

CORDLESS DRYWALL SANDER DSL801

REPAIR MANUAL



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2 CAUTION

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


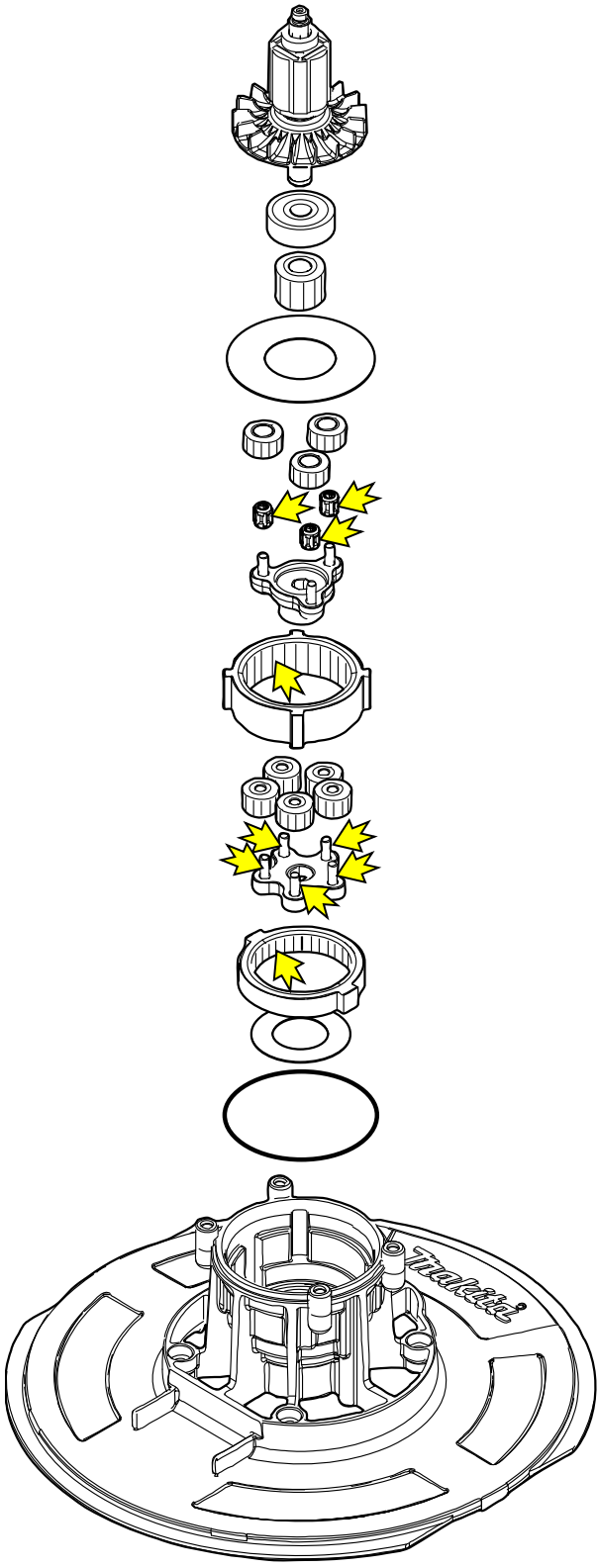
Follow the instructions described below in advance before repairing:

- 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
1R022	Bearing plate 15	removing Ball bearing 627DDW and Spur gear 19
1R030	Pipe 17-25-50	removing Hose connector
1R031	Pipe 20-28-50	removing Ball bearing 627DDW and Spur gear 19
1R032	Ring 8-60-15	press-fitting Ball bearing 627DDW
1R033	Ring 10-60-15	removing Pipe stopper A
1R034	Ring 12-60-15	press-fitting Ball bearing 6001LLU, Flat washer 12 and Ball bearing 6901ZZ
1R269	Bearing puller small	removing Ball bearing 695DDW
1R281	Round bar 7-50	removing Pipe stopper A, Ball bearing 627DDW and Spur gear 19
1R291	Retaining ring pliers S and R	removing/ assembling Retaining ring S-12
1R306	Ring spring removing jig	removing Dust nozzle

4 LUBRICANT AND ADHESIVE APPLICATION

	Description	Amount
	Makita grease FA. No.2	a little
<p style="text-align: center;">Fig. 1</p>  <p>The diagram shows an exploded view of a motor assembly. At the top is a brushless motor. Below it are several gears and bearings. Yellow arrows point to the following components for grease application: the gear teeth of the motor's output gear, the contact surfaces of several gears, the inner surfaces of two housing halves, and the contact surfaces of the planetary gear set. At the bottom is the motor's base housing with the 'Makita' logo.</p>		

