

# CORDLESS WORKLIGHT DML813, DML814

## REPAIR MANUAL



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## 2 CAUTION

Repair the machine in accordance with "Instruction manual" or "Safety instructions".

Follow the instructions described below in advance before repairing:

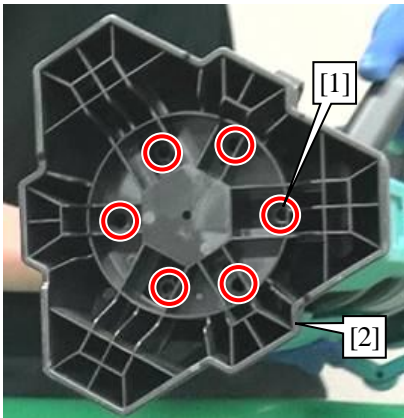
- Wear gloves.
- In order to avoid wrong reassembly, draw or write down where and how the parts are assembled, and what the parts are. It is also recommended to have boxes ready to keep disassembled parts by group.
- Handle the disassembled parts carefully. Clean and wash them properly.
- Remove Battery, except when it is necessary to check the operation of the machine.

## 3 NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R362	Retaining ring pliers L	removing/assembling Clamp bases A and B
1R411	Push bar for lead wires	fixing Lead wires
1R461	Grip for spring pin extractor	removing/assembling Leg pin
1R479	Shockless hammer (Small)	removing/assembling parts

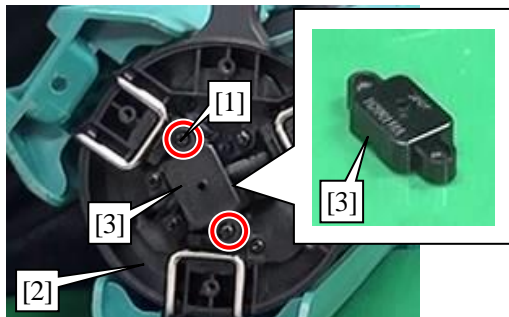
**4 REPAIR**  
**4-1 Disassembling**  
**4-1-1 Body section**

Fig. 1



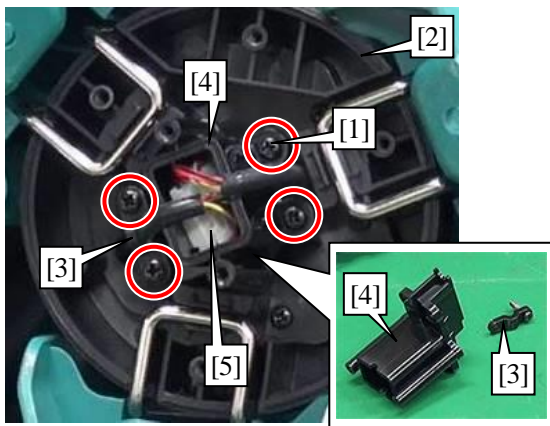
- 1 Remove Tapping screws PB3.5x14 [1] (6 pcs), then remove Rear base [2] from Front base.

Fig. 2



- 2 Remove Tapping screws PB3.5x14 [1] (2 pcs), then remove Cable cover [3] from Front base [2].

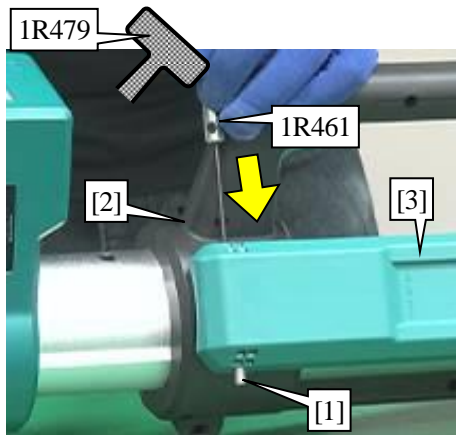
Fig. 3



- 3 Remove Tapping screws PB3.5x14 [1] (4 pcs), then remove Cord clamp [3] and Rear foot L [4] from Front base [2].

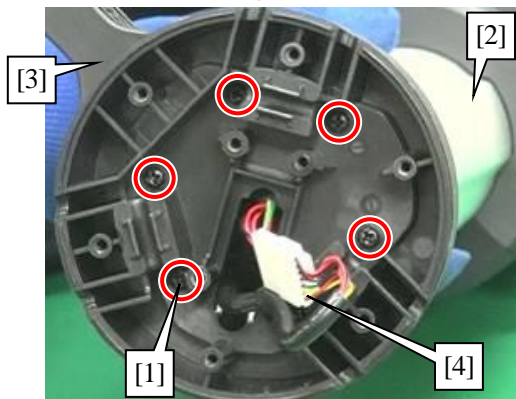
<b>Note</b>
Connector [5] must not be disconnected.

Fig. 4



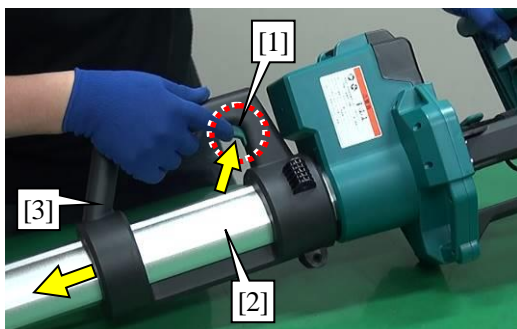
- 4 Remove Legs [3] (3 pcs) from Handle set [2] by tapping Pins [1] (3 pcs) with 1R461 and 1R479.

Fig. 5



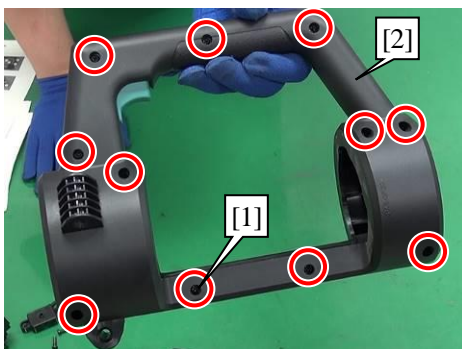
- 5 Remove Tapping screws PB3.5x14 [1] (6 pcs), then remove Front base [3] from Body section [2].
- 6 Disconnect Connector [4].

Fig. 6



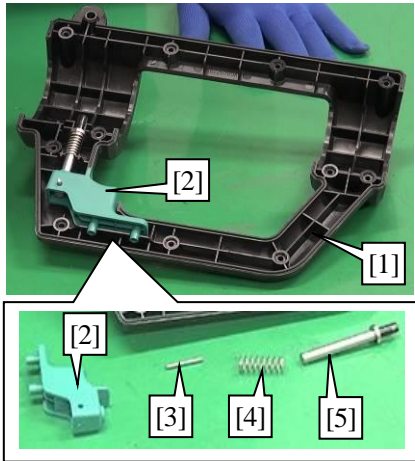
- 7 Push Release button [1] and pull out Handle set [3] from Body section [2].

Fig. 7



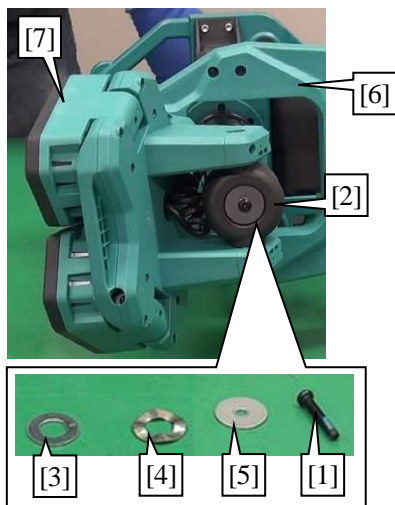
- 8 Remove Tapping screws PB3.5x14 [1] (11 pcs), then separate Handle set [2].

