

T ECHNICAL INFORMATION



PRODUCT

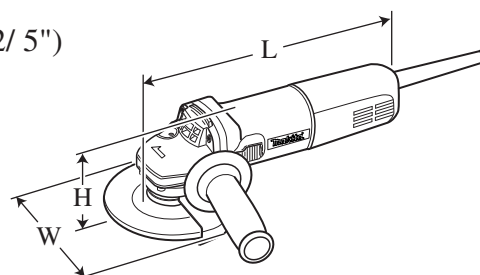
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Models No. ▶ 9553NB, 9554NB, 9555NB

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

CONCEPT AND MAIN APPLICATIONS

The 9553NB series models have been developed as upgraded sister tools of the current 9523NB series models. Features more powerful motor for higher performance efficiency, yet still having the same compact and lightweight body for comfortable handling as the current series models.



| Dimensions: mm (") | | | |
|--------------------|--------------|--------------|-------------|
| Model No. | 9553NB | 9554NB | 9555NB |
| 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 |

| Model No. | | 9553NB | 9554NB | 9555NB |
|-----------------------------|------------------------|-------------------|---------------|---------|
| Capacity: mm (") | Depressed center wheel | 100 (4) | 115 (4-1/2) | 125 (5) |
| | Wire cup brush | 75 (3) | 90 (3-1/2) | |
| | Abrasive disc | 100 (4) | 115 (4-1/2) | 125 (5) |
| | Diamond wheel | 100 (4) | 115 (4-1/2) | 125 (5) |
| No load speed: min.-1 = rpm | | 11,000 | 10,000 | |
| Spindle thread | | M10x1.5/ M10x1.25 | DIN/ 5/8"-UNC | |
| Cord length: m (ft) | | 2.5 (8.2) | | |
| Net weight: kg (lbs) | | 1.4 (3.1) | | |

► Standard equipment

9553NB

Depressed center wheel 100-36 1
Lock nut wrench 20 1
Grip 36 complete 1

9554NB

Depressed center wheel 115-36 1
Lock nut wrench 28 1
Grip 36 complete 1

9555NB

Depressed center wheel 125-36 1
Lock nut wrench 35 1
Grip 36 complete 1

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

► Optional accessories

9553NB

Depressed center wheel 100-24
Depressed center wheel 100-36
Rubber pad 76
Sanding lock nut 10-30
Assorted 100mm abrasive discs
Wire cup brush 75
Wire bevel brush 85
Base assembly
Wheel cover
Dust extraction attachment

9554NB

Depressed center wheel 115-24
Depressed center wheel 115-36
Rubber pad 100
Sanding lock nut 14-48
Assorted 115mm abrasive discs
Super flange 47
Dust extracting wheel guards
Dust extracting wheel cover

9555NB

Depressed center wheel 125-24
Depressed center wheel 125-36
Rubber pad 115
Sanding lock nut 14-48
Assorted 125mm abrasive discs
Super flange 47
Dust extracting wheel guards
Dust extracting wheel cover

► Features and benefits

Compact Design

Features the same compactness as the 9523NB series models. Weighs only 1.4kg (3.1lbs) with an overall length of merely 258mm (10-1/8").

Rotatable Gear Housing *

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

Shaft Lock for Easy Wheel Changes *

Dust-proof Ball Bearing *

On spindle and the commutator end of armature; a dust-proof washer is also installed on spindle.

O Rings for Protection from Grease-Leakage *

Placed in the following portions;
1) Joint between Gear housing and Bearing box
2) Shaft lock pin installation hole

Switch Lever Conveniently Located for One Hand Operation *

The same advantage as the Makita 9560 series models.

High Dust-Proof Motor *

Armature coated with protective zigzag varnish, and Field coated with powder varnish protects motor from dust and wire breakage, ensuring durability enough for masonry cutting.

Labyrinth Construction Protects All Ball Bearings from Dust and Debris. *

Motor with High Heat-Resistance Performance *

See the graph below.

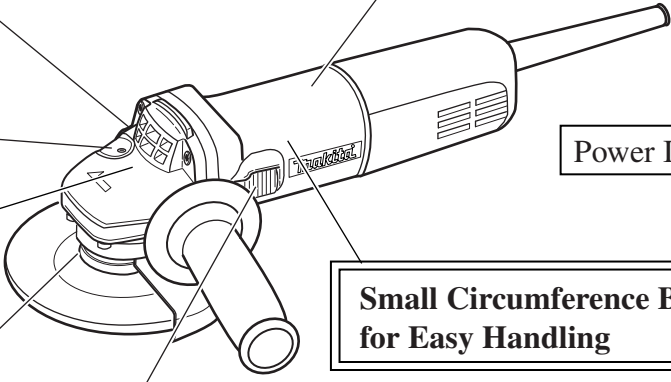
Small Circumference Barrel Grip for Easy Handling *

Use of Type 55 motor enables the circumference to be smaller than competitions. And use of the same brush as used for the Makita 9560 series models allows flat design without protrusions of brush cap.

Gear Section with Increased Reparability *

Use of a woodruff key to assemble gear onto spindle allows for easier repairing of gear section.

Power Input of 710W

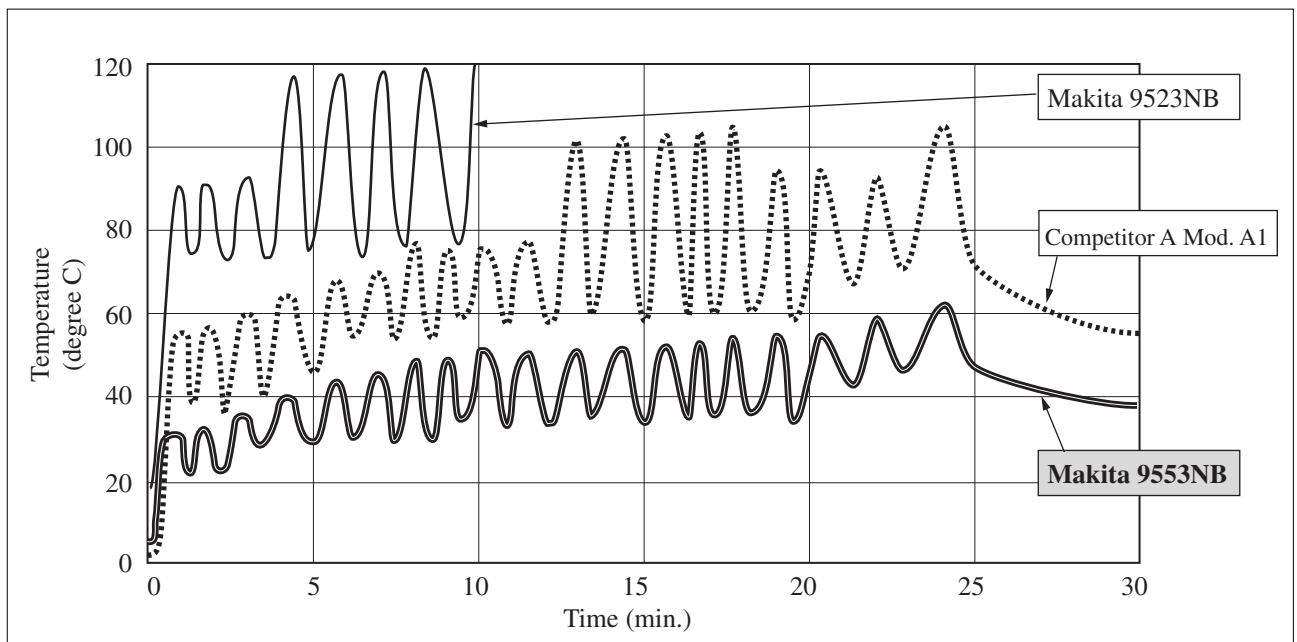


(*Same advantages as 9556NB series models)

