

# TECHNICAL INFORMATION

**Makita**

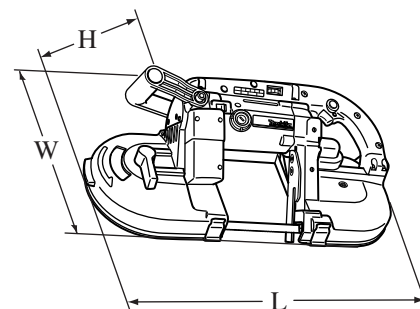
NEW TOOL

P 1 /17

**Models No.** ▶ 2107F**Description** ▶ Portable Band Saw

## CONCEPT AND MAIN APPLICATIONS

Model 2107F has been developed as an upgraded model of 2106. Weighs only 5.7 kg, yet with rigid bridge structure of tough aluminum wheel covers and cylindrical motor housing. Features built-in fluorescent job light for clear view of cut line even in dark places.



Dimensions: mm (")	
Length (L)	508 (20)
Width (W)	188 (7-3/8)
Height (H)	256 (10-1/8)

## ► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	6.8	50/ 60	710	350	600
120	6.5	50/ 60	710	350	850
220	3.4	50/ 60	710	350	850
230	3.2	50/ 60	710	350	850
240	3.1	50/ 60	710	350	850

Power Input: W		710
Rated amperage for North America: A		6.5
Blade speed: m/s		1.0 - 1.8
Cutting capacity: mm (")	Round pipe	120 (4-3/4) dia.
	Square pipe	120 x 120 (4-3/4 x 4-3/4)
	Round bar	30 (1-3/16) dia.
Protection against electric shock		Double insulation
Power supply cord: m (ft)		2.5 (8.2)
Net weight: Kg (lbs)		5.7 (12.6)

## ► Standard equipment

Carbon steel band saw blade 13x1140 (18 teeth per inch)  
Hex wrench 4  
Wrench holder 3.4  
Plastic carrying case

**Note:** The standard equipment for the tool shown above may differ from country to country.

## ► Optional accessories

Assorted steel band saw blades  
Fluorescent light set  
Stand chain vise set  
Cutting wax

## ► Features and benefits

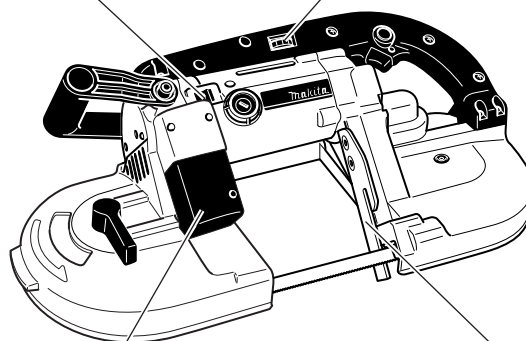
### Lightweight at Merely 5.7kg

Lighter than the competing models, allowing easy operation with less fatigue in horizontal and overhead applications.

### Independent On/Off Switch for Fluorescent Job Light

### Speed Preset Dial

Allows you to adjust the blade speed to suit workpiece material or desired finish.



### Built-in Fluorescent Job Light

Provides clear view of cut line even in dark places.

### Adjustable Stopper Plate

Retractable when cutting pipes near the wall or the floor, increasing maneuverability.

### Extra-High Rigidity

Tough aluminum wheel covers (front and rear) are firmly supported by cylindrical motor housing, forming a strong bridge structure.

This structural rigidity prevents the blade from getting out of the track even if the blade is pushed or twisted against the workpiece with considerable force.

## Comparison of products

Spec.	Model No.	Makita		
		2107F	A	C
Power Input (W)		710	650	N/A
Rated amperage for North America: A		6.5	6.0	6.0
Blade speed	m/s ft/min	1.0 - 1.7 200 - 350	0 - 1.8 (0 - 350)	0.5 - 1.3 (100 - 265)
Cutting capacity: mm (")	Round pipe	ø120 (4-3/4)	ø120 (4-3/4)	ø120 (4-3/4)
	Square pipe	120 (4-3/4)	120 (4-3/4)	114x120 (4-1/2x4-3/4)
	Round rod	ø30 (1-3/16)		
Blade size: mm (")	Length	1,140 (44-7/8)	1,140 (44-7/8)	1,140 (44-7/8)
	Width	13 (1/2)	13 (1/2)	13 (1/2)
	Height	0.5 (0.02)	0.5 (0.02)	0.5 (0.02)
Variable speed control dial		Yes	Yes*	Yes
Fluorescent light		Yes (fluorescent tube)	No	Yes (light bulb)
Protection against electric shock		Double insulation	Grounding	Double
Power supply cord: m (ft)		2.5 (8.2)	2.5 (8.2)	2.5 (8.2)
Dimensions: mm (")	Length	508 (20)	495 (19-1/2)	530 (20-7/8)
	Width	188 (7-3/8)	190 (7-1/2)	200 (7-7/8)
	Height	256 (10-1/8)	224 (8-3/4)	210 (8-1/4)
Net weight: Kg (lbs)	Catalogue	5.7 (12.6)	7.7 (17)	7.0 (15.5)
	Measured	5.7 (12.6)	7.6 (16.8)	6.8 (15)
Standard equipment		Carbon steel band saw blade (18 teeth per inch) Plastic carrying case Hex wrench 3 Wrench holder 3.4	Band saw blade (14 teeth per inch) Steel carrying case	Band saw blade (14 teeth per inch) Plastic carrying case Hex wrench

\*Control by trigger

## ► Comparison of products (cont.)

### Performance Comparison

For performance comparison with Model A of the competitor A and Model B of the competitor B, we carried out the following test:

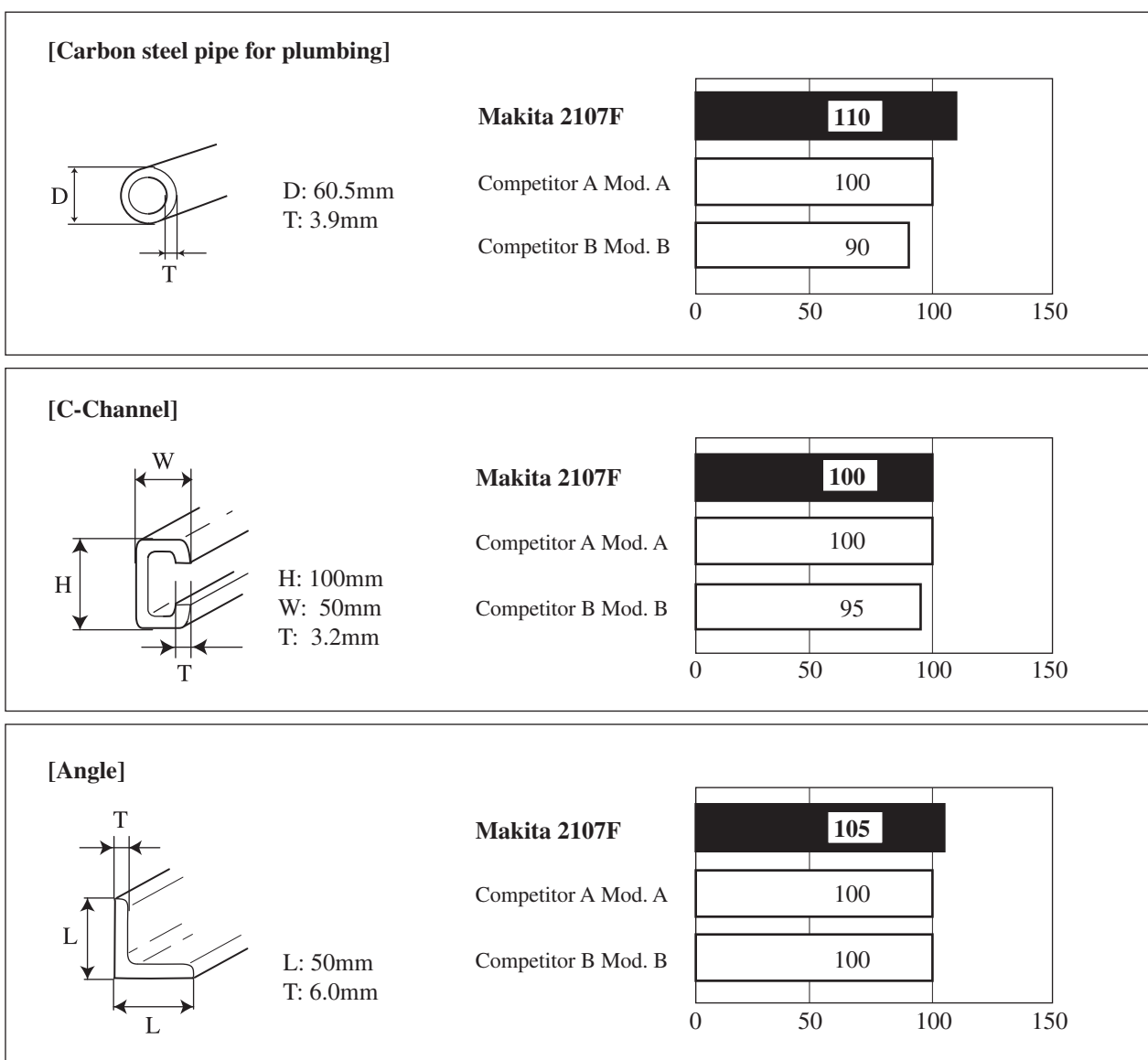
Cut three kinds of test materials (Carbon steel pipe for plumbing, C-Channel and Angle) a number of times under the test conditions described below, and measured the time required to cut through. And compared the average time of the first 10 cuts.

