



SERVICE DATA

POWER BLOWER

ECHO: PB-770

shindaiwa: EB770

(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 products information available at the time of publication.

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Reference No. **21-63I-04**

REVISED: 202002

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1 SERVICE INFORMATION

1-1 Specifications

Models		PB-770	EB770
Dimensions*	Length	mm (in)	375 (14.8)
	Width	mm (in)	490 (19.3)
	Height	mm (in)	475 (18.7)
Dry weight**		kg (lb)	11.0 (24.2)
Engine	Type	YAMABIKO, air-cooled, two-stroke, single cylinder	
	Rotation	Counterclockwise as viewed from the output end	
	Displacement	cm ³ (in ³)	63.3 (3.862)
	Bore	mm (in)	48.0 (1.890)
	Stroke	mm (in)	35.0 (1.378)
	Compression ratio	6.5	
Carburetor	Type	Diaphragm, horizontal-draft with purge bulb	
	Model	Walbro WYK-345 WYK-406	Walbro WYK-406
	Venturi size-Throttle bore	mm (in)	15.0 - 15.0 (0.591 - 0.591)
Ignition	Type	CDI (Capacitor discharge ignition) system, Digital magneto	
	Spark plug	NGK BPMR8Y	
Exhaust	Muffler type	Spark arrester muffler with catalyst	
Starter	Type	Automatic rewind	
	Rope diameter x length	mm (in)	3.8 x 1150 (0.15 x 45.3)
Fuel* ¹	Type* ²	Mixed two-stroke fuel	
	Mixture ratio	50 : 1 (2 %)	
	Gasoline	Minimum 89 octane petrol	
	Two-stroke air cooled engine oil	ISO-L-EGD (ISO/CD13738), JASO FC/FD	
	Tank capacity	L (U.S.fl.oz.)	Full tank capacity: 2.02 (68.3) Usable tank capacity: 1.98 (67.0)
Throttle	Type	Throttle control and throttle setting device	
Blower	Fan type	Centrifugal type	
	Max. air volume (with pipes)	m ³ /min (cfm)	21.5 (756)
	Max. air velocity (with pipes)	m/s (mph)	104.6 (234)
	Discharge ID	mm (in)	72 (2.83)

*Without blower pipes **With blower pipes

ID: Inner diameter

*¹ Refer to Operator's manual *² Premixed alkylate fuel for 2-stroke can be used

1-2 Technical data

Engine			
Compression pressure	MPa (kgf/cm ²) (psi)	1.01 (10.3) (146)	
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	kΩ	2.5 - 2.9	
Pole shoe air gaps	mm(in)	0.3 - 0.4 (0.012 - 0.016)	
Ignition timing	at 3,000 r/min	°BTDC	26
	at 7,000 r/min	°BTDC	30
Carburetor			
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	
Tool to adjust mixture needles		D-shaped tool (S) P/N X645-000022 (Carb. adjustment tool P/N Y089-000094)	
Carburetor adjustment			
1) Initial setting			
H mixture needle	turn out	4 3/4	
L mixture needle	turn in* ¹	5 1/4	
Throttle adjust screw	turn out* ²	9	
Engine warm-up	Idle - WOT : Total	sec.	10 - 50: 180
2) Find idle maximum speed		Adjust L mixture needle to maximum idle speed	
3) Set idle maximum speed w/ TAS		r/min	3,000
4) Set idle speed by turning L mixture needle CCW		r/min	2,500
5) Find WOT maximum speed		Adjust H mixture needle to maximum WOT speed	
6) WOT setting		r/min	Turn H mixture needle CCW to decrease WOT speed by : 10
7) Verify final engine speed with standard equipment		Idle: 2,300 - 2,700 WOT: 6,600 - 6,800	
	r/min		

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

*¹ Screw in L mixture needle from initial thread engagement (at the point that the clicking sound is heard).

