

# T ECHNICAL INFORMATION



PRODUCT

P 1 / 9

<b>Models No.</b>	GA7010C, GA7011C GA9010C
<b>Description</b>	180mm (7") Angle Grinders 230mm (9") Angle Grinder

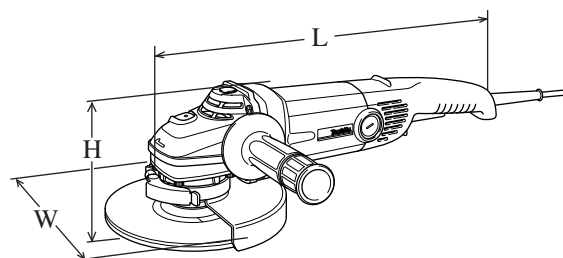
## CONCEPT AND MAIN APPLICATIONS

More comfortable operation will be provided by these new angle grinders with the following features.

\*800g (1.8 lbs) lighter than the current 9067/9069 series models in weight.

\*Yet still features the same high power as 9067/9069 series models.

\*Electronic with soft start, current limiter and constant speed under load



Dimensions: mm (")			
Model No.	GA7010C	GA7011C	GA9010C
Length ( L )	453 (17-7/8)		
Width ( W )	200 (7-7/8)		250 (9-7/8)
Height ( H )	137 (5-3/8)		

## Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	16	50 / 60	1,650	700	2,600
120	15	50 / 60	1,650	700	2,600
a) 220	8.6	50 / 60	1,800	1,000	3,000
b) 230	9.2	50 / 60	2,000	1,200	3,000
c) 240	7.9	50 / 60	1,800	1,000	3,000

a) 220: China

b) 230: Europe and high voltage area of the Middle East countries

c) 240: Australia

Model No.		GA7010C	GA7011C	GA9010C
Wheel size: mm (")	Diameter	180 (7)	180 (7)	230 (9)
	Hole diameter	22.23 (7/8)		
	Thickness	6 (1/4)		
No load speed: min.-1 = rpm.		8,400	6,000	6,000
Electronic features	Current limiter	Yes		
	Soft start	Yes		
	Constant speed	Yes		
Cord length: m (ft)	Australia	2.0 (6.5)		
	Others	2.5 (8.2)		
Net weight: kg (lbs)		3.4 (7.5)		

## Standard equipment

\*Lock nut wrench 35 ..... 1 pc.

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

## Optional accessories

\*Dust cover attachment

For GA7010C, GA7011C

\*Assorted accessories for 180mm (7") angle grinder

For GA9010C

\*Assorted accessories for 230mm (9") angle grinder

## ► Features and benefits

### **Weights Only 3.4kg (7.5lbs) to Reduce Operator Fatigue in Long Continuous Use.**

**800g (1.8lbs) lighter than the current 9067/9069 series models, yet features the same high power as them thanks to the new S71 motor and electronic features.**

### **Electronic with**

1. Constant speed under load
2. Current limiter for protection against overload
3. Soft start for minimized startup reaction force

### **Easy-to-Operate Large Spindle Lock Button**

### **Rotatable Gear Housing**

Can be positioned at every 90 degrees to suit most cutting and grinding operations.

### **Cooling Vents with Labyrinth Structure**

Seal out dust and debris for long tool life.

### **Auto Cut-Out Brushes**

### **Dust Cover Attachment** (optional accessory)

**Can be installed with one-touch action to seal out coarse dust such as aluminum dust.**

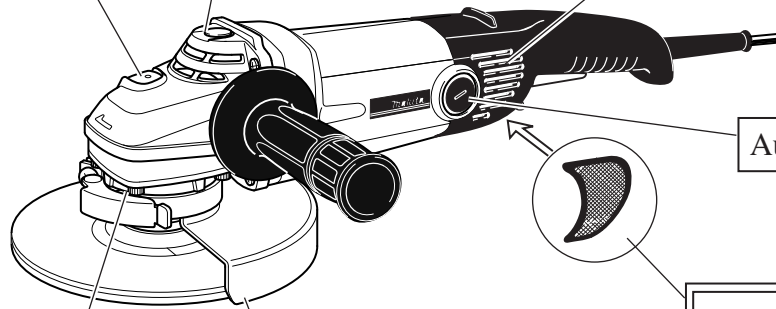
### **O Rings for Protection from Grease-Leakage**

Placed in the following portions;  
 \*Joint between gear housing and Bearing box  
 \*Shaft lock pin installation hole

### **Wheel Cover can be rotated and fixed at any desired position without tool.**

### **High Dust-Proof Construction**

- \*All dust-proof ball bearing construction
- \*Labyrinth ring on armature shaft
- \*Dust-seal washer on all ball bearings
- \*Protective zigzag varnish on armature and tape on field



