TECHNICAL INFORMATION

Model No. ► RP1800/RP1800F, RP1801/RP1801F

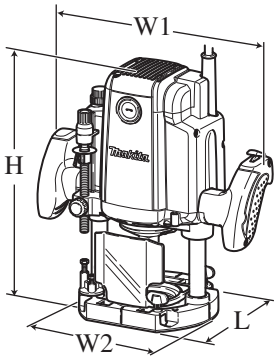
Description ► Router

CONCEPT AND MAIN APPLICATIONS

Models RP1800/RP1800F and RP1801/RP1801F are upgraded sister tools of our current plunge-type router Model 3612. Their main benefits are:

- Linear ball bearing for super-smooth plunge action
- Ergonomically contoured knob style handles

RP1801 and RP1801F additionally feature electric brake.
"F-models" (RP1800F and RP1801F) feature twin LED job lights.



Dimensions: mm (")	
Length (L)	155 (6-1/8)
Width (W1)	294 (11-5/8)
Height (H)	312 (12-1/4)
Width of base (W2)	170 (6-11/16)

These products are available in the following variations.

Model No.	Electric brake	Twin LED job lights	Straight guide
RP1800	No	No	Standard type (Straight guide + Guide holder assembly)
RP1800F		Yes	
RP1800X		No	High-precision type with fine adjustment function (Fine adjusting straight guide)
RP1800FX		Yes	
RP1801	Yes	No	Standard type (Straight guide + Guide holder assembly)
RP1801F		Yes	
RP1801X		No	High-precision type with fine adjustment function (Fine adjusting straight guide)
RP1801FX		Yes	

► Specification

RP1800/RP1800F

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	15	50/60	1,650	1,000	1,950
120	15	50/60	---	1,000	1,950
220	8.9	50/60	1,850	1,100	2,300
230	8.5	50/60	1,850	1,100	2,300
240	8.1	50/60	1,850	1,100	2,300

RP1801/RP1801F

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	15	50/60	1,650	1,000	1,950
120	15	50/60	---	1,000	1,950
220	7.9	50/60	1,650	1,000	2,200
230	7.6	50/60	1,650	1,000	2,200
240	7.2	50/60	1,650	1,000	2,200

Model No.	**RP1800**	**RP1800F**	**RP1801**	**RP1801F**
No load speed: min^{-1}=rpm	22,000			
Collet capacity: mm (")	12.0 or 12.7 (1/2)			
Plunge capacity: mm (")	0 - 70 (0 - 2-3/4)			
Electric brake	No		Yes	
LED job light	No	Yes***1**	No	Yes***1**
Double insulation	Yes			
Power supply cord: m (ft)	Europe: 4.0 (13.1), Brazil: 2.0 (6.6), Other countries: 2.5 (8.2)			
Net weight***2**: kg (lbs)	6.0 (13.2)			

***1** Twin LED job lights with afterglow function
***2** Weight according to EPTA-Procedure 01/2003, including Dust nozzle

(See next page for Standard equipment and Optional accessories.)

► Standard equipment

For all countries:

Straight guide (Standard type or High-precision type) ..... 1 pc
+ Pan head screw M6x135 (for adjusting cutting depth) ..... 1 pc
Collet cone 12mm or 1/2" ..... 1 pc
Wrench 24 ..... 1 pc

The standard equipment for the tool shown below may vary by country:

Dust nozzle assembly ..... 1 pc
Knob 55 complete ..... 1 pc
Trimmer guide assembly ..... 1 pc
Templet guide 16 ..... 1 pc
Collet sleeve 6mm ..... 1 pc
Collet sleeve 8mm ..... 1 pc
Collet sleeve 1/4" ..... 1 pc
Collet sleeve 3/8" ..... 1 pc
Collet sleeve (for inch chuck) 10mm ..... 1 pc

► Optional accessories

Fine adjusting straight guide
Guide rail adapter set
Trimmer guide assembly
Templet guides
Templet guide 25
Templet guide adapter 30
Nut M30
Dust nozzle assembly
Collet sleeves
Router bits

► Repair

CAUTION: Remove the bit from the machine for safety before repair/ maintenance in accordance with the instruction manual!

[1] NECESSARY REPAIRING TOOLS

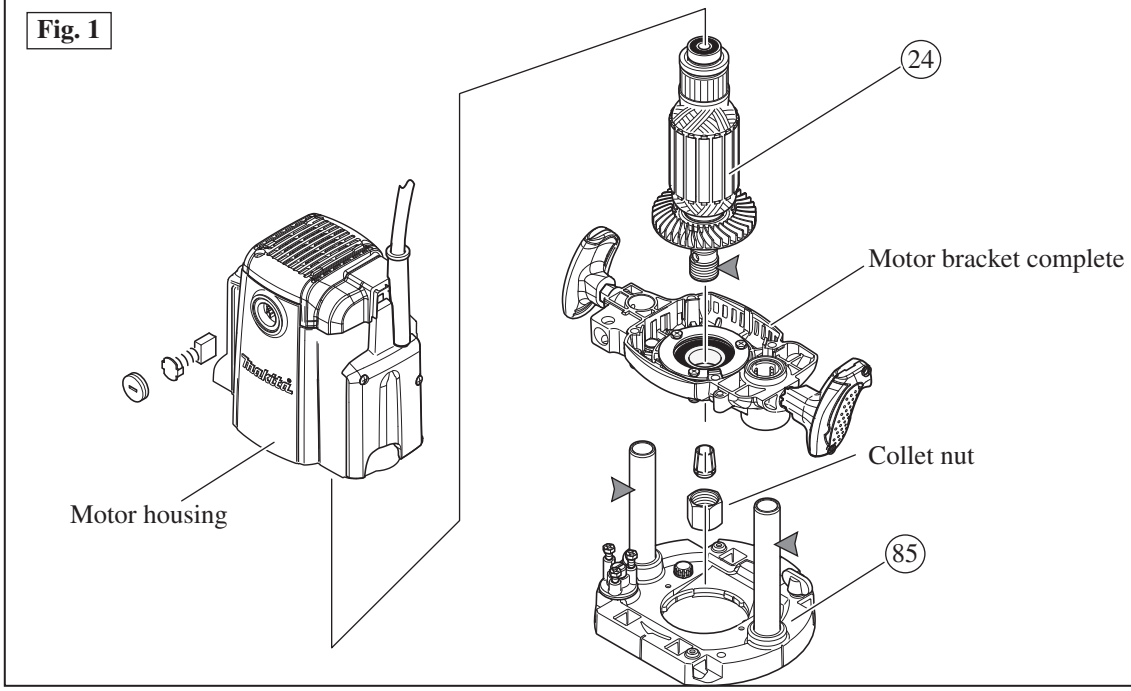
Code No.	Description	Use for
1R030	Bearing setting pipe 25-17.2	Supporting Pin 6 when assembling shaft lock mechanism
1R041	Vise plate	Protecting Armature when holding in vise
1R268	Spring pin extractor 3	Removing Pin 6 of shaft lock mechanism
1R269	Bearing extractor	Removing Ball bearing 629DDW

[2] LUBRICATIONS

Apply lubricant "VG100" to the following portions designated with the gray triangle to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate
㉔	Armature	Threaded portion for removing Collet nut smoothly
㉟	Base complete	Pipe 20 for making plunging action smooth

Fig. 1



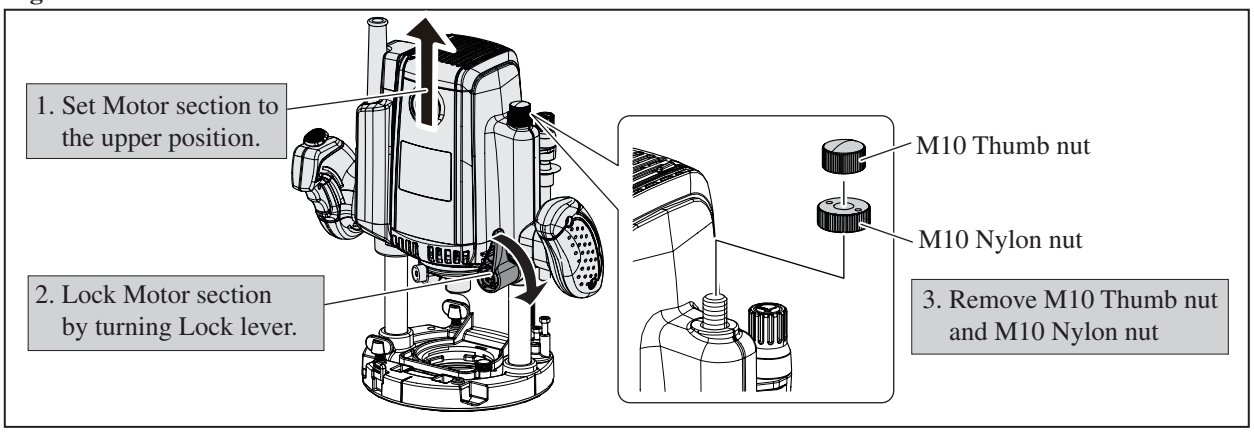
[3] DISASSEMBLY/ASSEMBLY

[3]-1. Base complete

DISASSEMBLING

(1) Separate Base section from Motor section as illustrated in **Figs. 2** and **3**.

Fig. 2



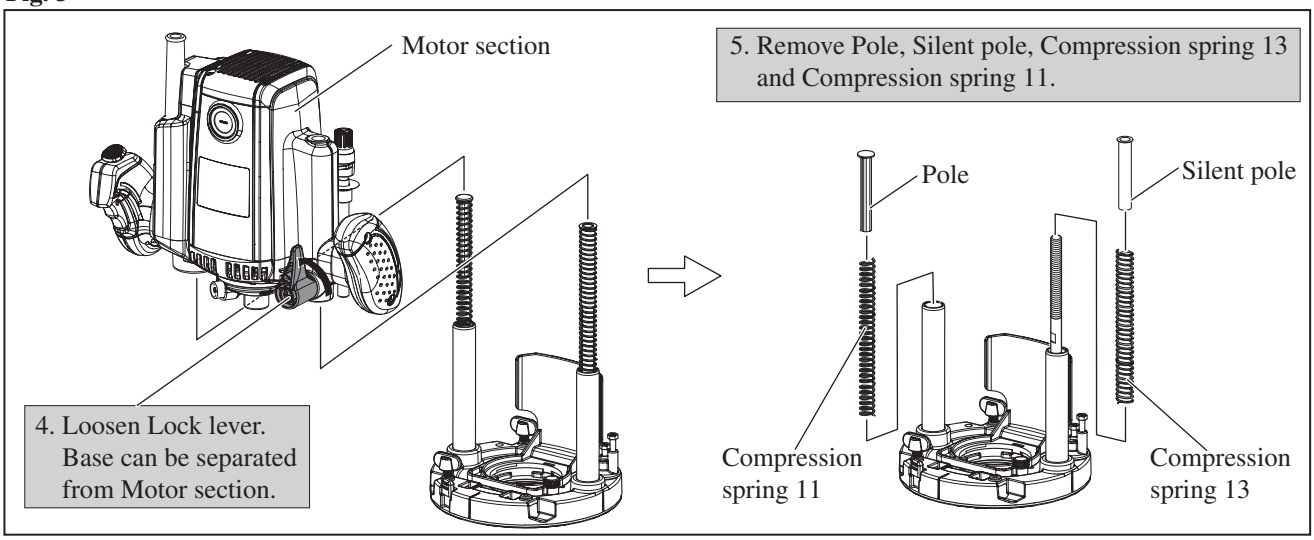
► Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1. Base complete (cont.)

DISASSEMBLING

Fig. 3



(2) Remove Base plate, Lock plate, Compression spring 4 and other component parts.
Refer to **Figs. 4 and 5**.

Fig. 4

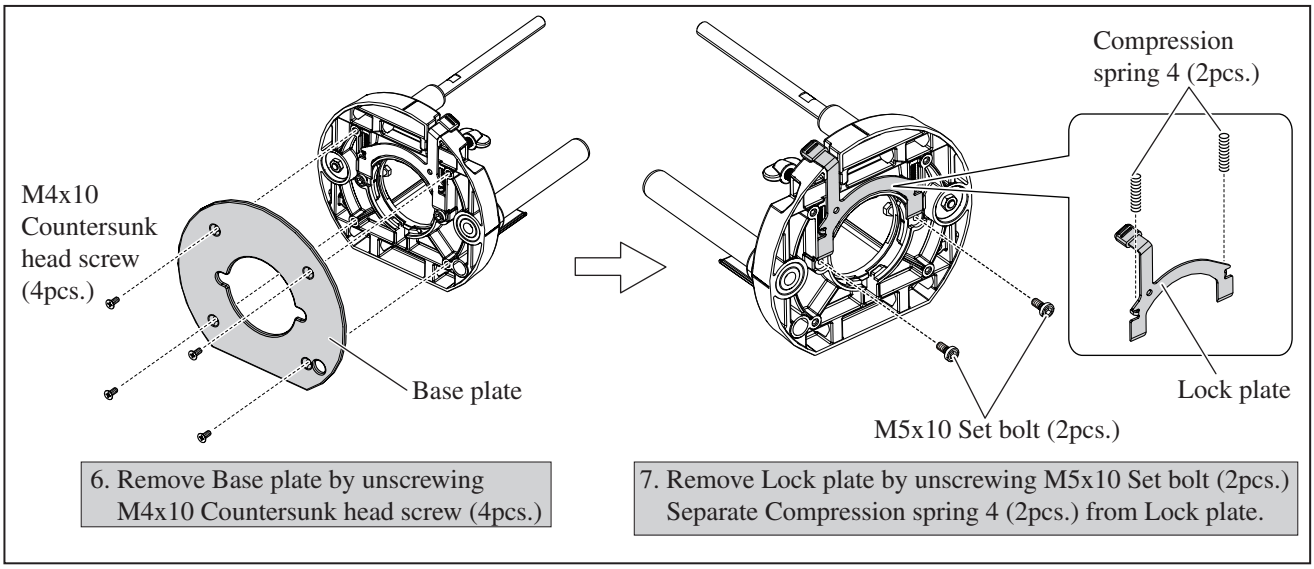
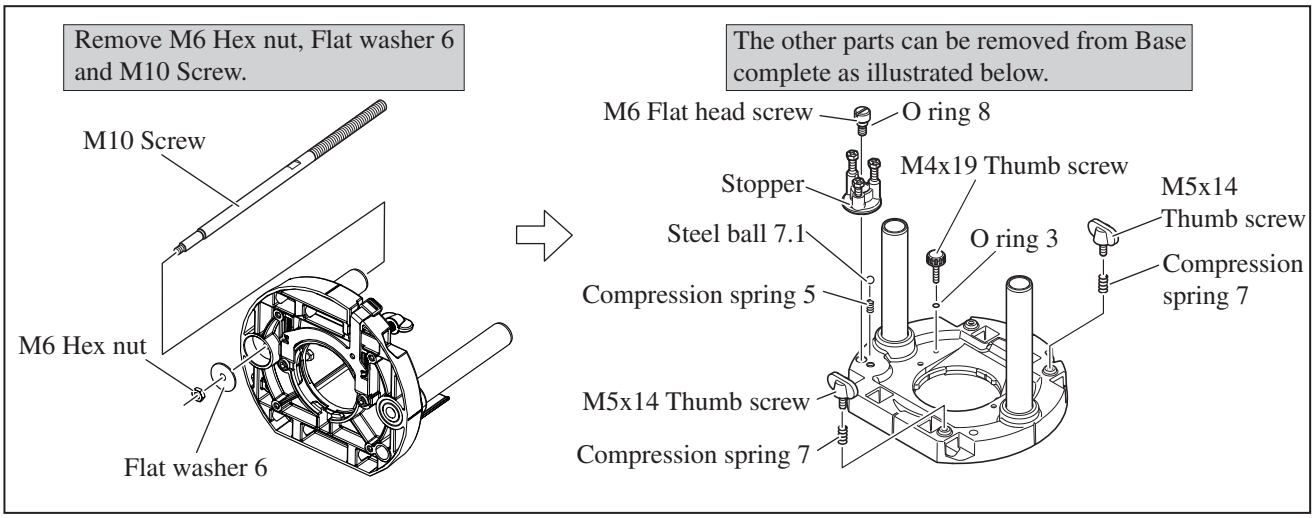


