

T ECHNICAL INFORMATION



New Tool

Models No. ▶ HR2000

Description ▶ MAKITA Rotary hammer

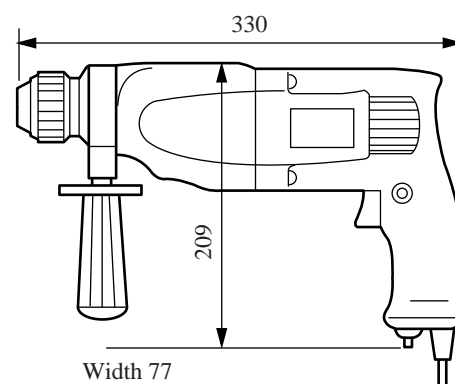
CONCEPTION AND MAIN APPLICATIONS

This is the first pistol type Rotary hammer from Makita.

Compared with conventional vibrating drills, this product is light-weight and shows excellent drilling speed equal to 25 mm Rotary hammer.

Drill bit is common to HR 2510 and HR 1820 models.

Also, SDS Plus bit and Hilty bit (for TE 12) can be used to this product.



► Specifications

Voltage(V)	Current(A)	Frequency(Hz)	Continuous rating		Max. output(W)
			Input(W)	Output(W)	
100	7	50/60	600	260	400
115	6.8	50/60	750	220	550
200	4	50/60	750	220	550
220	3.6	50/60	750	220	550
230	3.4	50/60	750	220	550
240	2.3	50/60	750	220	550

R.P.M.		0-1200/min.
Blows per minute		0-4200/min.
Max. drilling capacity	Concrete	20mm
	Iron	13mm
	Wood	18mm
Net weight(kg)		2.7 kg
Power supply cord(m)		2.5 m

► Standard equipment

Stopper pole
Steel case
Bit grease (for lubricating the chuck)
Pipet 54

► Optional accessories

Carbide drill: 6.5-20 (long size: 16,18,19,20)
Taper shank adapter (No.1)
Chuck adapter
Drill chuck S13
Chuck key S13
Cotter
Makita grease R No.00 (for lubricating inside the machine)
Anchor No.2-No.4
Holder driver
Anchor rod for plug exterior (for hand) No.2-No.4,
Anchor rod for plug interior (for machine) No.2-No.4

The standard equipment for the tools shown may differ from country to country.

► **Features and benefits**

1. Maximum power (drilling efficiency) in the pistol- type hammer drills (see p2/8 -3/8).
2. Variable speed switch and rotation reversing switch
3. Easy replacement of bits and adapters by the chuck which slides back-and-forth
4. Working on iron, wood and screw driver by attaching chuck adapter and drill chuck of optional accessories.
5. Grease- pack system which needs no lubrication
6. Drilling speed of the large size (Ø18) 6 times as fast as vibrating drills (8419B-2 HP 2010N)(see p3/8).

► Repair

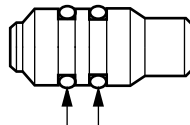
(1) Tools necessary for repair

1. (+) driver
2. (-)driver narrow tip (width about 5mm)
3. Cir-clip pliers (for shaft)
4. Arbor press
5. Resin hammer(or wood hammer)
6. Bar or pipe (diameter:27, length:25 or more)
(this is for making works easier)

(2) Lubricating spots

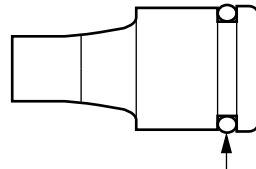
Apply Makita grease R No.00 or Makita hammer oil XLD (0.5g-1g) for the following places to prevent wear in early stages and seizure

