

# T ECHNICAL INFORMATION



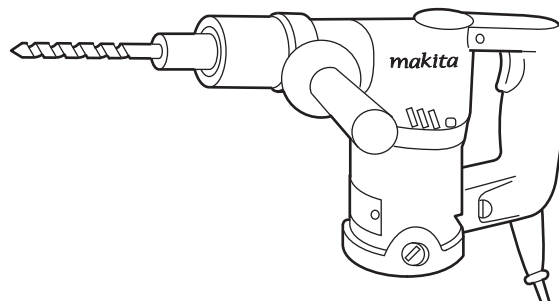
New Tool

**Models No.** ▶ HR1800

**Description** ▶ Rotary hammer

## CONCEPTION AND MAIN APPLICATIONS

Development of a compact and light weight Rotary hammer with safe double insulation which can be used for wood and iron by mood changing mechanism.



### ► Specifications

Voltage(V)	Current(A)	Cycle(Hz)	Continuous rating input(W)
100	5.2	50-60	505

Max. drilling capability	concrete(mm)	18mm
	iron(mm)	10mm
	wood(mm)	15mm
Blows per minute(/min)	0-3500/min	
No load speed(R.P.M.)	0-1000/min	
Overall Length(mm)	312mm	
Net weight(kg)	3.0kg	
Power supply cord(m)	5.0m	

### ► Standard equipment

Syringe 64 ----- for removing drilling dust  
 Dust collector ----- for preventing drilling dust from scattering  
 Hexagon spanner(wrench) ----- for disassembling crank housing  
 Cotter ----- for replacing taper shank carbide drill  
 Taper shank carbide drill 6.5-90  
 Steel case ----- for storage of the unit

### ► Optional accessories

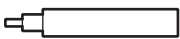
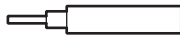
Cotter -----for replacing taper shank carbide drill  
 Taper shank carbide drill ( All tapers are Morse taper No.1)

Paper Shank carbide drill (All tapers are Morse taper No.1)							
Drill diameter (mm)	Overall length (mm)	Drilling effective length(mm)	Note	Drill diameter (mm)	Overall length (mm)	Drilling effective length (mm)	Note
6.5	90	60		11	110	80	for anchor No.2
7.5				11.5			
8.0	100	70		12			for anchor No.2.5
8.5				12.5			
9.5				13.3			
10	110	80		14.5			for anchor No.3
10.5				18	for anchor No.4		
16	220	170			18	220	170

The standard equipment for the tools shown may differ form country to country

Anchor                      No.2( internal thread diameter 1/4")  
                                  No.2.5(as above 5/16")  
                                  No.3(as above 3/8")  
                                  No.4(as above 1/2")

Holder driver ----- for driving anchor No.3, No.4  
                                  (in the case barrel stopper is at anchor tip) ,

Anchor drive rod -----	Anchor drive ro	No.2	}	
		No.2.5		
	Anchor drive rod for interior	No.2	}	
		No.2.5		
		No.3		
		No.4		

Drill chuck    S10                      for wood and iron drilling  
 Chuck key     S10                      for wood and iron drilling  
 Chuck adapter  
 Lock nut wrench 28    for removing crank cap  
 Syringe 64  
 Hexagon spanner 5  
 Makita grease H   No.00(30g)

## ► Features and benefits

### 1. Compact and light weight

Compactness, Light-weight(3.0kg), Handy shape    These features of this product enable speedy drilling on floors and walls as well as on ceilings. Also, reduced reaction at drilling helps to minimize workers' fatigue.

### 2. Grease-pack system

Completely closed grease-pack system adopted to this product saves the labor of frequently lubricating to the inside of the machine.    As MAKITA high grade grease is used for this grease-pack system, lubrication is not necessary for long hours.

### 3. Variable speed change switch

As the desired rotation and striking can be attained by adjusting the switch lever, this is the most suitable for drilling on breakable materials such as tiles and blocks.

### 4. Strike switching system

Push button for the strike stop system enables easy change of rotation / rotation + striking.

This function as well as variable speed change switch help to prevent misalignment of the center and to provide smooth drilling on soft or breakable materials.    By using optional accessories such as chuck adapter, drill chuck S10 and chuck key S10,    drilling up to 10mm on iron and 15mm on wood will be possible.

### 5. Safety clutch

Safety clutch of brake-lining type helps to protect workers and prevent machine damages by sudden load caused when drill bit hit against reinforcing bars during drilling.

### 6. Dust collector

A dust collector, one of standard accessories helps worker to do their works efficiently and without causing problems on their health because drilling dust does not fall on them or scatter.

#### 7. Cut-off brush

When carbon brush has been worn to the level and ended its service term, electricity is automatically shut of. This is the sign of the check time to prevent motor troubles.(use CB105 as carbon)

#### 8. Adjustable rotary grip

Side grip which can be fixed freely in any angles as well as other features of this product( compact and light-weight) make drilling work comfortable. Also, stopper pole on the grip helps to make drilling depth constant. These features enable continuous and efficient works.

