



SERVICE DATA

TRIMMER/BRUSHCUTTER

SRM-2305

SRM-2305SI

(Serial number : 36000001 and after)

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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KIORITZ CORPORATION

Reference No. **10-21L-01**

REVISED: 200502

ISSUED: 200410

1 SERVICE INFORMATION

1-1 Specifications

Model		SRM-2305 (L)	SRM-2305 (U)	SRM-2305SI(L)	SRM-2305SI(U)	
Dimensions	Length*	mm(in)	1755 (69.1)	1760 (69.3)	1785 (70.3)	1790 (70.5)
	Width	mm(in)	355 (14.0)	690 (27.2)	355 (14.0)	690 (27.2)
	Height	mm(in)	340 (13.4)	455 (17.9)	340 (13.4)	455 (17.9)
Dry weight**		kg(lb)	5.6 (12.3)	6.0 (13.2)	5.8 (12.8)	6.2 (13.7)
Engine	Type	KIORITZ, air-cooled, two-stroke, single cylinder				
	Rotation	Anticlockwise as viewed from the output end				
	Displacement	cm ³ (in ³)	21.2 (1.294)			
	Bore	mm(in)	32.2 (1.268)			
	Stroke	mm(in)	26.0 (1.024)			
	Compression ratio	6.8				
Carburettor	Type	Diaphragm, horizontal-draught, with primer (purge bulb)				
	Model	ZAMA C1U-K53B				
	Venturi size-Throttle bore	mm(in)	8.5 - 12.7 (0.33 - 1/2)			
Ignition	Type	CDI (Capacitor discharge ignition) system				
	Spark plug	BPMR7A				
Starter	Type	Automatic rewind		i-start		
	Rope diameter x length	mm(in)	3.0 x 1000 (0.12 x 39.4)		3.0 x 920 (0.12 x 36.2)	
Fuel	Type	Premixed two-stroke fuel				
	Mixture ratio	50 : 1 (2 %)				
	Petrol	Minimum 89 octane petrol (RON)				
	Two-stroke air cooled engine oil	ISO-L-EGD (ISO/CD13738), JASO FC				
	Tank capacity	L (U.S.fl.oz.)	0.4 (13.5)			
Clutch	Type	Centrifugal, 2 - shoe slide				
Handle	Type	Front	Slant D-Loop	U-shaped	Slant D-Loop	U-shaped
		Rear	Integrated control grip w/cushion	- - -	Integrated control grip w/cushion	- - -
Drive shaft	Type	Solid				
	Inner shaft: Diameter - Length	mm(in)	6 - 1538 (0.24 - 60.6)			
	Housing	OD -ID	25 - 22 (0.98 -0.87)			
	(Main pipe)	Length	1500 (59.1)			
Gear case	Reduction ratio	1.36				
	Gear tooth	Spiral bevel gear				
	Lubrication	Lithium based grease				
Cutter	Type	Nylon line cutter, 3-tooth blade†, Others				
	Pilot diameter	mm(in)	25.4 (1.0)			
	Fastener type, size	mm	Left-hand thread nut, M10 x 1.25 pitch			
	Cutting rotation	Anticlockwise as viewed from top				

OD: Outer diameter.

ID: Inner diameter.

* Without shoulder harness and cutter head.

** With standard cutter head, without shoulder harness.

† Install and use U-shaped handle when operating with steel blade.

1-2 Technical data

Engine		
Idling speed	r/min	2400 - 3200
Operating speed	r/min	7500
Wide open throttle speed*	r/min	8200 - 10000
Clutch engagement speed	r/min	3400 - 4000
Compression pressure	MPa (kgf/cm ²) (psi)	0.93 (9.5) (135)
Ignition system		
Spark plug gap	mm (in)	0.6 - 0.7 (0.024 - 0.028)
Minimum secondary voltage at 1500 r/min	kV	20
Secondary coil resistance	kΩ	1.0 - 2.0
Pole shoe air gaps	mm(in)	0.3 - 0.4 (0.012 - 0.016)
Ignition timing at 7000 r/min	°BTDC	28
Carburettor		
Idle adjust screw initial setting	turn in**	2 3/4
L mixture needle initial setting	turns back	1 1/4
H mixture needle initial setting	turns back	1 3/8
Test pressure, minimum	MPa (kgf/cm ²) (psi)	0.05 (0.5) (7.0)
Metering lever height	mm (in)	0.1 - 0.25 (0.004 - 0.010) lower than diaphragm seat

BTDC: Before top dead centre.

