

# TECHNICAL INFORMATION



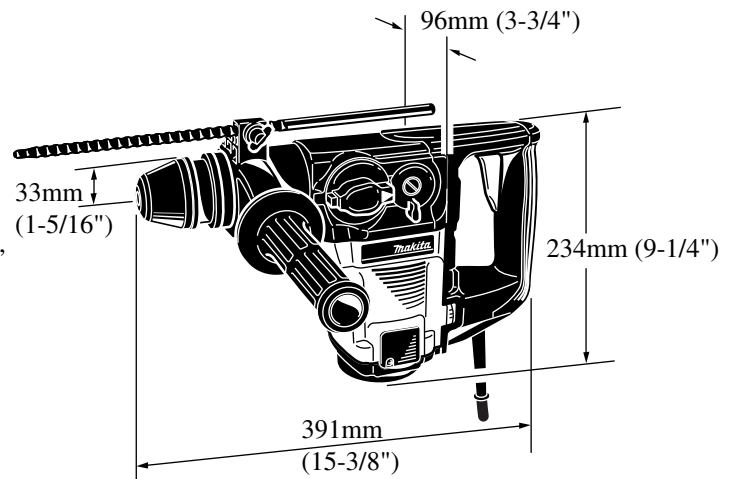
Product

**Models No.** ▶ HR3000C

**Description** ▶ Rotary Hammer 30mm

## CONCEPTION AND MAIN APPLICATIONS

Model HR3000C Rotary Hammer 30mm has been developed as a sister model of Models HR4000C and HR5001C, featuring SDS-plus shank bit specs and its versatility of three action mode function - rotation, hammering and rotation with hammering.



## ▶ SPECIFICATIONS

Voltage(V)	Current(A)	Cycle(Hz)	Continuous Rating(W)		Max. Output (W)
			Input	Output	
100	9.4	50/60	850	300	1100
110	8.2	50/60	850	300	1100
120	8.2	50/60	850	300	1100
220	4.3	50/60	850	300	1100
230	4.1	50/60	850	300	1100
240	3.9	50/60	850	300	1100

<b>No load speed</b>	<b>Revolutions per minute</b>	360 - 720/min.
	<b>Blows per minute</b>	1650 - 3300/min.
<b>Bit type</b>		SDS-plus shank bit Diameter of shank : 10mm (3/8")
<b>Drilling capacities</b>	<b>Tungsten-carbide tipped bit</b>	30mm (1-3/16")
	<b>Core bit</b>	90mm (3-1/2")
	<b>Steel</b>	13mm (1/2")
	<b>Wood</b>	32mm (1-1/4")
<b>Net weight</b>		4.6kg (10.1lbs)
<b>Cord length</b>		5m (16.4ft) / 4m (13.1ft) exclusively for European countries

## ▶ STANDARD EQUIPMENT

- Depth Gauge ----- 1pc.
- Grease Vessel (Bit Grease) ----- 1pc.
- Plastic Carrying Case ----- 1pc.
- Grip 36 Ass'y ----- 1pc.

## ▶ OPTIONAL ACCESSORIES

Tungsten-carbide Tipped Bits;

Bit diameter : 4.0mm(5/32"), 4.3mm(11/64"), 4.5mm(11/64"), 4.8mm(3/16"), 5.0mm(13/64), 5.5mm(7/32"), 6.0mm(15/64"), 6.4mm(1/4"), 6.5mm(1/4"), 7.0mm(9/32"), 7.5mm(19/64"), 8.0mm(5/16"), 8.5mm(21/64"), 9.0mm(23/64") 9.5mm(3/8"), 10mm(25/64"), 10.5mm(13/32"), 11mm(7/16"), 12mm(15/32"), 12.5mm(31/64"), 12.7mm(1/2"), 13mm(33/64"), 13.5mm(7/32"), 14mm(35/64"), 14.3mm(9/16"), 14.5mm(37/64"), 16mm(5/8"), 17mm(43/64"), 17.5mm(11/16"), 18mm(45/64"), 19mm(3/4"), 20mm(25/32"), 21mm(53/64"), 21.5mm(27/32"), 22mm(55/64") 23mm(29/32"), 24mm(15/16"), 25mm(1"), 28mm(1-1/8"), 30mm(1-3/16")

Drill Chuck Ass'y, Chuck Key S-13, Anchor Setting Tool, Anchor Setting Rod, Grease Vessel(Hammer Grease), Blow-out Bulb, Dust Cup 5, Dust Cup 9, Bull Point, Cold Chisel, Scaling Chisel, Grooving Chisel, Scraper Assembly, Core Bit Adapter, Core Bits;

Hole diameter : 35mm(1-3/8"), 45mm(1-13/16"), 54mm(2-1/8"), 66mm(2-5/8"), 79mm(3-1/8")

## ▶ FEATURES AND BENEFITS

1. Double insulated
2. See attached sheets for more information

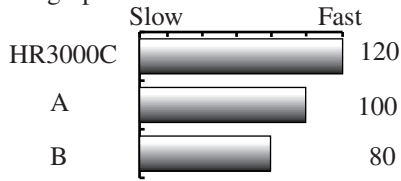
The standard equipment for the machine may differ from country to country.

## ► HR3000C / FEATURES AND BENEFITS

### The Highest Efficiency in This Class

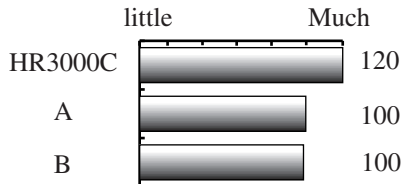
Numbers in chart below are relative values when setting A's speed as 100.

#### 1) Drilling Speed



(In drilling anchor hole with T.C.T.drill bit  $\phi$ 21.5mm)

#### 2) Chipping Amount

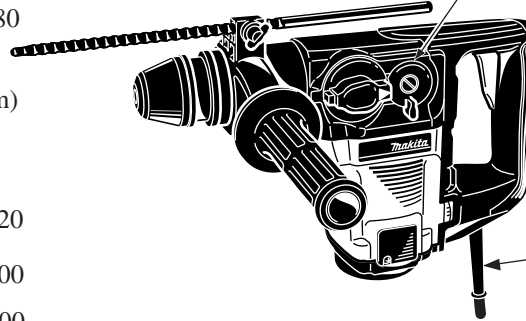


### No Hammering When Idling

For air in the cylinder is not compressed unless tool is pressed against ground. This function ensures machine's long life. (the same system as HR4000C, etc.)

### 3 Action Mode Change Lever Rotation / Hammering / Rotation with Hammering

Ready for various works by simply turning this lever. For your reference; A has only two modes, rotation and rotation with hammering. And it requires replacement of its chuck to get hammering mode available.



### Large and Tough Cord Guard

Also excellent in flexibility to protect cable from disconnection.

### Accepts SDS-Plus Shank Core Bits

The followings are the same features and benefits as those of HR4000C, HR5001C, etc.

### Convenient Indicator Lamp

Its color tells how your machine is.  
Green: On with no problem  
Red : Approx. 8 hours before carbon brushes wear out  
Off : Possibly trouble in switch or power supply cord

### Auto Shut-off Carbon Brushes

Replaceable without removing rear cover of machine. (A requires removal of rear cover.)

### Easy Replacement of Power Supply Cord

### Electronic Speed Control Dial

Optimum hammering speed can be selected in accordance with materials or tools. Setting at low speed, ideal for such a light chipping works as scraping tiles, removing bricks joint.

### Simple Slide Locking Chuck

Simple slide lock for securing inserted tools

### Body Wholly Covered with Resin

No electric shock to operator, even if bit accidentally hits against laid electric cables. Barrel is also covered with resin, and so, it is possible to do chipping operations while holding barrel with your hand.