Comparison of Heat Resistance Performance

Test conditions: Continuously cut 600mm wide concrete plate at a depth of 10mm with an identical diamond wheel attached to all the models, and measured the temperature rise in the field.

Test result: The graph below proves the superiority of Makita 9553NB in heat-resistance performance.



► Comparison of products

[1] 9553NB and 9555NB

| Model No. Specifications | | 100mm (4") | | | 125mm (5") | |
|--|-----------------|---|-----------------------------|------------------------------|---|-----------------------------|
| | | Makita | | Competitor A | Makita | |
| | | 9553NB | 9523NB/ H | A1 | 9555NB | 9525NB |
| Wheel size: mm (") | Diameter | 100 (4) | 100 (4) | 100 (4) | 125 (5) | 125 (5) |
| | Hole diameter | 16 (5/8) | 16 (5/8) | 16 (5/8) | 22.23 (7/8) | 22.23 (7/8) |
| Continuous rating input: W | | 710 | 540 | 670 | 710 | 540 |
| Rated amperage for USA: A | | 6 | 5 | N/A | 6 | 5 |
| Max. output: W | | 800 | 630 | 600* | 800 | 630 |
| No load speed: min ⁻¹ = rpm | | 11,000 | 11,000 | 11,000 | 10,000 | 10,000 |
| AC/DC switch for USA | | No | No | --- | No | No |
| Size of grip portion: mm (") | | 53 x 63 (2-1/16 x 2-1/2) | 55 x 64 (2-3/16 x 2-1/2) | 53 x 62 (2-1/16 x 2-7/16) | 53 x 63 (2-1/16 x 2-1/2) | 55 x 64 (2-3/16 x 2-1/2) |
| Circumference of grip portion: mm (") | | 195 (7-5/8) | 195 (7-5/8) | 194 (7-5/8) | 195 (7-5/8) | 195 (7-5/8) |
| Double insulation | | Yes | Yes | Yes | Yes | Yes |
| Cord length: m (ft) | | 2.5 (8.2) | 2.5 (8.2) | 2.5 (8.2) | 2.5 (8.2) | 2.5 (8.2) |
| Dimensions | Length: mm (") | 258 (10-1/8) | 256 (10-1/8) | 260 (10-1/4) | 258 (10-1/8) | 256 (10-1/8) |
| | Width: mm (") | 118 (4-5/8) | 118 (4-5/8) | 117 (4-5/8) | 139 (5-1/2) | 139 (5-1/2) |
| | Height: mm (") | 97 (3-13/16) | 111 (4-3/8) | 96 (3-3/4) | 106 (4-3/16) | 111 (4-3/8) |
| Net weight: Kg (lbs) | | 1.4 (3.1) | 1.4 (3.1) | 1.4 (3.1) | 1.4 (3.1) | 1.4 (3.1) |
| Standard equipment | Side Grip | Yes | Yes | Yes | Yes | Yes |
| | Lock nut wrench | Yes | Yes | Yes | Yes | Yes |
| | Wheel | Yes | Yes | Yes | Yes | Yes |

*Actual wattage of high voltage machine measured by us

► Comparison of products

[2] 9554NB

| Model No. Specifications | | 115mm (4-1/2") | | |
|--|-----------------|---|-----------------------------|------------------------------|
| | | Makita | Makita | Competitor A |
| | | 9554NB | 9524NB | A2 |
| Wheel size: mm (") | Diameter | 115 (4-1/2) | 115 (4-1/2) | 115 (4-1/2) |
| | Hole diameter | 22.23 (7/8) | 22.23 (7/8) | 22.23 (7/8) |
| Continuous rating input: W | | 710 | 540 | N/A |
| Rated amperage for USA: A | | 6 | 5 | 6 |
| Max. output: W | | 800 | 630 | 700* |
| No load speed: min ⁻¹ = rpm | | 10,000 | 11,000 | 11,000 |
| AC/DC switch for USA | | No | No | No |
| Size of grip portion: mm (") | | 53 x 63 (2-1/16 x 2-1/2) | 55 x 64 (2-3/16 x 2-1/2) | 53 x 62 (2-1/16 x 2-7/16) |
| Circumference of grip portion: mm (") | | 195 (7-5/8) | 195 (7-5/8) | 194 (7-5/8) |
| Double insulation | | Yes | Yes | Yes |
| Cord length: m (ft) | | 2.5 (8.2) | 2.5 (8.2) | --- |
| Dimensions | Length: mm (") | 258 (10-1/8) | 256 (10-1/8) | 260 (10-1/4) |
| | Width: mm (") | 129 (5-1/8) | 129 (5-1/8) | 131 (5-5/8) |
| | Height: mm (") | 106 (4-3/16) | 111 (4-3/8) | 100 (3-15/16) |
| Net weight: Kg (lbs) | | 1.4 (3.1) | 1.4 (3.1) | 1.7 (3.75) |
| Standard equipment | Side Grip | Yes | Yes | Yes |
| | Lock nut wrench | Yes | Yes | Yes |
| | Wheel | Yes | Yes | Yes |