* With two line nylon line head.

** Set idle adjust 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	160 - 200	16 - 18	140 - 175
	Starter case	M 5*	20 - 40	2 - 4	17 - 35
Ignition system	Ignition coil	M 4	30 - 50	3 - 5	26 - 45
	Fan cover	M 4	14 - 28	1.4 - 2.8	12 - 24
	Spark plug	M 14	150 - 170	15 - 17	130 - 150
Fuel system	Carburettor insulator	M 5**	25 - 40	2.5 - 4.0	22 - 35
	Carburettor	M 5	30 - 40	3 - 4	26 - 35
	Throttle cable nut	M 6	25 - 35	2.5 - 3.5	22 - 30
	Fuel tank	M 5**	30 - 45	3.0 - 4.5	26 - 40
	Stand	M 4**	14 - 28	1.4 - 2.8	12 - 24
Clutch	Clutch hub	M 8	160 - 200	16 - 20	140 - 175
	Clutch case	M 5	30 - 45	3.0 - 4.5	26 - 35
Engine	Crankcase	M 5†	70 - 110	7 - 11	60 - 95
	Cylinder	M 5†	70 - 100	7 - 10	60 - 90
	Cylinder cover	M 4	14 - 28	1.4 - 2.8	12 - 24
	Muffler	M 5	60 - 100	6 - 10	52 - 85
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. *Tapping screw

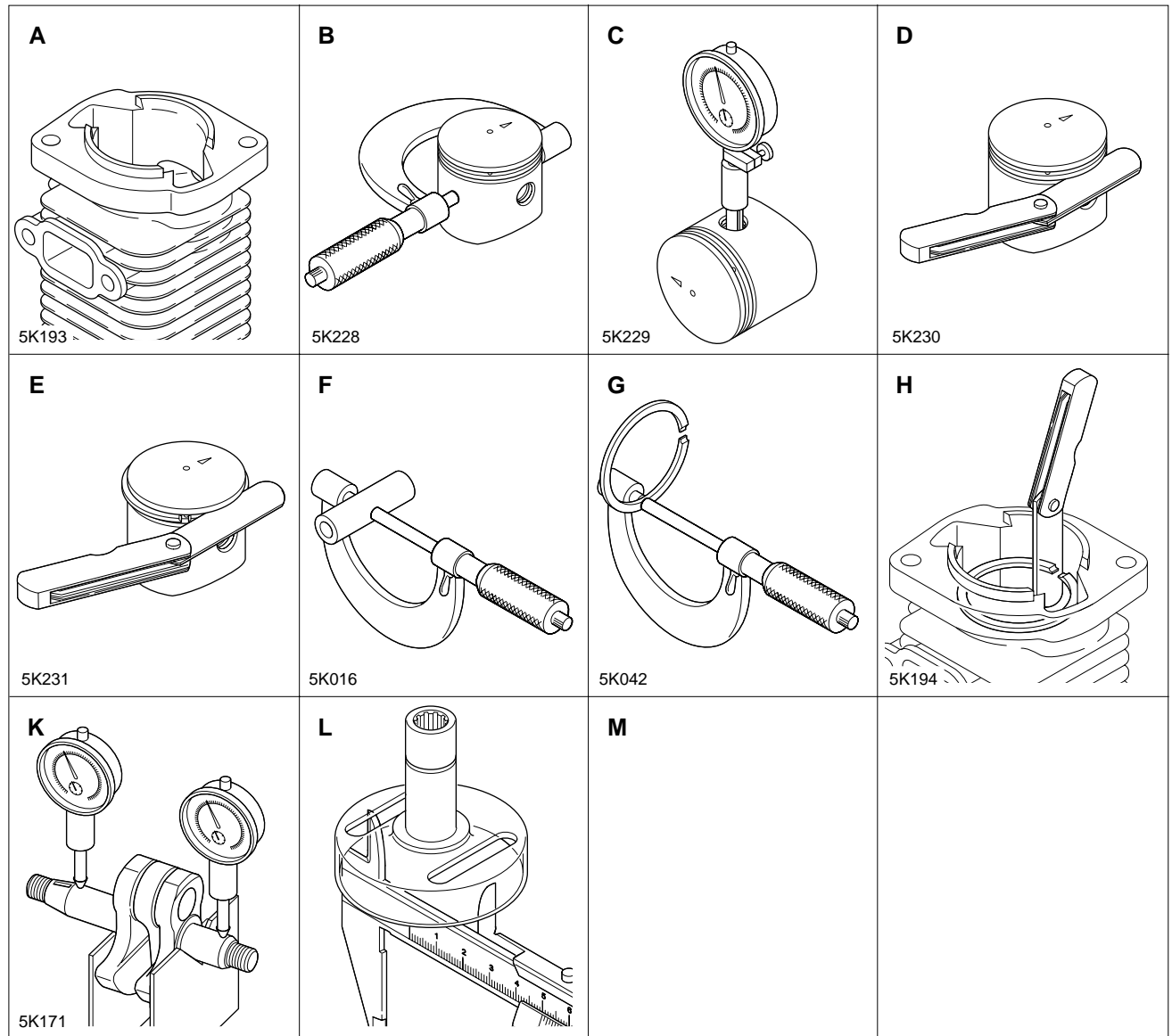
** Apply thread locking sealant. (See below)