Fig. 5



► Repair

[3] DISASSEMBLY/ASSEMBLY

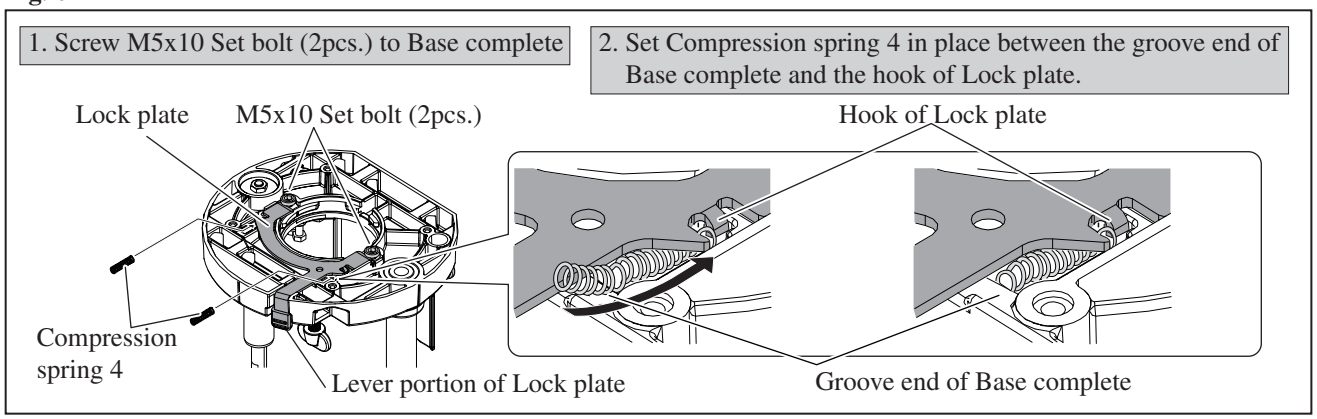
[3]-1. Base complete

ASSEMBLING

Take the disassembling step in reverse.

Note: • Set Compression spring 4 (2pcs.) in the groove on Base complete as illustrated in **Fig. 6**
- M6 - Flat head screw is thread-locker type. When removing it, be sure to apply adhesive (ThreeBond 1321/ 1342 or Loctite 242) to the thread before reusing.
- Assemble Compression spring 11, Compression spring 13, Pole and Silent pole as illustrated in **Fig. 3**.
- Check that two Compression springs 4 work properly by pulling the lever portion of Lock plate after assembling Base plate to Base. Refer to **Figs. 6 and 4**.

Fig. 6



[3]-2. Armature, Motor bracket complete

DISASSEMBLING

(1) Separate Base section from Motor section as illustrated in **Figs. 2** and **3**.
(2) Disassemble Armature as illustrated in **Figs. 7, 8, 9, 10, 11, 12 and 13**.

Fig. 7

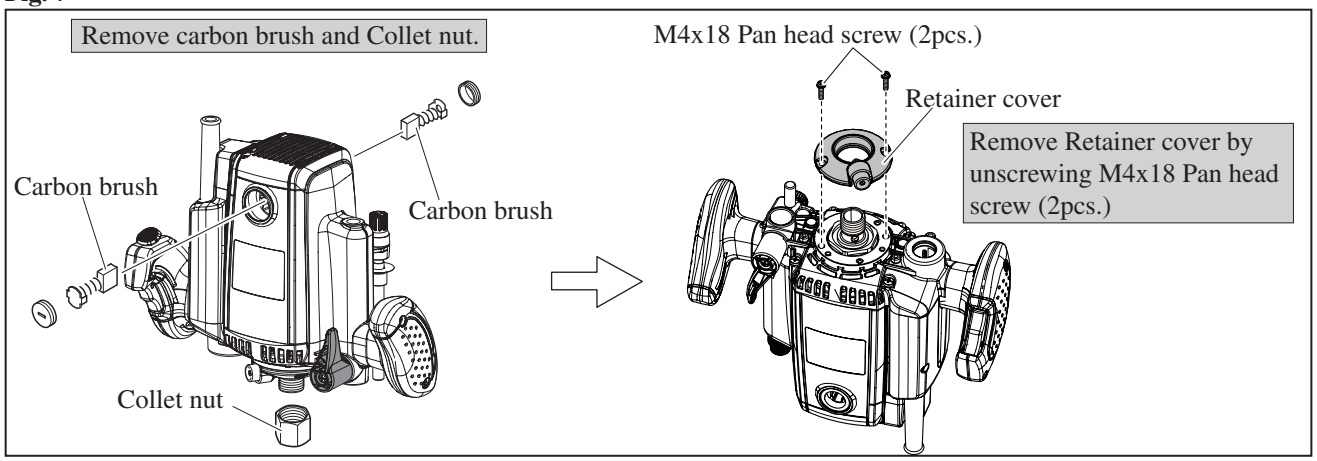
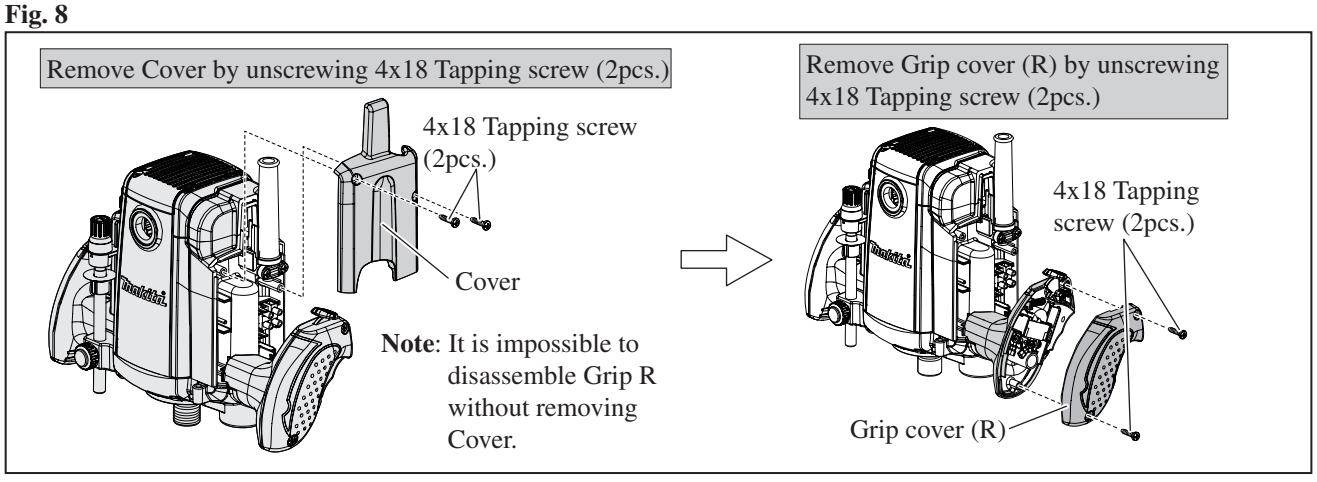


Fig. 8



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Armature, Motor bracket complete (cont.)

DISASSEMBLING

Fig. 9

Disassemble Switch lever, Lock off button, Compression spring 5, Compression spring 4 from Grip R. And remove Grip R from the machine by unscrewing M5x25 Pan head screw. In case of Models RP1800 and RP1801, refer to **Fig. 11**.

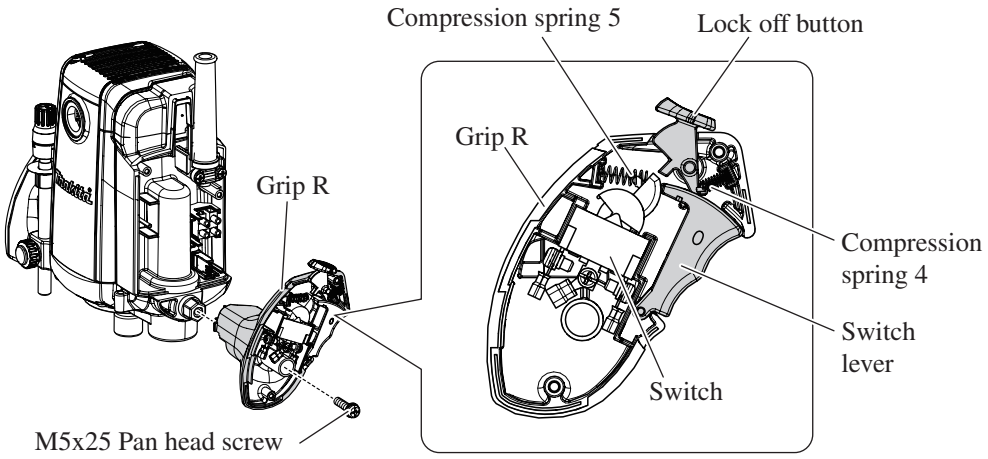


Fig. 10

In case of Models RP1800F, RP1801F, RP2300FC and RP2301FC, disconnect Connector of Controller from LED circuit prior to the step described in **Fig. 11**.

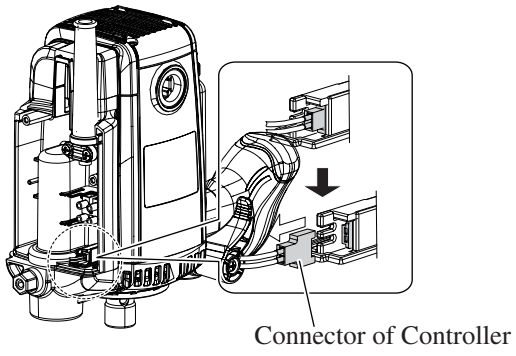


Fig. 11

Remove Motor bracket together with Armature from Motor housing by removing 5x35 Tapping screw (4pcs.)

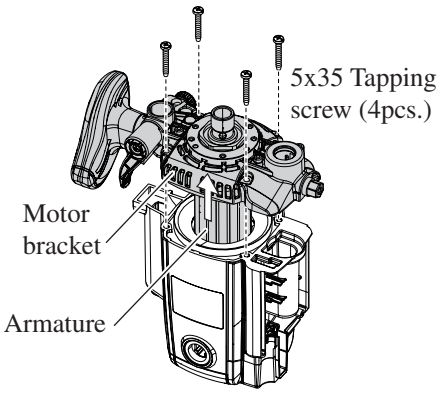
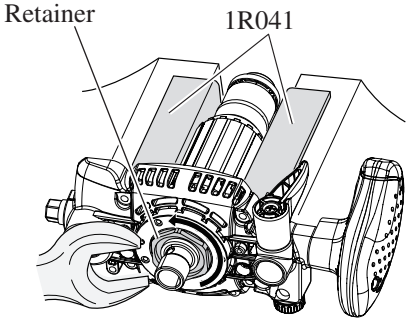


Fig. 12



Remove Retainer from Armature shaft by:
1) holding Armature using 1R041 and vise
2) turning counterclockwise with Wrench 41 or Hex socket 41-80.

► Repair

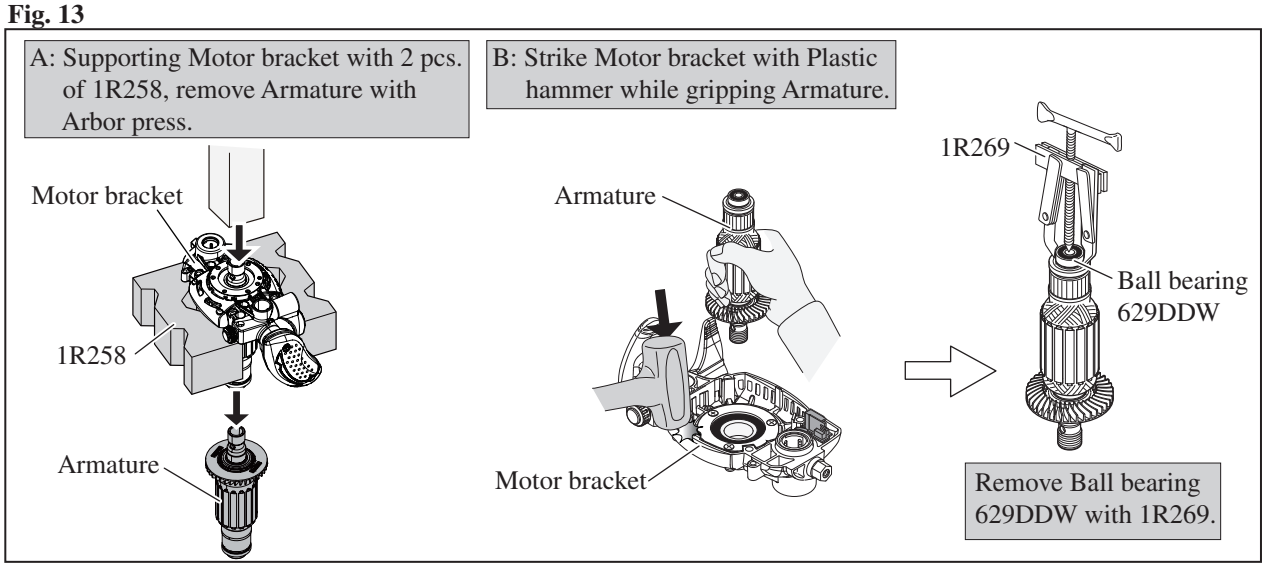
[3] DISASSEMBLY/ASSEMBLY

[3]-2. Armature, Motor bracket complete (cont.)

