SERVICE DATA

POWER BLOWER

ECHO: PB-8010

shindaiwa: EB810

(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. **21-80D-02**
REVISED: 202011
ISSUED: 201909

1 SERVICE INFORMATION

1-1 Specifications

Dimensions*	Length	mm (in)	362 (14.3)
	Width	mm (in)	526 (20.7)
	Height	mm (in)	544 (21.4)
Dry weight**		kg (lb)	11.9 (26.2)
Engine	Type		YAMABIKO, stratified scavenging, air-cooled, two-stroke, single cylinder
	Rotation		Counterclockwise as viewed from the output end
	Displacement	cm^3 (in^3)	79.9 (4.875)
	Bore	mm (in)	53.0 (2.087)
	Stroke	mm (in)	36.2 (1.425)
	Compression ratio		6.9
Carburetor	Type		Diaphragm, horizontal-draft, with purge bulb
	Model		Walbro WYAB-1
	Venturi size	mm (in)	10.0 x 16.0 (0.39 x 0.63)
	Throttle bore	mm (in)	16.7 x 16.0 (0.66 x 0.63)
	Air valve venturi	mm (in)	15 (0.59)
Ignition	Type		CDI (Capacitor discharge ignition) system Digital magneto
	Spark plug		NGK CMR7H
Exhaust	Muffler type		Spark arrester muffler
Starter	Type		Automatic rewind
	Rope diameter x length	mm (in)	3.8 x 1100 (0.15 x 43.3)
Fuel*[1]	Type*[2]		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
	Tank capacity	L (U.S.fl.oz.)	Full tank capacity: 2.56 (86.6) Usable capacity: 2.48 (83.9)
Throttle	Type		Throttle control and Throttle setting device
Blower	Fan type		Centrifugal, single stage
	Max. air volume (with pipes)	m^3/min (cfm)	30.3 (1071)
	Max. air velocity (with pipes)	m/s (mph)	94.5 (211)
	Discharge ID*[3]	mm (in)	90.0 (3.5)

*Without blower pipes **With blower pipes

*[1] Refer to Operator's manual

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

*[3] Inner diameter

1-2 Technical data

Engine			
Compression pressure		MPa (kgf/cm^2) (psi)	1.03 (10.5) (150)
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	785 - 1185
Pole shoe air gaps		mm(in)	0.3 - 0.4 (0.012 - 0.016)
Ignition timing	at 3,000 r/min	°BTDC	27
	at 7,500 r/min	°BTDC	30
Carburetor			
Test Pressure, minimum		MPa (kgf/cm^2) (psi)	0.05 (0.5) (7.0)
Metering lever height		mm(in)	1.50 (0.06) lower than diaphragm seat
Limiter plug / cap			-
Tool to adjust mixture needles			Short type D-shaped tool(S) P/N 91159S
Carburetor adjustment			
1) Initial setting			
H mixture needle		turn out	2 1/2
L mixture needle		turn out	2
Throttle adjust screw		turn out*[1]	9 1/4
Engine warm-up	Idle - WOT : Total	sec.	30 - 180 : 210
2) Find idle maximum speed			Adjust L mixture needle to maximum idle speed
3) Set idle maximum speed w/ TAS		r/min	2900
4) Set idle speed by turning L mixture needle CCW		r/min	2500
5) Find WOT maximum speed			First, warm-up 180 sec. with WOT engine speed 7650 r/min over and adjust H mixture needle to maximum WOT speed.
6) WOT setting		r/min	Turn H mixture needle CCW to decrease WOT speed by : 60 - 80
7) Verify final engine speed with standard equipment		r/min	Idle: 2300 - 2700 WOT: 7500 <

