

TECHNICAL INFORMATION



PRODUCT
P. 1 / 12

Models No. ▶ HR3550C

Description ▶ Rotary Hammer 35mm (1-3/8")

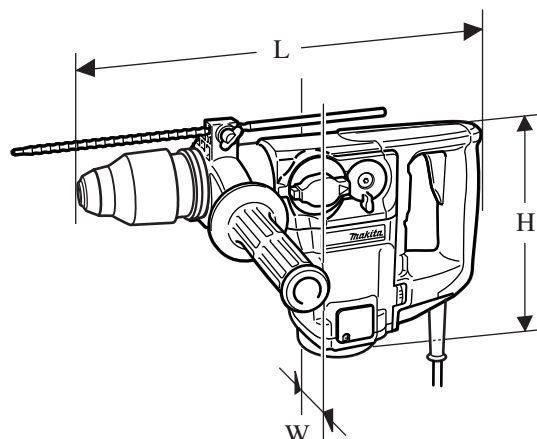
CONCEPTION AND MAIN APPLICATIONS

Model HR3550C has been developed from HR3000C as a new Rotary Hammer 35mm (1-3/8") which accepts SDS-top bits, having the features and benefits of Model HR3000C.

Each shank diameter of the three types of SDS bits are as follows :

- SDS-plus : ϕ 10mm (3/8")
- SDS-top : ϕ 14mm (9/16")
- SDS-max : ϕ 18mm (11/16")






And so, HR3550C is a specialist in medium chipping works.



Dimensions : mm (")	
Length (L)	420 (16-1/2)
Width (W)	104 (4-1/8)
Height (H)	234 (9-1/4)

► Specifications

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	8.2	50 / 60	850	300	1,100
120	8.2	50 / 60	850	300	1,100
220	4.3	50 / 60	850	300	1,100
230	4.1	50 / 60	850	300	1,100
240	3.9	50 / 60	850	300	1,100

No load speed : (min -1= rpm)	360 - 720	
Blows per min, :(bpm=min -1)	1,650 - 3,300	
Single blow energy (J)	2.7 - 5.3	
Bit type and shank diameter : mm (")	SDS max 	
	SDS plus 	
	SDS top 	Yes / 14 (9/16)
	Spline 	
	Hex 	
Max. diameter : mm (")	35 (1-3/8)	
Max. core bit diameter: mm (")	90 (3-1/2)	
Clutch	Yes	
Variable speed control	Yes	
Clutch	Yes	
Electronic speed control	Yes	
Soft start feature	Yes	
Protection from electric shock	by double insulation	
Cord length : m (ft)	5.0 (16.4) / 4.0 (13.1) for Europe	
Net weight :Kg (lbs)	4.9 (10.8)	

► Standard equipment

- Depth Gauge ----- 1pc.
- Grease Vessel (Bit Grease) ----- 1pc.
- Plastic Carrying Case ----- 1pc.

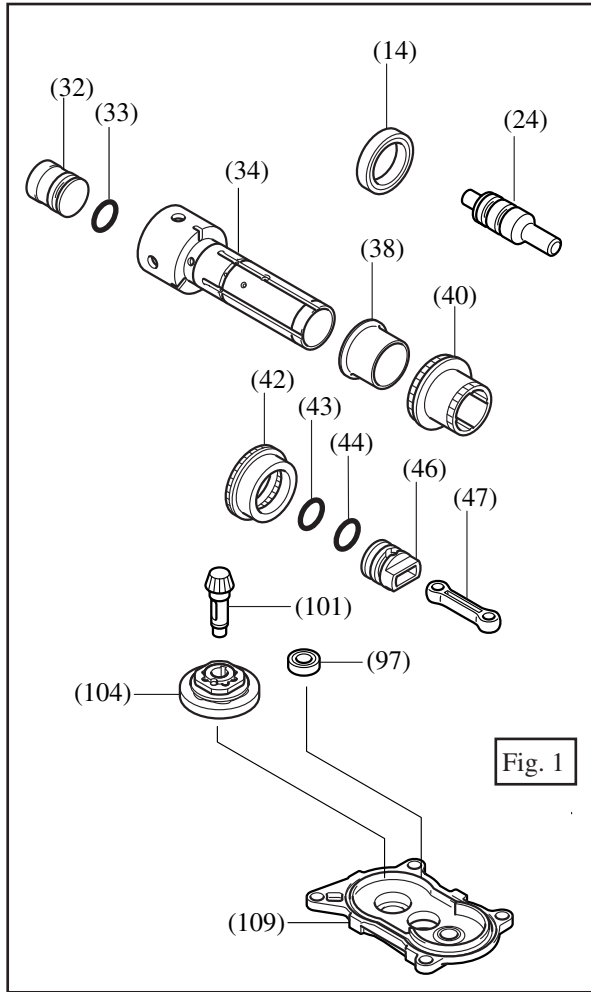
< Note > The standard equipment for the tool shown may differ from country to country.

► Optional accessories

- * TCT. hammer bit 6.0 -32mm (5/32" - 1-1/4")
- * Cold chisel
- * Scaling chisel
- * Bull point
- * Core bit 35 - 90mm (1-3/8" - 3-1/2")
- * Anchor setting tool
- * Anchor setting rod
- * Dust cup 5 and 9
- * Blow out bulb
- * Grease for bit
- * Drill chuck assembly
- * Chuck key S13

< 1 > **Lubrication**

Apply MAKITA grease RNo.00 to the parts illustrated in Fig. 1, in order to prevent unusual abrasion and overheating.

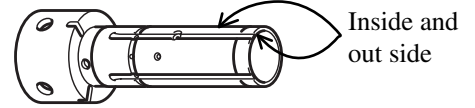


(14) Oil seal 28  Lip portion

(24) Impact bolt : Whole surface


(33) O ring 18 to be assembled to (32) striker

(34) Cylinder 25 :



(38) Ring 29 : Inside

(40) Driving sleeve : Inside

(42) Spiral bevel gear 37 : Teeth portion 

(43) and (44) O rings 18 to be assembled to (46) piston

(47) Rod : holes

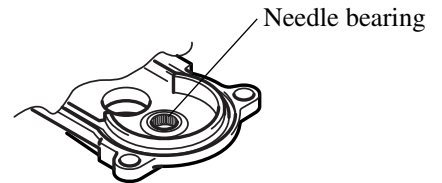


(97) Oil seal 10  Lip portion

(101) Straight bevel gear 10 : Whole part including teeth portion

(104) Torque limiter : Hole portion where engages with straight bevel gear 10

(109) Needle bearing: Assembled to gear housing



< 2 > **Disassembling Change Lever Complete**

Set Change Lever Complete at neutral position, and slightly hit the screwdriver applied to the back side of lock button, with a plastic hammer. Then, change lever complete can be disassembled. (See Fig.2.)

