

# T ECHNICAL INFORMATION



PRODUCT

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**Model No.** ▶ GA7050/ GA9050

**Description** ▶ Angle Grinders 180mm (7")/ 230mm (9")

## CONCEPT AND MAIN APPLICATIONS

Models GA7050 and GA9050 are developed as easy-to-control 2000W class angle grinder, featuring compact and lightweight tool design achieved by employing:

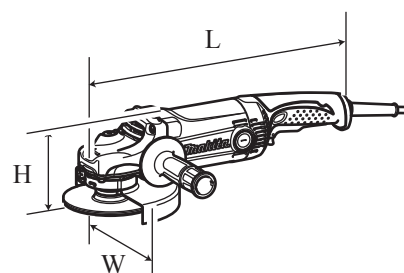
- Newly developed, compact and lightweight motor (Type S-82)
- Down-sized gear housing and main handle

Especially in compactness, the products are unrivalled; the overall length of 432 mm (17") is the shortest among the 2000W class models available in the global market as of February 2010.

Wheel size is:

180mm (7") for Model GA7050

230mm (9") for Model GA9050



| Dimensions: mm (") |              |             |
|--------------------|--------------|-------------|
| Model No.          | GA7050       | GA9050      |
| Length (L)         | 432 (17)     |             |
| Width (W)          | 200 (7-7/8)  | 250 (9-7/8) |
| Height (H)         | 132 (5-3/16) |             |

## ► Specification

| Voltage (V) | Current (A) | Cycle (Hz) | Continuous Rating (W) |        | Max. Output (W) |
|-------------|-------------|------------|-----------------------|--------|-----------------|
|             |             |            | Input                 | Output |                 |
| 110         | 19          | 50/ 60     | 2,000                 | 900    | 2,900           |
| 120         | 15          | 50/ 60     | ---                   | 900    | 2,900           |
| 220         | 9.6         | 50/ 60     | 2,000                 | 1,100  | 3,600           |
| 230         | 9.2         | 50/ 60     | 2,000                 | 1,100  | 3,600           |
| 240         | 8.8         | 50/ 60     | 2,000                 | 1,100  | 3,600           |

| Specification              |               | Model No. | GA7050                    | GA9050     |
|----------------------------|---------------|-----------|---------------------------|------------|
| Wheel size: mm (")         | Diameter      |           | 180 (7)                   | 230 (9)    |
|                            | Hole diameter |           | 22.23 (7/8)               |            |
| No load speed: min-1= rpm. |               |           | 8,500                     | 6,600      |
| Soft start feature         |               |           | No                        |            |
| Anti-restart function      |               |           | No                        |            |
| Double insulation          |               |           | Yes                       |            |
| Power supply cord: m (ft)  |               |           | 2.0 (6.6)*1 / 2.5 (8.2)*2 |            |
| Net weight*3 : kg (lbs)    |               |           | 4.5 (9.9)                 | 4.7 (10.4) |

\*1 for Brazil, Australia

\*2 for all countries except the two listed above

\*3 Weight according to EPTA-Procedure 01/2003, with Side grip, Wheel cover, Inner flange, Lock nut

## ► Standard equipment

Lock nut wrench 35 ..... 1

Side grip 36 ..... 1

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

## ► Optional accessories

Vibration absorbing side grip

Toolless quick adjustable wheel cover

Toolless lock nut

Dust cover attachment

**GA7050:** Accessories for 180mm angle grinder

**GA9050:** Accessories for 230mm angle grinder

## ► Repair

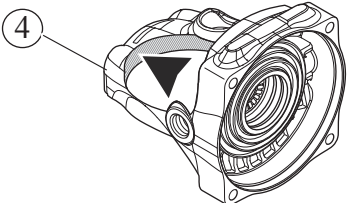
**CAUTION:** Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

### [1] NECESSARY REPAIRING TOOLS

| Code No. | Description                 | Use for  |
|----------|-----------------------------|--|
| 1R004    | Retaining ring pliers ST-2  | Removing Ring spring 13 from Spindle                 |
| 1R005    | Retaining ring pliers RT-2N | Removing Retaining ring (INT) R-32 from Gear housing |
| 1R165    | Ring spring setting tool B  | Assembling large Spiral bevel gear to Spindle        |
| 1R252    | Round bar for arbor 30-100  | Assembling Felt ring 16 to Gear housing              |
| 1R258    | V-block                     |  |
| 1R269    | Bearing extractor           | Assembling / Disassembling Ball bearings             |

### [2] LUBRICATIONS

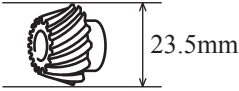
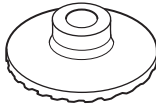
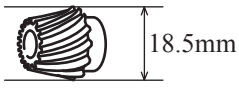
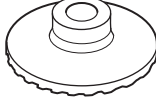
Apply Makita grease SG.No.0 to the following portions designated with the black triangle to protect parts and product from unusual abrasion.

