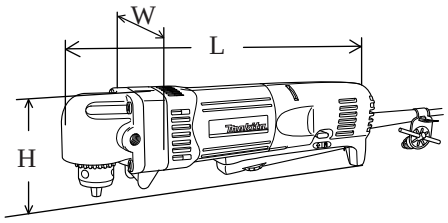
TECHNICAL INFORMATION

Models No. ► DA3010, DA3010F

Description ► 10mm (3/8") Angle Drill

CONCEPTION AND MAIN APPLICATIONS

The above models are the high power version of the existing model DA3000R, and you can enjoy speedy work comparing with the competitors' products.
Their features and benefits are as follows.
*DA3010 : equipped with 450W high power motor
*DA3010F : equipped with LED job light for lighting up the working point in shadow, in addition to the feature of DA3010,



Dimensions : mm (")	
Length (L)	270 (10-5/8)
Height (H)	79 (3-1/8)
Width (W)	61 (2-3/8)

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	4.3	50 / 60	450	220	440
120	4.0	50 / 60	450	220	440
220	2.2	50 / 60	450	220	440
230	2.1	50 / 60	450	220	440
240	2.0	50 / 60	450	220	440

Model No.		DA3010	DA3010F
No load speed : (min -1= rpm)		0 - 2,400	
Keyless chuck		No	
Chuck ability : mm (")		1.5 - 10 (1/16 - 3/8)	
Drilling capacity : mm (")	in Steel	10 (3/8)	
	in Wood	25 (1)	
Reverse switch		Yes	
LED Job light		No	Yes
Protection from electric shock		by double insulation	
Cord length : m (ft)		2.5 (8.2)	2.0 (6.6) only for Australia
Net weight :Kg (lbs)		1.4 (3.1)	

► Standard equipment

* Chuck key S10 ..... 1 pc.
* Key holder 10 ..... 1 pc.
* Grip 36 complete ..... 1 pc. (Only for North America, Europe, Oceania, Korea and South Africa)

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

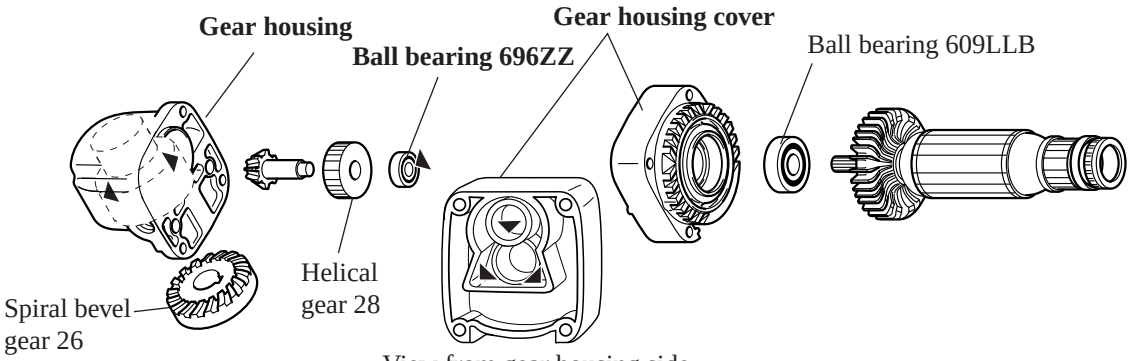
► Optional accessories

* Grip 36 complete
* Drill bits for metal working
  1.5 mm
  2 mm
  3 mm
  4 mm
  5 mm
  6 mm
* Drill bits for wood working
  9 mm
  10.5 mm
  12 mm
  15 mm
* Philips bits 1-65
  2-45
  2-65
* Philips bits 2-82
  2-110
  2-117
  2-150
  2-250
  3-45
  3-65
  3-110
* Slotted bits 5-45
  6-70
  5-82
  6.35-45
  8-45
  8-70
* + - Bit 2-45

Repair

< 1 > Lubrication

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



View from gear housing side

The parts	The portion to be lubricated	Volume of grease
Gear housing	in the space for spiral bevel gear 26	7.0g (0.25 oz.)
Ball bearing 696ZZ	to the surface of ball bearing 609LLB side	Apply so thick that the grease reaches ball bearing 609LLB, when ball bearing 696ZZ is mounted to gear housing cover.
Gear housing cover	in the space for helical gear 28	3.5g (0.12 oz.)

< 2 > Disassembling gear housing (Model DA3010 and DA3010F)

(1) Separate gear housing from motor housing by unscrewing 4 pcs. of tapping screws 4x10. See Fig. 2.

(2) Remove bearing retainer by turning with No.1R292 "Wrench for bearing retainer" clockwise. And then, remove gear section (drill chuck S-10) by striking the edge of gear housing with plastic hammer. See Fig. 3. Remove retaining ring S-12 from the shaft of drill chuck S-10. See Fig. 3. If ball bearing 608LLB comes with gear section in this step, first of all, remove ball bearing 608LLB.

(3) Spiral bevel gear 26 can be separated from the shaft of drill chuck S-10 by hand. See Fig. 4. Be careful, not to lose key 4 in this step.

