

**Models No.** ▶ BSS610

**Description** ▶ Cordless Circular Saw 165mm (6-1/2")

## CONCEPT AND MAIN APPLICATIONS

Model BSS610 has been developed as our first cordless circular saw that is powered by 18V/3.0Ah Li-ion battery.

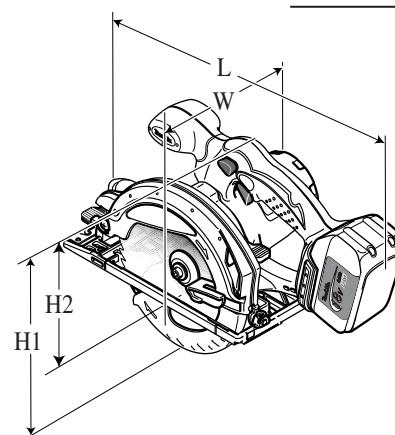
Main features are:

- Powerful 360W maximum output, yet still with the extra-lightweight and compact design achieved by using Lithium-ion battery as power unit
- Smooth and powerful cutting at the high rotational speed of 3,700 rpm delivered from enhanced motor
- Easy to trace cutting line with:
  - a) LED job light
  - b) Built-in blow-off nozzle that directs sawdust away from cutting line

This new product will be available in the following variations.

Model No.	Battery		Charger	Blade	Plastic carrying case
	type	quantity			
BSS610SF	BL1830	1	DC18SC	Yes	Yes
BSS610SFE*		2			
BSS610Z	No	No	No		No

\*Offered as Model BSS610 to USA, Canada, Mexico, and Panama



Dimensions: mm (")	
Length (L)	347 (13-5/8)
Width (W)	202 (8)
Height 1 (H1)	228 (9)
Height 2 (H2)	166 (6-1/2)

## ► Specification

Battery	Voltage: V		18
	Capacity: Ah		3.0
	Cell		Li-ion
Max output (W)			360
No load speed: min-1=rpm			3,700
Size of blade: mm (")	Diameter		165 (6-1/2)
	Hole diameter	Canada, USA, Mexico, Panama	15.88 (5/8)
		The others	20 (13/16)
Max cutting capacities: mm (")		at 0°	57 (2-1/4)
		at 45°	40 (1-9/16)
		at 50°	36 (1-7/16)
Electric brake			Yes
Net weight*: kg (lbs)			3.2 (7.1)

\*Includes battery BL1830

► **Standard equipment**

TCT Saw blade 165mm (6-1/2") .....	1 pc
Hex wrench 5 .....	1 pc
Guide rule .....	1 pc
Dust nozzle ( exclusively for European countries) .....	1 pc
Plastic carrying case .....	1 pc

**Note:** The standard equipment for the tool shown above may differ from country to country.

## ► Optional accessories

Charger DC18SC	TCT Saw blade 165mm (6-1/2")
Charger DC24SA	Li-ion battery BL1830
Charger DC24SC	

## Features and benefits

**Developed with the Design Concept of  
"More Control and Maneuverability"**

Conveniently Located Lock-Off Button

**Easy to Trace Cutting Line with:**

- a) **LED Job Light**  
that illuminates cutting line
- b) **Built-in Blow-off Nozzle**  
that directs sawdust away from cutting line

**3.2kg (7.1lbs) Lightweight Design**

Ensures high maneuverability with the tool weight lighter than our current 5620D and the competitors' models.

**Rubberized Soft Grip of Ergonomic Design**

Provides comfortable handling and more control.

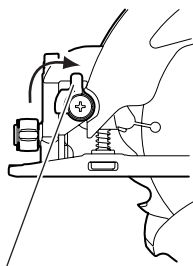
Electric Brake \*

Large Lever

Makes bevel angle setting easier than screw and nut.

Stopper for Bevel Angle

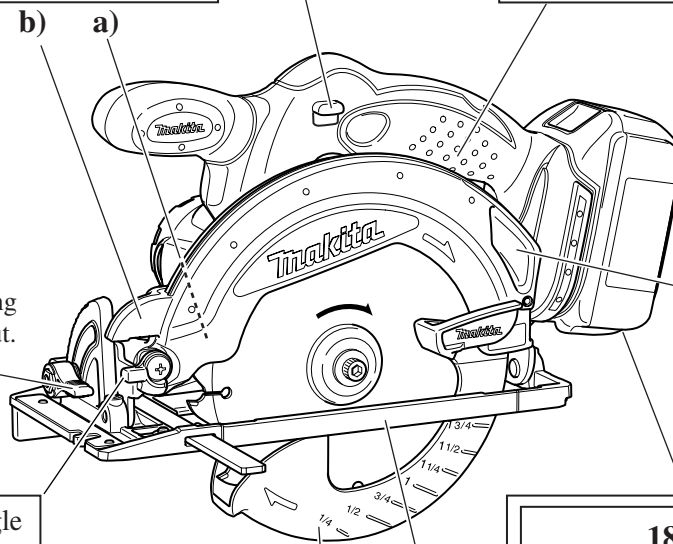
Helps you set the blade angle quickly at 45° to Base.



When turning the stopper clockwise as illustrated above, \*Base can be tilted to 50° from the level position.

Fine Adjusting Screws

Two M5x8 hex.socket head screws in Base:  
One is for vertical cutting angle setting,  
the other is for 45° cutting angle setting.



Dust Nozzle  
(Europe: Supplied)  
(The others: Option)



can be installed for connecting  
Hose of Vacuum cleaner with  
M4x12 pan head screw.

**18V Li-ion Battery**

- High power density allows the machine design to make more compact and lighter in weight without power reduction.
- Can be charged at any time because Li-ion battery is free from memory effect.

**Aluminum Base for Compatibility  
Between Lightness and Sturdiness**

Performs bend resistance.

**Safety Cover with  
Calibration Mark Embossed**

Shows a measure for the cutting depth.

