



SERVICE DATA

CLEARING SAW

CLS-5000

CLS-5010

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, illustrations and directions in this SERVICE DATA are based on the latest products information available at the time of publication.

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1 SERVICE INFORMATION

1-1 Specifications

Model			CLS-5000	CLS-5010
Dimensions	Length*	mm(in)	1735 (68.3)	
	Width	mm(in)	700 (25.6) (other than Canada) 630 (24.8) (Canada)	650 (25.6)
	Height	mm(in)	475 (18.7)	
Dry weight*		kg(lb)	9.8 (21.61)	10.3 (22.71)
Engine	Type		KIORITZ, air-cooled, two-stroke, single cylinder Semi-automatic decompression	
	Rotation		Counterclockwise as viewed from the output end	
	Displacement	cm ³ (in ³)	51.7 (3.155)	
	Bore	mm(in)	44.0 (1.732)	
	Stroke	mm(in)	34.0 (1.339)	
	Compression ratio		6.6	
Carburetor	Type		Diaphragm, horizontal-draught, with primer	
	Model		Walbro WYK-172 (other than Canada) WYK-173 (Canada)	Walbro WYK-172
	Venturi size-Throttle bore	mm(in)	13.5 - 15.0 (0.531 - 0.591)	
Ignition	Type		CDI (Capacitor discharge ignition) system in a single integrated piece, with electronic timing advancer	
	Spark plug		RCJ-6Y	
Starter	Type		Automatic rewind	
	Rope diameter x length	mm(in)	3.8 x 1150 (0.15 x 45.3)	
Fuel	Type		Premixed two-stroke fuel (Refer to Operator's manual.)	
	Tank capacity	L (U.S.fl.oz.)	1.0 (33.8)	
Clutch	Type		Centrifugal, 2 - shoe pivot	
Handle	Type	Front	U-shaped adjustable, with integrated control grip	
Drive shaft	Type		Solid	
	Diameter - Length	mm(in)	10.0 - 1448 (0.39 - 57.0)	10.0 - 1578 (0.39 - 62.1)
	Housing	OD -ID mm(in)	35 - 31.8 (1.38 -1.25)	35 - 31.8 (1.38 -1.25)
	(Main pipe)	Length mm(in)	1400 (55.1)	1530 (60.2)
Gear case	Reduction ratio		1.4	
	Gear tooth		Spiral bevel gear	
	Lubrication		Lithium based grease	
Cutter	Type		Nylon line cutter, chipper saw	
	Pilot diameter	mm(in)	20.0 (0.79)	
	Fastener type, size	mm	Left-hand thread nut, M12 x 1.75 pitch	
	Cutting rotation		Counterclockwise as viewed from top	

OD: Outer diameter.

ID: Inner diameter.

* Without shoulder harness and cutter head.

1-2 Technical data

Engine			
Idling speed	r/min	2400 - 2600	
Operating speed	r/min	9500 - 11500	
Clutch - in speed	r/min	3400 - 3900	
Compression pressure	MPa (kgf/cm ²) (psi)	1.0 (10.0) (140)	
Ignition system			
Spark plug gap	mm(in)	0.6 - 0.7 (0.024 - 0.028)	
Minimum secondary voltage at 1000 r/min	kV	14.0	
Secondary coil resistance	kK	2.0 - 2.8	
Pole shoe air gaps	mm(in)	0.30 - 0.40 (0.012 - 0.016)	
Ignition timing	at 1000 r/min	°BTDC	17.5
	at 7000 r/min	°BTDC	30
	at 11000 r/min	°BTDC	11.5
Carburetor			
Main jet		#57	
Idle speed screw initial setting	turns in*	4	
Idle needle initial setting	turn back	1	
Test Pressure, minimum	MPa (kgf/cm ²) (psi)	0.05 (0.5) (7.0)	
Metering lever height	mm(in)	1.5 (0.06) lower than diaphragm seat	

BTDC: Before top dead center.

* Set idle speed screw to contact throttle plate before initial setting.