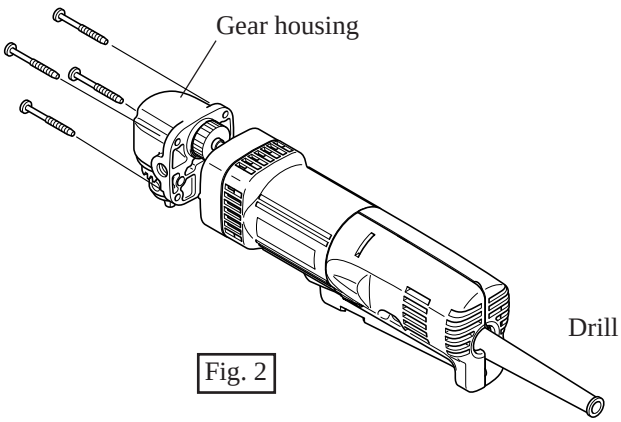


Fig. 2

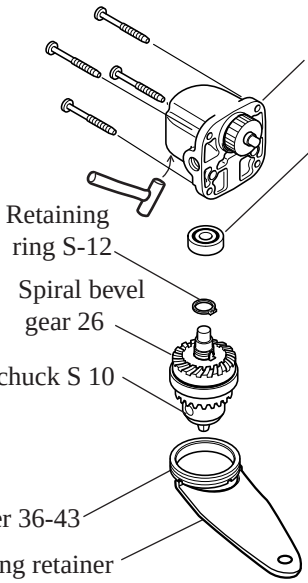


Fig. 3

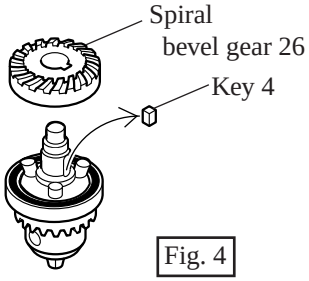


Fig. 4

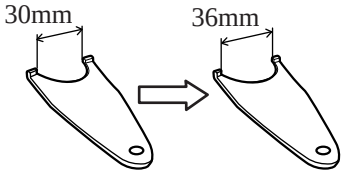


Fig. 3A

(4) Remove ball bearing 6806DDW from the shaft of drill chick S10. See Fig. 5.

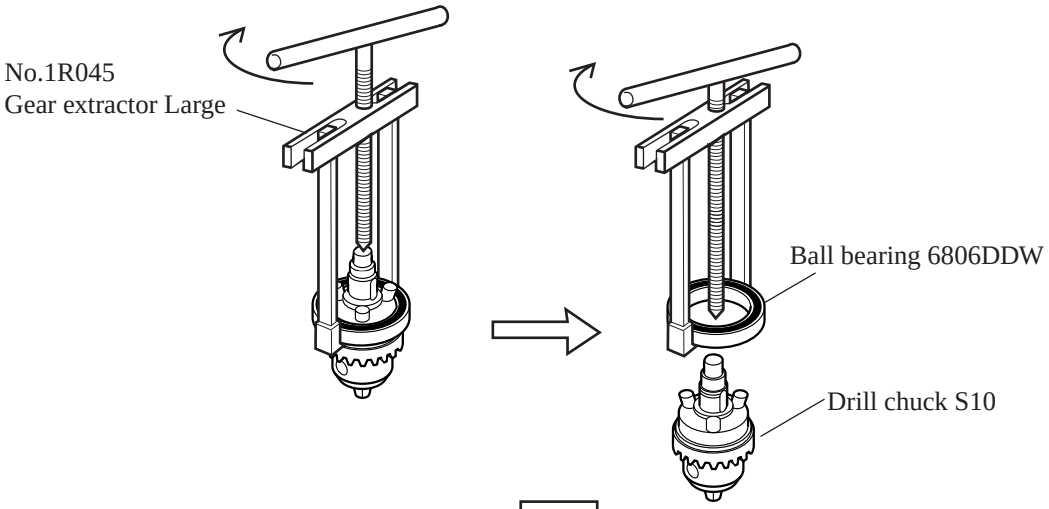


Fig. 5

(5) Remove gear unit (spiral bevel gear 9, ball bearing 608LLB and helical gear 28) from gear housing. See Fig. 6

(6) Put the gear unit (spiral bevel gear 9, ball bearing 608LLB and helical gear 28) on 1R036 "Bearing setting plate". Press 1R280 "Round bar for arbor" put on the gear shaft, with arbor press. So spiral bevel gear 9 can be separated from helical gear 28. See Fig. 7.

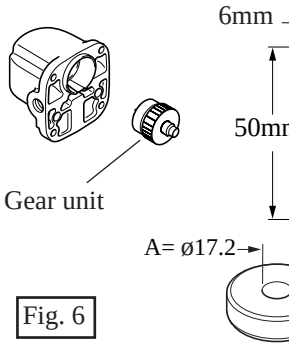


Fig. 6

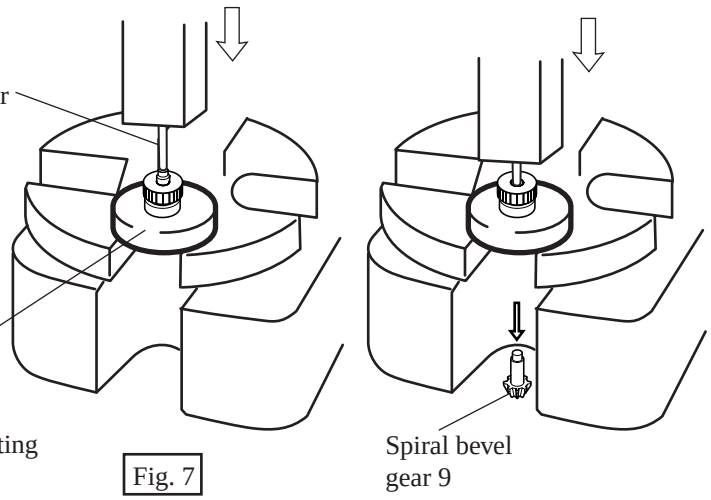


Fig. 7

< 3 > Assembling gear housing (Model DA3010 and DA3010F)

(1) Mount ball bearing 608LLB to the shaft of spiral bevel gear 9 See Fig. 8.