#### Test conditions:

Cut the test materials;

1. With each stand attached to each model, using the tool's own weight (not forcing the tool)
2. With the same band saw blade
3. At the maximum speed of each model

**Note:** Numbers in the graphs below are relative values when the capacity of Model A is indexed at 100.



## ► Repair

**CAUTION: Remove the saw blade from the machine for safety before repair/ maintenance !**

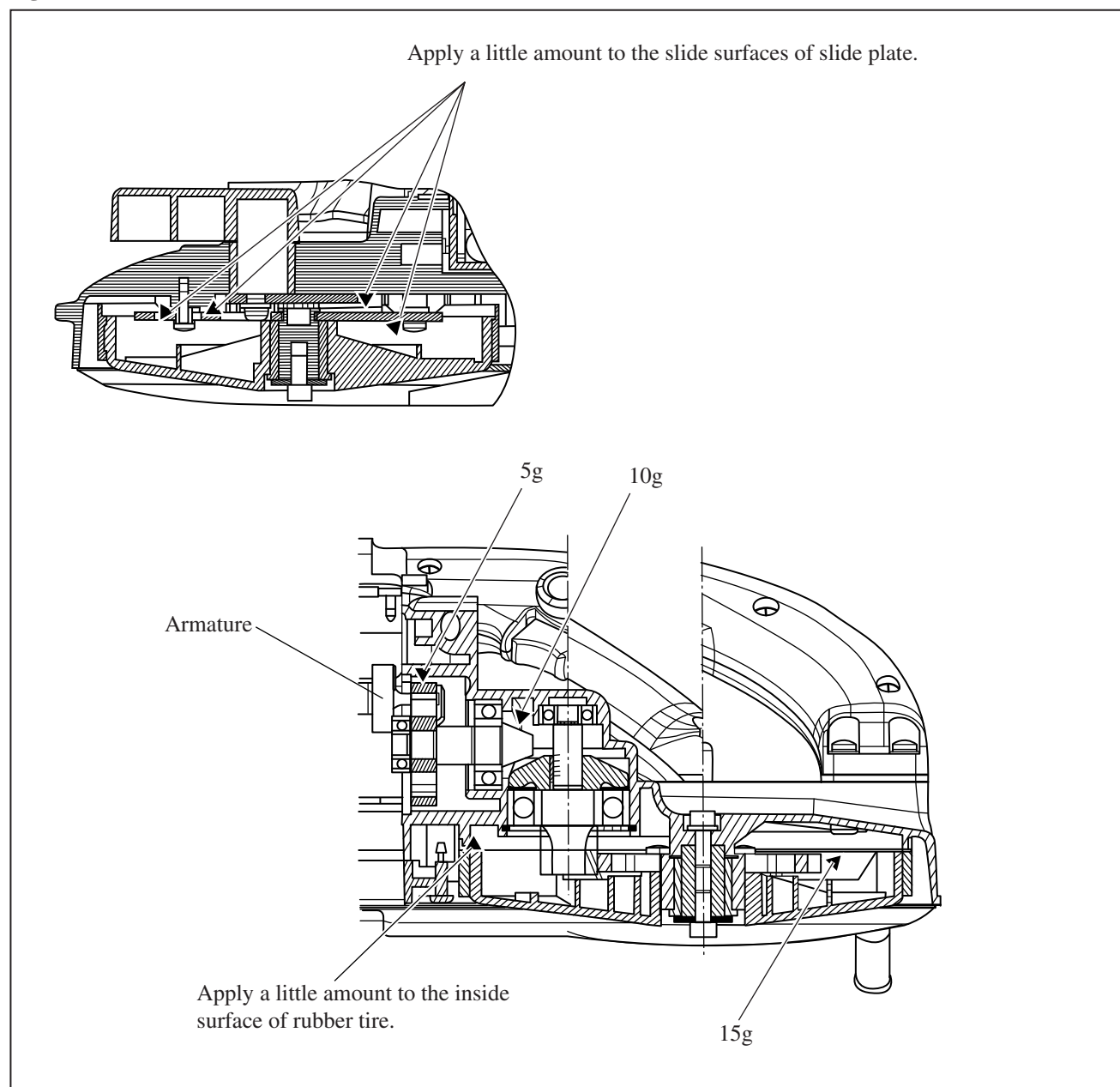
### [1] NECESSARY REPAIRING TOOLS

Item No.	Description	Purpose
1R005	Retaining ring R pliers	For removing retaining ring R-47
1R217	Drill chuck extractor	For removing slide plate
1R139	Drill chuck extractor	For removing helical gear 64
1R237	Round bar for arbor 8-100	
1R263	Bearing extractor	For disassembling gear complete
1R269	Bearing extractor	For removing ball bearings
1R291	Retaining ring R and S pliers	For removing retaining rings

### [2] LUBRICATION

Apply Makita grease N. No.1 to the following portions designated by black triangle to protect parts and product from unusual abrasion. (**Fig. 1**)

**Fig. 1**



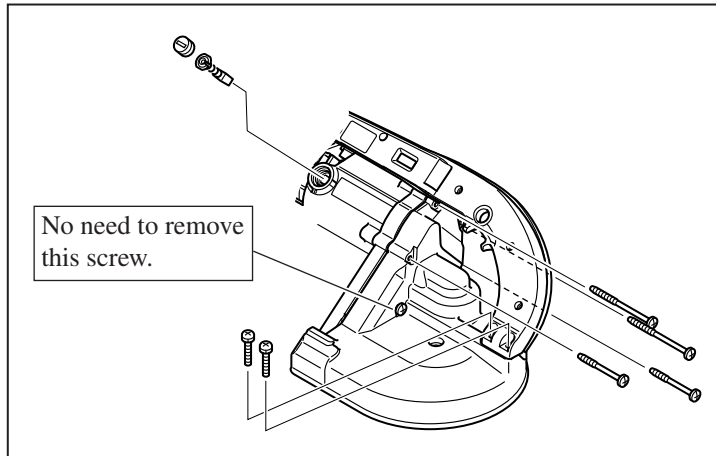
### [3] DISASSEMBLY/ASSEMBLY

#### [3] -1. Replacing Armature

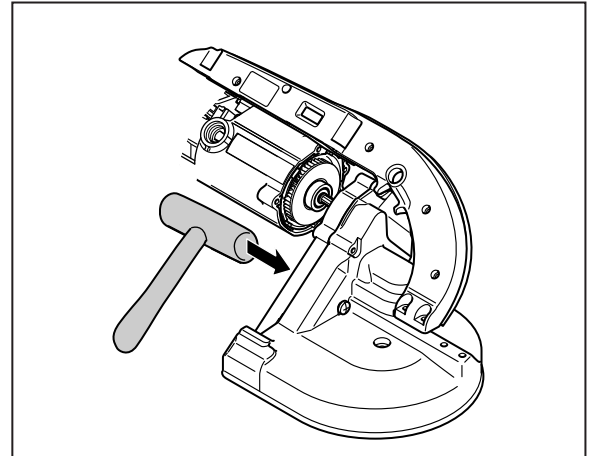
**Note:** Armature can be replaced without disassembling the handle section.

- 1) Remove carbon brushes.
- 2) Remove the six screws. (**Fig. 2**)
- 3) Remove rear wheel cover and gear housing by hitting the place designated by the black arrow with plastic hammer. (**Fig. 3**)
- 4) Now armature can be removed by hitting motor housing with plastic hammer.