### Easy-to-Operate Large Trigger

Fatigue-free in fingers even in a long continuous operation.

### Large Rear Handle

Can be gripped with both hands - convenient in downward chipping operations.

### Big Action Mode Change Lever

For easy shift of action mode

### New Torque Limiting System

Thanks to the Ball Clutch, stable torque control is assured even after long term use.

### Further Improvement in Dustproof Structure

New dust sealing front cap prevents particles of dust from coming in through the front of machine.

### Thick Commutator

The effective thickness of its segments has been enlarged.

### Zig-Zag Varnish on Armature Coil

For effective radiation from coil while protecting coil from dusts

## ► COMPARISON CHART

### (1) Specifications

		Makita	A	B
Model No.		HR3000C		
Bit shank type		SDS-plus	SDS-plus	SDS-plus
Continuous Rating Input (W)	230V	850	830	750
	100V	850	830	750
No load speed	Blows per minute	1650-3300	0-3720	0-3900
	Revolutions per minute	360-720	0-310 0-640	0-650
"No hammering when idling" system		Yes	No	No
Chuck type		Slide locking chuck by one action	Slide locking chuck by two actions	Slide locking chuck by one action
Indicator lamp		Yes	No	No
Max. drilling capacity (mm)	Tungsten carbide tipped bit	ø30 (1-3/16")	ø32 (1-1/4")	ø30 (1-3/16")
	Core bit	ø90 (3-1/2")	ø90 (3-1/2")	ø80 (3-1/8")
	Steel	ø13 (1/2")		ø13 (1/2")
	Wood	ø30 (1-3/16")		ø30 (1-3/16")
Energy of blow (J)	Calculated by Makita	5.30	4.08	3.08
	Catalogue	5.3	3.8	3.5
*Net weight (kg)	Actually measured	4.60 (10.6lbs)	4.85 (10.7lbs)	4.00 (8.8lbs)
	Catalogue	4.6 (10.6lbs)	4.9 (10.8lbs)	3.8 (8.4lbs)

Note) \*Net weight does not include power supply cord and side grip.

### (2) Vibration and Noise

Model No.	HR3000C	A	B
Vibration (m/s <sup>2</sup> )	7.3	7.0	6.8
Noise (dB)	103	104	104

Measured under following conditions;  
 under loaded condition  
 in rotation with hammering mode  
 and in the way subject to CE Regulations requirements.

## ► Repair

- (1) Removing Change Lever Complete -----(Page 5 of 15)
- (2) Installing Change Lever Complete -----(Page 5 of 15)
- (3) Removing Shift Lever Complet------(Page 6 of 15)
- (4) Setting Spur Gear 21 Complete in Place -----(Page 6 of 15)
- (5) Installing Shift Lever Complet------(Page 7 of 15)
- (6) Replacement of Armature -----(Page 7 of 15)
- (7) Disassembling Chuck -----(Page 9 of 15)
- (8) Assembling Chuck -----(Page 9 of 15)
- (9) Removing Tool Holder Section  
from Crank Housing -----(Page 10 of 15)
- (10) Inserting Tool Holder Section------(Page 10 of 15)
- (11) Disassembling Tool Holder Section -----(Page 11 of 15)
- (12) Assembling Tool Holder Section -----(Page 11 of 15)
- (13) Assembling Piston, Rod and Crank Shaft -----(Page 11 of 15)
- (14) Installing Fluoro Carbon Resin Ring 20  
on Impact Bolt------(Page 12 of 15)
- (15) Lubrication -----(Page 12 of 15)

## (1) Removing Change Lever Complete

1. Set Change Lever Complete at neutral position, and insert a slotted screwdriver into the back of Lock Button. And slightly hit the screwdriver with a plastic hammer to remove it. (See Fig.1.)

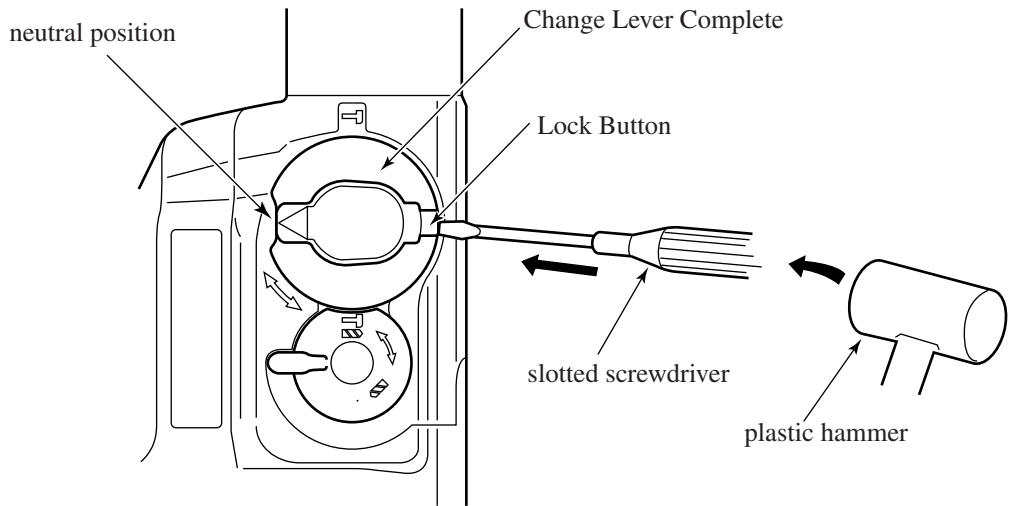


Figure 1

## (2) Installing Change Lever Complete

1. When installing Change Lever Complete to Crank Housing, Pin 4 inserted in Change Lever Complete should always be placed in the space on the right of the flange of Driving Sleeve. (See Fig.2 & 3.)
2. Set securely Change Lever Complete in place with its pointer pointing to the right. (See Fig.3.)

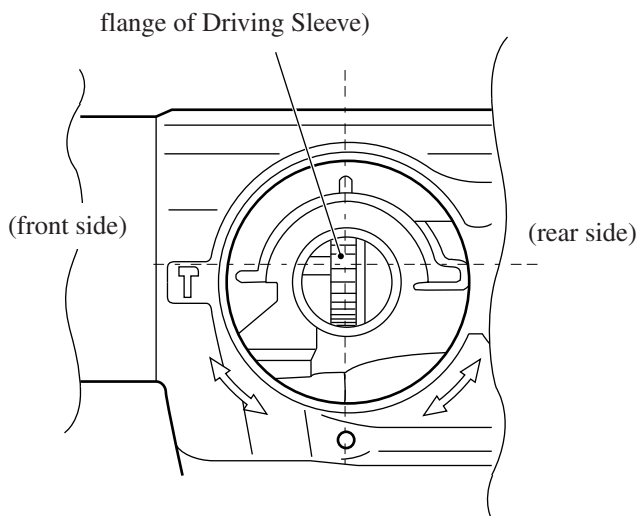


Figure 2

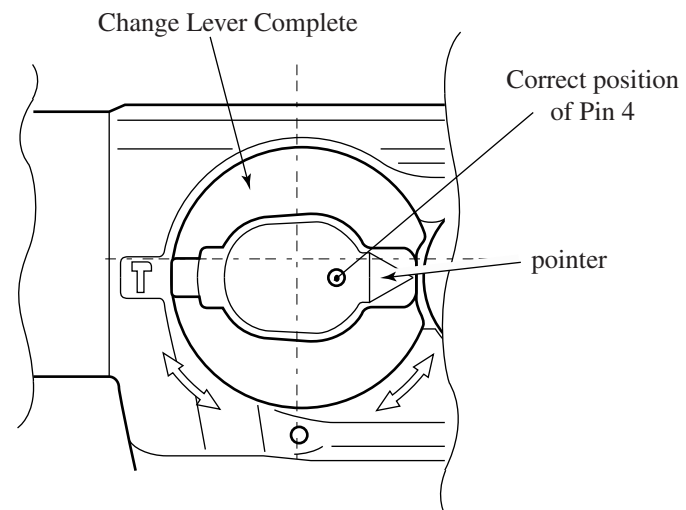


Figure 3

### (3) Removing Shift Lever Complete

1. Loosen Hex. Socket Flat Head Screw M5 with a hex. wrench, and then remove Shift Lever Complete.  
(See Fig.4.)

**CAUTION:**  
Always be sure not to lose O Ring 4 (Part No.213023-1) when removing Hex. Socket Flat Head Screw M5, for it may result in grease leakage without O Ring 4.