1-3 Torque limits

Descriptions		Size	kgf•cm	N•m	in•lbf
Starter system	Pawl carrier	M 8	80 - 100	8 - 10	70 - 90
	Pawl carrier nut	M 8	200 - 240	20 - 24	175 - 210
	Starter case	M 5*	35 - 50	3.5 - 5.0	30 - 45
Ignition system	Magneto rotor (Flywheel)	M 10	200 - 240	20 - 24	175 - 210
	Ignition coil	M 5	60 - 100	6 - 10	50 - 90
	Spark plug	M 14	150 - 170	15 - 17	130 - 150
	Fan cover	M 5	70 - 110	7 - 11	60 - 95
Fuel system	Carburetor insulator	M 5	40 - 55	4.0 - 5.5	35 - 50
	Carburetor	M 5	30 - 45	3.0 - 4.5	26 - 40
	Fuel tank bracket	M 5*	50 - 90	5.0 - 9.0	45 - 80
Clutch	Clutch shoe	M 8	160 - 200	16 - 20	140 - 175
Engine	Crankcase	M 5	70 - 110	7 - 11	60 - 95
	Cylinder	M 5	70 - 110	7 - 11	60 - 95
	Decompression valve	M 8	80 - 100	8 - 10	70 - 90
	Top guard	M 5*	30 - 45	3.0 - 4.5	26 - 40
	Muffler	M 6	110 - 150	11 - 15	95 - 130
	Muffler cover	M 5	30 - 45	3.0 - 4.5	26 - 40
	Muffler stay	M 5	70 - 110	7 - 11	60 - 95
Others	Blade fastening nut	LM 10	280 - 320	28 - 32	245 - 280
Regular bolt, nut, and screw		M 3	6 - 10	0.6 - 1.0	5 - 9
		M 4	15 - 25	1.5 - 2.5	13 - 22
		M 5	25 - 45	2.5 - 4.5	22 - 40
		M 6	45 - 75	4.5 - 7.5	40 - 65
		M 8	110 - 150	11 - 15	95 - 130
		M 10	210 - 300	21 - 30	180 - 260

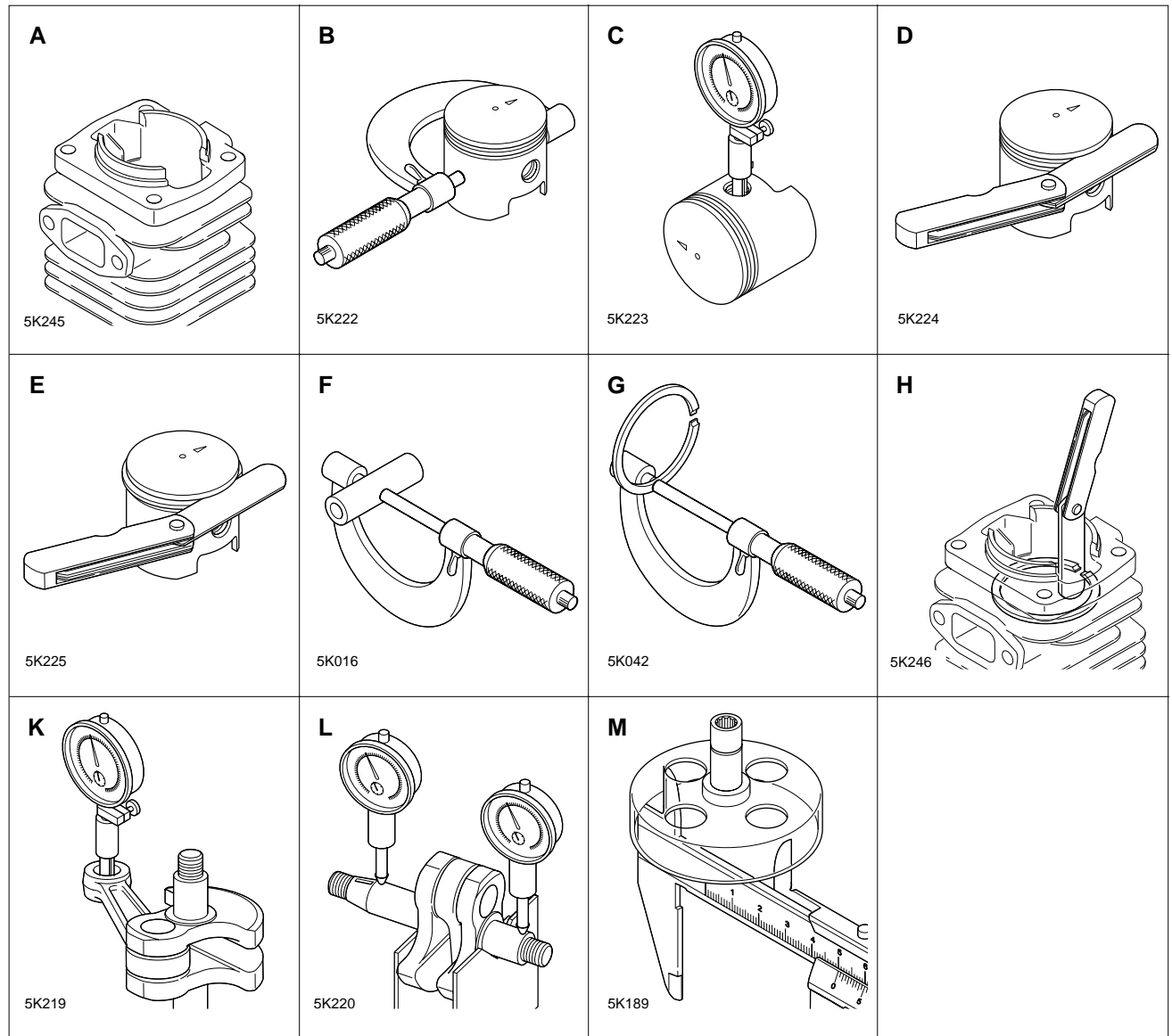
LM: Left hand thread.

