SERVICE DATA

TRIMMER/BRUSHCUTTER

ECHO: SRM-3610T

shindaiwa: C360T T360T

(Serial number : 37000001 and after)
(Serial number : 38000001 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 and directions in this SERVICE DATA are based on the latest product information available at the time of publication.

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Reference No. **10-36A-02**
REVISED: 201904
ISSUED: 201711

1 SERVICE INFORMATION

1-1 Specifications

Model				SRM-3610T/L, T360T	SRM-3610T/U, C360T
Dimensions*1	Length		mm (in)	1806 (71.1)	
	Width		mm (in)	340 (13.4)	695 (27.4)
	Height		mm (in)	358 (14.1)	525 (20.7)
Dry weight*2			kg (lb)	6.1 (13.4)	6.4 (14.1)
Engine	Type			YAMABIKO, air-cooled, Hybrid 4-stroke, single cylinder	
	Rotation			Counterclockwise as viewed from the output end	
	Displacement		cm^3 (in^3)	36.3 (2.215)	
	Bore		mm (in)	43.0 (1.693)	
	Stroke		mm (in)	25.0 (0.984)	
	Compression ratio			7.8	
Carburetor	Type			Diaphragm, horizontal-draft	
	Model			ZAMA RB-110137B	
	Venturi size-Throttle bore		mm (in)	9.0 - 10.5 (0.354 - 0.413)	
Ignition	Type			CDI (Capacitor discharge ignition) system, Digital Magneto	
	Spark plug			NGK CMR5H	
Exhaust	Muffler type			Spark arrester muffler	
Starter	Type			Automatic rewind with Mechanical decompression	
	Rope diameter x length		mm (in)	3.5 x 750 (0.14 x 29.5)	
Fuel*3	Type*4			Mixed two-stroke fuel	
	Mixture ratio			50 : 1 (2 %)	
	Gasoline			Minimum 89 octane	
	Two-stroke air cooled engine oil			ISO-L-EGD (ISO/CD13738), JASO FC/FD*5	
	Tank capacity		L (U.S.fl.oz.)	Full tank capacity: 0.85 (28.7) Usable capacity: 0.70 (23.7)	
Clutch	Type			Centrifugal, 2-shoe pivot	
Handle	Type		Front	D-Loop type with rubber anti-vibration grip	U-handle with integrated control grip
			Rear	Throttle handle with rubber anti-vibration grip	
Drive shaft	Type			Solid, spline type with 7-tooth	
	Diameter - Length		mm (in)	7.0 - 1540 (0.28 - 60.6)	
	Housing	OD - ID	mm (in)	25 - 22 (0.98 - 0.87)	
	(Main pipe)	Length	mm (in)	1500 (59.1)	
Gear case	Reduction ratio			1.62	
	Gear tooth			Spiral bevel gear	
	Lubrication			Lithium based grease	
Cutter	Type			Nylon line cutter Z5 w/ 3.0 mm SilentSpiral	
	Fastener type, size		mm	Left-hand thread nut, M10 x 1.25 pitch	
	Cutting rotation			Counterclockwise as viewed from top	

OD: Outer diameter. **ID:** Inner diameter.

*1 Without Nylon line head *2 Without Nylon line head and Shield *3 Refer to Operator's manual

*4 Premixed alkylate fuel for 2-stroke can be used.

*5 Do not use poor quality 2-stroke oil to keep operating valves.

1-2 Technical data

Engine			
Compression pressure		MPa (kgf/cm^2) (psi)	0.74 (7.5) (107)
Clutch engagement speed		r/min	3,800
Ignition system			
Spark plug gap		mm(in)	0.6 - 0.7 (0.024 - 0.028)
Spark test	Tester gap w/ spark plug	mm(in)	4.0 (0.16)
	Tester gap w/o spark plug	mm(in)	6.0 (0.24)
Secondary coil resistance		Ω	950 - 990
Pole shoe air gaps		mm(in)	0.3 - 0.4 (0.012 - 0.016)
Ignition timing	at 2,900 r/min	°BTDC	5
	at 9,000 r/min	°BTDC	40
Carburetor			
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 - 0.01) lower than diaphragm seat
Limiter cap / plug			Limiter plug P/N P005-001270
Tool to adjust mixture needles			Screwdriver 2.5 mm
Carburetor adjustment			
Cutting head preparation	Nylon line cutter		Z5
	Line length*1		230 mm without shield
1) Initial setting	H mixture needle	turn out	1 1/4
	L mixture needle	turn out	1 3/4
	Throttle adjust screw	turn out*2	9 3/4
Engine warm-up	Idle - WOT : Total	sec.	10 - 50 : 180
2) Find idle maximum speed			Adjust L mixture needle to maximum idle speed*3
3) Set idle maximum speed w/ TAS		r/min	3,500
4) Set idle speed by turning L mixture needle CCW		r/min	2,700
5) Set idle speed w/ TAS		r/min	2,900
6) Confirm maximum WOT speed			Confirm maximum WOT speed just before the max. WOT speed drops, turning H mixture needle clockwise. Maximum WOT speed: approx. 9,000 r/min If the WOT speed does not obtain above speed, adjust nylon line length.
7) WOT setting		turn	Then turn H mixture needle CCW by : 5/8
8) Verify final engine speed with standard equipment		r/min	Idle: 2,600 - 3,300 WOT: 9,900 - 10,300 Line length *1: 200 mm (Cut by shield knife)
9) Verify clutch engagement speed			Confirm clutch engagement speed. If it is less than 1.25 times the idle speed, adjust the idle speed by turning TAS CCW.

