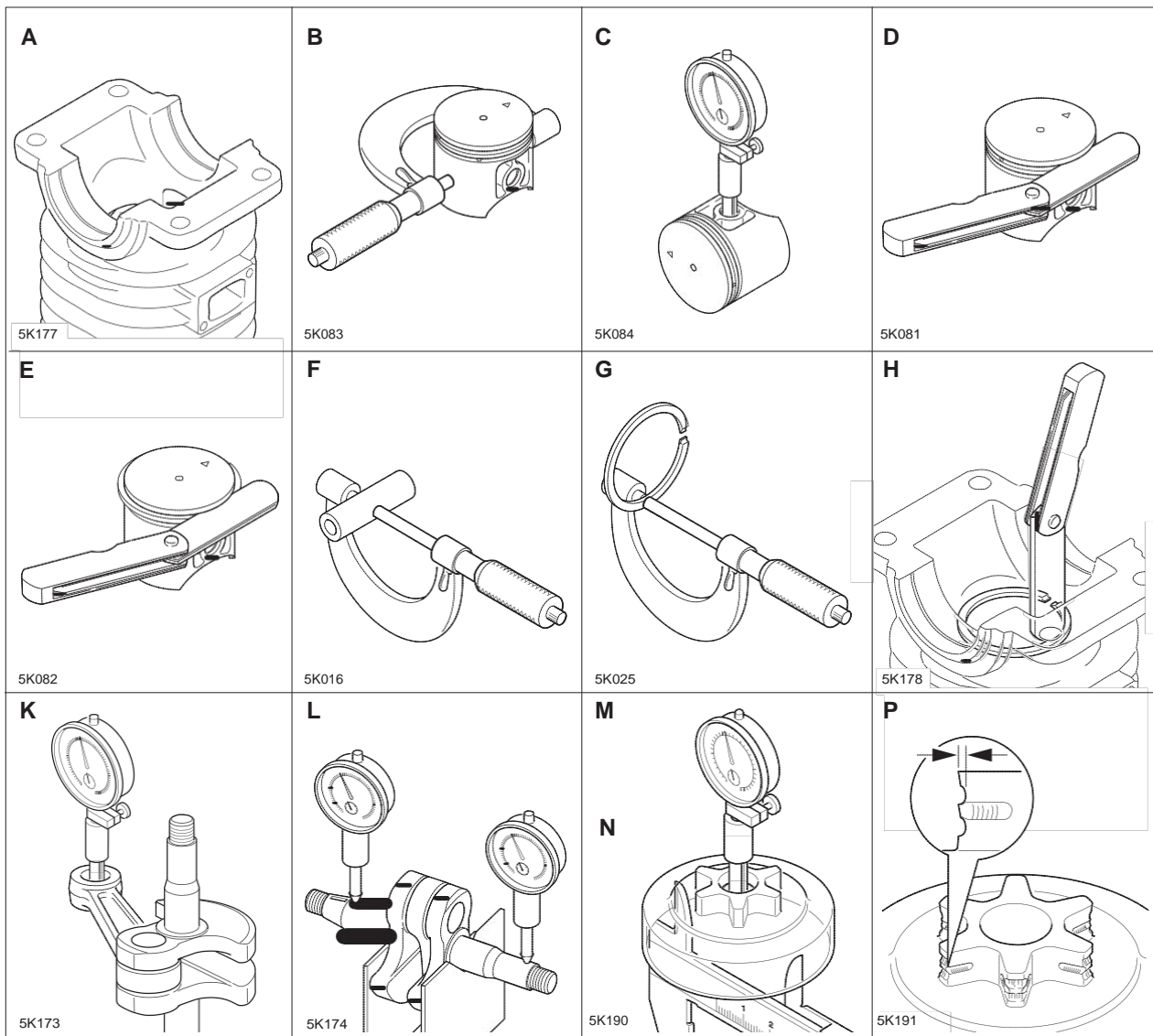
Descriptions		Size	kgf•cm	N•m	in•lbf
Starter system	Starter pawl	M5*	30 - 45	3 - 4.5	26 - 40
	Starter case	M4	15 - 20	1.5 - 2	13 - 17
Ignition system	Magneto rotor (Flywheel)	M8	250 - 290	25 - 29	220 - 255
	Ignition coil	M5*	30 - 45	3 - 4.5	26 - 40
	Spark plug	M14	130 - 170	13 - 17	110 - 150
Fuel system	Carburetor	M5	20 - 30	2 - 3	17 - 26
	Intake bellows	M5	30 - 50	3 - 5	26 - 45
Clutch	Clutch hub	LM10	230 - 260	23 - 26	200 - 230
Engine	Crankcase	M5*	60 - 80	6 - 8	50 - 70
	Engine mount	M5	70 - 110	7 - 11	60 - 95
	Muffler	M5	70 - 100	7 - 10	60 - 90
	Muffler cover	M5	30 - 50	3 - 5	26 - 45
Others	Auto-oiler	M4	20 - 30	2 - 3	17 - 26
	Front handle	M4*	15 - 30	1.5 - 3	13 - 26
	Rear handle assembly	M5	15 - 30	1.5 - 3	13 - 26
	Harness fixture	M5	60 - 90	6 - 9	50 - 80
	Cap cover	M5	30 - 45	3 - 4.5	26 - 40
	Sprocket guard	M4	15 - 25	1.5 - 2.5	13 - 22
	Brake lever	M5	25 - 40	2.5 - 4	22 - 35
	Spike	M5	30 - 50	3 - 5	26 - 45
	Guide bar	M8	200 - 230	20 - 23	175 - 200
Regular bolt, nut and screw		M3	6 - 10	0.6 - 1	5 - 9
		M4	15 - 25	1.5 - 2.5	13 - 22
		M5	25 - 45	2.5 - 4.5	22 - 40
		M6	45 - 75	4.5 - 7.5	40 - 65

LM: Left-hand thread *Apply special repairing materials

1-4 Special repairing materials

Material	Location	Remarks
Adhesive	Ball bearing outer / crankcase	Loctite #675 or equivalent
	Stud bolt	
Liquid gasket	Crankcase seams	ThreeBond 1207D
Thread locking sealant	Starter pawl	Loctite #222, ThreeBond #1342 or equivalent
	Ignition coil	
Grease	Clutch needle bearing	Lithium based grease or ECHO XTended Protection™ Lubricant
	Starter center shaft	
	Chain brake (metal contact part)	Molybdenum grease (approx.1 gram)

1-5 Service Limits



Description		mm (in)	
A	Cylinder bore	When plating is worn and aluminum can be seen	
B	Piston outer diameter	Min.	38.87 (1.530)
C	Piston pin bore	Max.	8.035 (0.3163)
D	Piston ring groove	Max.	1.6 (0.063)
E	Piston ring side clearance	Max.	0.1 (0.004)
F	Piston pin outer diameter	Min.	7.98 (0.3142)
G	Piston ring width	Min.	1.45 (0.057)
H	Piston ring end gap	Max.	0.5 (0.02)
K	Con-rod small end bore	Max.	11.025 (0.4341)
L	Crankshaft runout	Max.	0.01 (0.001)
M	Sprocket bore	Max.	12.80 (0.5039)
N	Clutch drum bore	Max.	61.5 (2.42)
P	Sprocket wear limit	Max.	0.5 (0.02)

