

# T ECHNICAL INFORMATION



PRODUCT

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**Models No.** ▶ 9553HN, 9554HN, 9555HN

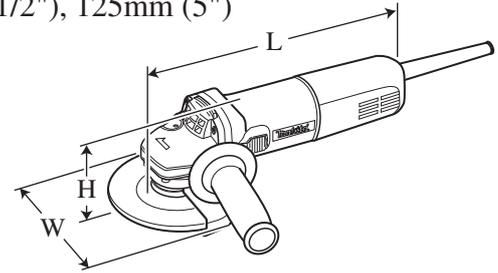
**Description** ▶ Angle Grinders 100mm (4"), 115mm (4-1/2"), 125mm (5")

## CONCEPT AND MAIN APPLICATIONS

These angle grinders have been developed as sister models of 9553NB series.

Features machined bevel gears more durable than sintered bevel gears used for 9553NB series models.

These models are also available with plastic carrying case as Model 9553HНК/ 9554HНК/ 9555HНК.



Dimensions: mm (")			
Model No.	<b>9553HN</b>	<b>9554HN</b>	<b>9555HN</b>
Length (L)	258 (10-1/8)		
Width (W)	118 (4-5/8)	129 (5-1/8)	139 (5-1/2)
Height (H)	97 (3-13/16)	106 (4-3/16)	

## ► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	6.8	50/60	710	420	800
120	6.0	50/60	710	420	800
220	3.4	50/60	710	420	800
230	3.2	50/60	710	420	800
240	3.1	50/60	710	420	800

Specification	Model No.	<b>9553HN</b>	<b>9554HN</b>	<b>9555HN</b>
Capacity: mm (")	Depressed center wheel	100 (4)	115 (4-1/2)	125 (5)
	Wire cup brush	75 (3)	90 (3-1/2)	90 (3-1/2)
	Abrasive disc	100 (4)	115 (4-1/2)	125 (5)
No load speed: min.-1 = rpm		11,000	10,000	
Protection against electric shock		Double insulation		
Power supply cord: m (ft)		Australia, New Zealand: 2.0 (6.6), Other countries: 2.5 (8.2)		
Net weight*: kg (lbs)		1.8 (4.0)		1.9 (4.2)

\* Weight according to EPTA-Procedure 01/2003

## ► Standard equipment

<b>9553HN</b>	<b>9554HN</b>	<b>9555HN</b>
Depressed center wheel 100-36 .... 1	Depressed center wheel 115-36 .... 1	Depressed center wheel 125-36 .... 1
Lock nut wrench 20 ..... 1	Lock nut wrench 28 ..... 1	Lock nut wrench 35 ..... 1
Grip 36 complete ..... 1	Grip 36 complete ..... 1	Grip 36 complete ..... 1
Plastic carrying case ..... 1 (for <b>9553HНК</b> , <b>9554HНК</b> , <b>9555HНК</b> only)		

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

## ► Optional accessories

Wheel covers, Depressed center wheels, Abrasive discs, Rubber pads (for abrasive discs), Sanding lock nuts, Cut-off wheels, Super flanges (for **9554HN**, **9555HN** only), Wire cup brushes, Wire bevel brush (for **9553HN** only), Dust collecting wheel guards

## ► Repair

**CAUTION: Disconnect the machine and remove the wheel for safety before repair/maintenance!**

### [1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R028	Bearing Setting Pipe	Installing Retaining ring S-12
1R045	Gear Extractor (large)	Removing Spindle from Bearing box
1R346	Center Attachment for 1R045	Removing Spindle from Bearing box (for modular use with 1R045)
1R269	Bearing Extractor	Removing Ball bearings
1R291	Retaining Ring S and R Pliers	Removing Retaining ring S-12 and R-32
1R343	Retaining Ring Setting Jig	Installing Retaining ring S-12
1R-----	Bearing Setting Plate (of proper size)	Assembling Ball bearing 629LLB and Armature to Gear housing cover

### [2] LUBRICATION AND SEALING

Put 7g of Makita Grease N. No.1 into the gear room of Gear housing.