Fig. 8



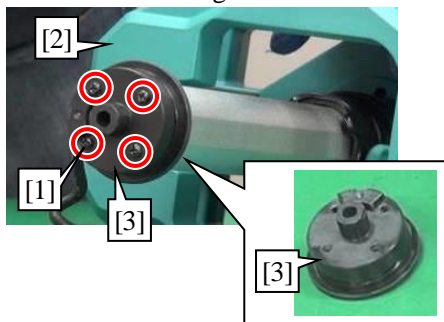
- 9** Remove Release button [2] from Handle set [1].
- 10** Remove the following parts from Release button [2]:
- Pin [3]
  - Spring [4]
  - Latch [5]

Fig. 9



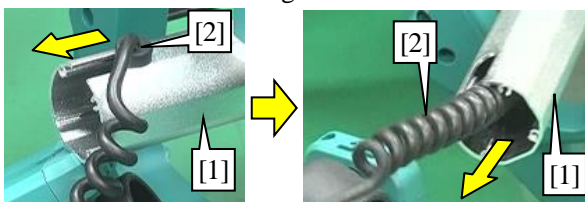
- 11** Remove Screw PM5.0x30 [1], then remove the following parts from Base [2]:
- Flat washer [3]
  - Spring washer [4]
  - Flat washer [5]
- 12** Remove Lamp housing section [7] from Body section [6].

Fig. 10



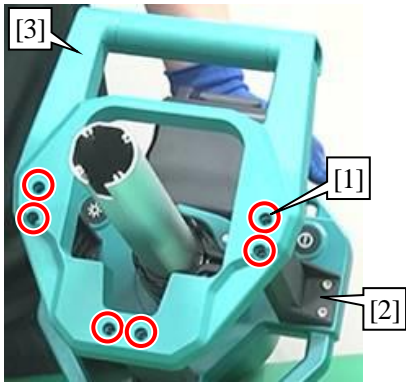
- 13** Remove Tapping screws PB3.5x14 [1] (4 pcs), then remove Pole cover [3] from Body section [2].

Fig. 11



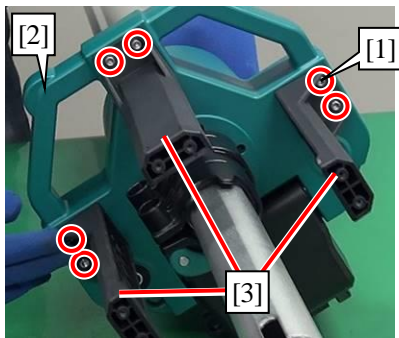
- 14** Remove LED cable B [2] from Body section [1].

Fig. 12



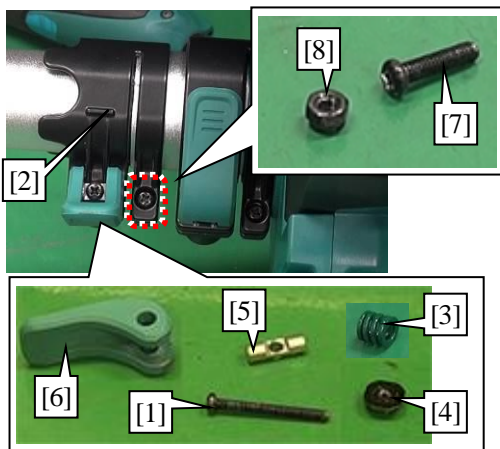
- 15** Remove Tapping screws PB3.5x14 [1] (6 pcs), then remove Handle [3] from Handle supporter [2].

Fig. 13



- 16** Remove Tapping screws CB4.0x20 [1] (6 pcs), then remove Handle supporters [3] (3 pcs) from Lamp housing [2].

Fig. 14

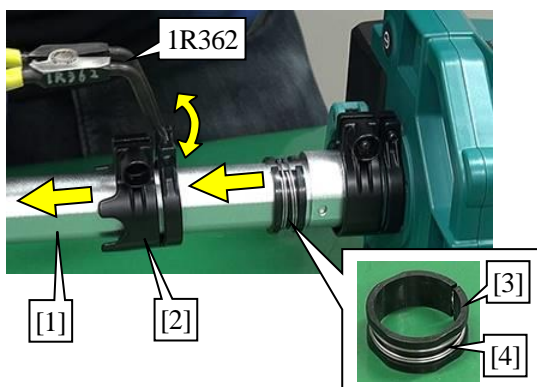


- 17** Remove Screw PM4.0x38 [1], then remove the following parts from Pole clamp B [2]:

- Spring [3]
- Lock nut [4]
- Pin [5]
- Clamp [6]

- 18** Remove Screw PM4.0x16 [7], then remove Nut M4 [8] from Pole clamp B [2].

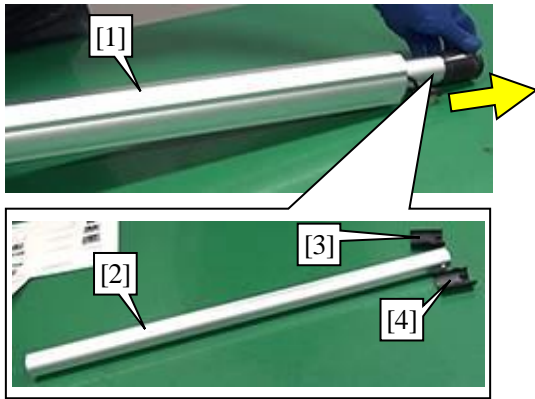
Fig. 15



- 19** Remove Pole clamp B [2] from Body section [1] with 1R362.

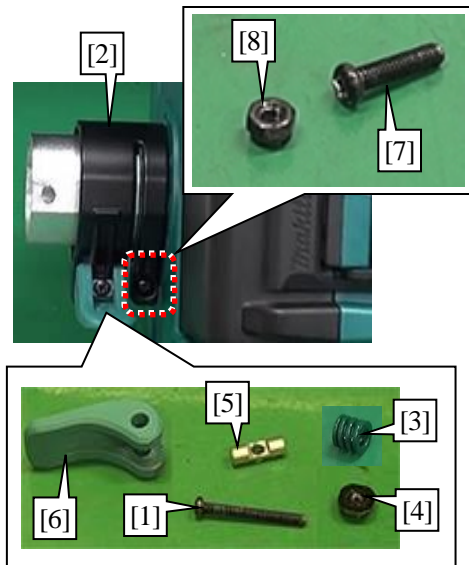
- 20** Remove Bush B [3] and Ring [4] from Body section [1].

Fig. 16



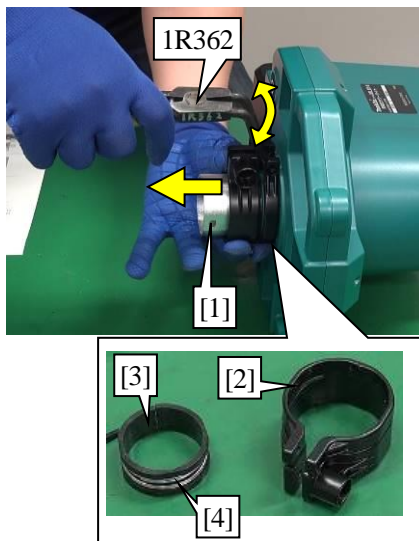
- 21 Pull out Pole B [2] from Body [1].
- 22 Remove Sleeve L [3] and Sleeve R [4] from Pole B [2].

Fig. 17



- 23 Remove Screw PM4.0x38 [1], then remove the following parts from Pole clamp A [2]:
  - Spring [3]
  - Lock nut [4]
  - Pin [5]
  - Clamp [6]
- 24 Remove Screw PM4.0x16 [7], then remove Nut M4 [8] from Pole clamp A [2].

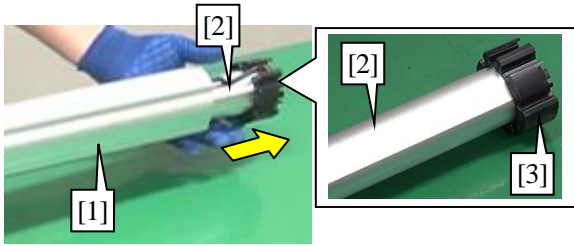
Fig. 18



- 25 Remove Pole clamp A [2] from Body section [1] with 1R362.
- 26 Remove Bush A [3] and Ring [4] from Body section [1].

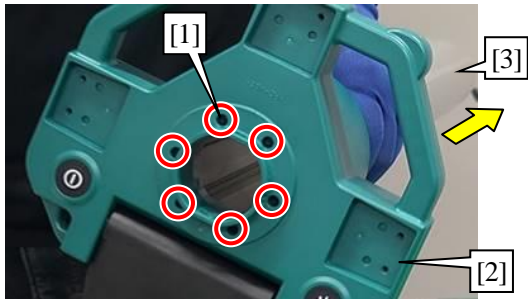


Fig. 19



- 27 Pull out Pole A [2] from Body [1].
- 28 Remove Pole sleeve [3] from Pole A [2].