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

*[1] 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 case**		M5*	45 - 65	4.5 - 6.5	40 - 55
Ignition system	Magneto rotor (Flywheel)		M10	300 - 400	30 - 40	260 - 348
	Ignition coil		M4*	30 - 45	3 - 4.5	25 - 40
	Spark plug		M10	100 - 150	10 - 15	87 - 130
Fuel system	Carburetor		M5	40 - 60	4 - 6	32 - 50
	Intake insulator		M5*	60 - 80	6 - 8	50 - 70
Engine	Crankcase		M5	60 - 90	6 - 9	50 - 80
	Cylinder		M5*	70 - 90	7 - 9	60 - 80
	Engine mount		M6*	140 - 180	14 - 18	120 - 157
		with lead	M6*	130 - 180	13 - 18	110 - 157
	Engine cover	Fan case side	M5†	20 - 40	2 - 4	17 - 32
		Crankcase side**	M5*	45 - 65	4.5 - 6.5	40 - 55
	Muffler		M6	100 - 140	10 - 14	87 - 120
Others	Fancase		M5†	25 - 45	2.5 - 4.5	22 - 40
	Blower fan		M10	300 - 340	30 - 34	260 - 280
	Fuel tank		M5*	20 - 40	2 - 4	17 - 32
	Cleaner case		M5†	25 - 40	2.5 - 4	22 - 32
	Cylinder cover		M4	15 - 45	1.5 - 4.5	13 - 40
	Back pack frame	Fan case side	M5†	25 - 45	2.5 - 4.5	22 - 40
		Bottom side	M5†	35 - 60	3.5 - 6	30 - 50
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

* Precoat bolt: If the coat is peeled off, replace new one or apply thread locking sealant as shown below.

† Tapping screw

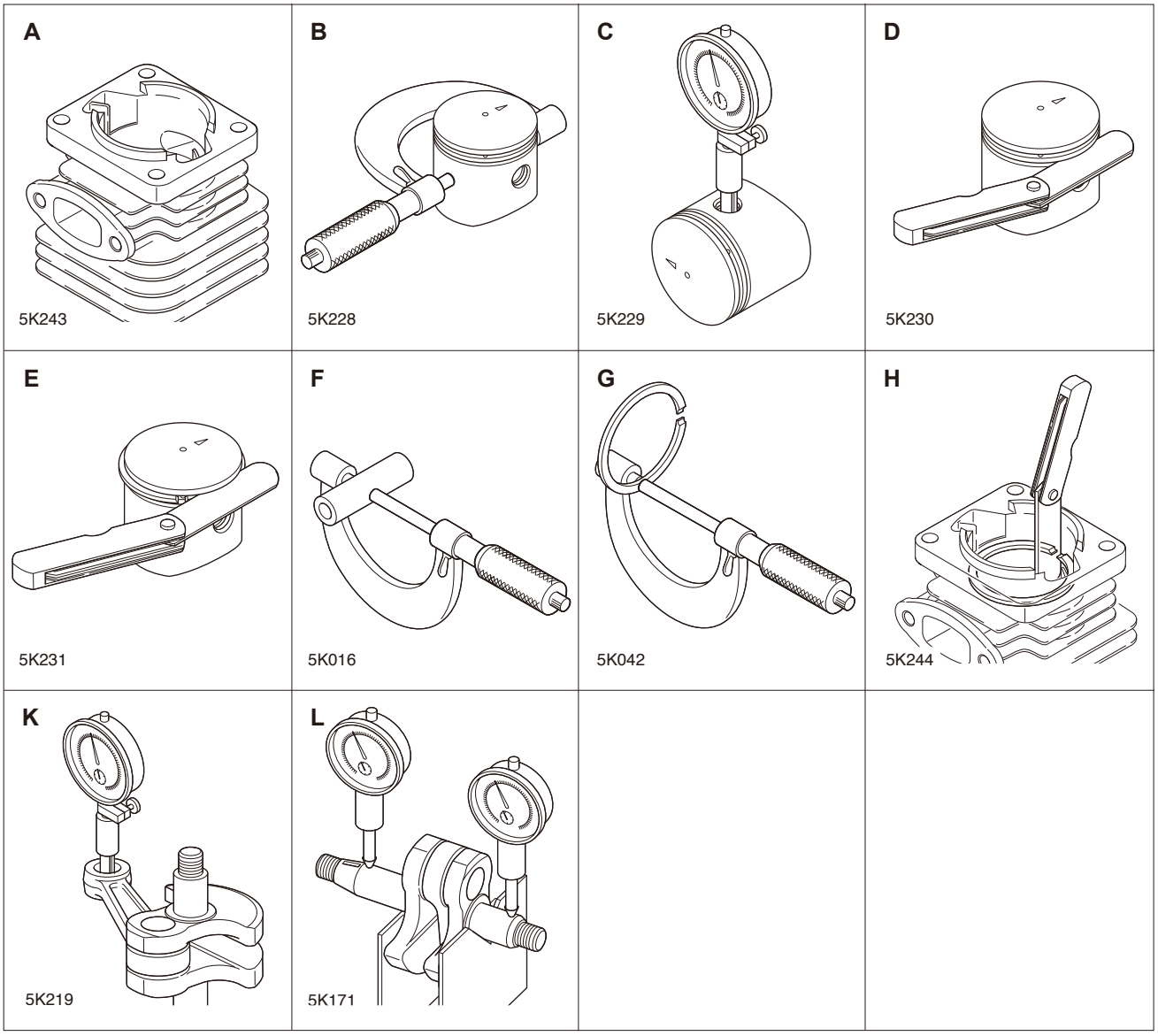
** Bolts on PB-8010 were changed. Refer to Technical Information Y2020-695 for details.