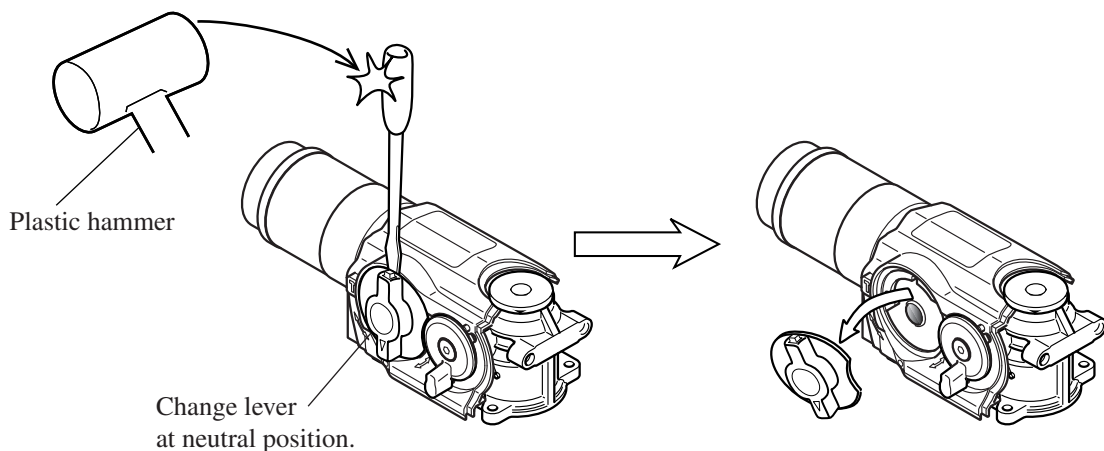
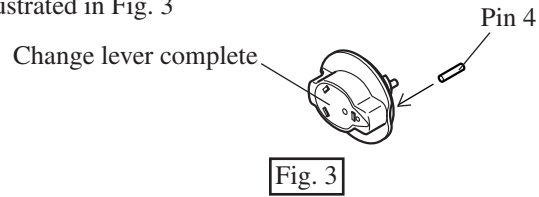


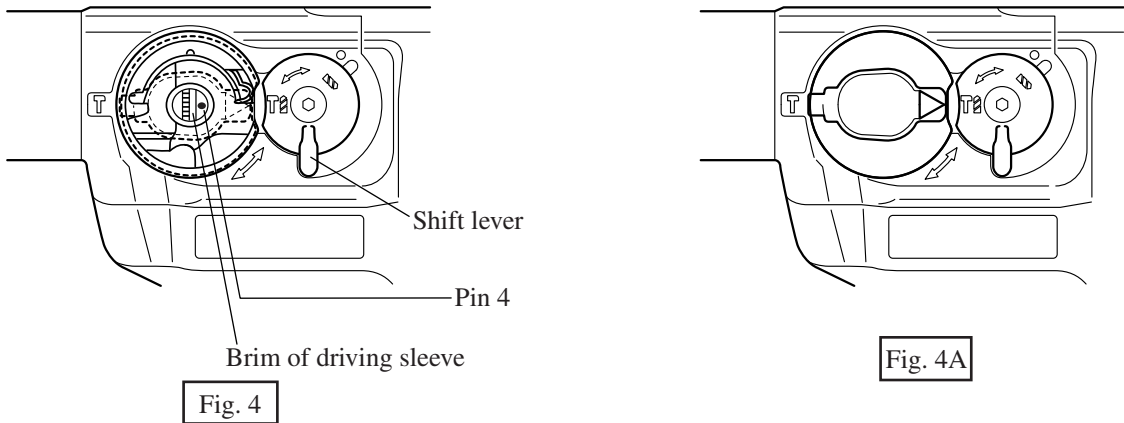
Fig. 2

<3> Assembling Change Lever Complete

(1) Assemble pin 4 to change lever complete as illustrated in Fig. 3



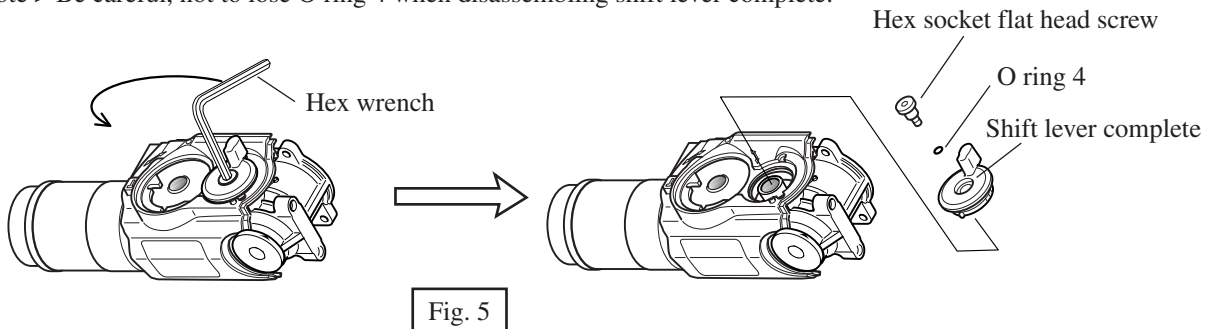
(2) Assemble the above change lever complete so that the pin 4 comes to the right side of brim of driving sleeve (shift lever complete side) as illustrated in Fig. 4. Face the arrow of change lever complete to shift lever complete and assemble the change lever complete firmly to the machine as illustrated in Fig. 4A.



< 4 > Disassembling Shift Lever Complete

Unscrew hex socket flat head screw with hex wrench, and disassemble shift lever complete as illustrated in Fig. 5.

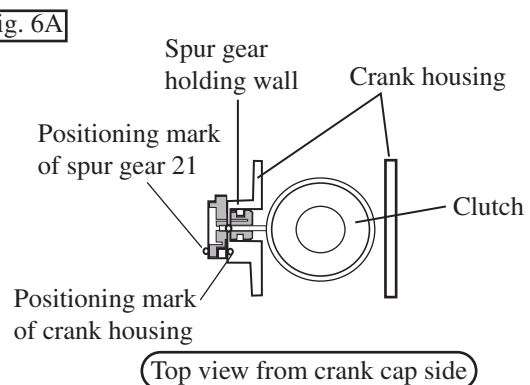
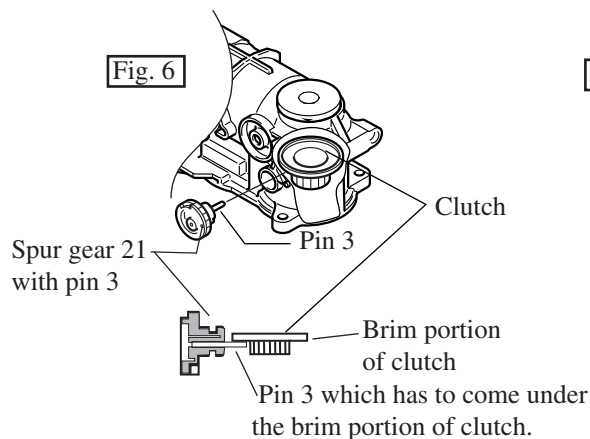
< Note > Be careful, not to lose O ring 4 when disassembling shift lever complete.



< 5 > Assembling spur gear 21 which engages shift lever

(1) Assemble spur gear 21 so that its pin 3 comes under the brim portion of clutch. See Fig. 6.