**Fig. 2**



**Fig. 3**

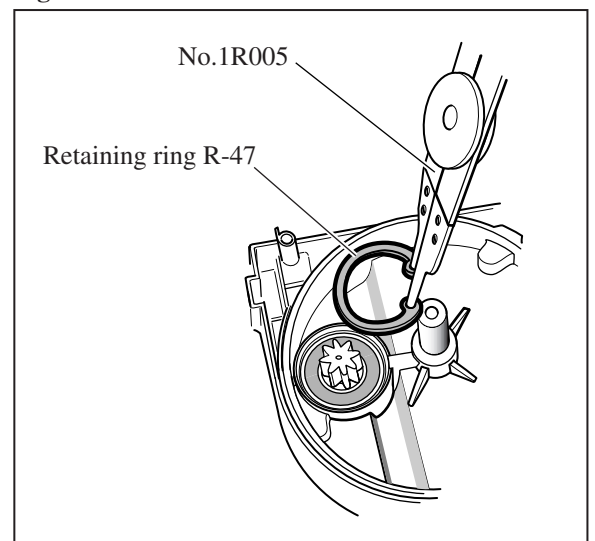


#### [3] -2. Repairing Gear section

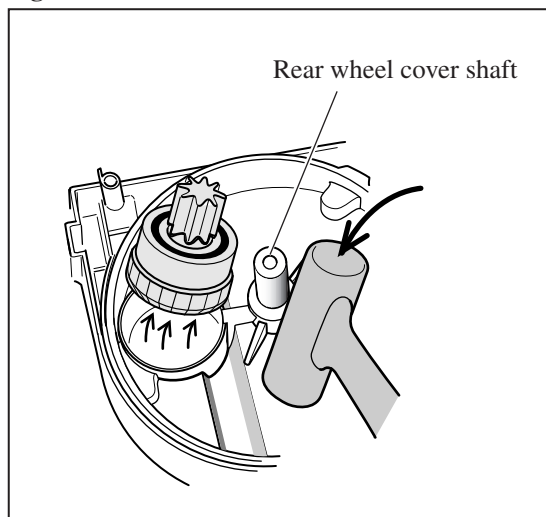
##### DISASSEMBLING

- 1) Remove rear wheel (the one positioned on the drive side).  
When replacing spiral bevel gear 29 only, remove retaining ring R-47 in this step using Retaining ring R pliers (No.1R005). (**Fig. 4**)
- 2) Remove the assembled unit of spiral bevel gear 29 and spur gear 8 by hitting the rear wheel cover shaft and around it evenly. (**Fig. 5**)
- 3) Separate spur gear 8 from ball bearing and spiral bevel gear 29 using arbor press. (**Fig. 6**)

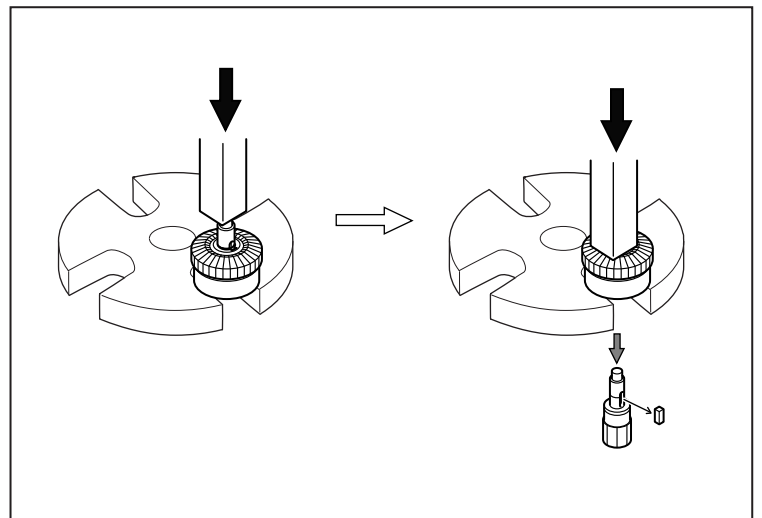
**Fig. 4**



**Fig. 5**



**Fig. 6**

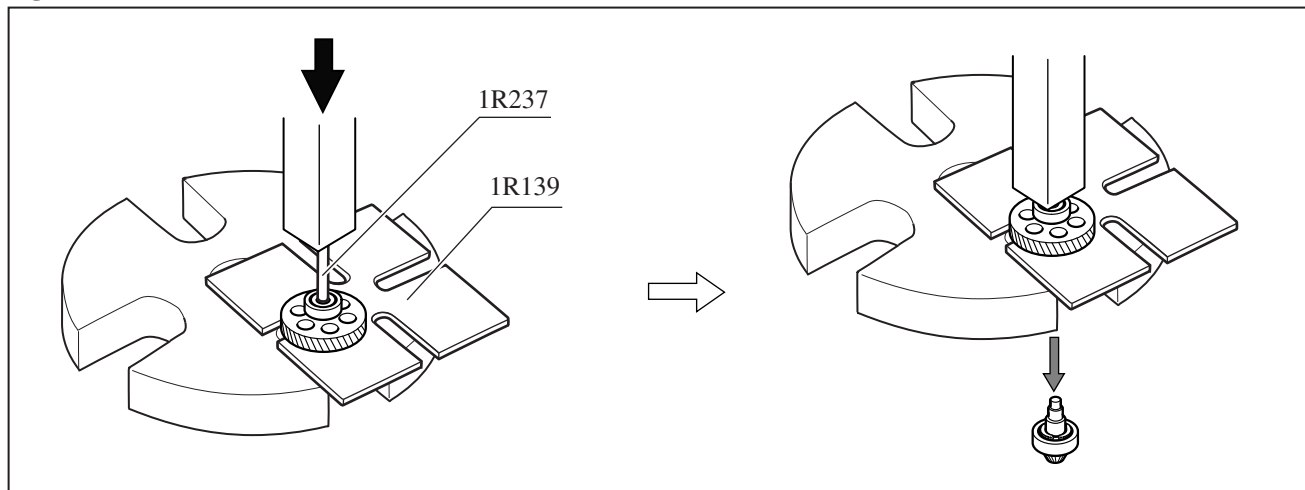


### [3] -2. Repairing Gear section (cont.)

#### REMOVING HELICAL GEAR 64

- 1) Referring to "[3] -1. Replacing Armature", remove rear wheel cover.
- 2) Remove a tapping screw in the center of gear housing.
- 3) Remove gear housing and helical gear 64 by hitting rear wheel cover.
- 4) Separate helical gear 64 from spiral bevel gear 11 using arbor press, No.1R139 and No.1R237 as illustrated in **Fig. 7**.

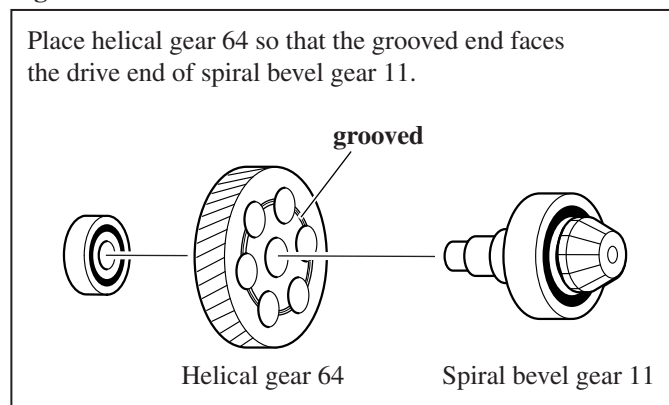
**Fig. 7**



#### PRESS-FITTING HELICAL GEAR 64

Helical gear 64 is not reversible when press-fit on spiral bevel gear 11. Place it as illustrated in **Fig. 8**.

