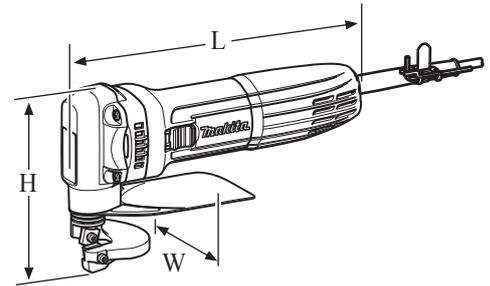


**Model No.** ▶ JS1602

**Description** ▶ Metal Shear 1.6mm (16Ga)



## CONCEPT AND MAIN APPLICATIONS

Model JS1602 is a successor model of JS1600.  
The slim motor housing and rear cover on the same design concept as angle grinder GA4030 series provide more control and better maneuverability.

Dimensions: mm (")	
Length (L)	255 (10)
Width (W)	74 (2-15/16)
Height (H)	146 (5-3/4)

### ► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	3.6	50/60	380	160	280
120	3.3	50/60	---	160	280
220	1.8	50/60	380	160	280
230	1.8	50/60	380	160	280
240	1.7	50/60	380	160	280
No load speed: min <sup>-1</sup> = spm (strokes per minute)			4,000		
Max cutting capacities: mm (Ga)	Steel with tensile strength up to 400N/mm <sup>2</sup>		1.6 (16)		
	Steel with tensile strength up to 600N/mm <sup>2</sup>		1.2 (18)		
	Steel with tensile strength up to 800N/mm <sup>2</sup>		0.8 (22)		
	Aluminum with tensile strength up to 200N/mm <sup>2</sup>		2.5 (13)		
Minimum cutting radius: mm (")			30 (1-3/16)		
Protection from electric shock			Double insulation		
Power supply cord: m (ft)			Europe: 4.0 (13.1) Australia, Brazil: 2.0 (6.6) Other countries: 2.5 (8.2)		
Weight according to EPTA-Procedure 01/2003: kg (lbs)			1.6 (3.4)		

### ► Standard equipment

Hex wrench ..... 1  
Wrench holder ..... 1  
Shear blade set ..... 1

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

## ► Repair

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

### [1] NECESSARY REPAIRING TOOLS

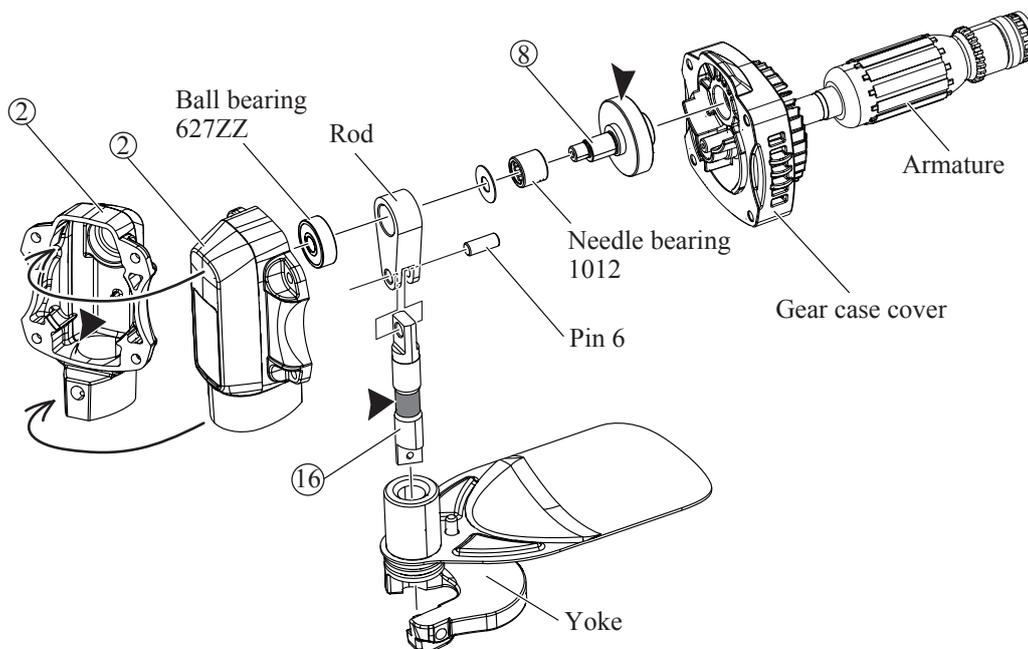
Code No.	Description	Use for
1R035	Bearing setting plate 15.2	hold Helical gear 44 when removing Crank shaft from the gear
1R269	Bearing extractor	removing Ball bearings 627ZZ/ 696ZZ
1R279	Round bar for Arbor 5-50	removing Pin 6 from Rod and Blade holder
1R281	Round bar for Arbor 7-50	block Switch knob when disassembling Switch lever from Switch knob
1R366	Feeler gauge set	adjust the clearance of Blades

### [2] LUBRICATION

Apply Makita grease FA No.2 to the following portions designated with the black triangle to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate	Amount
②	Gear housing complete	Lower portion of the gear room	5 g
⑧	Crank shaft complete	Whole of Gear portion (Helical gear 44)	4 g
⑯	Blade holder	Drum portion designated with gray color	1 g

**Fig. 1**



### [3] DISASSEMBLY/ASSEMBLY

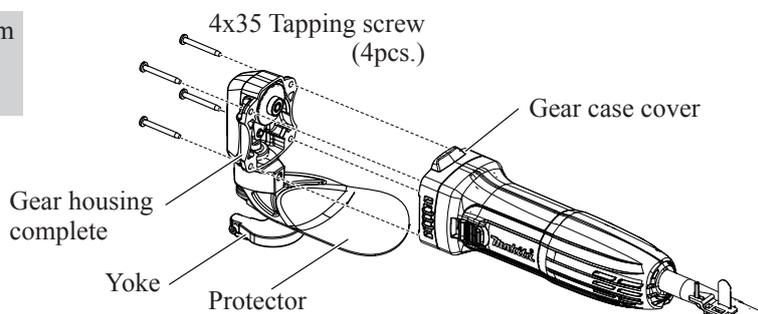
#### [3] -1. Gear housing complete, Crank shaft, Blade holder

##### DISASSEMBLING

(1) Separate Gear housing complete from Gear case cover. (**Fig. 2**)

**Fig. 2**

Separate Gear housing complete from Gear case cover by unscrewing four 4x35 Tapping screws.



## ► Repair

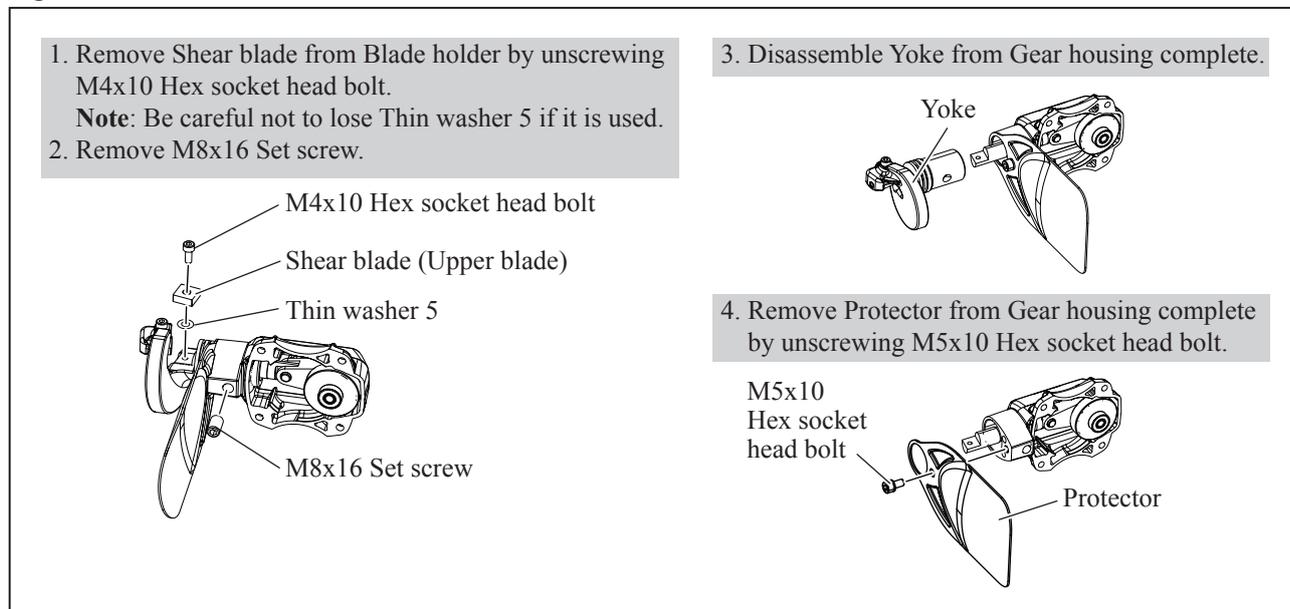
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Gear housing complete, Crank shaft, Blade holder (cont.)