\*The same advantages  
as Model 5620D

## ► Comparison of products

### Specification Comparison

Model No. Specifications		Makita			Competitor A	Competitor B
		BSS610	5620D	5621RD	A	B
Battery	Voltage: V	18	18	18	18	18
	Capacity: Ah	3.0	2.6	2.6	2.4	2.4
	Cell	Li-ion	Ni-MH	Ni-MH	Ni-Cd	Ni-Cd
	Charging time: min.	45	60	60	60	60
Blade diameter: mm (")		165 (6-1/2)	165 (6-1/2)	165 (6-1/2)	165 (6-1/2)	165 (6-1/2)
No load speed: rpm=min-1		3,700	2,600	2,600	3,700	3,200
Bevel capacity: degree		0 - 50	0 - 50	0 - 50	0 - 50	0 - 50
Cutting capacity: mm (")	at 0 degree	57 (2-1/4)	54 (2-1/8)	54 (2-1/8)	57 (2-1/4)	54 (2-1/8)
	at 45 degrees	40 (1-9/16)	38 (1-1/2)	38 (1-1/2)	41 (1-5/8)	40 (1-9/16)
	at 50 degrees	36 (1-7/16)	34 (1-11/32)	34 (1-11/32)	39 (1-9/16)	36 (1-7/16)
Soft grip		Yes	No	No	No	Yes
Electric brake		Yes	Yes	Yes	Yes	Yes
LED Job Light		Yes	No	No	No	No
Built-in blow-off nozzle		Yes	No	No	No	No
Base plate		Aluminum die cast	Machined aluminum plate	Machined aluminum plate	Magnesium	Machined aluminum plate
Dimensions: mm (")	Length	347 (13-5/8)	364 (14-3/8)	364 (14-3/8)	406 (16)	394 (15-1/2)
	Width	202 (8)	197 (7-3/4)	200 (7-7/8)	212 (8-3/8)	215 (8-1/2)
	Height	228(9)	227(8-15/16)	227(8-15/16)	259(10-1/4)	267(10-1/2)
Weight w/battery: kg(lbs)		3.2 (7.1)	3.4 (7.5)	3.8 (8.4)	3.9 (8.6)	4.1 (9.0)
Standard equipment	TCT saw blade 165mm	Yes	Yes	Yes	Yes	Yes
	Battery	1 pc	1 pc	2 pcs	1 pc	2 pcs
	Charger	Yes	Yes	Yes	Yes	Yes
	Plastic carrying case	Yes	Yes	Yes	Yes	Yes
	Hex wrench	Yes	Yes	Yes	Yes	Yes
	Guide rule	Yes	Yes	Yes	Yes	Yes
	Dust nozzle	*Yes	No	Yes	No	No

\*Yes: Exclusively for Europe

## ► Comparison of products

### Performance Comparison

Numbers in charts below are relative values when the capacity of Makita 5620D is indexed at 100.

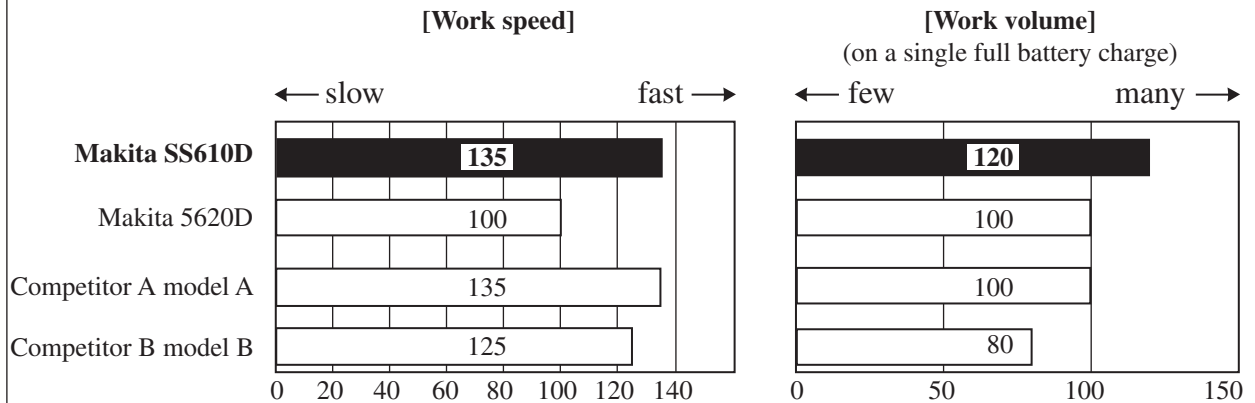
**Note:** 1) The test tools were powered by the battery with the following capacity;

Makita BSS610: 3.0Ah, Makita 5620D: 2.6Ah, Competitor A's model A: 2.4Ah, Competitor B's model B: 2.4Ah

2) The test results depend to a great extent on the hardness of the material, etc.

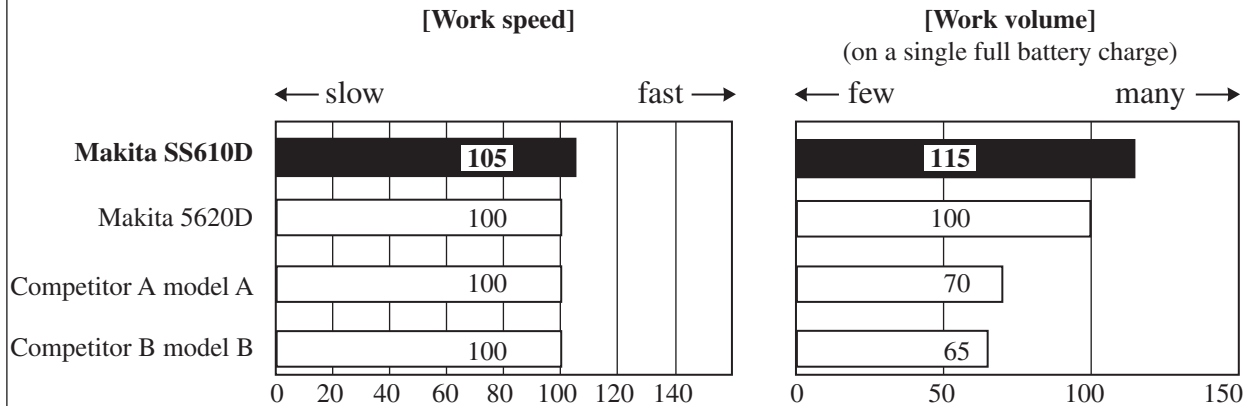
#### Test 1

Cut 232mm wide x 38mm thick SPF timber.