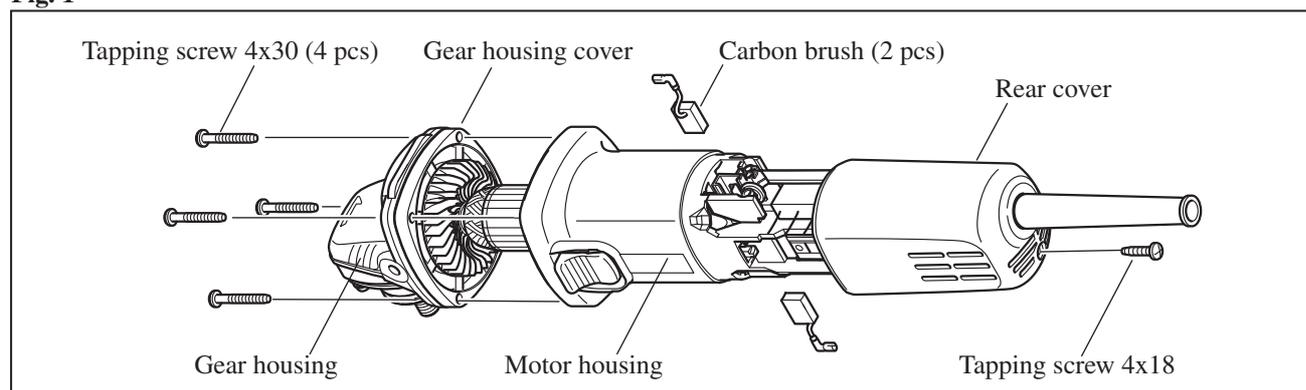
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Armature and Small Spiral Bevel Gear

##### DISASSEMBLING

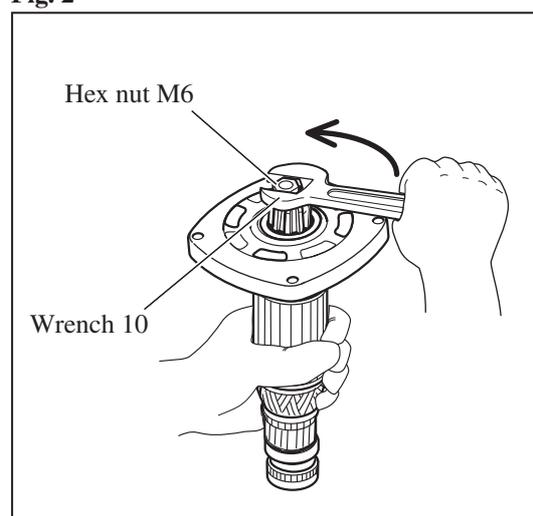
- 1) Remove 4x18 Tapping screw and separate Rear cover from Motor housing. Then remove Carbon brushes. (**Fig. 1**)
- 2) Unscrew four 4x30 Tapping screws and remove the assembled unit of Gear housing and Armature. (**Fig. 1**)

**Fig. 1**

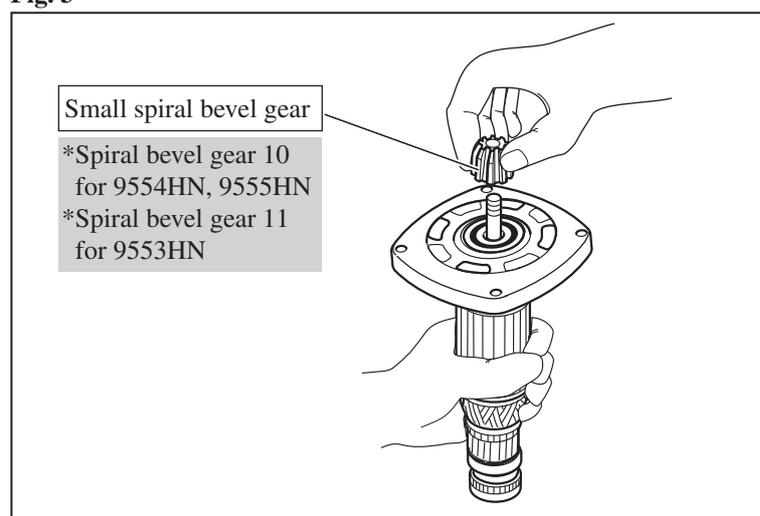


- 3) Pull off the assembled unit of Armature and Gear housing cover from Gear housing.
- 4) Grip Armature securely by gloved hand, then remove Hex nut M6 by turning counterclockwise with wrench 10. (**Fig. 2**)
- 5) Remove Small spiral bevel gear by gloved hand. (**Fig. 3**)
  1. Spray some lubricant to the contact portion of the gear and Armature shaft.
  2. Wrap the gear with wasted cloth for protection of the gear threads, then turn the gear using water pump pliers.
- 6) Remove Armature from Gear housing cover with Gear Extractor, large (No.1R045).

**Fig. 2**



**Fig. 3**



## ► Repair

### [3] -1. Armature and Small Spiral Bevel Gear (cont.)

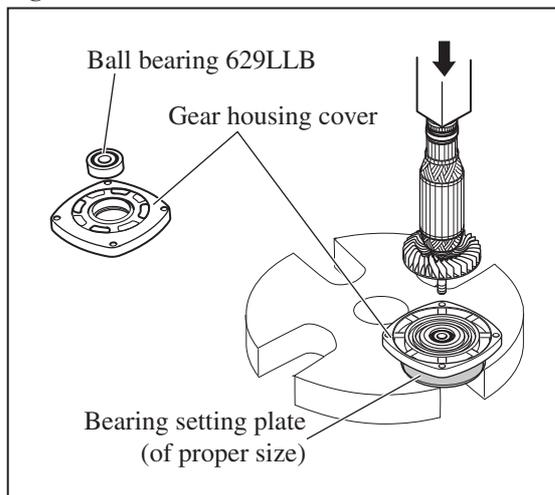
#### ASSEMBLING

Do the reverse of the disassembling steps.