##### DISASSEMBLING

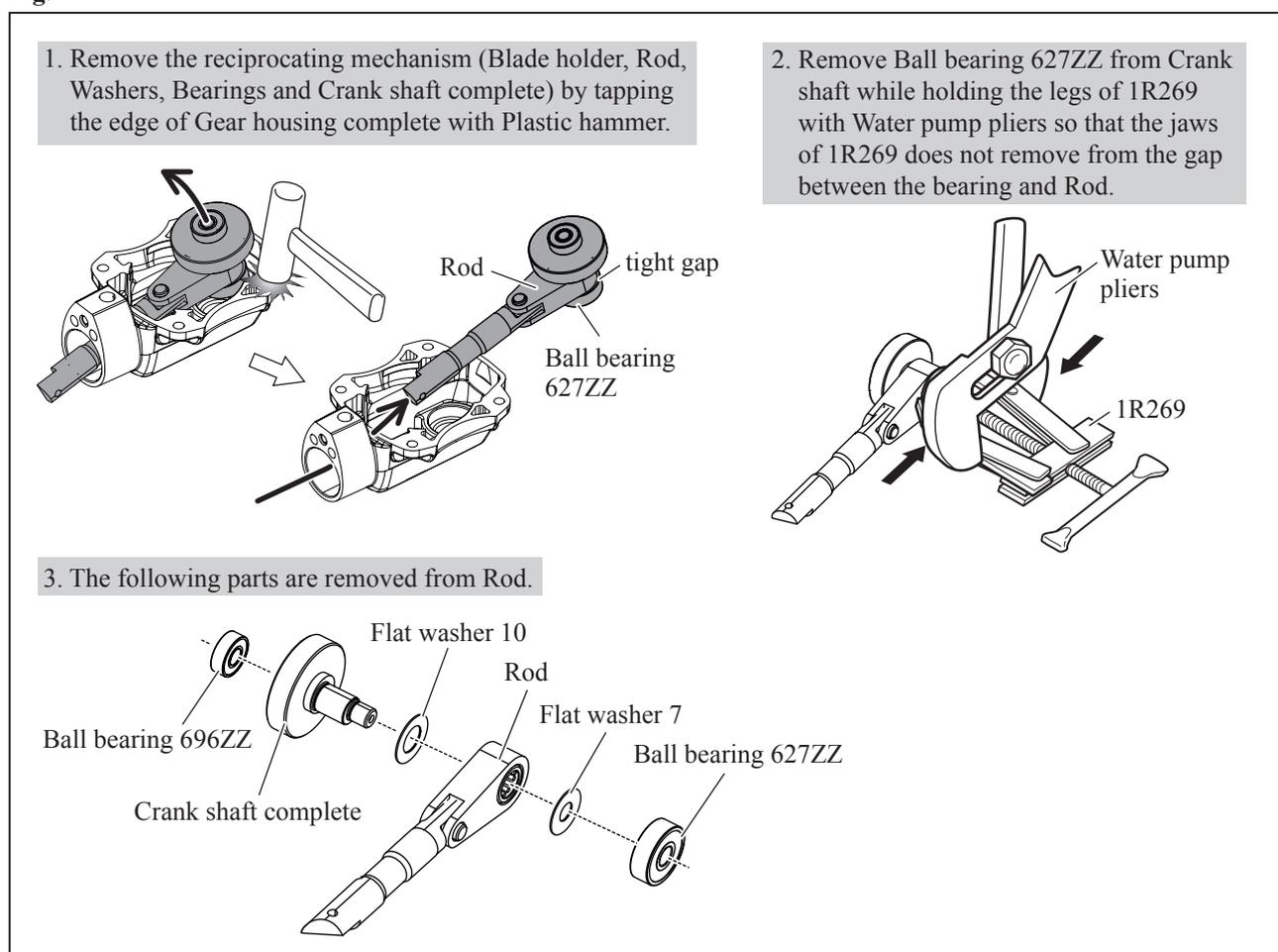
(2) Disassemble Yoke and Protector from Gear housing complete. (**Fig. 3**)

**Fig. 3**



(3) Remove the reciprocating mechanism from Gear housing complete and then disassemble the mechanism. (**Fig. 4**)

**Fig. 4**



## ► Repair

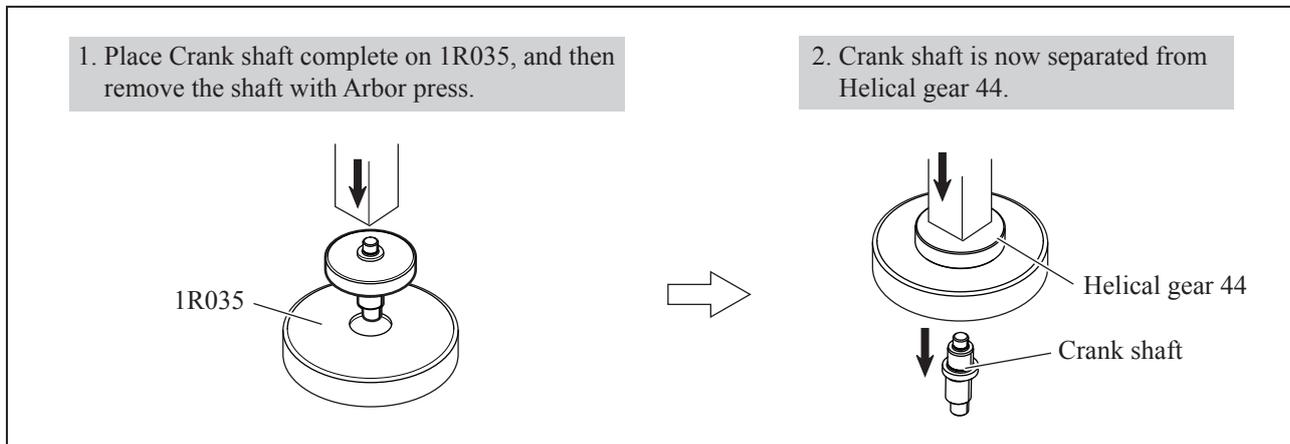
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Gear housing complete, Crank shaft, Blade holder (cont.)

##### DISASSEMBLING

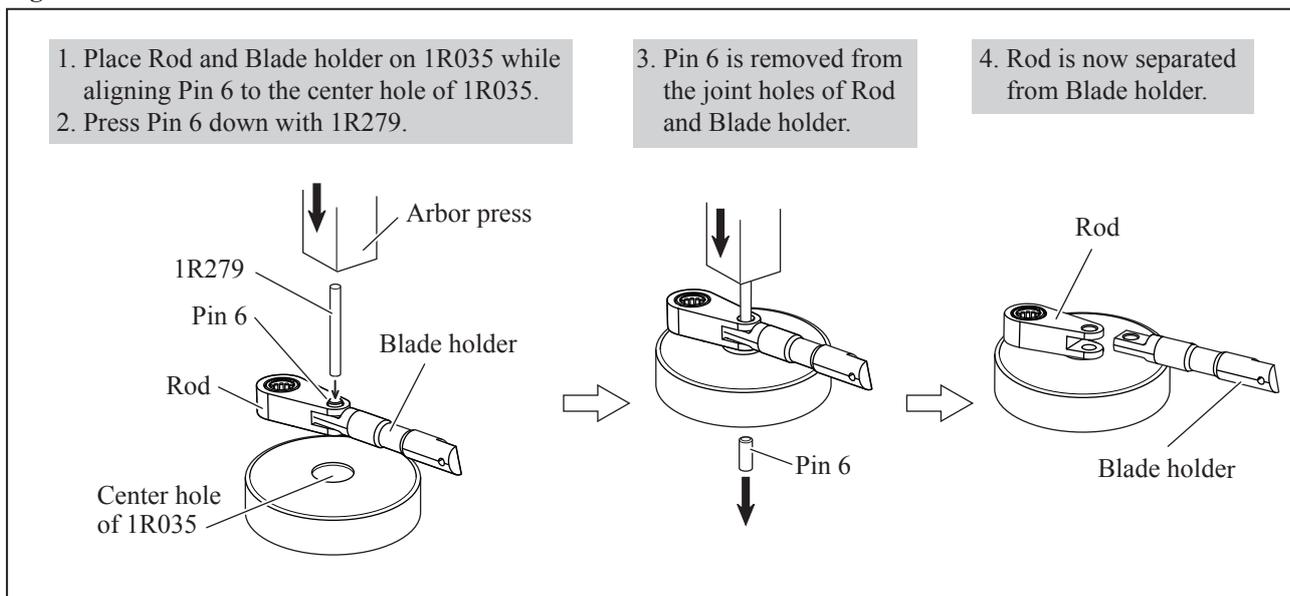
(4) Crank shaft complete can be disassembled as drawn in **Fig. 5**.

**Fig. 5**



(5) Rod can be separated from Blade holder as drawn in **Fig. 6**.

**Fig. 6**



## ► Repair

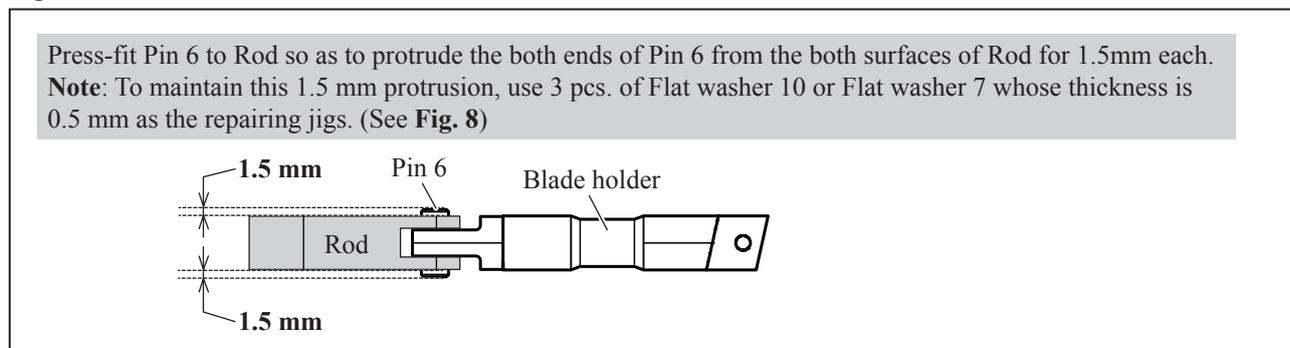
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Gear housing complete, Crank shaft, Blade holder (cont.)