(2) Mount helical gear 28 to the shaft of spiral bevel gear 9 See Fig. 9.

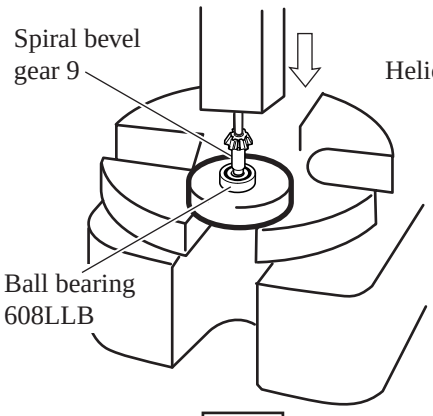


Fig. 8

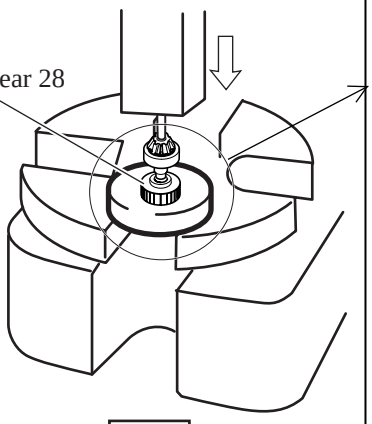
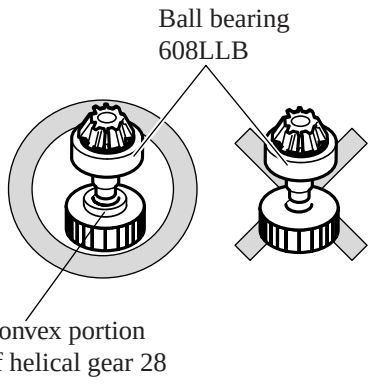


Fig. 9

<Note>



Convex portion of helical gear 28 has to be faced to ball bearing 608LLB.

(3) Mount ball bearing 6806DDW to the shaft of drill chick S-10 with arbor press. See Fig. 10.

(4) Mount key 4 to the groove of the drill chuck S-10's shaft and mount spiral bevel gear 26 to the shaft of drill chick S-10 with your hand. See Fig. 11.

(5) Mount retaining ring S-12 to the shaft of the drill chuck S-10' to fix spiral bevel gear 26. See Fig. 12.

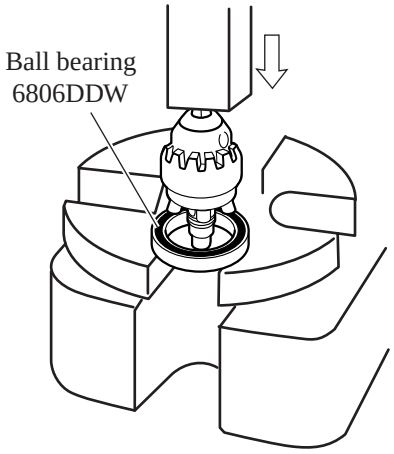


Fig. 10

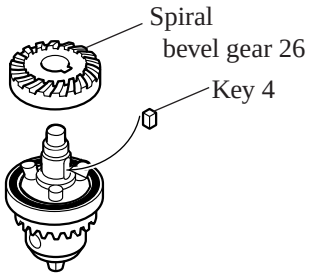


Fig. 11

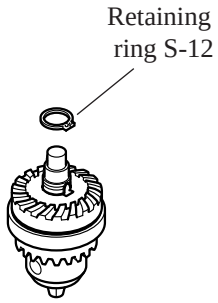


Fig. 12

(6) Mount Drill chuck S-10 and gear unit to gear housing. See Fig. 13.
And mount bearing retainer 36-43 by turning with wrench for bearing retainer, anti-clockwise. See Fig. 13.

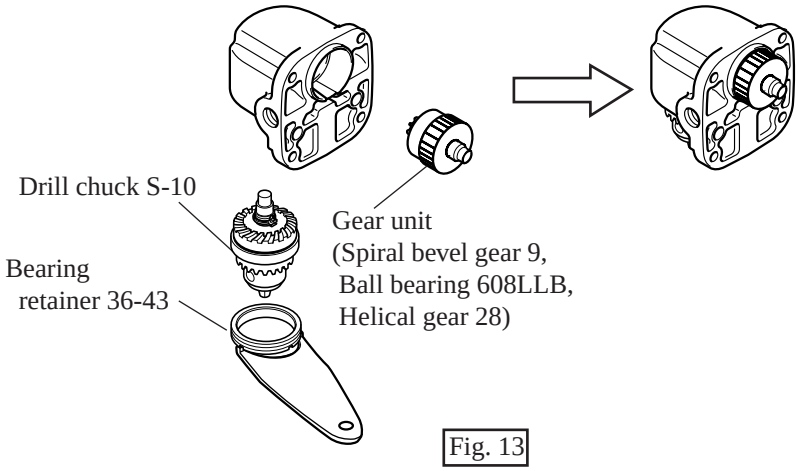


Fig. 13

< 4 > Removing LED circuit

(1) Remove the following parts from motor housing. See Fig. 14.