#### Test 2

Cut 300mm wide x 15mm thick SPF timber.



## ► Repair

**CAUTION: Remove Saw blade, Inner flange 40, Outer flange 40, Hex socket head bolt and Battery cartridge from the machine for safety before repair/ maintenance !**

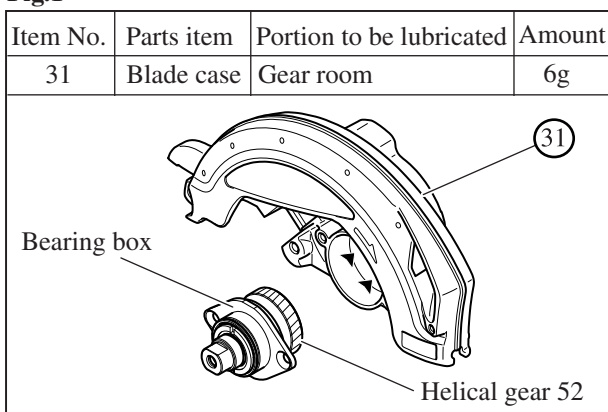
### [1] NECESSARY REPAIRING TOOLS

Makita Part No.	Descriptions	Purpose
1R003	Retaining ring pliers ST-2N	Removing / Mounting retaining ring
1R026	Bearing setting pipe 16-8.2	Removing helical gear 52
1R208	90 Degree set square	Adjusting the right angle of saw blade to base plate
1R232	Pipe 30	Holding bearing box, when removing helical gear 52
1R263	Bearing extractor	Bearing extractor
1R269	Bearing extractor	Bearing extractor
1R291	Retaining S & R pliers	Removing / Mounting retaining ring
1R340	Bearing retainer wrench	Removing / Mounting bearing retainer
	Triangular rule	Adjust the saw blade's angle of 45 degree to base plate

### [2] LUBRICATION

Put Makita grease N. No.1 into the gear room indicated by the black triangle to protect parts and product from unusual abrasion. See **Fig.1**.

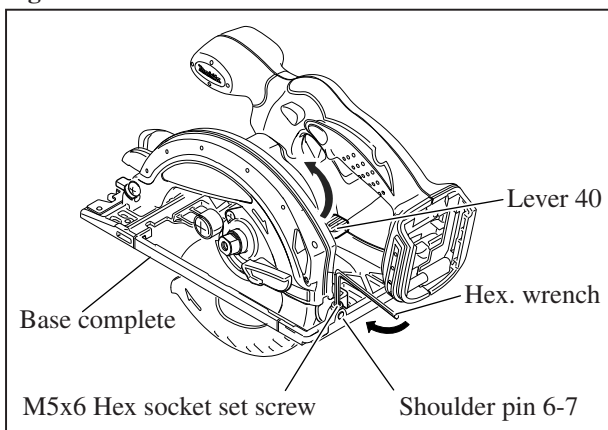
**Fig.1**



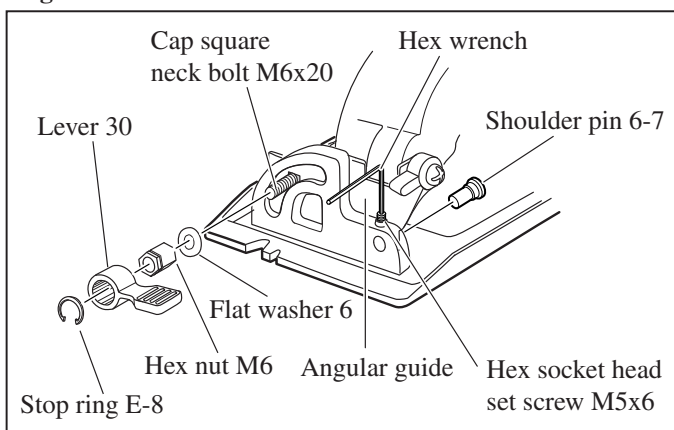
### [3] Replacing Base complete

- Loosen M5x6 Hex socket head set screw for fixing Depth guide to Base complete. See **Fig.2**.  
Loosen Lever 40 and remove Shoulder pin 6-7 for connecting Depth guide and Base complete.
  - Remove the following parts as shown in **Fig.3**. Base complete can be separated from the machine.
    - Shoulder pin 6-7 for connecting Angular guide and Base complete
    - Stop ring E-8, M6 Hex nut, Flat washer 6 and M6x20 Cap square neck bolt for securing Lever 30
  - Reuse the above parts (for example, Mx6 Hex socket head screws) to replace the current base complete by the new one.
- Note: M6 Hex nut in Lever 30 is not interchangeable with M6 Hex nut in Lever 40.**  
**The former has left handed threads, the latter has right handed threads.**

**Fig. 2**



**Fig. 3**



## ► Repair

### [4] Assembling Lock Off Lever and Switch Lever

1. Compression spring 4 for Lock off lever and Compression spring 4 for switch lever are the same.  
Insert the bosses of Lock off lever and Switch lever into the compression springs 4 as illustrated in **Fig.4**.
2. Put their assembled parts into places as illustrated in **Fig.5** so that the Compression springs 4 can perform well between the bosses and the Ribs of Housing L.