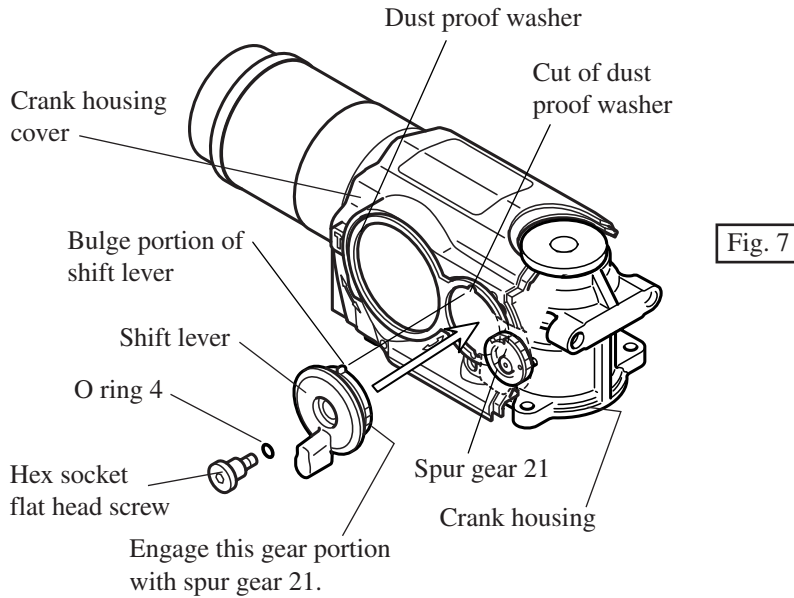
(2) And then, apply the shaft portion of spur gear 21 to spur gear holding wall. So, the positioning mark of spur gear 21 overlaps just on the positioning mark of crank housing. See Fig. 6A.



► Repair

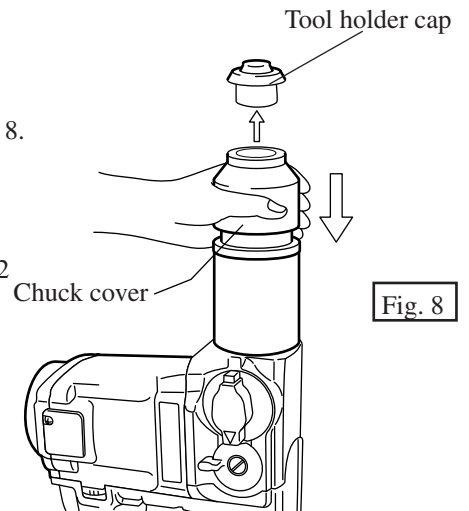
< 6 > Assembling shift lever

Push shift lever into crank housing with aligning its bulge portion with the cut of dust proof washer, and engage the gear portion of shift lever with spur gear 21 as illustrated in Fig. 7. And fasten shift lever with hex socket flat head screw after assembling O ring 4 to shift lever.

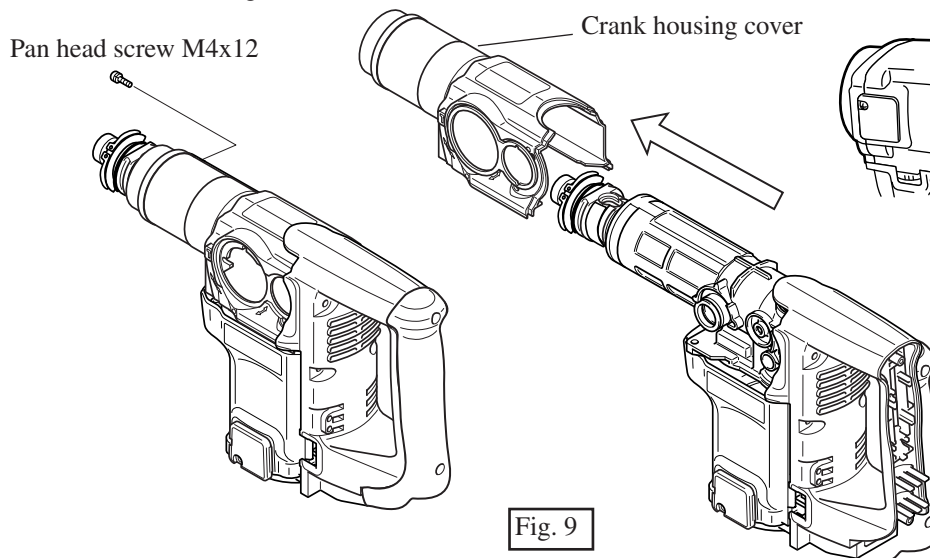


< 7 > Replacing armature

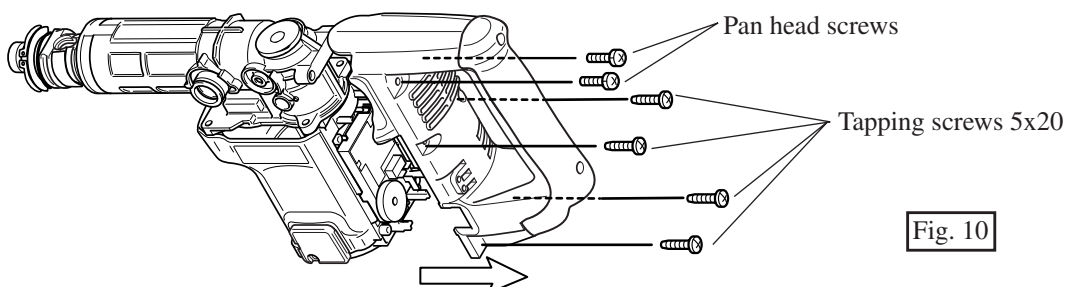
(1) Pull chuck cover down and take off tool holder cap as illustrated in Fig. 8.



(2) Disassemble crank housing cover by unscrewing pan head screw M4x12 as illustrated in Fig. 9.



(3) Disassemble handle section by unscrewing 2 pcs. of pan head screws M5x20 and 4 pcs. of tapping screws 5x20 as illustrated in Fig. 10.



(4) Disassemble connector as illustrated in Fig. 11.

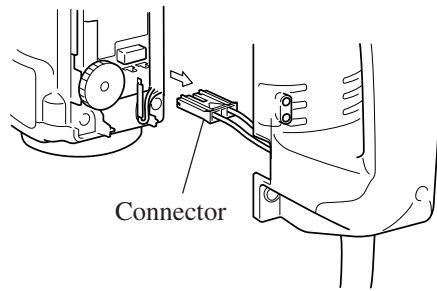


Fig. 11

(5) Disassemble rear cover, and unscrew hex nut M6 with impact driver as illustrated in Fig. 12.