DISASSEMBLING

(3) Armature can be removed in the manner A or B shown in **Fig. 13**. Remove Ball bearing 629DDW from Armature.

Fig. 13



(4) Disassemble the Motor bracket as illustrated in **Figs. 14** and **15**.

Fig. 14

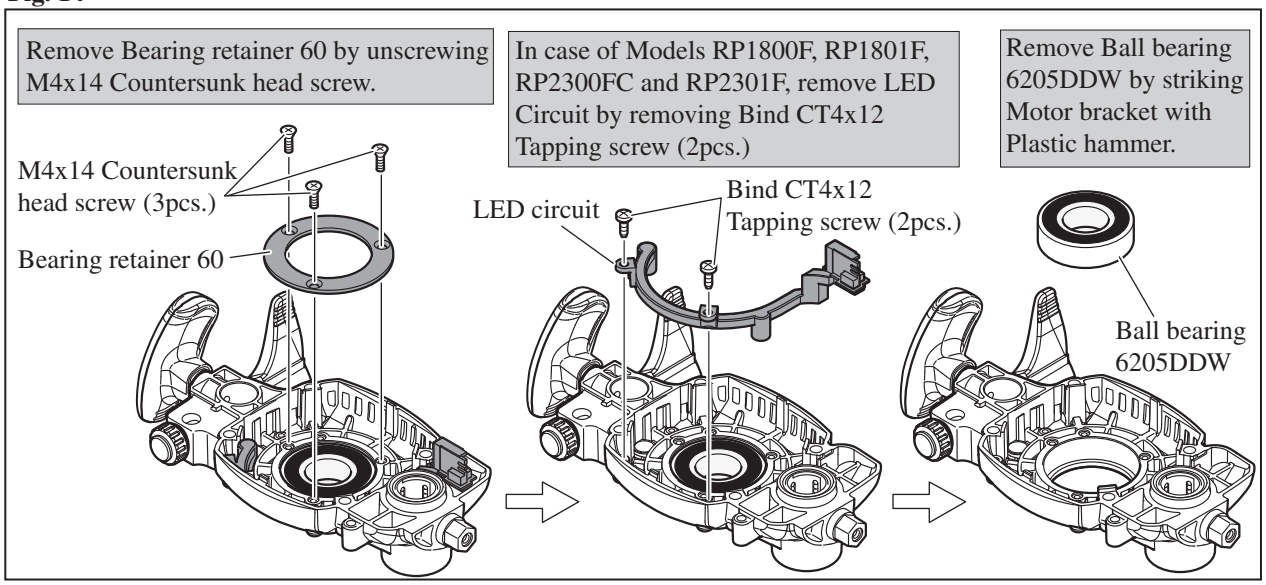
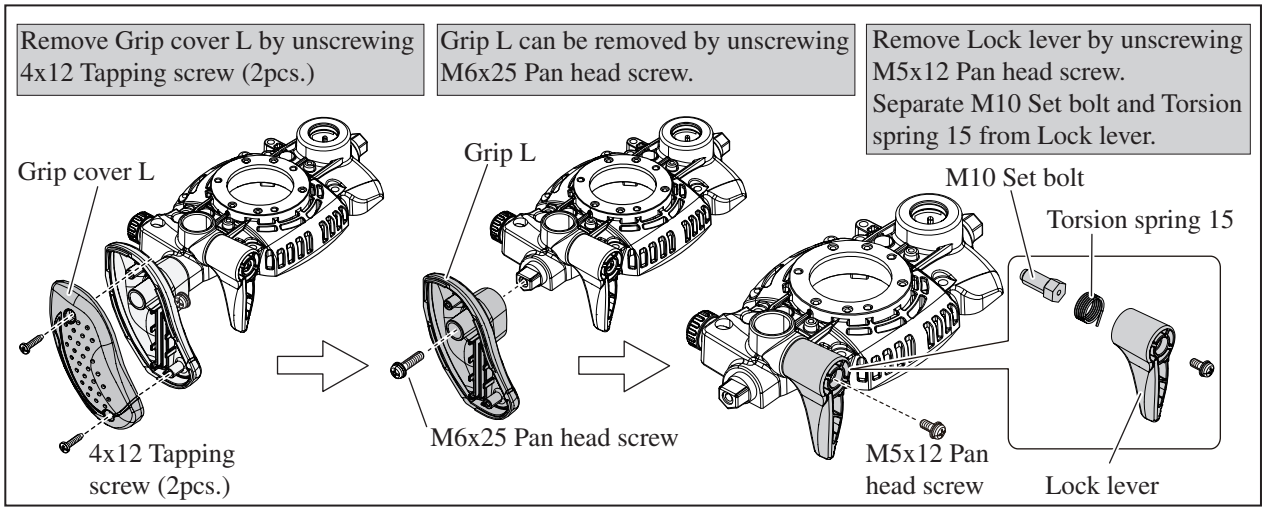


Fig. 15



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Armature, Motor bracket complete

ASSEMBLING

(1) Assemble Ball bearing 6205DDW to Motor bracket. Refer to **the right illustration in Fig. 14**.
(2) In case of RP1800F, RP1801F, RP2300FC and RP2301FC, secure LED circuit with 4x12 Tapping screw (2pcs.). Refer to **the center illustration in Fig. 14**.
(3) Tighten Bearing retainer 60 with M4x14 Countersunk head screw (3pcs.) to secure Ball bearing 6205DDW. Refer to **the left illustration in Fig. 14**.
Note: Apply adhesive ThreeBond 1321 / 1342 or Loctite 242 to the threaded portion of M4x14 Countersunk head screw (3pcs.)
(4) Assemble Lock lever to Motor bracket as illustrated in **Figs. 16, 17 and 18**.

Fig. 16

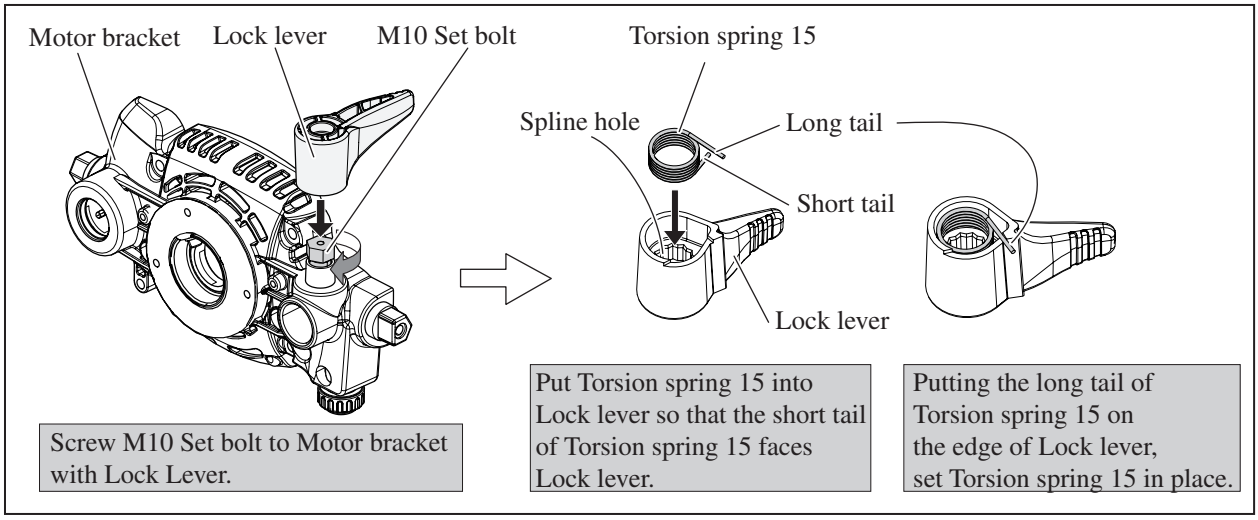


Fig. 17

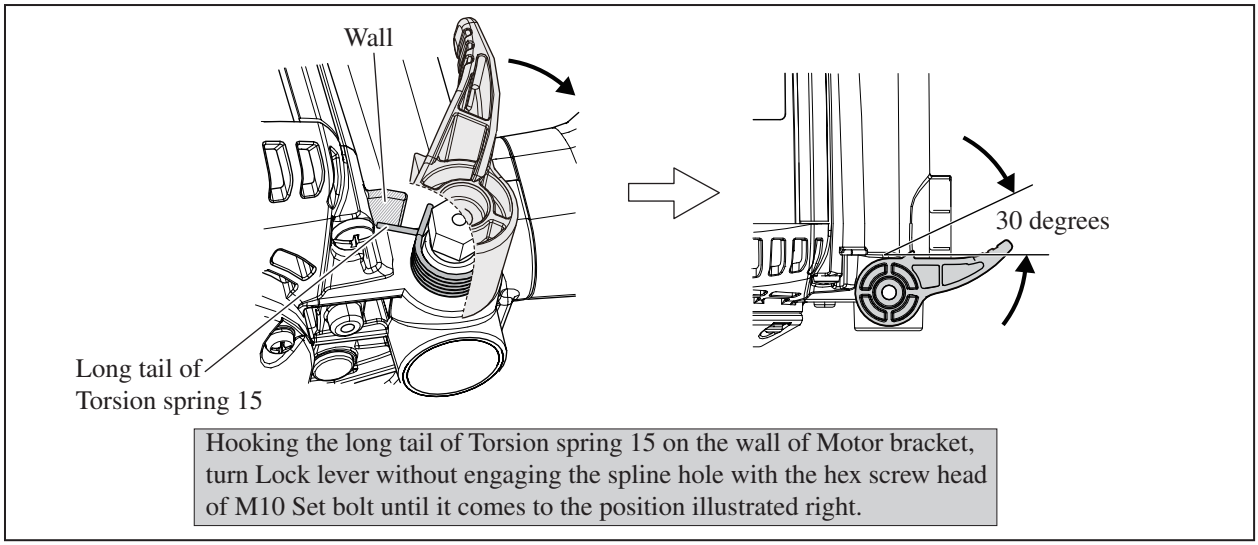
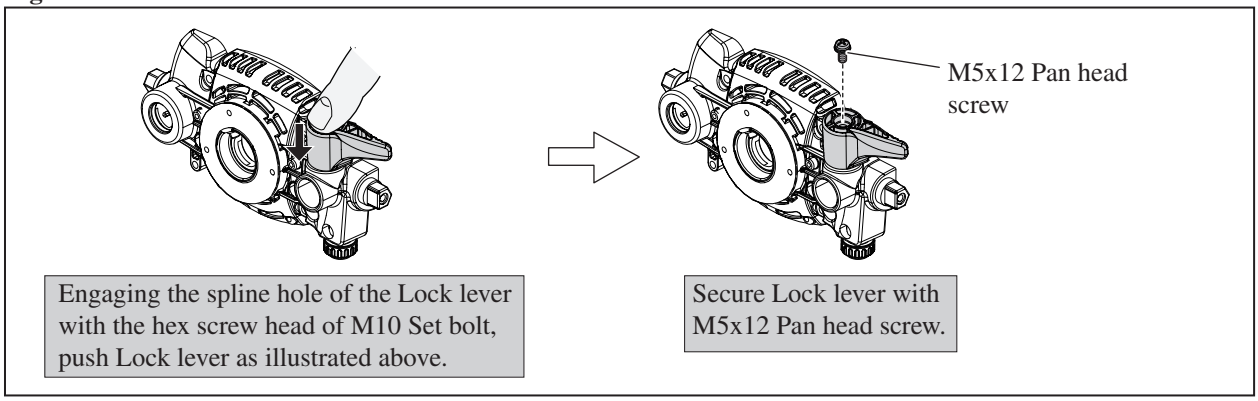


Fig. 18



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Armature, Motor bracket complete (cont.)

ASSEMBLING

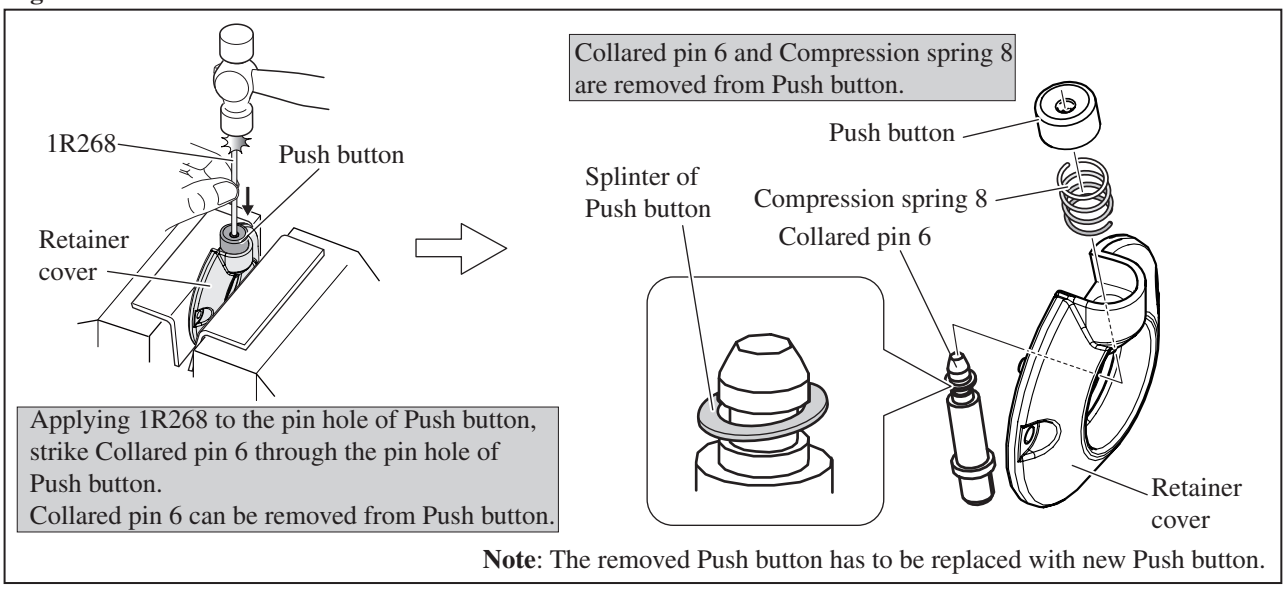
(5) Assemble Grip L to Motor bracket on Lock lever side and secure it with M6x25 Pan head screw. Refer to **Fig. 15**. Assemble Grip cover L to Grip L by screwing two 4x12 Tapping screws. Refer to **Fig. 15**.
(6) Assemble Armature to Motor bracket. Refer to **Fig. 13**
(7) Assemble Retainer to Armature shaft by turning with Wrench 41 or Hex socket 41-80 clockwise. Refer to **Fig. 12**.
(8) Assemble Motor bracket to Motor housing. Refer to **Fig. 11**.
(8) In case of Models RP1800F, RP1801F, RP2300F, RP2301FC, connect LED circuit. Refer to **Fig. 10**.
(9) Assemble Grip R section to Motor bracket. Refer to **Fig. 9**.
(10) Secure Grip cover (R) with two 4x18 Tapping screws to the Grip R. Refer to **right** illustration in **Fig. 8**. And assemble Cover to Motor housing. Refer to **left** illustration in **Fig. 8**.
(11) Mount Retainer cover to Motor bracket. Refer to **right** illustration in **Fig. 7**. And assemble Carbon brushes and Collet nut. Refer to **left** illustration in **Fig. 7**.