| Item No.  | Description           | Portion to lubricate                   |
|---|-----------------------|--|
| ④   | Gear housing complete | Apply approx. 35g grease to Gear room. |
| <p><b>Fig. 1</b></p>  |                       |  |

### [3] DISASSEMBLY/ASSEMBLY

#### [3]-1. Armature, Spiral bevel gear (small), Ball bearing 6201DDW, ball Bearing 6000DDW

Each model has different gears as illustrated below, and they are not interchangeable.

| Model No. | No load speed: min-1 | Small spiral bevel gear<br>(Gear on Armature shaft)   | Large spiral bevel gear<br>(Gear on Spindle)   |
|-----------|----------------------|---|--|
| GA7050    | 8,500                | <b>Spiral bevel gear 10A</b><br>Diameter: 23.5mm<br> | <b>Spiral bevel gear 38</b><br>Number of teeth: 38<br> |
| GA9050    | 6,600                | <b>Spiral bevel gear 10B</b><br>Diameter: 18.5mm<br> | <b>Spiral bevel gear 49</b><br>Number of teeth: 49<br> |

## ► Repair

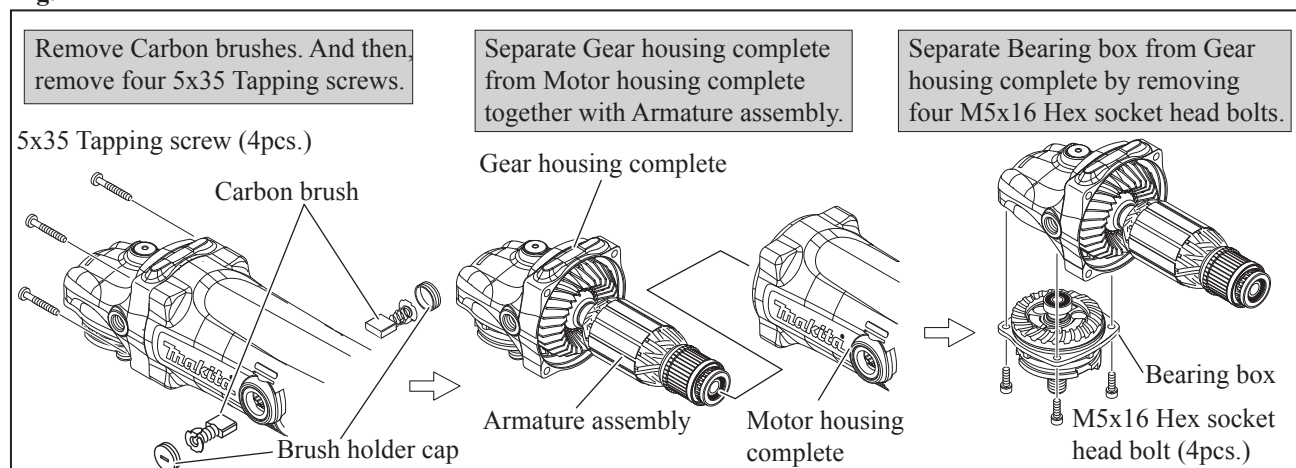
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-1. Armature, Spiral bevel gear (small), Ball bearing 6201DDW, Ball bearing 6000DDW

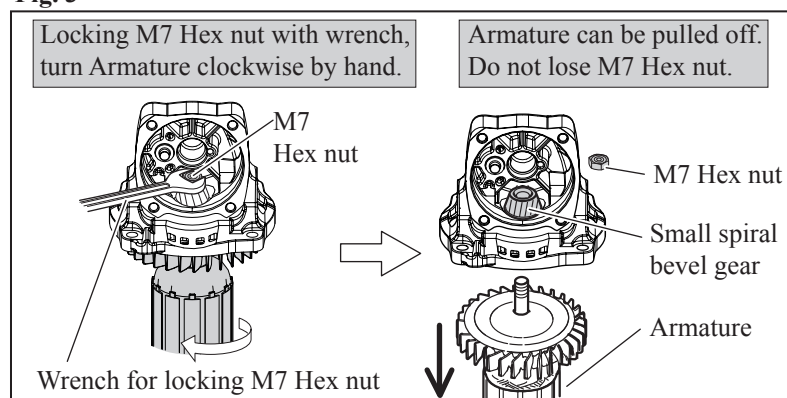
##### DISASSEMBLING

(1) Disassemble Armature assembly and Small spiral bevel gear as illustrated in **Figs. 2 and 3**.