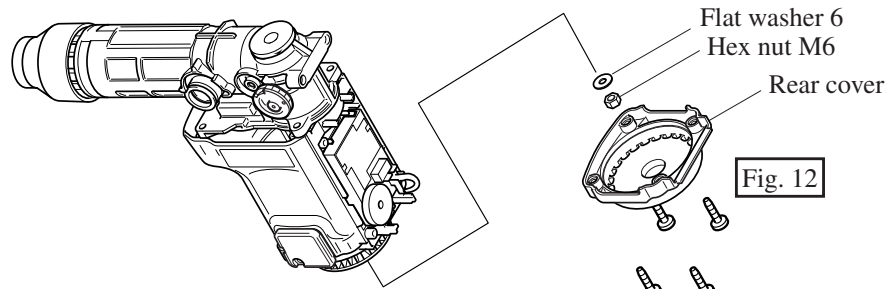


Fig. 12

(6) Disassemble fan 70, spur gear 21 and carbon brush. And then, disassemble crank housing by taking off 4 pcs. of tapping screws 5x30 as illustrated in Fig. 13. Disassemble armature together with gear housing by slightly striking the armature shaft of rear cover side, with plastic hammer as illustrated in Fig. 13A.

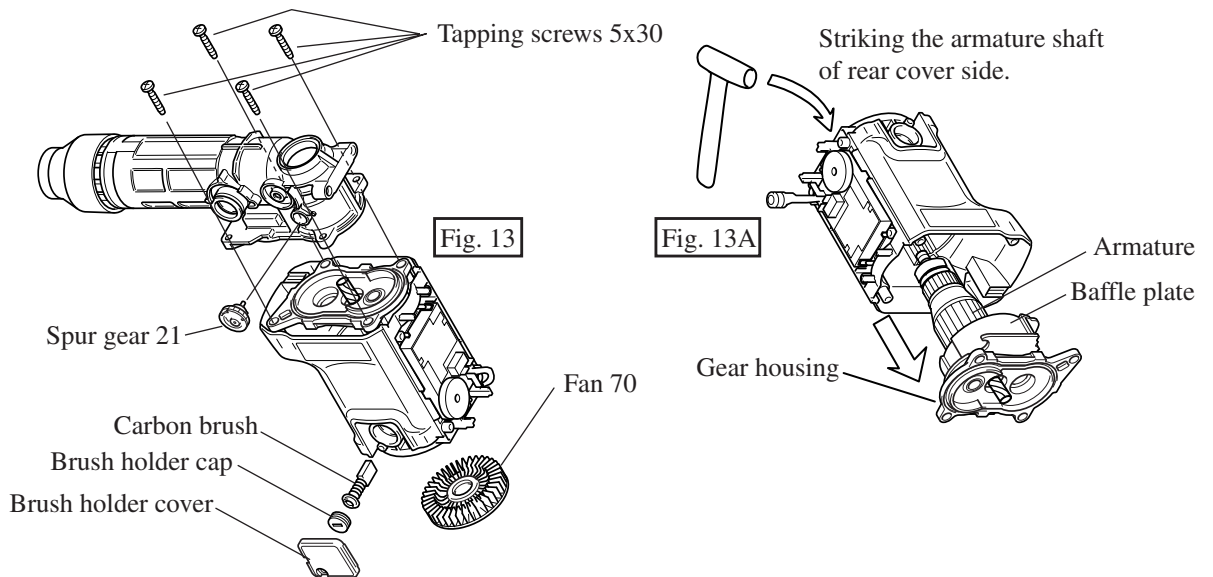


Fig. 13

Fig. 13A

(7) Disassemble armature from gear housing with No.1R045 "large gear extractor" as illustrated in Fig. 14.

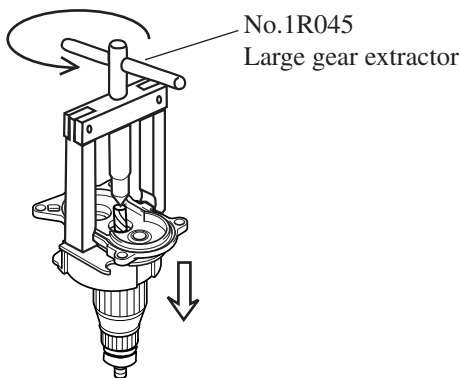


Fig. 14

(8) In advance, assemble ball bearing 6000LU and oil seal 10 to gear housing by pressing. And then, assemble armature and baffle plate to gear housing. See Fig. 15.

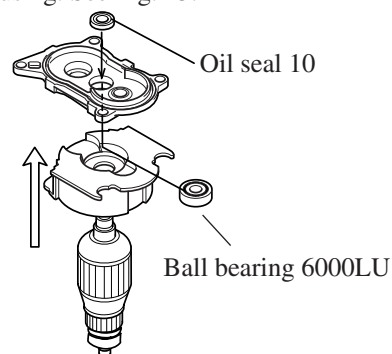


Fig. 15

< Note > Oil seal 10 has to be assembled to gear housing as illustrated in Fig. 15A.

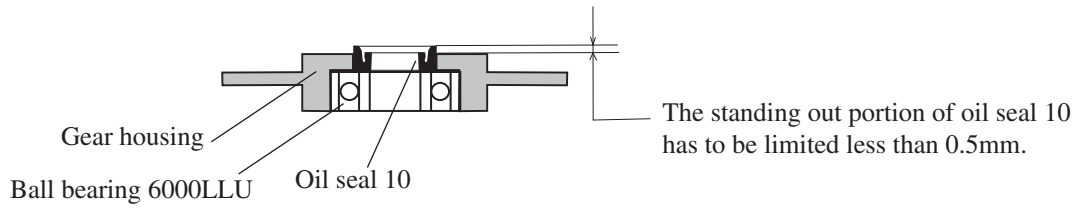


Fig. 15A

< 8 > Disassembling chuck section

(1) Pull chuck cover down and take off tool holder cap. And then, remove chuck cover and compression spring 46 as illustrated in Fig. 16.

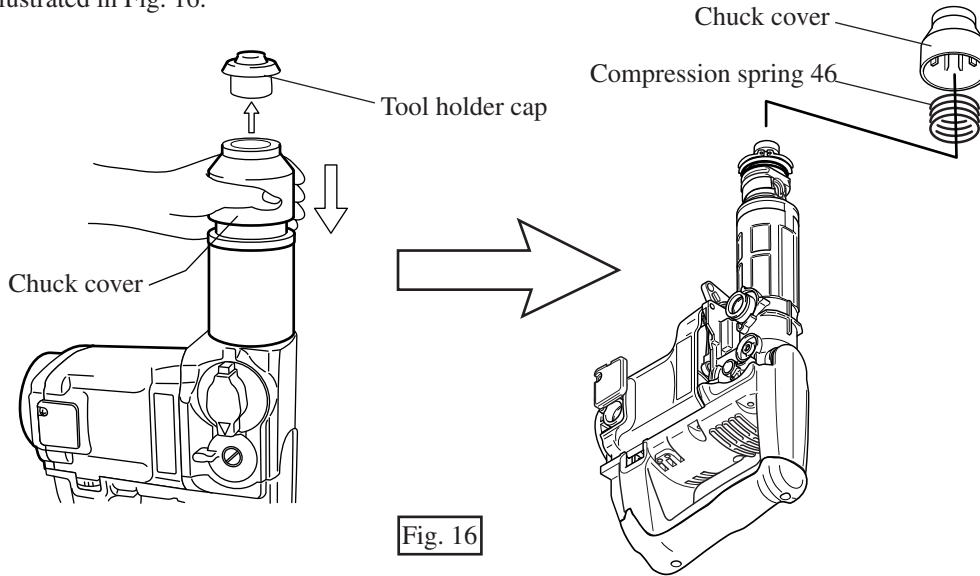


Fig. 16

(2) Take off ring spring 21 from tool holder, with No. 1R212 "retaining ring plier". And then, disassemble the following parts as illustrated in Fig. 17.