1-4 Special repairing materials

Material	Location	Remarks
Grease	Oil seal inner lips	EPNOC AP2 (Lithium based grease) P/N X695-000060
	Rewind spring	
	Starter center post	
	Main pipe O-ring	
Thread locking sealant	Ignition coil (re-use*)	ThreeBond #1344J or equivalent
	Engine mount (re-use*)	
	Cylinder (re-use*)	Loctite #272 or equivalent
	Intake insulator (re-use*)	ThreeBond #1324N or equivalent
	Fuel tank (re-use*)	
	Starter case (re-use*)	
	Crankcase side engine cover (re-use*)	

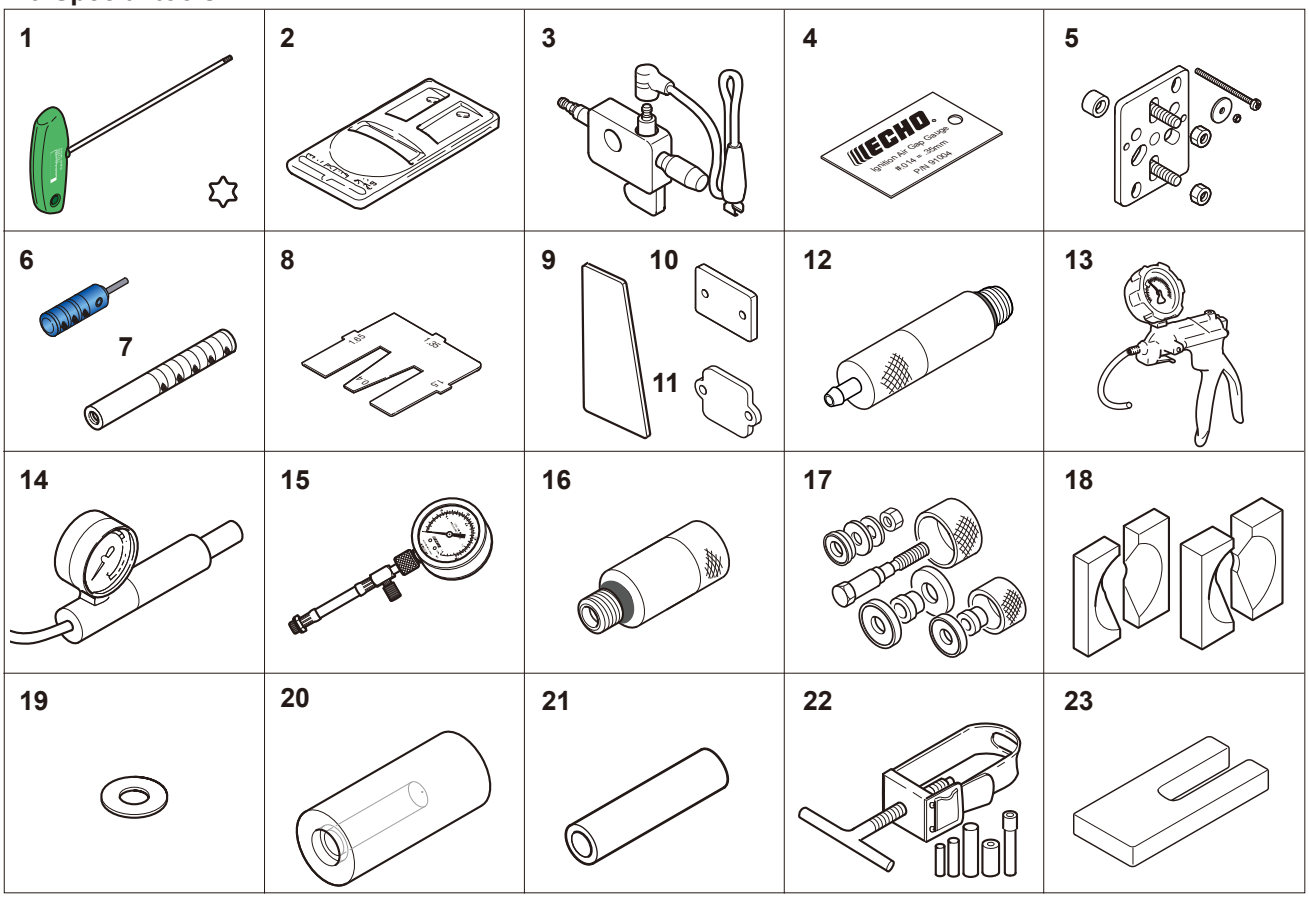
*If old thread locking sealant is left in threads, correct torque may not be secured. In case old thread locking sealant is left, remove it.