[3]-3. Shaft Lock

DISASSEMBLING

(1) Separate Base section from Motor section as illustrated in **Figs. 2**, **3**.
(2) Remove Retainer cover by unscrewing two M4x18 Pan head screws as the **right** illustration in **Fig. 7**.
(3) Shaft lock mechanism can be disassembled as illustrated in **Fig. 19**.

Fig. 19

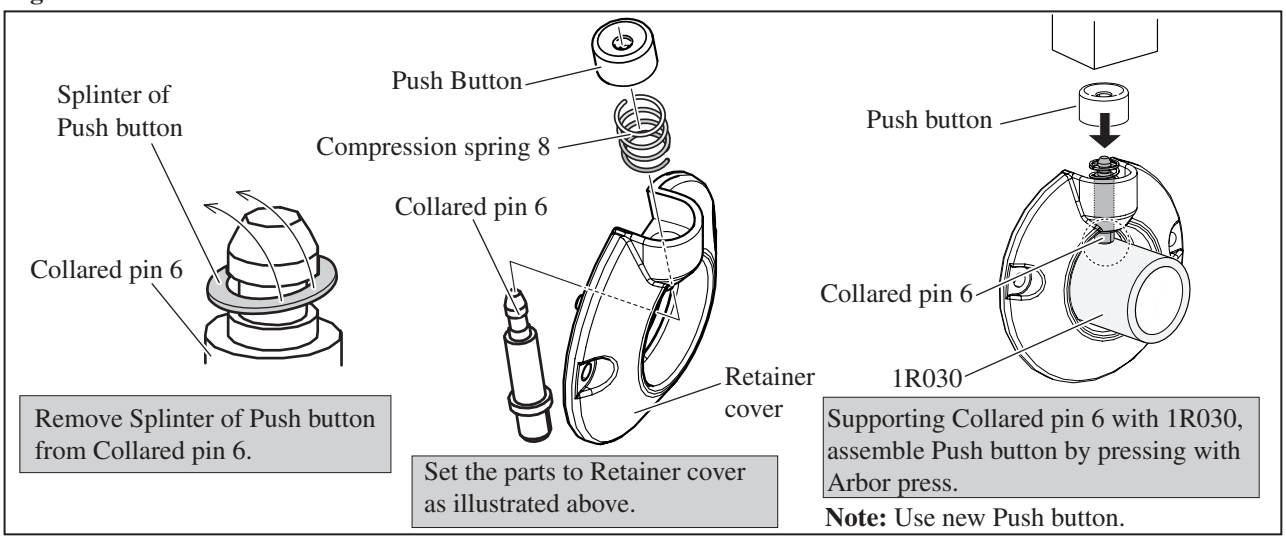


Note: The removed Push button has to be replaced with new Push button.

ASSEMBLING

Shaft lock section can be assembled as illustrated in **Fig. 20**.

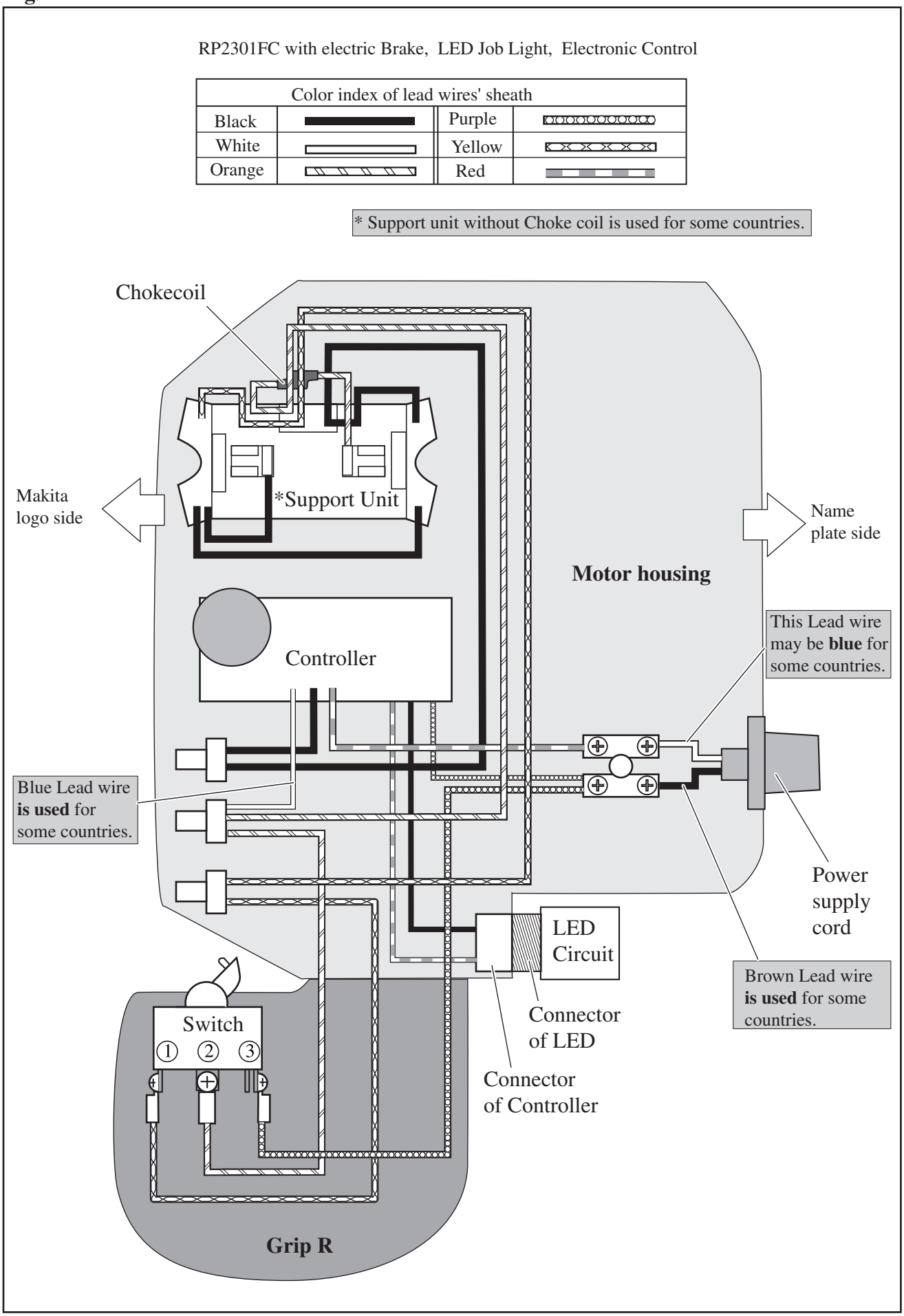
Fig. 20



Note: Use new Push button.

► Circuit diagram

Fig. D-1A

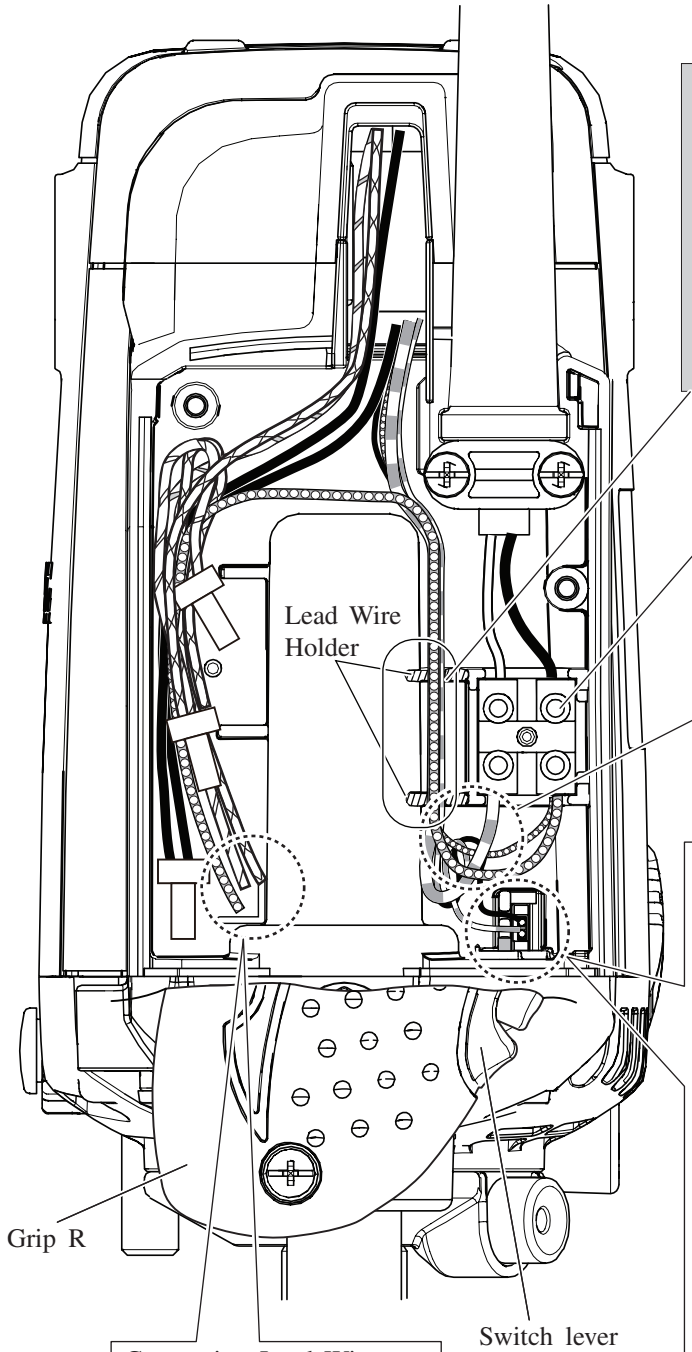


Wiring diagram

Fig. D-2A

RP2301FC with electric Brake, LED Job Light, Electronic Control

Wiring in Motor housing
on Grip R side (Switch side)



When putting Lead wires for connecting to Terminal block, into this Lead wire holder, Controller's thin Lead wire (purple) has to be put under the following Lead wires.
* Controller's thick Lead wire (red)
* Thick Connecting lead wire (purple) for connecting Switch to Terminal block

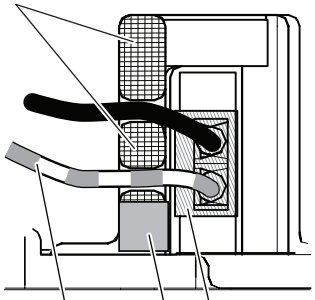
Terminal block

Lead Wire Holder

The extra portion of Controller's thin Lead wires (black, red) to be connected to LED has to be put in this position.

Connector of Controller's lead wires has to be connected to LED circuit that facies Lead wire (Red) to Red marking side.
And put the Lead wires into Lead wire holder.

Lead wire holder



Connector of Controller

Red marking

Controller's Lead wire (red)

Grip R

Switch lever

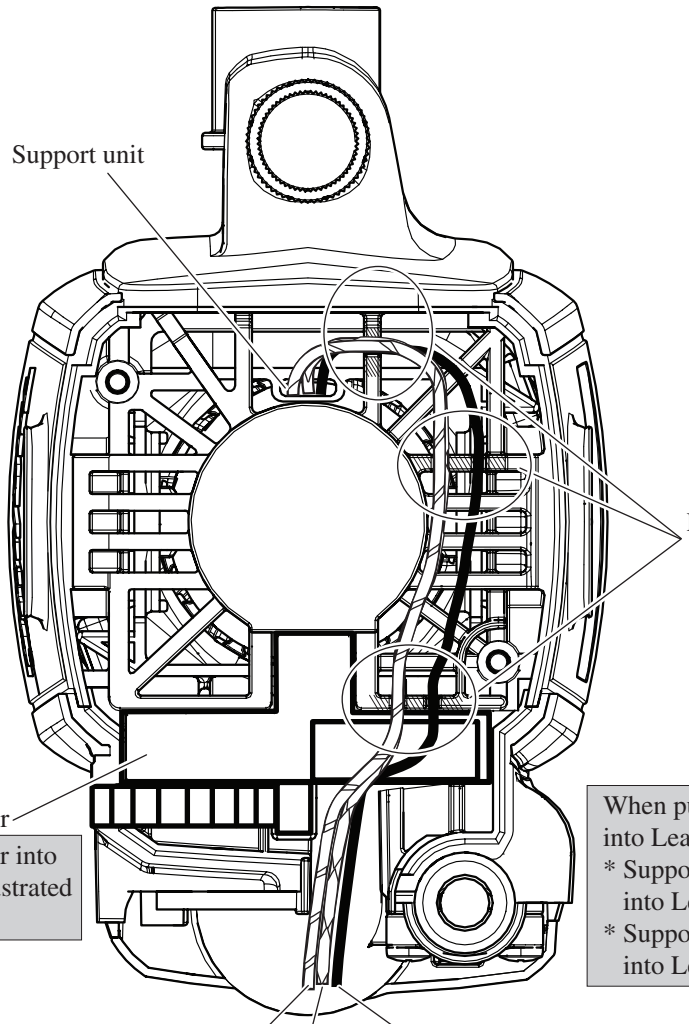
Connecting Lead Wires (yellow, orange purple) to be connected to Switch in Grip R

Wiring diagram

Fig. D-3A

RP2301FC with electric Brake, LED Job Light, Electronic Control

Wiring in Motor housing
on top side (Rear cover side)



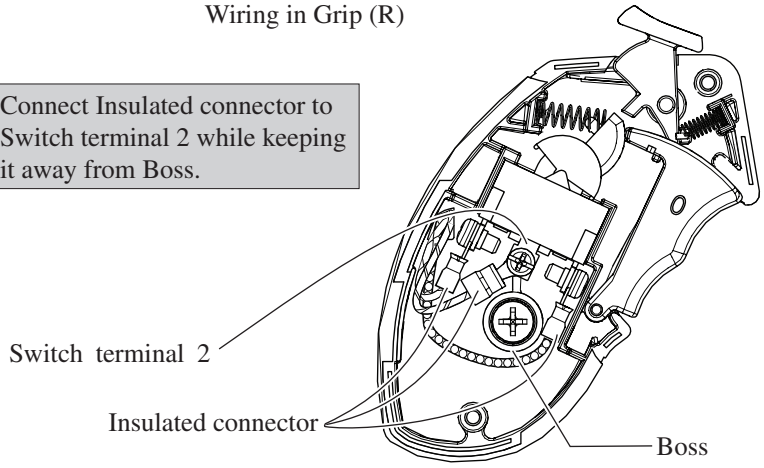
Put Controller into the above illustrated position.