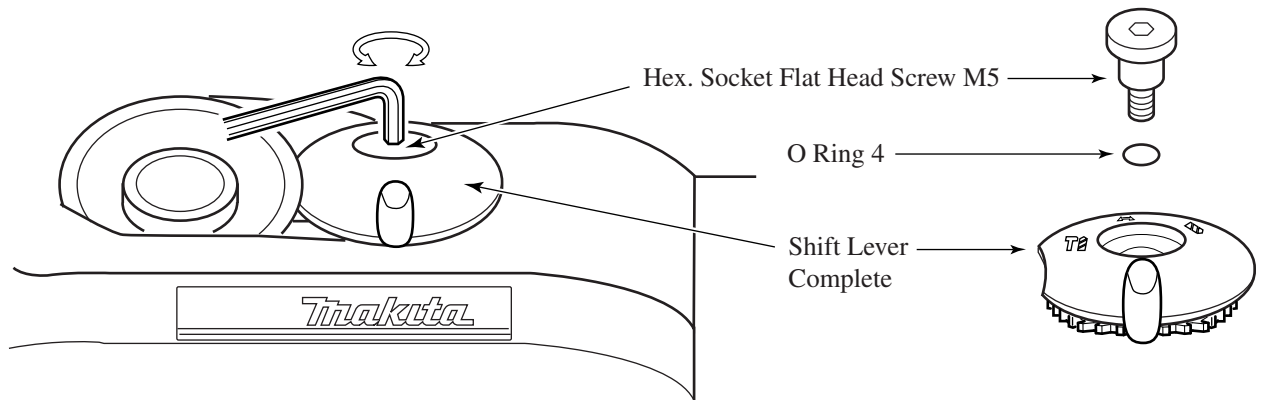


Figure 4

### (4) Setting Spur Gear 21 Complete in Place

(See Fig.5 & 6.)

1. When setting Spur Gear 21 Complete in place, first, always place Pin 3 of Spur Gear 21 Complete so that it comes under the flange of Clutch.
2. And then set the neck of Spur Gear 21 Complete on the wall of Crank Housing's stopper.  
At this time, the positioning mark of Spur Gear 21 Complete has to be aligned with that of Crank Housing.

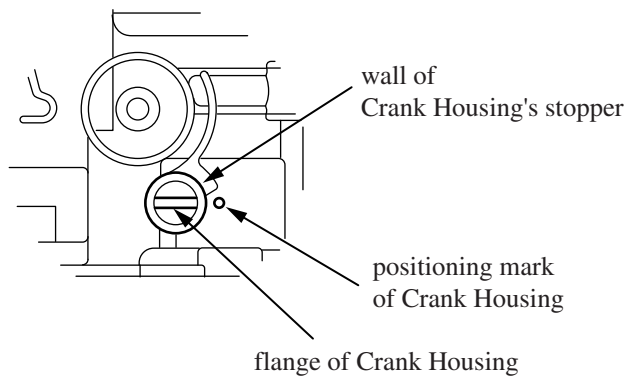


Figure 5

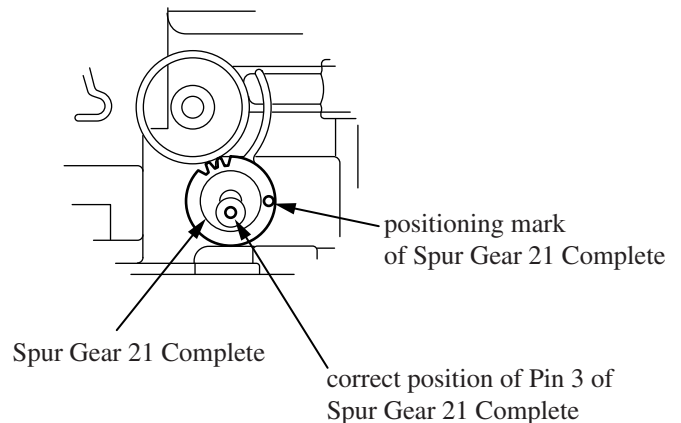


Figure 6

### (3) Installing Shift Lever Complete

(See Fig.7 & 8.)

First, while aligning the convex spot of Shift Lever Complete with the concave spots of Crank Housing Cover and Dust-proof Washer, push straight Shift Lever Complete in.

And then, after engaging the gear teeth of Shift Lever with those of Spur Gear 21, secure Shift Lever Complete by tightening Hex. Socket Flat Head Screw M5.

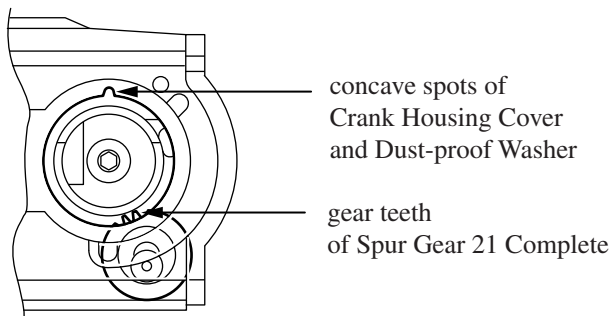


Figure 7

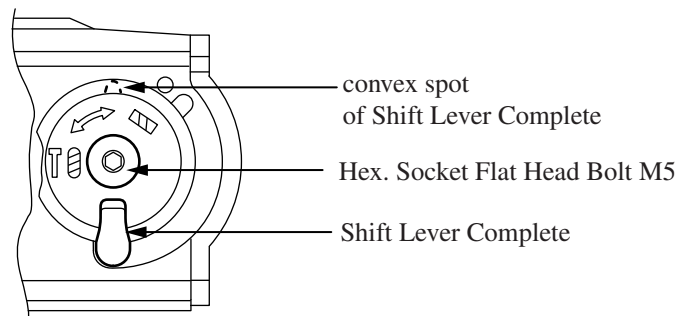


Figure 8

### (4) Replacement of Armature

1. Slide down Chuck Cover and remove Tool Holder Cap. (See Fig.9.)
2. Remove Pan Head Screw, and then remove Crank Housing Cover. (See Fig.9.)
3. Remove six screws, and then remove Handle. (See Fig.10.)

Note : The upper two screws are different from other four.

Please be careful in assembling/disassembling.