**Fig. 8**



### [3] -3. Disassembling/Assembling Gear Complete on Rear Wheel

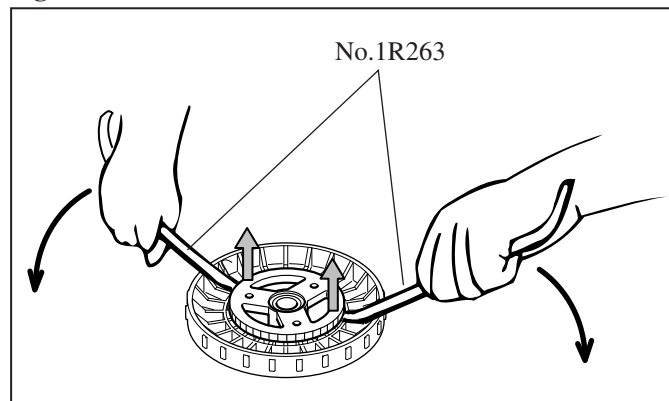
#### DISASSEMBLING

- 1) Remove rear wheel (the one on the drive end).
- 2) Unscrew three tapping screws that fasten gear complete to rear wheel.
- 3) Remove gear complete by levering up with two Bearing extractors (No.1R263) as illustrated in **Fig. 7**.

#### ASSEMBLING

Align the holes of gear complete with the holes of the wheel, and temporarily tighten the three tapping screws in the holes. Then, taking care not to tilt gear complete, tighten the screws evenly by hand to fasten gear complete to rear wheel.

**Fig. 9**



### [3] -4. Disassembling/Assembling Lower Shaft

Lower shaft is lightly press-fit in rear wheel cover and fixed with an M6 hex socket head bolt.

#### DISASSEMBLING

Loosen M6 hex socket head bolt a little bit. (Do not remove the bolt.)

Now lower shaft can be removed by hitting the head of the bolt with plastic hammer.

#### ASSEMBLING

Tighten lower shaft with M6 hex socket head bolt, then press-fit in rear wheel cover.

### [3] -5. Disassembling/Assembling Tension Plate Section

#### DISASSEMBLING

1) Remove the wheel on the front side.

2) From slide plate, remove the three tapping screws that fasten slide plate and the pan head screw that fixes lever 60. (Fig. 10)

At this time, lever 60 is removed from front wheel cover. Be careful with fall of the lever.

**Note:** Be careful not to confuse the two kinds of screws when assembling.

3) Put tension plate section on Ring 22 (No.1R217), and disassemble by hitting it as illustrated to left in Fig. 11.

**Note:** You may feel a small shock when the compressed springs are released.

Fig. 10

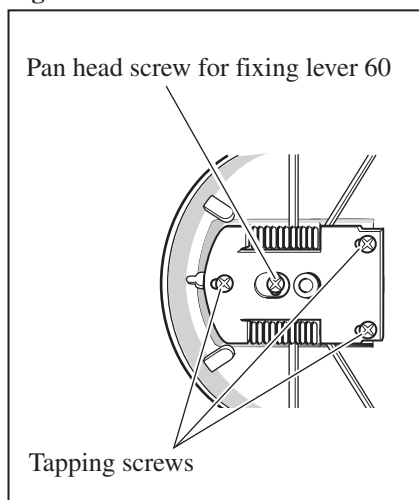
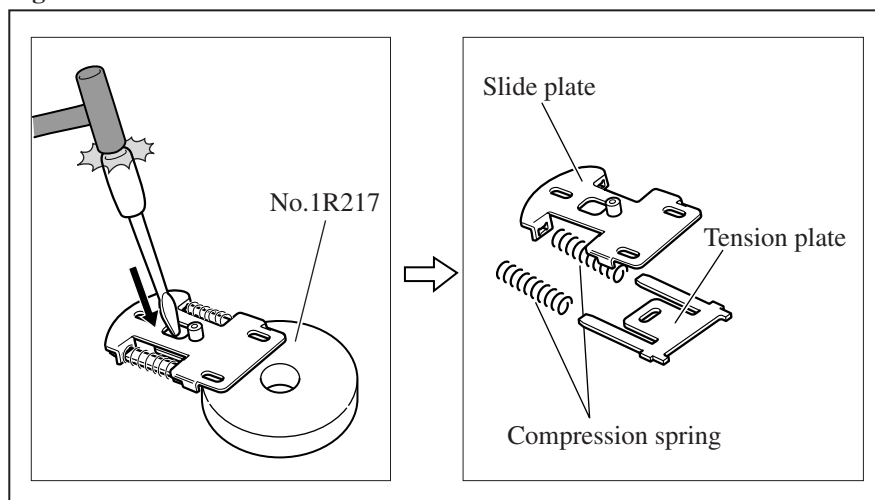


Fig. 11

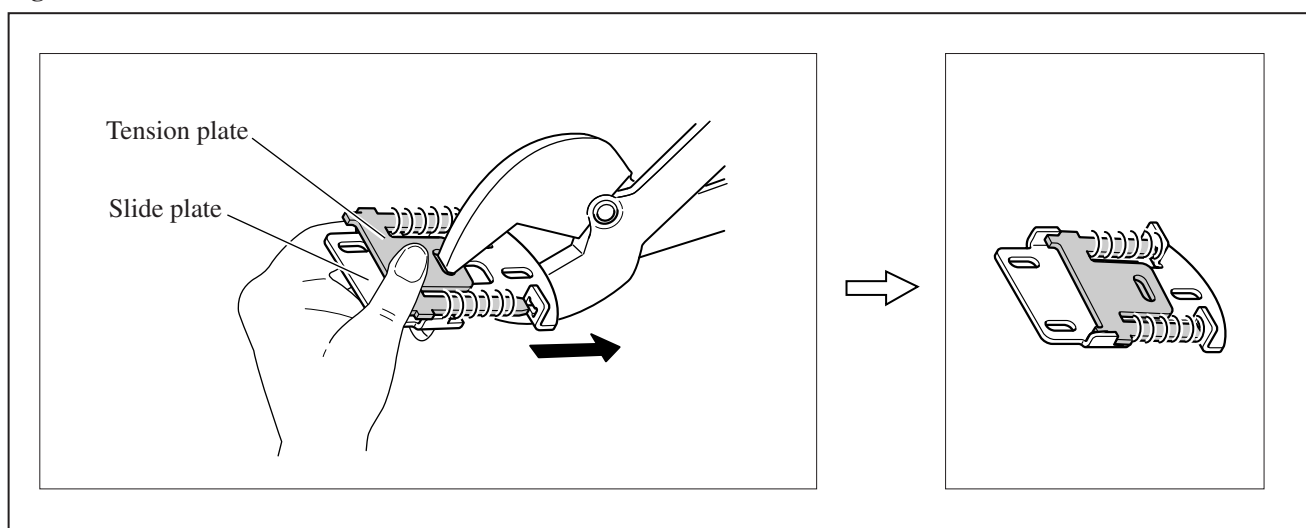


#### ASSEMBLING

1) Set compression springs in place, and align the hole of slide plate with the hole of tension plate.

2) As illustrated to left in Fig. 12, while pushing tension plate against slide plate, compress compression springs by pulling tension plate in the direction of the black arrow using water pump pliers or the like till tension plate is set in place as illustrated to right in Fig. 12.