1-5 Service limits



	Description		mm (in)
A	Cylinder bore		When plating is worn and aluminum can be seen
B	Piston outer diameter	Min.	52.88 (2.082)
C	Piston pin bore	Max.	13.030 (0.5130)
D	Piston ring groove	Max.	1.3 (0.051)
E	Piston ring side clearance	Max.	0.15 (0.006)
F	Piston pin outer diameter	Min.	12.98 (0.5110)
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.	16.025 (0.6309)
L	Crankshaft runout	Max.	0.02 (0.000 8)

1-6 Special tools



Key	Part Number	Description	Reference
1	X602-000340	Torx wrench (T27)	Removing and installing torx bolt
2	897802-33330	Tachometer PET-1000R	Measuring engine speed to adjust carburetor
3	897800-79931	Spark tester	Checking ignition system
4	91004	Module air gap gauge	Adjusting pole shoe air gaps
5	Y089-000111	Puller	Removing magneto rotor (flywheel) and crankcase
6	91159S	Short type D-shaped tool(S)	Adjusting carburetor
7	91087	Fan remover	Removing blower fan
8	897563-19830	Metering lever gauge	Measuring metering lever height on carburetor
9	91041	Pressure rubber plug	Plugging exhaust port to test crankcase / cylinder leakages
10	897826-16131	Pressure rubber plug	Plugging intake port to test crankcase / cylinder leakages
11	897827-16131	Pressure plate	Plugging intake port to test crankcase / cylinder leakages
12	A131-000160	Pressure connector	Testing crankcase and cylinder leakage
13	91149	Pressure / vacuum tester	Testing crankcase / cylinder leakages
14	897803-30133	Pressure tester	Testing carburetor and crankcase leakage
15	91037	Compression gauge	Measuring cylinder compression
16	P021-051690	Adapter	Measuring cylinder compression (with P/N: 91147)
17	897701-14732	Bearing tool	Removing and installing ball bearings on crankcase
18	897701-02830	Bearing wedge	Removing ball bearings on cankshaft
19	100014-18430	Washer	Installing crankcase oil seal (t: 0.5 mm)
20	897714-24330	Oil seal tool	Installing crankcase oil seal (starter side)
21	897726-21430	Oil seal tool	Installing crankcase oil seal (fancase side)
22	897702-30131	Piston pin tool	Removing and installing piston pin
23	897719-02830	Piston holder	Making piston steady to remove and install piston/ring