*Actual wattage of low voltage machine measured by us

► Comparison of products

Performance Comparison of Cutting/ Grinding

Models Tested for Comparison: Makita 9553NB and 9523NB, Competitor A's Model A1

1) EFFICIENCY OF CONCRETE CUTTING

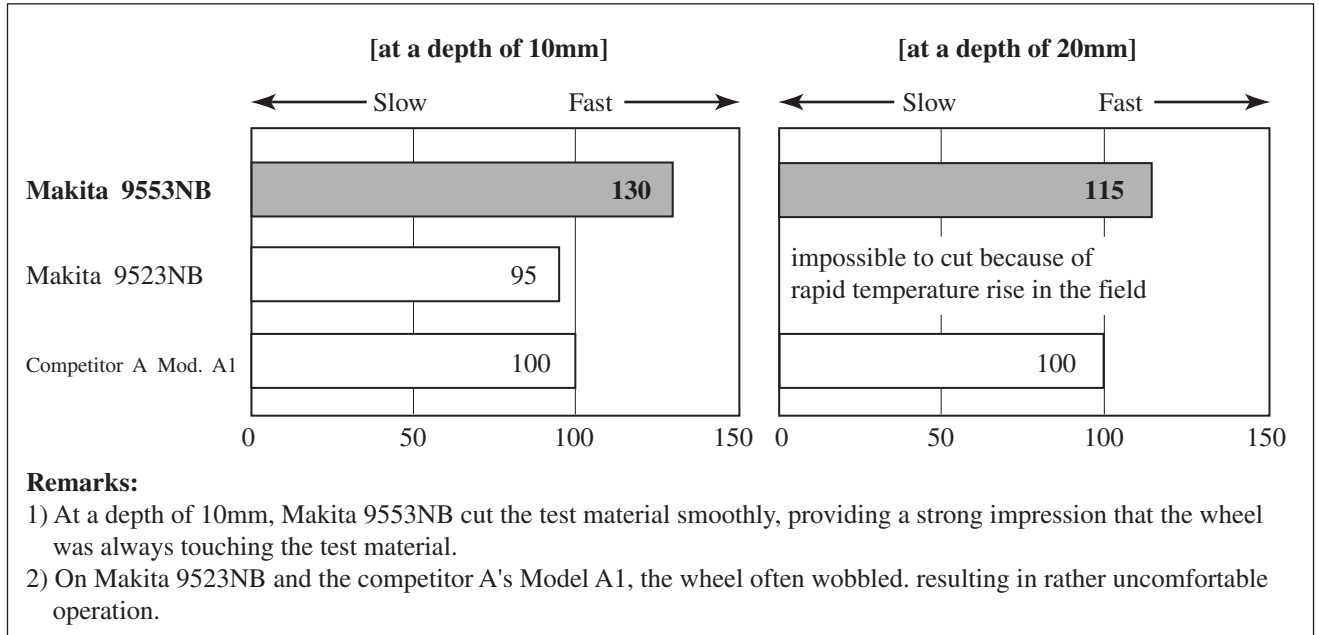
Test conditions:

Cut concrete continuously at depths of 10mm and 20mm with an identical diamond wheel attached to all the models, and measured the time required to cut a certain length.

Test results: See the graphs below.

Note: 1. The test results depend to a great extent on the hardness of materials, etc.

2. The numbers in the bar graphs are relative values when the capacity of competitor A's Model A1 is indexed at 100.



2) EFFICIENCY OF METAL GRINDING

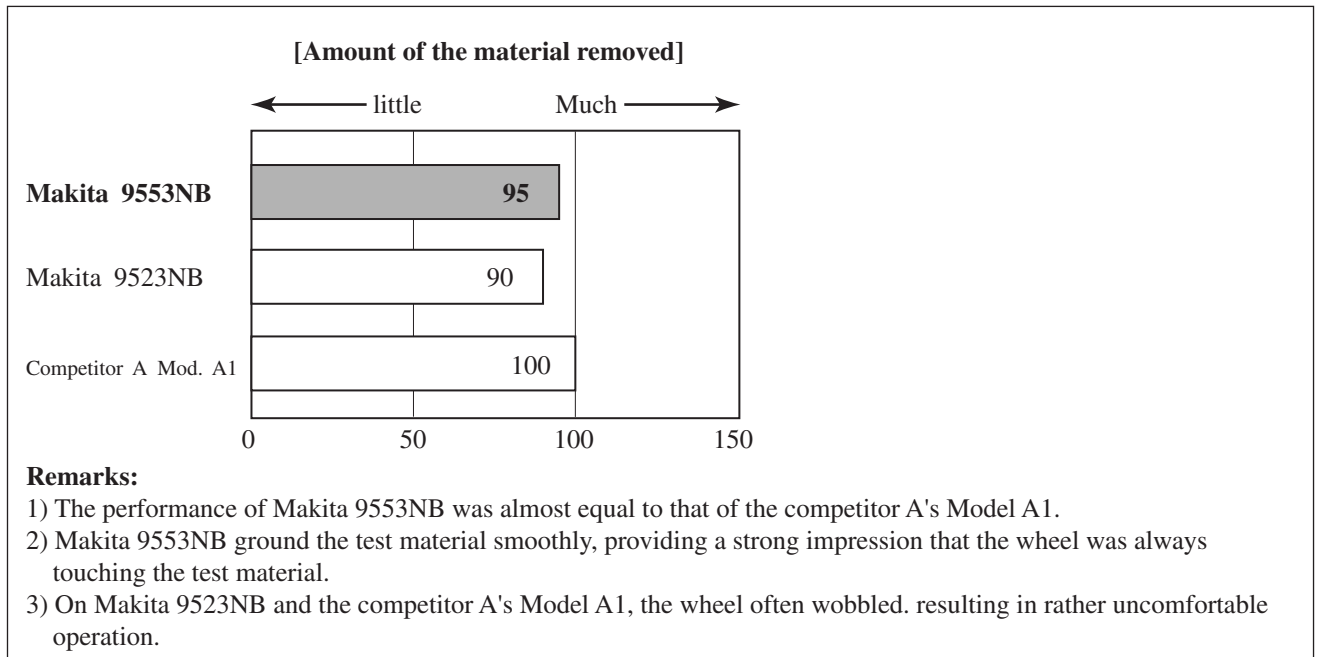
Test conditions:

Ground a steel plate (of S45C) continuously for 10 minutes with an identical diamond wheel attached to all the models, and measured the amount of the removed material.

Test results: See the graphs below.

Note: 1. The test results depend to a great extent on the hardness of materials, etc.

2. The numbers in the bar graphs are relative values when the capacity of competitor A's Model A1 is indexed at 100.



► Repair

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

[1] NECESSARY REPAIRING TOOLS

| Code No. | Descriptions | Purpose |
|----------|-------------------------------|---|
| 1R028 | Bearing Setting Pipe 20-12.2 | Installing/removing Retaining ring S-12 |
| 1R045 | Gear Extractor, large | Disassembling Bearing box |
| 1R269 | Bearing Extractor, small | Removing Ball bearing |
| 1R291 | Retaining Ring S and R Pliers | For Retaining rings S-12 and R-32 |
| 1R343 | Retaining Ring Setting Jig | Installing Retaining ring S-12 |