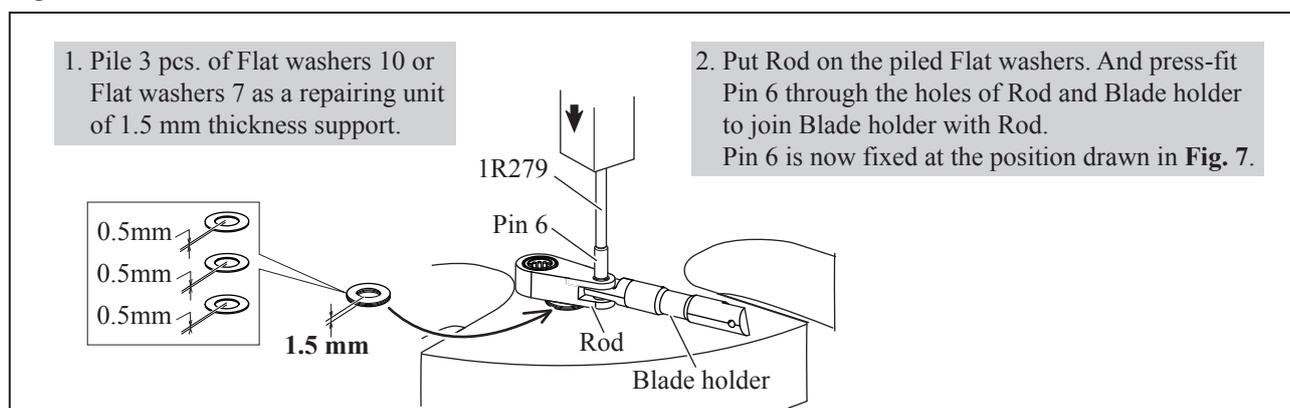
##### ASSEMBLING

(1) Assemble Blade holder to Rod as drawn in **Figs. 7 and 8**.

**Fig. 7**

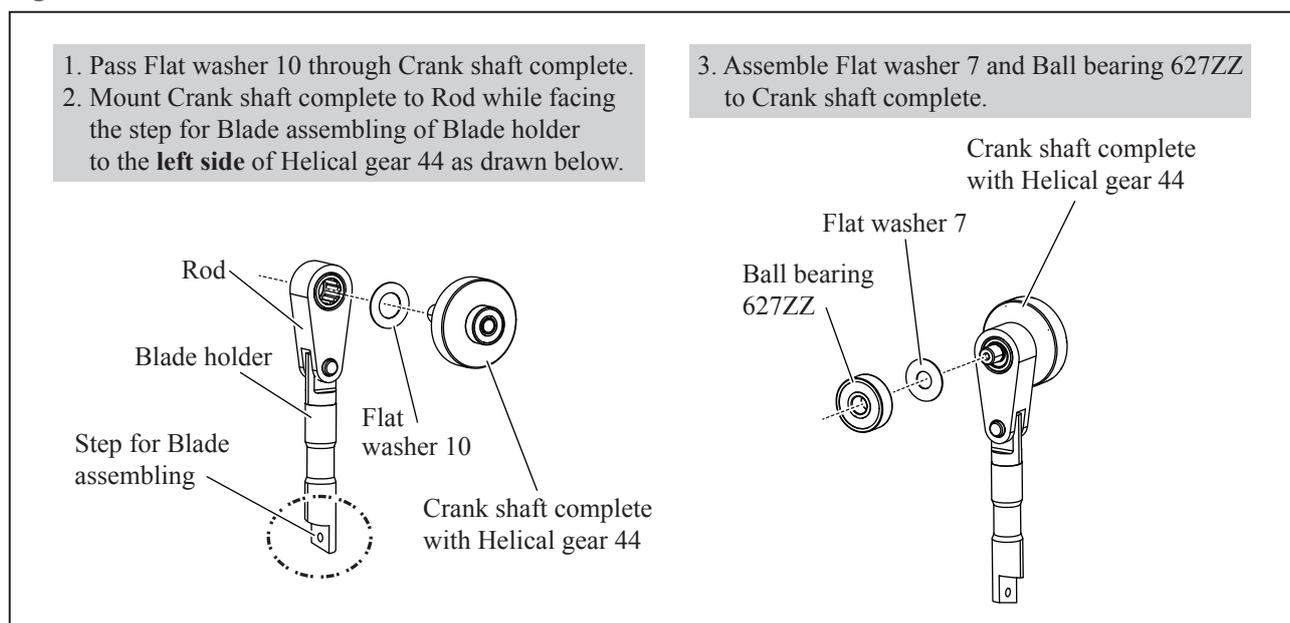


**Fig. 8**



(2) Assemble Ball bearings, Flat washers and Crank shaft with Helical gear 44 to Rod. (**Fig. 9**)

**Fig. 9**



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Gear housing complete, Crank shaft, Blade holder (cont.)

##### ASSEMBLING

- (3) Assemble the reciprocating mechanism (Crank shaft complete and Blade holder) to Gear housing complete.  
(Refer to Fig. 4)
- (4) Assemble Protector and Yoke as drawn in Figs. 10 and 11.

Fig. 10

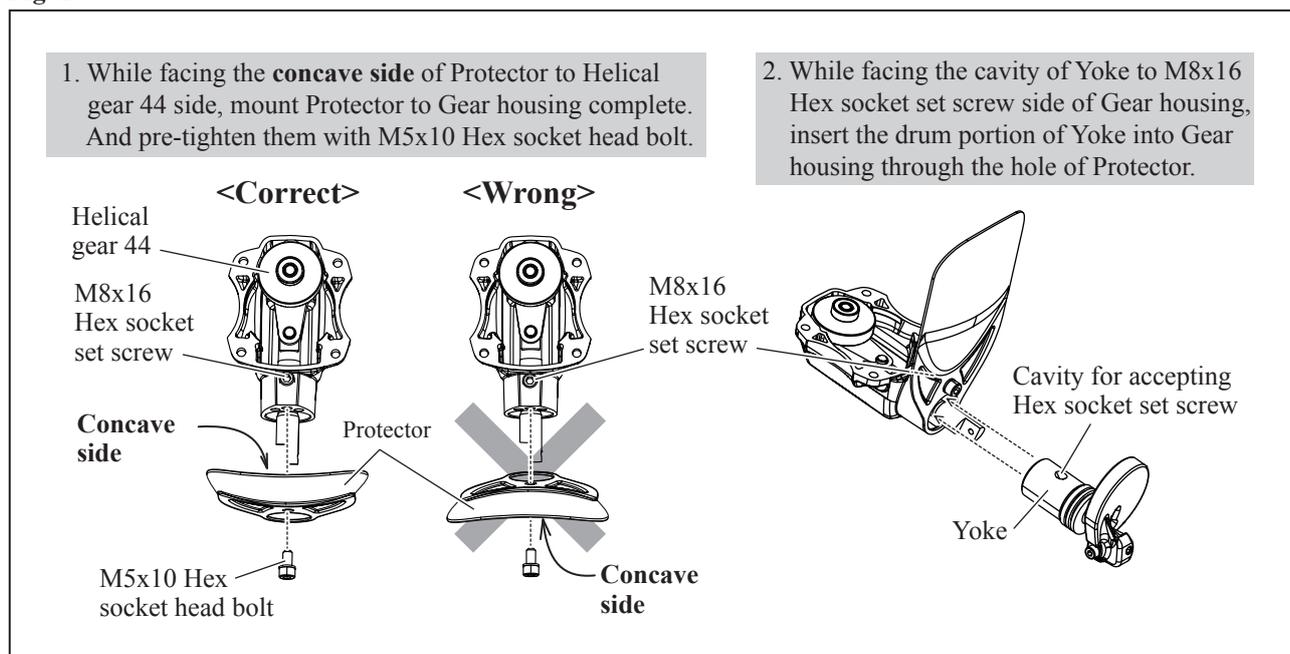
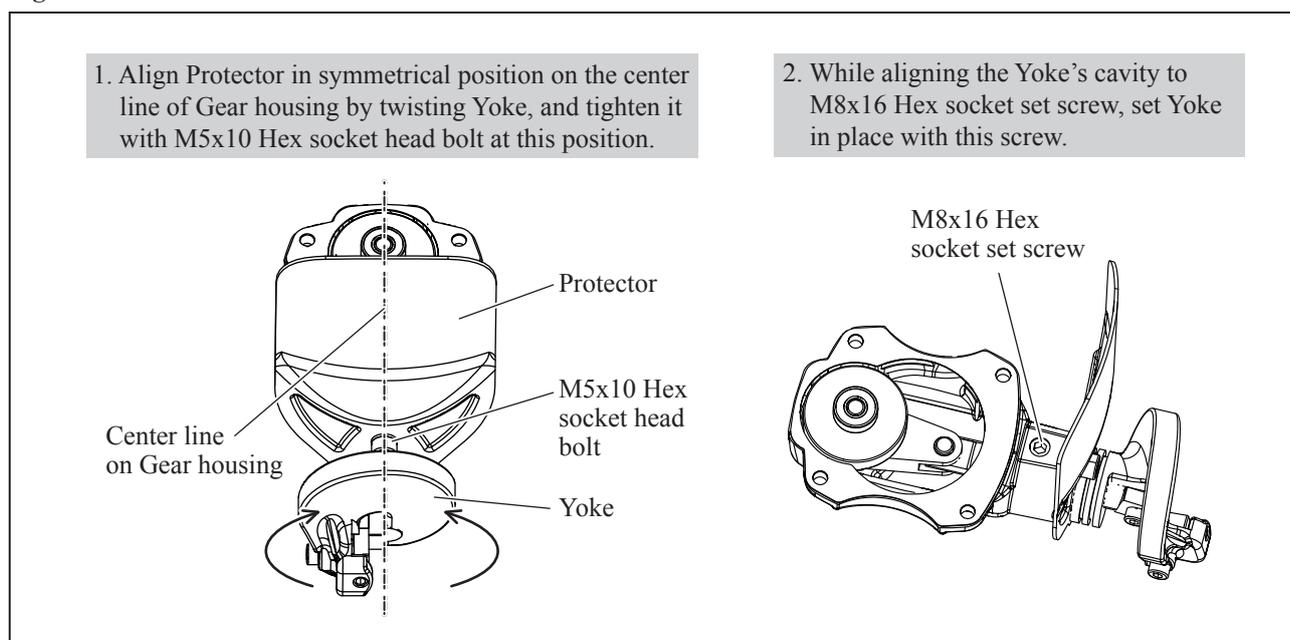