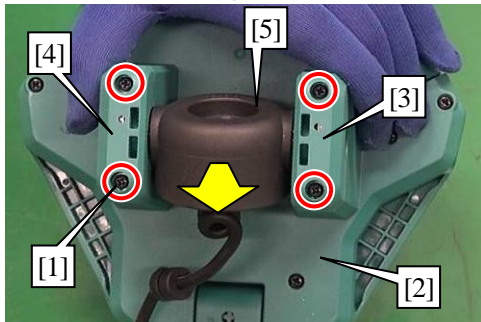
Fig. 20



- 29 Remove Tapping screws PB3.5x14 [1] (6 pcs), then pull out Body [3] from Battery holder [2].

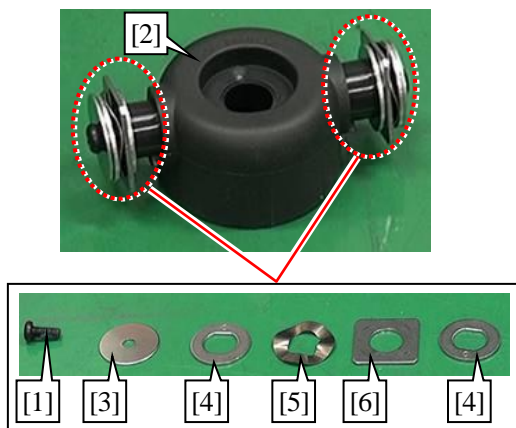
#### 4-1-2 Lamp housing section

Fig. 21



- 1 Remove Tapping screws PB 3.5x14 [1] (4 pcs), then remove Shaft cover L [3] and Shaft cover R [4] from Lamp housing [2].
- 2 Remove Base [5] from Lamp housing [2].

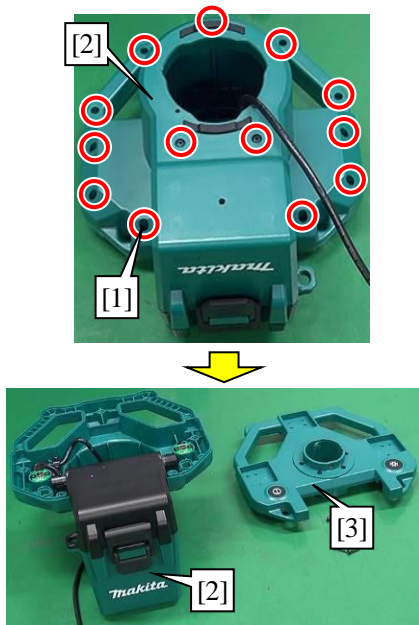
Fig. 22



- 3 Remove Screws PW5.0x12 [1] (2 pcs), then remove the following parts from Base [2]:
  - Flat washers [3] (2 pcs)
  - Flat washers [4] (4 pcs)
  - Spring washers [5] (2 pcs)
  - Square washers [6] (2 pcs)

### 4-1-3 Electrical parts section

Fig. 23



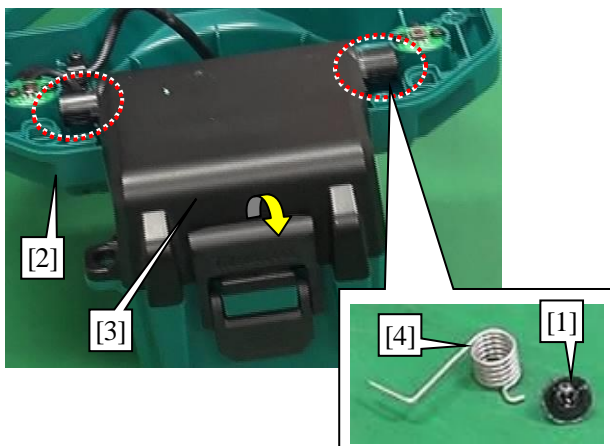
- 1 Remove Tapping screws PB3.5x14 [1] (13 pcs), then remove Housing cover [3] from Battery housing [2].

Fig. 24



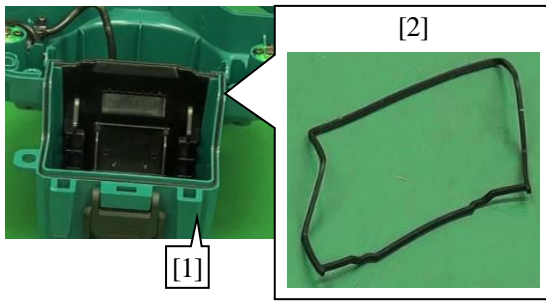
- 2 Remove Power key [2] and Mode key [3] from Housing cover [1].

Fig. 25



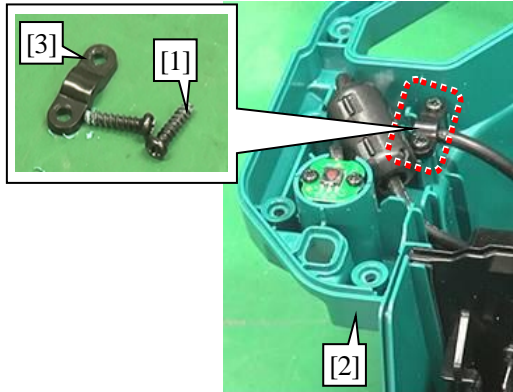
- 3 Remove Tapping screws PWB3x8 [1] (2 pcs), then remove Battery cover [3] from Battery housing [2].
- 4 Remove Torsion springs [4] (2 pcs) from Battery cover [3].

Fig. 26



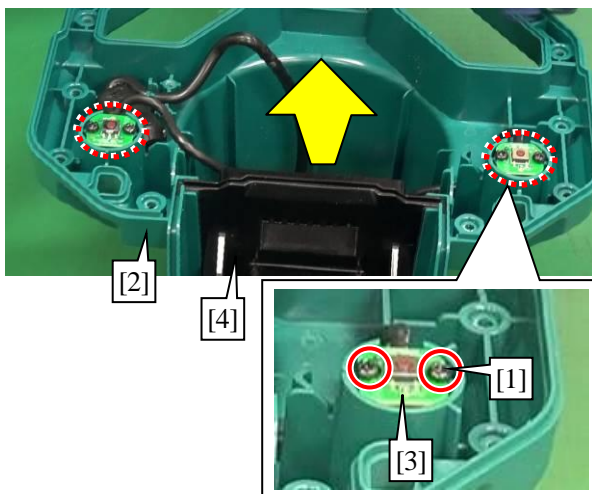
- 5 Remove Gasket [2] from Battery housing [1].

Fig. 27



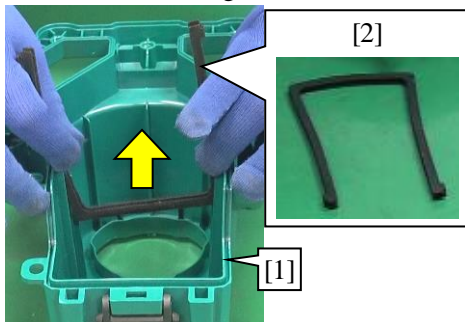
- 6 Remove Tapping screws PB3.5x14 [1] (2 pcs), then remove Cord clamp [3] from Battery housing [2].

Fig. 28



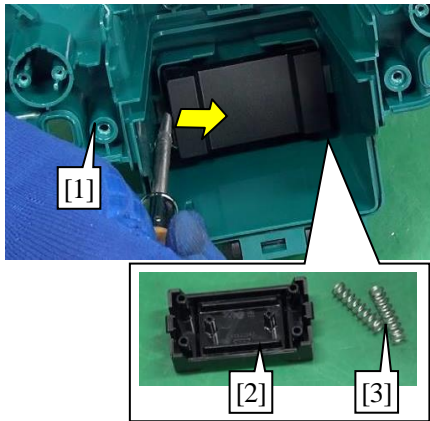
- 7 Remove Tapping screws PB3x8 [1] (4 pcs), then remove Key PCBAs [3] (2 pcs) from Battery housing [2].
- 8 Remove Main board [4] from Battery housing [2].