## ► Comparison of products

### 180mm (7") Electronic Angle Grinder

Mode No. Specifications		Makita		A	B	C
		GA7010C/ GA7011C	9067/ 9067L	A	B	C
Wheel size: mm (")	Diameter	<b>180 ( 7 )</b>	180 ( 7 )	180 ( 7 )	180 ( 7 )	180 ( 7 )
	Hole diameter	<b>22.23 ( 7/8 )</b>	22.23 (7/8)	22.23 (7/8)	22.23 (7/8)	22.23 (7/8)
Power input: W	110V/120V	<b>1,650</b>	2,000	1,800	1,800	1,520
	230V	<b>2,000</b>				
	220V/240V	<b>1,800</b>				
No load speed: min-1=rpm		<b>8,400/ 6,000</b>	8,500 / 6,600	7,000	8,000	7,600
Electronic	Constant speed under load	<b>Yes</b>	No	Yes	No	Yes
	Soft start	<b>Yes</b>	No	Yes	No	Yes
	Current limiter	<b>Yes</b>	No	Yes*	No	No**
Tool-less	Wheel change	<b>No</b>	No	No	No	Yes
	Wheel guard adjustment	<b>Yes</b>	No	Yes	No	No
Auto cut-out brush		<b>Yes</b>	Yes	Yes	Yes	Yes
Double insulation		<b>Yes</b>	Yes	Yes	Yes	Yes
Power supply cord: m (ft)		<b>2.5 (8.2)</b>	2.5 (8.2)	4.0 (13.1)	4.0 (13.1)	4.0 (13.1)
Dimensions: mm (")	Length	<b>453 (17-7/8)</b>	458 (18)	447 (17-5/8)	407 (16)	385 (15-1/8)
	Width	<b>200 (7-7/8)</b>	200 (7-7/8)	194 (7-5/8)	196 (7-3/4)	193 (7-5/8)
	Height	<b>137 (5-3/8)</b>	139 (5-1/2)	127 (5)	114 (4-1/2)	109 (4-1/4)
Net weight: kg (lbs)		<b>3.4 (7.5)</b>	4.2 (9.3)	3.5 (7.7)	3.2 (7.1)	2.2 (4.9)
Standard equipment		<b>Lock nut wrench Side grip</b>	Lock nut wrench Side grip	Lock nut wrench Side grip	Lock nut wrench Side grip Cut off wheel	Side grip

\*electronic control + thermistor

\*\*thermistor only

### 230mm (9") Electronic Angle Grinder

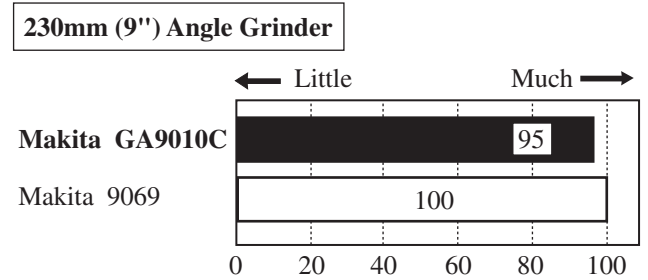
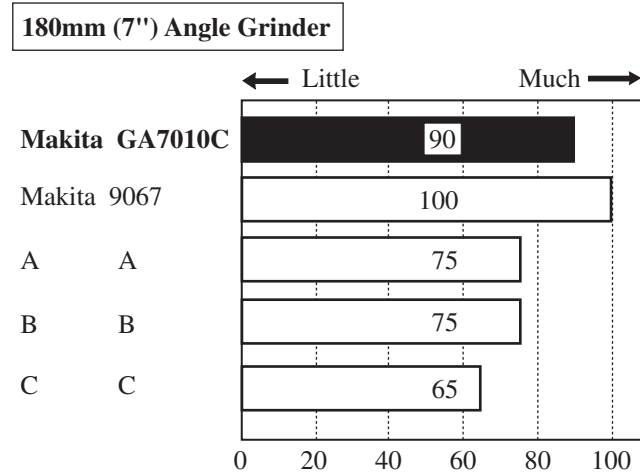
Mode No. Specifications		Makita		D
		GA9010C	9069	D
Wheel size: mm (")	Diameter	<b>230 (9)</b>	230 (9)	230 (9)
	Hole diameter	<b>22.23 (7/8)</b>	22.23 (7/8)	22.23 (7/8)
Power input: W	110V/120V	<b>1,650</b>	2,000	1,200
	230V	<b>2,000</b>		
	220V/240V	<b>1,800</b>		
No load speed: min-1=rpm		<b>6,000</b>	6,600	4,000
Electronic	Constant speed under load	<b>Yes</b>	No	No
	Soft start	<b>Yes</b>	No	No
	Current limiter	<b>Yes</b>	No	No
Tool-less	Wheel change	<b>No</b>	No	No
	Wheel guard adjustment	<b>Yes</b>	No	No
Auto cut-out brush		<b>Yes</b>	Yes	No
Double insulation		<b>Yes</b>	Yes	Yes
Power supply cord: m (ft)		<b>2.5 (8.2)</b>	2.5 (8.2)	5.0 (16.4)
Dimensions: mm (")	Length	<b>453 (17-7/8)</b>	458 (18)	430 (17)
	Width	<b>250 (9-7/8)</b>	250 (9-7/8)	250 (9-7/8)
	Height	<b>137 (5-3/8)</b>	139 (5-1/2)	130 (5-1/8)
Net weight: kg (lbs)		<b>3.4 (7.5)</b>	4.2 (9.3)	3.8 (8.4)
Standard equipment		<b>Lock nut wrench Side grip</b>	Lock nut wrench Side grip	Lock nut wrench Side grip Hex wrench Wrench

## ► Comparison of products

### [1] Grinding Test

Test conditions: Ground a S45C Carbon steel plate for 10 minutes.

#### Comparison of Amount of Stock Removed

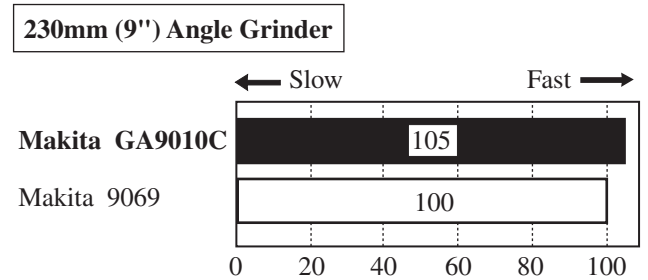
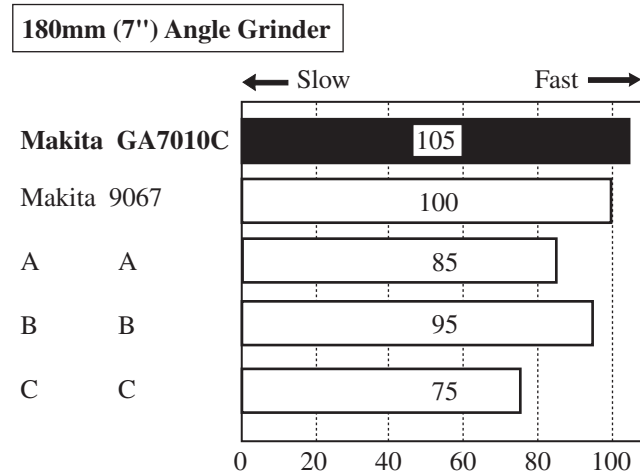