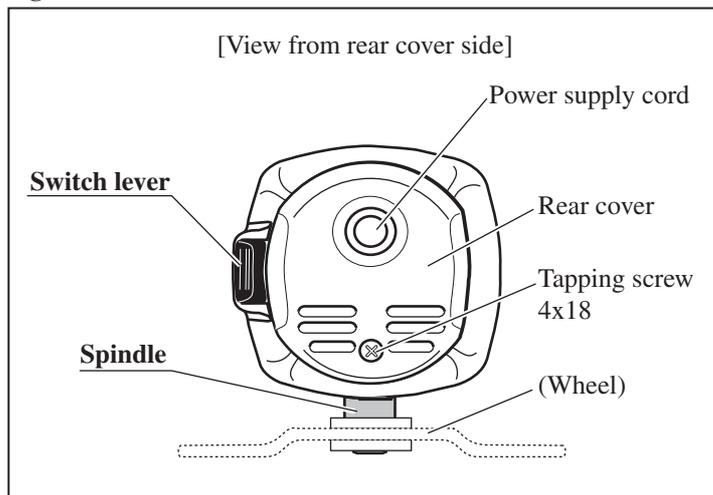
**Note:** Use arbor press and Bearing Setting Plate (of proper size) when fitting Ball bearing 629LLB in Gear housing cover. (**Fig. 4**)

**Important:** Assemble Gear housing to Motor housing so that Switch lever can be operated with right thumb as illustrated in **Fig. 5**.

**Fig. 4**



**Fig. 5**

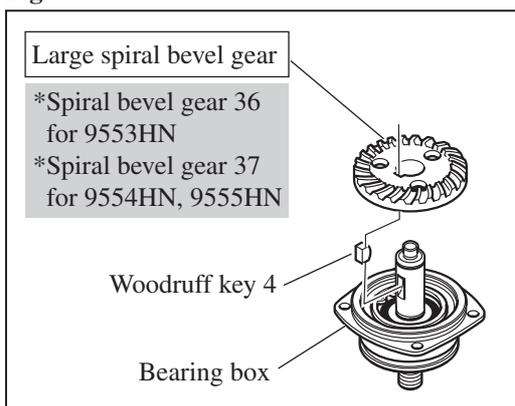


### [3] -2. Large Spiral Bevel Gear and Ball Bearing 6201DDW

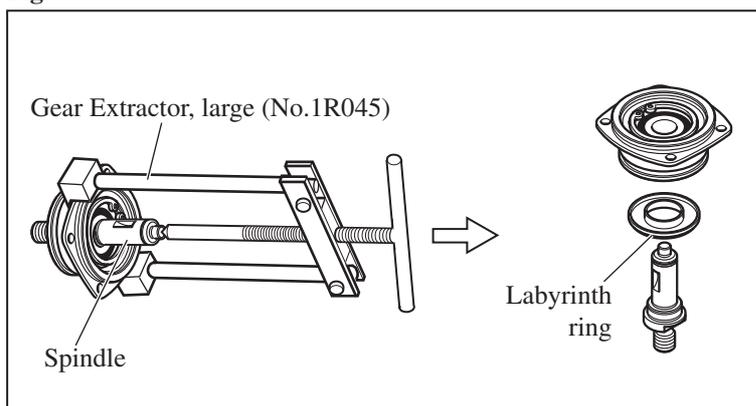
#### DISASSEMBLING

- 1) Remove Bearing box from Gear housing by unscrewing four M4x14 Pan head screws.
- 2) Remove Retaining ring S-12 and Wave washer 12 from Spindle with Retaining Ring S and R Pliers (No.1R291).
- 3) Large spiral bevel gear can now be removed by hand. Then remove Woodruff key 4. (**Fig. 6**)
- 4) Remove Spindle using Gear Extractor, large (No.1R045). Labyrinth ring can now be removed. (**Fig. 7**)

**Fig. 6**



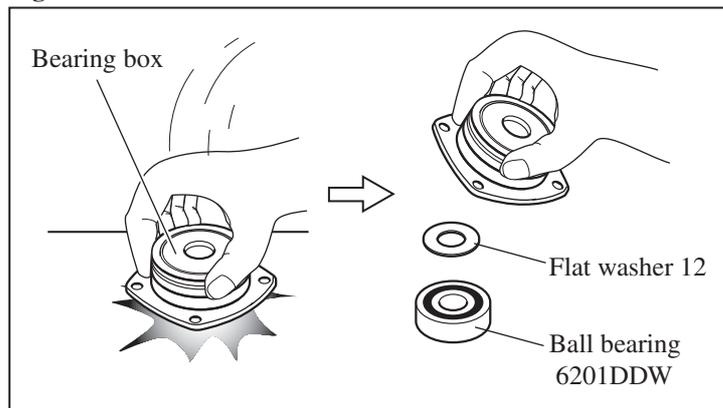
**Fig. 7**



- 5) Remove Retaining ring R-32 from Bearing box with Retaining Ring S and R Pliers (No.1R291).
- 6) By striking Bearing box against the surface of a work bench, Ball bearing 6201DDW and Flat washer 12 can be removed from Bearing box as illustrated in **Fig. 8**.