When putting Support unit's Lead wires into Lead wire holders, put them as follows.
* Support unit's Lead wire (black) into Lead wire holder of **outside**
* Support unit's Lead wires (orange, yellow) into Lead wire holder of **inside**

RP2301FC with electric Brake, LED Job Light, Electronic Control

Wiring in Grip (R)

Connect Insulated connector to Switch terminal 2 while keeping it away from Boss.

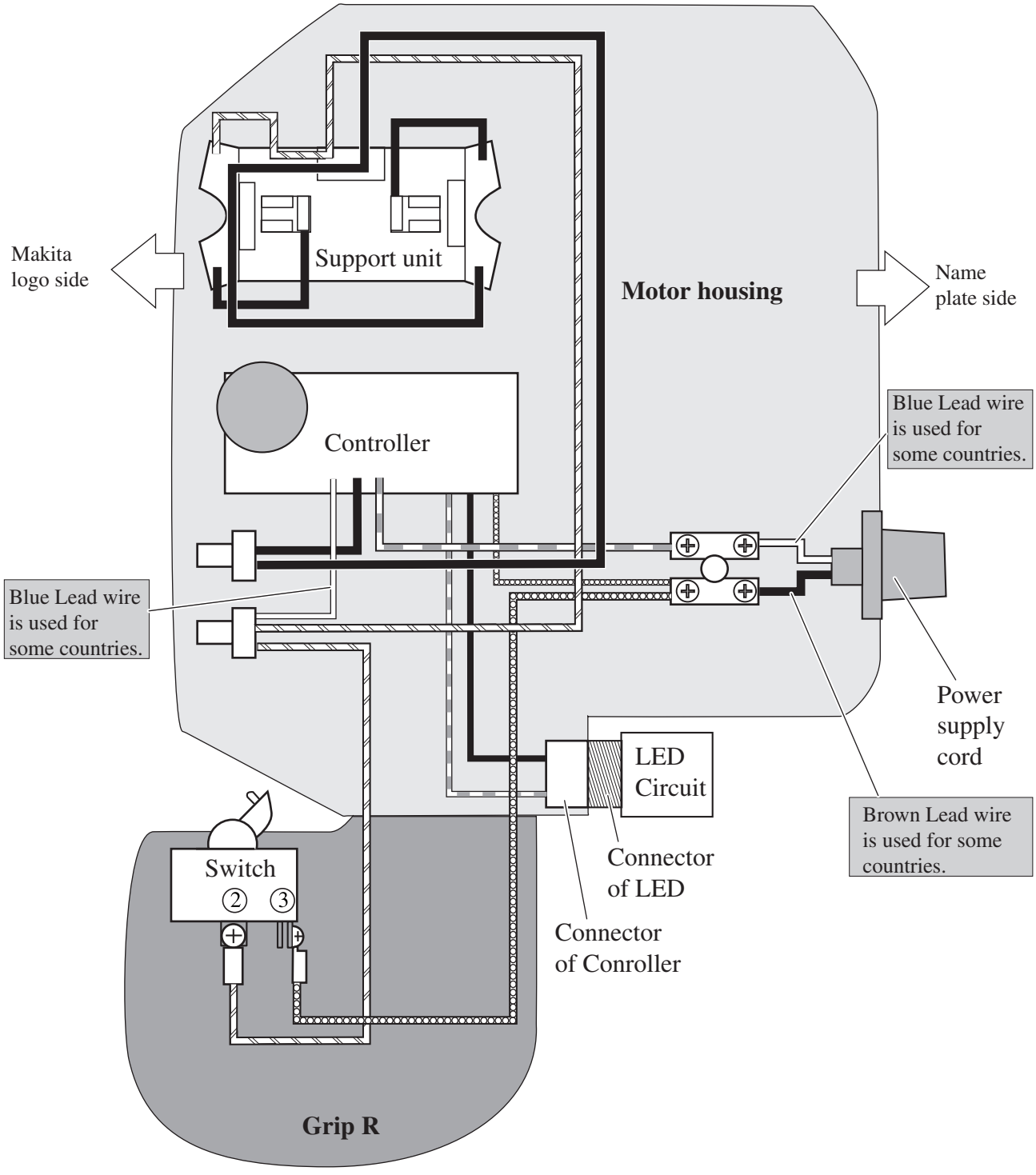


► Circuit diagram

Fig. D-1B

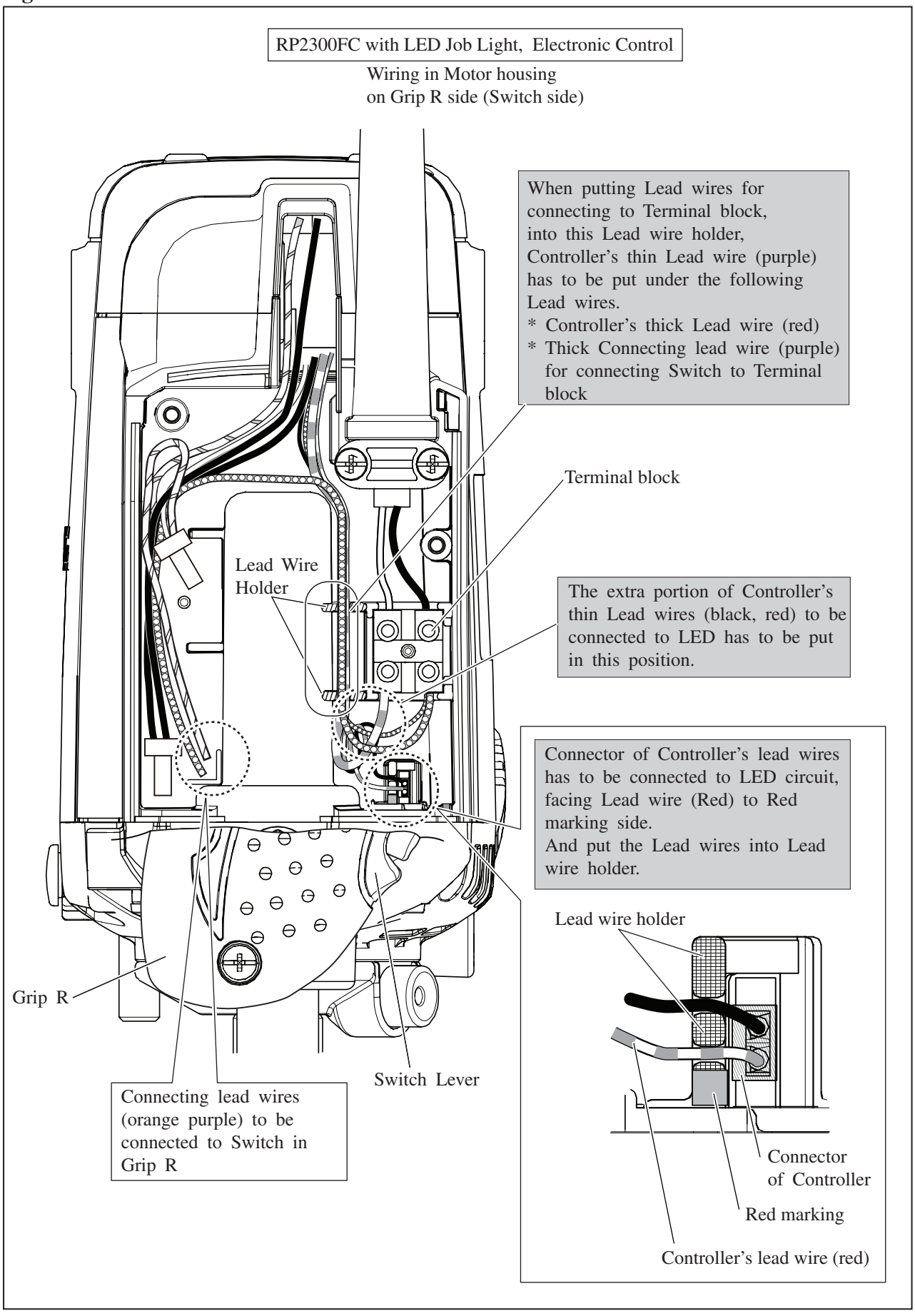
RP2300FC with LED Job Light, Electronic Control

Color index of lead wires' sheath			
Black		Purple	
White		Red	
Orange			



Wiring diagram

Fig. D-2B

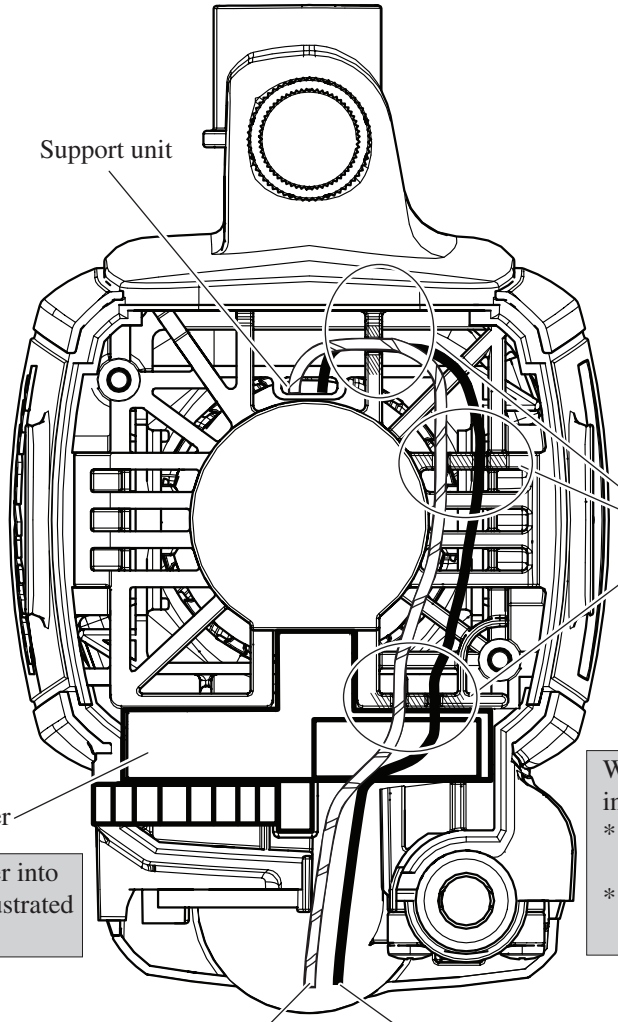


Wiring diagram

Fig. D-3B

RP2300FC with LED Job Light, Electronic Control

Wiring in Motor housing
on top side (Rear cover side)



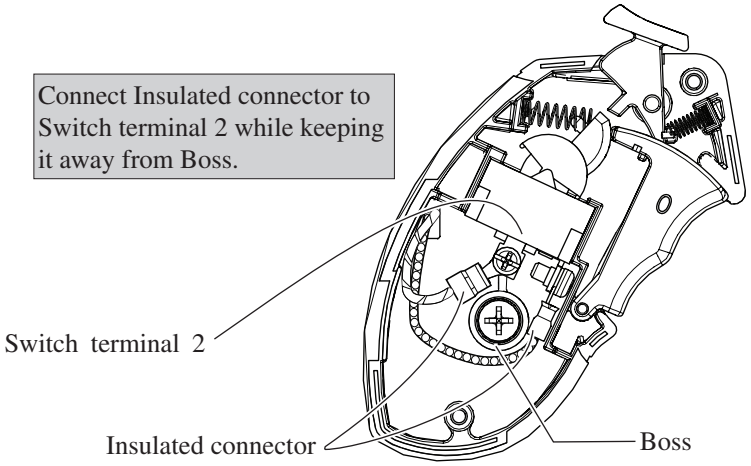
Put Controller into the above illustrated position.

When putting Support unit's Lead wires into Lead wire holders, put them as follows.
* Support unit's Lead wire (black) into Lead wire holder of **outside**
* Support unit's Lead wire (orange) into Lead wire holder of **inside**

RP2300FC with LED Job Light, Electronic Control

Wiring in Grip R

Connect Insulated connector to Switch terminal 2 while keeping it away from Boss.