**Fig. 2**



**Fig. 3**



#### Note

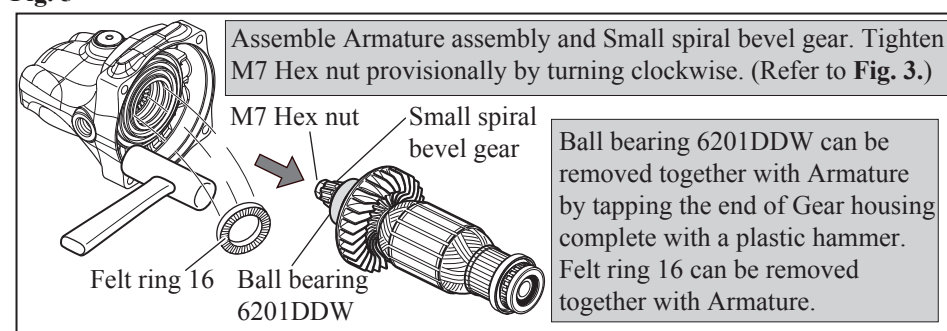
If the work is very difficult due to the seizing of Small spiral bevel gear, spray lubricant between Armature shaft and Small spiral bevel gear. And then turn and pull Armature while holding Small spiral bevel gear with pliers and a cloth.

(2) Disassemble Ball bearing 6201DDW as illustrated in **Figs. 4 and 5**.

**Fig. 4**

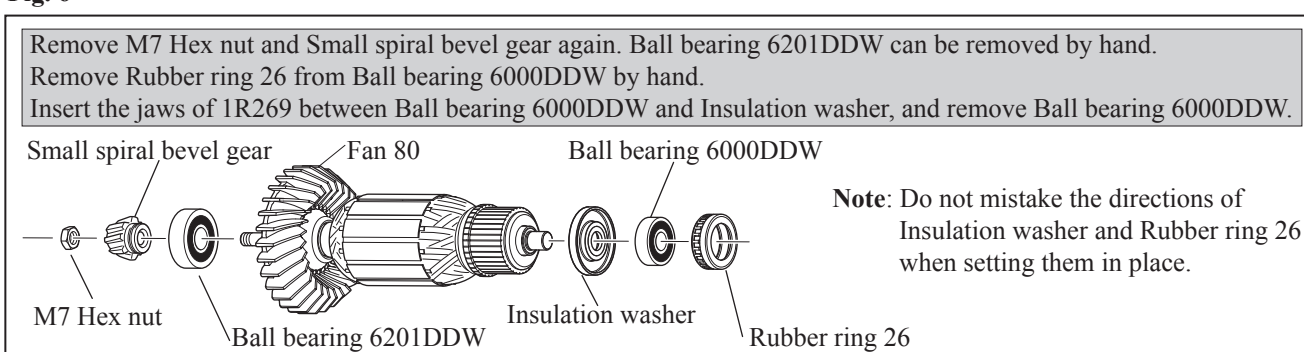


**Fig. 5**



(3) Disassemble Armature section as illustrated in **Fig. 6**.

**Fig. 6**



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

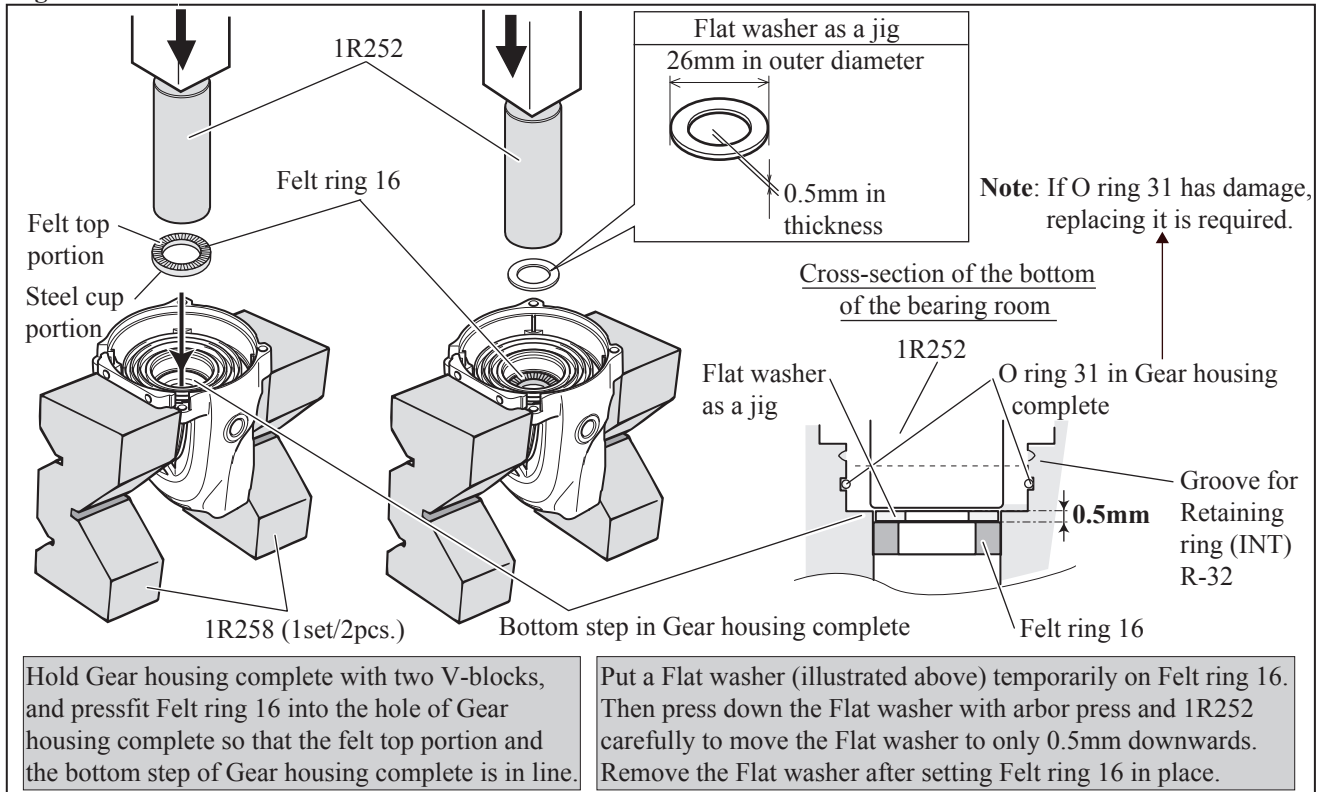
#### [3]-1. Armature, Spiral bevel gear (small), Ball bearing 6201DDW, Ball bearing 6000DDW (cont.)