**Note:** Numbers in these graphs are relative values when the amount removed by Makita 9067/9069 are indexed at 100.

### [2] Cutting Test (1)

Test conditions: Cut a 600mm long concrete plate to a depth of 20mm.

#### Comparison of Cutting Speed

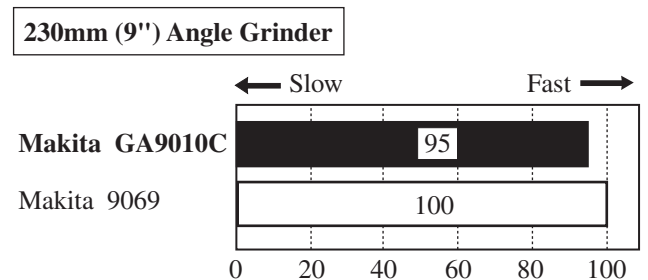
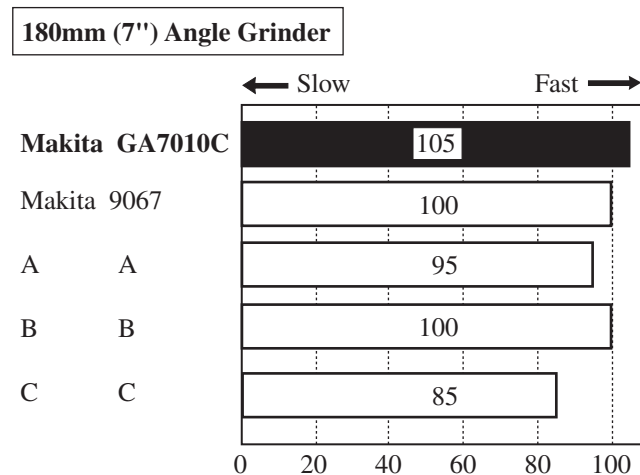


**Note:** Numbers in these graphs are relative values when the time required by Makita 9067/9069 are indexed at 100.

### [3] Cutting Test (2)

Test conditions: Cut a 600mm long concrete plate to a depth of 40mm.

#### Comparison of Cutting Speed



**Note:** Numbers in these graphs are relative values when the time required by Makita 9067/9069 are indexed at 100.

## ► Repair

**CAUTION:** For your safety, before maintenance or repair, be sure to;

1. Disconnect the machine from the power source.
2. Remove the wheel from the machine.

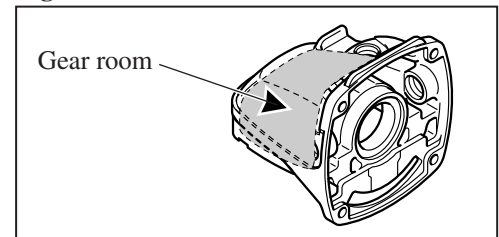
### [1] Necessary Repairing Tools

Tool No./ Description	Use for
1R035/ Bearing Setting Plate	Press-fitting Ball bearings
1R045/ Gear Extractor (large)	Removing Gear housing cover and Bearing box
1R229/ 1/4" Hex Shank Bit M5	Removal/Installation of the Hex socket head bolts that fasten Bearing box
1R269/ Bearing Extractor	Removing ball bearing 608DDW on the commutator end of Armature shaft
1R291/ Retaining Ring S and R Pliers	Removal/Installation of the Retaining ring that retains larger Spiral bevel gear
1R340/ Bearing Retainer Wrench	Removal/Installation of Bearing retainer

### [2] Lubrication

Put 40g of Makita grease SG. No.0 into the gear room of Gear housing for a long gear life. (**Fig. 1**)

**Fig. 1**



### [3] Disassembling and Assembling

**Note:** As listed to left, the grinders use different spiral bevel gears, and they are not interchangeable.

Referring to this list, therefore, be sure to use correct gears for replacement.

Model No.	Smaller spiral bevel gear (on armature shaft)	Larger spiral bevel gear (on spindle)
GA7010C	11 teeth	37 teeth
GA7011C	9 teeth	43 teeth
GA9010C		

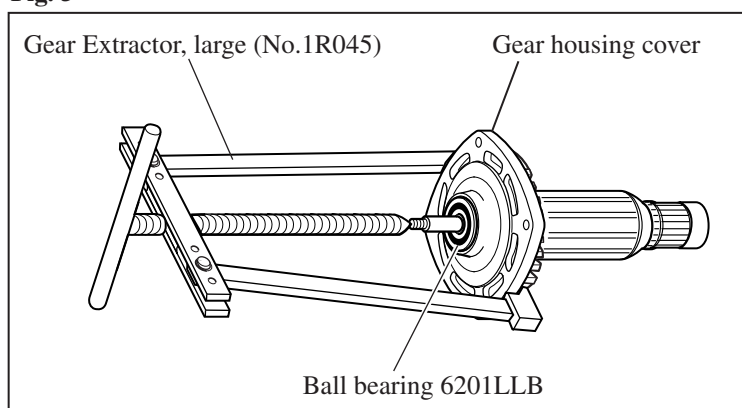
### [3]-1. Replacing Armature, Smaller Spiral Bevel Gear and Ball Bearing 6201LLB