Fig.4

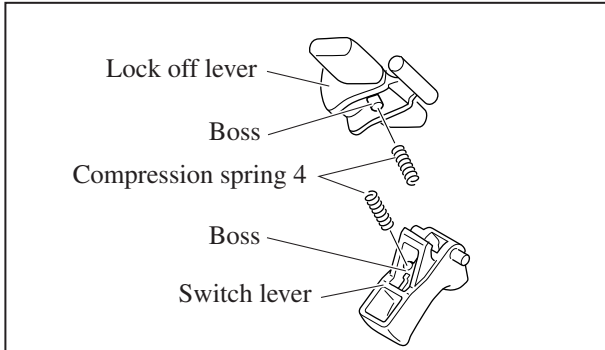
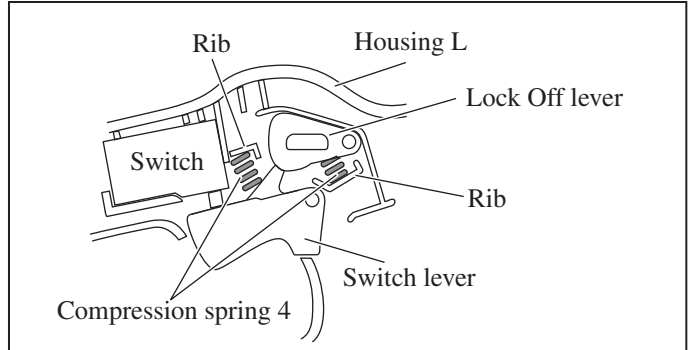


Fig.5



### [5] Disassembling/Assembling Safety Cover and Bearing Box (Gear Section)

#### DISASSEMBLING

1. Remove Rubber ring 6 together with M6 countersunk head screw as illustrated in **Fig.6**.
2. Remove retaining ring S-34 with No.1R003 "Retaining pliers ST-2N". Safety cover can be separated from the machine as illustrated in **Fig.7**.
3. Remove Bearing box by unscrewing two M5x16 countersunk head screws as shown in **Fig.8**. If it is difficult to remove the Bearing box by hand, lever it up with 1R263 "Bearing extractor" as shown in **Fig.9**.

Fig.6

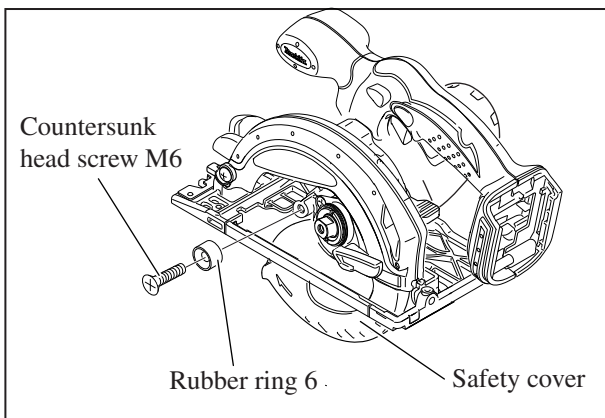


Fig.7

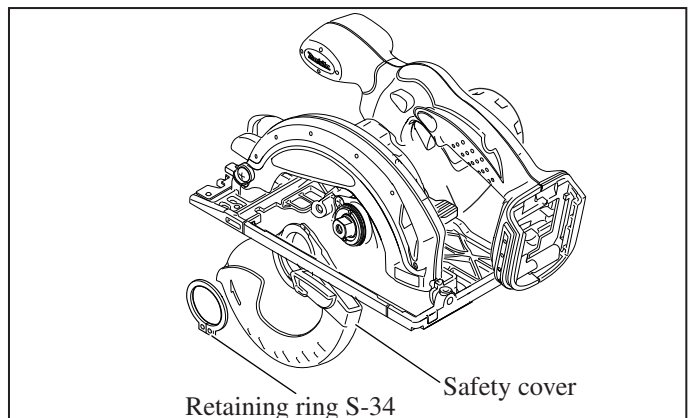


Fig. 8

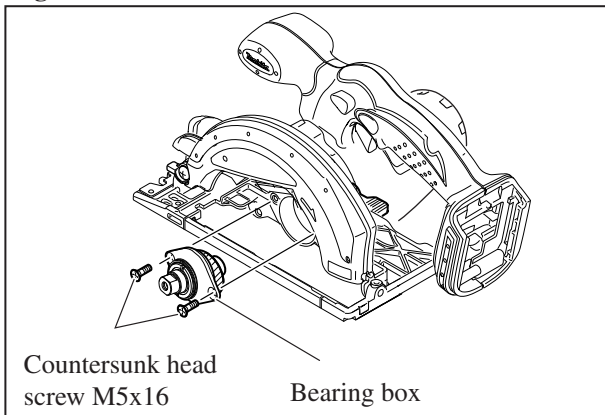
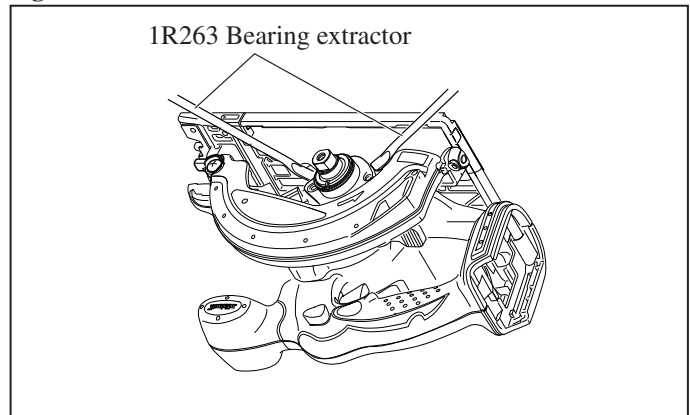