* Gear housing
* Gear housing cover
* Armature
* Baffle plate
* Rear cover set
* Pair of carbon brushes

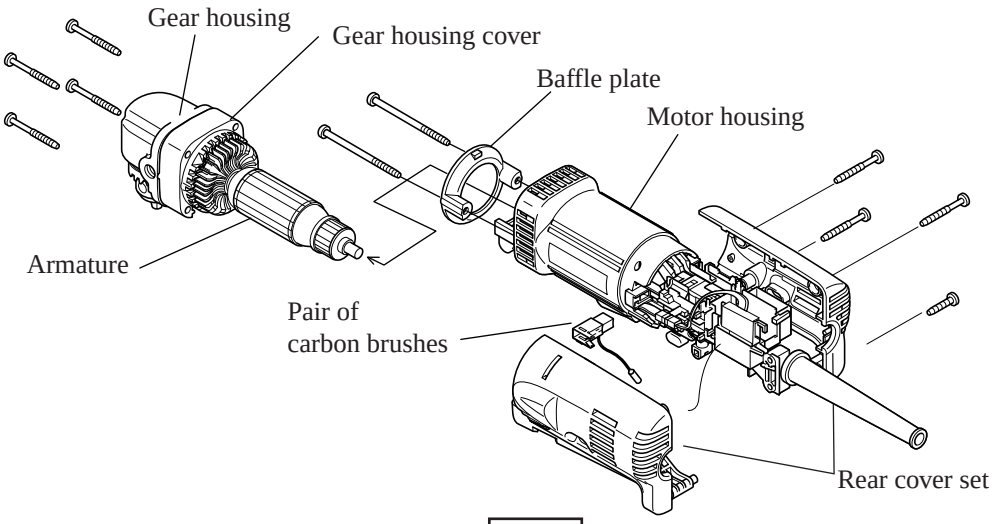


Fig. 14

(2) Disconnect the connector of LED circuit from the same of power supply circuit. See Fig. 15.

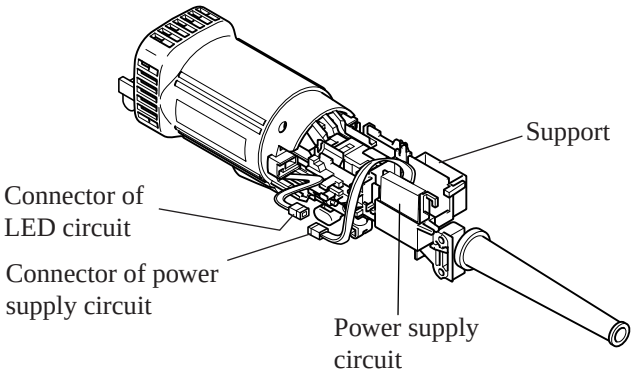


Fig. 15

(3) Remove support unit (support, switch and power supply circuit). And then, remove field from motor housing. LED circuit can be pull out from motor housing. See Fig. 16.

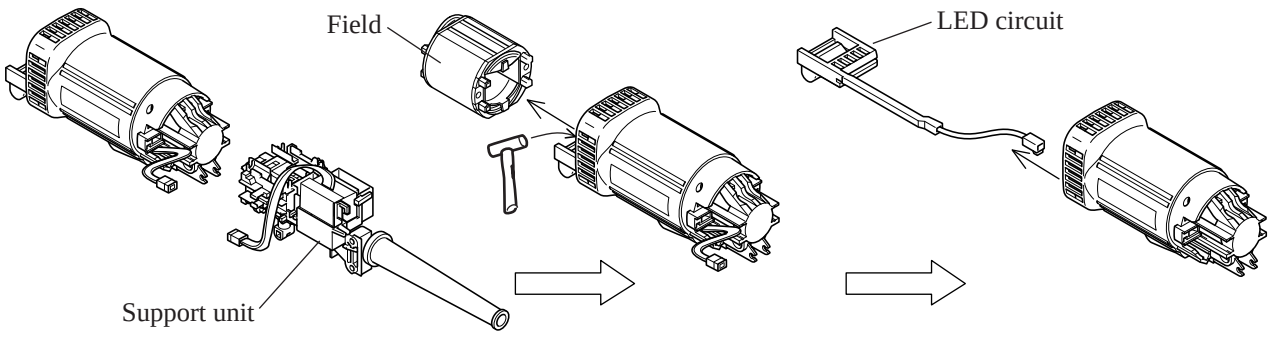


Fig. 16

Repair

< 5 > Mounting LED circuit

(1) Mount LED circuit to motor housing, and pull out its lead wire and connector from the rear of motor housing. See Fig. 17.

(2) Insert field into motor housingby striking the rear side of motor housing with plastic hammer. See Fig. 18.

(3) Mount suport unit (support, switch and power supply circuit), and connect it with field.
Connect the connector of LED circuit with the same of spower supply circuit. See Fig. 19.
<Note> Do not forget to mount F/R change lever to switch in this step.