#### DISASSEMBLING

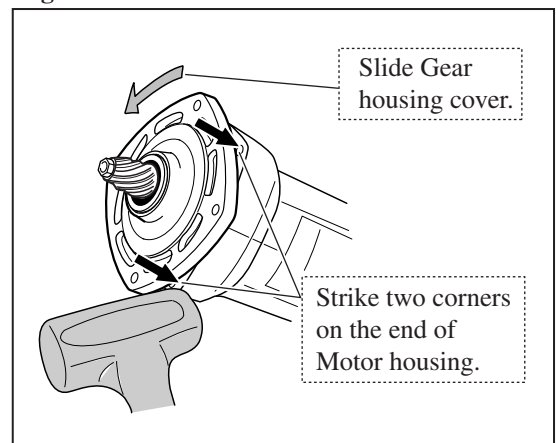
**Note:** Disassembling can be done without disassembling Gear housing section.

- 1) After removing Carbon brushes, by removing four 5x30 Tapping screws, Gear housing section can be separated from Motor housing.
- 2) Slide Gear housing cover until you see the corners on the end of Motor housing. And then by striking two of the corners with plastic hammer, the assembly of Armature and Gear housing cover can be separated from Motor housing. (**Fig. 2**)
- 3) Remove Hex nut M6 by turning counterclockwise while holding Armature firmly by hand. Now smaller Spiral bevel gear can be removed from Armature shaft by hand.
- 4) Remove Gear housing cover from Armature using Gear Extractor, large (No.1R045). (**Fig. 3**) Ball bearing 6201LLB is still on Gear housing cover at this step. Therefore, remove the bearing with arbor press and a round bar. (**Fig. 4**)

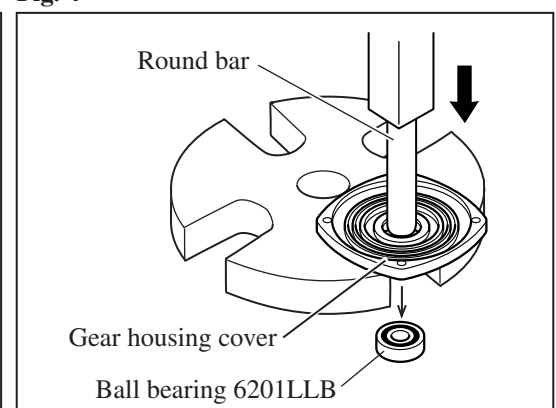
**Fig. 3**



**Fig. 2**



**Fig. 4**



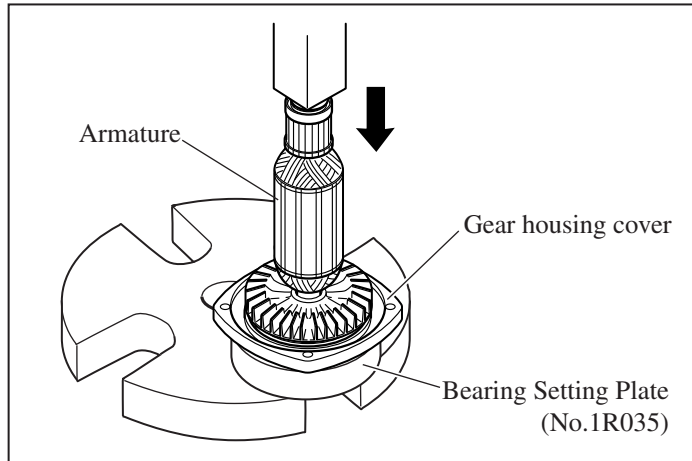
## ► Repair

### ASSEMBLING

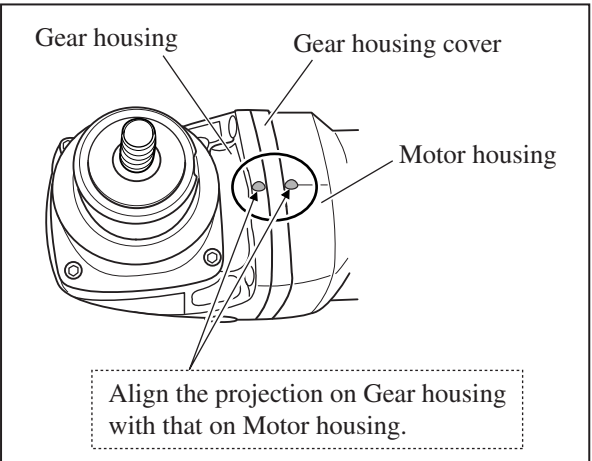
Follow the reverse of disassembling procedure as described below.

- 1) Insert ball bearing 6201LLB straight into Gear housing cover.  
And then put Bearing setting plate (No.1R035) on arbor press, and then put Gear housing cover on Bearing setting plate.  
Press-fit Armature to Gear housing cover using arbor press. (**Fig. 5**)
- 2) Install smaller Spiral bevel gear on Armature shaft, and tighten Hex nut M6 securely with a spanner 10.  
And then install the assembly of Armature and Gear housing cover on motor housing, and align the screw holes on Gear housing cover with those of Motor housing.
- 3) Aligning the protrusion on gear housing with that on Motor housing, fit Gear housing to gear housing cover. (**Fig. 6**)  
Fasten Gear housing to Gear housing cover and Motor housing with four 5x30 Tapping screws.