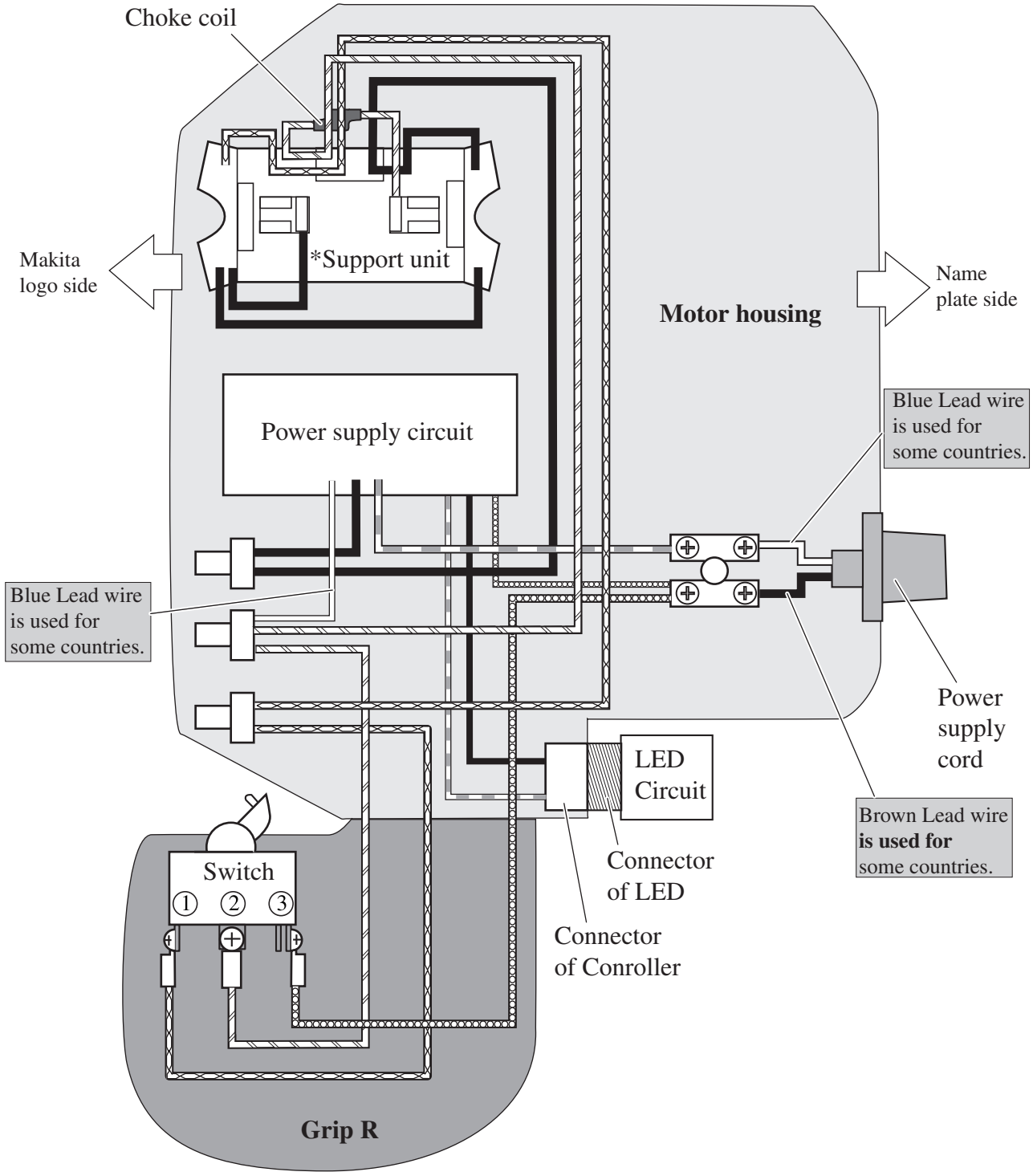
Circuit diagram

Fig. D-1C

RP1801F with electric Brake, LED Job Light

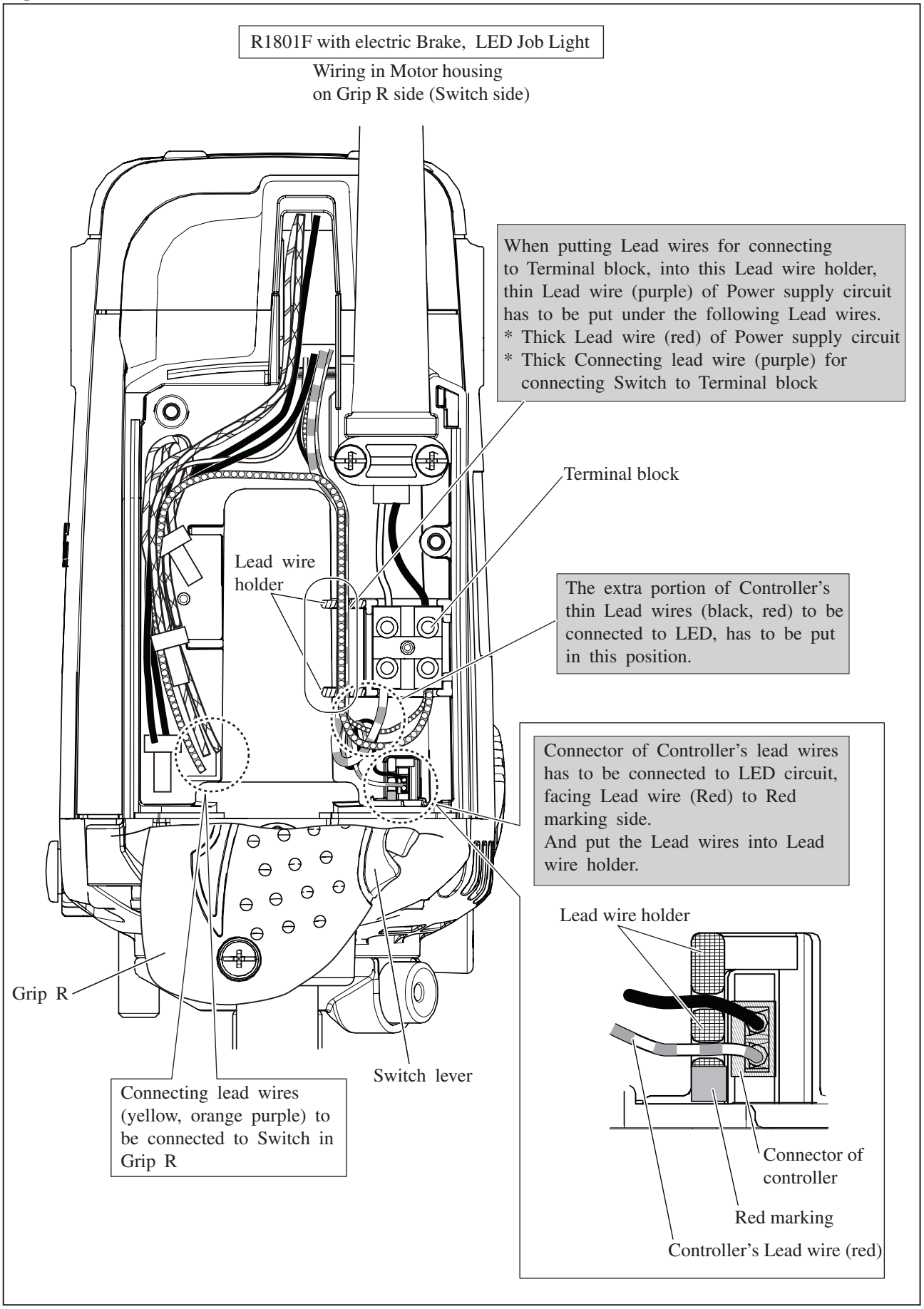
Color index of lead wires' sheath			
Black		Purple	
White		Yellow	
Orange		Red	

* Support unit without Choke coil is used for some countries.



► Wiring diagram

Fig. D-2C

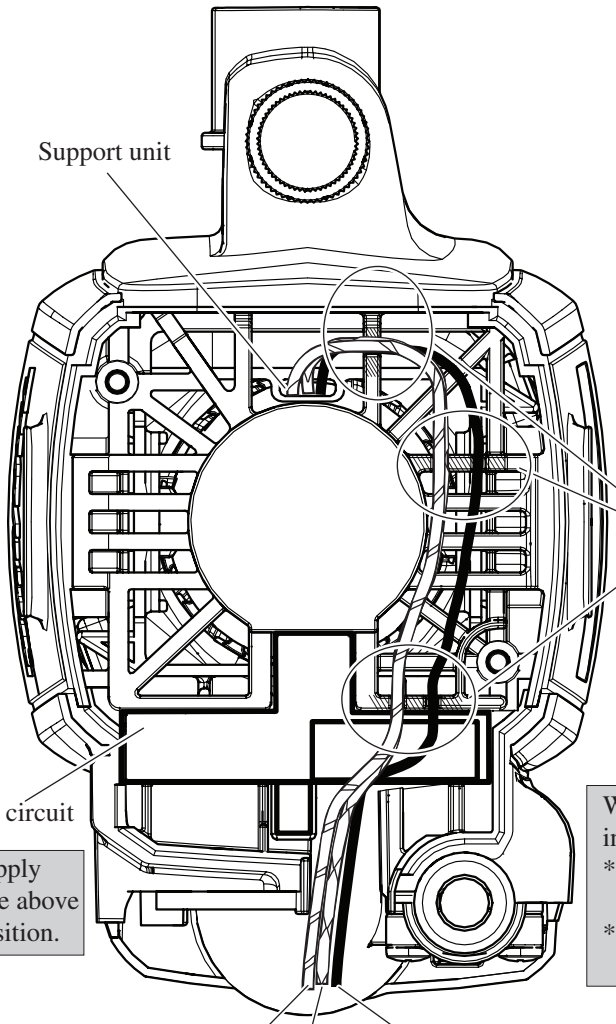


Wiring diagram

Fig. D-3C

RP1801F with electric Brake, LED Job Light

Wiring in Motor housing
on top side (Rear cover side)



Put Power supply circuit into the above illustrated position.

When putting Support unit's Lead wires into Lead wire holders, put them as follows.
* Support unit's Lead wire (black) into Lead wire holder of **outside**
* Support unit's Lead wires (orange, yellow) into Lead wire holder of **inside**

Support unit's Lead wire (orange)

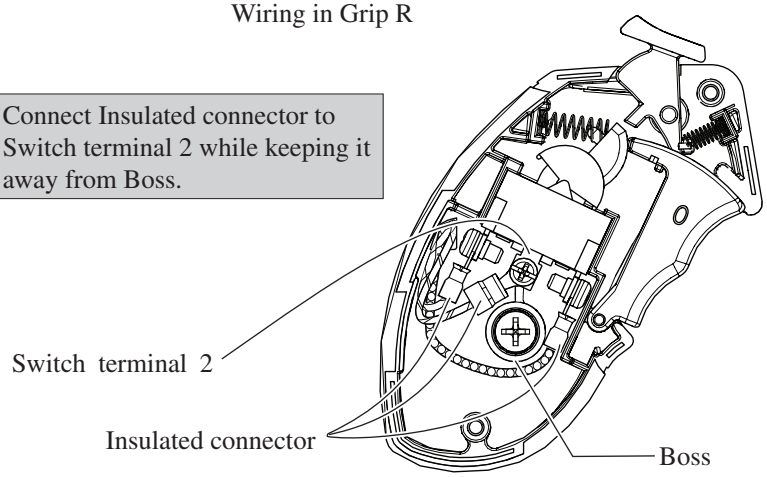
Support unit's Lead wire (yellow)

Support unit's Lead wire (black)

RP1801F with electric Brake, LED Job Light

Wiring in Grip R

Connect Insulated connector to Switch terminal 2 while keeping it away from Boss.