##### ASSEMBLING

Assemble Gear housing section by setting Felt ring 16, Ball bearing 6201DDW and Retaining ring (INT) R-32 in place of Gear housing complete in accordance with the following steps.

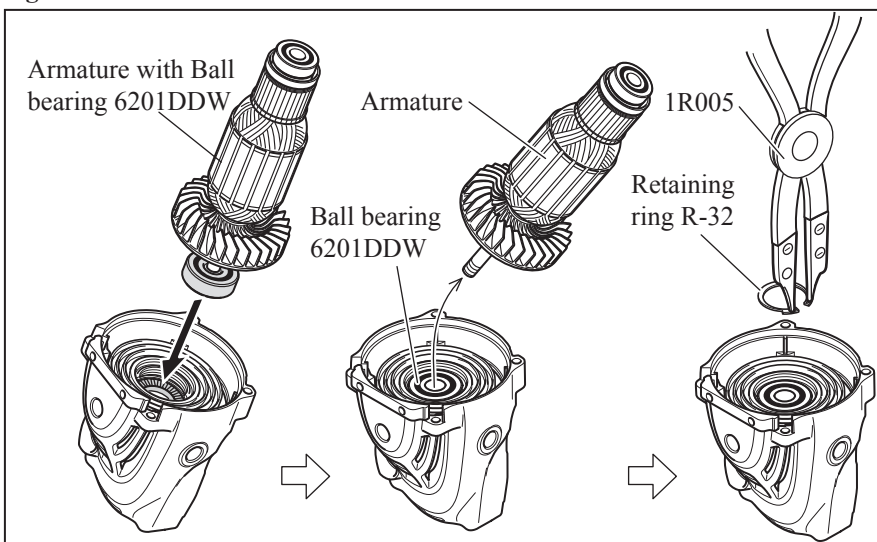
(1) Set Felt ring 16 in place as illustrated in **Fig. 7** when disassembling Ball bearing 6201DDW.

**Fig. 7**



- (2) Assemble Ball bearing 6201DDW to Armature temporarily. After setting Ball bearing 6201DDW in place of Gear housing complete, pull off Armature. Then, fit Retaining ring (INT) R-32 into the groove of Gear housing complete to secure Ball bearing 6201DDW. (**Fig. 8**)
- (3) Assemble Armature and small Spiral bevel gear to Gear housing complete by reversing the step shown in **Fig. 3**.
- (4) Assemble Gear housing complete to Motor housing, And assemble Bearing box section to Gear housing complete.