If it is difficult to remove the ball bearing, remove using arbor press.

**Fig. 8**



## ► Repair

### [3] -2. Large Spiral Bevel Gear and Ball Bearing 6201DDW (cont.)

#### ASSEMBLING

Do the reverse of the disassembling steps.

**Important:** Do not forget to install Labyrinth ring because it is an important part that prevents dust from entering into Bearing box. (Fig. 9)

#### How to fit retaining ring S-12 in place

See Fig. 10.

After installing Large spiral bevel gear and Wave washer 12 on Spindle;

- 1) Put Retaining ring S-12 on Retaining Ring Setting Jig (No.1R343) from the tapered end of the jig.
- 2) Put the jig onto Spindle, then put Bearing Setting Pipe 20-12.2 (No.1R028) over the jig.
- 3) Using arbor press, press down the pipe till the retaining ring is securely fitted in place on Spindle with a snap.

Fig. 9

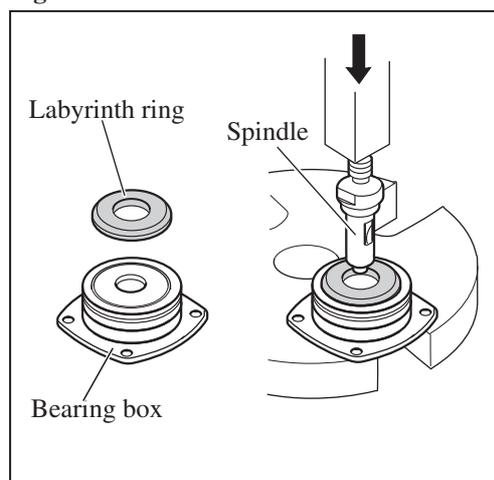
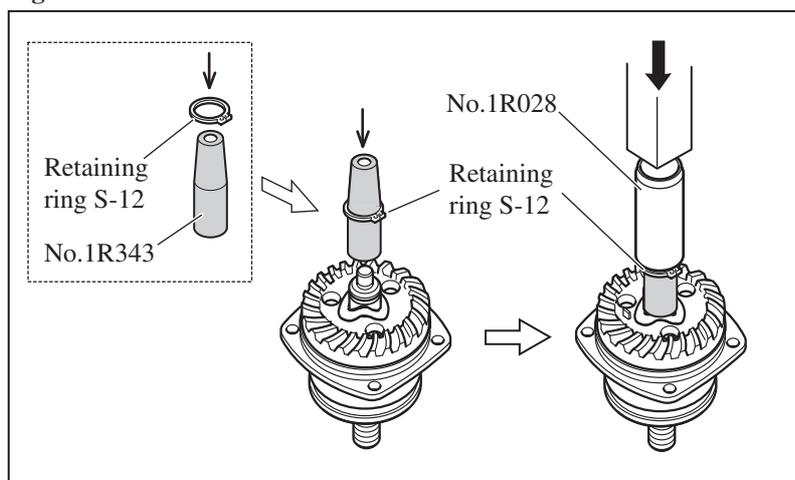


Fig. 10



### [3] -3. Disassembling/Assembling Shaft Lock Mechanism

#### DISASSEMBLING

- 1) Remove Bearing box from Gear housing.
- 2) Pull off Shoulder pin 4 with pliers while pushing Pin cap with finger. (Fig. 11)

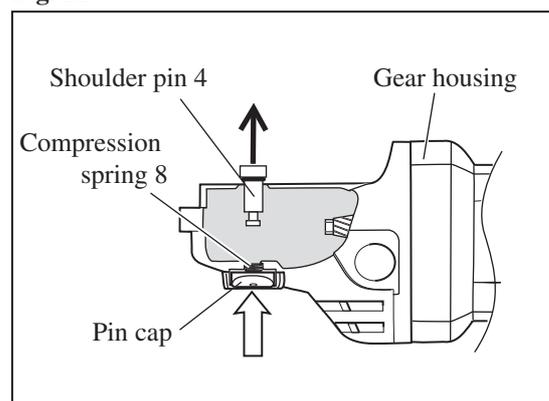
**Note:** Do not pull off Shoulder pin 4 without holding Pin cap because Compression spring 8 would sling Pin cap.