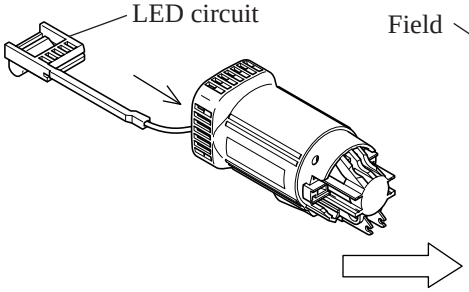


Fig. 17

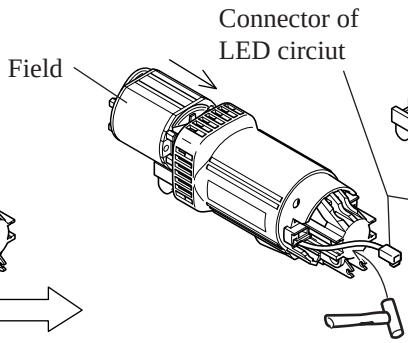


Fig. 18

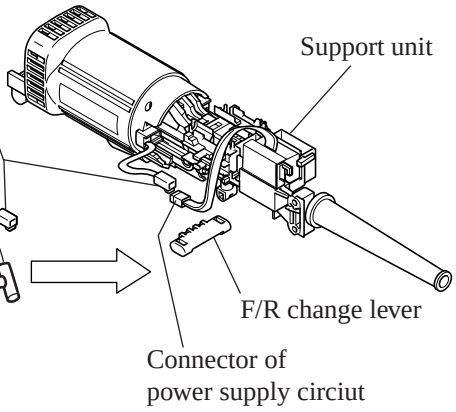


Fig. 19

(4) Mount baffle plate. And then, mount armature, gear housing and gear housing cover to motor housing. See Fig. 20.

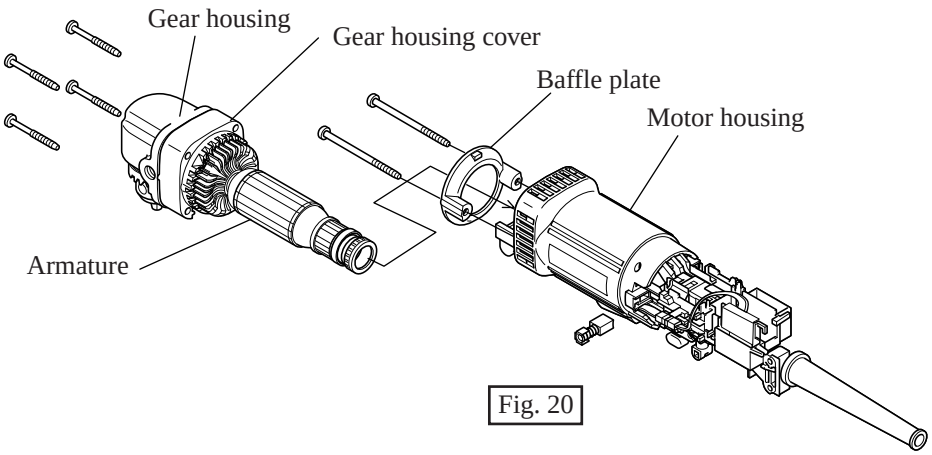


Fig. 20

(5) Mount pair of carbon brush. And then, mount rear cover set. See Fig. 21.

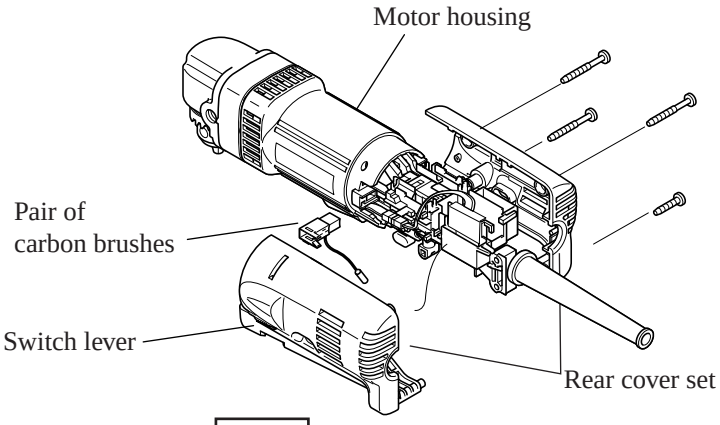
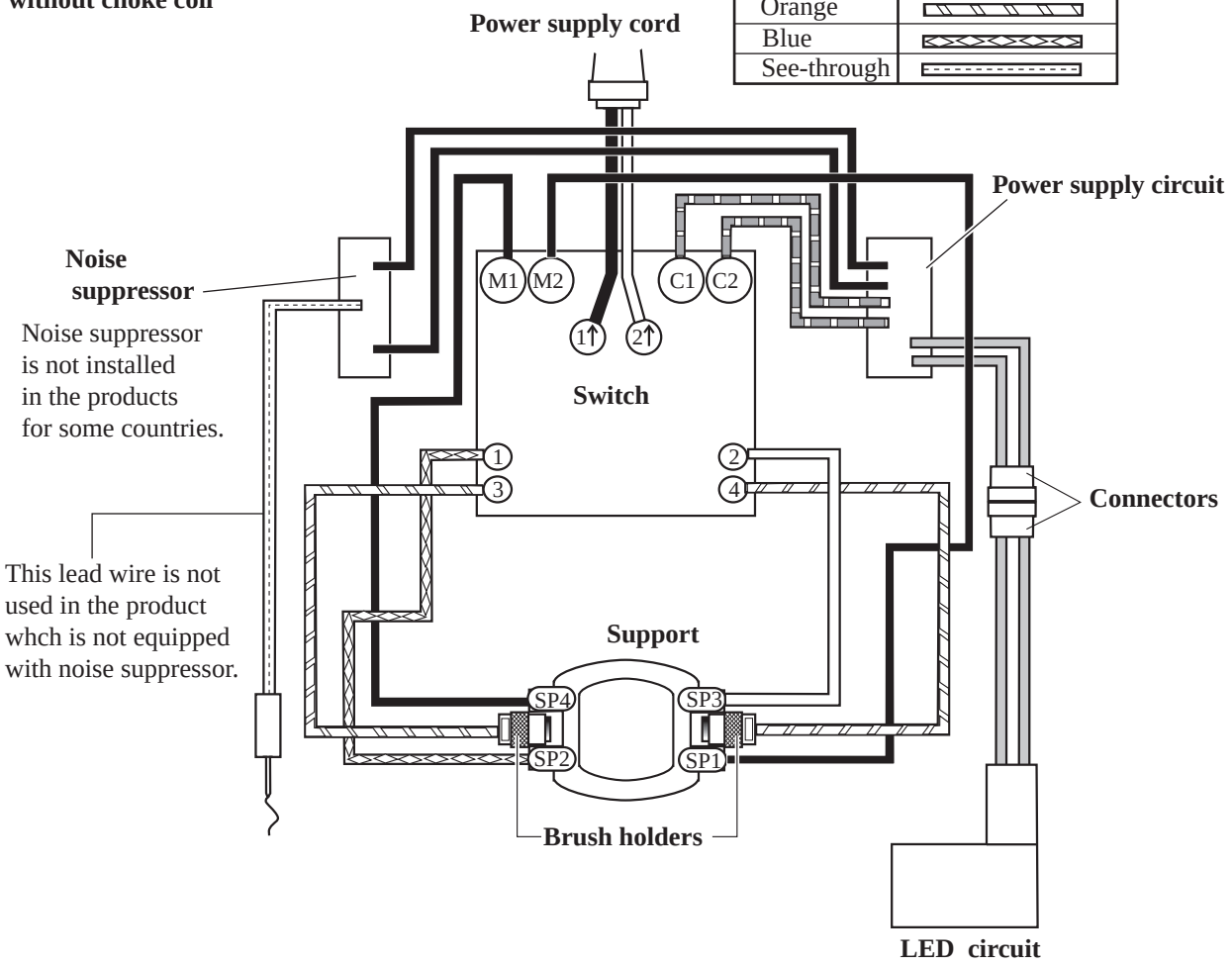