**Fig. 5**



**Fig. 6**



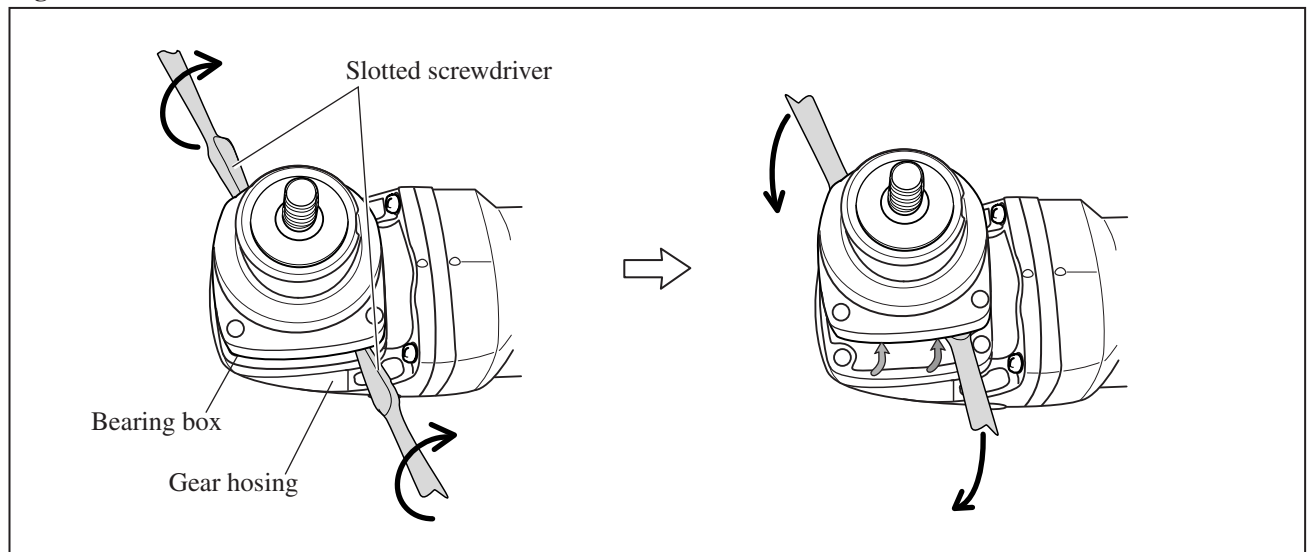
## [2]- 2. Replacing Larger Spiral Bevel Gear and Ball Bearing 6202DDW

### DISASSEMBLING

**Note:** Disassembling can be done without disassembling Gear housing section.

- 1) Using a Makita impact driver and Hex shank bit M5 (No. 1R229), remove four M5x16 Hex socket bolts that fasten Bearing box to Gear housing.
- 2) Insert two slotted screwdrivers into two diagonal positions on the slit between Bearing box and Gear housing.  
And twist the two screwdrivers at the same time till Bearing box is lifted up approximately 3mm.  
And then insert the screwdrivers further into the slit, and remove Gear housing from Gear housing cover by lifting it up with the screwdrivers. (**Fig. 7**)

**Fig. 7**



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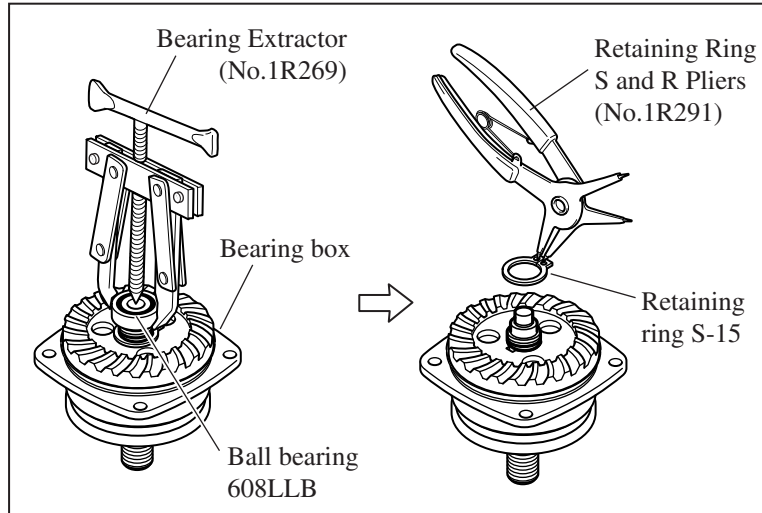
## ► Repair

### [3]- 2. Replacing Larger Spiral Bevel Gear and Ball Bearing 6202DDW (cont.)

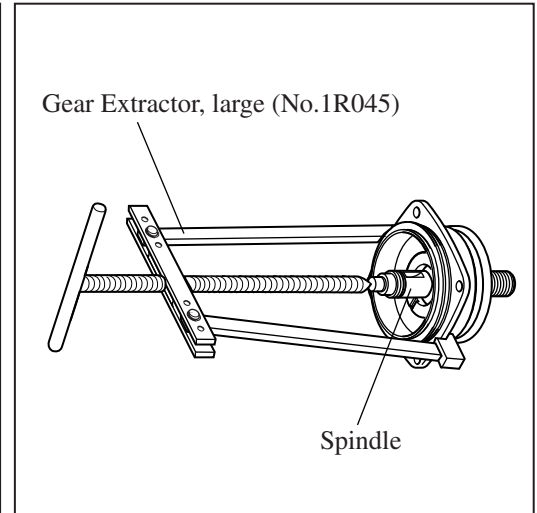
#### DISASSEMBLING

- 3) Remove Ball bearing 608LLB from spindle using Bearing extractor (No.1R269) as illustrated to left in **Fig. 8**.
- 4) Remove Retaining ring S-15 from Spindle using Retaining ring S and R pliers (No.1R291) as illustrated to right in **Fig. 8**. Now larger Spiral bevel gear and Woodruff key can be removed from Spindle by hand.
- 5) Remove spindle by pushing with Gear Extractor, large (No.1R045). (**Fig. 9**)