[2] LUBRICATION AND SEALING

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

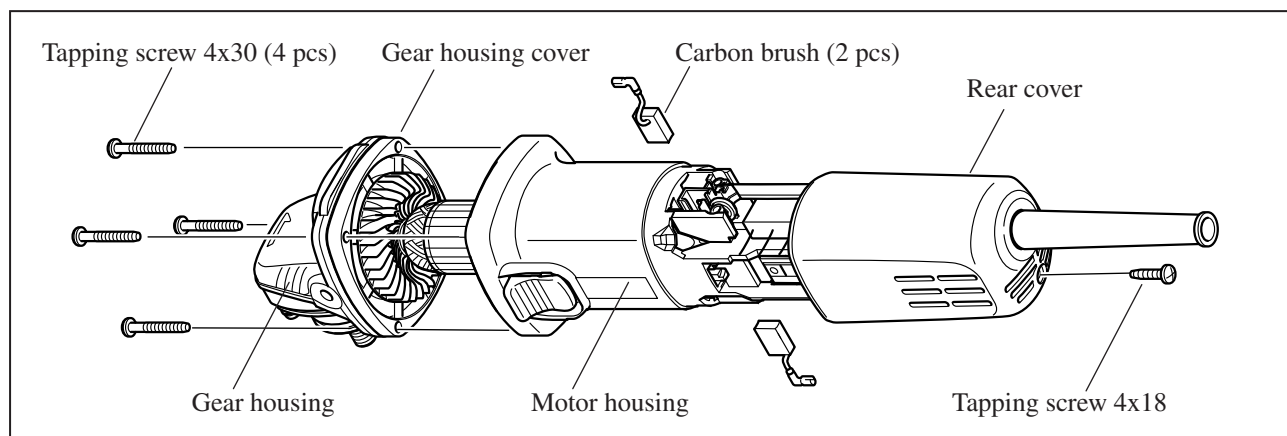
[3] DISASSEMBLY/ASSEMBLY

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

DISASSEMBLY

- 1) Remove tapping screw 4x18 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 hand, then remove hex nut M6 by turning counterclockwise with wrench 10. (**Fig. 2**)
- 5) Remove small spiral bevel gear by hand. (**Fig. 3**) If it is difficult to remove by hand, remove as described below:
 1. First, lubricate the gear with spray lubricant.
 2. Cover the gear with cloth.
 3. Then grip the gear covered with cloth using water pump pliers, and turn it.
- 6) Remove armature from gear housing cover with Gear Extractor, large (No.1R045).

Fig. 2

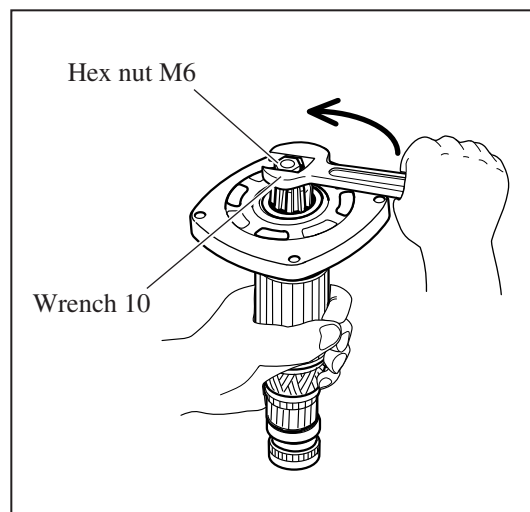
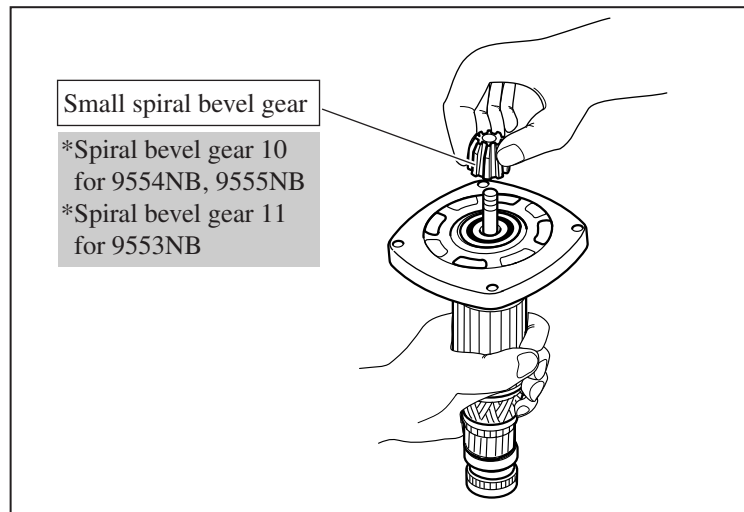


Fig. 3



► Repair

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

ASSEMBLY

Do the reverse of the disassembling steps.

Note: Use arbor press and Bearing Setting Plate 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

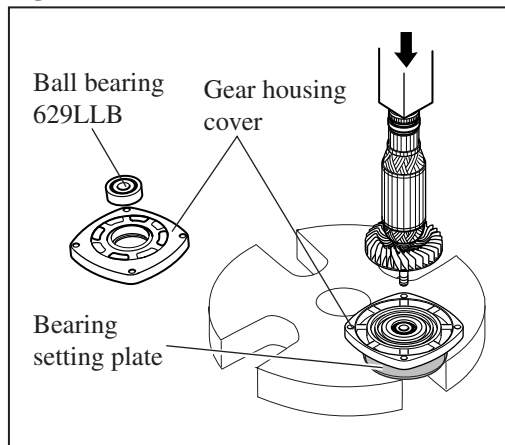
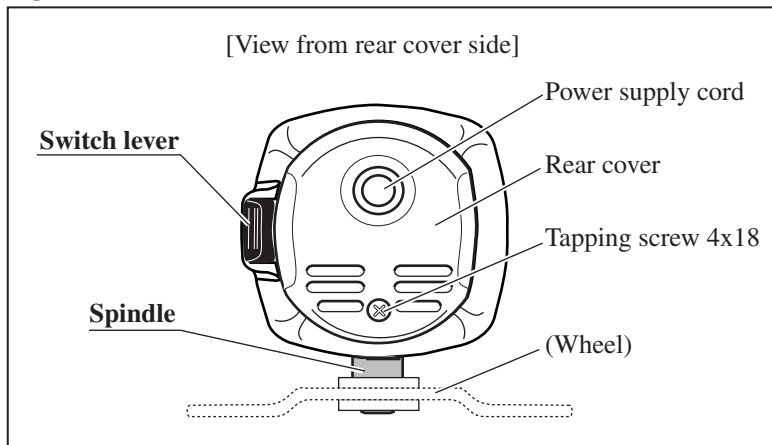


Fig. 5



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

DISASSEMBLY

- 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). Now labyrinth ring can be removed. (**Fig. 12**)