1. O-ring of impact bolt



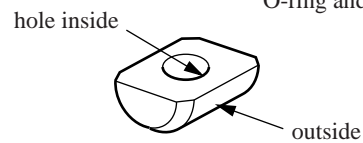
O-ring and groove

2. O-ring of striker

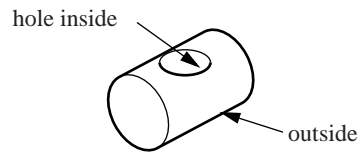


O-ring and groove

3. Crank joint



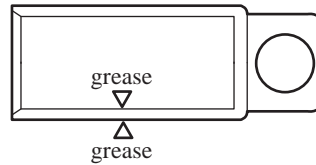
4. Piston joint



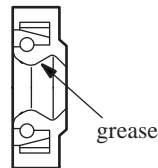
5. Tooth surface of gears

6. Needle bearings

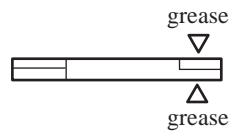
7. Piston cylinder- inside and outside



8. Lip surface of oil seal 12 and oil seal 28



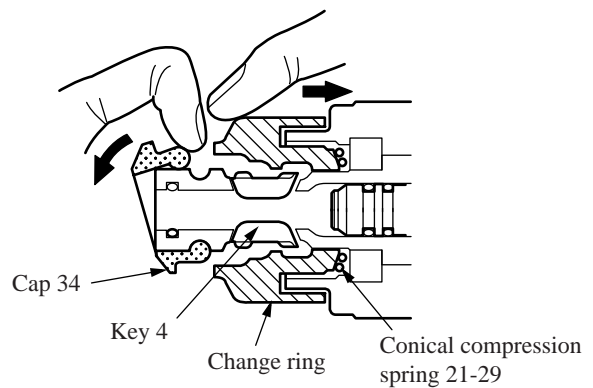
9. Both sides of Vespel washer 28



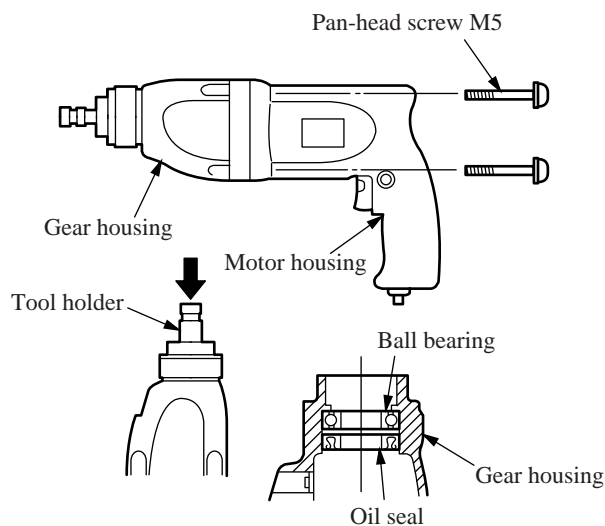
(3) Disassembly and Assembly

1. Chuck

As shown in the sketch, pull change ring to the last, then remove out cap 34 to the direction of the arrow. After that, pull out change ring, key 4, and conical compression spring 21-29.



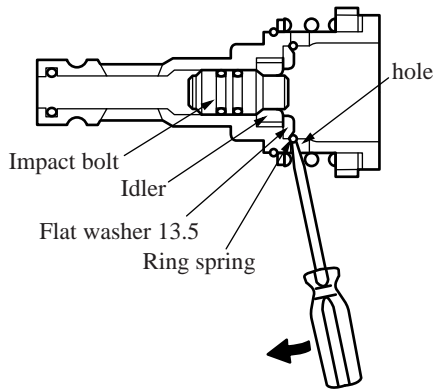
2. Tool Holder



After removing set screw of gear housing(M5x55), take off gear housing with a little shaking. As shown in the sketch, press an arrow point by arbor press to take off tool holder. (If arbor press is not available, tap it by resin hammer lightly.)

Note) At this time, ensure they are put to the depth in order to prevent mislocation of oil seal and ball bearing in the gearhousing.