Fig. 29



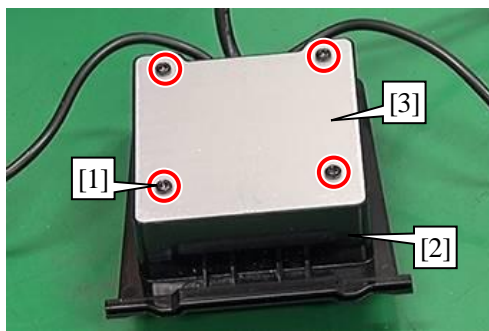
- 9 Remove Gasket [2] from Battery housing [1].

Fig. 30



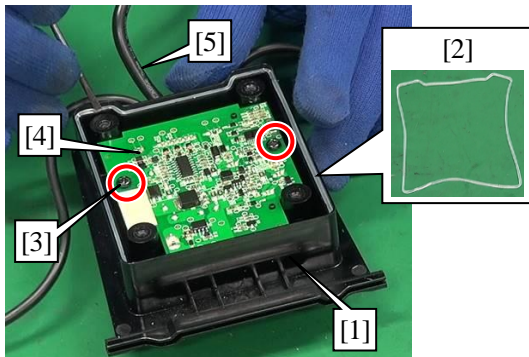
- 10 Remove Push plate [2] and Springs [3] (2 pcs) from Battery housing [1].

Fig. 31



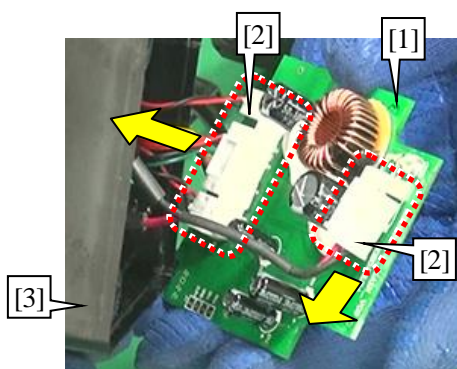
- 11 Remove Tapping screws PB3x8 [1] (4 pcs), then remove Heatsink [3] from Main board [2].

Fig. 32



- 12 Remove Gasket [2] from PCBA box [1].
- 13 Remove Tapping screws PB3x8 [3] (2 pcs), then remove Main board [4] and Cable [5] from PCBA box [1].

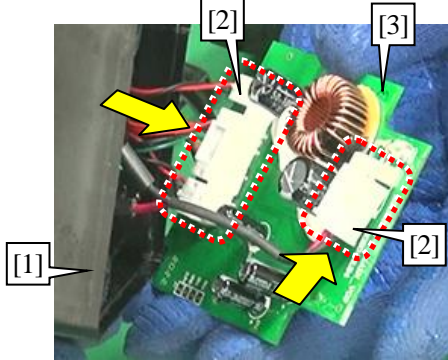
Fig. 33



- 14 Disconnect Connectors [2] from Main board [1].
- 15 Remove Cable from PCBA box [3].

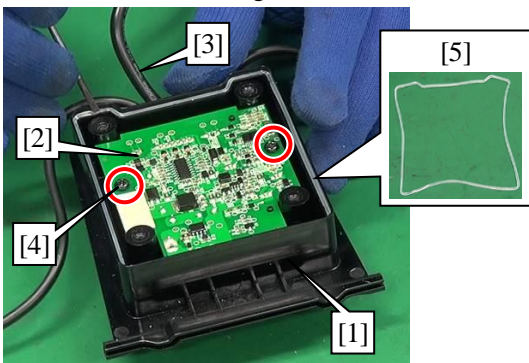
4-2 Assembling  
 4-2-1 Electrical parts section

Fig. 34



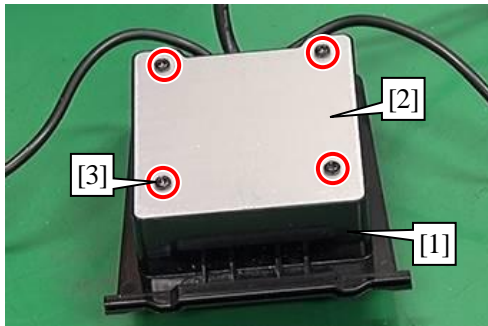
- 1 Pass Cable through PCBA box [1].
- 2 Assemble Connectors [2] to Main board [3].

Fig. 35



- 3 Assemble Main board [2] and Cable [3] to PCBA box [1], then tighten Tapping screws PB3x8 [4] (2 pcs).
- 4 Assemble Gasket [5] to PCBA box [1].

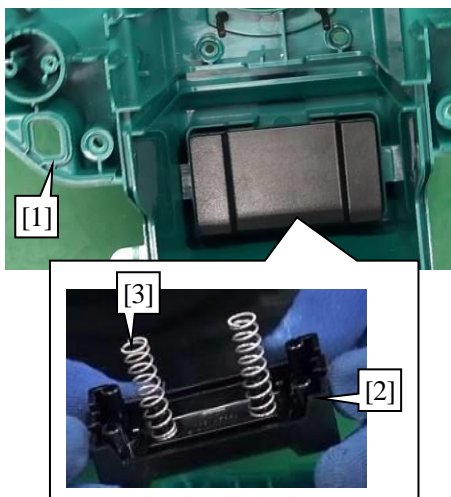
Fig. 36



- 5 Assemble Heatsink [2] to Main board [1] with Tapping screws PB3x8 [3] (4 pcs).

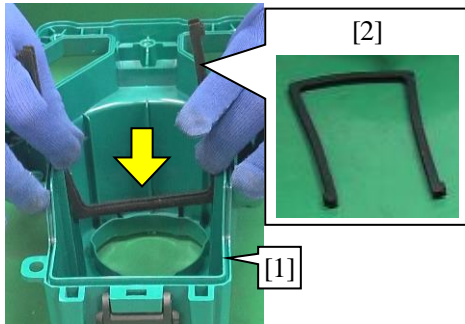
<b>Note</b>
Be careful with the orientation of the front and back sides when assembling Heatsink [2].

Fig. 37



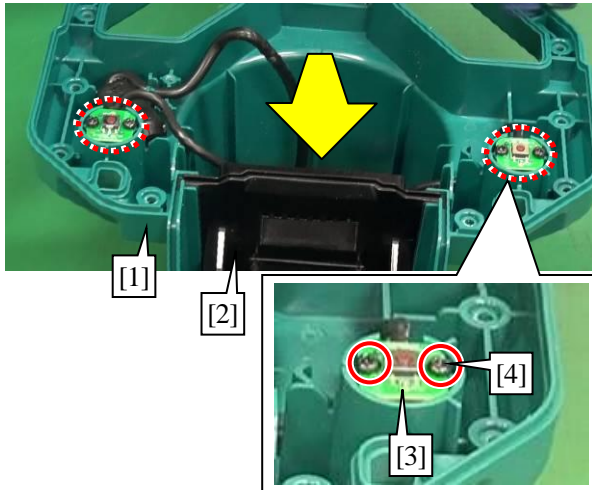
- 6 Assemble Push plate [2] and Springs [3] (2 pcs) to Battery housing [1].

Fig. 38



7 Assemble Gasket [2] to Battery housing [1].

Fig. 39



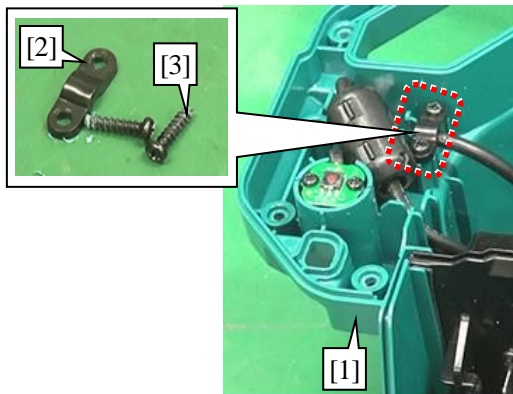
8 Assemble Main board [2] to Battery housing [1].