**Fig. 8**

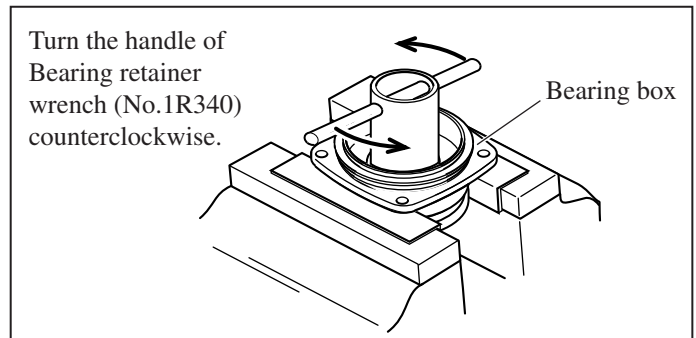


**Fig. 9**



- 6) Hold Bearing box securely with vise, and remove Bearing retainer from Bearing box using Bearing retainer wrench (No.1R340) as illustrated in **Fig. 10**.
- 7) Remove Ball bearing 6202DDW from Bearing box by hitting it straight against the surface of work bench. If cannot be removed, use arbor press.

**Fig. 10**

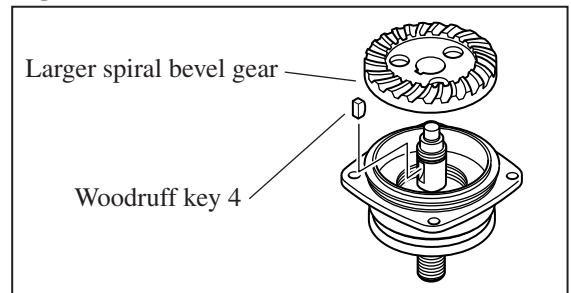


#### ASSEMBLING

Follow the reverse of disassembling steps.

**Note:** When installing the larger Spiral bevel gear onto Spindle, Be careful not to allow Woodruff key 4 to be out of position. It is recommended to apply grease to the key slot on Spindle in order to hold the Woodruff key securely in place. (**Fig. 11**)

**Fig. 11**



### [3]- 3. Replacing Shaft Lock Section

#### DISASSEMBLING

- 1) Remove Bearing box from Gear housing. (**Fig. 7**)
- 2) Pull off Shoulder pin 7 with pliers while pushing Pin cap with a finger. (**Fig. 12**)

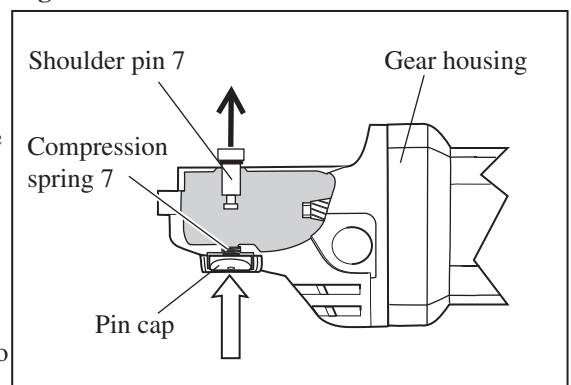
**Note:** Do not pull off shoulder pin 7 without holding pin cap because Compression spring 7 would sling Pin cap.

#### ASSEMBLING

Follow the reverse of disassembling steps.

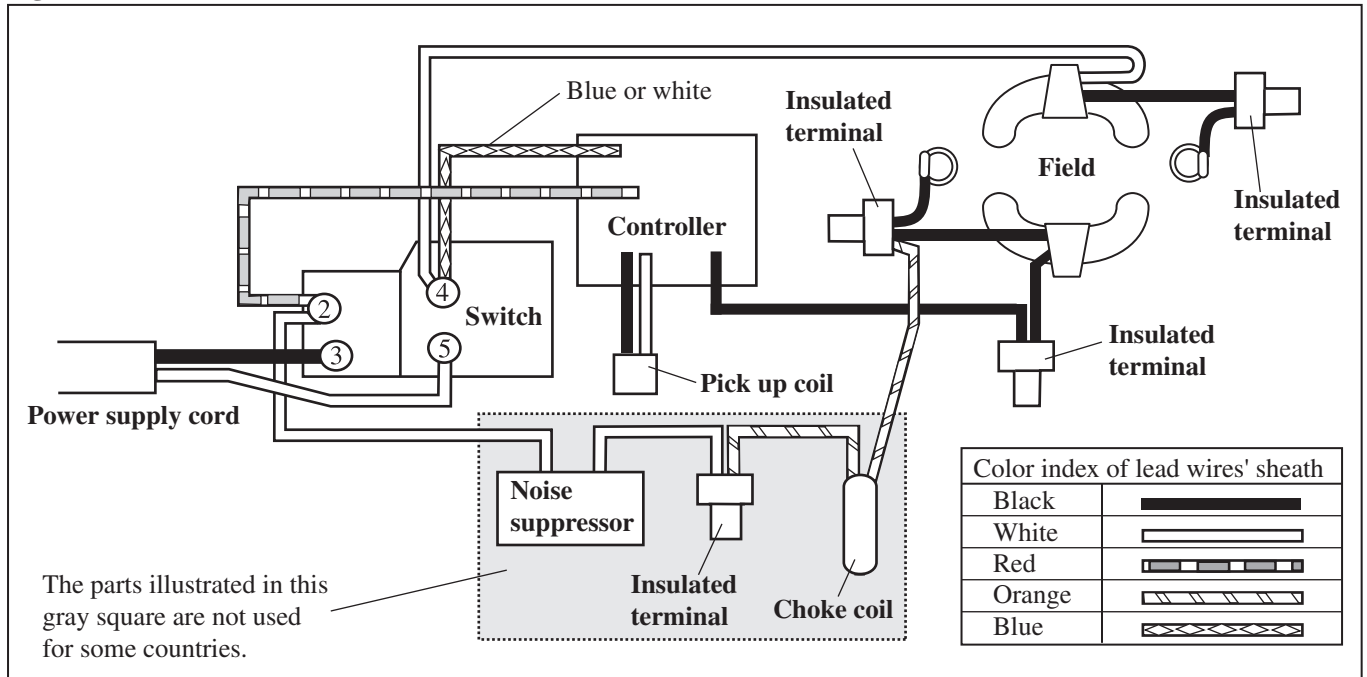
**Note:** Do not reinstall removed Pin cap because removal of Shoulder pin 7 damages the inside surface of Pin cap. Be sure to remove plastic dust of Pin cap from Shoulder pin 7 and to install it onto a brand-new Pin cap.