Fig. 11



## ► Repair

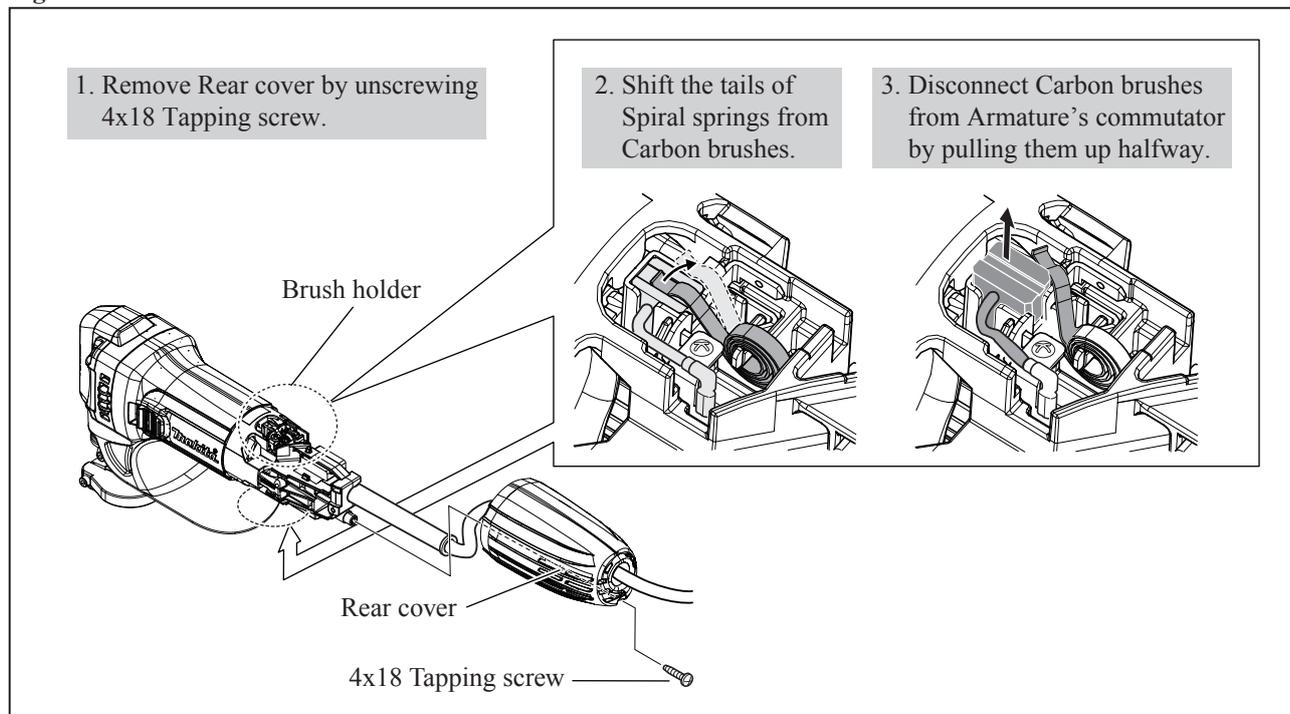
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -2. Armature

##### DISASSEMBLING

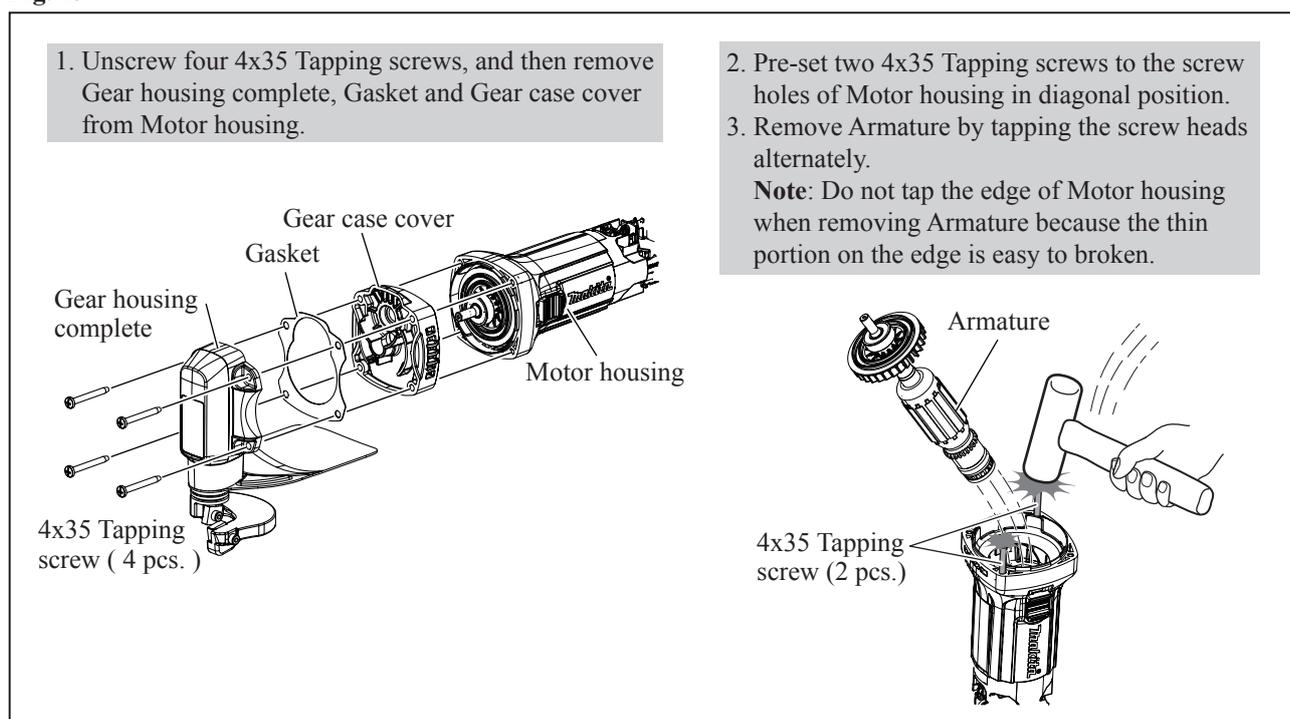
(1) Remove Rear cover and move Carbon brushes away from Armature's commutator to prevent scratching. (Fig. 12)

Fig. 12



(2) Remove Armature from Motor housing. (Fig. 13)

Fig. 13



## ► Repair

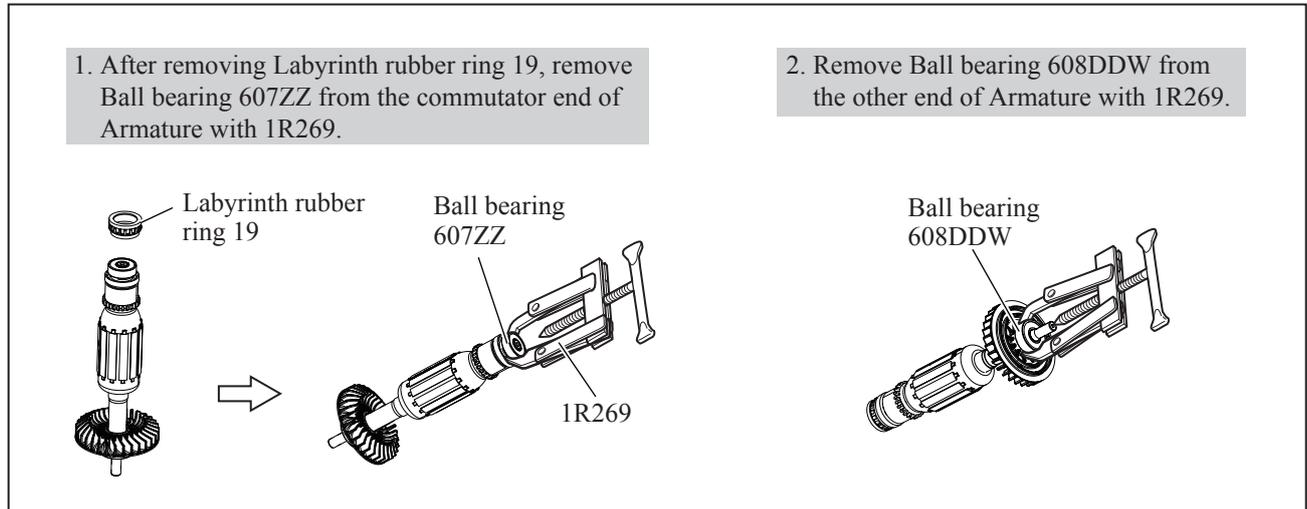
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -2. Armature (cont.)

##### DISASSEMBLING

(3) Remove Labyrinth ring and Ball bearings from Armature as drawn in **Fig. 14**.