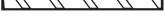

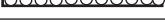


Fig. 12

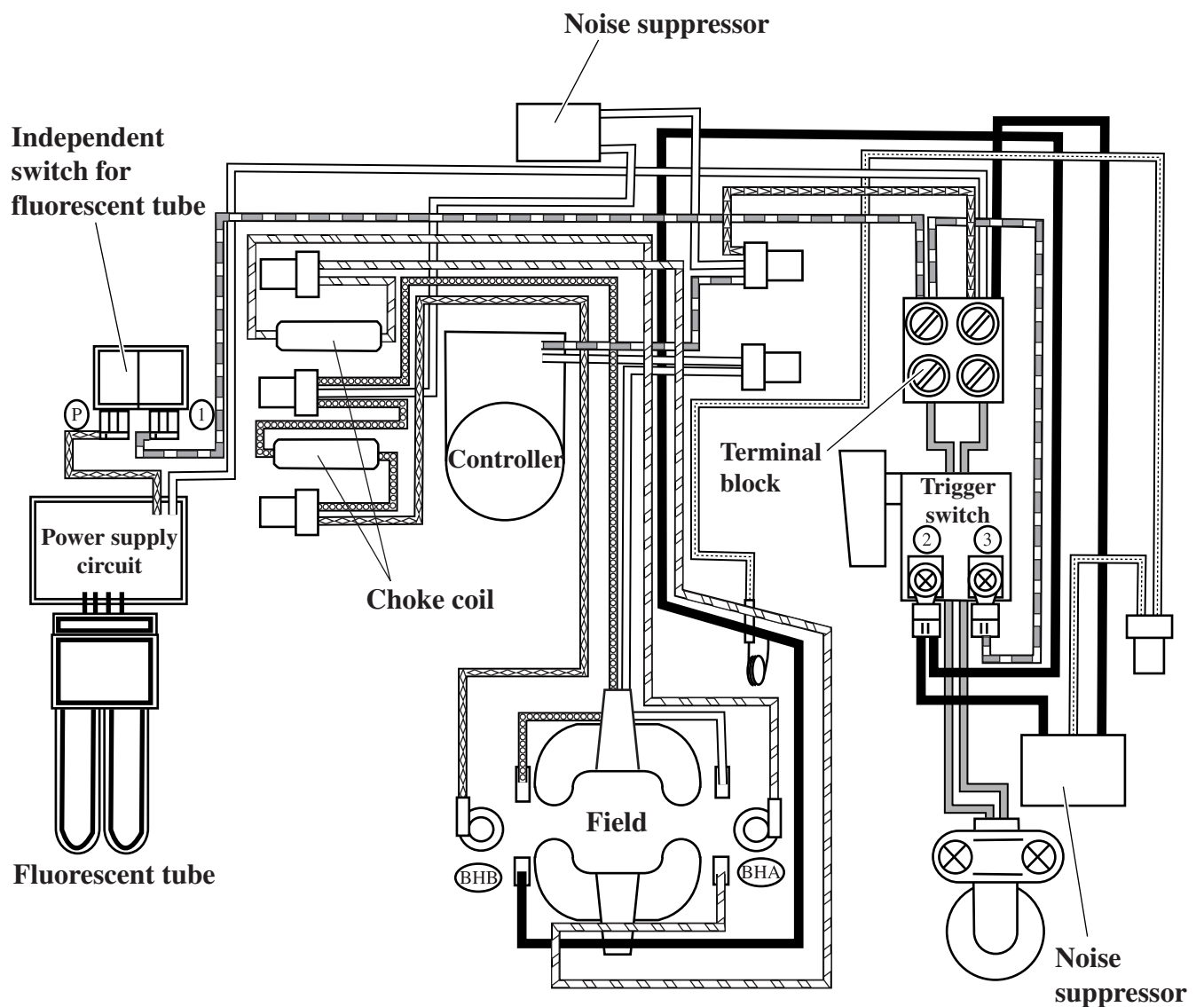




## ► Circuit diagram

### [1] High Voltage with Noise Suppression Device

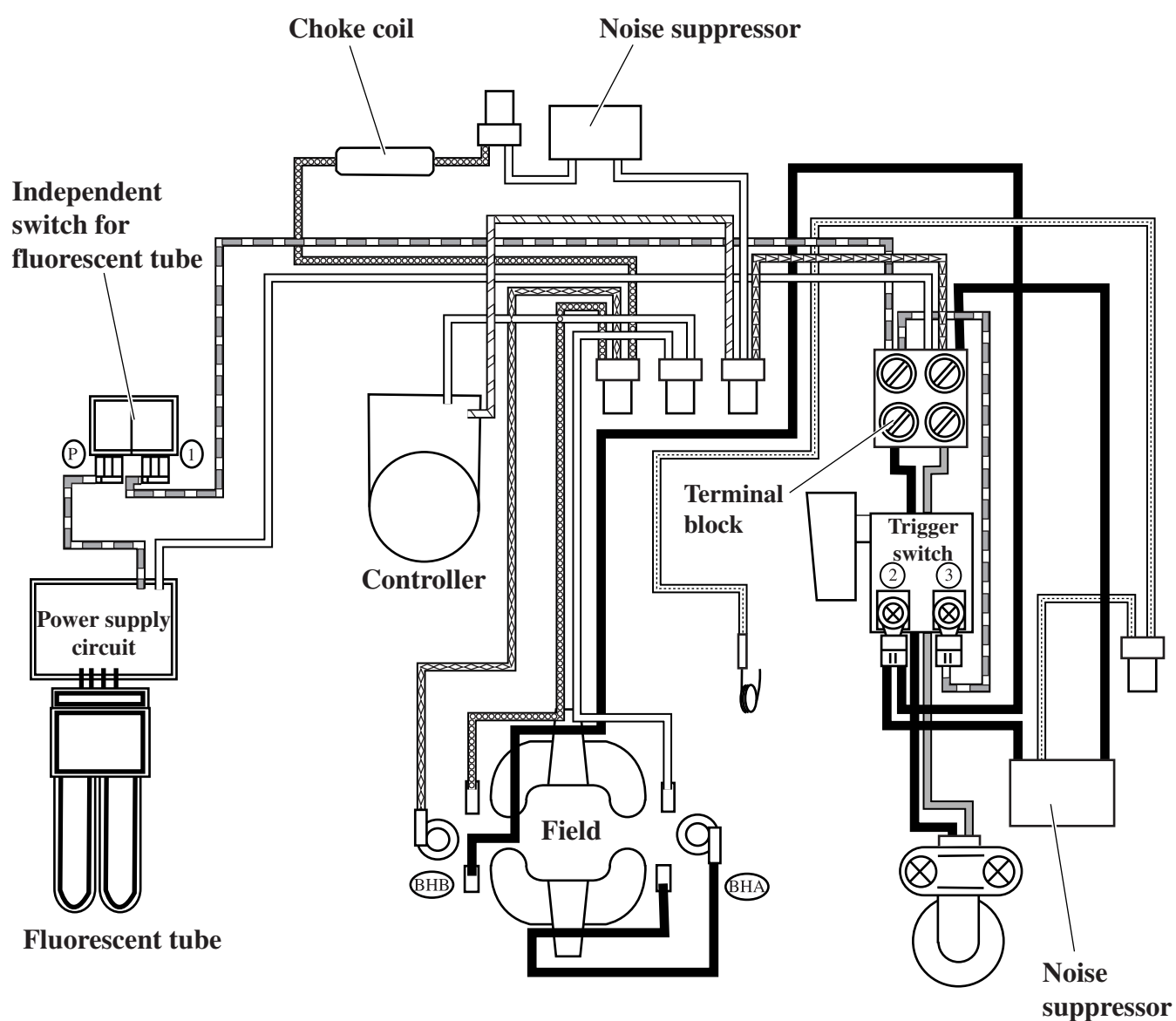
Color index of lead wires' sheath	
Black	
White	
Red	
Orange	
Blue	
Purple	
Brown	
Clear	



## ► Circuit diagram




### [2] Low Voltage with Noise Suppression Device

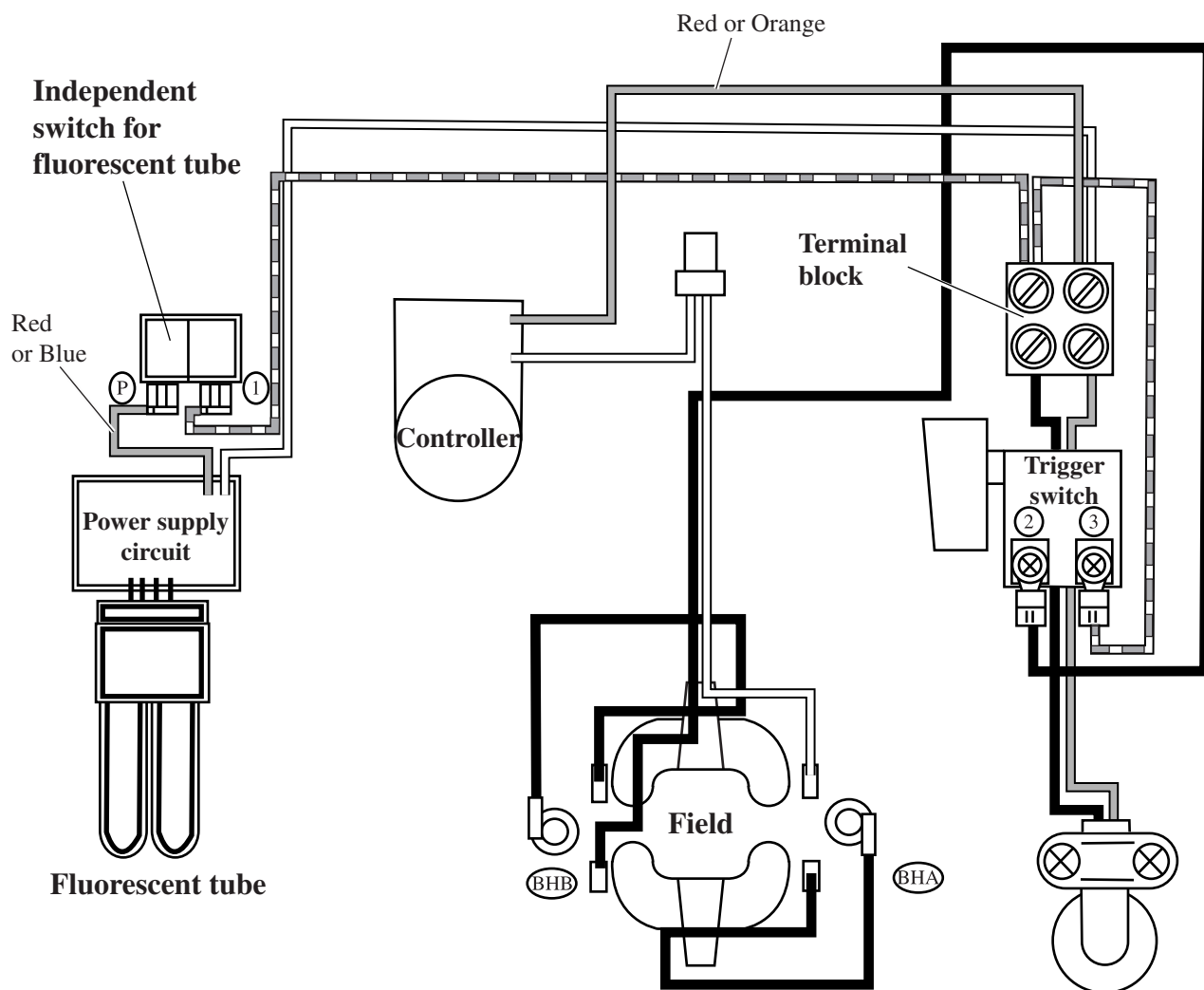
Color index of lead wires' sheath	
Black	
White	
Red	
Orange	
Blue	
Purple	
Brown	
Clear	