Fig. 6

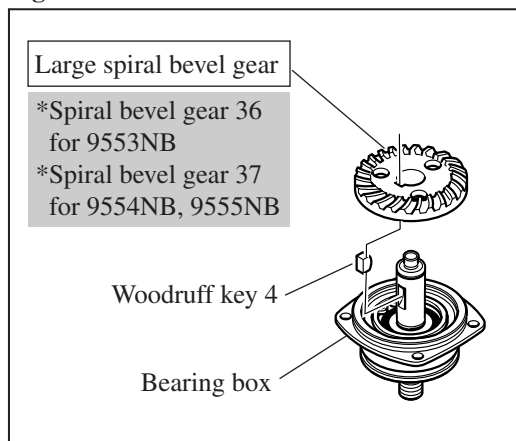
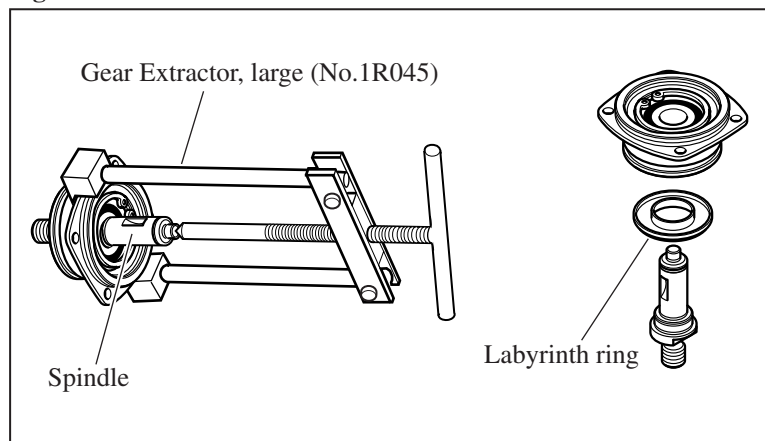


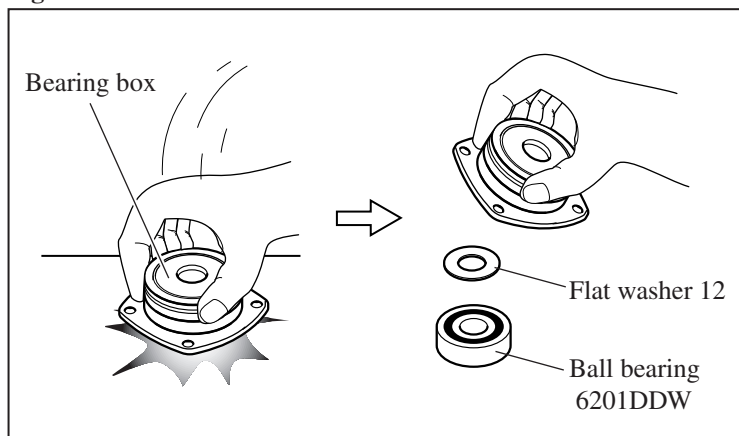
Fig. 7



- 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 table, 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. Replacing Large Spiral Bevel Gear and Ball Bearing 6201DDW (cont.)

ASSEMBLY

Do the reverse of disassembling steps.

Important: Do not forget to install labyrinth ring because it 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 the spindle with a snap.

Fig. 9

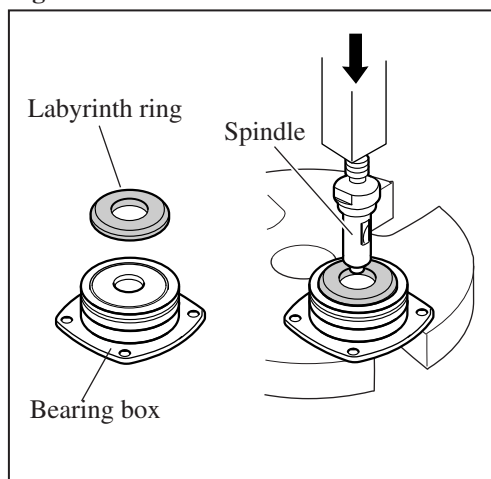
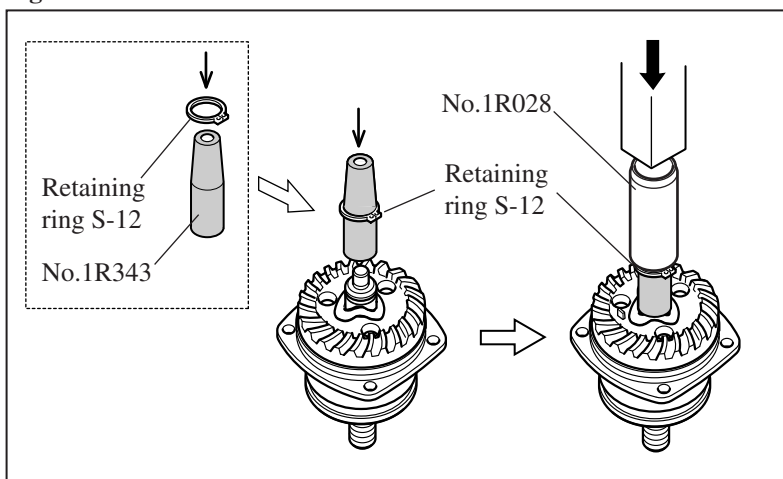


Fig. 10



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

DISASSEMBLY

- 1) Remove bearing box from gear housing.
- 2) Pull off shoulder pin 4 with pliers while pushing pin cap with finger. (**Fig. 11**)

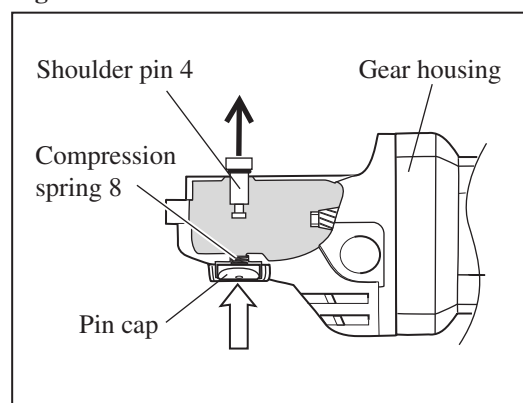
Note: Do not pull off shoulder pin 4 without holding pin cap because compression spring 8 would sling pin cap.