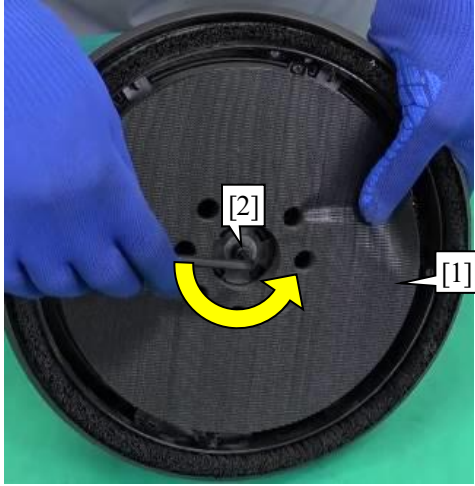
5 TIGHTENING TORQUE SPECIFICATIONS

Parts to fasten	Fastener	Q'ty	Tightening torque (N·m)
Brush stopper ↔ Gear housing	Pan head screw M4x14	6	0.8 - 1.2
Pad ↔ Spindle	Hex socket head bolt M6x16	1	8.0 - 11.0
Strain relief ↔ Pipe A	Set screw M4x8	1	0.6 - 1.2
Brush ↔ Leaf spring	Tapping screw 3x16	4	0.6 - 1.0

6 REPAIR
6-1 Battery, pad
6-1-1 Disassembling

- 1 Remove the battery.

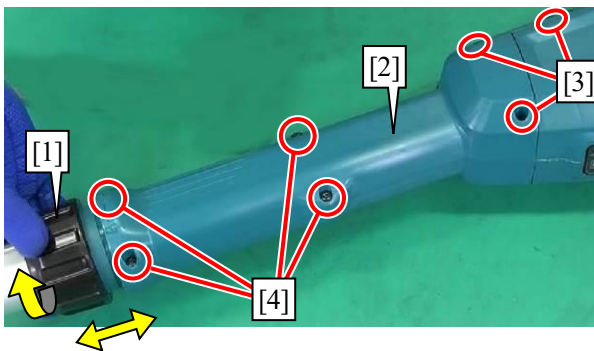
Fig. 2



- 2 Hold Pad [1] firmly by hand so that it does not turn, then remove Hex socket head bolt M6x16 [2] with Hex wrench 5, and then remove Pad [1].

6-2 Handle section
6-2-1 Disassembling

Fig. 3

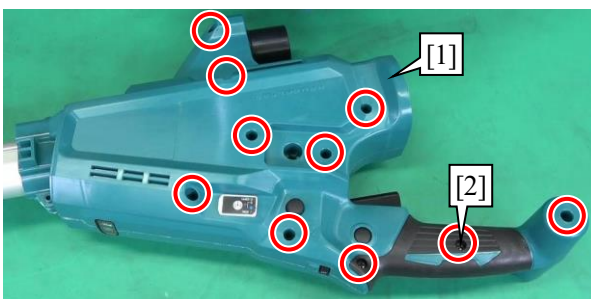


- 1 Loosen Lock ring [1] and extend Pipe A complete, then remove Lock ring [1] onto the pipe.
- 2 Remove Tapping screws 4x30 [3] (3 pcs) and Tapping screws 4x18 [4] (4 pcs) from Pipe housing [2], then remove Pipe housing [2].

Tips

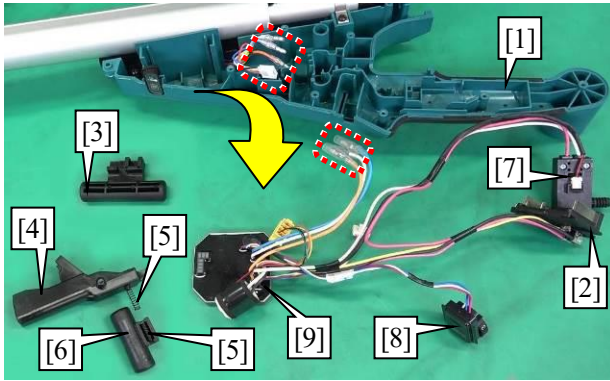
Pipe housing [2] cannot be disassembled if Lock ring [1] is hooked on it. Handle section cannot be disassembled without disassembling Pipe housing [2].