#### 9. Double insulation

Adopting double insulation for electric safety will protect workers from accidents of electric shock.

## ► **Repair**

Disassembly -Assembly

#### 1. Tools

(+) driver

(-)driver

spanner 21

spanner 36

Hexagon spanner(wrench) 5

Monkey spanner

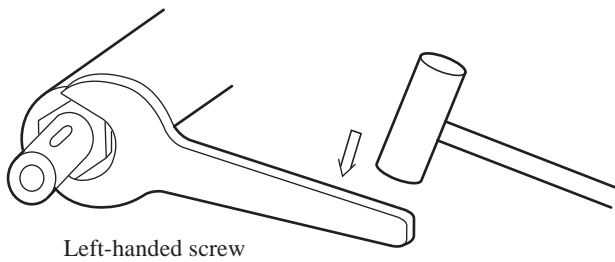
Lock nut wrench Resin hammer( or wood hammer)

Vice

Iron hammer

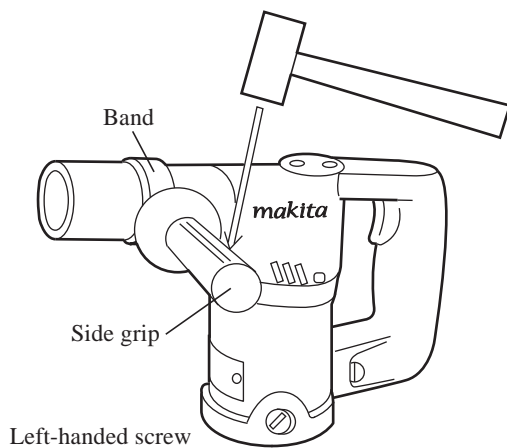
## 2. Disassembly

### a) To take off seal holder



Apply spanner 36 to hexagonal part of seal holder and turn it to the right tapping by hammer lightly. Then, seal holder will be loose. (This is a left-handed screw.)

### b) To take off barrel

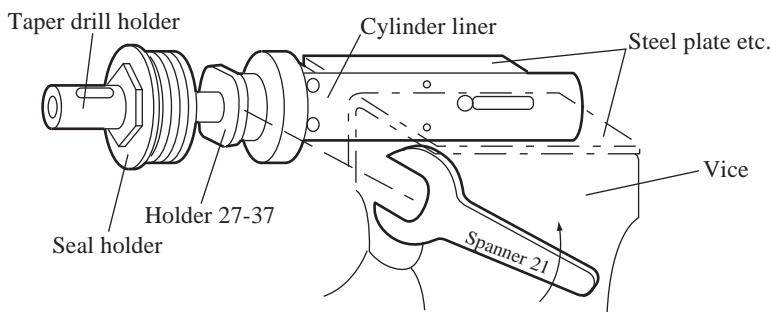


Tighten side grip firmly and tap the grip end of the side grip by resin hammer to loosen barrel. Then, turn it to the right.

In event that this way does not work, apply monkey spanner to width across flat 48 under the side grip band of the barrel and tap it lightly to loosen barrel.

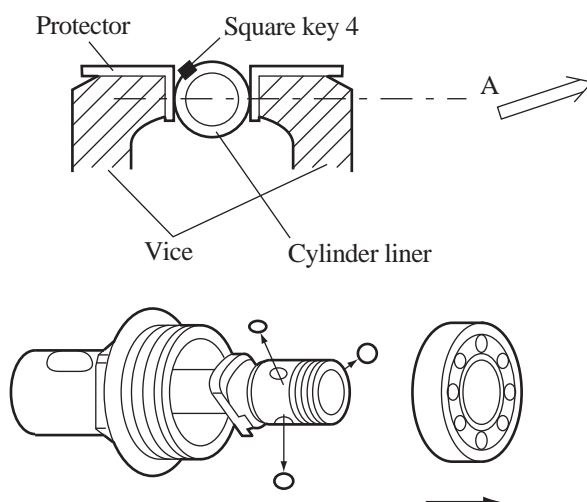
In the event screws of barrel and crank housing have been loosened before taking off seal holder, fix the hexagonal part of the seal holder to the vice and follow the same way mentioned above. Note) Take care that barrel will be deformed if fixed to the vice too tight as it is made of aluminum.

### c) To take off cylinder liner, holder 27-37, taper drill holder



Fix cylinder liner to vice with applying soft metal plates such as steel plate.

Note) Be careful not to tighten too much and not to press square key 4 directly at this time.