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

1-3 Torque limits

Descriptions	Size	kgf•cm	N•m	in•lbf		
Starter system	Starter pawl assembly	M10	80 - 100	8 - 10	70 - 90	
	Starter case	M5*	25 - 45	2.5 - 4.5	22 - 40	
Ignition system	Magneto rotor (Flywheel)	M10	200 - 240	20 - 24	175 - 210	
	Ignition coil	M5	60 - 90	6 - 9	50 - 80	
	Spark plug	M14	130 - 170	13 - 17	115 - 150	
Fuel system	Carburettor	M5	30 - 40	3 - 4	26 - 35	
	Intake bellows	M5	60 - 90	6 - 9	50 - 80	
	Fuel tank	M5*	20 - 40	2 - 4	17 - 35	
Engine	Crankcase	M5**	70 - 110	7 - 11	60 - 95	
	Cylinder	M5**	70 - 110	7 - 11	60 - 95	
	Engine plate	M5	20 - 30	2 - 3	17 - 26	
	Engine mount	M6*	130 - 180	13 - 18	115 - 160	
	Cylinder cover	M5*	20 - 30	2 - 3	17 - 26	
	Engine cover	Crankcase side	M5*	25 - 45	2.5 - 4.5	22 - 40
		Fan case side	M5	30 - 45	3 - 4.5	26 - 35
		Cleaner case side	M5	35 - 55	3.5 - 5.5	30 - 48
	Dust cover	M5*	25 - 45	2.5 - 4.5	22 - 40	
	Lead	M5	20 - 30	2 - 3	1 - 26	
	Muffler	M6	130 - 180	13 - 18	115 - 160	
	Muffler stay	M5	70 - 110	7 - 11	60 - 95	
	Exhaust guide	M4	30 - 40	3 - 4	26 - 35	
	Others	Fan case Blower grid side	M5	40 - 60	4 - 6	35 - 50
		Blower fan	M10	200 - 240	20 - 24	175 - 210
Backpack harness		M5	40 - 60	4 - 6	35 - 50	
Backpack frame		M5	35 - 55	3.5 - 5.5	30 - 50	
Backpack stopper		M5	35 - 45	3.5 - 4.5	30 - 40	
Cleaner case		M5	30 - 50	3 - 5	26 - 45	
Trigger bracket fixture		M5	35 - 55	3.5 - 5.5	30 - 50	
Throttle lever		M6	35 - 55	3.5 - 5.5	30 - 50	
Lead		M5	30 - 45	3 - 4.5	26 - 40	
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 - 130	