The upper two : Pan Head Screw M5x20

(Part No.911233-1)

Other four : Tapping Screw 5x20

(Part No.266021-4)

4. Separate Connector from Motor Housing. (See Fig.10.)

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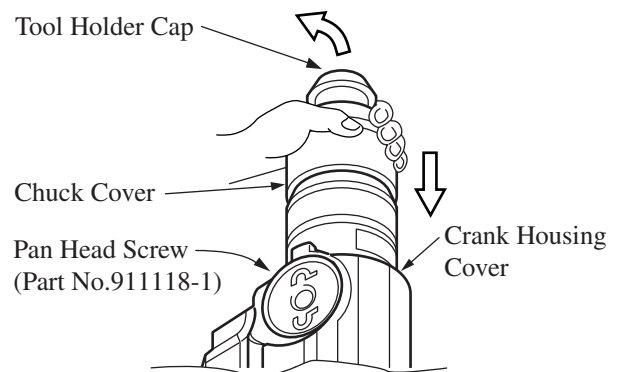


Figure 9

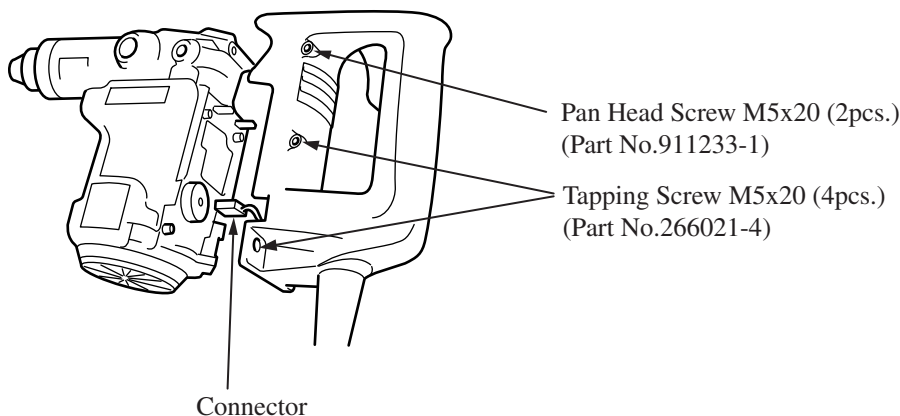


Figure 10

5. Remove Rear Cover,  
and then loosen Hex.Nut as holding Fan.  
(See Fig.11.)
6. Remove Fan and Spur Gear 21 Complete,  
and then remove four Tapping Screws 5x30  
securing Crank Housing.  
(See Fig.11.)  
Take Gear Housing and Armature Ass'y  
out of Motor Housing by hitting  
the rear side of armature shaft.
7. For separating armature shaft from  
Gear Housing, use Large Gear Extractor  
- Tool No.1R045.  
(See Fig.12.)
8. When installing Armature,  
first, push Ball Bearing 6000 and  
Oil Seal 10 into Gear Housing,  
and then insert armature shaft.  
(See Fig.13.)

Note :

Correct position of Oil Seal 10 ;  
Be careful that Oil Seal 10 should not  
exceed the end face of Gear Housing  
by more than 0.5mm.  
(See Fig.14.)

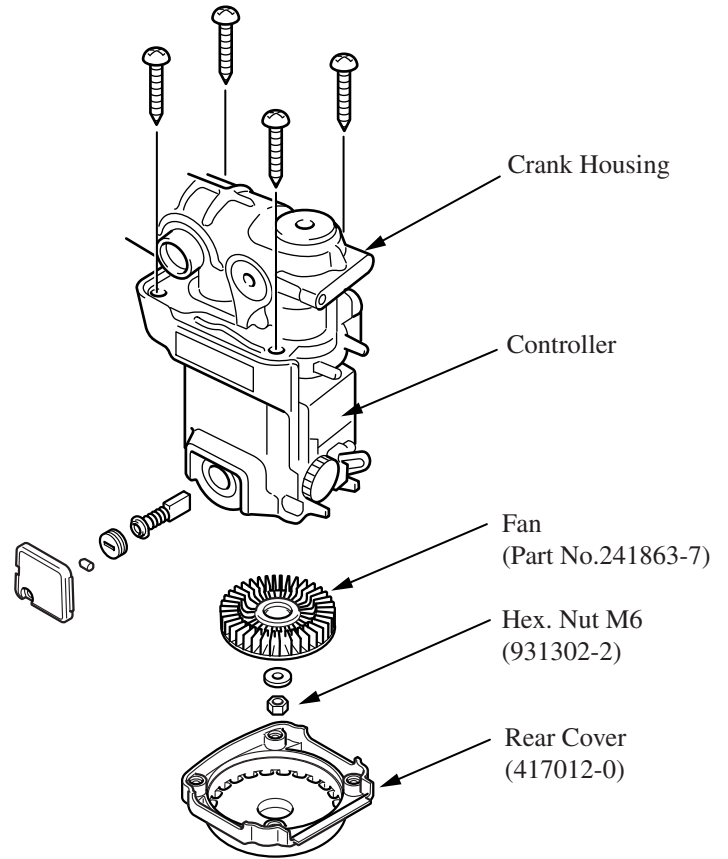


Figure 11

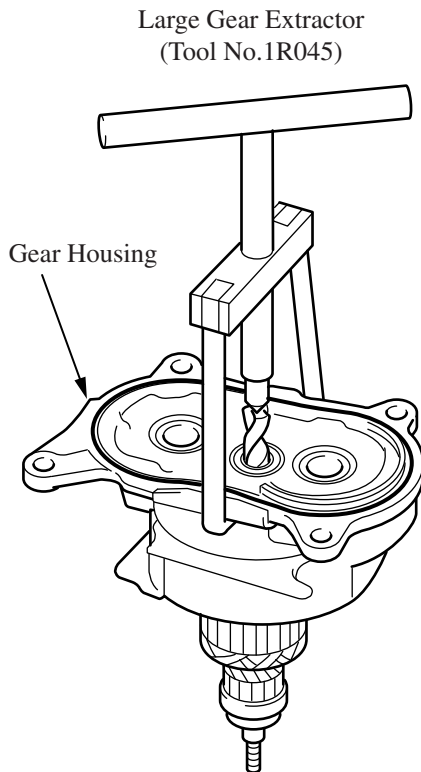


Figure 12

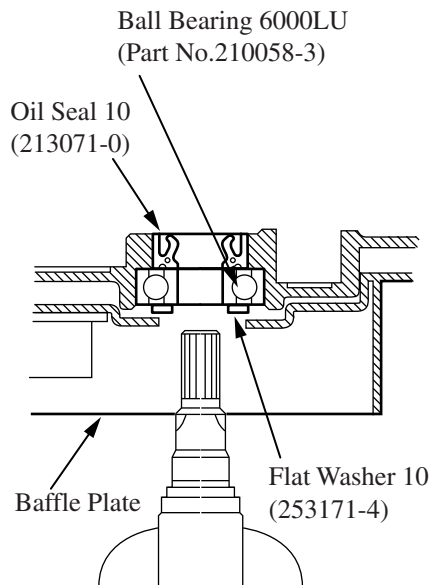


Figure 13

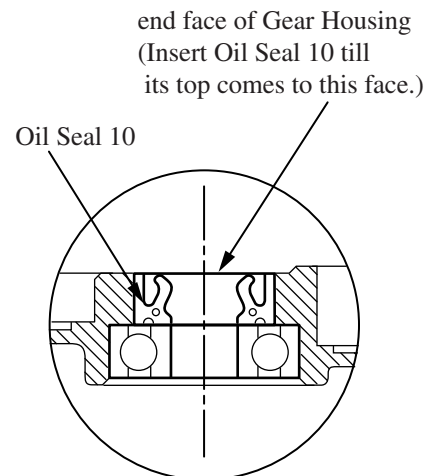


Figure 14



## (7) Disassembling Chuck

(See Fig.15 & 16.)