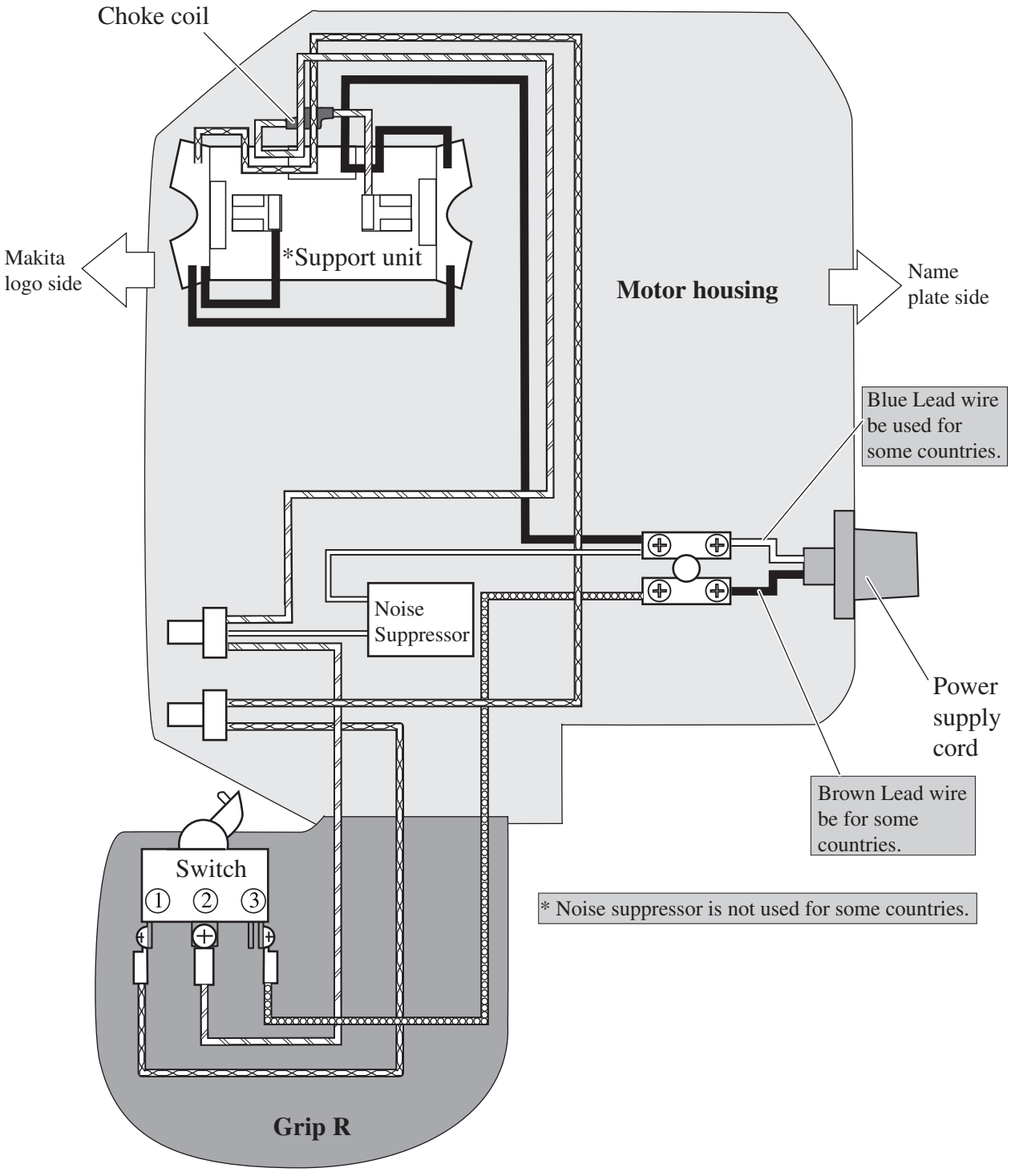


Circuit diagram

Fig. D-1D

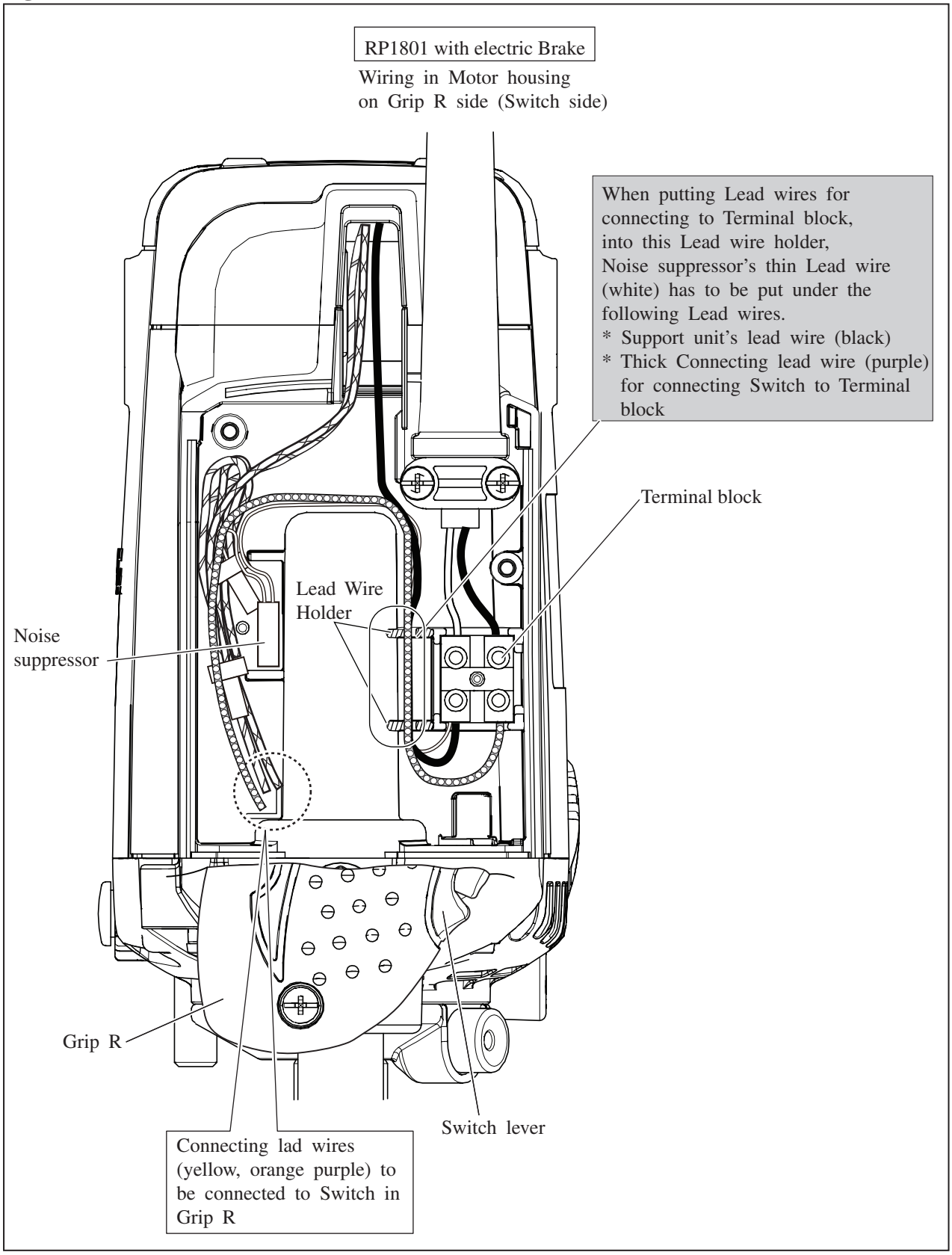
RP1801 with electric Brake

Color index of lead wires' sheath			
Black		Purple	
White		Yellow	
Orange			



Wiring diagram

Fig. D-2D

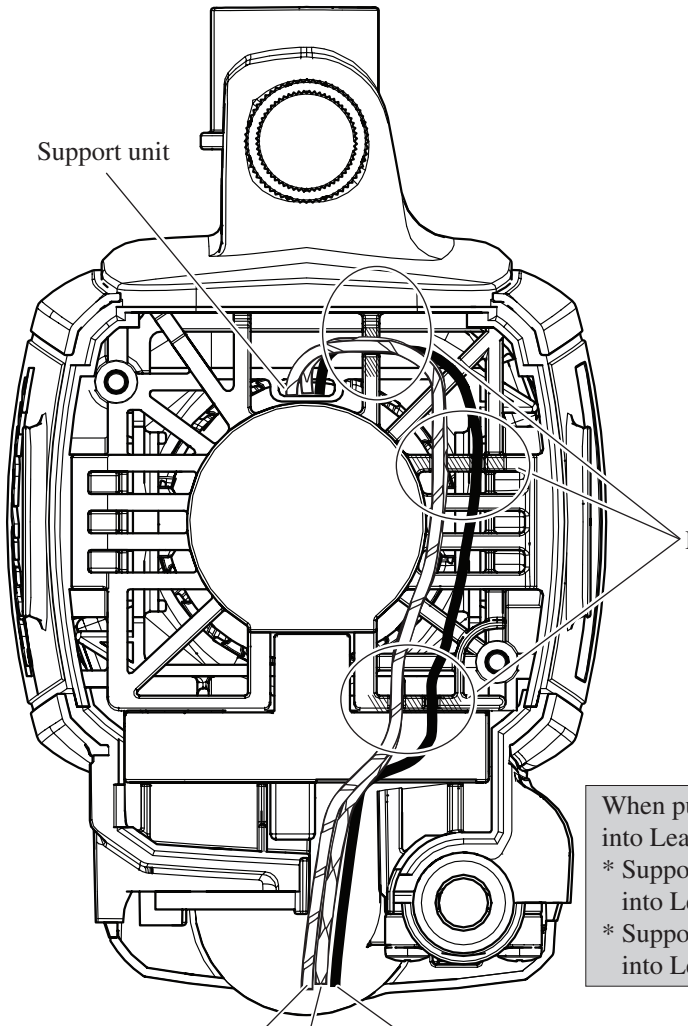


► Wiring diagram

Fig. D-3D

RP1801 with electric Brake

Wiring in Motor housing
on top side (Rear cover side)



When putting Support unit's Lead wires into Lead wire holders, put them as follows.
* Support unit's Lead wire (black) into Lead wire holder of **outside**
* Support unit's Lead wires (orange, yellow) into Lead wire holder of **inside**

Support unit's Lead wire (orange)

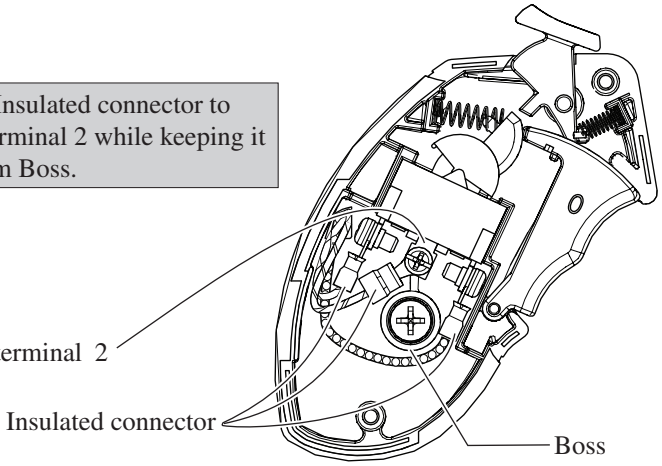
Support unit's Lead wire (yellow)

Support unit's Lead wire (black)

RP1801 with electric Brake

Wiring in Grip (R)

Connect Insulated connector to Switch terminal 2 while keeping it away from Boss.

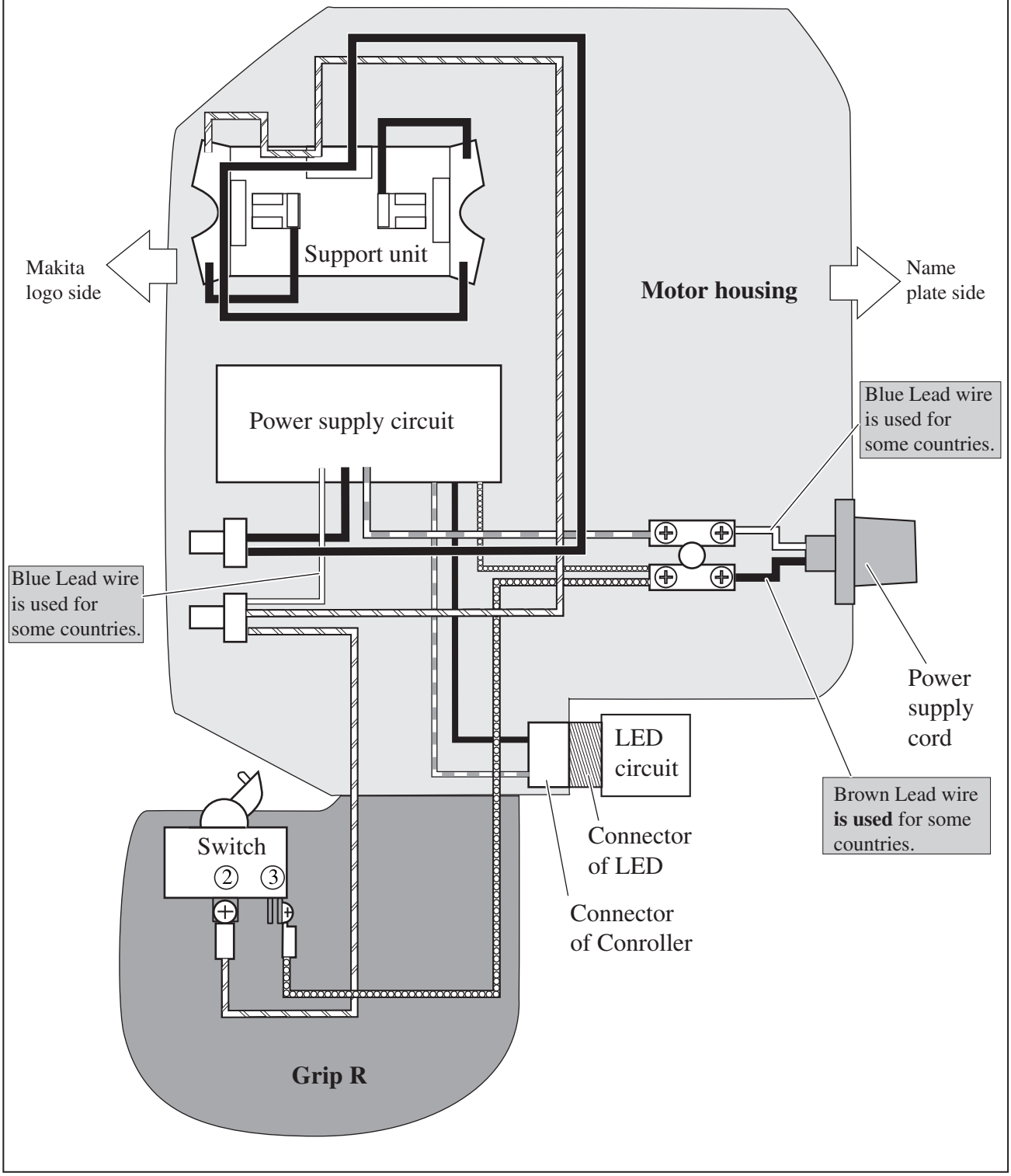


► Circuit diagram

Fig. D-1E

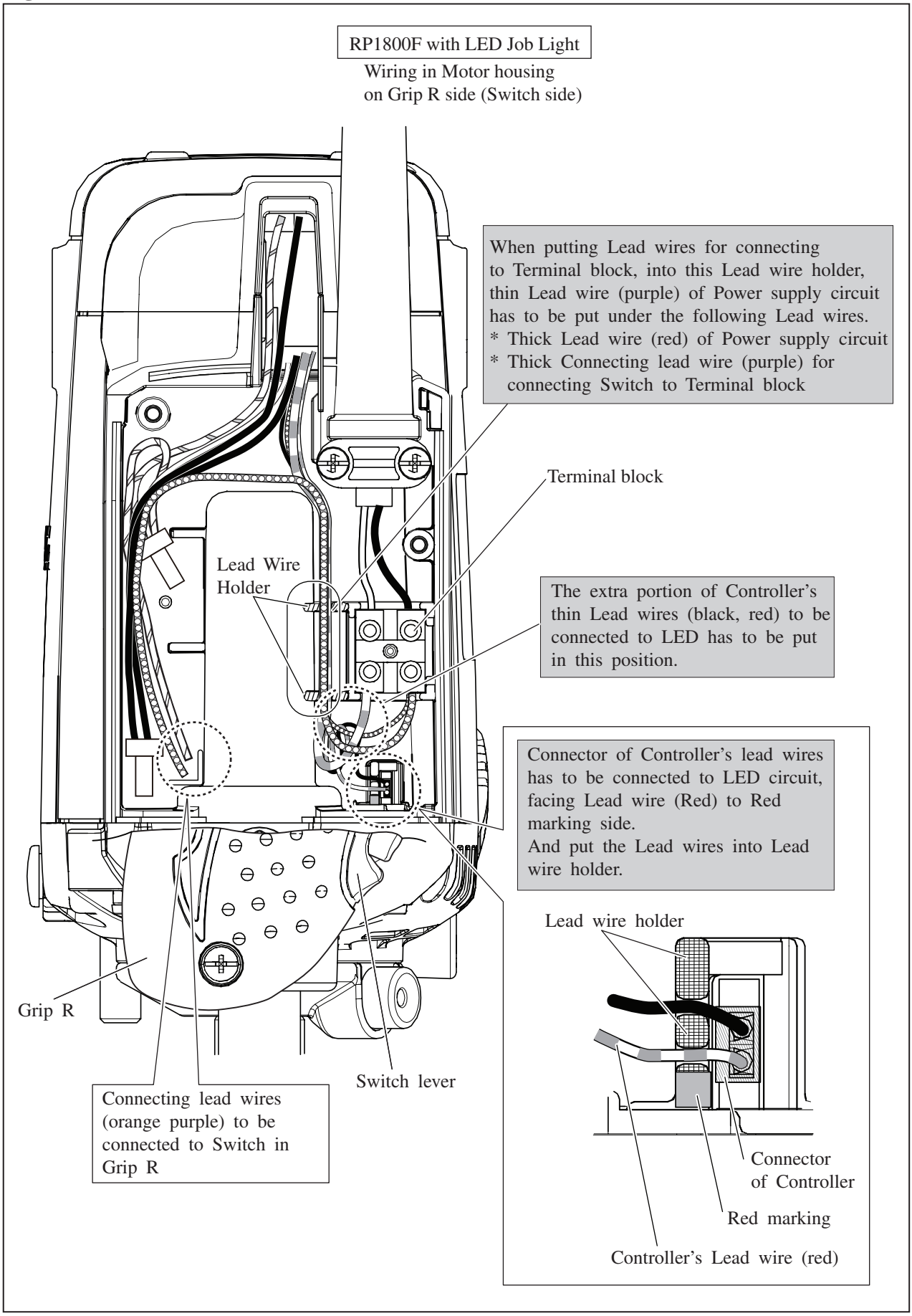
RP1800F with LED Job Light

Color index of lead wires' sheath			
Black		Purple	
White		Red	
Orange			



► Wiring diagram

Fig. D-2E

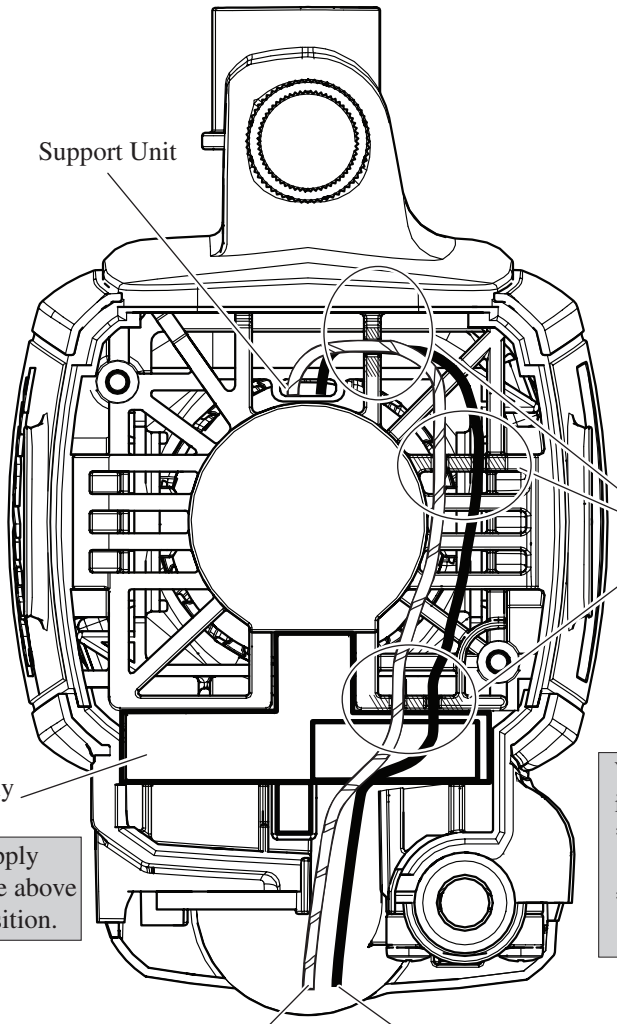


► Wiring diagram

Fig. D-3E

RP1800F with LED Job Light

Wiring in Motor housing
on top side (Rear cover side)