* Apply thread locking sealant. (See below)

1-4 Special repairing materials

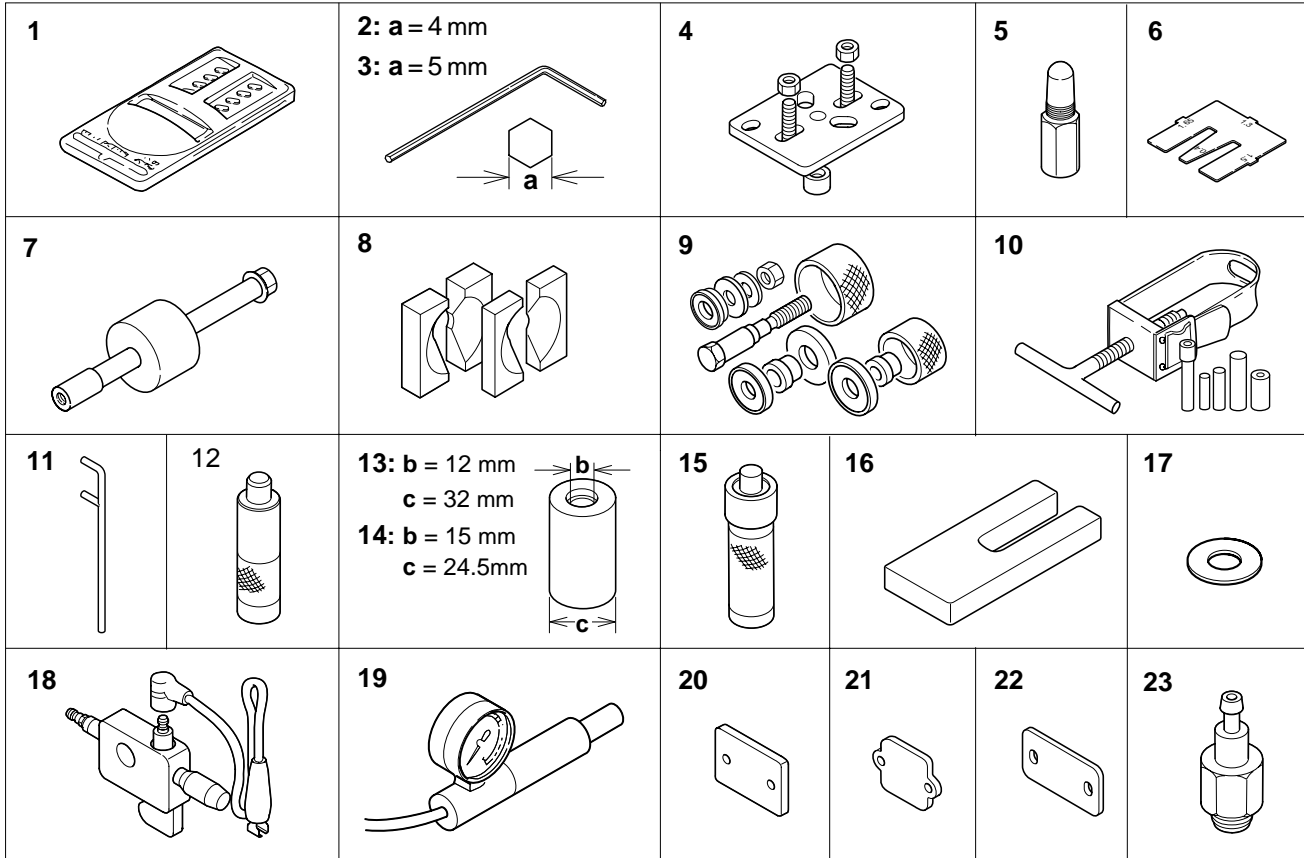
Material	Location	Remarks
Grease	Gear case	Lithium based grease or ECHO LUBE™
	Rewind spring	
	Starter center post	
Oil	Oil seal inner lips	Two-stroke engine oil or engine oil (SAE#30)
	Drive shaft	
Thread locking sealant	Starter case	Loctite #222, ThreeBond #1344N or equivalent
	Fuel tank bracket	
	Top guard	