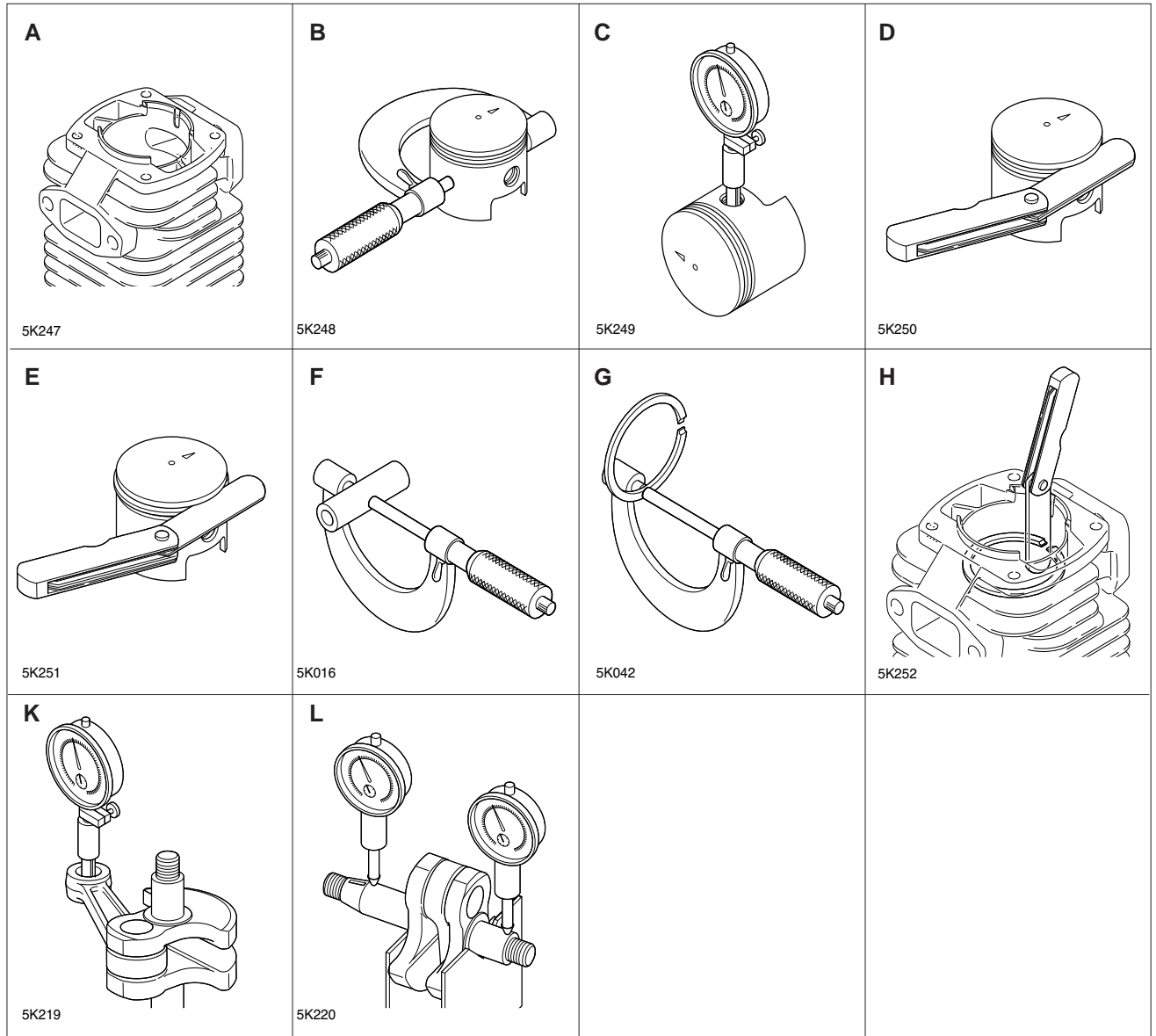
* Apply thread locking sealant. (See below)