**Fig. 8**



## ► Repair

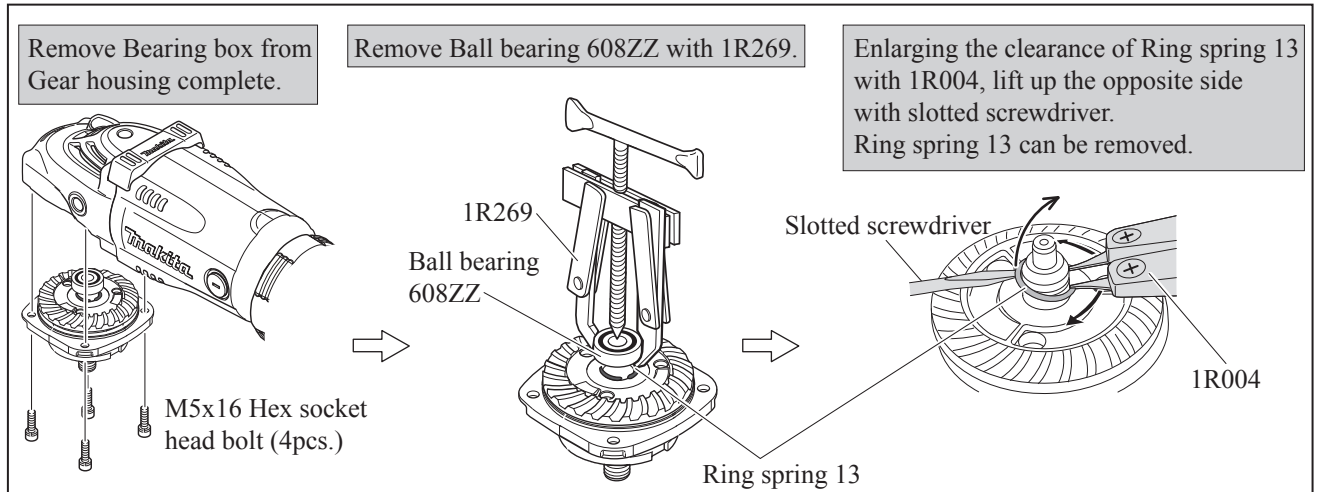
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-2. Large spiral bevel gear, Ball bearing 608ZZ, Ball bearing 6202DDW

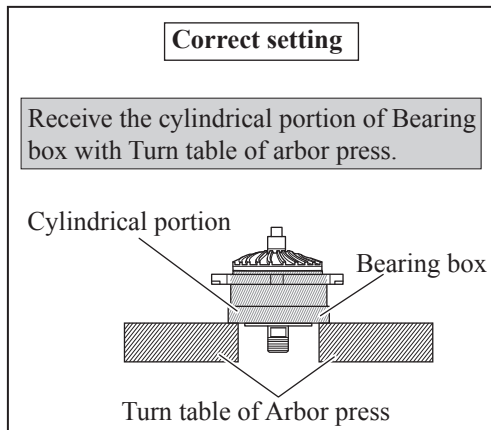
##### DISASSEMBLING

(1) Large spiral bevel gear can be disassembled as illustrated in **Figs. 9, 10R and 11.**