## ► Circuit diagram

### [3] High/ Low Voltage Without Noise Suppression Device

Color index of lead wires' sheath	
Black	
White	
Red	



#### Note:

BHA= Independent switch installation side

BHB= Opposite side to the independent switch

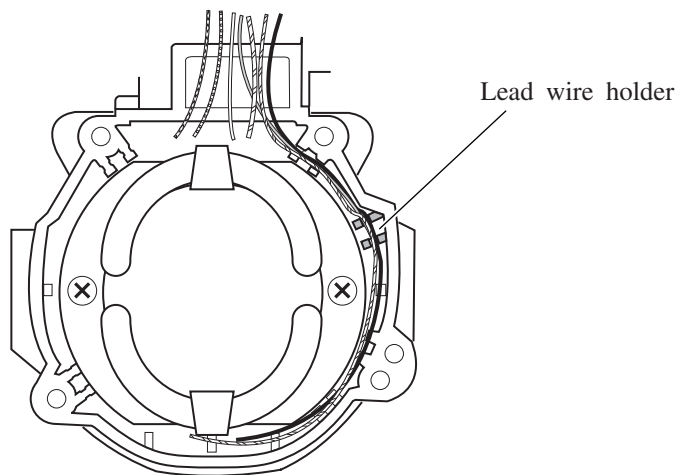
## ► Wiring diagram

### [1] High Voltage with Noise Suppression Device

#### 1) On Field

Fig. 13

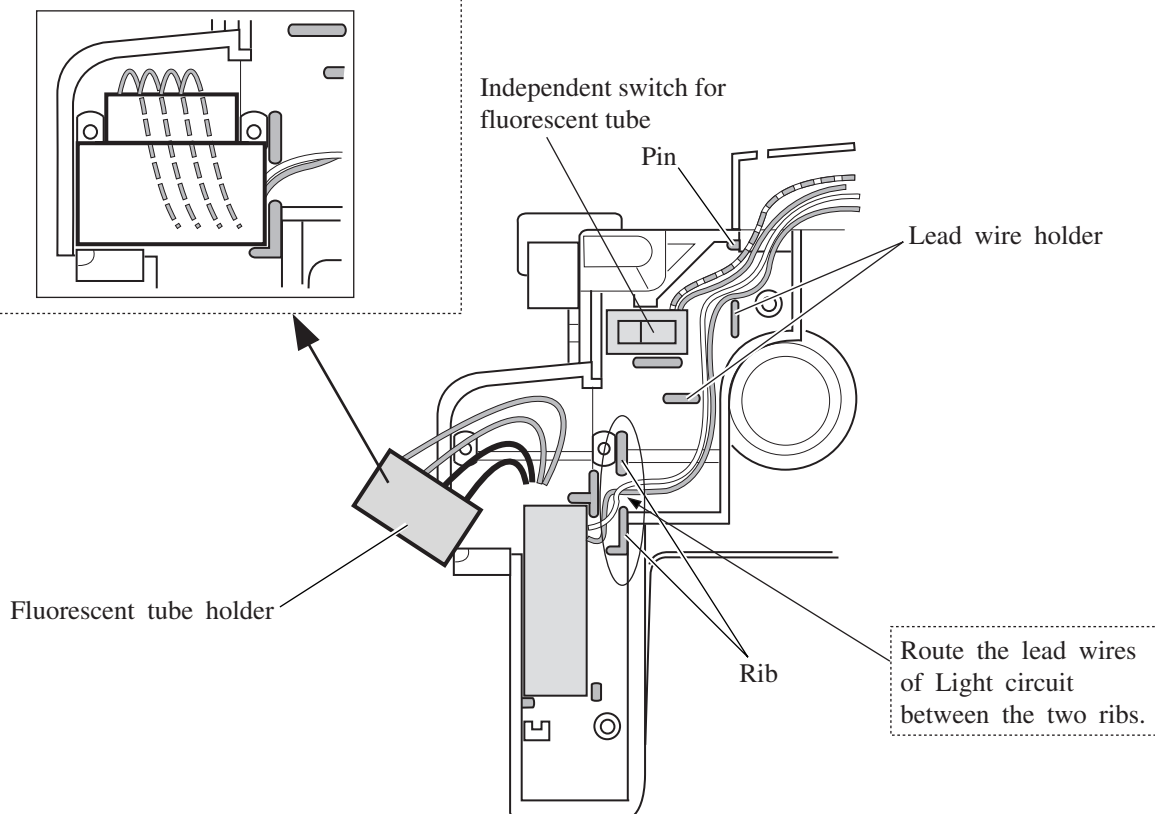
Route the lead wires (orange, black) of Field as illustrated to right. Do not forget to fix them with the lead wire holders.



#### 2) Around Light Circuit

Fig. 14

As illustrated below, route the lead wires connected with Fluorescent tube holder so that they are placed under the holder.