Fig. 4



- 3 Remove Tapping screws 4x18 [2] (10 pcs) from Handle section [1], then remove Handle section [1].

Fig. 5

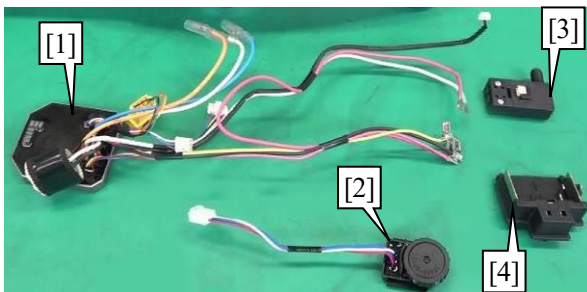


4 Remove the following parts from Handle section [1]:

- Terminal [2]
- Lock off button [3]
- Switch lever [4]
- Compression springs 4 [5] (2 pcs)
- Lock on button [6]
- Switch [7]
- Dial circuit [8]
- Controller [9]

5 Remove Connectors and Bullet terminals from Controller [9].

Fig. 6



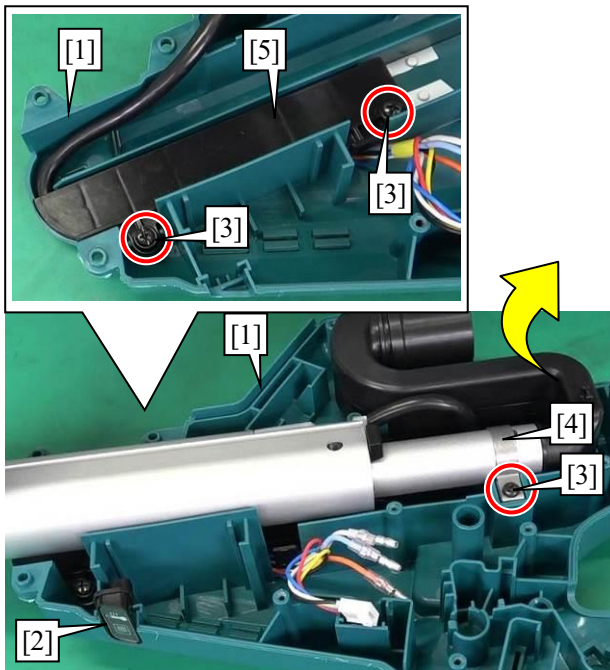
6 Remove the following parts from Controller [1]:

- Dial circuit [2]
- Switch [3]
- Terminal [4]

Tips

- Remove Connector from Switch [3], then remove Controller lead wires by loosening screws with a No.2 Phillips screwdriver.
- Remove Flag receptacles from Terminal [4] while releasing lock with a slotted screwdriver.

Fig. 7

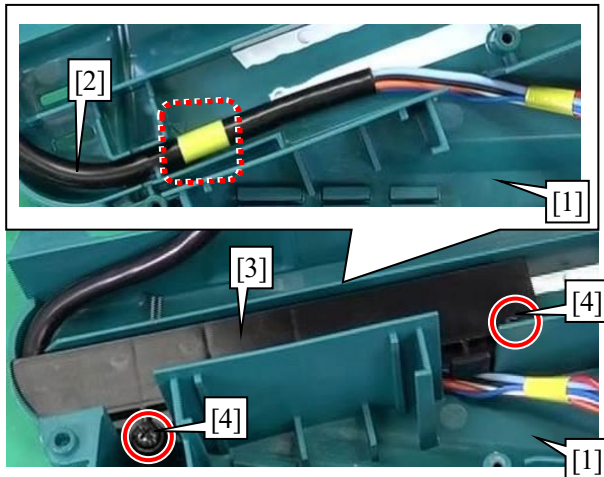


7 Remove the following parts from Handle section [1]:

- Indicator panel [2]
- Tapping screws 4x18 [3] (3 pcs)
- Clamp 24 [4]
- Cord cover [5]