Fig. 21

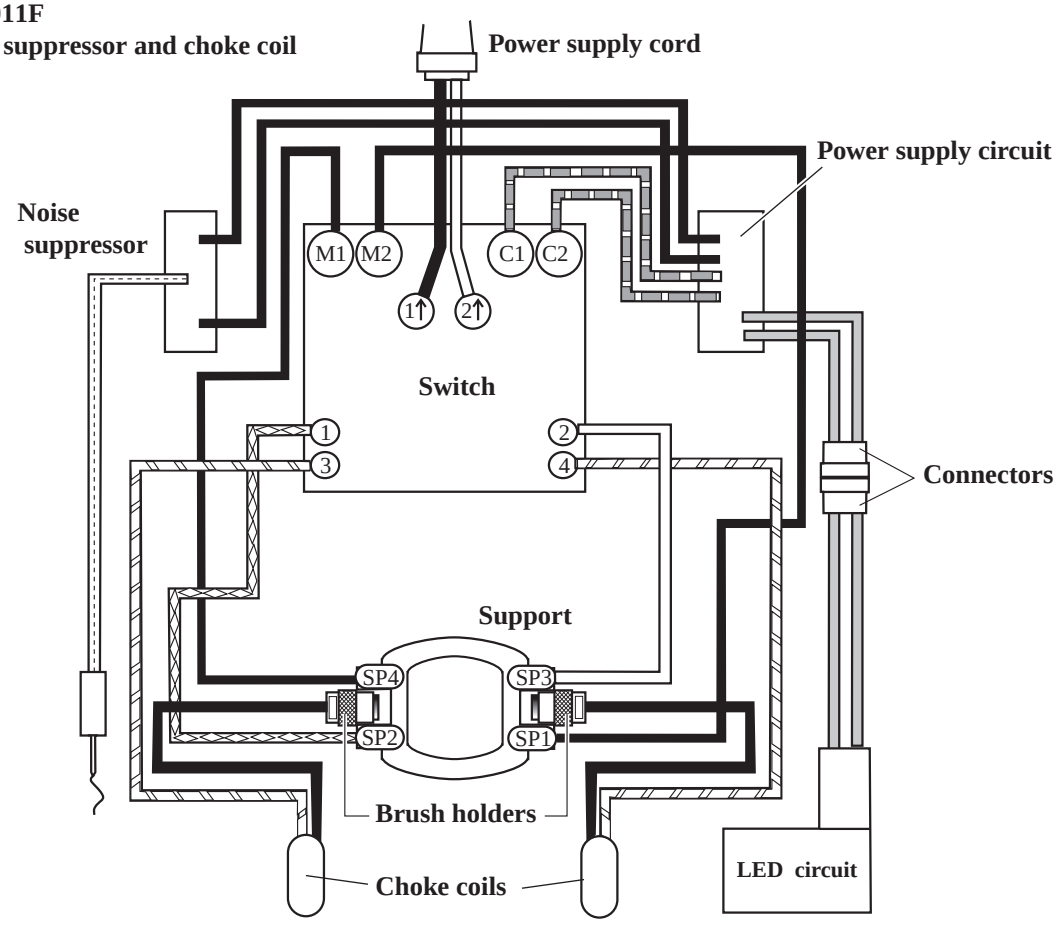
Circuit diagram

Color index of lead wires	
Black	
White	
Red	
Orange	
Blue	
See-through	

DA3010F and DA3011F
with light and noise suppressor, without choke coil

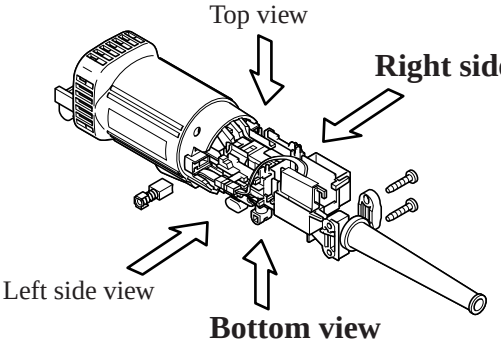


DA3010F and DA3011F
with light and noise suppressor and choke coil



Wiring diagram

DA3010F and DA3011F



Bottom view

Right side view

Power supply cord

Power supply cord

Pulling lead wire (black) to the power supply cord side, fix lead it with lead holders in the order of lead holder No. 1, 2, 3 and 4.

Put the slack portion of the following lead wires in the area surrounded with square.
* Field lead wire (blue)
* Brush holder's lead wire (black)
* Choke coil lead wire (orange)

Lead holder 4

Lead holder 3

Lead holder 2

Lead holder 1

Lead hold B

Lead hold A

Brush holder

Brush holder

Choke coil's lead wire (orange)

Brush holder's lead wire (black)

Field lead wire (blue)

The terminal of noise suppressor's lead wire (see-through)

Fix LED lead wires with lead holders.

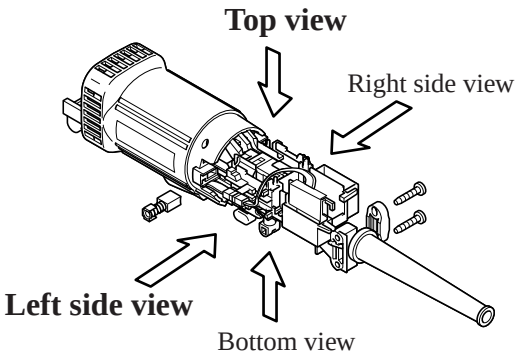
Pulling noise suppressor's lead wire (see-through) to the power supply cord side, fix it with lead holders in the order of lead holder A and B.

Noise suppressor's lead wire (see-through)

Pulling the following lead wires to the power supply cord side, fix them with lead holders.
* Field lead wire (blue)
* Brush holder's lead wire (black)