**Fig. 14**



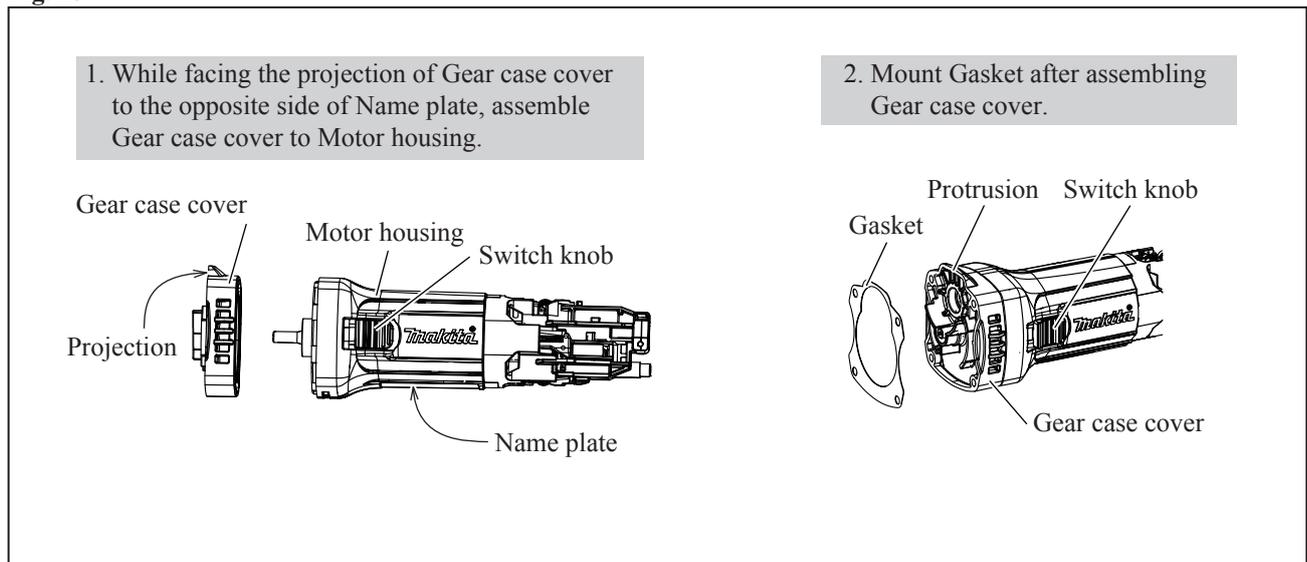
##### ASSEMBLING

- (1) Mount Ball bearings and Labyrinth ring to Armature. (Refer to **Fig. 14**)
- (2) Mount Armature to Motor housing. (Refer to **Fig. 13**)
- (3) Assemble Gear case cover, Gasket and Gear housing complete to Motor housing by reversing the disassembly procedure. (Refer to **Fig. 13**)

**Note 1:** Be careful to the **left** illustration in **Fig. 15** when assembling Gear housing cover.

**Note 2:** Do not forget to assemble Gasket before assembling Gear housing complete. (See **right** illustration in **Fig. 15**)

**Fig. 15**



► **Repair**

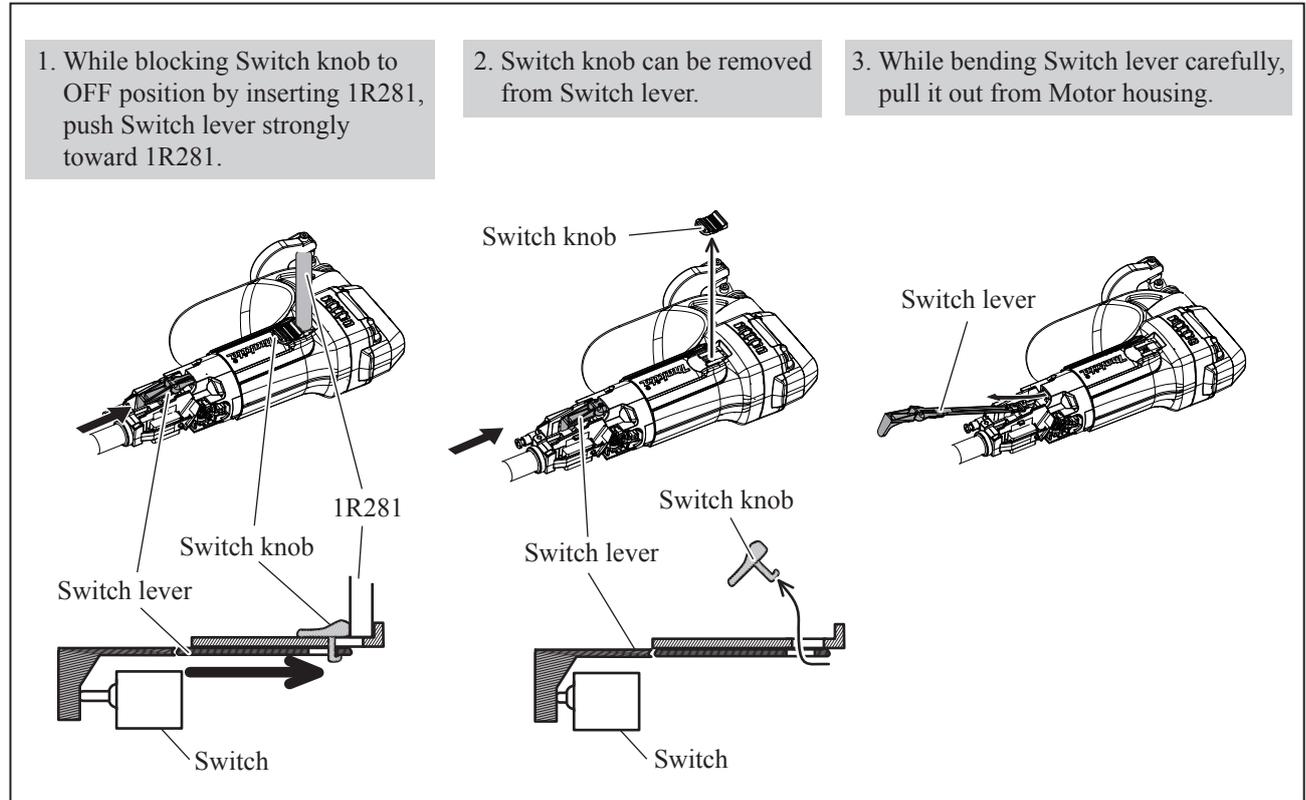
**[3] DISASSEMBLY/ASSEMBLY**

**[3] -3. Switch Lever**

DISASSEMBLING

Remove Switch lever. (Fig. 16)

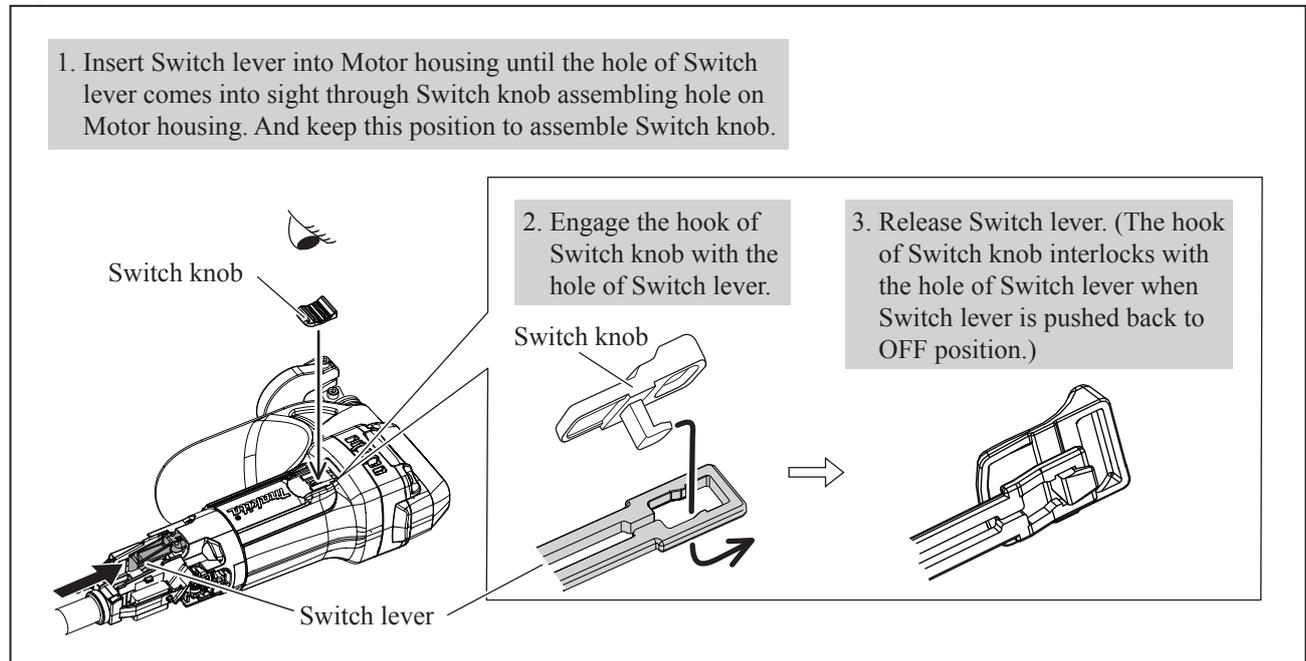
Fig. 16



ASSEMBLING

Assemble Switch lever and Switch knob as drawn in Fig. 17.

Fig. 17



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3] -4. Field

##### DISASSEMBLING

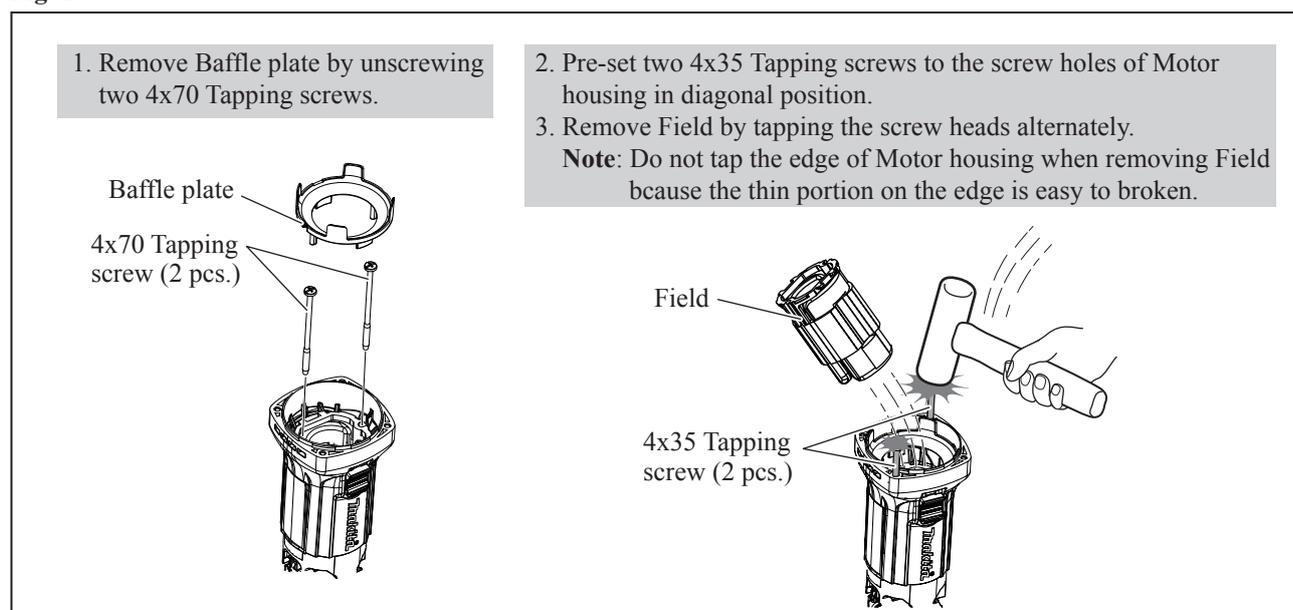
(1) Disassemble Armature as drawn in **Figs. 12 and 13**.