3-1 Disassembly of impact bolt and idler



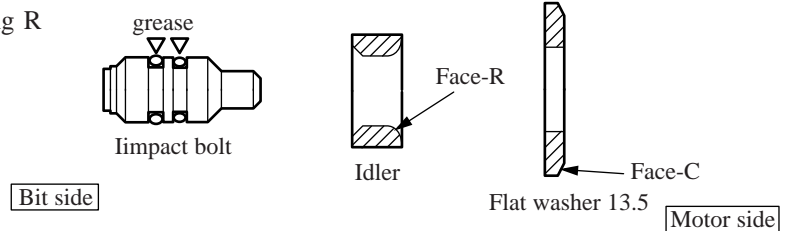
As shown in the sketch, insert (-) driver (tip width 5mm approx.) through the hole of tool holder and hook ring spring by driver tip. Then, push it up to remove from the groove. Also follow the same procedure in the other hole as there are two hole.

After taking off ring springs, push impact bolt by the driver tip. Then, it will come out with idler and flat washer 13.5.

3-2. Assembly of impact bolt and idler

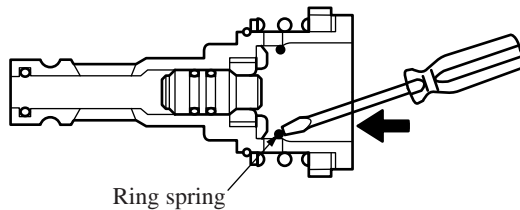
Make sure of the direction of impact bolt, idler and flat washer 13.5 for assembly.

Assemble idler and flat washer facing R and C to the unit inside.

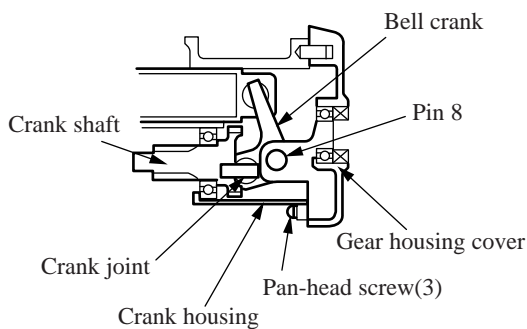


Make sure of applying grease on O-ring of impact bolt.

Insert ring spring with finger to the depth and fit it in the groove using (-)driver as shown in the sketch. (pipe or bar<Ø27-27.5> is recommended for pushing. It will make fitting to the groove easier.)



4-1 Disassembly of crank

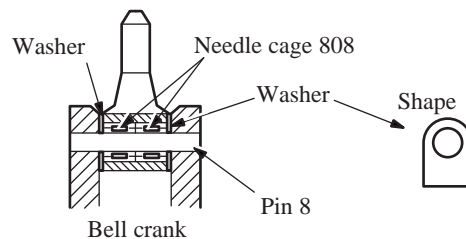


Remove three screws from crank housing.

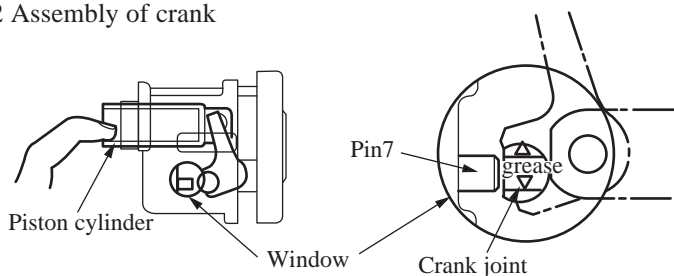
Applying driver on pin 8, tap it lightly by hammer since pin 8 in the bearing of bell crank is pressed in lightly.

Be cautious not to lose washers used on both sides of bell crank at disassembly working.

As shown in the sketch, washer has a special shape.



4-2 Assembly of crank



First, apply grease thickly inside and outside of the crank joint.

Then, fit pin 7 of crank shaft and crank joint with piston cylinder moving by finger, looking inside through the window of crank housing as shown in the sketch.