† The torque differences among four bolts should not exceed 20 kgf•cm (2Nm, 17in•lbf) on one cylinder or crankcase.

1-4 Special repairing materials

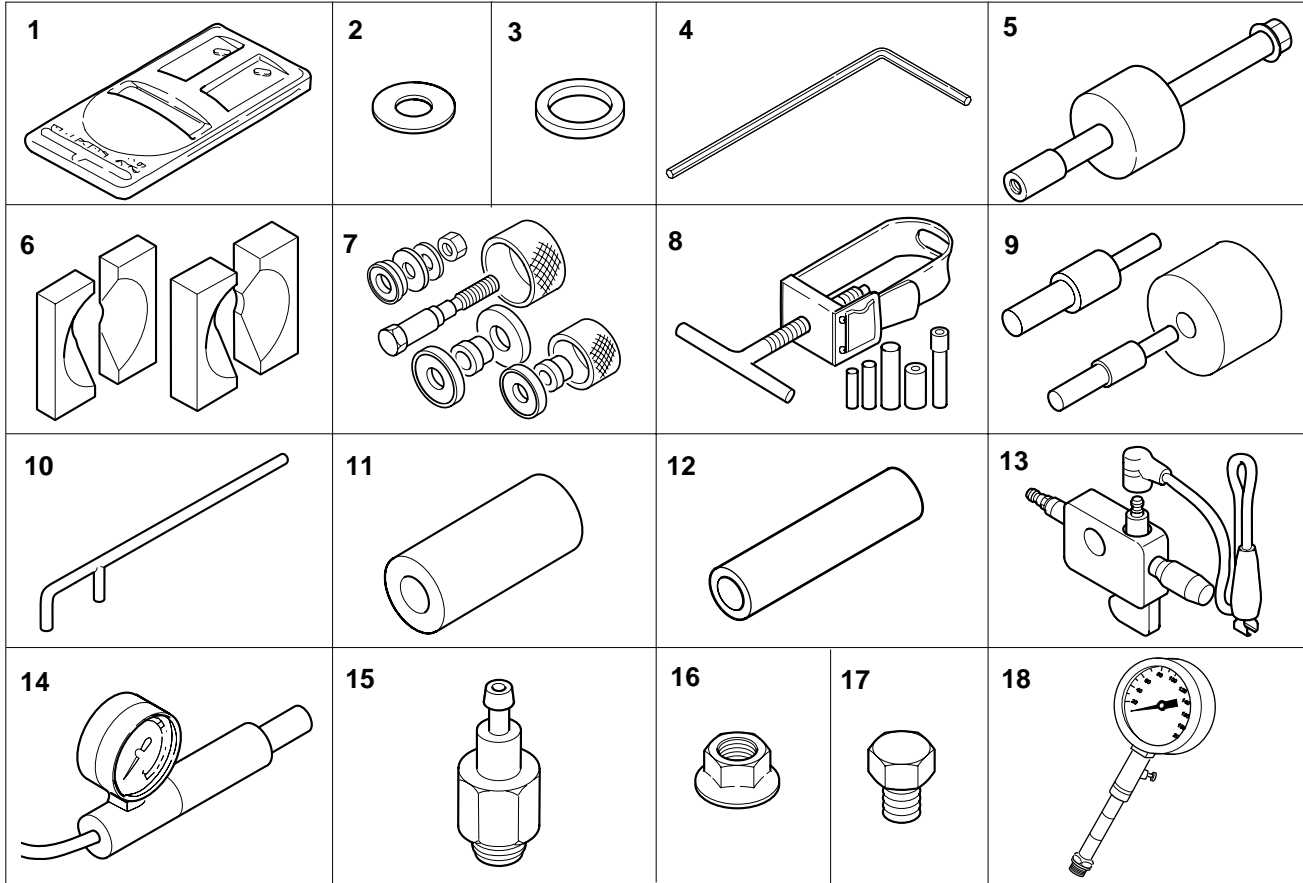
Material	Location	Remarks
Adhesive	Clutch case, cushion	Loctite 406 or equivalent
Thread locking sealant	Carburettor insulator	ThreeBond 1342 or equivalent
	Fuel tank	
	Stand	
Grease	Gear case	Lithium based grease
	Rewind spring	
	Starter center post	

1-5 Service limits



Description			mm (in)
A	Cylinder bore		When plating is worn and aluminium can be seen
B	Piston outer diameter	Min.	32.14 (1.265)
C	Piston pin bore	Max.	8.030 (0.3161)
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.	7.970 (0.3138)
G	Piston ring width	Min.	1.45 (0.057)
H	Piston ring end gap	Max.	0.5 (0.02)
K	Crankshaft runout	Max.	0.05 (0.002)
L	Clutch drum bore	Max.	51.5 (2.03)

1-6 Special tools



Key	Part Number	Description	Used for:
1	897801-33330	Tachometer PET-1000	Measuring engine speed
2	363018-00310	Washer	Installing crankcase oil seal of starter side
3	900600-00012	Washer	Installing drive gear
4	895610-79920	L-hex wrench (4 mm)	Removing and installing hex. socket bolts (M5)
5	897603-23030	PTO shaft puller	Removing driven (PTO) shaft
6	897701-06030	Bearing wedge	Removing ball bearings on crankshaft
7	897701-14732	Bearing tool	Removing and installing crankcase ball bearings
8	897702-30131	Piston pin tool	Removing and installing piston pin (Use 8 mm dia. adapter.)
9	897705-11520	Bearing tool	Removing and installing con-rod small end needle bearing
10	897712-04630	2-pin wrench	Removing and installing pawl carrier
11	897714-24330	Oil seal tool	Installing crankcase oil seals
12	897726-09130	Oil seal tool	Removing clutch drum and installing clutch drum ball bearing
13	897800-79931	Spark tester	Checking ignition system
14	897803-30130	Pressure tester	Checking carburettor and crankcase leakages
15	897835-16131	Pressure connector	Checking crankcase and cylinder leakages
16	433019-12330	Flange nut	Removing magneto rotor (flywheel)
17	900100-08008	Bolt	Removing magneto rotor (flywheel)
18	91007	Compression gauge	Measuring cylinder compression

2 EMISSION ADJUSTMENT GUIDE

2-1 General adjusting rules

Before starting the unit for adjustment, check the following items.