Fig. 9

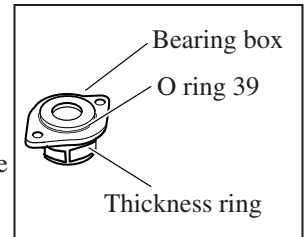


## ► Repair

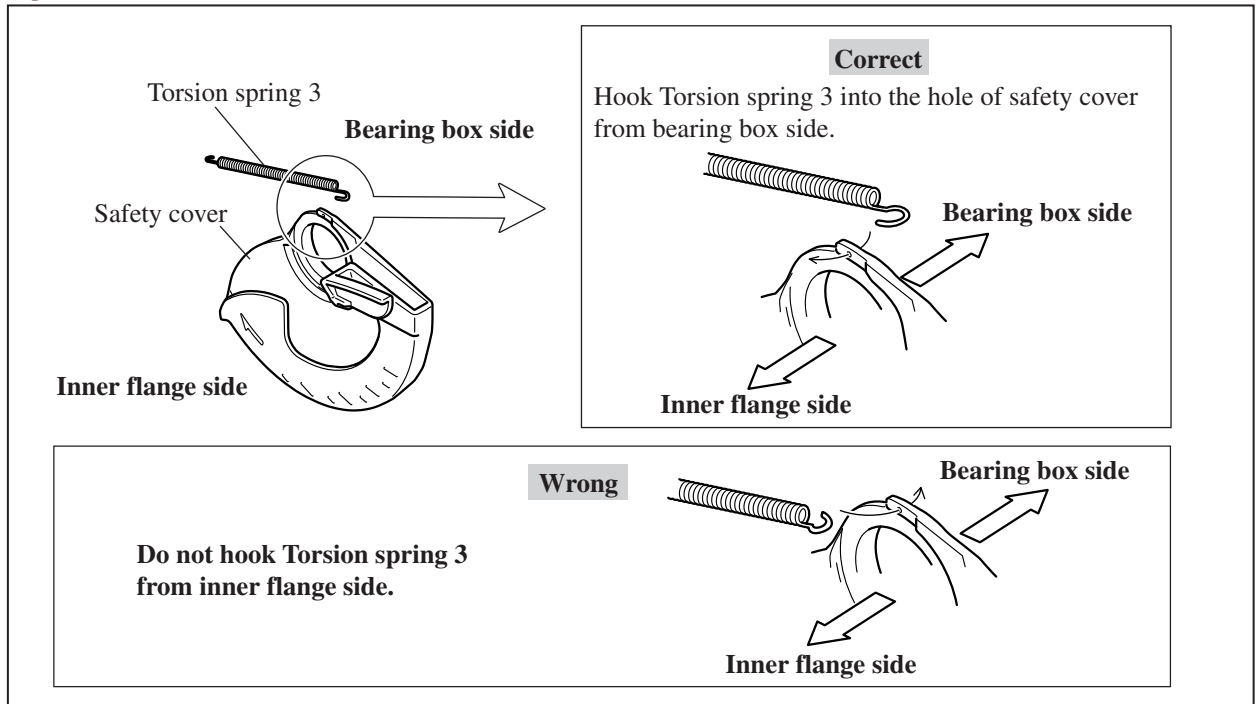
### ASSEMBLING

1. Check that O ring 39 is fit in a groove of Bearing box and Thickness ring is put on Bearing box as illustrated in **Fig.10**.
2. Fix the Gear section to the machine as **Fig.8** of page 6.
3. Hook one end of Tension spring 3 into a hole of Safety cover as mentioned in **Fig.11**.
4. Install safety cover in place while hooking the other end of Torsion spring 3 into a hole of Blade case set.
5. Fix Rubber ring 6 and M6 countersank head screw to Blade case complete.

**Fig.10**



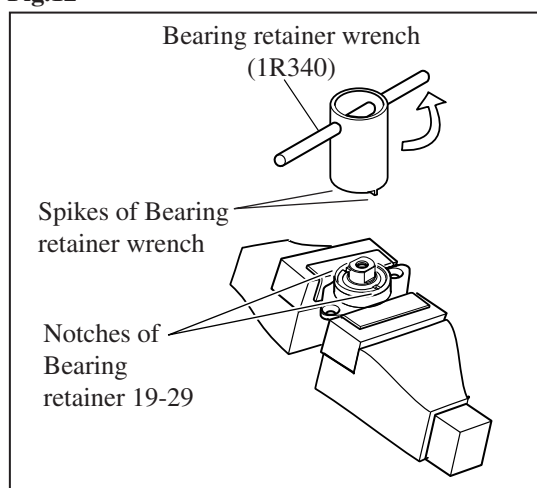
**Fig.11**



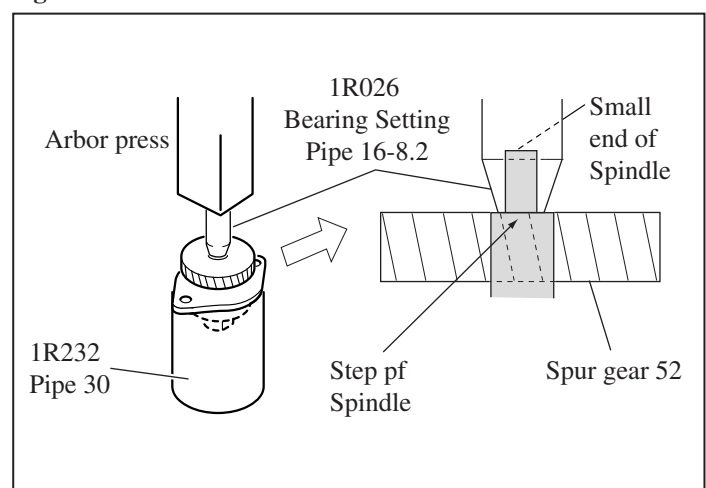
### [6] Replacing Spur Gear 52, Ball Bearing 606ZZ and Ball Bearing 6001DDW

1. Remove Ball bearing 606ZZ using 1R269 "Bearing extractor".
2. Remove Retaining ring S-12 using 1R291 "Retaining S & R pliers".
3. File the outsides of two spikes of 1R340 "Bearing retainer wrench" to match the spikes into the notches of Bearing retainer 19-29. Turn Bearing retainer wrench counterclockwise to remove Bearing retainer 19-29 from Bearing box. Refer to **Fig.12**.
4. Put Bearing box on 1R232 "Pipe 30", and push the step of Spindle at its small end side using 1R026 "Bearing setting pipe 16-8.2" and Arbor press to align the step of Spindle with the surface of Spur gear 52 as illustrated in **Fig.13**.
5. Separate Spur gear 52 from Spindle using Arbor press.
6. Remove Ball bearing 6001DDW using 1R269 "Bearing extractor".