1-5 Service limits



Description			mm (in)
A	Cylinder bore		When plating is worn and aluminum can be seen
B	Piston outer diameter	Min.	43.88 (1.728)
C	Piston pin bore	Max.	10.04 (0.395)
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.	9.98 (0.393)
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.	14.03 (0.552)
L	Crankshaft runout	Max.	0.05 (0.002)
M	Clutch drum bore	Max.	79.5 (3.13)

1-6 Special tools



Key	Part Number	Description	Used for:
1		Tachometer	Measuring engine speed to adjust carburetor
2	895610-79920	L-hex wrench (4 mm)	Removing and installing hex. socket bolt (M5)
3	895611-79920	L-hex wrench (5 mm)	Removing and installing hex. socket bolt (M6)
4	897501-03938	Puller	Removing flywheel
5	897537-30130	Piston stopper	Locking crankshaft rotation
6	897563-19830	Metering lever gauge	Measuring metering lever height on carburetor
7	897603-47530	PTO shaft puller	Removing PTO shaft
8	897701-02830	Bearing wedge	Removing ball bearing remaining on crankshaft
9	897701-14732	Bearing tool	Removing and installing ball bearings on crankcase / clutch drum
10	897702-30131	Piston pin tool	Removing and installing piston pin (Use 10mm dia. adapter)
11	897712-04630	2-pin wrench	Removing and installing pawl carrier
12	897714-12330	Oil seal tool	Installing crankcase oil seal (clutch side)
13	897714-24330	Oil seal tool	Installing crankcase oil seal (starter side) / PTO shaft bearings
14	897726-21430	Oil seal tool	Installing crankcase oil seal (clutch side)
15	897718-03930	Bearing tool	Installing crankcase oil seal (starter side)
16	897719-02830	Piston holder	Making piston steady to remove and install piston / ring
17	363018-00310	Washer	Installing crankcase oil seal (starter side)
18	897800-79931	Spark tester	Checking ignition system
19	897803-30130	Pressure tester	Testing fuel pipes/tank and crankcase leakages
20	897826-16131	Pressure plug	Plugging intake port to test crankcase / cylinder sealing
21	897827-16131	Pressure plate	Plugging intake port to test crankcase / cylinder sealing
22	897831-16131	Pressure plug	Plugging exhaust port to test crankcase / cylinder sealing
23	897835-16131	Pressure connector	Testing crankcase and cylinder leakages