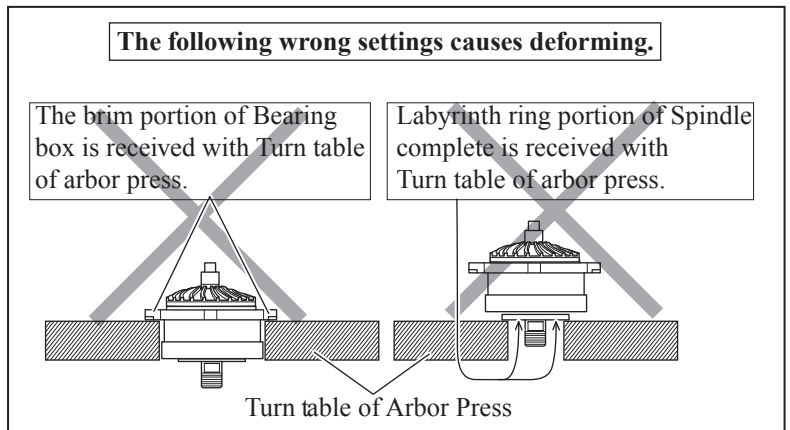
**Fig. 9**



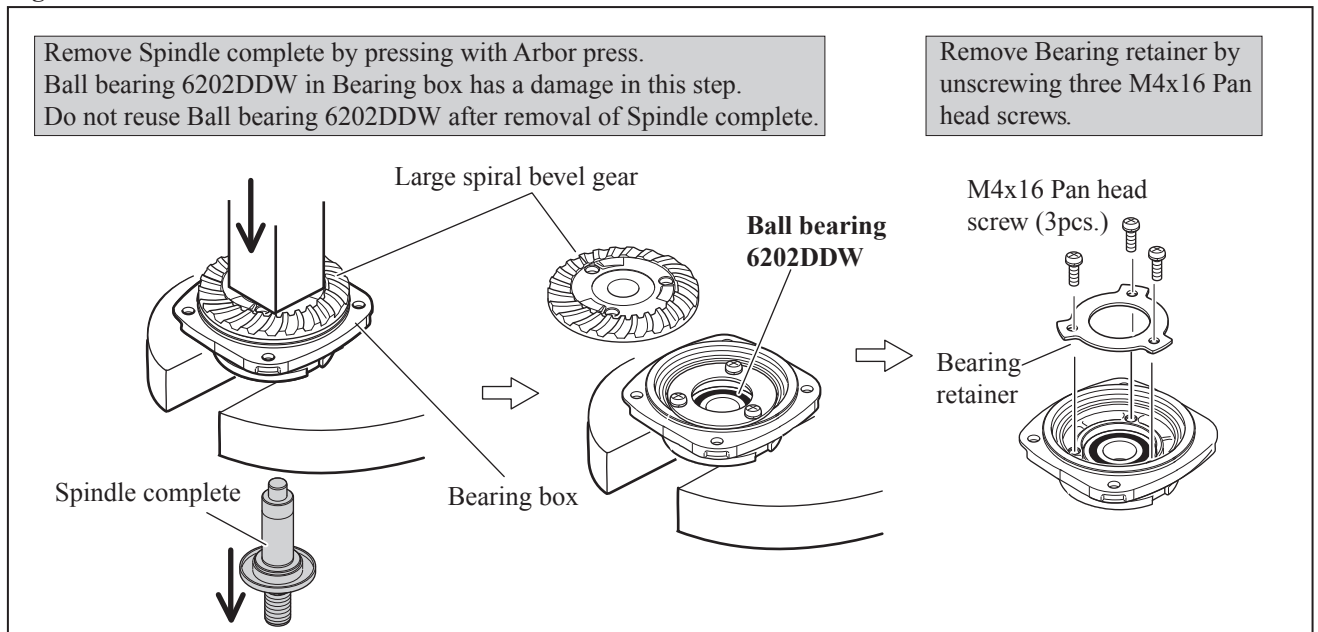
**Fig. 10R**



**Fig. 10F**



**Fig. 11**





## ► Repair

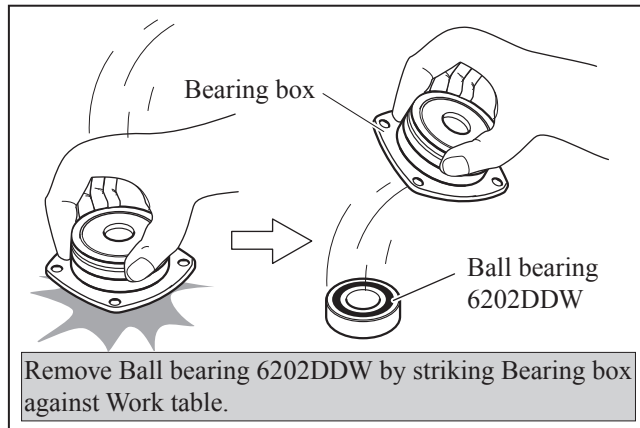
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-2. Large spiral bevel gear, Ball bearing 608ZZ, Ball bearing 6202DDW (cont.)

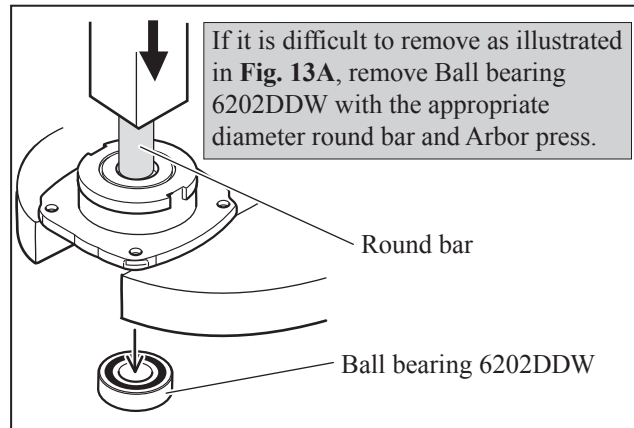
##### DISASSEMBLING

(2) Ball bearing 6202DDW can be disassembled as illustrated in **Fig. 12A** or **Fig. 12B**.

**Fig. 12A**



**Fig. 12B**



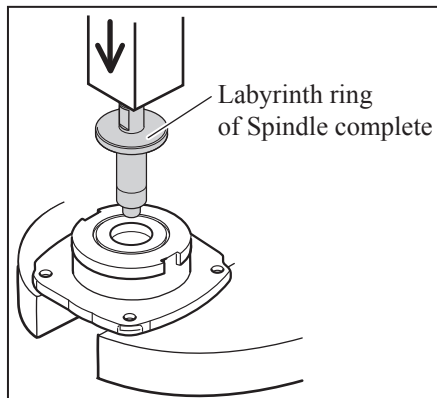
##### ASSEMBLING

Reverse the disassembling step shown in Fig. 11, 10R and 9.

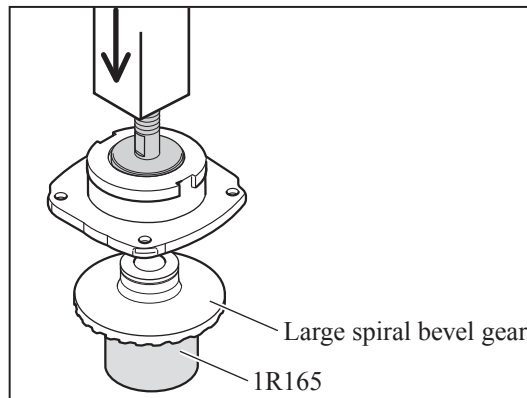
**Note:** 1) Do not deform the labyrinth ring of Spindle complete when pressfitting Spindle complete to Ball bearing 6202DDW. (**Fig. 13**)