#### ASSEMBLING

Push Shoulder pin 4 through Gear housing and Compression spring 8 into Pin cap.

**Note:** Do not reuse removed Pin cap because removal of Shoulder pin 4 damages the inside surface of Pin cap, producing plastic dust. Therefore, be sure to use a new Pin cap for replacement and to remove all the plastic dust on Shoulder pin 4.

Fig. 11

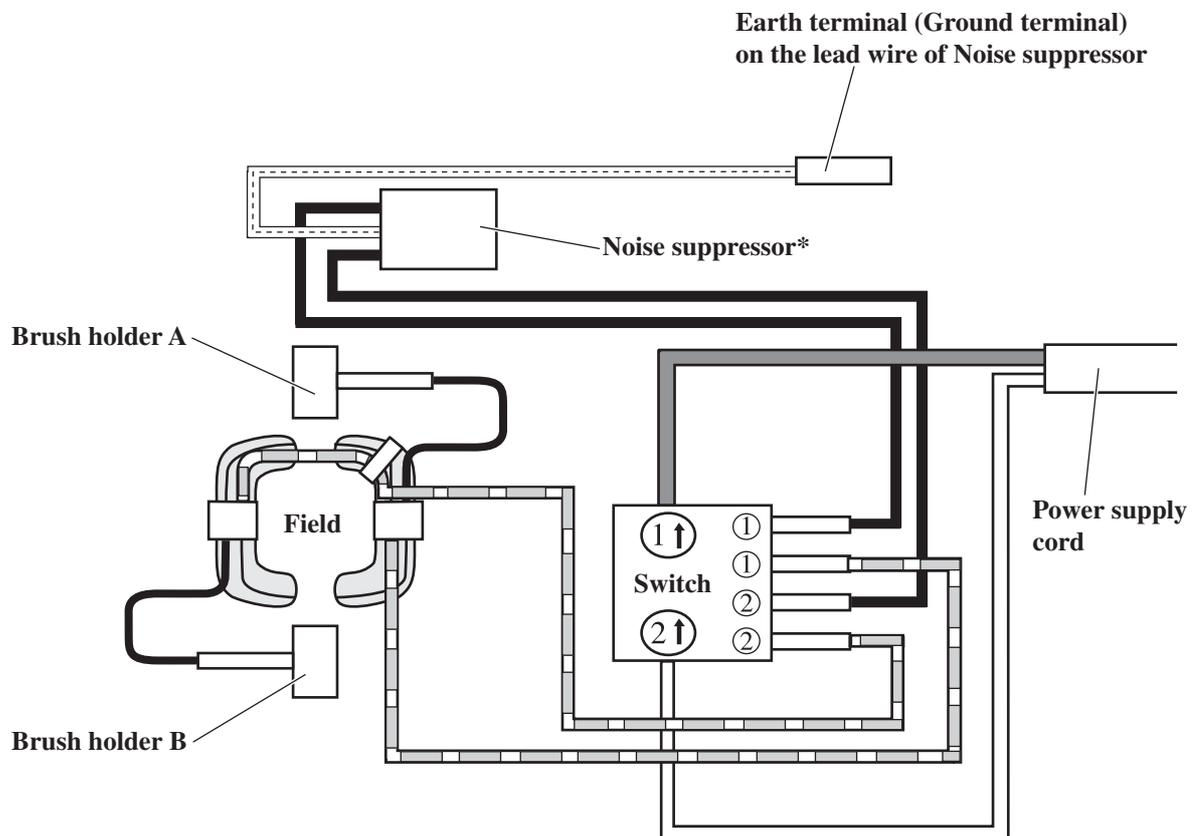


### [3] -4. Tightening Tapping Screws That Fasten the Field

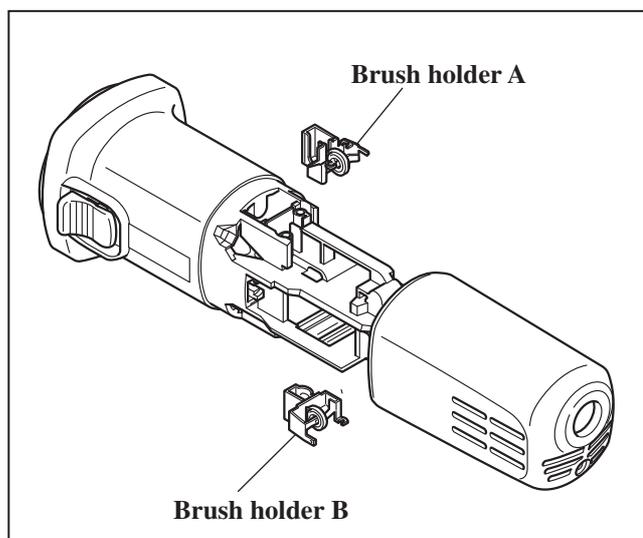
Tighten the two tapping screws that fasten Baffle plate and Field to the recommended torque of 1.1 - 1.3 Nm.