6-2-2 Assembling

Fig. 8

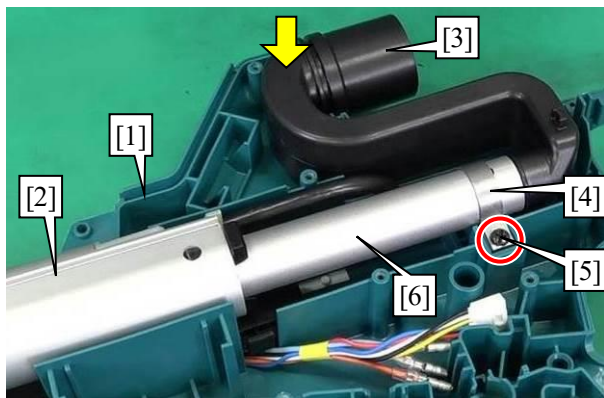


- 1 Assemble Power supply cord unit [2] to Handle L [1], then assemble Cord cover [3] with Tapping screws 4x18 [4] (2 pcs).

Note

Align the triangle mark on the inside of Handle L [1] with the yellow tape of Power supply cord unit [2]. Refer to Circuit diagram and Wiring diagram for details.

Fig. 9

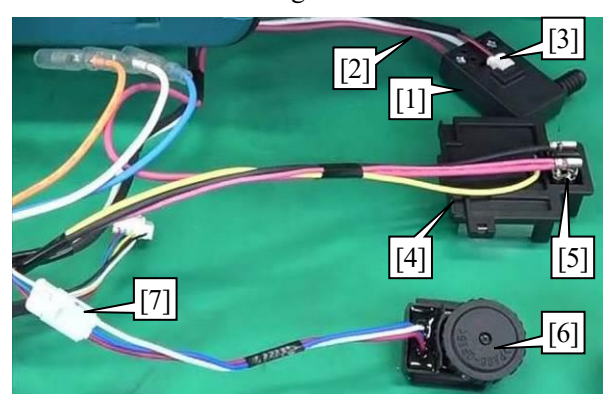


- 2 Assemble Pipe A [2] and Dust nozzle [3] to Handle L [1], then assemble Clamp 24 [4] with Tapping screw 4x18 [5].

Note

When tightening Tapping screw 4x18 [5], Dust nozzle [3] and Pipe B complete [6] should be firmly positioned and assembled in Handle L [1]. The extension and contraction of the pipe may feel hard because the fitting positionings of Dust nozzle and Pipe B complete are slid / float each other.

Fig. 10

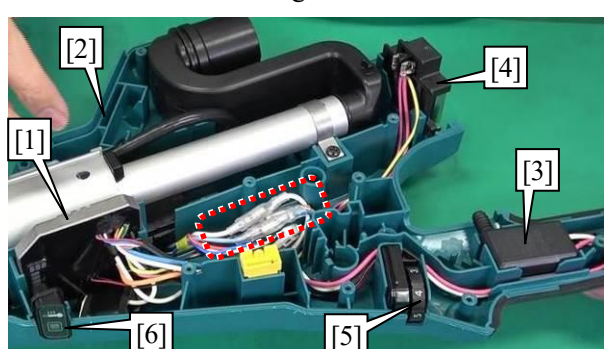


- 3 Insert Lead wires [2] and Connector [3] into Switch [1].
- 4 Insert Receptacle terminal [5] into Terminal [4].
- 5 Insert Connector [7] into Dial circuit [6].

Tips

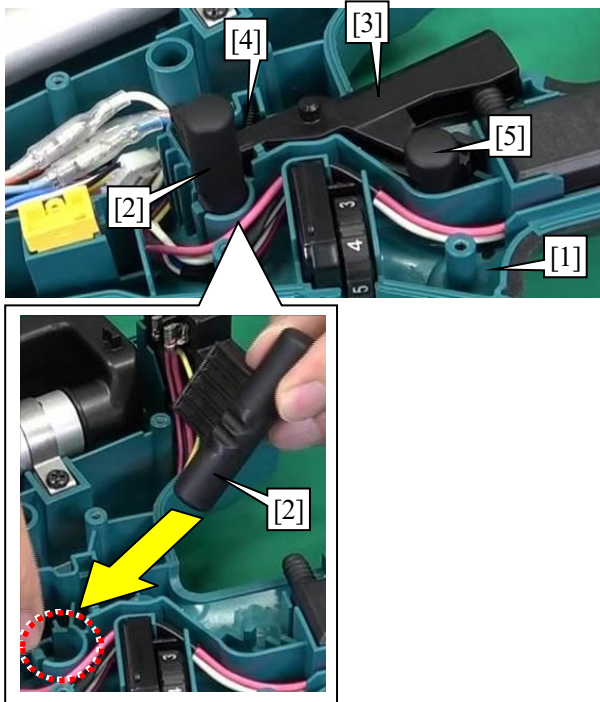
If it is difficult to insert Lead wire [2], loosen the screw of Switch [1] with a slotted screwdriver, then widen the sheet metal of Insertion port, and then insert Lead wire [2].