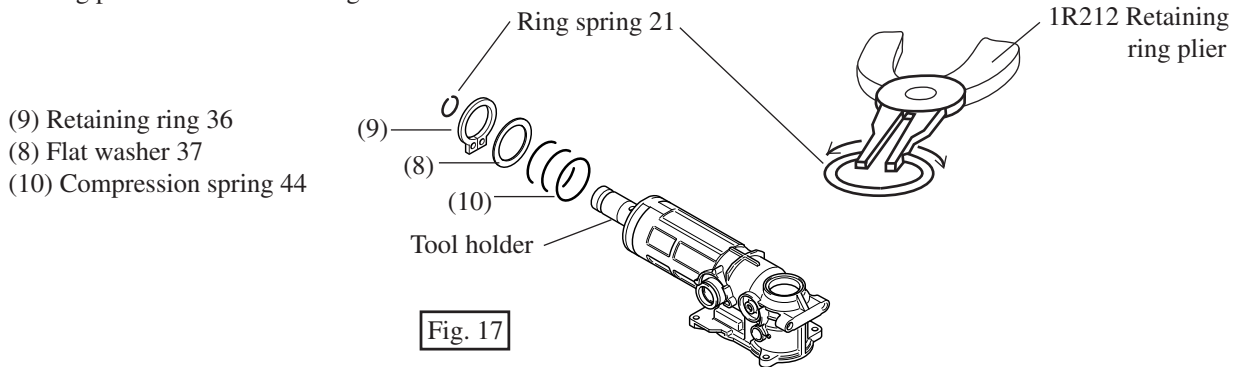


Fig. 17

(3) Take off leaf spring 35 and pin 8 from chuck ring. And then, disassemble chuck ring, 2 pcs. of steel balls 7.9 and guide washer from tool holder as illustrated in Fig. 18.

<Note in assembling leaf spring 35 to chuck ring>

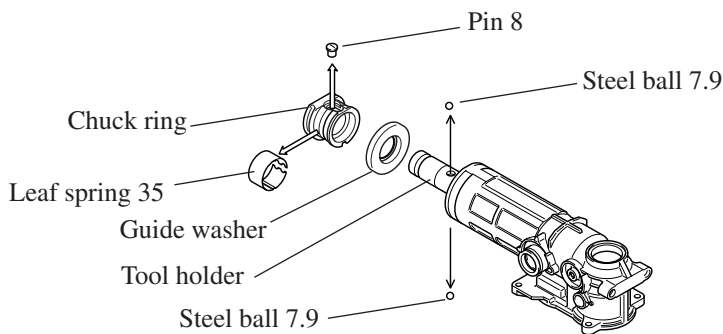


Fig. 18

< 9 > Assembling chuck section

- (1) Assemble leaf spring 35 and pin 8 to chuck ring. And then, assemble the chuck ring, 2 pcs. of steel balls 7.9 and guide washer to tool holder as illustrated in Fig. 19.

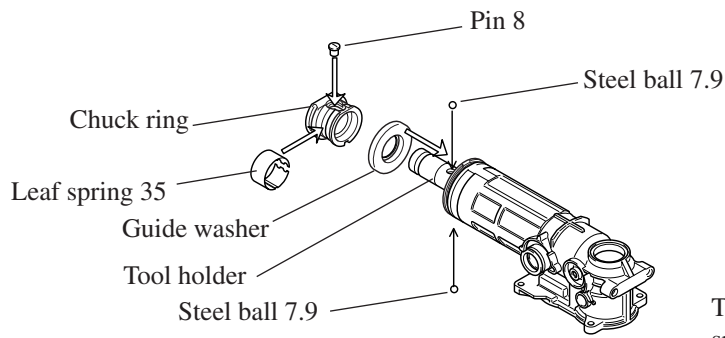
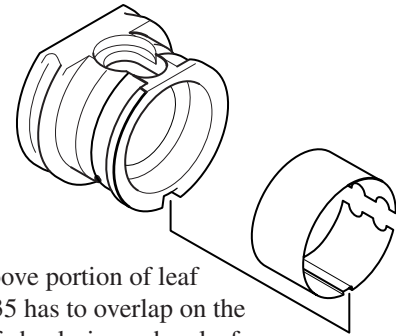


Fig. 19

<Note in assembling leaf spring 35 to chuck ring>



The groove portion of leaf spring 35 has to overlap on the same of chuck ring, when leaf spring 35 is assembled to chuck ring.

- (2) Assemble compression spring 44, flat washer 37 and retaining 36 as illustrated in Fig. 20. And then, assemble ring spring 21 to tool holder, with No. 1R212 "retaining ring plier".

- (10) Compression spring 44
(8) Flat washer 37
(9) Retaining ring 36

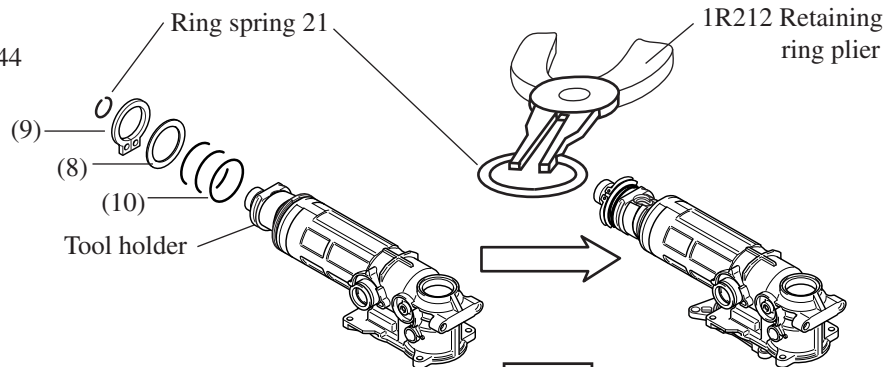


Fig. 20

< 10 > Disassembling tool holder section and crank housing

- (1) Disassemble seal ring from crank housing as illustrated in Fig. 21.

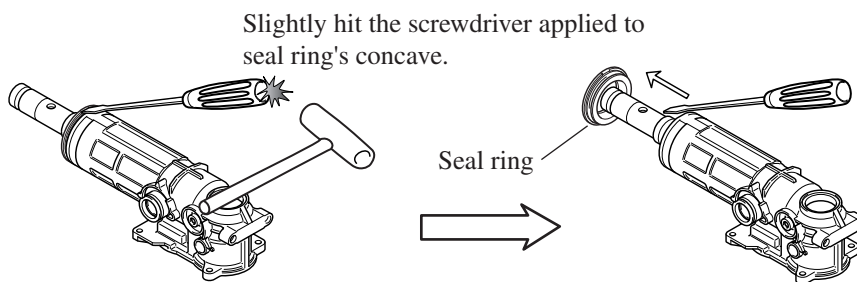


Fig. 21

- (2) Remove retaining ring R52 with retaining ring plier. And then, pull tool holder out of crank housing as illustrated in Fig. 22.