**Note:** Do not forget to pre-set two 4x35 Tapping screws to the screw holes of Motor housing in diagonal position when removing Armature.

(2) Disconnect Filed lead wires from brush holders and Switch. (Refer to **Fig. D-1 of Circuit Diagram**)

(3) Disassemble Field. (**Fig. 18**)

**Fig. 18**

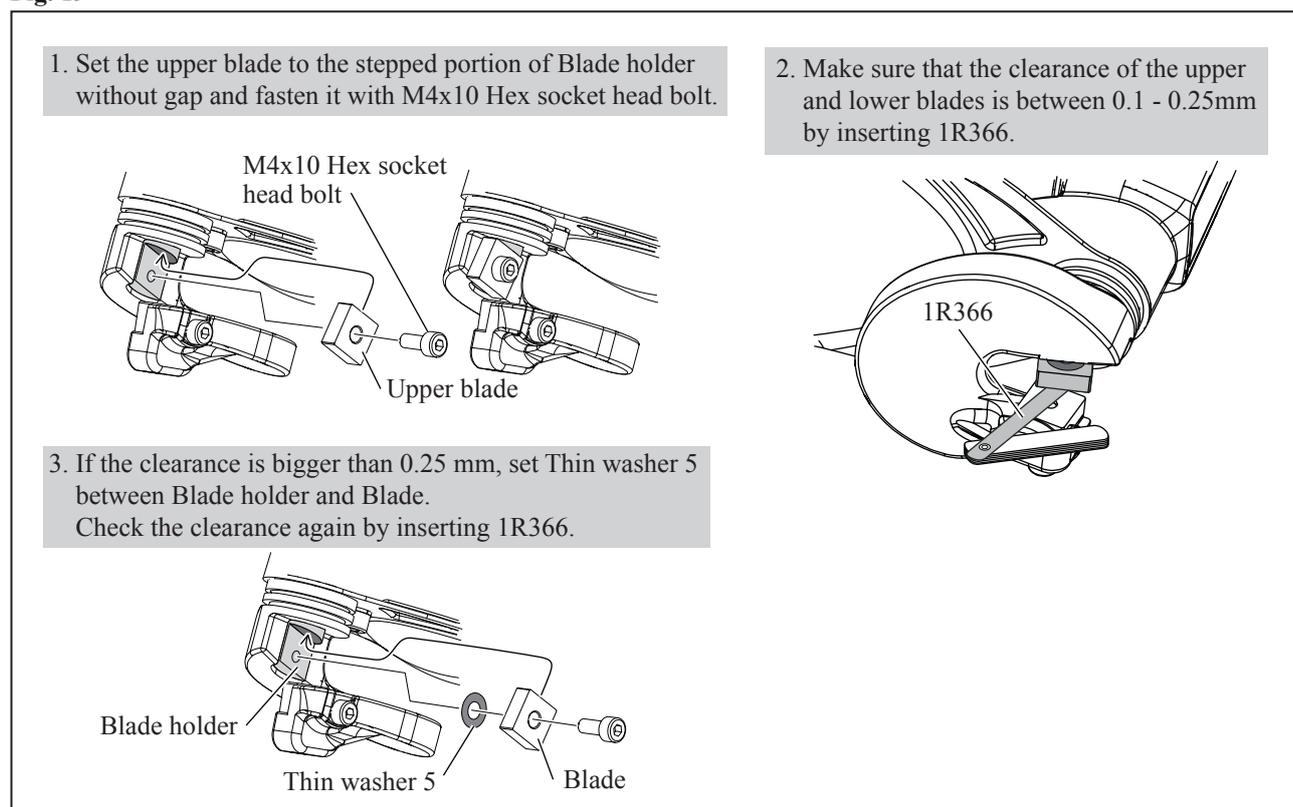


#### [3] -5. Shear Blade

##### ADJUSTMENT

Set the blades and adjust the clearance between the upper and lower blades. (**Figs. 19, 20 and 21**)