► **Circuit diagram**

Color index of lead wires' sheath	
Black	
Red	
Clear	



\*Some countries do not use noise suppressor

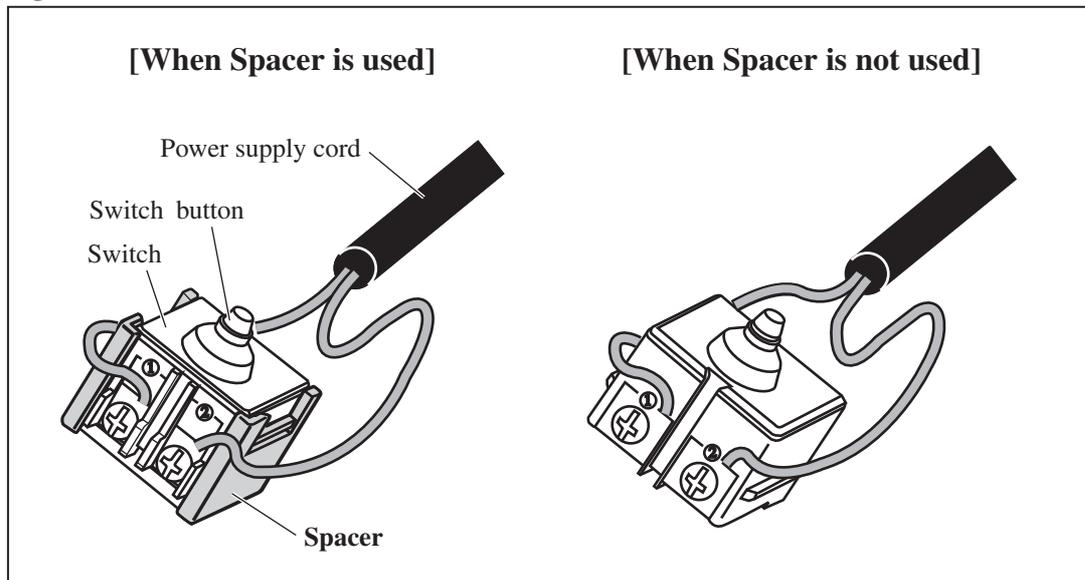


## ▶ Wiring diagram

### [1] Connecting Lead Wires of Power Supply Cord with Switch

Connect the lead wires with Switch as illustrated in Fig. 12.