ASSEMBLY

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

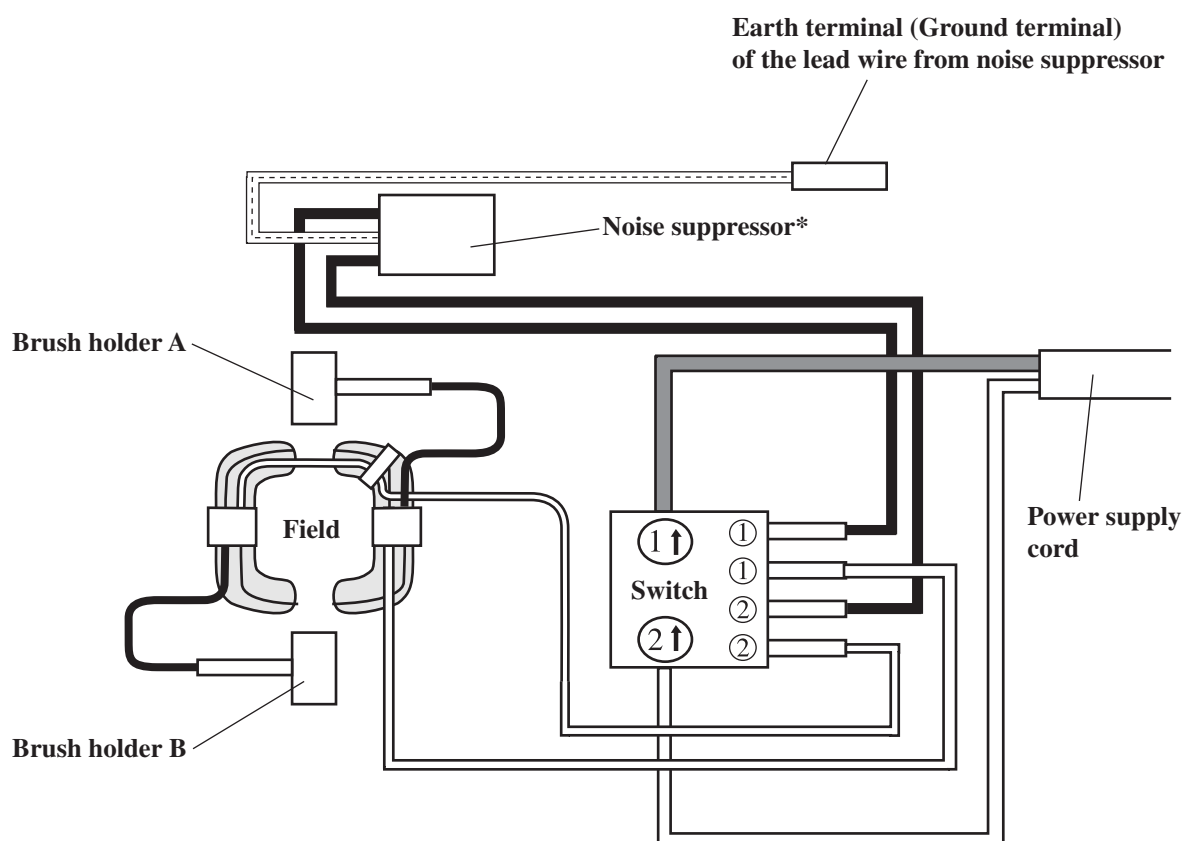


[3] -4. Tightening Tapping Screws That Fasten the Field

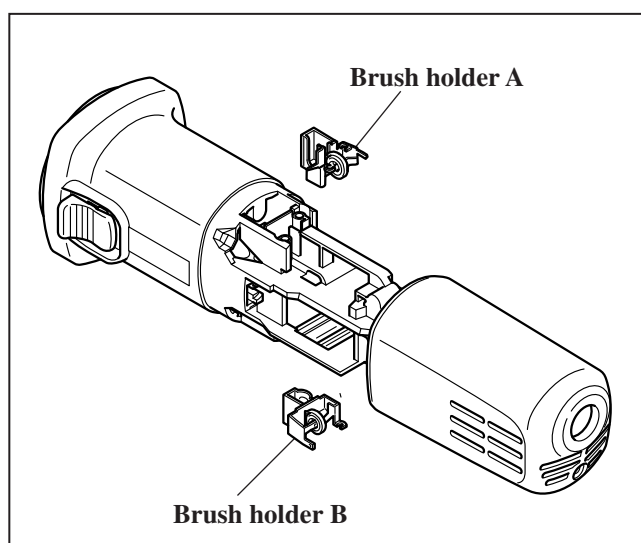
Tighten the two tapping screws that fasten baffle plate and field to the recommended torque of 1.1 - 1.3 Nm.

► Circuit diagram

| Color index of lead wires' sheath | |
|-----------------------------------|---|
| Black |  |
| White |  |
| Clear |  |