*Noise suppressor's lead wire (see-through)

Wiring diagram

DA3010F and DA3011F



For fixing the lead wires, take the following step.
1. Fix two lead wires (red) of power supply circuit with lead holder, pulling them to power supply cord side.
2. Fix field lead wire (black) with lead holder, pulling them to power supply cord side.

Left side view

Put the slack portion of the following lead wires in the area surrounded with square.
* Field lead wire (white)
* Brush holder's lead wire (black)

Power supply cord

Support

Pulling field lead wire (white) toward the support, fix it with lead holders in the order of lead holder 1 and 2.

Lead holder 2

Lead holder 1

If choke coil is used, fix brush holders' lead wires (black) with lead holders.

Pulling brush holder's lead wire (black) toward the support, fix it with lead holder.

Top view

Power supply cord

If noise suppressor is used, fix lead wires (black) which are connected to power supply circuit, with lead holders.

Noise suppressor

Switch

Power supply circuit

Field lead wire (black)

power supply circuit's lead wires

Choke coil

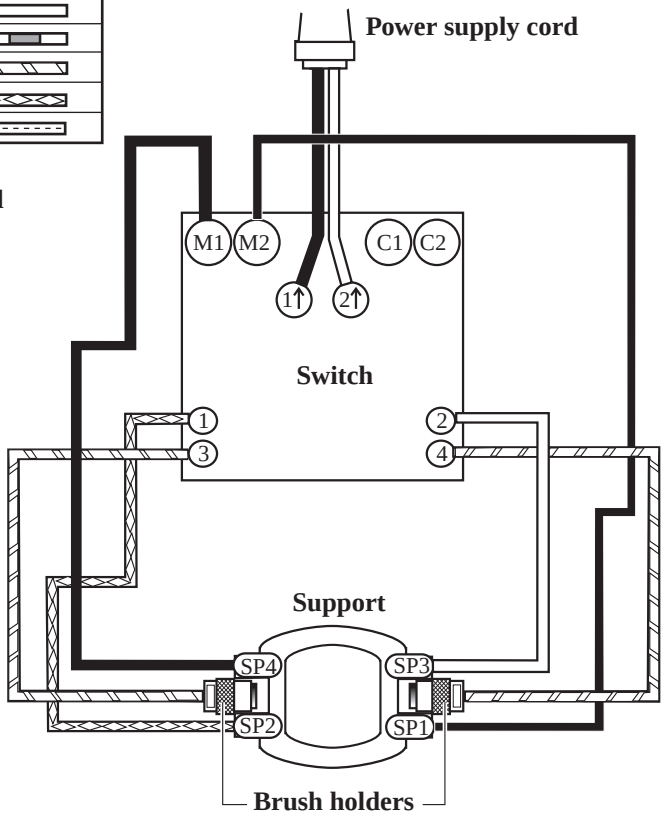
Put choke coils in the space as illustrated above, if it is used.

Pulling field lead wire (black) to power supply cord side, fix it with this lead holder.
Fix power supply circuit's lead wires which are connected to LED's lead wires, with this lead holder.