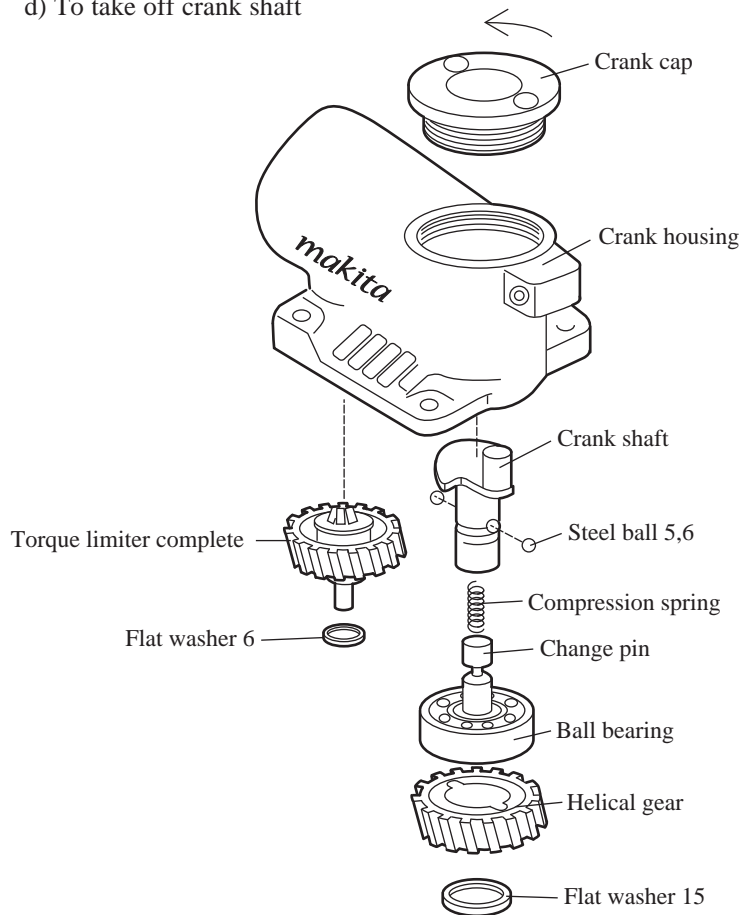


Note) Square key 4 should not come on the line A. Next, apply spanner 21 to width across flat of holder 27-37 and turn it to the left.

(This is right-handed screw.)

Then, pull out ball bearings to the direction of the arrow shown in the sketch and take out 3 steel balls 5 and 6. Pull out holder 27-37 and seal holder in order.

d) To take off crank shaft



Follow the right hand sketch for disassembly.

Loosen crank cap by lock nut wrench 28( right-handed screw).

Push crank shaft from the crank cap side. Then, crank shaft will be removed as shown in the sketch. Pull out ball bearings by using arbor press which are pressed in.

Pay special attentions to the following points at this time;

\*Don't lose flat washer 6 and 15 at disassembly.

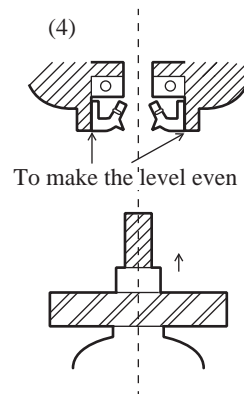
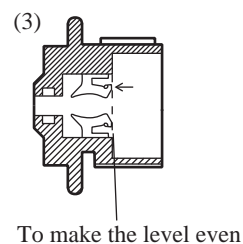
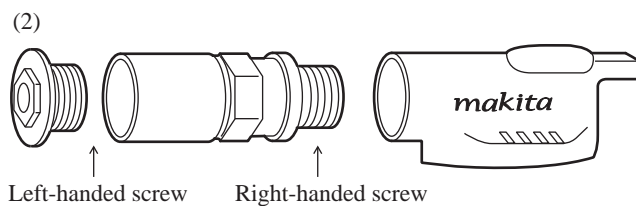
\*Don't lose change pin as it may jump out.

\* At disassembly of crank housing and gear housing, turn them upside down for easy work.

### 3. Assembly

Follow the opposite procedure of disassembly. Pay special attentions to the following points;

- (1) Be cautious of handling of O-ring and oil seal as this is grease pack system. Apply a little of grease on them before assembly.
- (2) Make sure of left-handed screws(inverse screw) at disassembly and assembly between seal holder and barrel between barrel and crank housing
- (3) When inserting oil seal 14 to seal holder, make the level even to the end face of the seal holder. (If too forward, it will contact to holder 27-37. If too backward, dust lip will be caught by drill holder.)
- (4) When inserting oil seal 13 to gear housing, insert ball bearing to gear housing first and then, insert oil seal a little deeper than the end face of gear housing.
- (5) Ensure to assemble thrust bearing flat washer 15 for helical gear 29 ( insert to crank shaft)and flat washer 6 for torque limiter complete. Missing these parts may cause loss of armature pinion gear and spiral bevel gear.



- (6) Use hexagon spanner for hexagon socket bolts for assembling motor housing. Be careful not to tighten too much since it can fasten firmly compared with drivers.
- (7) Lead wire removed from motor housing should put in the slot in the attachment position of handle R.