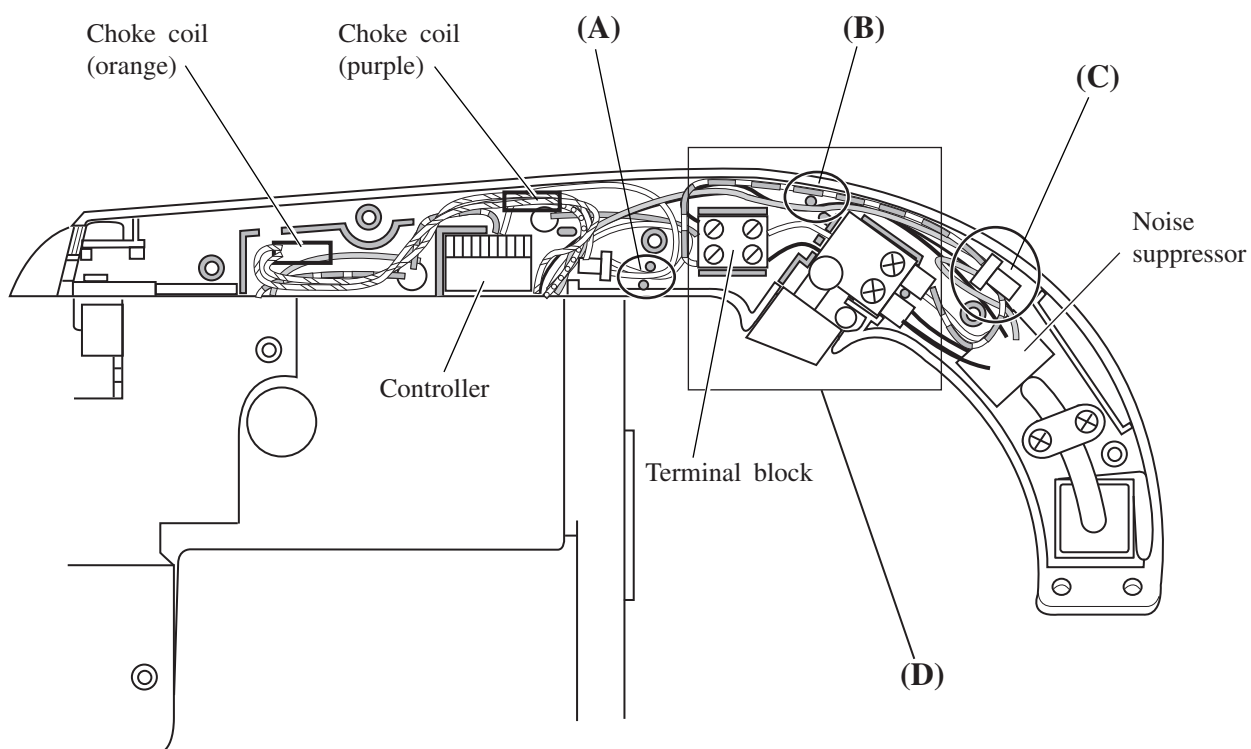


## ► Wiring diagram

### [1] High Voltage with Noise Suppression Device (cont.)

#### 3) In Handle

Fig. 15

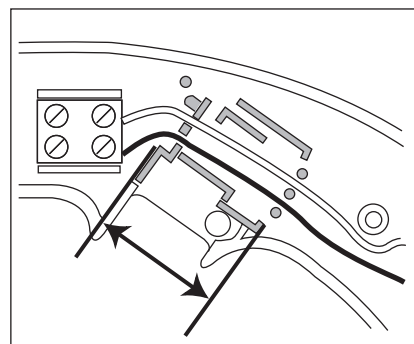


(A) Fix the following two wires with lead wire holders:  
Lead wire (white) of Field  
Lead wire (white) of Controller

(B) Fix the lead wires with lead wire holders.

(C) Put the connector that connects the grounding wire of Noise suppressor in this place.

(D) When routing the two lead wires of power supply cord on the trigger switch holder, be careful not to put one on the other. Be sure to route them as illustrated below.