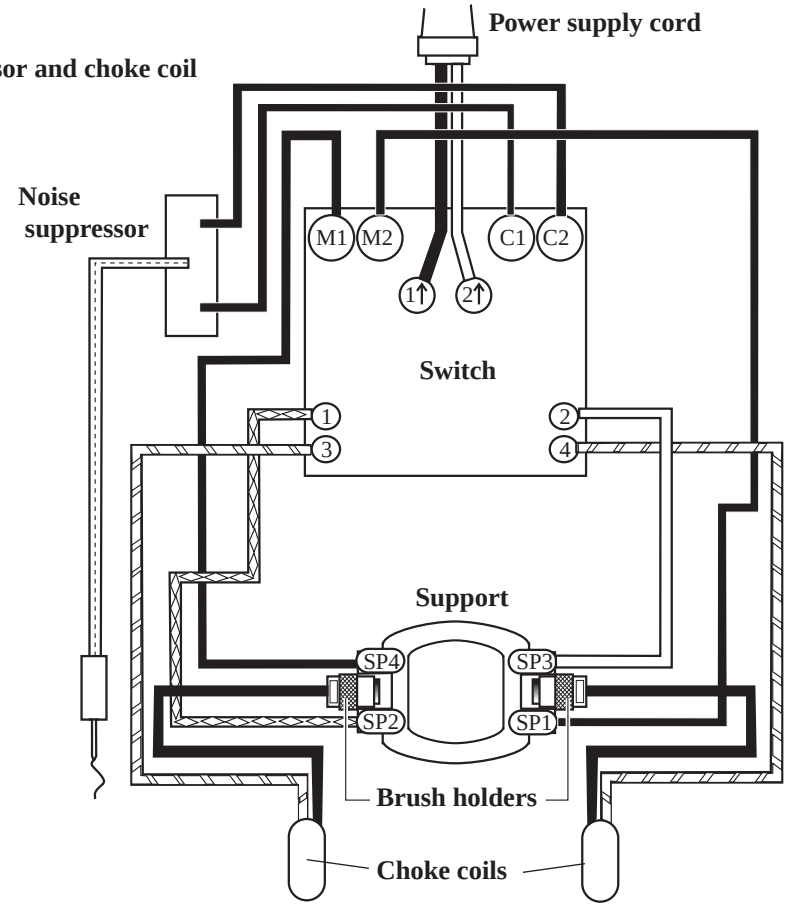
Circuit diagram

Color index of lead wires	
Black	
White	
Red	
Orange	
Blue	
See-through	

DA3010 and DA3011
without light, noise suppressor and choke coil

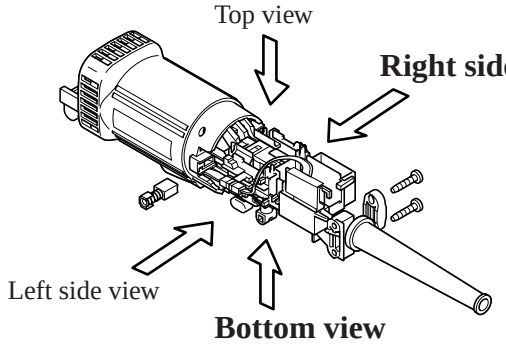


DA3010 and DA3011
without light, with noise suppressor and choke coil



Wiring diagram

DA3010 and DA3011



Bottom view

Right side view

Pulling lead wire (black) to the power supply cord side, fix lead it with lead holders in the order of lead holder No. 1, 2, 3 and 4.

Put the slack portion of the following lead wires in the area surrounded with square.
* Field lead wire (blue)
* Brush holder's lead wire (black)
* Choke coil lead wire (orange)

Lead holder 4

Lead holder 3

Lead holder 2

Lead holder 1

Lead hold B

Lead hold A

Choke coil's lead wire (orange)

Brush holder's lead wire (black)

Field lead wire (blue)

Noise suppressor's lead wire (see-through)

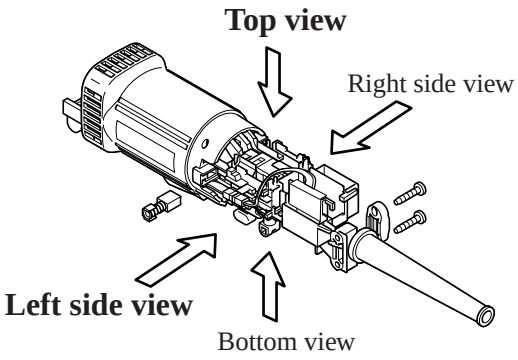
The terminal of noise suppressor's lead wire (see-through)

Pulling noise suppressor's lead wire (see-through) to the power supply cord side, fix it with lead holders in the order of lead holder A and B.

Pulling the following lead wires to the power supply cord side, fix them with lead holders.
* Field lead wire (blue)
* Brush holder's lead wire (black)
*Noise suppressor's lead wire (see-through)

Wiring diagram

DA3010 and DA3011



Left side view

Top view

Put the slack portion of the following lead wires in the area surrounded with square.
* Field lead wire (white)
* Brush holder's lead wire (black)

Fix field lead wire (black) with lead holders, pulling them to power supply cord side.

If noise suppressor is used, fix lead wires (black) which are connected to switch, with lead holders.

Support

Lead holder 2

Lead holder 1

Switch

Noise suppressor

Pulling field lead wire (white) toward the support, fix it with lead holders in the order of lead holder 1 and 2.

If choke coil is used, fix brush holders' lead wires (black) with lead holders.

Choke coil

Brush holder

Choke coil

Put choke coils in the space as illustrated above, if it is used.