**Fig. 12**



## ▶ Circuit diagram

Fig. 13



## ▶ Wiring diagram

### [1] Wiring on Motor Housing

- 1) Draw the lead wires of (a), (b), (c), (d), (e) and (f) through the openings (areas colored gray), and hold them with lead wire holders. (Fig. 14)
- 2) And then route the lead wires as illustrated below in Fig. 14.

**Note:** Illustrated in Fig. 14 is Motor housing viewed from the side of A.

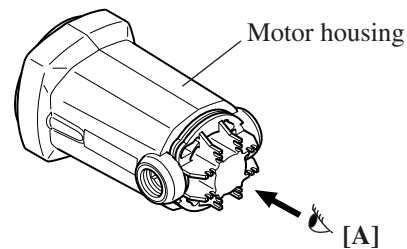
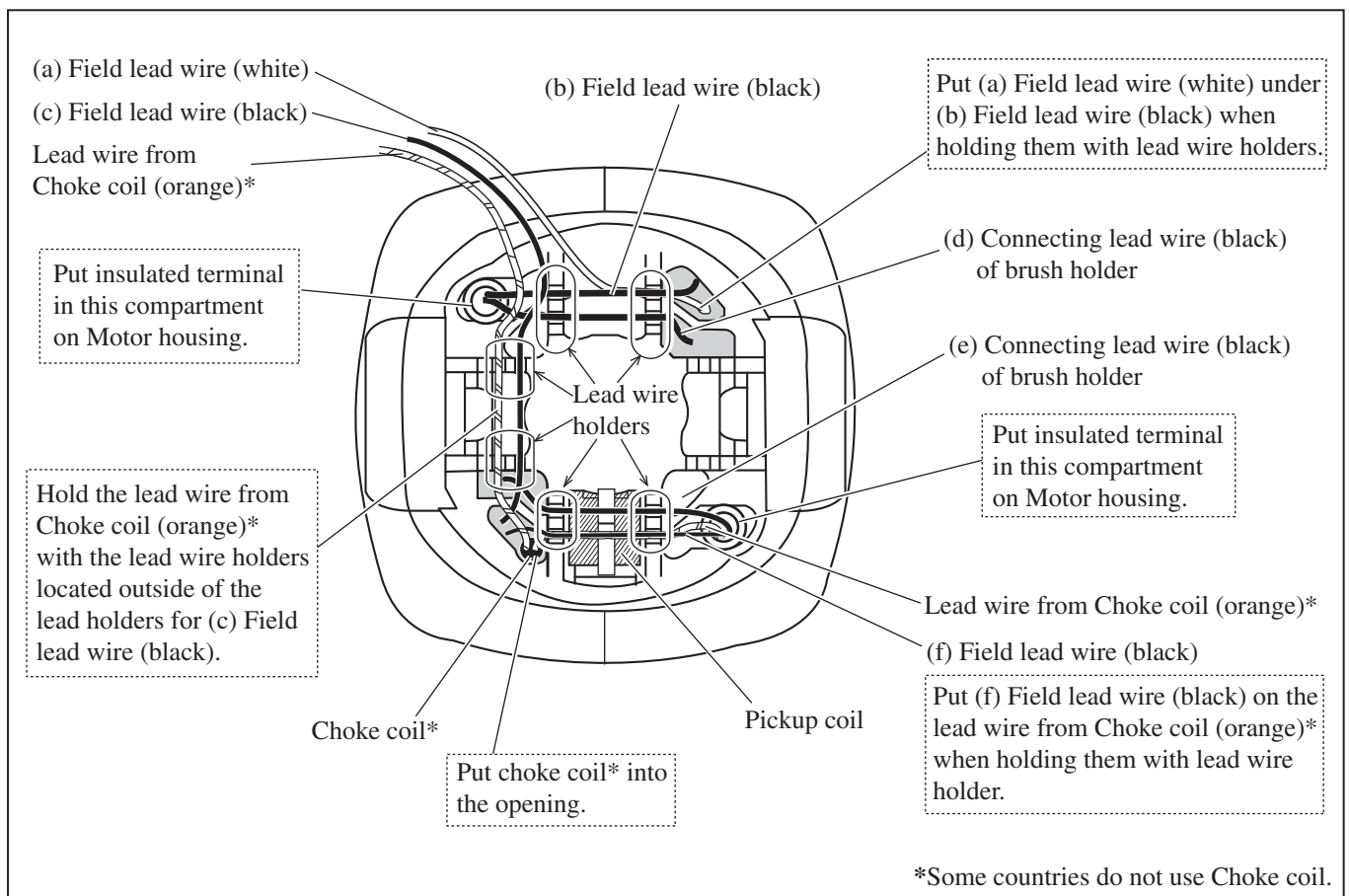