9 Assemble Key PCBAs [3] (2 pcs) to Battery housing [1] with Tapping screws PB3x8 [4] (4 pcs).

Note

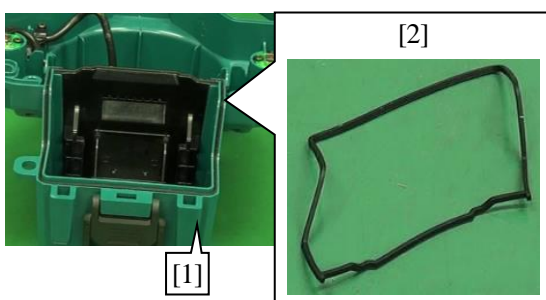
Be careful with the mark of Key PCBAs [3] (2 pcs) of Battery housing [1].

Fig. 40



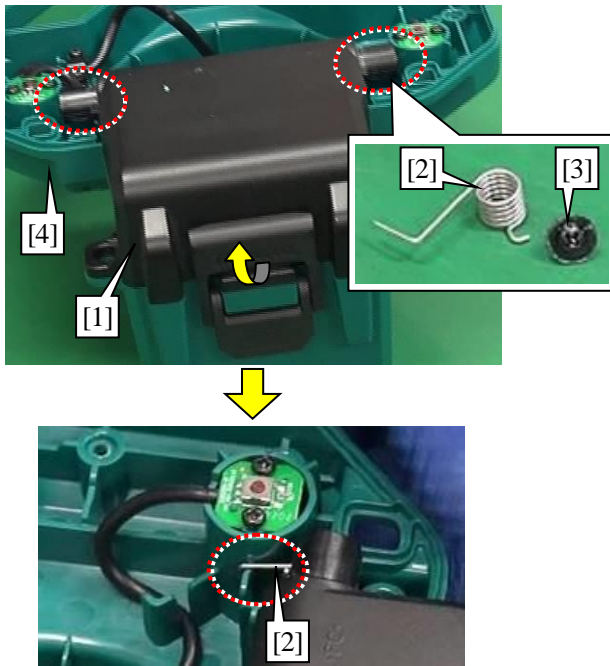
10 Assemble Cord clamp [2] to Battery housing [1] with Tapping screws PB3.5x14 [3] (2 pcs).

Fig. 41



11 Assemble Gasket [2] to Battery housing [1].

Fig. 42

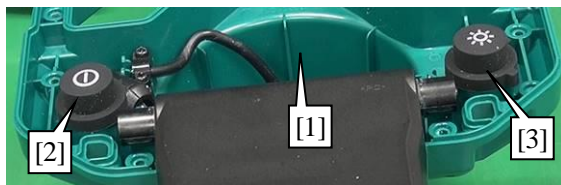


- 12 Assemble Torsion springs [2] (2 pcs) to Battery cover [1] with Tapping screws PWB3x8 [3] (2 pcs).
- 13 Assemble Battery cover [1] to Battery housing [4].

Note

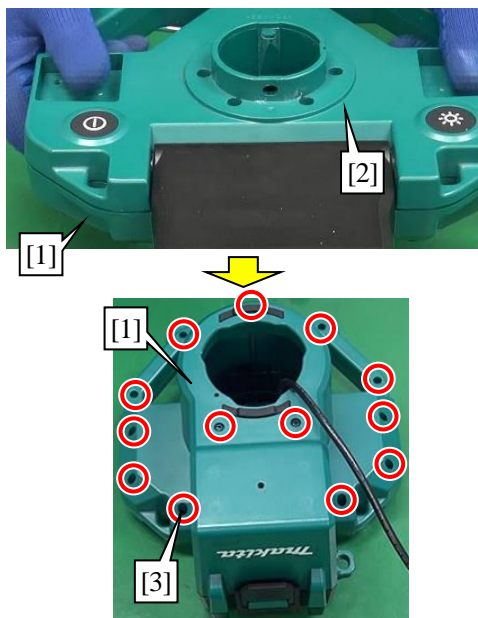
Hook Torsion spring [2] in the notch of Battery housing [4].

Fig. 43



- 14 Assemble Power key [2] and Mode key [3] to Battery housing [1].

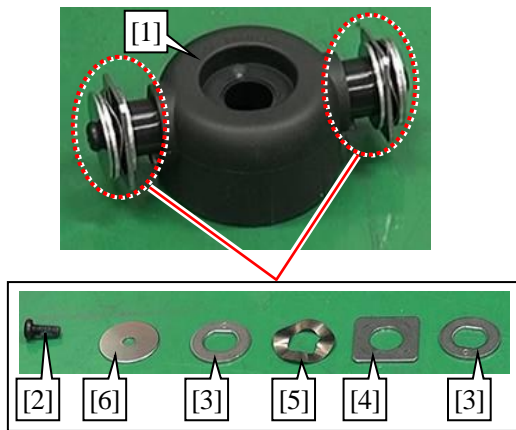
Fig. 44



- 15 Assemble Housing cover [2] to Battery housing [1] with Tapping screws PB3.5x14 [3] (13 pcs).

## 4-2-2 Lamp housing section

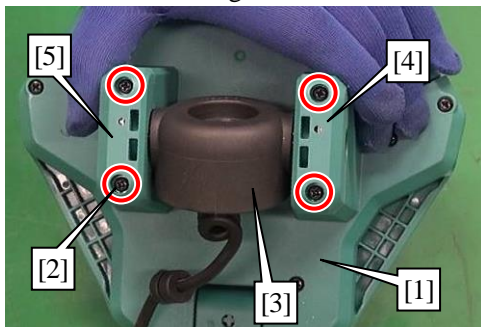
Fig. 45



1 Assemble the following parts to Base [1] with Screws PW5.0x12 [2] (2 pcs):

- Flat washers [3] (4 pcs)
- Square washers [4] (2 pcs)
- Spring washers [5] (2 pcs)
- Flat washers [6] (2 pcs)

Fig. 46



2 Assemble the following parts to Lamp housing [1], then tighten Tapping screws PB3.5x14 [2] (4 pcs):

- Base [3]
- Shaft cover L [4]
- Shaft cover R [5]

### Note

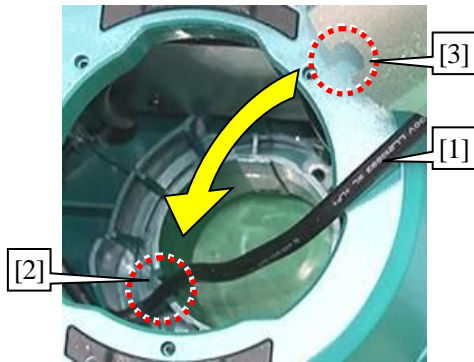
Align the marks of L and R on the following parts, then assemble them:

- Lamp housing [1]
- Base [3]
- Shaft cover L [4]
- Shaft cover R [5]



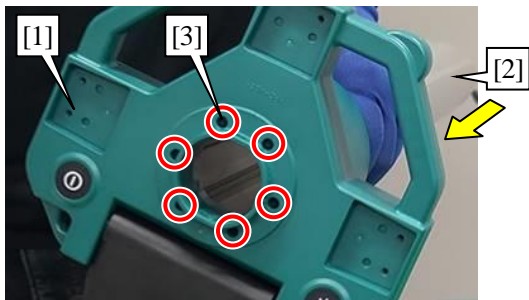
## 2-1-2 Assembling Body section

Fig. 47



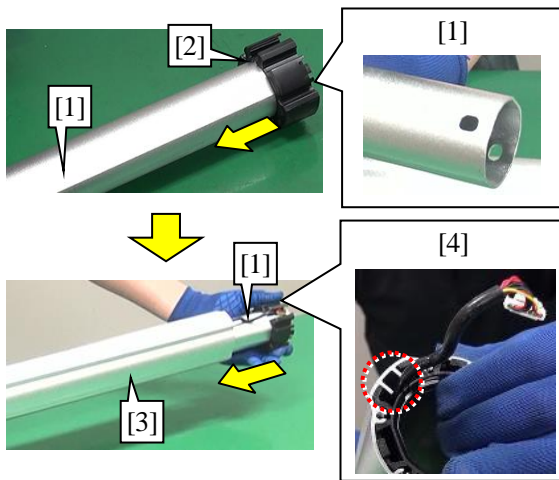
- 1 Pass Cable [1] through Cable holder of Housing cover [2] with 1R411, then assemble them to the notch of Body [3].