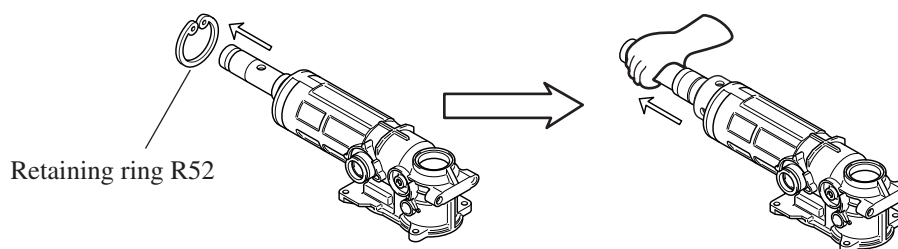
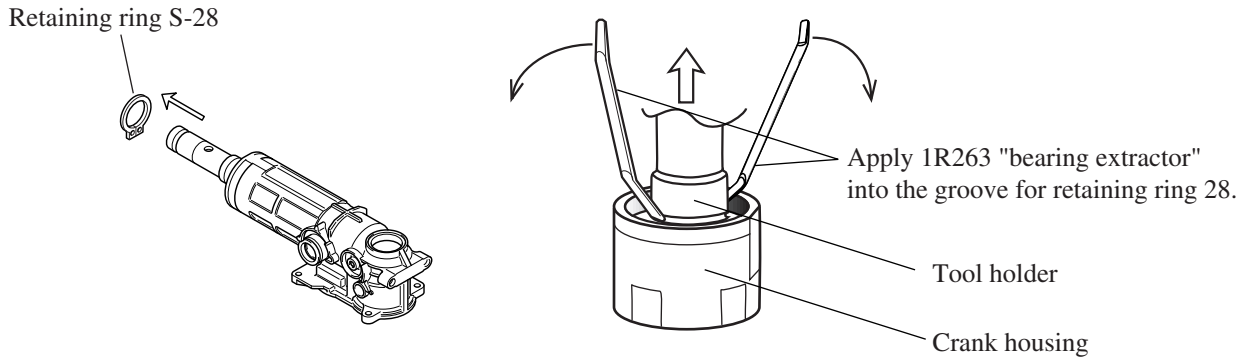


Fig. 22

(2A) If it is difficult to remove the tool holder with hand, take the following step.

1. Take off retaining ring S-28 from tool holder.
2. Lift tool holder with No.1R263 "bearing extractor", or flat head screwdrivers, and remove it from crank housing.



< Note > Be careful, not to scratch or give damage on the groove for retaining ring S-28, when removing tool holder with flat head screwdriver.

Fig. 22A

(2B) If it is difficult to remove the tool holder with the above mentioned way, insert the screwdriver into the hole of tool holder and slightly hit the screwdriver with plastic hammer. See Fig. 22B

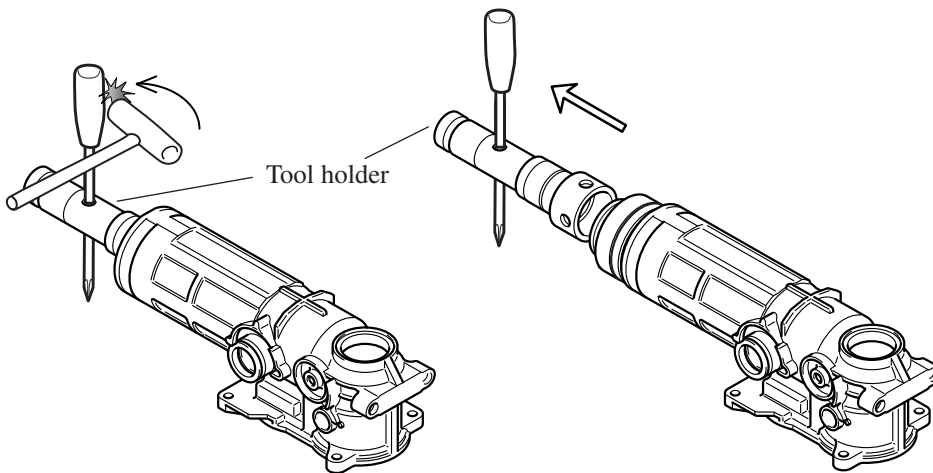


Fig. 22B

< 11 > Assembling tool holder section to crank housing

- (1) Engage the cam portions of driving sleeve and lock sleeve as illustrated in Fig. 23.
- (2) Insert tool holder section into crank housing with aligning the ridge of lock sleeve to the groove of crank housing as illustrated in Fig. 23A.

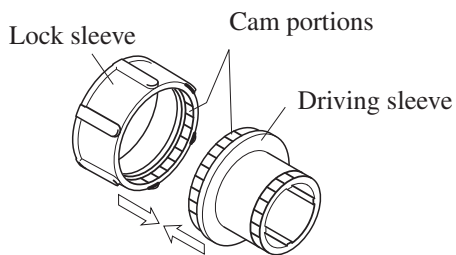


Fig. 23

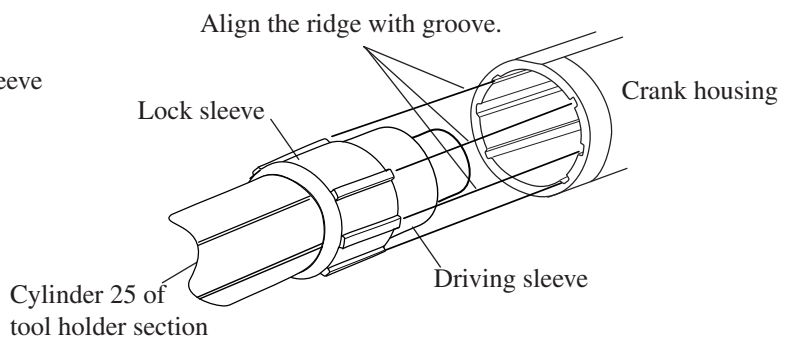
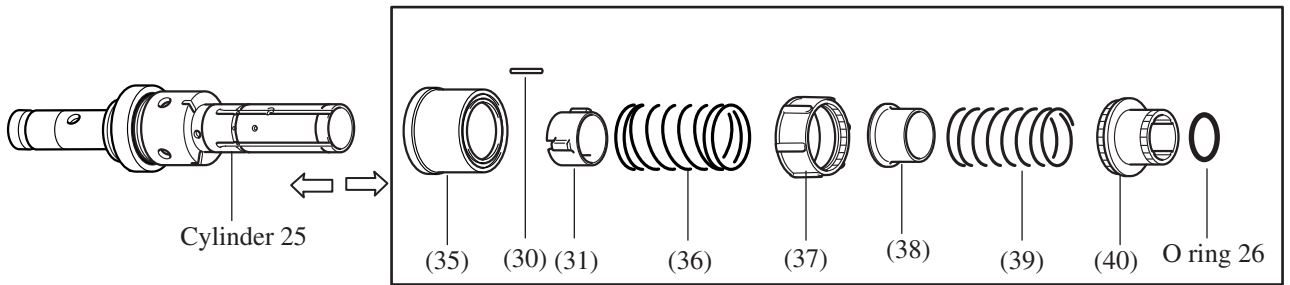


Fig. 23A

< 12 > Disassembling tool holder from cylinder 25

(1) Take off O ring 26, then, the following parts can be disassembled from cylinder 25 as illustrated in Fig. 24.