- Slide down Chuck Cover and remove Cap 40  
And then remove Chuck Cover  
and Compression Spring 38.
- Remove Ring Spring 17.  
Note : When removing the ring spring,  
it could help you to push up its closed side  
with a slotted screwdriver as spreading  
its open side with pliers for retaining ring.
- Remove Ring Spring 30.5 from Chuck Ring.  
And then remove Spring Guide  
and Compression Spring 35.
- Remove Leaf Spring 26,  
And then remove Pin 8 from Chuck Ring.  
Note : Pliers for retaining ring could be helpful  
in removing Leaf Spring 26.
- Remove Chuck Ring, Guide Washer  
and Steel Ball 7.0 from Tool Holder.

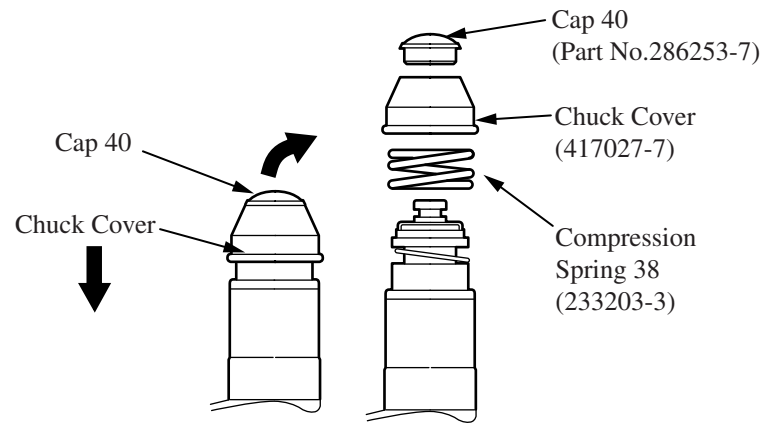


Figure 15

## (8) Assembling Chuck

(See Fig.16.)

Taking the reverse steps of procedure of "Disassembling",  
assemble Chuck.

Note : 1. When installing Leaf Spring 26 on the groove of  
Chuck Ring, the through hole of Leaf Spring 26  
has to be placed on the bit side(front side).  
(See Fig.17.)  
2. Also make sure that the depressed place of  
Leaf Spring 26 aligns with that of Chuck Ring  
to prevent the spring from slipping.  
(See Fig.18)

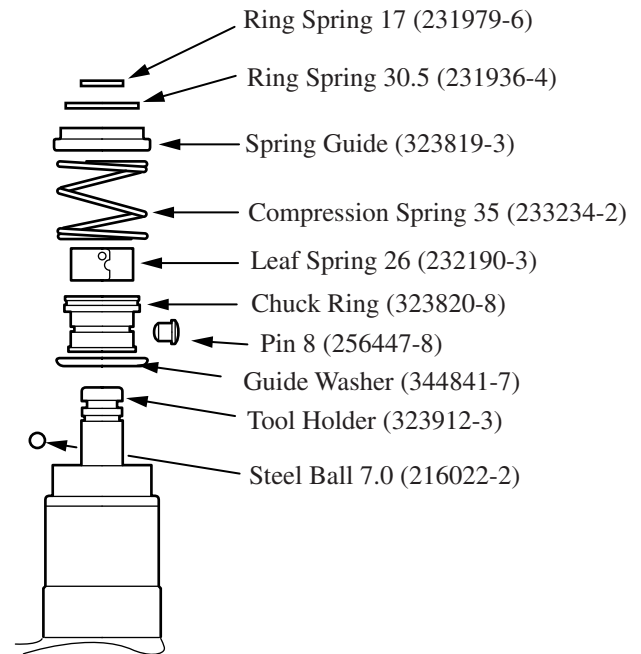


Figure 16

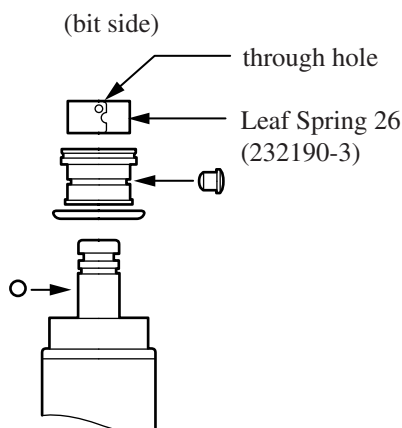
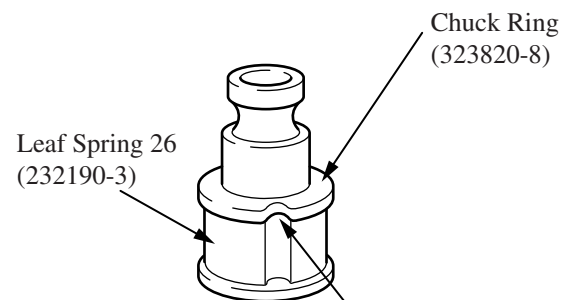


Figure 17



The concave place of Leaf Spring  
has to meet that of Chuck Ring.

Figure 18

## (9) Removing Tool Holder Section from Crank Housing

1. First, in order to remove Seal Case, insert a slotted screwdriver in the depression on its outer edge and hit the screwdriver slightly.  
(See Fig.19.)
2. Remove Retaining Ring R-52, and then pull out Tool Holder section.  
When difficulty found in pulling it out, remove Retaining Ring S-28, and insert two slotted screwdrivers in the groove for the ring in order to lift up Tool Holder.  
(See Fig.20.)  
When difficulty still found, insert a slotted screwdriver into the hole of Tool Holder and hit the screwdriver slightly.  
Note : Be careful not to damage the groove of Tool Holder with screwdrivers.

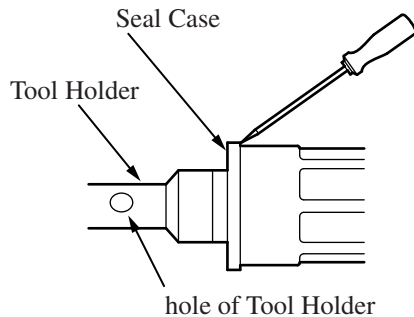


Figure 19

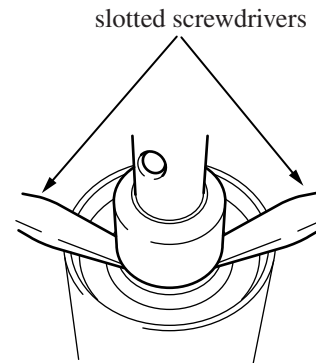


Figure 20

## (10) Inserting Tool Holder Section

1. Engage the cam of Driving Sleeve with that of Lock Sleeve.  
(See Fig.21.)
2. As setting the six mounds of Lock Sleeve be aligned with the six grooves of Crank Housing, insert Tool Holder section into Crank Housing.  
(See Fig.21 & 22.)