Fig. 12

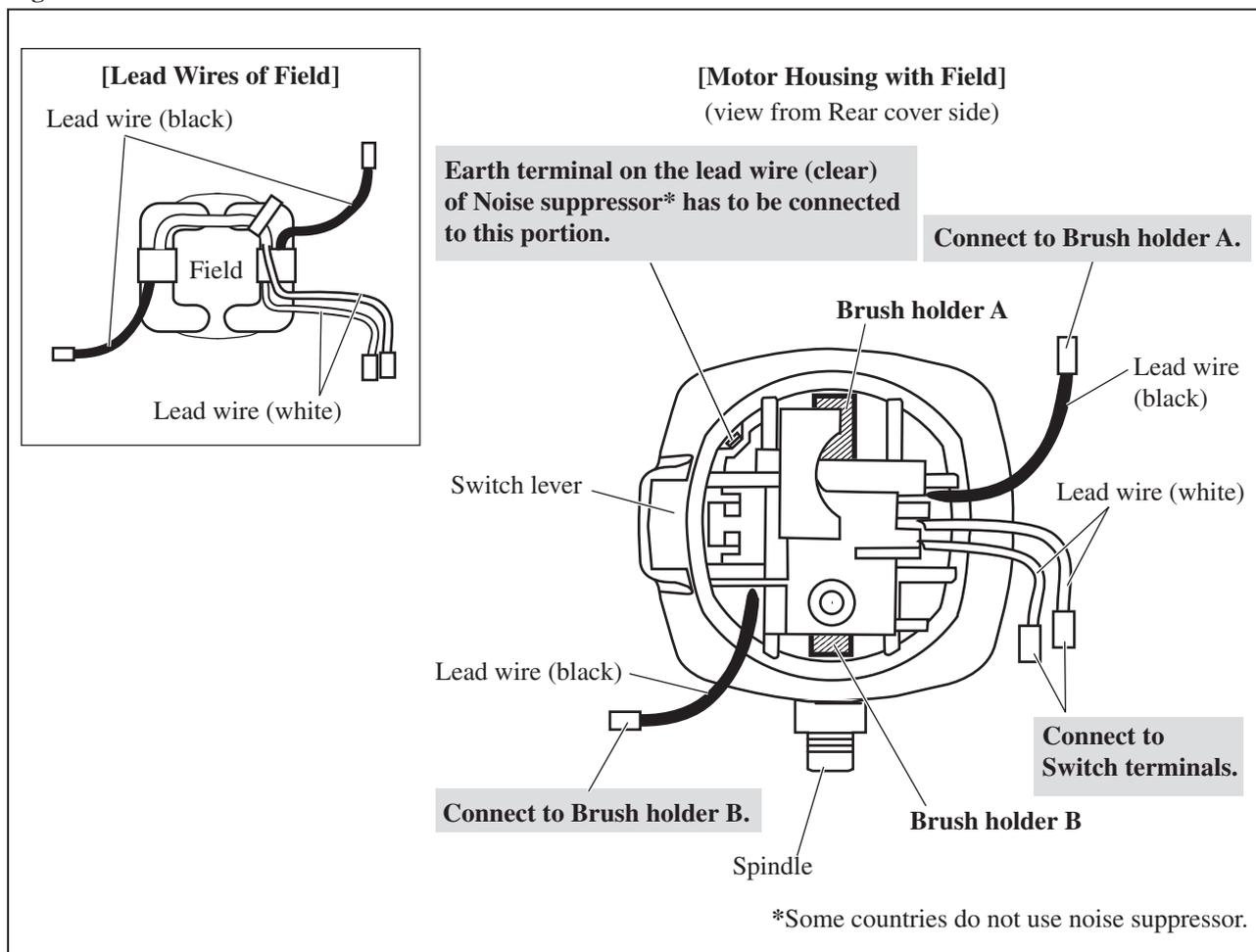


### [2] Wiring of Field Lead Wires in the Rear of Motor Housing

#### [2] -1. Rear End

Route Field lead wires as illustrated in Figs. 13 - 16.