Fig. 11



- 6 Connect Connectors and Bullet terminals into Controller [1].
- 7 Assemble the following parts into Handle L [2]:
 - Switch [3]
 - Terminal [4]
 - Dial circuit [5]
 - Controller [1]
 - Indicator panel [6]

Fig. 12

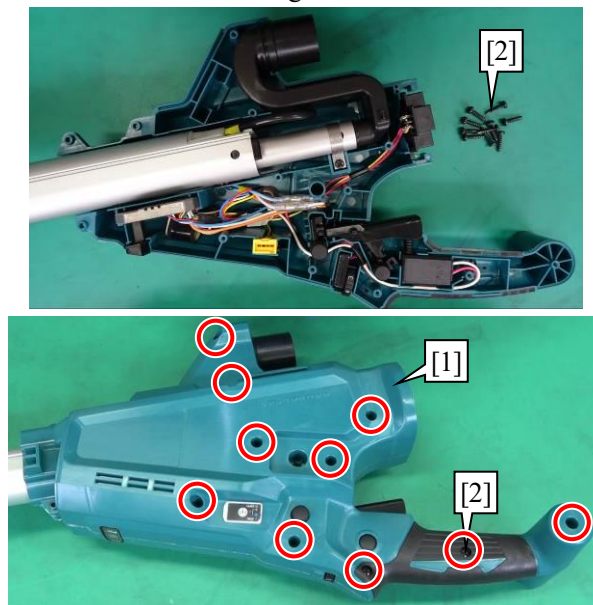


- 8 Assemble the following parts into Handle L [1]:
- Lock off button [2]
 - Switch lever [3]
 - Compression springs 4 [4] (2 pcs)
 - Lock on button [5]

Note

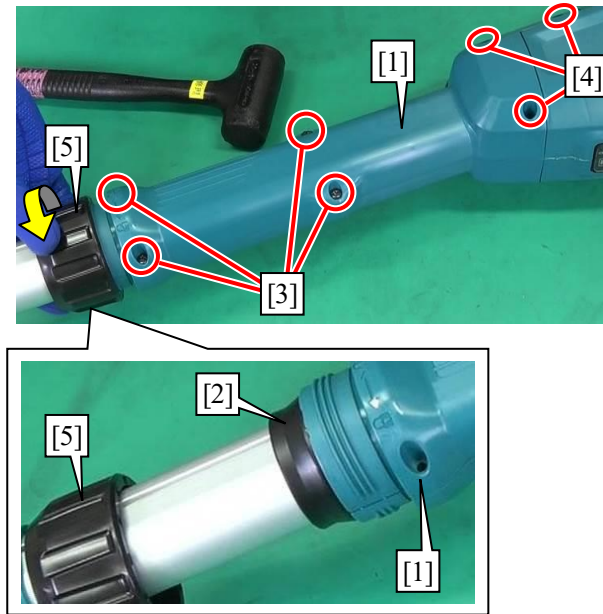
- Be careful not to forget to assemble Compression spring 4 [4] to Lock on button [5]. Note the orientation of Lock off button [2] for fitting into Handle L [1].

Fig. 13



- 9 Insert Lead wires firmly with 1R411 so as not to pinch them.
- 10 Assemble Handle section [1] with Tapping screws 4x18 [2] (10 pcs).

Fig. 14



11 Assemble Lock sleeve [2] to Pipe housing [1], then tighten Tapping screws 4x18 [3] (4 pcs) and Tapping screws 4x30 [4] (3 pcs).

12 Tighten Lock ring [5].

Tips

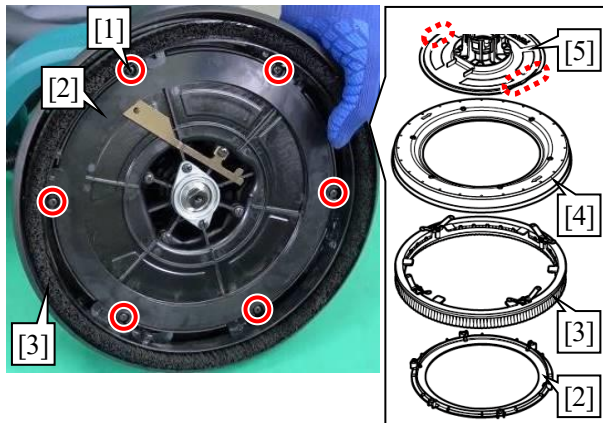
It is easy to work when assembled them on a plastic hammer.