BTDC: Before top dead center. **WOT:** Wide open throttle **CCW:** Counterclockwise **TAS:** Throttle adjust screw

*1 From eyelet on nylon head

*2 Turn TAS clockwise until its head touches boss. Then turn TAS counterclockwise.

*3 If clutch engages during adjustment process 2), decrease engine speed by turning TAS CCW until clutch disengages and then redo 2).

1-3 Torque limits

Descriptions			Size	kgf•cm	N•m	in•lbf
Starter system	Starter pulley		M8	70 - 100	7 - 10	60 - 90
	Starter case		M5*	20 - 35	2 - 3.5	17 - 30
Ignition system	Flywheel (Magneto rotor)		M8	140 - 170	14 - 17	120 - 150
	Ignition coil		M5*	30 - 50	3 - 5	26 - 45
	Fan cover		M5	40 - 60	4 - 6	35 - 52
	Spark plug		M10	100 - 150	10 - 15	87 - 130
Fuel system	Carburetor		M5	30 - 45	3 - 4.5	26 - 40
	Intake insulator		M4*	25 - 35	2.5 - 3.5	22 - 30
	Fuel tank with stand	Fan cover side	M5*	40 - 60	4 - 6	35 - 52
		Starter side	M5*	30 - 50	3 - 5	26 - 45
Clutch	Clutch shoe		M6	70 - 110	7 - 11	60 - 95
Cylinder cover			M5*	20 - 35	2 - 3.5	17 - 30
Engine	Crankcase/Cylinder		M5*	50 - 70	5 - 7	45 - 60
	Rocker arm cover		M4	20 - 35	2 - 3.5	17 - 30
	Cam gear cover		M4	30 - 40	3 - 4	26 - 35
	Muffler		M5	70 - 110	7 - 11	60 - 95
	Muffler cover		M5*	20 - 35	2 - 3.5	17 - 30
	Reed valve/Crankcase		M3*	8 - 12	0.8 - 1.2	7 - 10
Other	Cutter fastener		LM10	280 - 320	28 - 32	245 - 280
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
			M8	110 - 150	11 - 15	95 - 13