Fig. 13

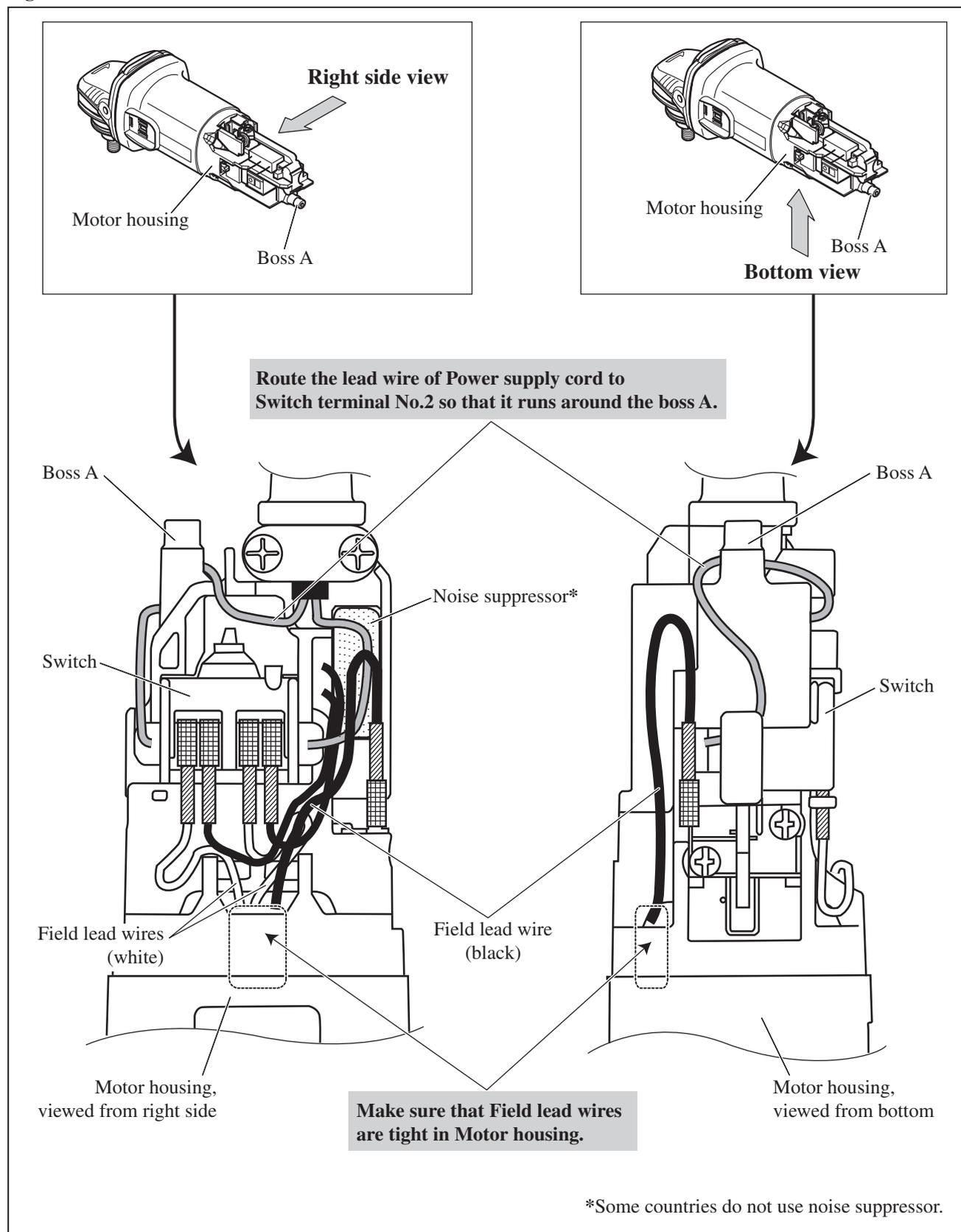


► **Wiring diagram**

[2] **Wiring of Field Lead Wires in the Rear of Motor Housing (cont.)**

[2] -2. **Right Side and Bottom**

Fig. 14

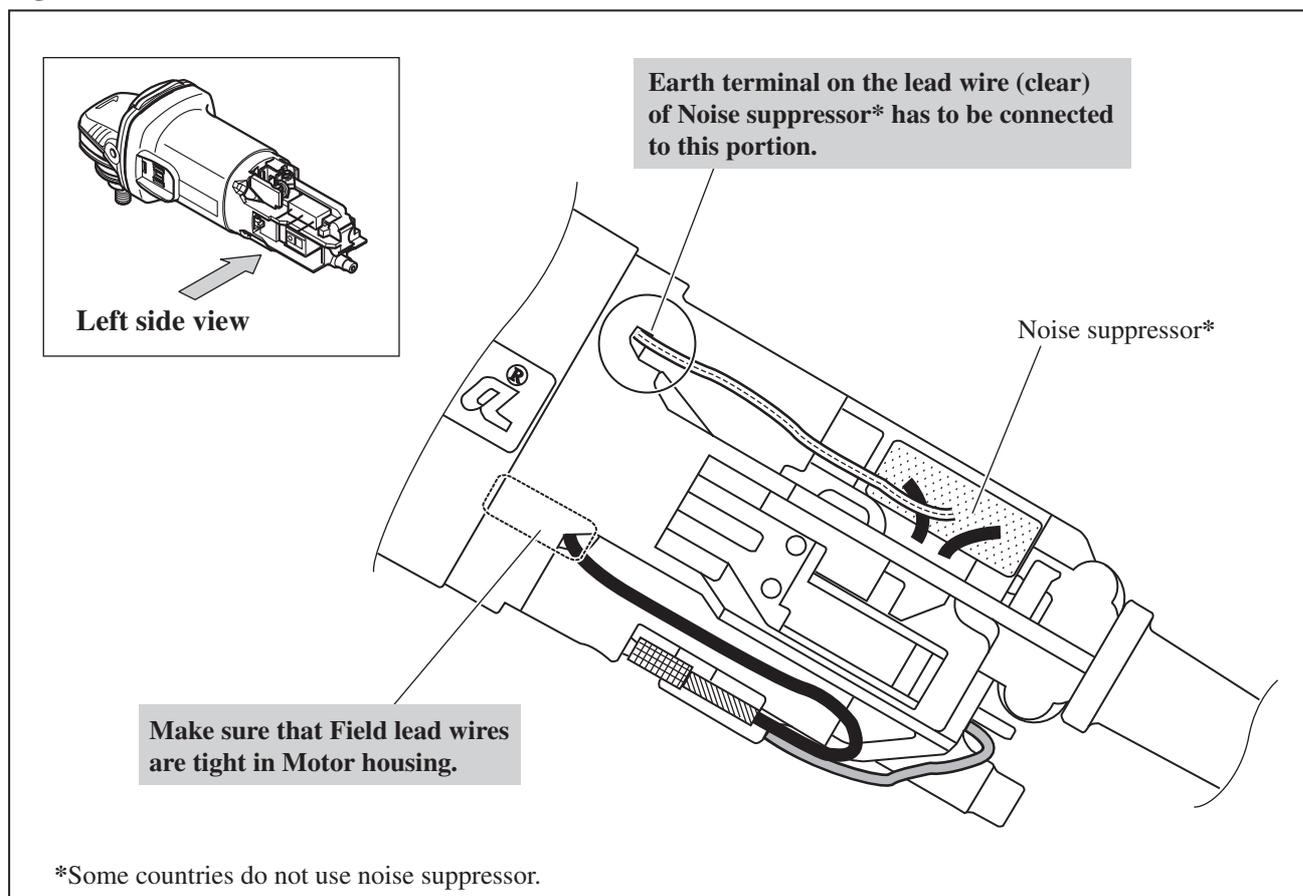


▶ **Wiring diagram**

[2] **Wiring of Field Lead Wires in the Rear of Motor Housing (cont.)**

[2] -3. **Left Side**

Fig. 15



[2] -4. **Top**

Fig. 16