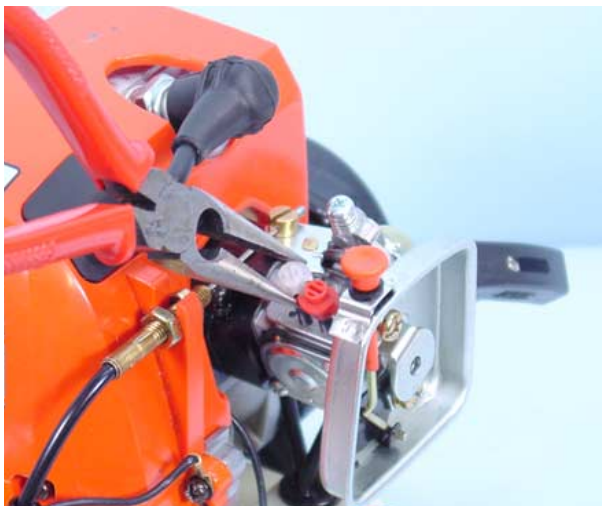
1. The correct spark plug must be clean and properly gapped.
2. The air filter element must be clean and properly installed.
3. The muffler exhaust port must be clear of carbon.
4. The fuel lines, tank vent and fuel filter are in good condition and clear of debris.
5. The fuel is fresh (> 89 octane : RON) and properly mixed at 50 : 1 with "ISO L-EGD" 2 stroke oil.
6. Two line nylon line head with properly cut lines must be installed for proper engine loading.

2-2 Presetting idle adjust screw, L mixture needle and H mixture needle



1. Remove air cleaner cover and air cleaner.
2. Turn L mixture needle clockwise until lean stop to cut easily.
3. Using a sharp knife, give triangle cut between the stopper wings. Also cut the H limiter cap.

NOTE : Be careful when cutting caps, otherwise injury may result.



4. Pull the caps off with pliers.
- NOTE :** Do not rock back and forth when removing, otherwise the needle may be damaged.
5. Turn H and L mixture needles clockwise until lightly seated.
- NOTE :** Do not over tighten needles, otherwise needles tip and seat damage may occur.
6. Turn L mixture needle anticlockwise 1 1/4 turns. Turn H mixture needle anticlockwise 1 3/8 turns.
 7. Turn idle adjust screw anticlockwise and set the screw until the tip to just contact throttle plate. Then turn it clockwise 2 3/4 turns.
 8. Install air cleaner and air cleaner cover.

2-3 Adjusting carburettor



1. Start engine and warm it up well for about 3 - 5 minutes with cycle of 50 seconds at WOT (Wide Open Throttle) and 10 seconds at idling.

2. Adjust L mixture needle and obtain maximum idle speed with 2.5 mm wide blade head screw driver.

3. Set idle speed to the range of 3500 to 3600 r/min by turning idle adjust screw.

4. Turn L mixture needle anticlockwise to reduce idle speed 800 r/min to set idle speed in the range of 2700 to 2800 r/min.

NOTE : Engine speed must be allowed to stabilize a minimum of 20 seconds after each adjustment of L mixture needle to assure accurate tachometer readings.

5. Adjust WOT engine speed in the range of 8200 to 10000 r/min by turning H mixture needle.

6. After adjusting carburettor, install White limiter cap on L mixture needle and Red limiter cap on H mixture needle as shown.

NOTE : Before installing limiter caps, warm caps in 90 °C hot water for smooth installation. Make it sure to use pliers or appropriate instrument to take warmed up cap out from the water.

7. Press respective limiter caps to the bottoms as shown.

8. Start engine again and make it sure engine runs, in the range of 2400 to 3200 r/min at idling and the range of 8200 to 10000 r/min at WOT. Also make it sure cutting device would not turn at engine idle speed and suitable acceleration.