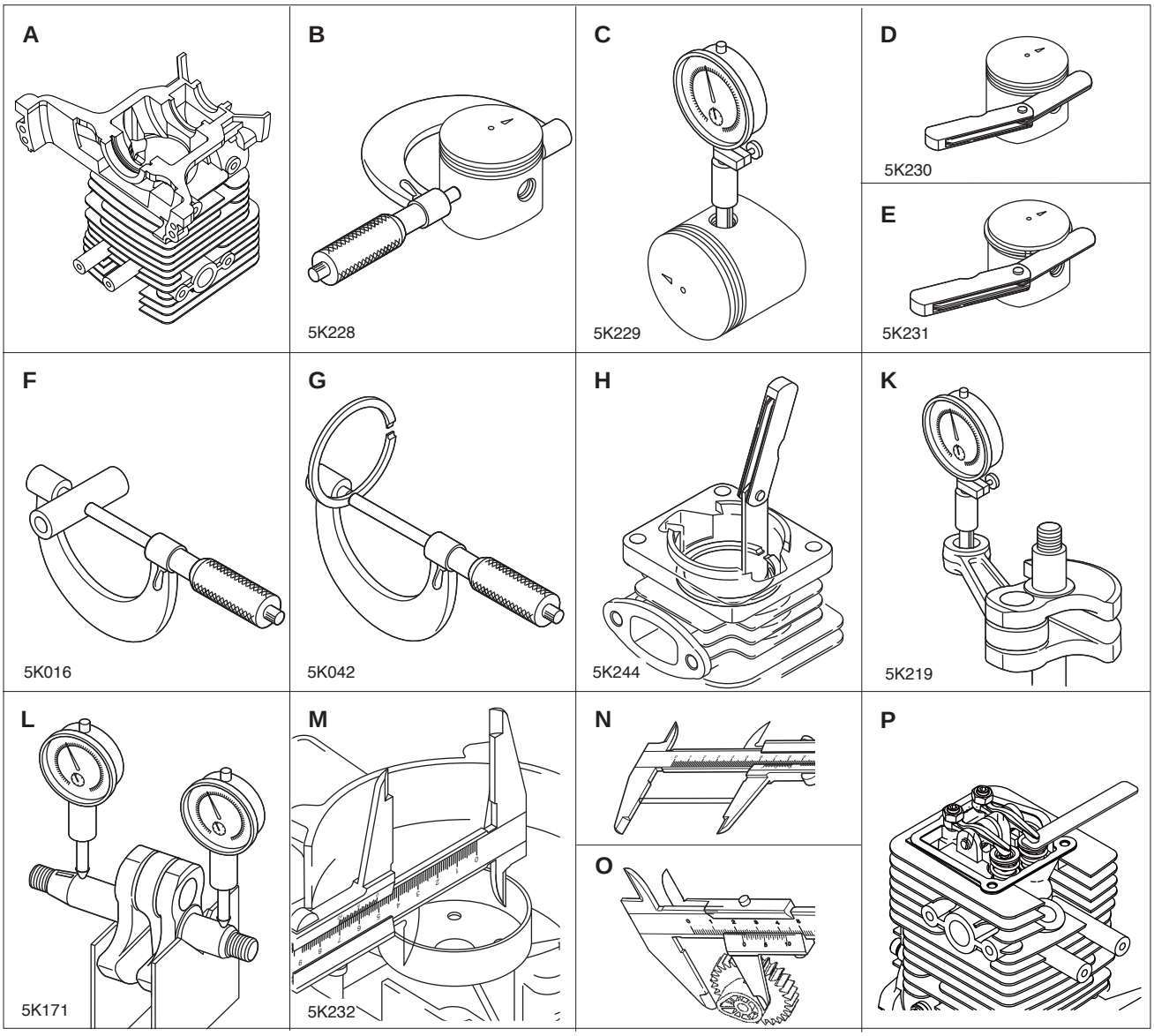
LM: Left hand thread

* Apply thread locking sealant. (See below)

1-4 Special repairing materials

Material	Location	Remarks
Grease	Drive shaft	EPNOC AP2 (Lithium based grease) P/N X695-000060
	Gear case	
	Rewind spring	
	Starter center post	
	Oil seal inner lips	
Liquid gasket	Crankcase seams	ThreeBond 1207D (P/N X686-000000)
Thread locking sealant	Starter case	Loctite #243, ThreeBond #1360 or equivalent
	Ignition coil	
	Intake insulator	
	Fuel tank with stand	
	Cylinder cover	
	Crankcase/Cylinder	
	Muffler cover	
	Reed valve/Crankcase	