- | | | |
|---------------------|----------------------------|-----------------|
| (40) Driving sleeve | (39) Compression spring 34 | (38) Ring 29 |
| (37) Lock sleeve | (36) Compression spring 40 | (31) Pin holder |
| (30) Pin 2.5 | (35) Sleeve 50 | |

Fig. 24

(2) Take off 4 pcs. of pins 8 which is joining tool holder and cylinder 25, and disassemble cylinder 25 from tool holder as illustrated in Fig. 25.

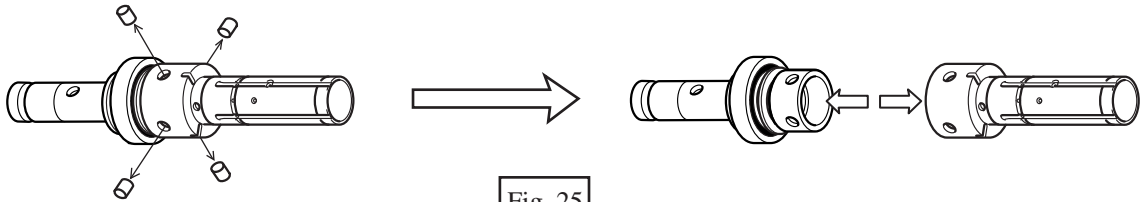
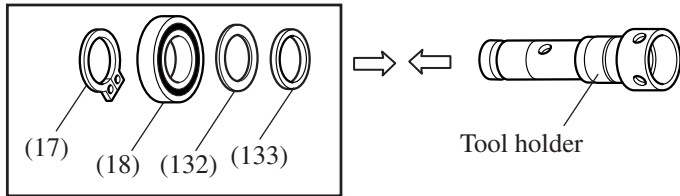


Fig. 25

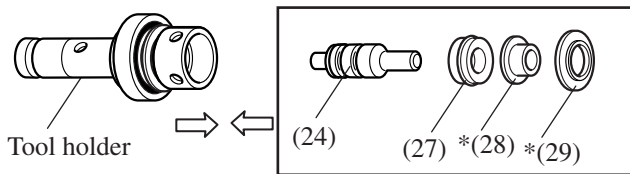
< 13 > Assembling tool holder to cylinder 25

(1) Assemble the following parts to tool holder as illustrated in Fig. 26.



- (17) Retaining ring S-28
- (18) Ball bearing 60/28LLU
- (132) Flat washer 28
- (133) Urethane ring 28

(2) Assemble the following parts to tool holder as illustrated in Fig. 27.



- (24) Impact bolt with 2 pcs. of O rings 15 and fluoro carbon resin rings 20
- (27) Rubber ring 13
- *(28) Sleeve 12
- *(29) Washer 19

Fig. 27

<Note> Sleeve 12 and washer 19 do not have interchangeability with the same ones for Mod.HR3000C. The relative parts for Mod.HR3550C are grooved as illustrated in Fig. 27A.

(3) Join cylinder 25 and tool holder with 4 pcs. of pins 8 as illustrated in Fig. 28.

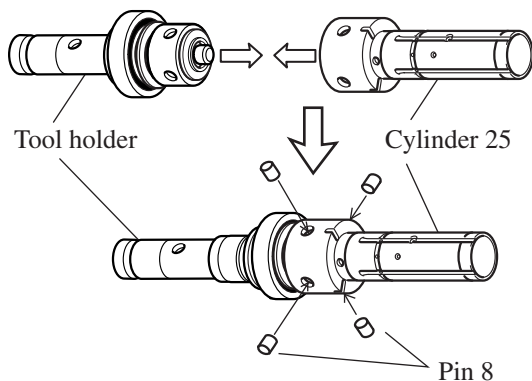


Fig. 28

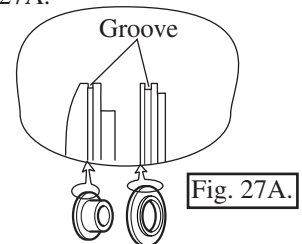
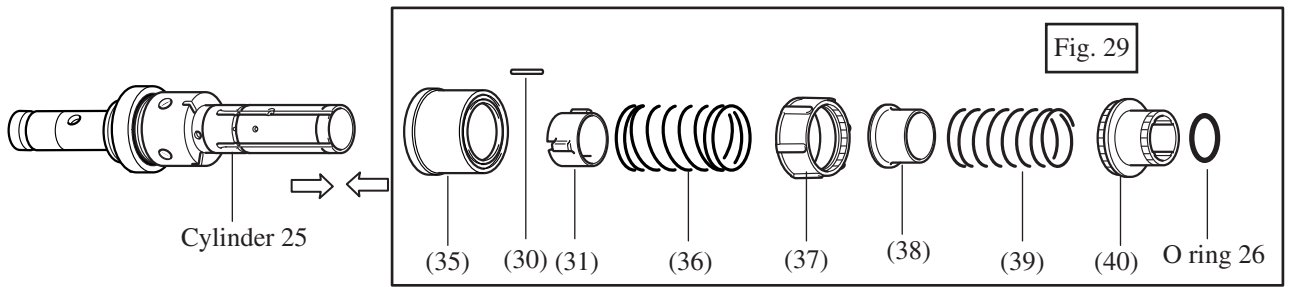
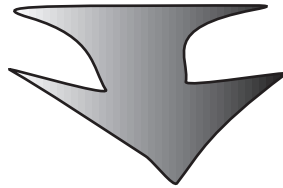


Fig. 27A.

(4) Assemble the following parts to cylinder 25 as illustrated in Fig. 29.



- (35) Sleeve 50 (30) Pin 2.5 (31) Pin holder (36) Compression spring 40
 (37) Lock sleeve (38) Ring 29 (39) Compression spring 34 (40) Driving sleeve



Assembled tool holder
and cylinder 25

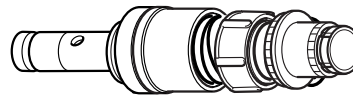


Fig. 29A

<14> Assembling reciprocating section

- (1) Further push the piston, until the hole of rod can be seen through the crank cap installing hole of crank housing. See Fig. 30.
- (2) Press the crank shaft into crank housing with fitting the pin of crank shaft in the hole of rod. as illustrated in Fig. 30A.