**Fig.12**



**Fig. 13**



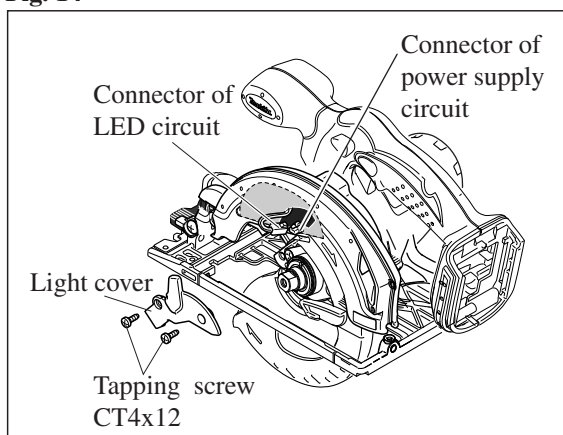
## ► Repair

### [7] Replacing Armature

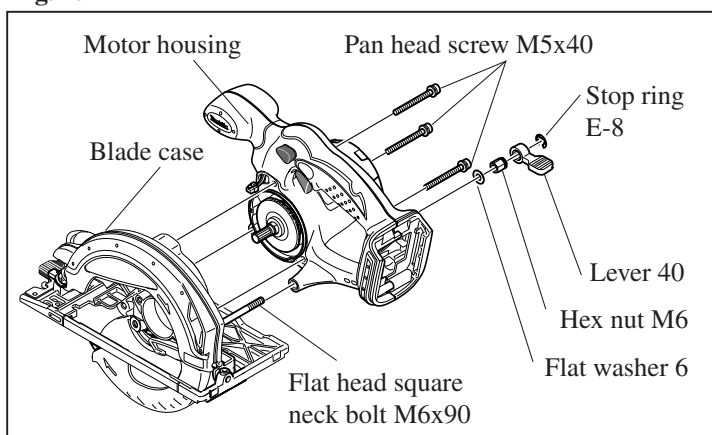
#### DISASSEMBLING

1. Remove carbon brushes.
2. See **Fig.14**. Loosen two 4x12 Tapping screws bind CT to remove Light cover from Blade case.
3. Disconnect the connector of power supply circuit from that of LED circuit.
4. Refer to **Fig.15**. After separating Stop ring E-8, Lever 40, Hex nut M6 and Flat washer from M6x90 Flat head screw, loosen three M5x40 pan head screws.
5. Pull Armature out of Motor housing.
6. Remove Ball bearings of the Armature.

**Fig. 14**



**Fig. 15**



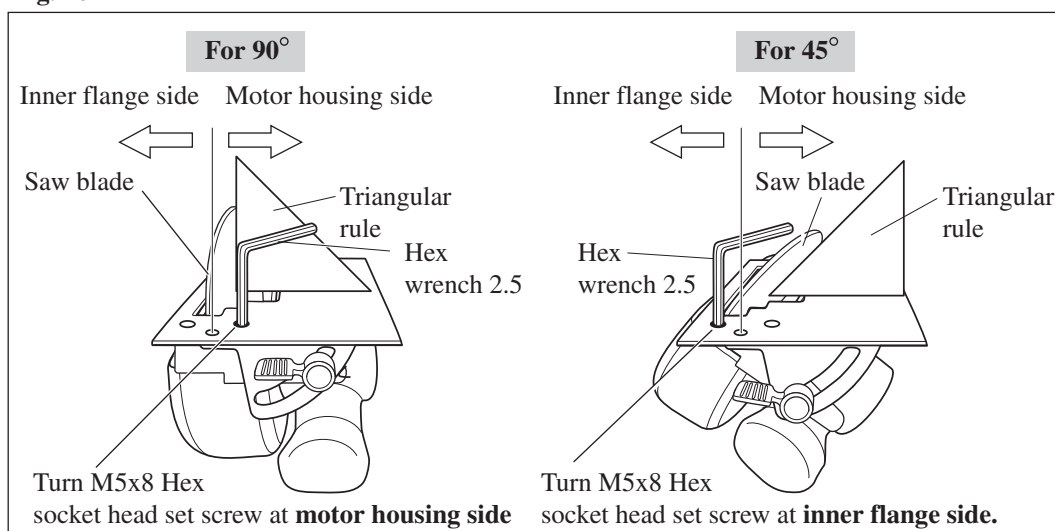
#### ASSEMBLING

When passing Armature through York unit, Armature is attracted to the magnet of Yoke unit. Therefore, pay attention not to scratch Armature coils. Do not pinch your fingers between Fan of Armature and Yoke unit.

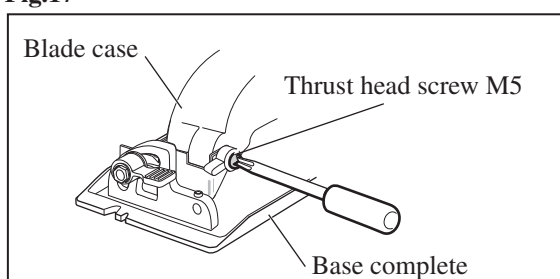
### [8] Adjusting for accuracy of 90° and 45° cut

As illustrated in **Fig.16**, use Triangular rule and hex wrench 2.5 to set the desired angle. Adjust the fastening torque of M5 thrust head screw in order to prevent backlash when doing cutting depth adjustment. See **Fig.17**.