Note

Be careful with a mix-up between Tapping screws 4x18 [3] (4 pcs) and Tapping screws 4x30 [4] (3 pcs).

**6-3 Brush section
6-3-1 Disassembling**

Fig. 15



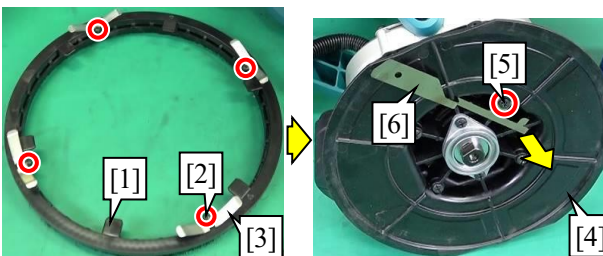
1 Remove Pan head screws M4x14 [1] (6 pcs), then remove the following parts:

- Brush stopper [2]
- Brush [3]
- Cover [4]

Tips

Cover [4] can be removed from the flats of Gear housing [5].

Fig. 16

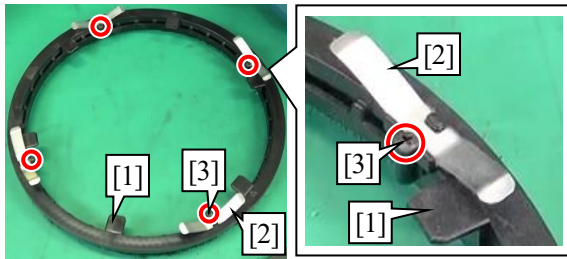


2 Remove Tapping screws 3x16 [2] (4 pcs) from Brush [1], then remove Leaf springs [3] (4 pcs).

3 Remove Tapping screw 4x18 [5] from Gear housing [4], then pull out Earth plate A [6].

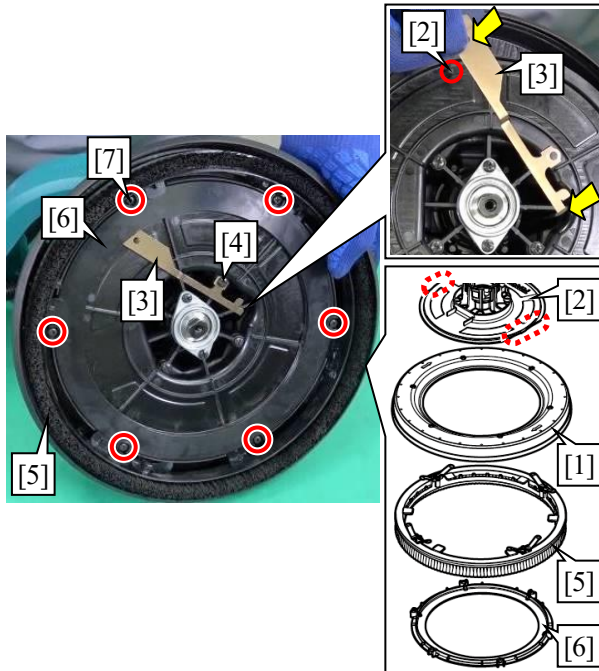
6-3-2 Assembling

Fig. 17



- 1 Assemble Leaf springs [2] (4 pcs) to Brush [1], then tighten Tapping screws 3x16 [3] (4 pcs).