2) Putting Large spiral bevel gear on 1R165, press Spindle into arbor hole of Large spiral bevel gear with Arbor press. (**Fig. 14**)

**Fig. 13**



**Fig.14**



## ► Repair

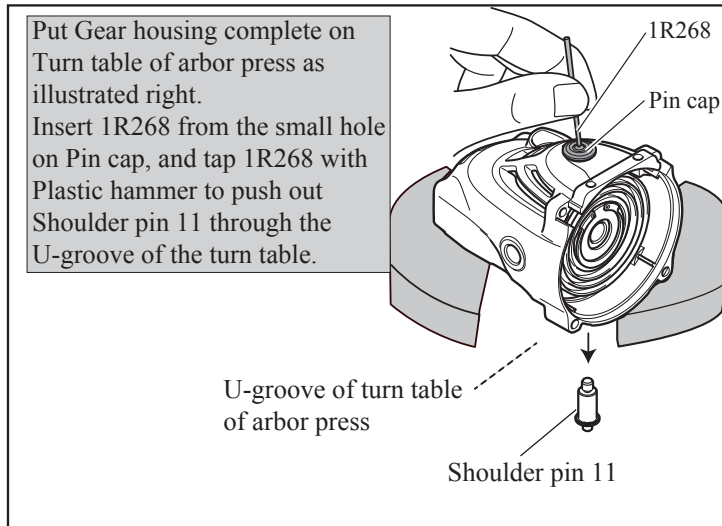
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-3. Shaft lock mechanism

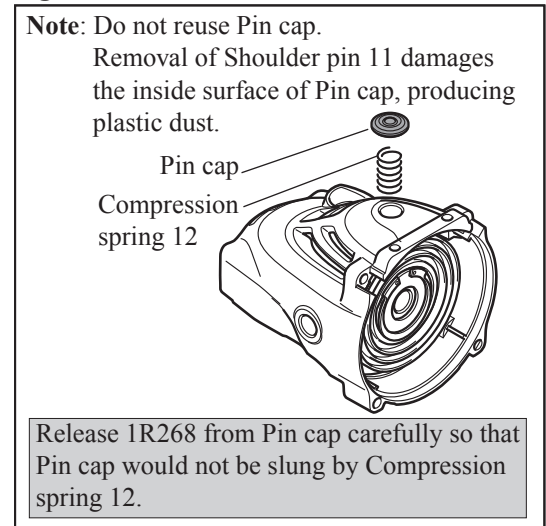
##### DISASSEMBLING

- (1) Remove Gear housing complete from Motor housing.  
Remove Bearing box from Gear housing complete as illustrated in Fig. 2.
- (2) Remove Armature from Gear housing complete as illustrated in Fig. 3.
- (3) Shaft lock mechanism can be disassembled as illustrated in Figs. 15 and 16.

**Fig. 15**



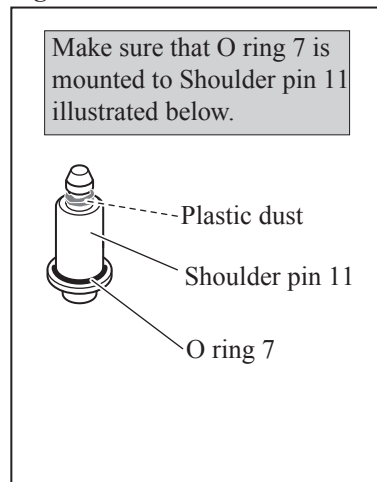
**Fig. 16**



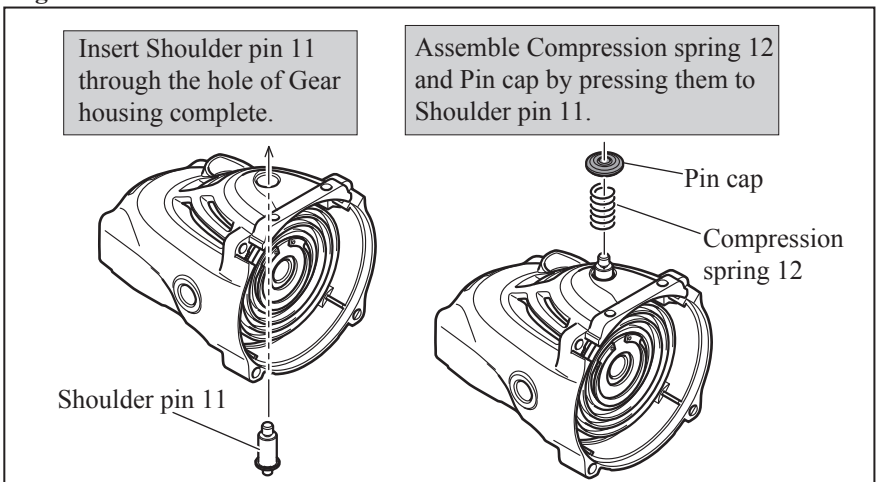
##### ASSEMBLING

- (1) Be sure to use a new Pin cap for replacement and to remove all the plastic dust on Shoulder pin 11. (Fig. 17)
- (2) Assemble the parts for Shaft lock mechanism as illustrated in Fig. 18.