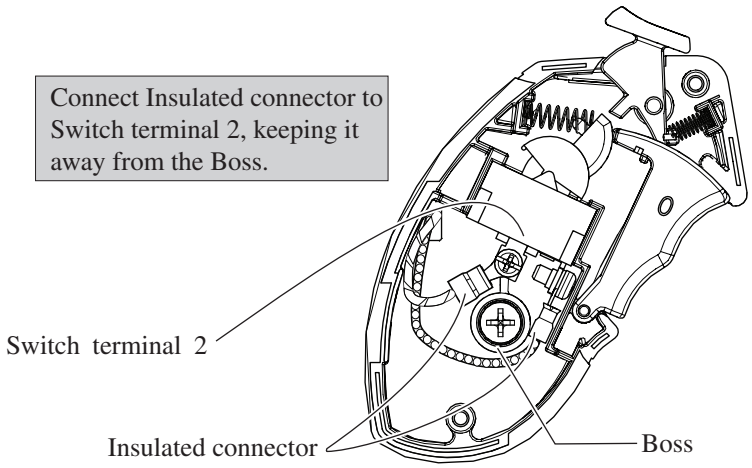


Put Power supply circuit into the above illustrated position.

When putting Support unit's Lead wires into Lead wire holders, put them as follows.
* Support unit's Lead wire (black) into Lead wire holder of **outside**
* Support unit's Lead wire (orange) into Lead wire holder of **inside**

RP1800F with LED Job Light

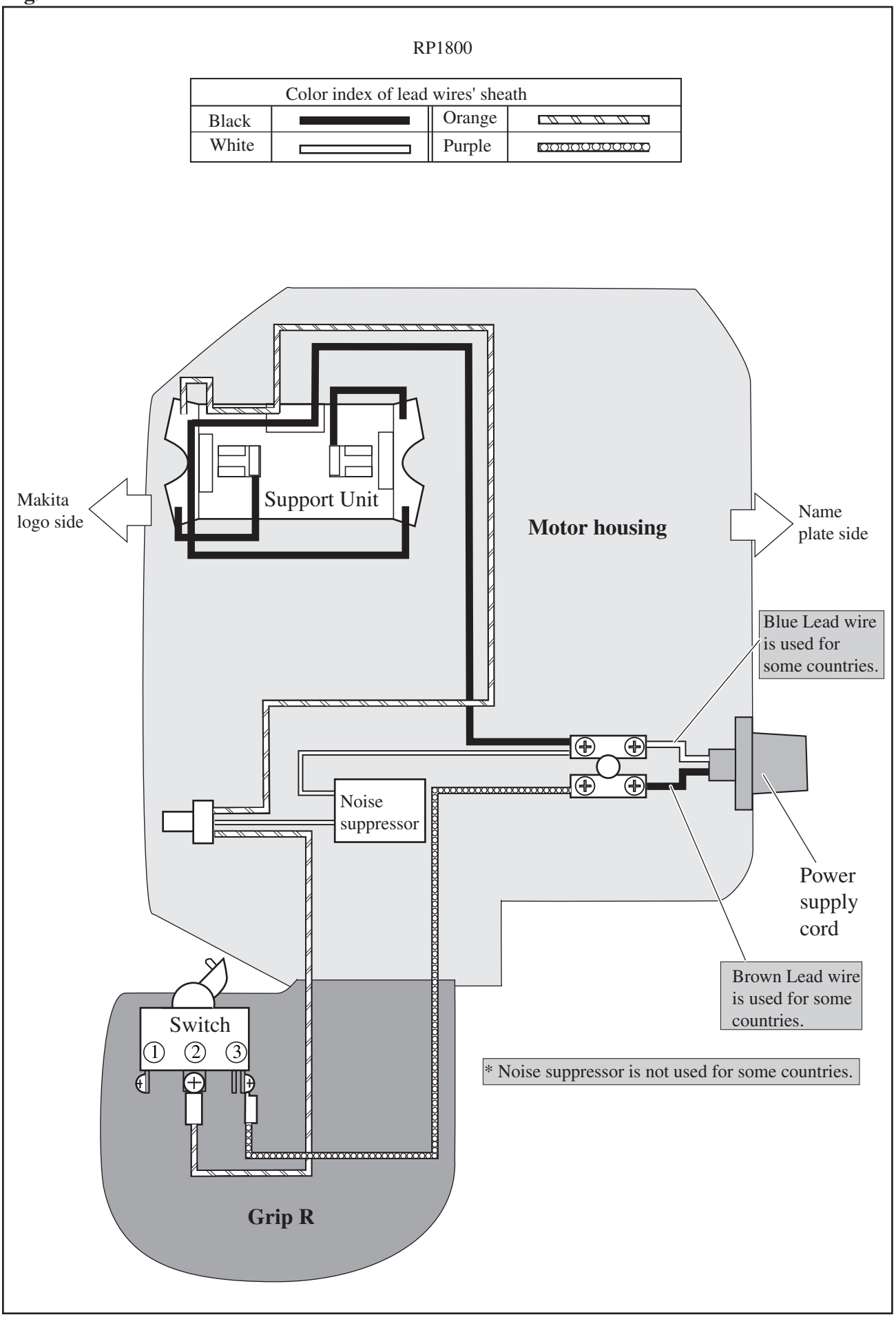
Wiring in Grip (R)



Connect Insulated connector to Switch terminal 2, keeping it away from the Boss.

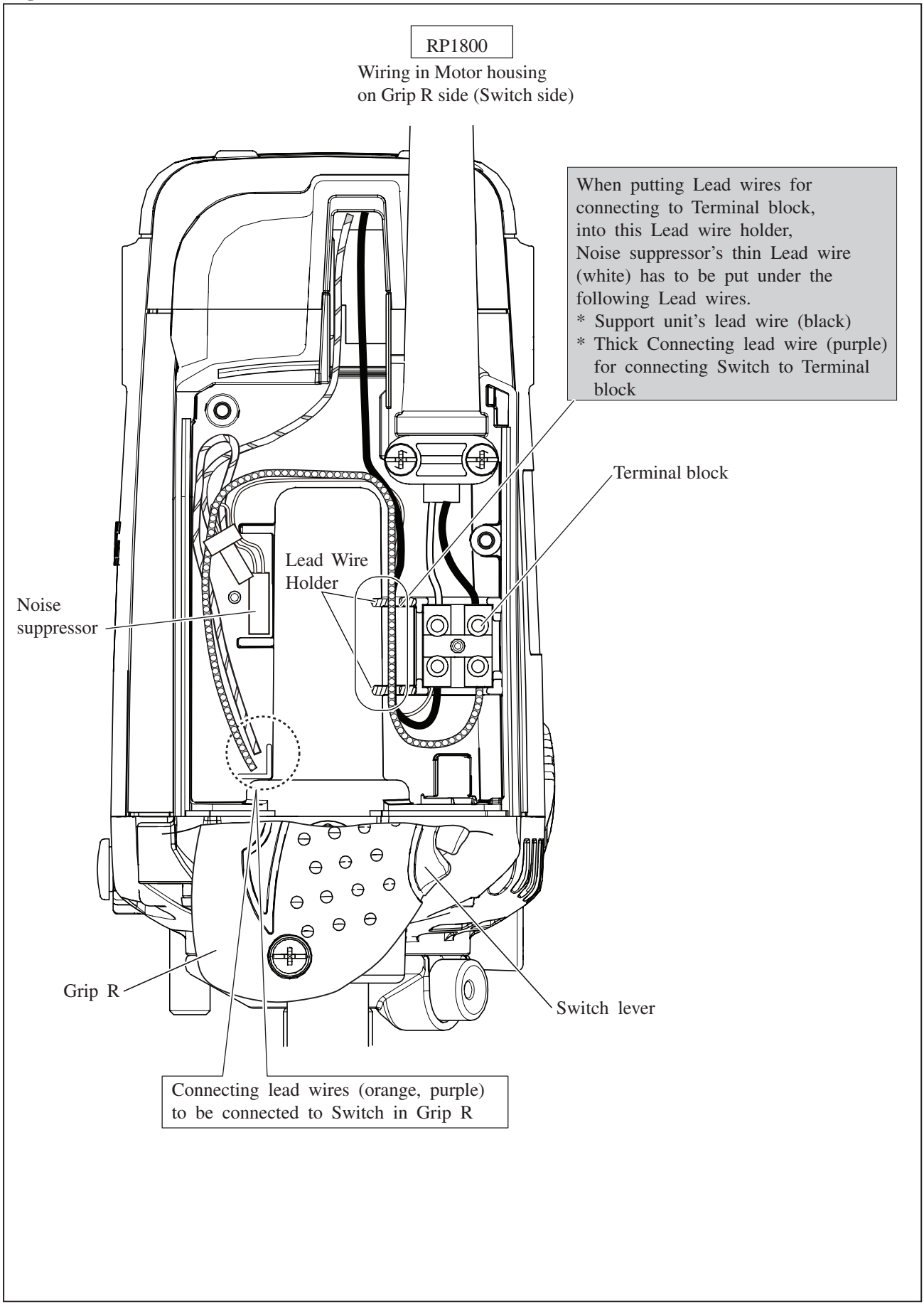
Circuit diagram

Fig. D-1F



Wiring diagram

Fig. D-2F

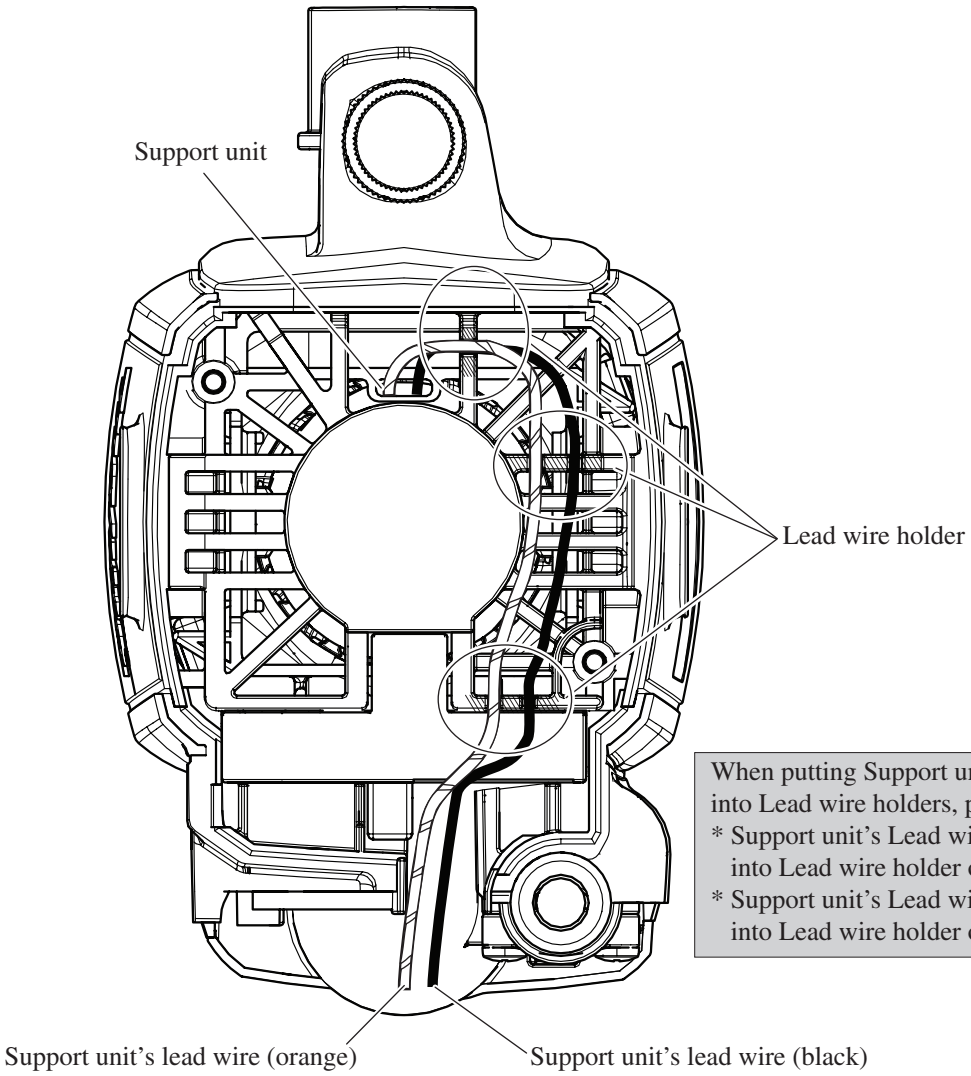


► Wiring diagram

Fig. D-3F

RP1800

Wiring in Motor housing
on top side (Rear cover side)



RP1800

Wiring in Grip (R)