**Fig. 19**



► **Repair**

**[3] DISASSEMBLY/ASSEMBLY**

**[3] -5. Shear Blade (cont.)**

ADJUSTMENT

Fig. 20

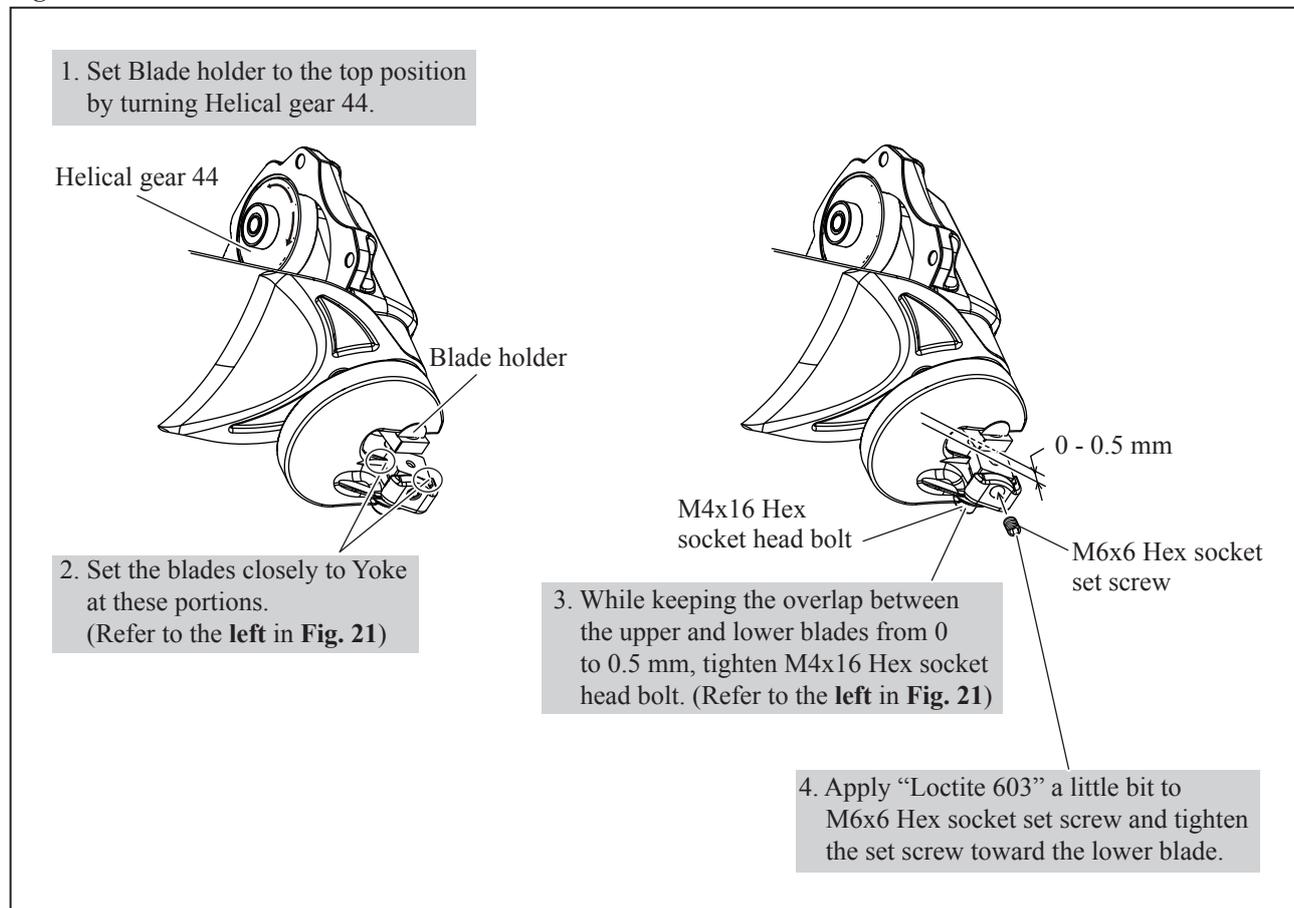
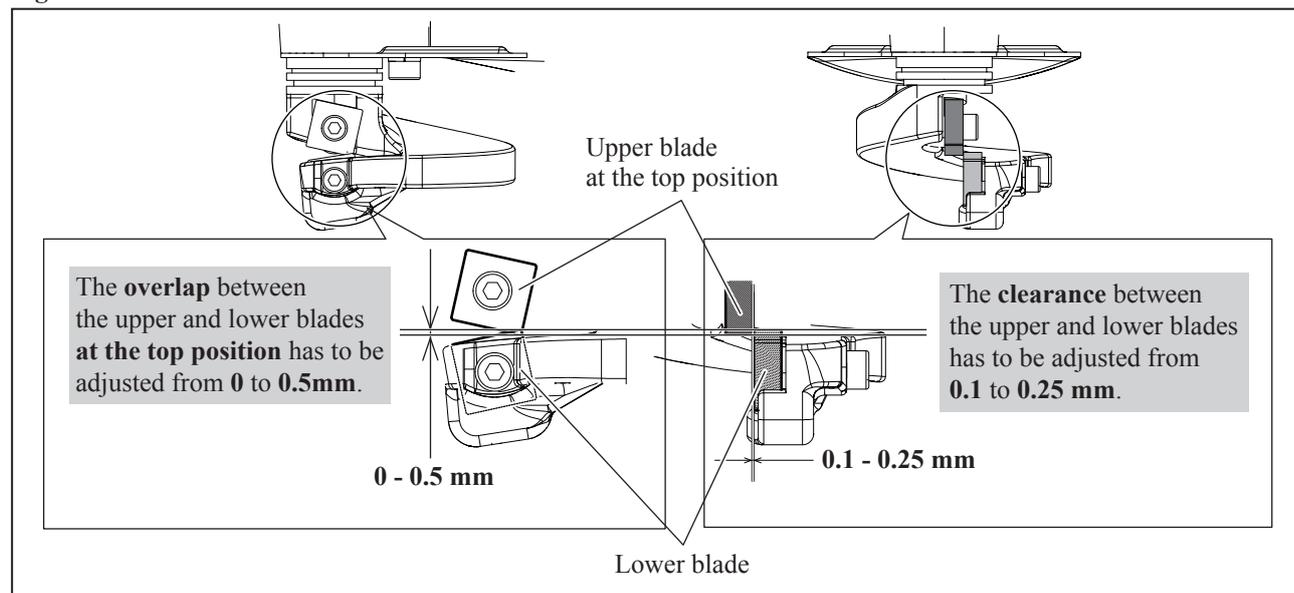
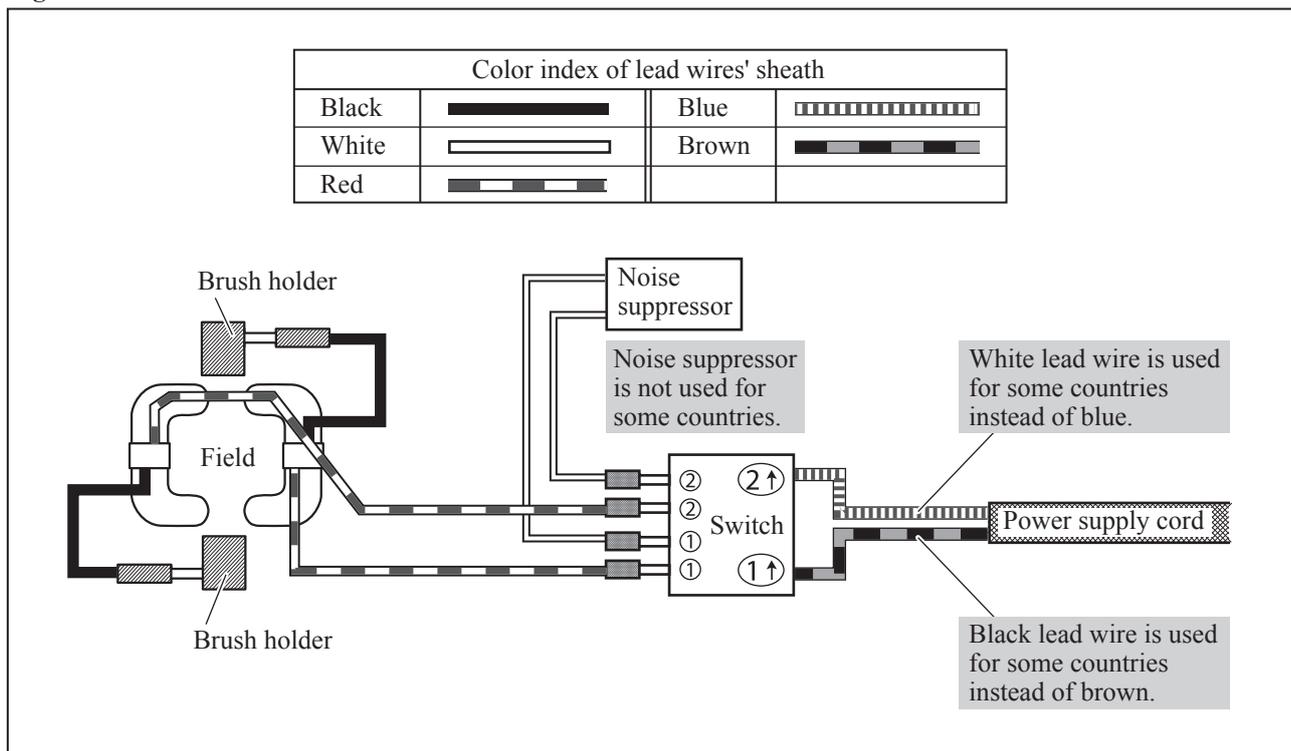