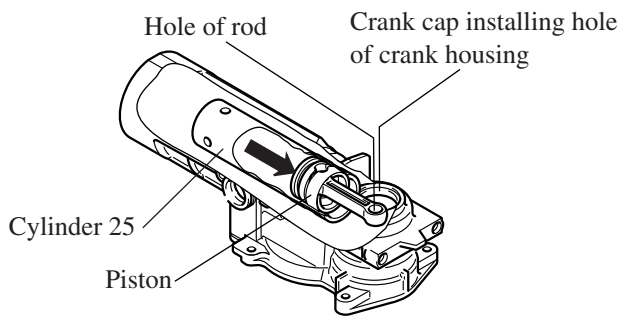


Fig. 30

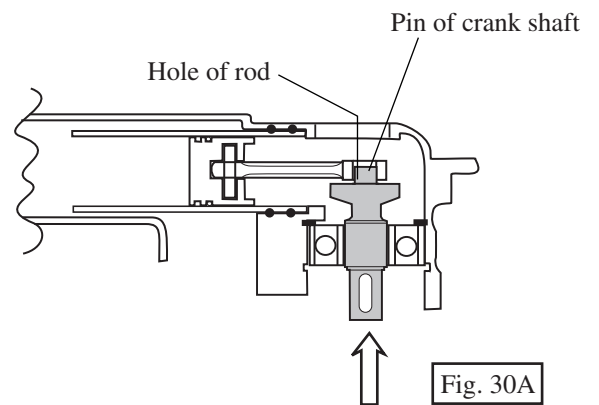


Fig. 30A

► **Repair**

<15> Assembling fluoro carbon resin ring 20 to impact bolt

- 1. After installing fluoro carbon resin ring 20 on impact bolt, the ring comes stretched and its edge come protruding from the groove. (see Fig. 31)
- 2. In order to correct the deformation, insert impact bolt with the fluoro carbon resin ring 20 into the repairing tool, Taper sleeve (No.1R259) and leave it in the repairing tool at least 10 seconds. (see Fig. 31A)
- 3. When inserting impact bolt into tool holder, be careful not to put the ring out of the groove of impact bolt.

Before Correction :
Rings' edges are protruding from grooves of Impact Bolt.

Correction

After Correction :
Rings' edges are placed under grooves of Impact Bolt.

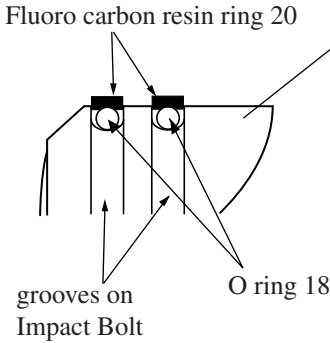


Fig. 31

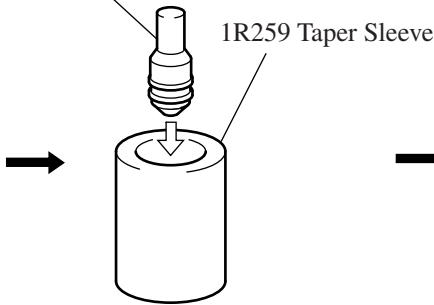


Fig. 31A

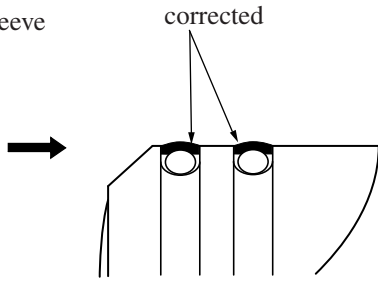
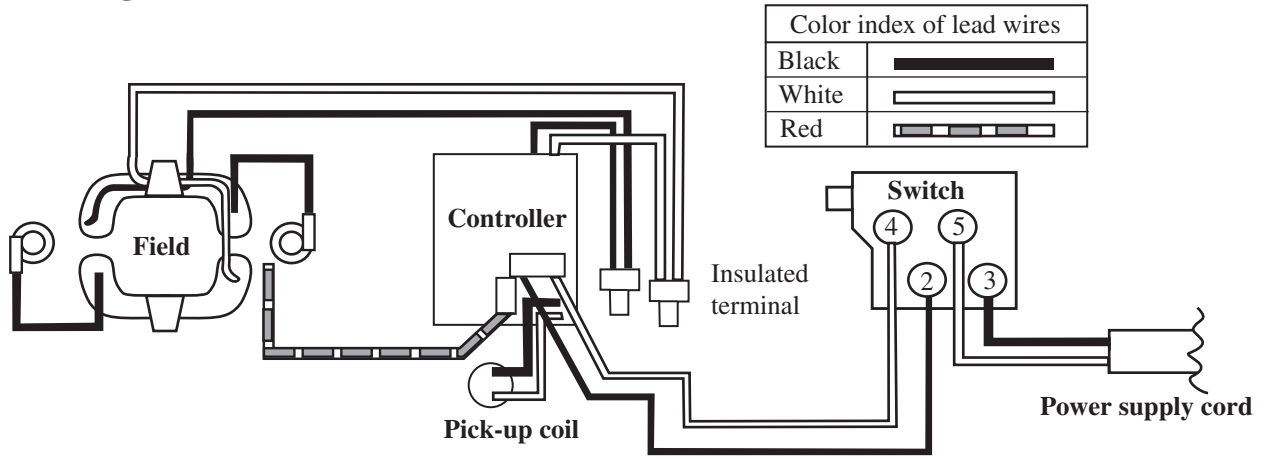


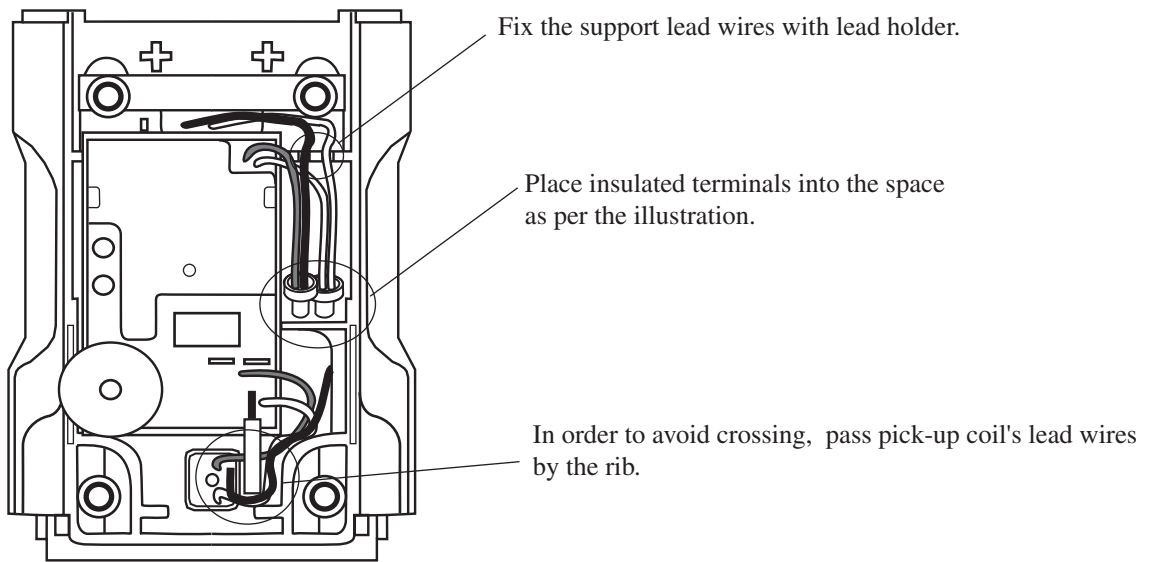
Fig. 31B

► **Circuit diagram**



► **Wiring diagram**

A) Wiring diagram for controller section



B) Wiring diagram for handle section