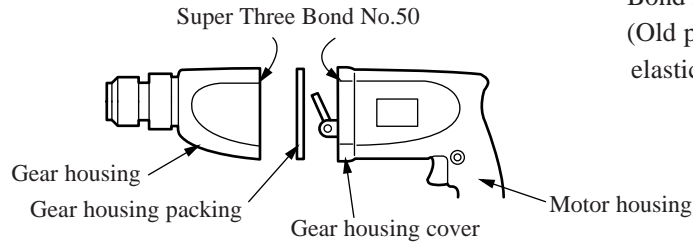
5. Gear housing packing

Always replace to a new gear housing packing in disassembly and assembly.

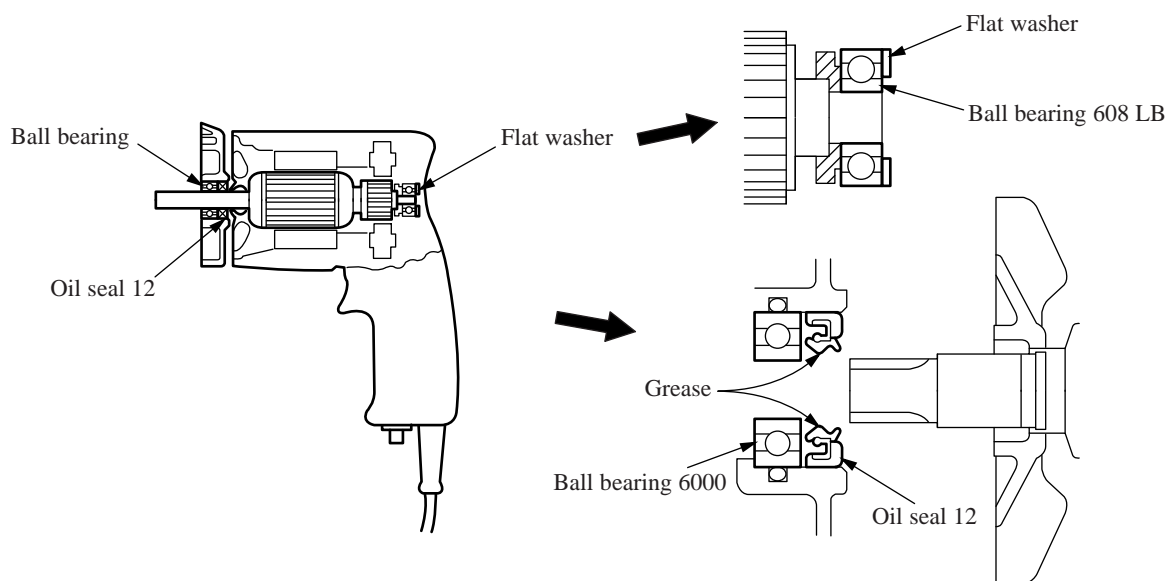
Be sure of removing grease in mating face of gear housing and gear housing cover. Then, apply Super Three Bond No.50

Bond No.50 evenly and thickly.

(Old packing may cause grease leakage as it has lost elasticity.)



6. Replacing armature

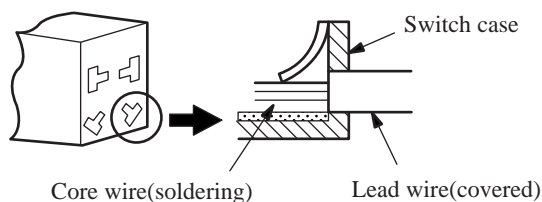


Ensure to fit flat washer 14 in armature bearing of motor housing (see the sketch above).

Insert armature after assembly of ball bearing 6000 and oil seal (should be new) to gear housing cover.

(Wrong order of assembly and use of used oil seal may cause grease leakage or jump out of oil seal.)

7. Connection of rotation changing switch



Peel out cover of lead wire(6-7mm) and finish in soldering. Push it until a part of the lead wire cover enters terminal hole.