### ECHNICAL INFORMATION



Model No. ► BHP456 (LXPH01\*1)

Description > Cordless Hammer Driver Drill

\*1 Model number for North and Central American countries

### **C**ONCEPT AND MAIN APPLICATIONS

Model BHP456 (LXPH01) is the improved version of model BHP452, featuring;

- More compact and lightweight design than BHP452
- More comfortable operation will be provided by re-designed ergonomic grip
- Compatible with the 18V Li-ion batteries equipped with the Battery protection circuit designed to protect the battery from damages due to overdischarge, high temperature or overload current

This new product is available in the following variations.

Model No	Battery		Battery	Charger	Plastic carrying case	Housing color
Model No.	Туре	Quantity	cover			
BHP456RHE (LXPH01C)	DI 1915	2	1	DC18D A	Vac	Makita blue
BHP456RHEW (LXPH01CW)	DL1015	2	1	DUIMA	105	white
BHP456RFE (LXPH01)	BL1830	2	1	DC18RA	Yes	Makita blue
BHP456RFEW (LXPH01W)						white
BHP456Z (LXPH01Z)	No	No	No	No	No	Makita blue
BHP456ZW (LXPH01ZW)						white
BHP456SHE	DI 1915	2	1	DC18SD	Yes	Makita blue
BHP456SHEW	DL1015					white



**Makin** 

(with Battery BL1815)

Dimensions: mm (")			
Length (L)	206 (8-1/8)		
Width (W)	79 (3-1/8)		
Height (H)	234 (9-1/4)*2		
fieight (11)	251 (9-7/8)*3		

\*2: with Battery BL1815 \*3: with Battery BL1830

Model number in parentheses is for North and Central American countries. All models also include the accessories listed below in "Standard equipment".

### ► Specification

-					
	Voltage: V		18		
Battery	Capacity: A	h	1.3/ 3.0		
	Cell		Li-ion		
	Charging ti	me (approx.)	): min.	15/ 22 with DC18RA	
Max out	put: W	300			
No load	speed: min-1	=rpm	Low/ High	0 - 400/ 0 - 1,500	
Impacts	per minute: 1	0 - 6,000/ 0 - 22,500			
Capacity of drill chuck: mm (")				1.5 (1/16) - 13 (1/2)	
Capacity: mm (")		Steel		13 (1/2)	
		Wood		38 (1-1/2)	
		Masonry		13 (1/2)	
Torque setting				16 stage + drill mode	
Clutch to	orque setting	1.0 - 5.0 (9 - 44)			
Lock tor	que: N.m (in	54 (480)			
Max. fastening		Soft joint		36 (320)	
torque: N	N.m (in.lbs)	Hard joint		50 (440)	
Electric	brake	Yes			
Mechani	cal speed co	Yes (2 speed)			
Variable speed control				Yes	
Reversing switch				Yes	
LED job	light	Yes			
Weight a	according to	1.6 (3.4)*2/ 1.8 (4.0)*3			

Standard equipment

+ - bit 2-45 ..... 1 Belt clip ..... 1

### Note:

The standard equipment for the tool shown above may vary by country.

### Optional accessories

Fast charger DC18RA, Charger DC18SD, Charger DC24SC (for all countries except North American countries), Automotive Charger DC18SE, Battery BL1815, Battery BL1830, Drill bits for wood, Drill bits for steel, Drill bits for masonry, Belt clip, Bit holder

\*2: with Battery BL1815, \*3: with Battery BL1830

\*4 with the lightest battery available for the model

### ► Repair

CAUTION: Repair the machine in accordance with "Instruction manual" or "Safety instructions".

### [1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
	Hex wrench 10	Removing / Assembling drill chuck
1R359	Drill chuck removing tool	Removing Drill chuck (Use this tool if Drill chuck cannot be removed by the method described in "[3]-1. Drill chuck disassembling".)

### [2] LUBRICATIONS

Lubrications are not required as Gear section is replaced as a factory-lubricated gear unit.

### [3] DISASSEMBLY/ASSEMBLY [3]-1. Drill chuck

### DISASSEMBLING

(1) Set Machine and Repairing tools. (Figs. 1, 2, 3)







# Repair [3] DISASSEMBLY/ASSEMBLY [3]-1. Drill chuck (cont.)

DISASSEMBLING

(2) Remove Drill chuck. (Fig. 4)

### Fig. 4



### ASSEMBLING

(1) Set the machine. (Figs. 5, 6)

(2) Set Hex wrench 10 to vise as described in Fig. 3.

Fig. 5



# Repair [3] DISASSEMBLY/ASSEMBLY [3]-1. Drill chuck (cont.)

ASSEMBLING

(3) Tighten Drill chuck. (Fig. 7)

### Fig. 7



### [3]-2. Gear assembly and Motor section

### DISASSEMBLING

(1) First, remove Drill chuck. (Figs. 1, 2, 3, 4)

- (2) Then remove Rear cover and disconnect Carbon brushes from Armature's Commutator
- before dismantling Housing set. (Fig. 8)

### Fig. 8



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# Repair [3] DISASSEMBLY/ASSEMBLY [3]-2. Gear assembly and Motor section

DISASSEMBLING

(3) Disassemble Gear assembly and Motor section. (Fig. 9)



# Repair [3] DISASSEMBLY/ASSEMBLY [3]-2. Gear assembly and Motor section (cont.)

ASSEMBLING

(3) Put Leaf spring in place on the inside of Housing (L). (Fig. 10)

### Fig. 10



(4) Insert Armature into Yoke unit carefully and connect Motor section to Gear assembly. (Fig. 11)



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# Repair [3] DISASSEMBLY/ASSEMBLY [3]-2. Gear assembly and Motor section (cont.)

#### ASSEMBLING

(5) Engage the notch of Yoke unit with the projection inside of Housing (L) when mounting the assembly of Gear section and Motor section to Housing (L). (Fig. 12)

### Fig. 12



(6) Adjust the assembly of Motor section and the Gear section to the correct position in Housing (L) so as to assemble Housing (R) to Housing (L) smoothly and exactly. (Fig. 13)



### Repair [3] DISASSEMBLY/ASSEMBLY [3]-3. Speed change lever

ASSEMBLING

Assemble Speed change lever to Gear assembly. (Fig. 14)

### Fig. 14



### [3]-4. F/R Change lever

Mount F/R Change lever on Switch before assembling Housing (R) to Housing (L). (Fig. 15)



### Circuit diagram

### Fig. D-1



### ► Wiring diagram

### Fig. D-2







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