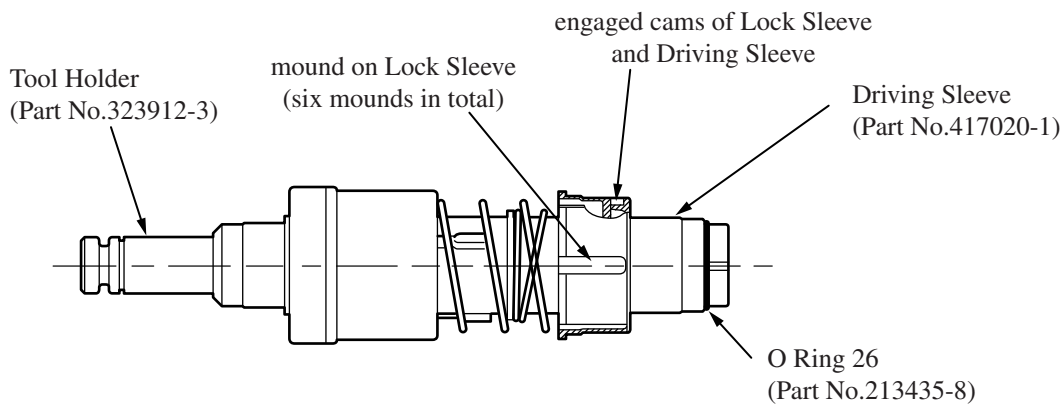


Figure 21

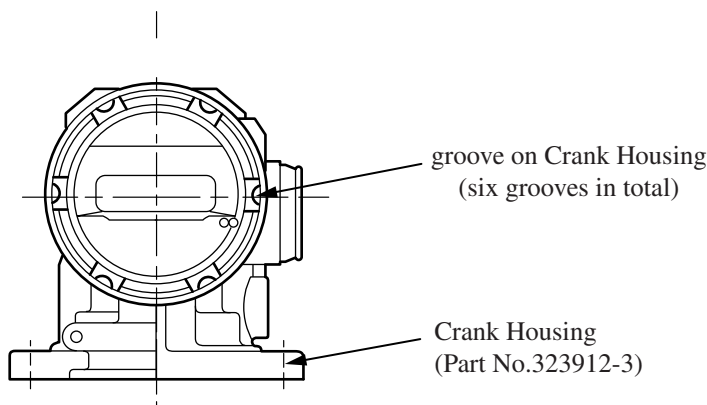


Figure 22

### (11) Disassembling Tool Holder Section

(See Fig.21 & 23.)

1. Remove O Ring 26,  
and then remove the following parts from the rear side of Cylinder 25;  
Sleeve 50/ Pin/ Pin Holder/ Ring 29/ Compression Spring 34  
Compression Spring 40/ Lock Sleeve/ Driving Sleeve
2. Remove four pieces of Pin 8 connecting Tool Holder with Cylinder 25.

### (12) Assembling Tool Holder Section

(See Fig.21 & 23.)

Paying attention to the position of each part, assemble component parts into Tool Holder section.

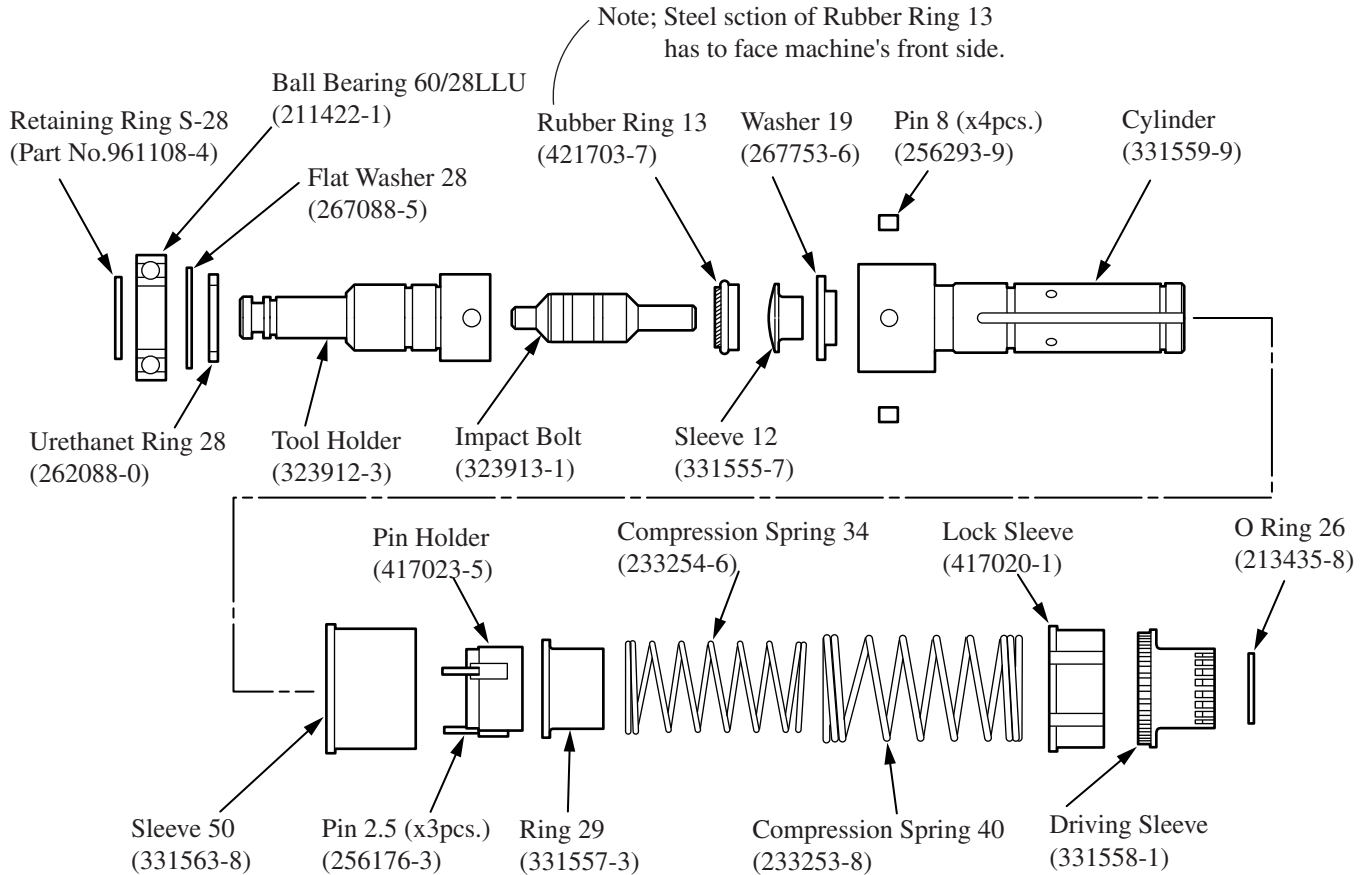


Figure 23

### (13) Assembling Piston, Rod and Crank Shaft

(See Fig.24.)

1. Push Piston till the through hole of Rod comes to be seen entirely in the crank chamber.
2. Press in Crank Shaft so carefully that its pin could be inserted in the through hole of Rod.