Fig. 14

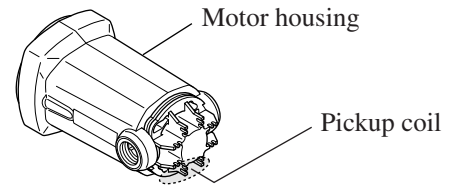




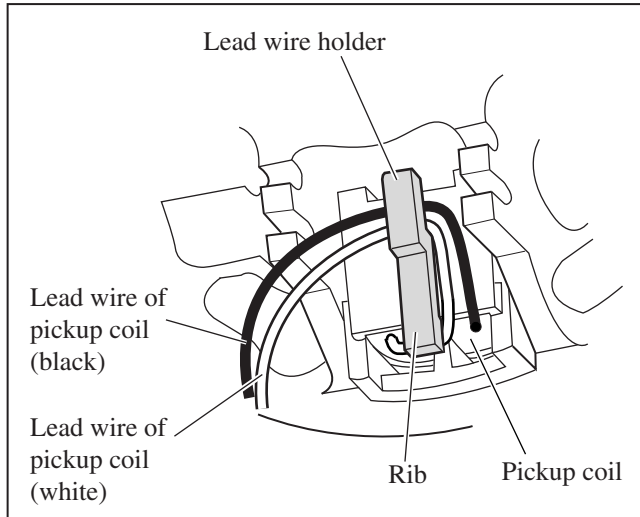
## ► Wiring diagram

### [2] Wiring of the Lead Wires of Pickup Coil

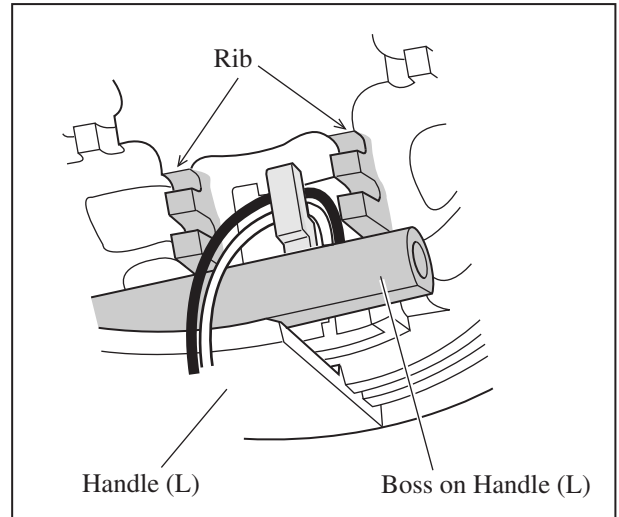
- 1) First, route the white lead wire of pickup coil under the rib. And then hold both of the white and the black lead wires with the lead wire holder. (**Fig. 15**)
- 2) When installing Handle (L) onto Motor housing, route the two lead wires as illustrated in **Fig. 16**.



**Fig. 15**



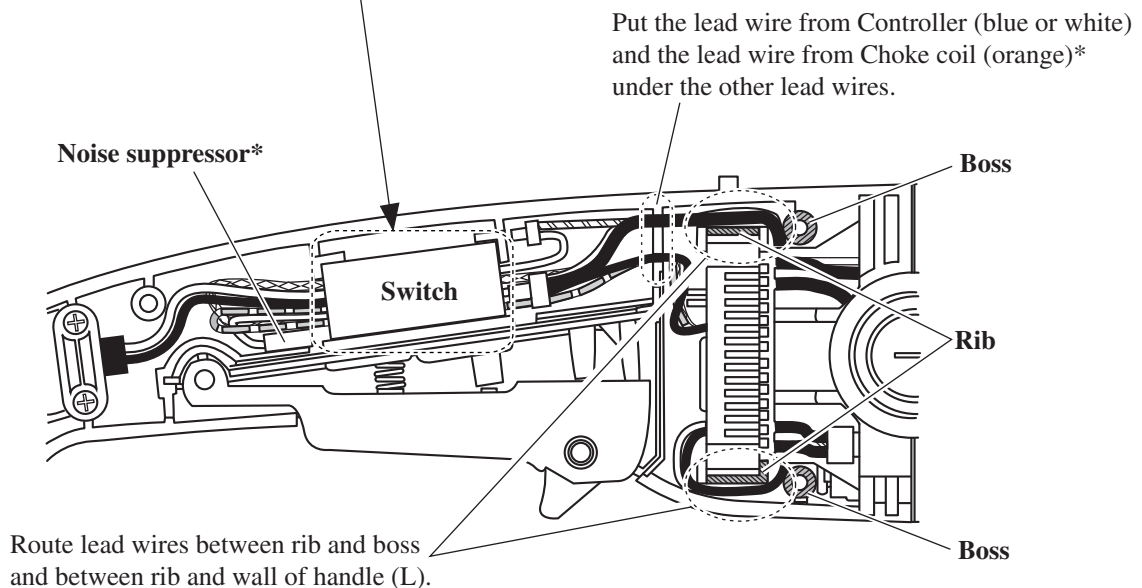
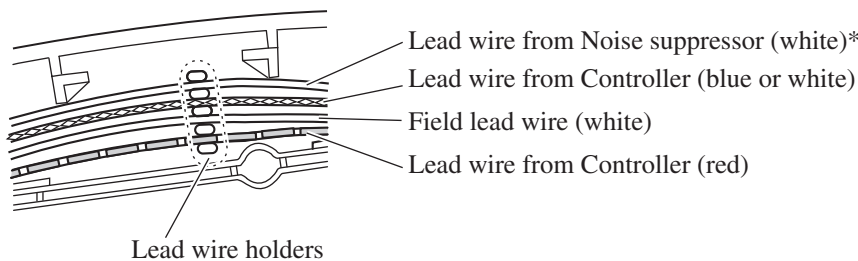
**Fig. 16**



### [3] Wiring in Handle

**Fig. 17**

Before setting Switch in place, hold the four lead wires with the lead wire holders under switch as illustrated below.



**Note:** Some countries do not use the electrical parts with an asterisk.