*Some countries do not use noise suppressor

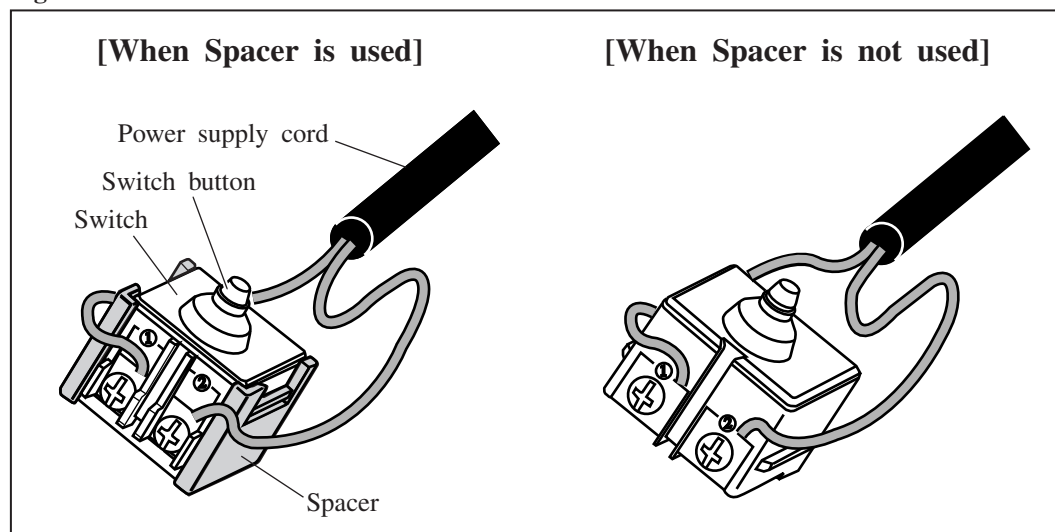


▶ Wiring diagram

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

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

Fig. 12

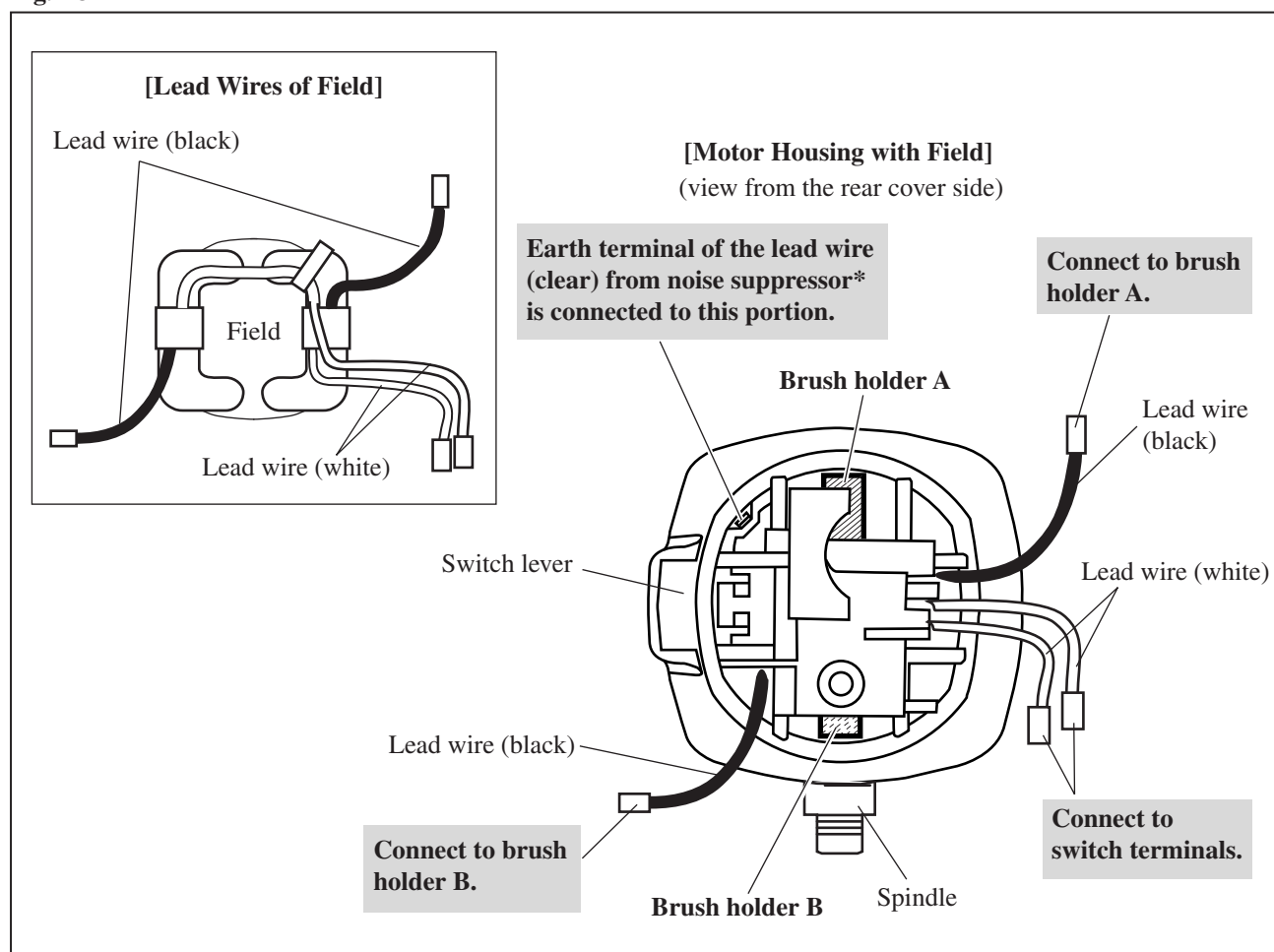


[2] Wiring of Field Lead Wires in the Rear of Motor Housing

[2] -1. Rear End

Route the field lead wires as illustrated in Fig. 13 - 16.

Fig. 13



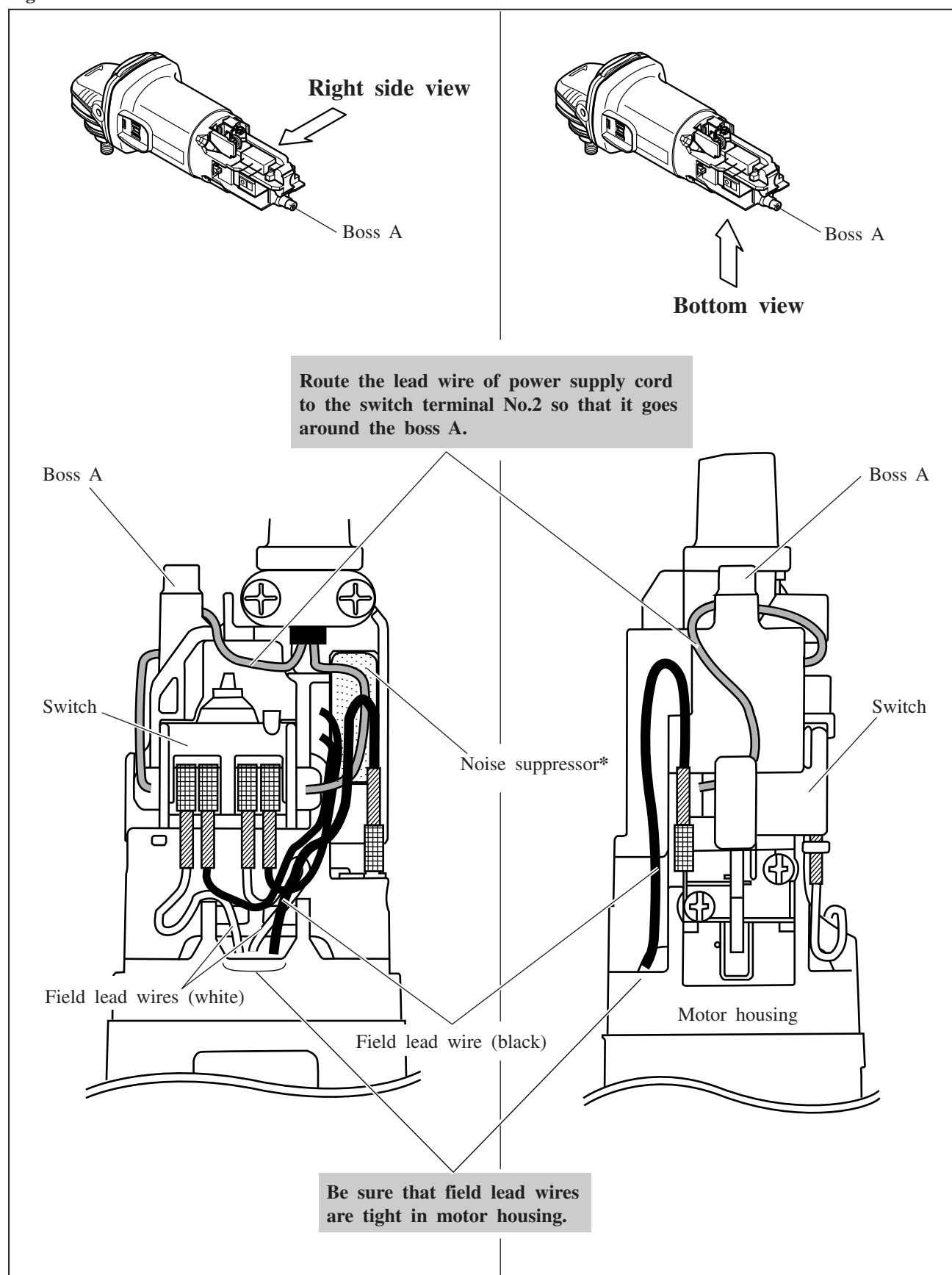
*Some countries do not use noise suppressor.