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

1-4 Special repairing materials

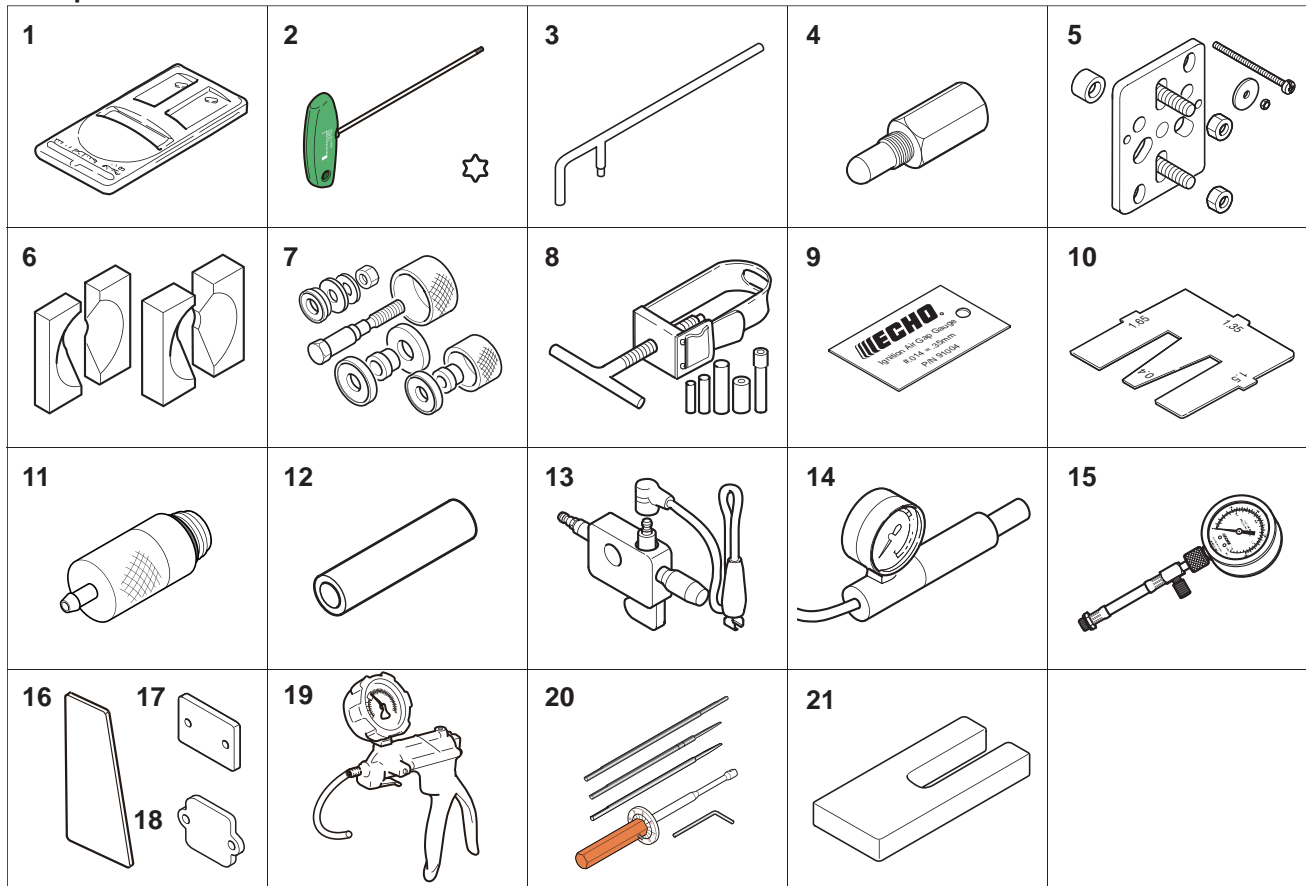
Material	Location	Remarks
Grease	Rewind spring	EPNOC AP2 (Lithium based grease) P/N X695-000060
	Starter center post	
	Oil seal inner lips	
Thread locking sealant	Engine mount	Loctite #675 or equivalent
	Cylinder cover	Loctite #242, ThreeBond #1324 or equivalent
	Dust cover	
	Engine cover (Crankcase side)	
	Starter case	Loctite #222, ThreeBond #1342 or equivalent
Fuel tank		

1-5 Service limits



Description		mm (in)
A	Cylinder bore	When plating is worn and aluminium can be seen
B	Piston outer diameter	Min. 47.89 (1.885)
C	Piston pin bore	Max. 10.035 (0.3951)
D	Piston ring groove	1st Max. 1.65 (0.065)
		2nd Max. 1.6 (0.063)
E	Piston ring side clearance	Max. 0.1 (0.004)
F	Piston pin outer diameter	Min. 9.98 (0.3929)
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. 14.025 (0.5522)
L	Crankshaft runout	Max. 0.01 (0.001)

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	897712-07930	2-pin wrench	Removing and installing pawl carrier
4	X644-000020	Piston stopper	Locking crankshaft rotation
5	Y089-000111	Puller	Removing magneto rotor
6	897701-02830	Bearing wedge	Removing ball bearings on crankshaft
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	897563-19830	Metering lever gauge	Measuring metering lever height on carburetor
11	A131-000150	Pressure connector	Testing crankcase and cylinder leakage
12	897726-21430	Oil seal tool	Installing crankcase oil seals
13	897800-79931	Spark tester	Checking ignition system
14	897803-30133	Pressure tester	Testing carburetor and crankcase leakages
15	91037	Compression gauge	Measuring cylinder compression
16	91041	Pressure rubber plug	Plugging exhaust port to test crankcase / cylinder leakages
17	897826-16131	Pressure rubber plug	Plugging intake port to test crankcase / cylinder leakages
18	897827-16131	Pressure plate	Plugging intake port to test crankcase / cylinder leakages
19	91149	Pressure / vacuum tester	Testing crankcase / cylinder leakages
20	Y089-000094	Carburetor adjustment tool	Adjusting carburetor
21	897719-02830	Piston holder	Making piston steady to remove and install piston/ring