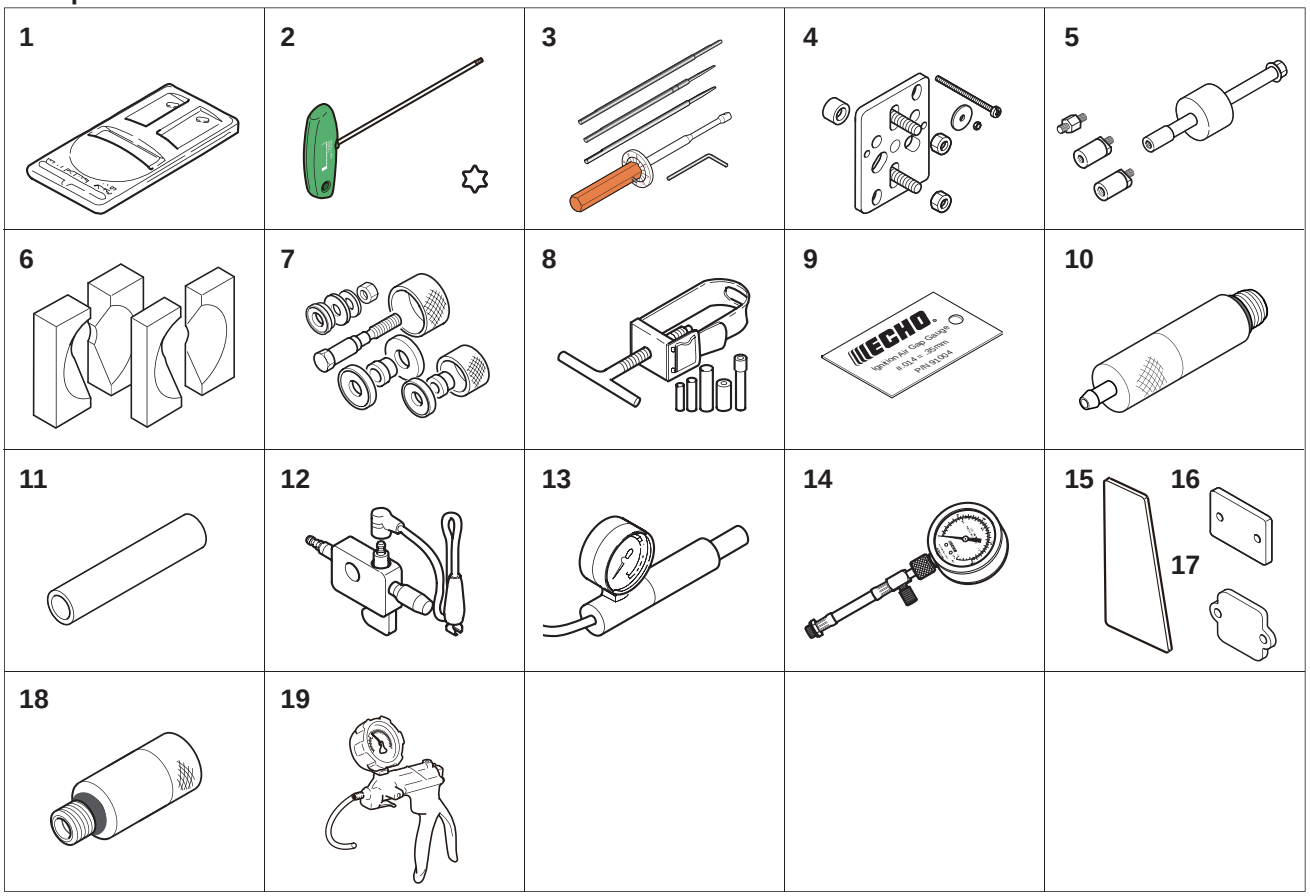
1-5 Service limits



	Description		mm (in)	
A	Cylinder bore		When plating is worn and aluminium can be seen	
B	Piston outer diameter	Min.	42.90	(1.689)
C	Piston pin bore	Max.	10.030	(0.3949)
D	Piston ring groove	Max.	1.3	(0.051)
E	Piston ring side clearance	Max.	0.1	(0.004)
F	Piston pin outer diameter	Min.	11.98	(0.4717)
G	Piston ring width	Min.	1.15	(0.045)
H	Piston ring end gap	Max.	0.5	(0.02)
K	Con-rod small end bore	Max.	14.025	(0.5522)
L	Crankshaft runout	Max.	0.03	(0.001)
M	Clutch drum bore	Max.	71.5	(2.81)
N	Push rod length	Min.	56.9	(2.240)
O	Cam gear height	Min.	22.9	(0.902)
P	Valve clearance		0.1 - 0.3 (0.004 - 0.012)*, Adjustment : 0.08 (0.003)*	

*Inspect valve clearance when pulling the stater is felt heavy.

1-6 Special tools



Key	Part Number	Description	Reference
1	897802-33330	Tachometer PET-1000R	Measuring engine speed to adjust carburetor
2	X602-000340	Torx wrench (T27)	Removing and installing bolt
3	Y089-000094	Carburetor adjustment tool	Adjusting carburetor
4	Y089-000111	Puller	Removing magneto rotor
5	897603-23030	PTO shaft puller	Removing PTO shaft
6	897701-02830	Bearing wedge	Removing ball bearings on cankshaft
7	897701-14732	Bearing tool	Removing and installing ball bearings on crankcase
8	897702-30131	Piston pin tool	Removing and installing piston pin (Use 8mm dia. adapter)
9	91004	Module air gap gauge	Adjusting pole shoe air gaps
10	A131-000160	Pressure connector	Testing crankcase and cylinder leakage
11	897726-09130	Oil seal tool	Installing crankcase oil seals
12	897800-79931	Spark tester	Checking ignition system
13	897803-30133	Pressure tester	Testing carburetor and crankcase leakages
14	91037	Compression gauge	Measuring cylinder compression
15	91041	Pressure rubber plug	Plugging exhaust port to test crankcase / cylinder leakages
16	897826-16131	Pressure rubber plug	Plugging intake port to test crankcase / cylinder leakages
17	897827-16131	Pressure plate	Plugging intake port to test crankcase / cylinder leakages
18	P021-051690	Adapter	Measuring cylinder compression (with P/N: 91037)
19	91149	Pressure / vacuum tester	Testing crankcase / cylinder leakages