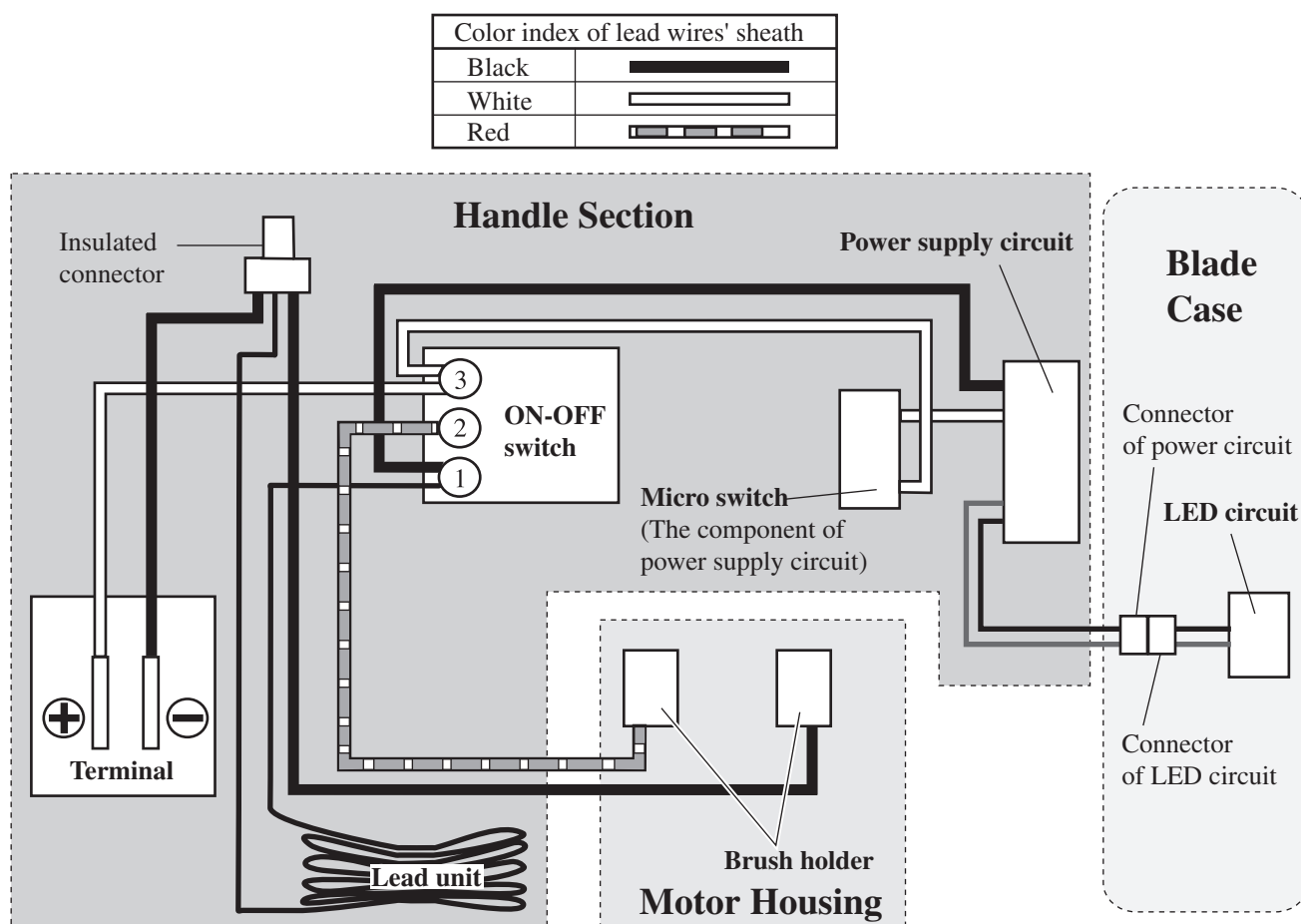
**Fig. 16**



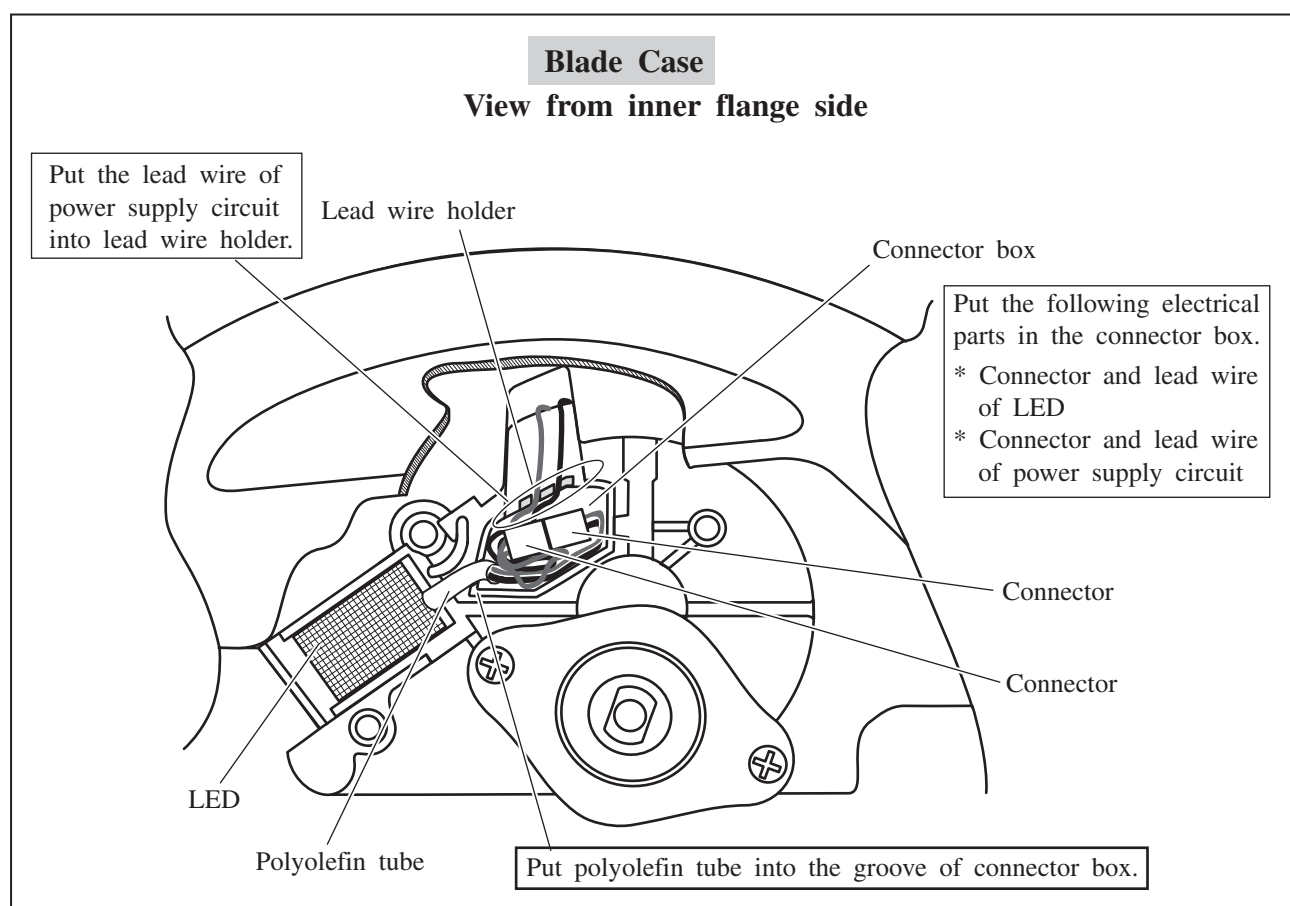
**Fig.17**



## ► Circuit diagram

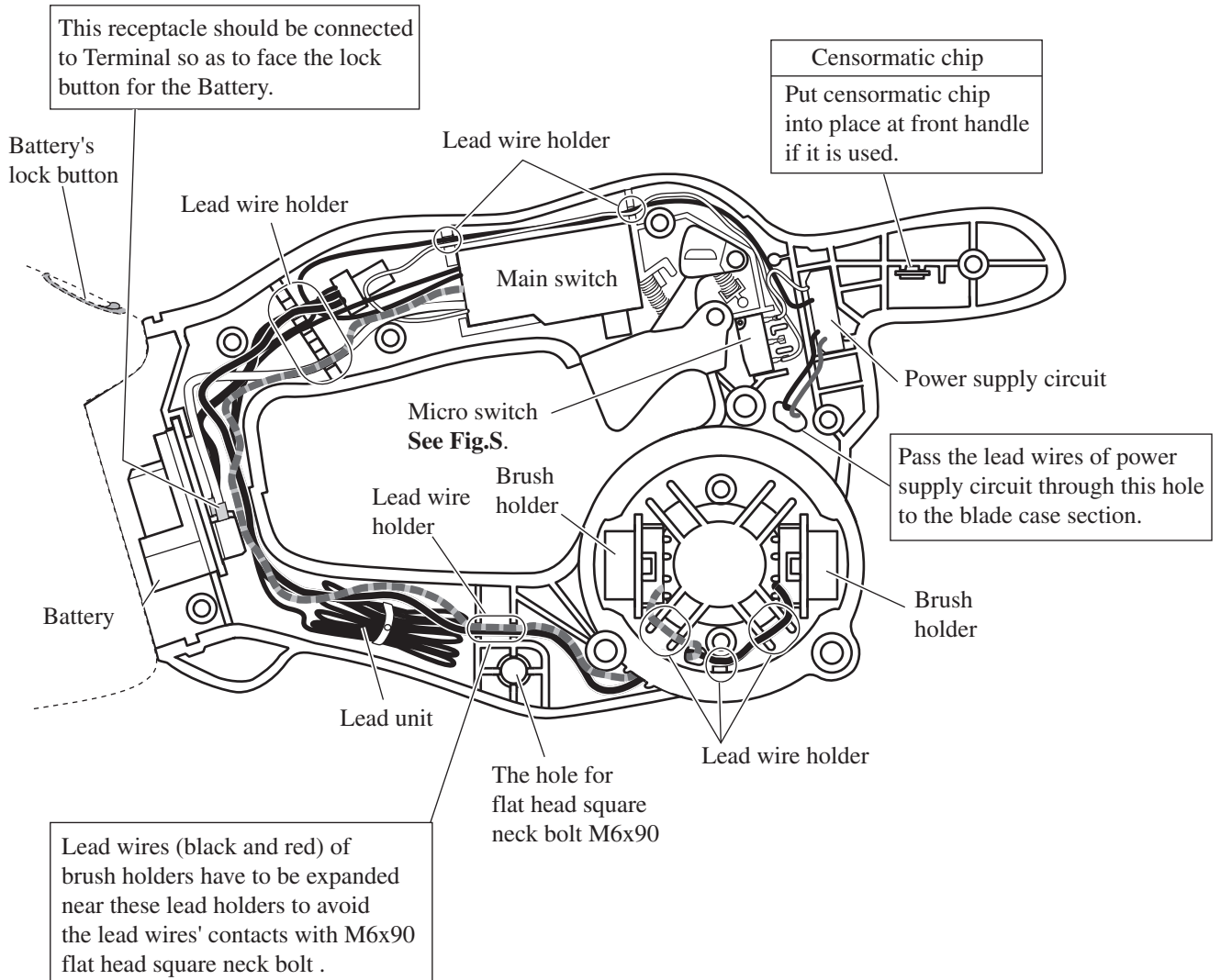


## ► Wiring diagram



## ► Wiring diagram

### Handle and Motor Housing



### Wiring of Micro Switch

The lead wires should not be pinched. Bending the terminals of Micro switch are acceptable when the lead wires of micro switch are apt to be pinched by walls of Motor housing and Handle cover. See below for the detail.