**Fig. 17**

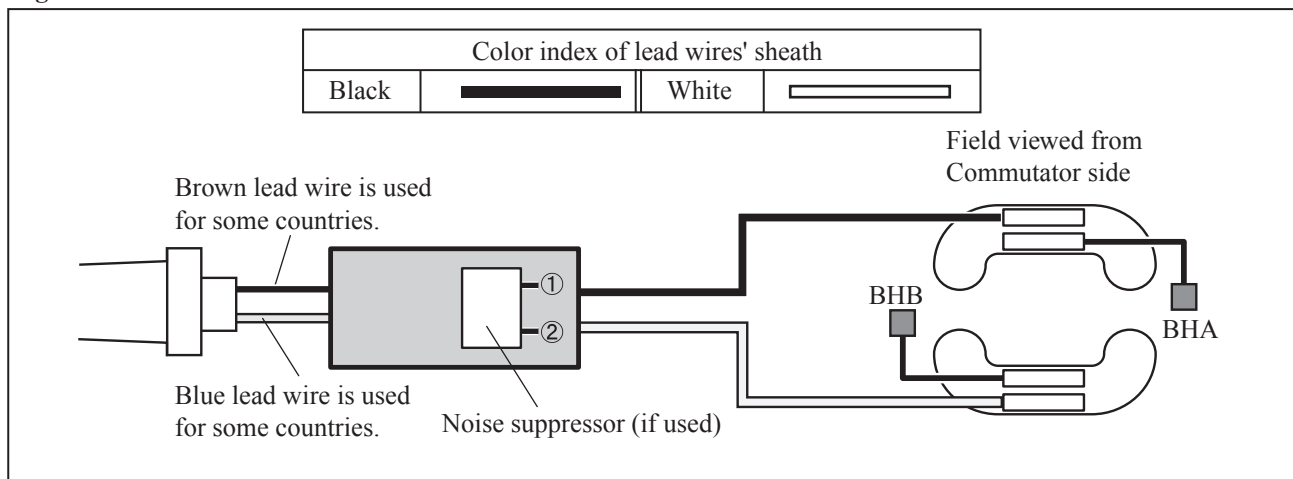


**Fig. 18**



## ► Circuit diagram

Fig. D-1



## ► Wiring diagram

Fig. D-2

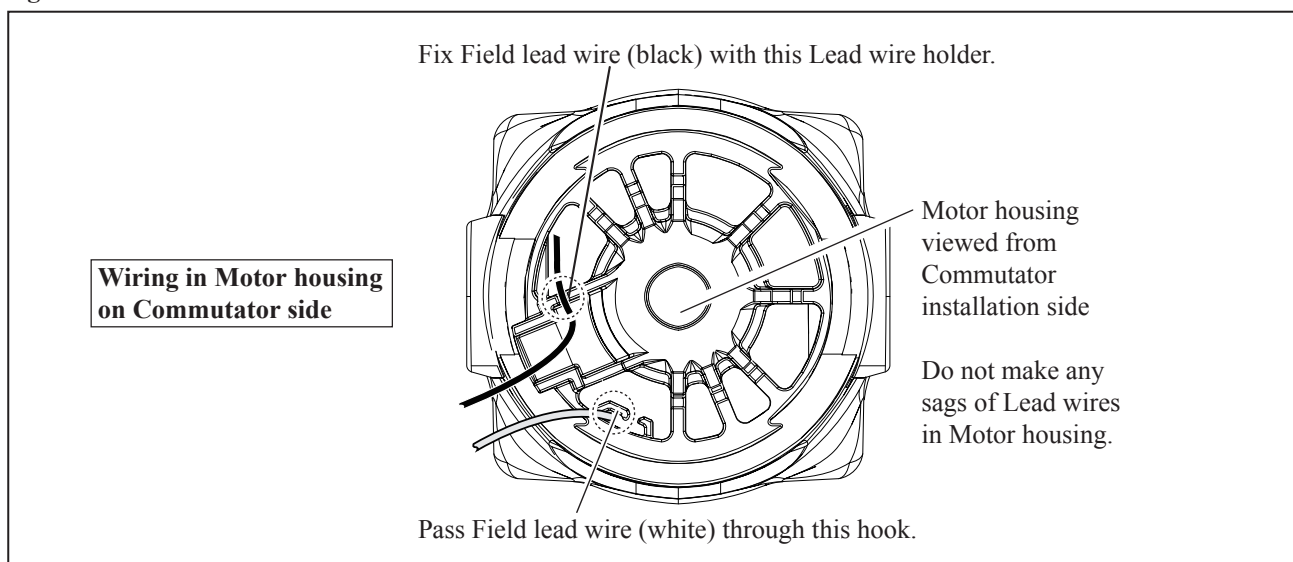


Fig. D-3