► Wiring diagram

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

[2] -2. Right Side and Bottom

Fig. 14



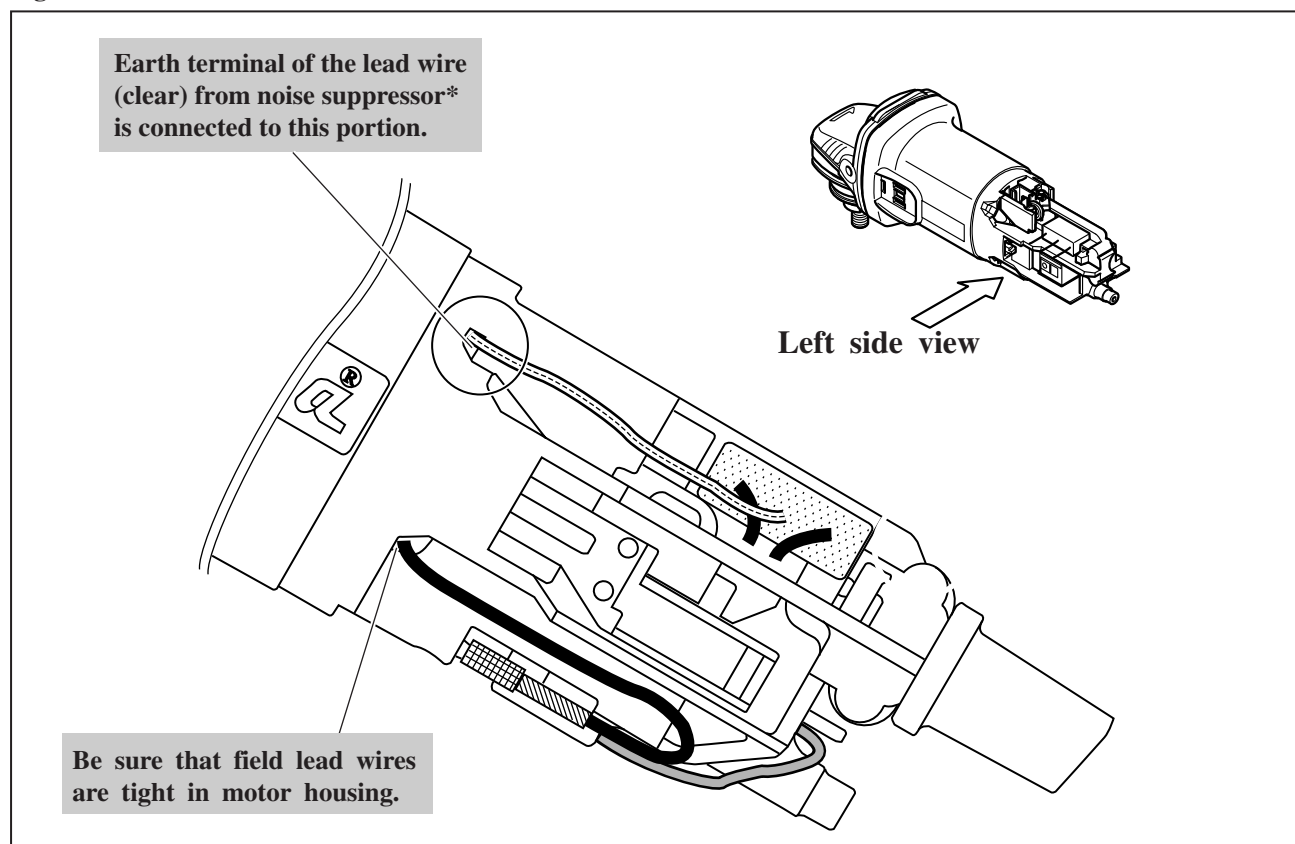
*Some countries do not use noise suppressor.

► Wiring diagram

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

[2] -3. Left Side

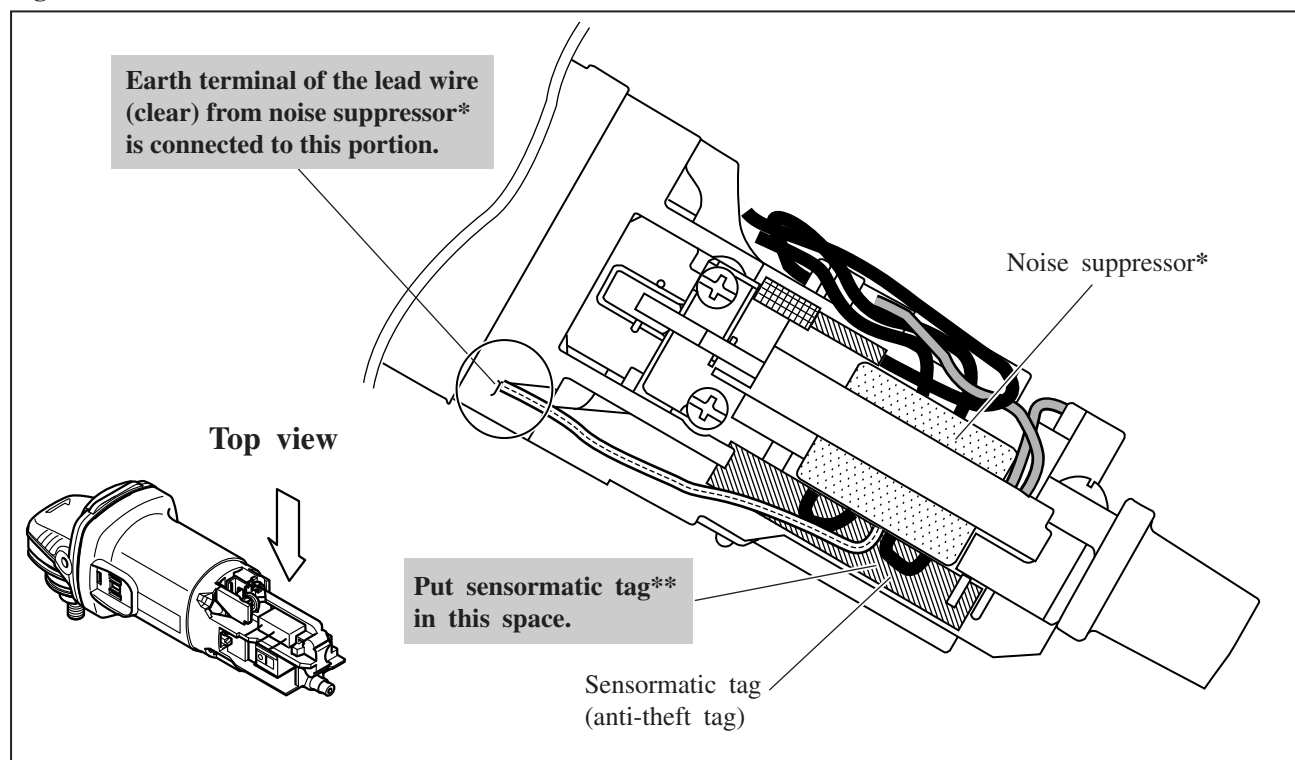
Fig. 15



*Some countries do not use noise suppressor.

[2] -4. Top

Fig. 16



*Some countries do not use noise suppressor.

**Some countries do not use sensormatic tag.