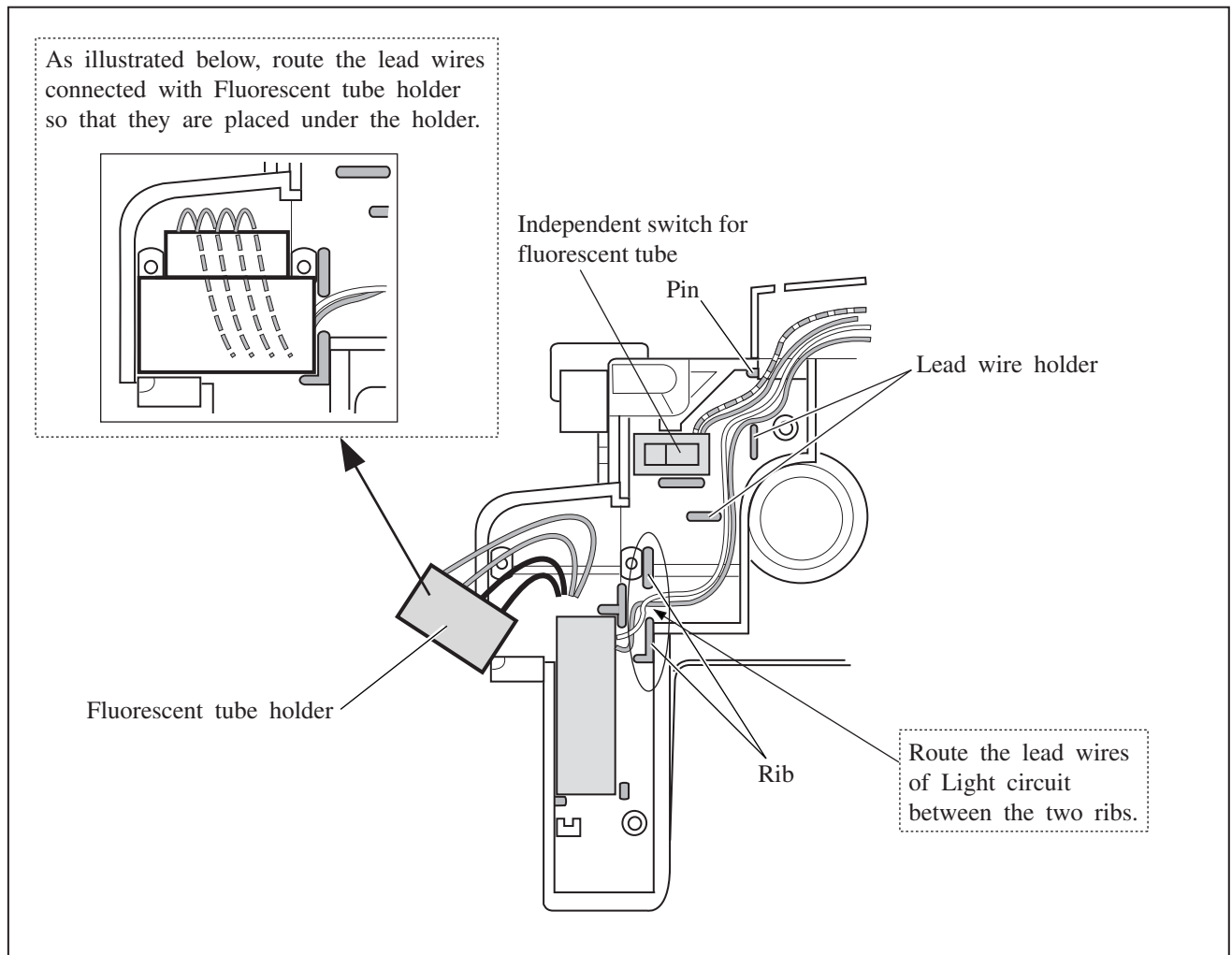


## ► Wiring diagram

### [2] Low Voltage with Noise Suppression Device

#### 1) Around Light Circuit

Fig. 16

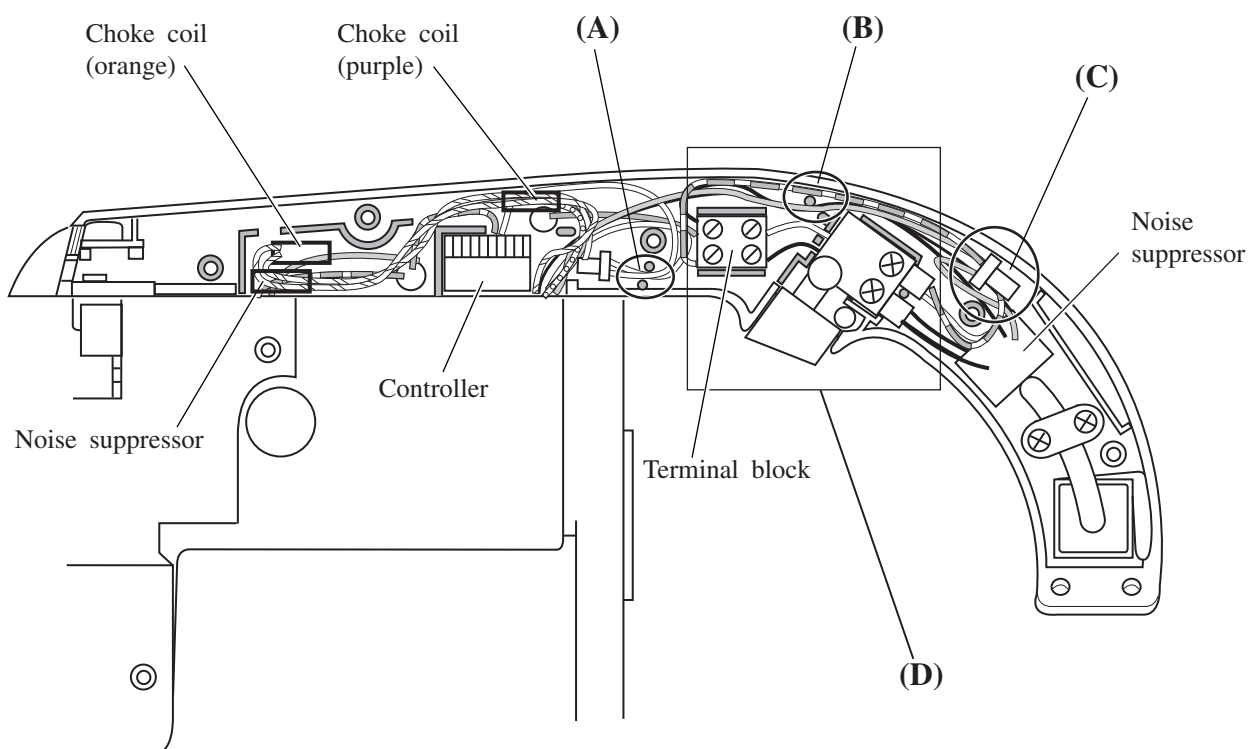


## ► Wiring diagram

### [2] Low Voltage with Noise Suppression Device (cont.)

#### 2) In Handle

Fig. 17

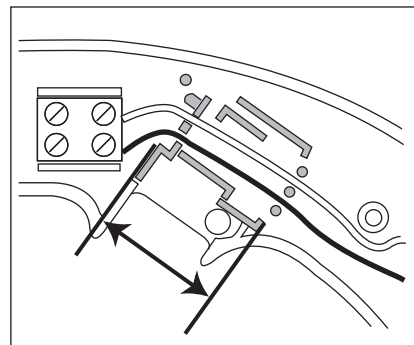


(A) Fix the following two wires with lead wire holders:  
Lead wire (white) of Field  
Lead wire (white) of Controller

(B) Fix the lead wires with lead wire holders.

(C) Put the connector that connects the grounding wire of Noise suppressor in this place.

(D) When routing the two lead wires of power supply cord on the trigger switch holder, be careful not to put one on the other. Be sure to route them as illustrated below.

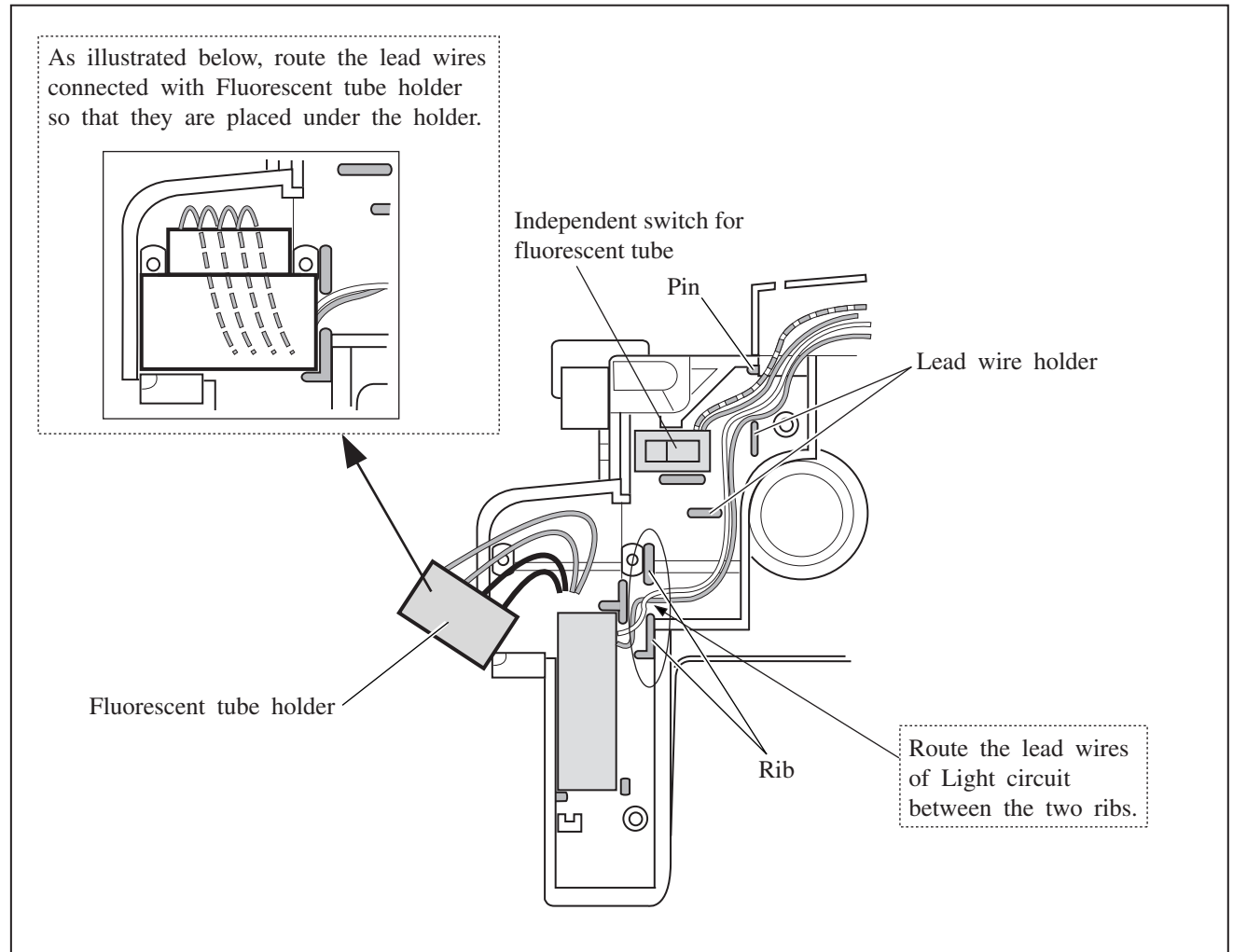


## ► Wiring diagram

### [3] Low/ High Voltage Without Noise Suppression Device

#### 1) Around Light Circuit

Fig. 18



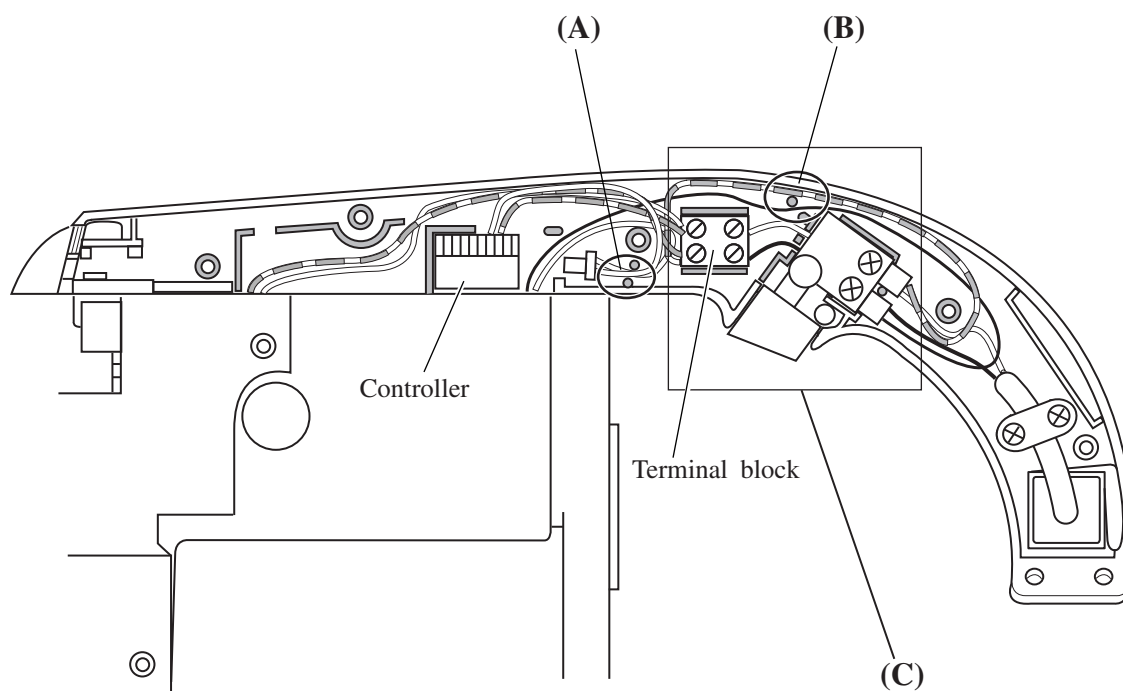


## ► Wiring diagram

### [3] Low/ High Voltage Without Noise Suppression Device (cont.)

#### 2) In Handle

Fig. 19



(A) Fix the following two wires with lead wire holders:  
 Lead wire (white) of Field  
 Lead wire (white) of Controller

(B) Fix the lead wires with lead wire holders.

(C) When routing the two lead wires of power supply cord on the trigger switch holder, be careful not to put one on the other. Be sure to route them as illustrated below.