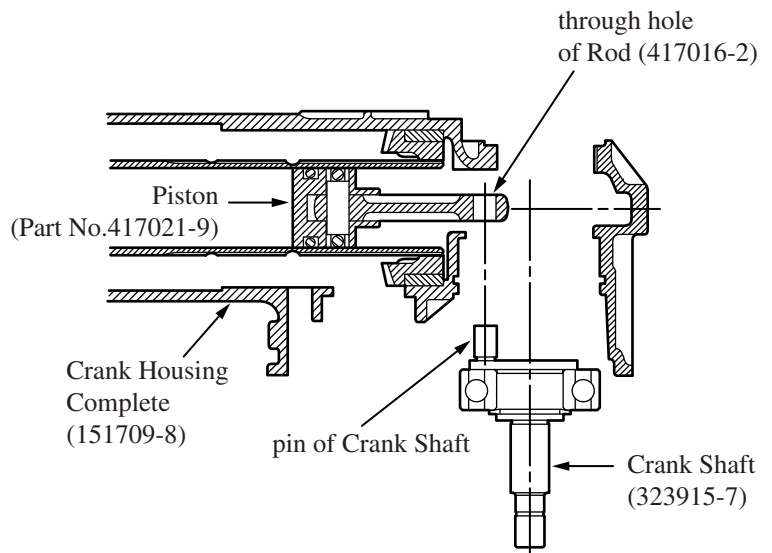
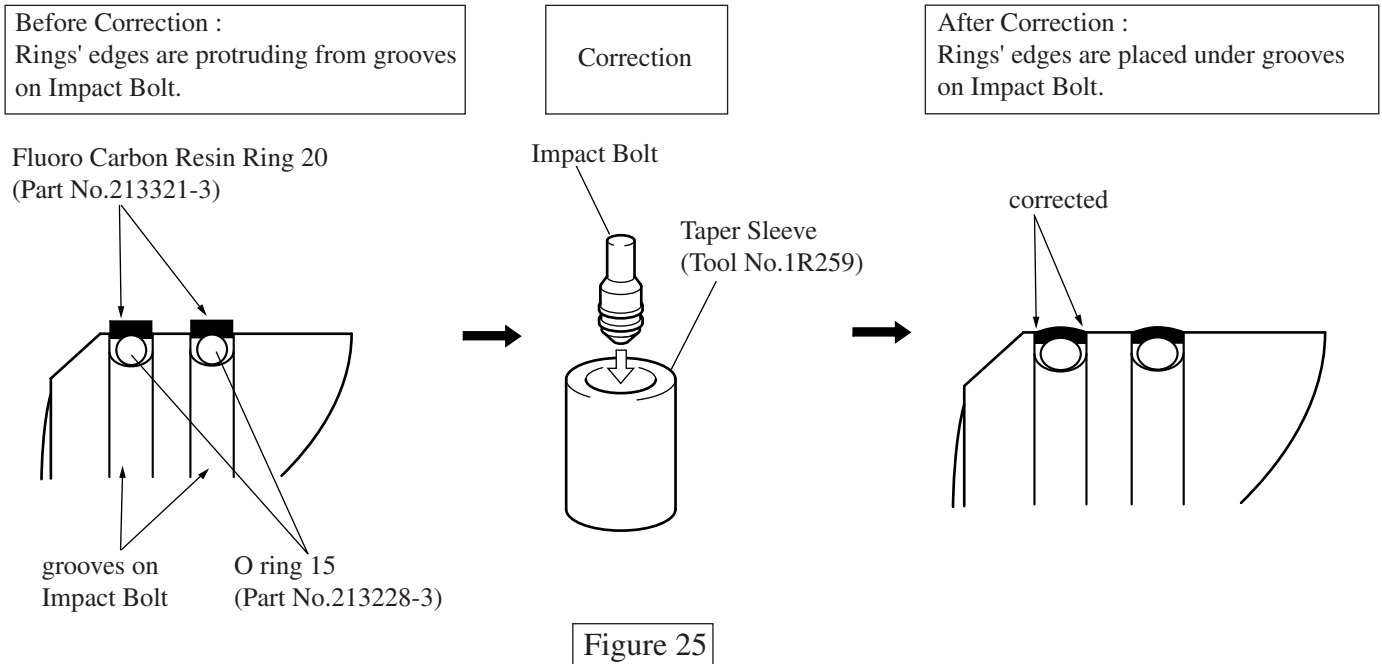


Figure 24

### (14) Installing Fluoro Carbon Resin Ring 20 on Impact Bolt

(The same way as HR4000C - See Fig.25.)

1. After installing Fluoro Carbon Resin Ring 20 on the groove of Impact Bolt, the Ring comes stretched and its edges come protruding from the groove.
2. In order to correct the deformation, insert the Ring into the repairing tool, Taper Sleeve (Tool No.1R259), and leave it in the tool about ten seconds.
3. When inserting Impact Bolt into Tool Holder, be careful not to put the Ring out of the groove of Impact Bolt.

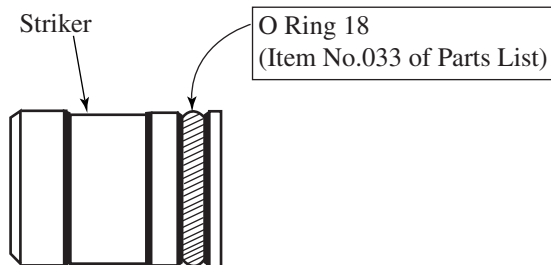


### (15) Lubrication

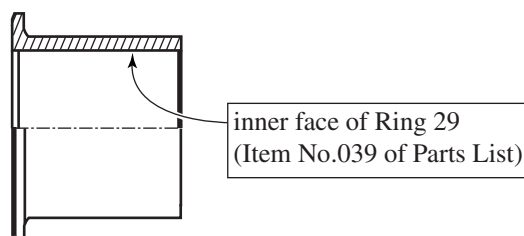
Put grease on the following places in order to protect parts and machine from unusual abrasion and overheating.

Recommendable is our genuine grease - Makita Grease R No.00.

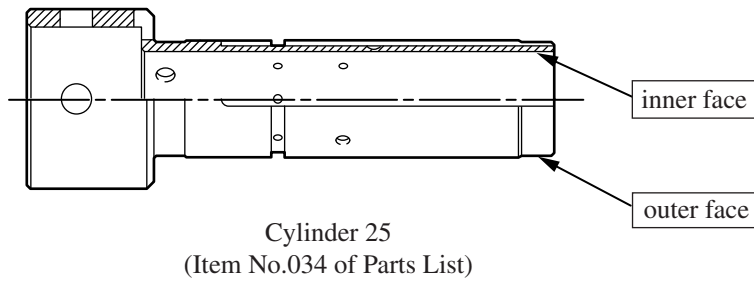
1. O Ring 18 on Striker



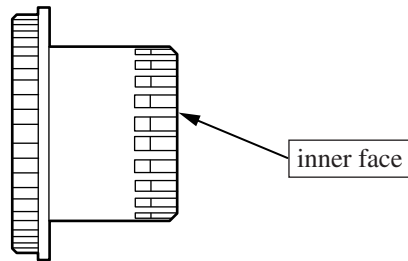
2. Inner face of Ring 29



3. Inner face and outer face of Cylinder 25

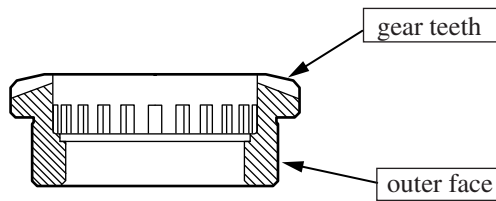


4. Inner face of Driving Sleeve



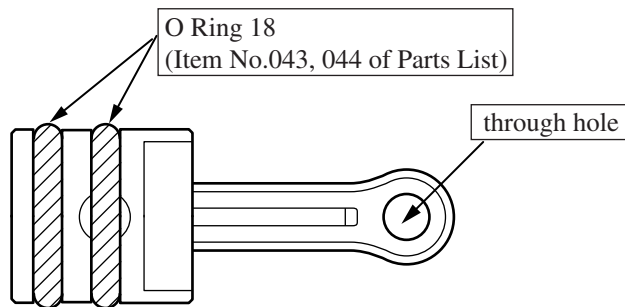
Driving Sleeve  
(Item No.040 of Parts List)

5. Outer face and gear teeth of Spiral Bevel Gear 37



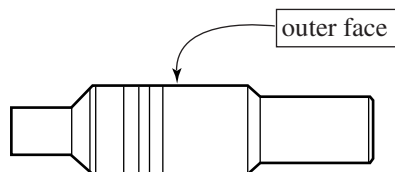
Spiral Bevel Gear 37  
(Item No.042 of Parts List)