Fig. 48



- 2 Assemble Body [2] to Battery housing [1] with Tapping screws PB3.5x14 [3] (6 pcs).

Fig. 49



- 3 Assemble Pole sleeve [2] to Pole A [1].

**Note**

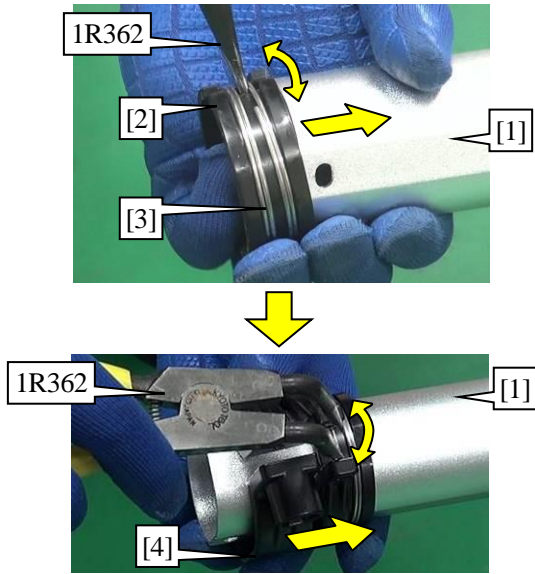
Be careful with each hole size of Pole A [1], then assemble Pole sleeve [2].

- 4 Insert Pole A [1] into Body [3].

**Note**

Pass Cable through the position shown in [4].

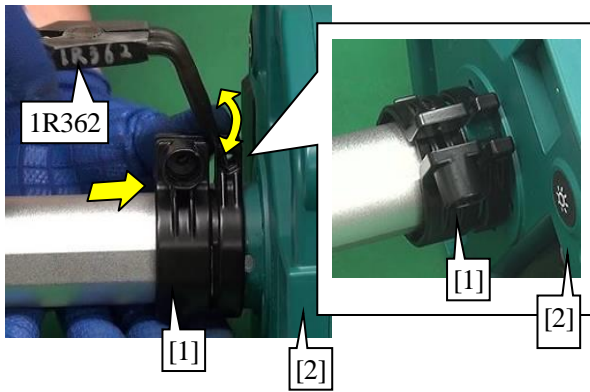
Fig. 50



5 Assemble Bush A [2] and Ring [3] to Pole A [1] with 1R362.

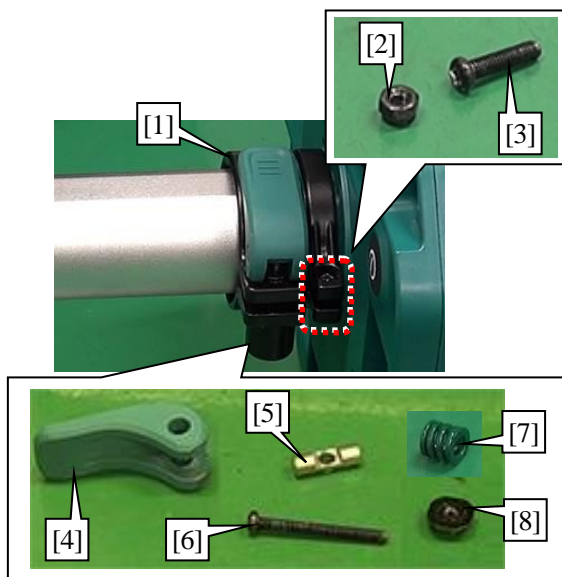
6 Assemble Pole clamp A [4] to Pole A [1] with 1R362.

Fig. 51



7 Push Pole clamp A [1] into Battery housing [2] with 1R362.

Fig. 52



8 Assemble Nut M4 [2] to Pole clamp A [1], then tighten Screw PM4.0x16 [3].

9 Assemble Pin [5] and Screw PM4.0x38 [6] to Clamp [4].

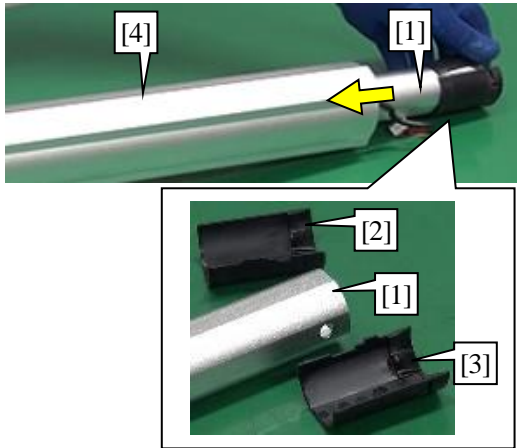
10 Assemble Clamp [4] to Pole clamp A [1].

11 Assemble Spring [7] and Lock nut [8] to Pole clamp A [1], then tighten Screw PM4.0x38 [6].

Note

Be careful with the tightness of Screw PM4.0x38 [6].

Fig. 53



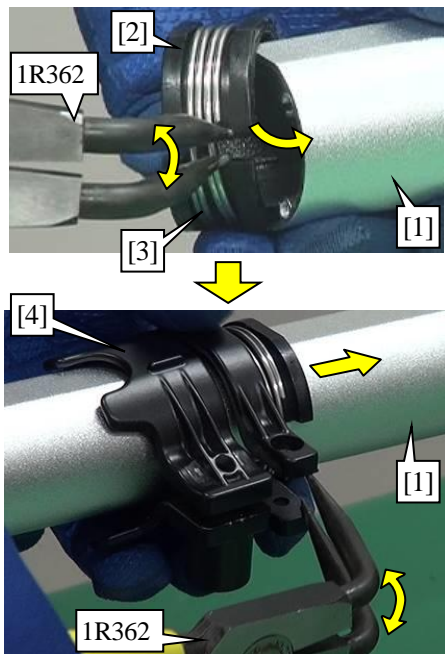
**12** Assemble Sleeve L [2] and Sleeve R [3] to Pole B [1].

**13** Insert Pole B [1] into Body [4].

**Tips**

Align the notch of Pole B [1] with the protrusion of Sleeve L [2] and Sleeve R [3].

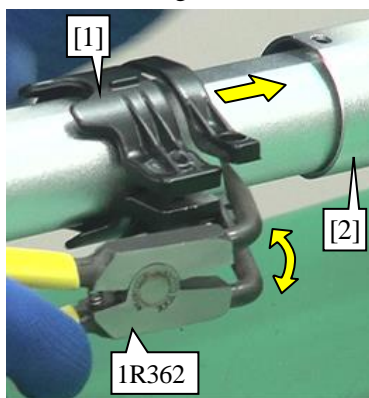
Fig. 54



**14** Assemble Bush B [2] and Ring [3] to Pole B [1] with 1R362.

**15** Assemble Pole clamp B [4] to Pole B [1] with 1R362.

Fig. 55

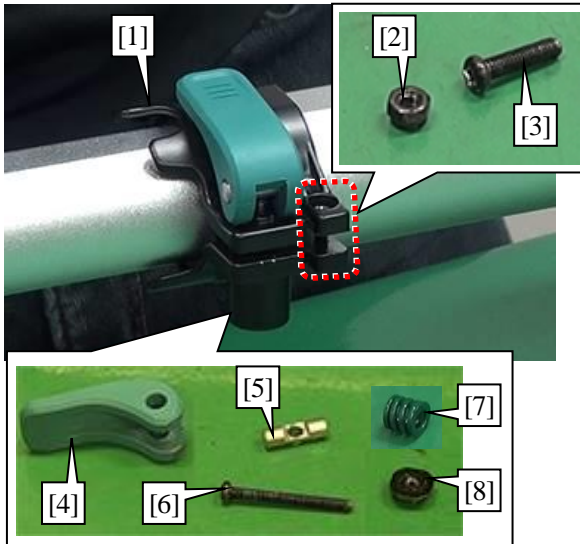


**16** Push Pole clamp B [1] into Pole A [2] with 1R362.

**Note**

Align the protrusion of Pole clamp B [1] with the hole of Pole A [2].