Fig. 20



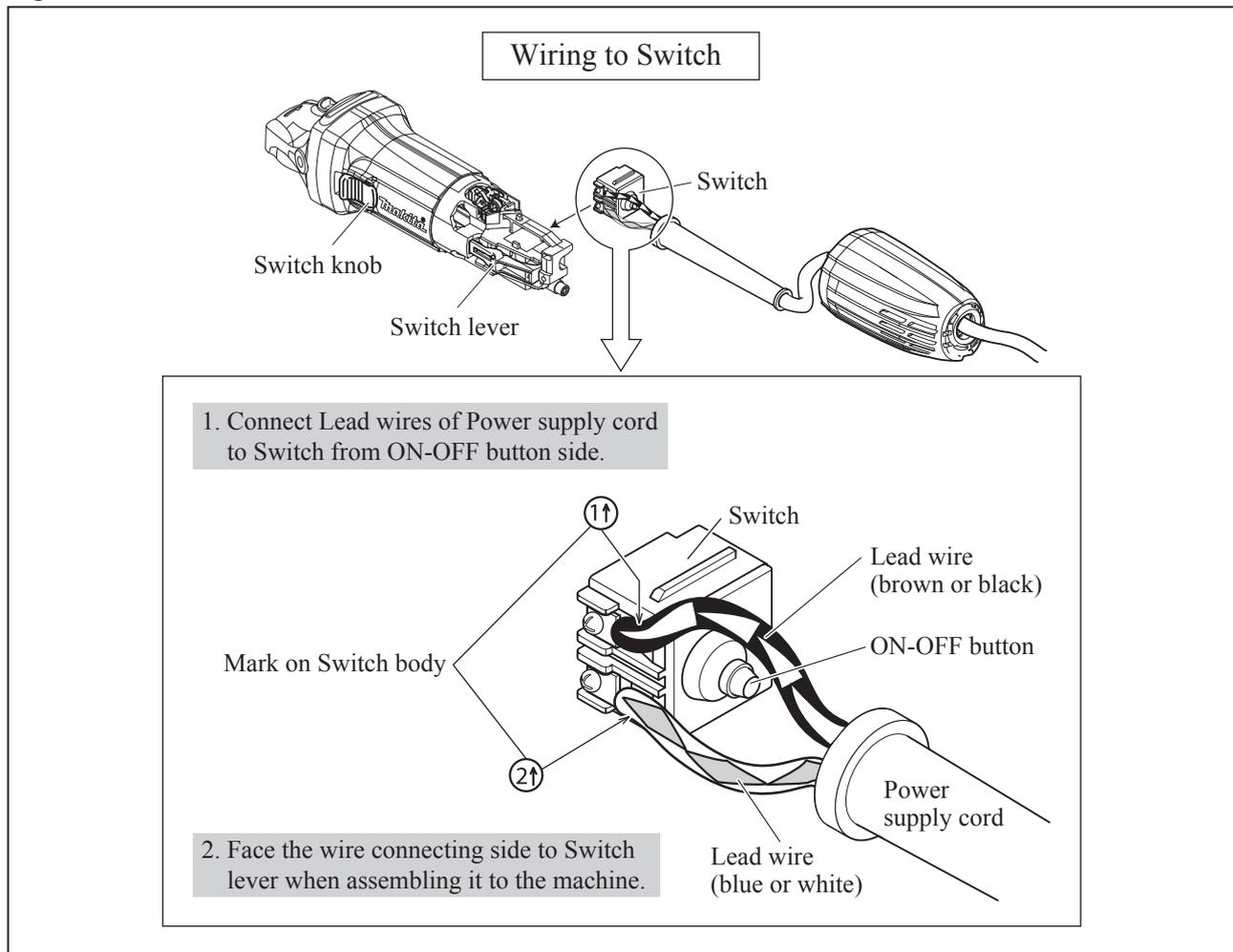
▶ **Circuit diagram**

Fig. D-1



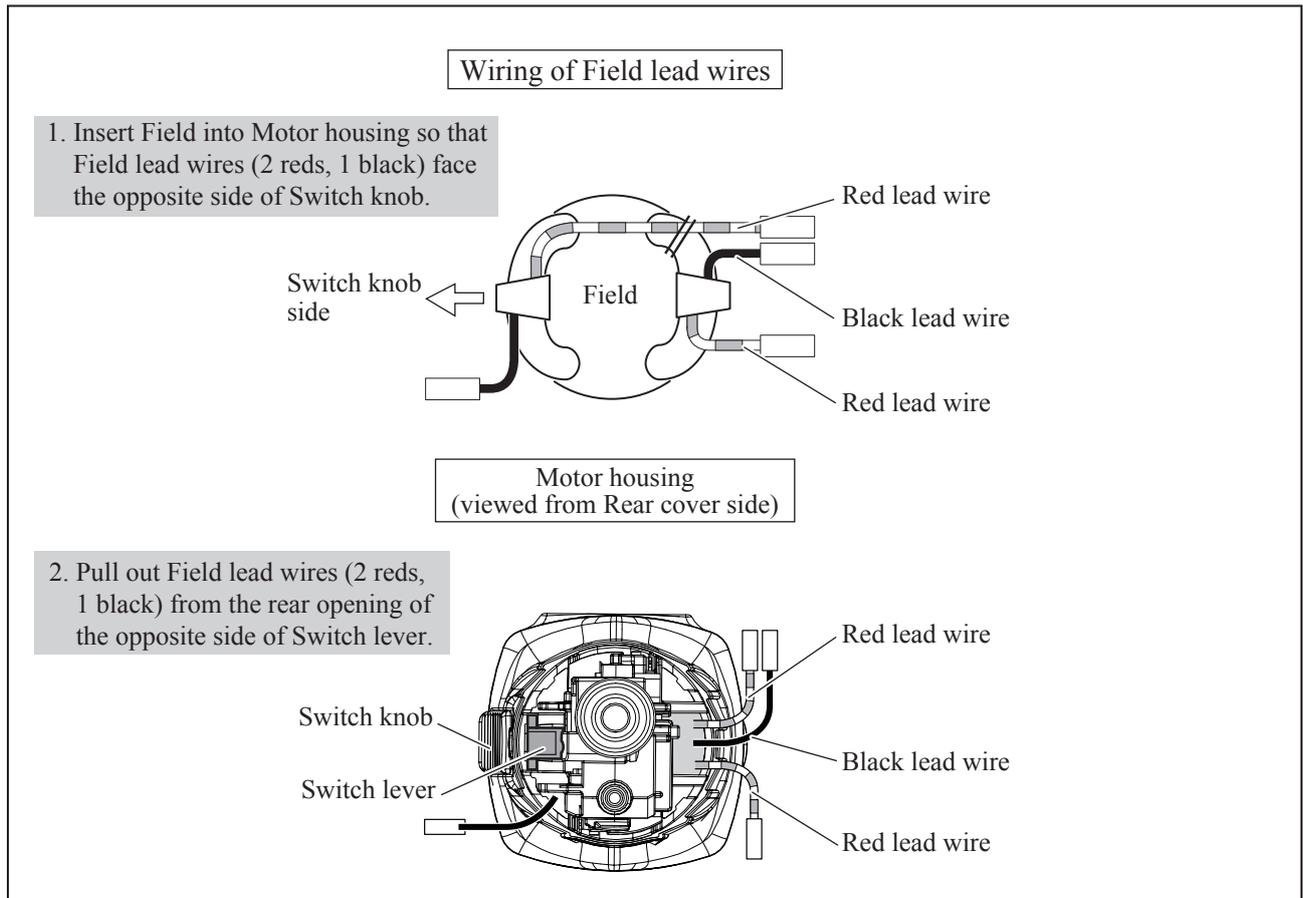
▶ **Wiring diagram**

Fig. D-2

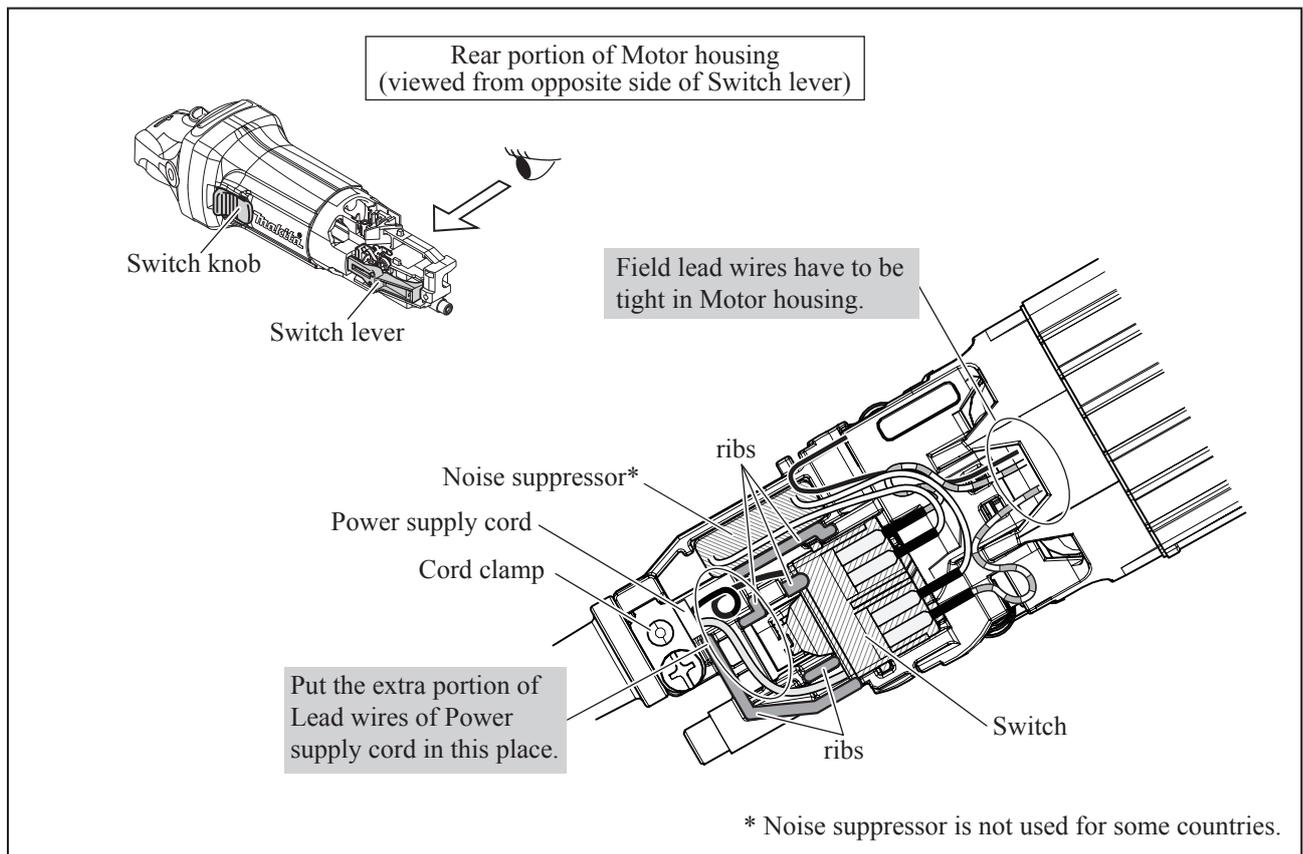


► **Wiring diagram**

**Fig. D-3**

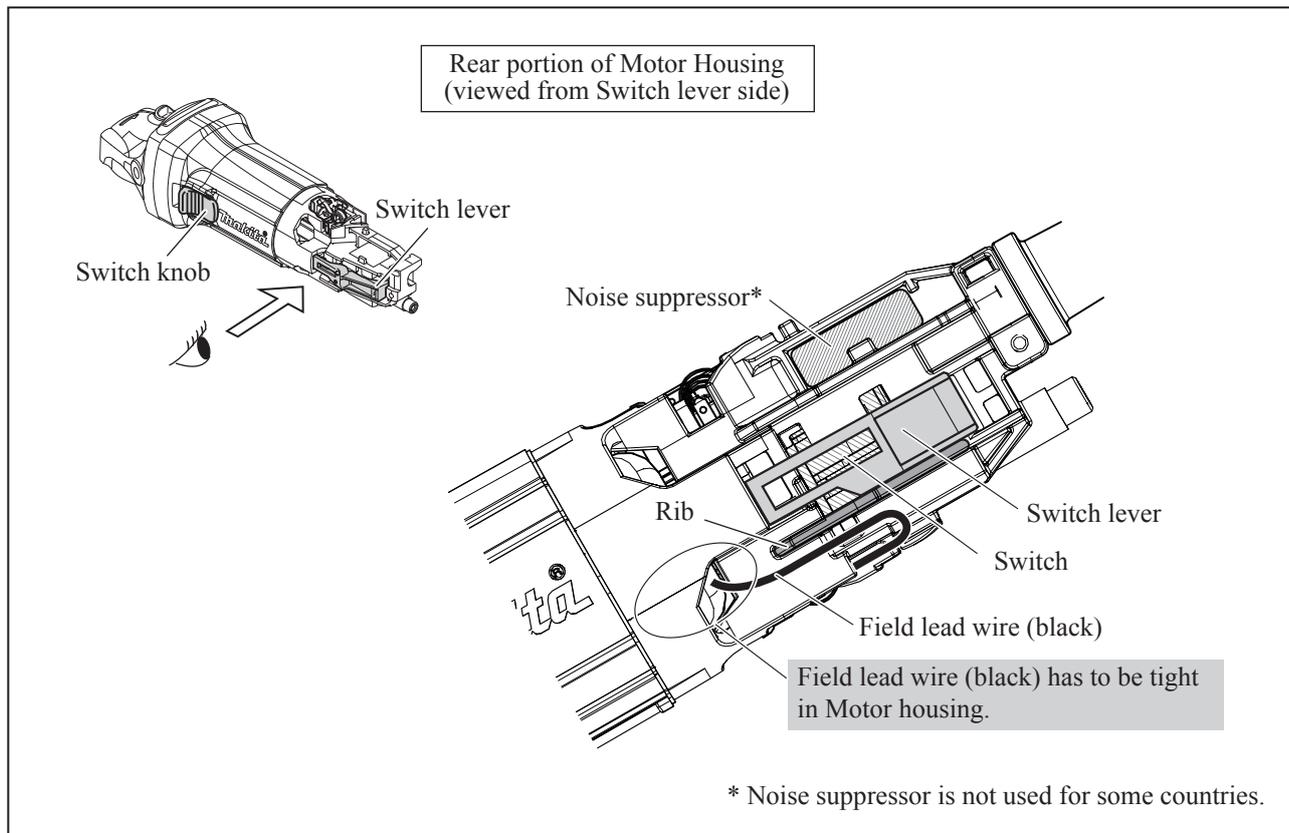


**Fig. D-4**



► **Wiring diagram**

**Fig. D-5**



**Fig. D-6**