6. O Rings on Piston and through hole of Rod



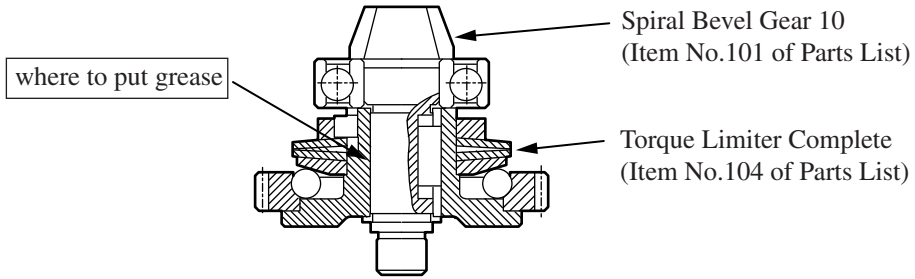
Rod  
(Item No.047 of Parts List)

7. Outer face of Impact Bolt

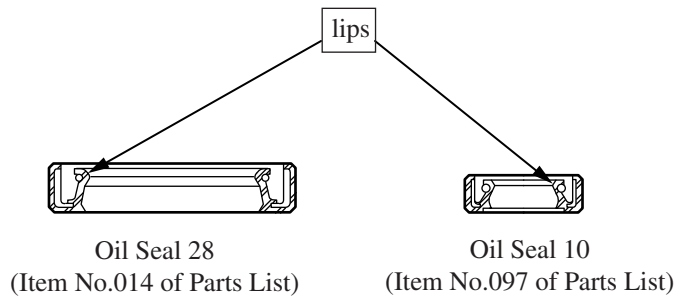


Impact Bolt  
(Item No.024 of Parts List)

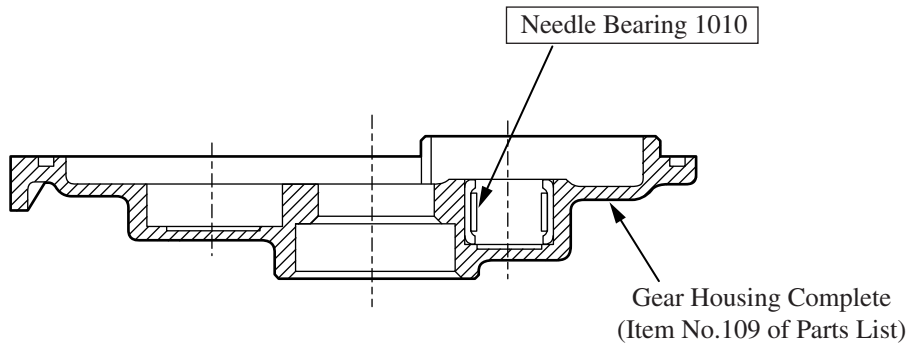
8. Where the stem of Spiral Bevel Gear 10 is in contact with Torque Limiter Complete



9. Lips of Oil Seal 10 and Oil Seal 28

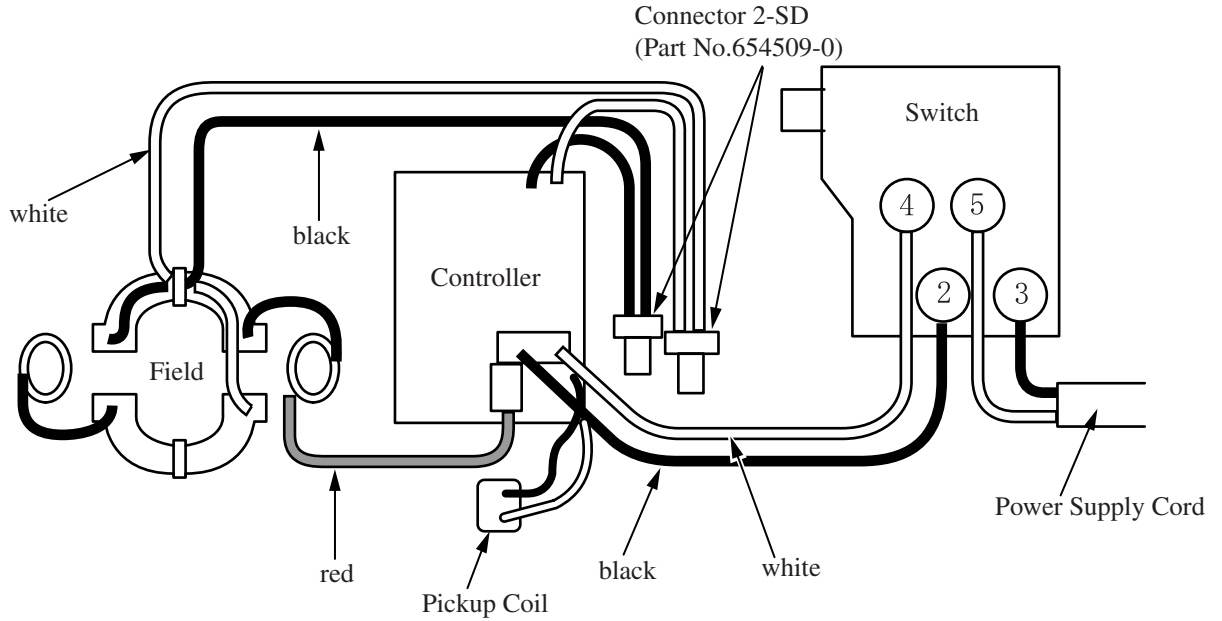


10. Needle Bearing 1010 on Gear Housing Complete

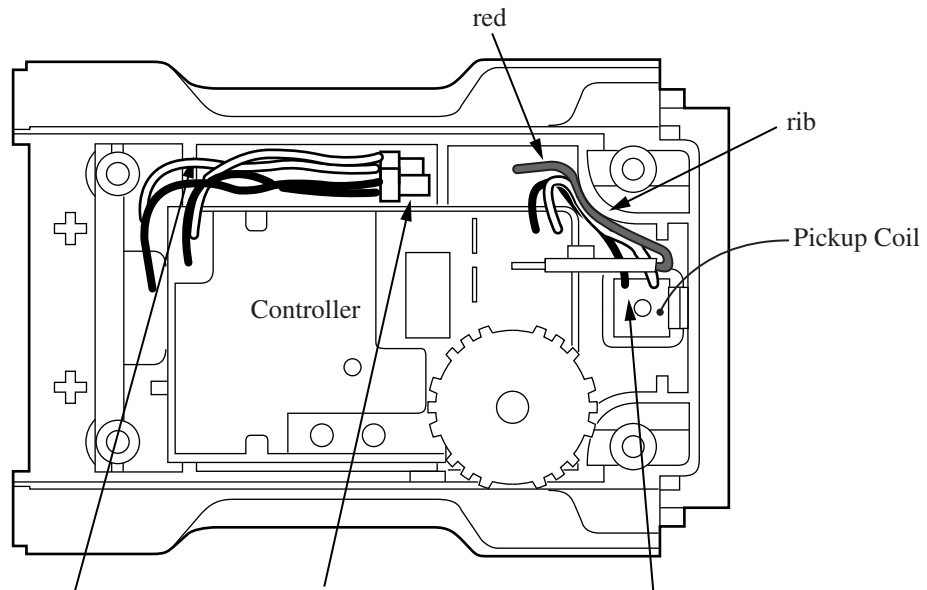


11. Other gear teeth

► **Circuit Diagram**



► **Wiring**



Place Support Lead Wires in Lead Holder as illustrated.

Place Connectors in place as illustrated.

As taking care that the two lead wires (black,white) of Pickup Coil would not be crossed, pass them through between Controller and the rib.

When setting lead wires of Power Supply Cord and those of Lead Unit in place, divide them two by two as illustrated below and pass them through the slits of Sponge and Lead Holder.