Fig. 56

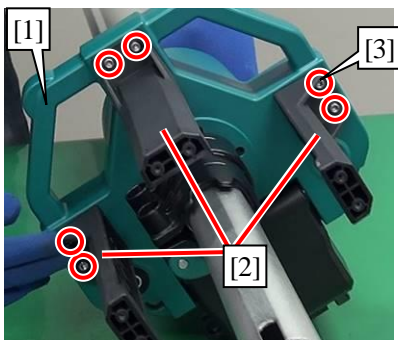


- 17 Assemble Nut M4 [2] to Pole clamp B [1], then tighten Screw PM4.0x16 [3].
- 18 Assemble Pin [5] and Screw PM4.0x38 [6] to Clamp [4].
- 19 Assemble Clamp [4] to Pole clamp B [1].
- 20 Assemble Spring [7] and Lock nut [8] to Pole clamp B [1], then tighten Screw PM4.0x38 [6].

Note

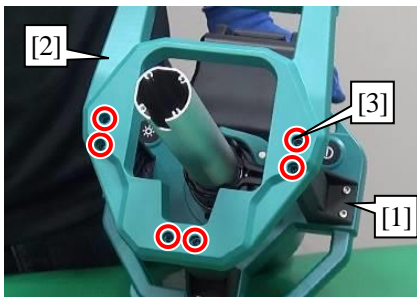
Be careful with the tightness of Screw PM4.0x38 [6].

Fig. 57



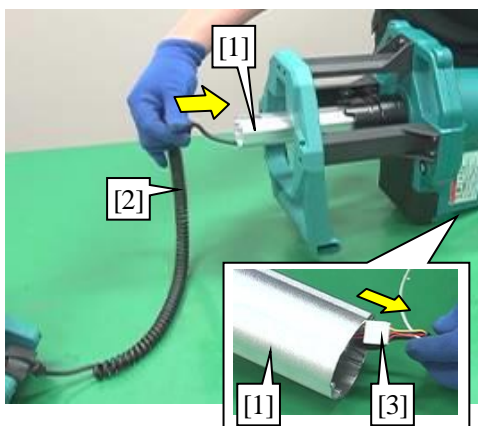
- 21 Assemble Handle supporters [2] (3 pcs) to Lamp housing [1] with Tapping screws CB4.0x20 [3] (6 pcs).

Fig. 58



- 22 Assemble Handle [2] to Handle supporter [1] with Tapping screws PB3.5x14 [3] (6 pcs).

Fig. 59

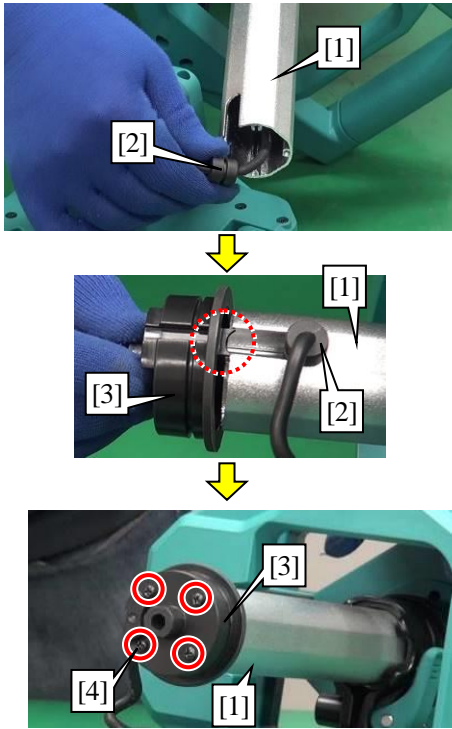


- 23 Pass LED cable B [2] through Body section [1].
- 24 Connect Connector [3].

Tips

Pull out LED cable B [2] from Body section [1] with a string or the like.

Fig. 60

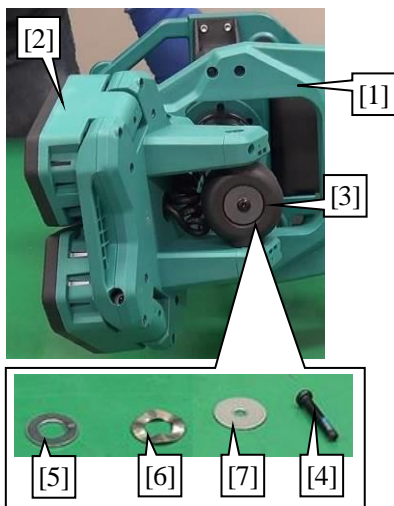


- 25** Assemble LED cable B [2] and Pole cover [3] to Body section [1], then tighten Tapping screws PB3.5x14 [4] (4 pcs).

**Note**

Be careful with the shape of Pole cover [3] and LED cable B [2].

Fig. 61

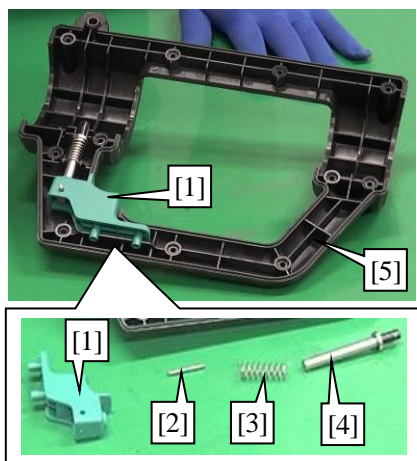


- 26** Assemble Lamp housing section [2] to Body section [1].

- 27** Assemble the following parts to Base [3] with Screw PM5.0x30 [4]:

- Flat washer [5]
- Spring washer [6]
- Flat washer [7]

Fig. 62

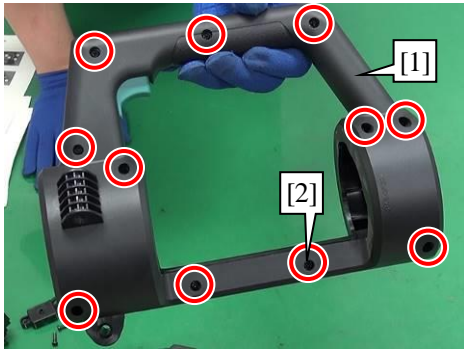


- 28** Assemble the following parts to Release button [1]:

- Pin [2]
- Spring [3]
- Latch [4]

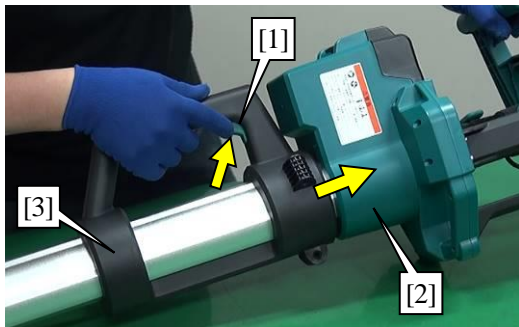
- 29** Assemble Release button [1] to Handle set [5].

Fig. 63



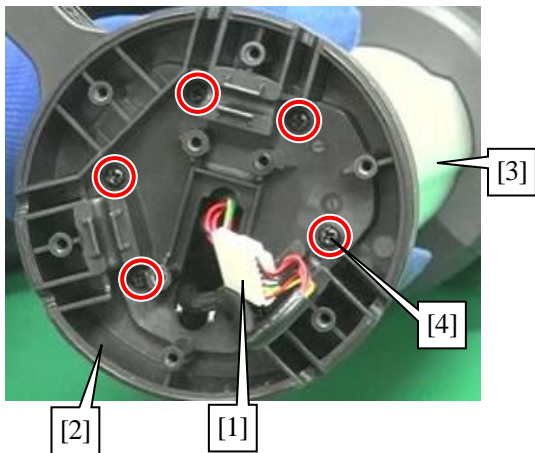
- 30** Assemble Handle set [1] with Tapping screws PB3.5x14 [2] (11 pcs).

Fig. 64



- 31** Push Release button [1] and insert Handle set [3] into Body section [2].

Fig. 65



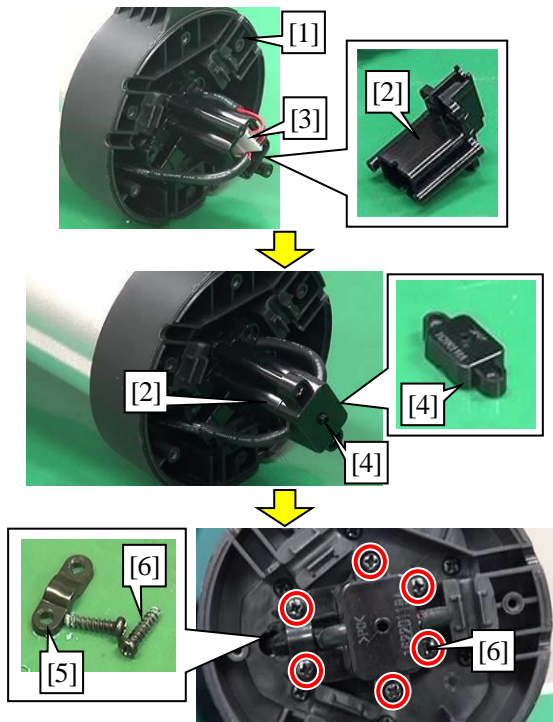
- 32** Pass LED cable B [1] through Front base [2].

**Note**

Be careful with the tension of LED cable B [1].

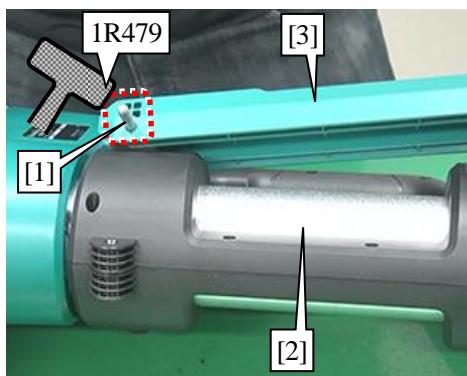
- 33** Assemble Front base [2] to Body section [3] with Tapping screws PB3.5x14 [4] (6 pcs).

Fig. 66



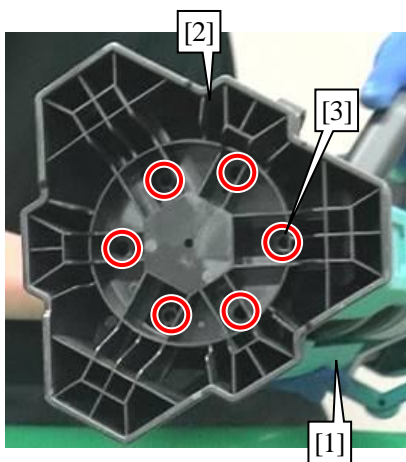
- 34 Assemble Rear foot L [2] to Front base [1], then put Connector [3] into Rear foot L [2].
- 35 Assemble Cable cover [4] to Rear foot L [2].
- 36 Assemble Cord clamp [5] to Front base [1].
- 37 Tighten Tapping screws PB3.5x14 [6] (6 pcs).

Fig. 67



- 38 Assemble Legs [3] (3 pcs) to Body section [2] by tapping Pins [1] (3 pcs) with 1R479.

Fig. 68



- 39 Assemble Rear base [2] to Body section [1] with Tapping screws PB3.5x14 [3] (6 pcs).

**Note**

Align the notches of Rear base [2] with those of Front base.

## 5 WIRING DIAGRAM

Fig. 69

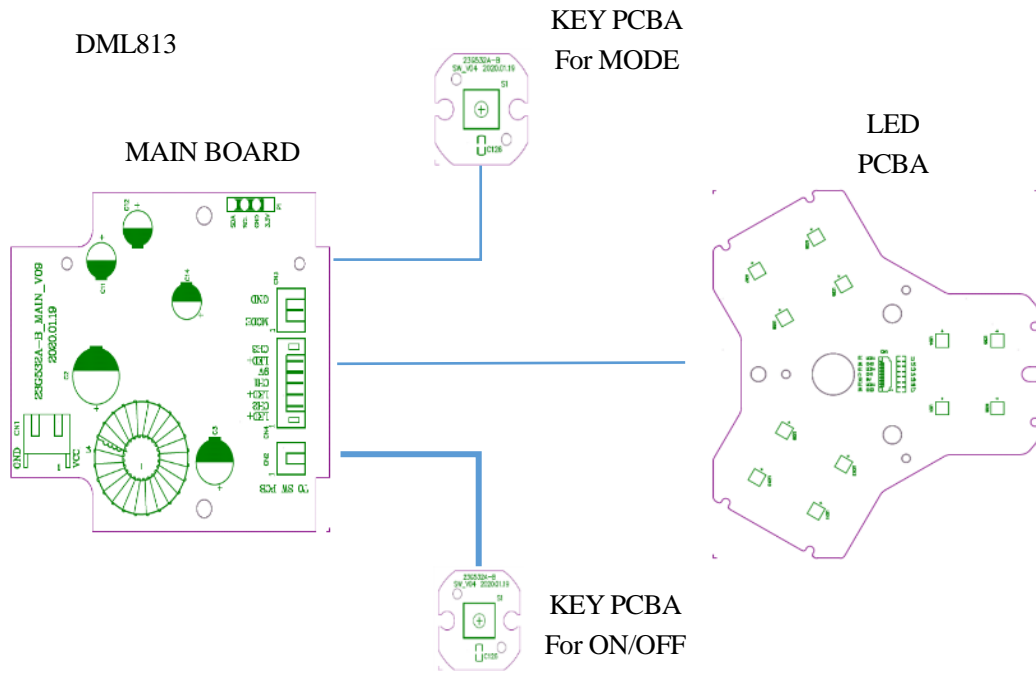
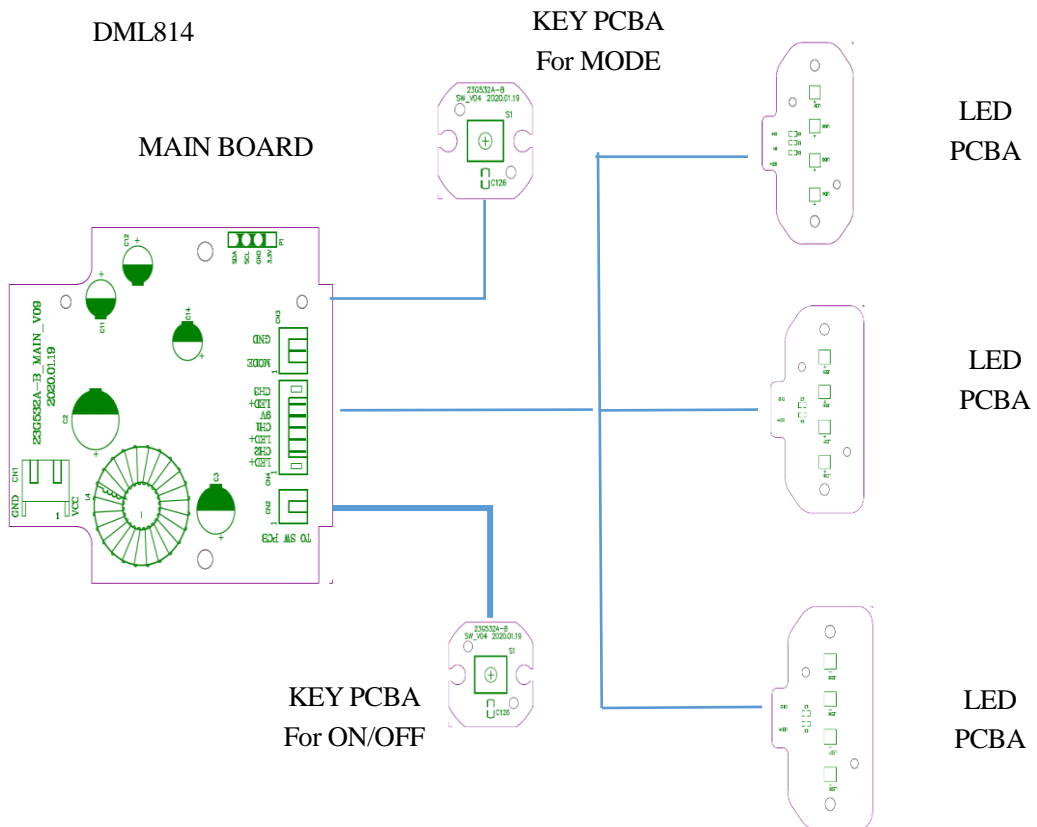


Fig. 70





6 TROUBLESHOOTING