Fig. 18



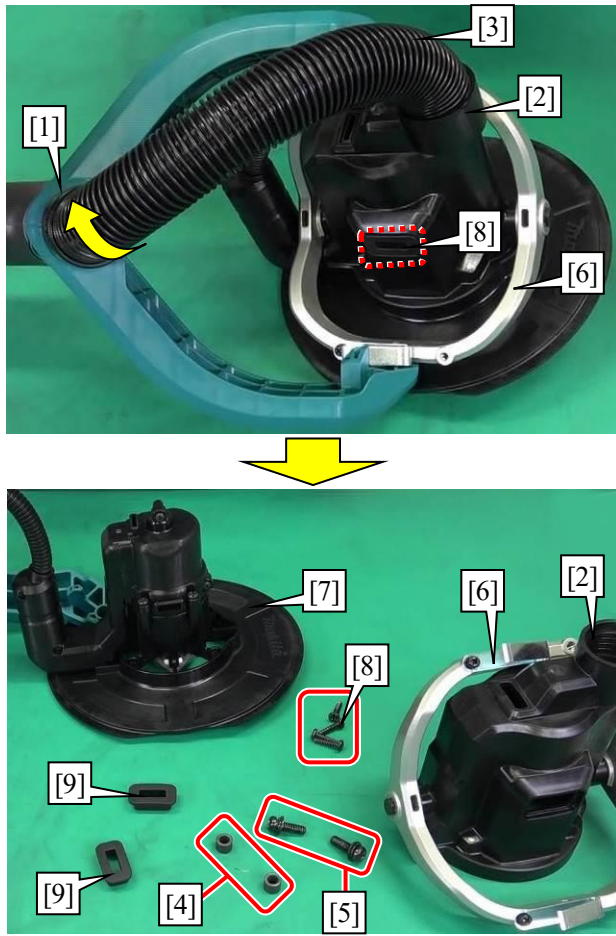
- 2 Assemble Cover [1] from the flats of Gear housing [2].
- 3 Insert Earth plate A [3] into Gear housing [2], then tighten Tapping screw 4x18 [4].
- 4 Assemble Brush [5] and Brush stopper [6] with Pan head screws M4x14 [7] (6 pcs).

Note

- Align the holes of Earth plate A [3] with the projections of Gear housing [2] when assembling.
- Check that Cover [1] rotates smoothly.

6-4 Head cover section
6-4-1 Disassembling

Fig. 19

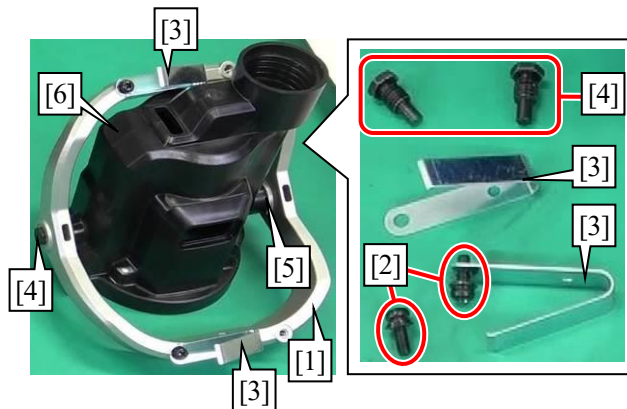


- 1 Remove Hose 28-0.25 [3] from Hose connector on Arm section [1] and Head cover section [2].
- 2 Remove Sleeves 6 [4] (2 pcs) and Pan head screws M6x20 [5] (2 pcs) from Arm section [1], then widen Arm [1] to remove Frame section [6].
- 3 Remove Tapping screws 4x18 [8] (4 pcs) and Rubber caps [9] (2 pcs) from Gear housing [7], then remove Head cover section [2].

Tips

Remove Rubber caps [9] (2 pcs) with a slotted screwdriver.

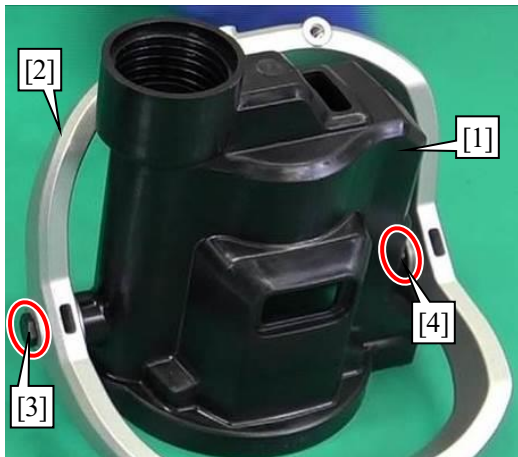
Fig. 20



- 4 Remove Pan head screws M4x10 [2] (2 pcs) and Leaf springs [3] (2 pcs) from Frame [1].
- 5 Remove Hex bolt M8x17 [4] and Hex bolt M8x22 [5], then remove Frame [1] from Head cover [6].

6-4-2 Assembling

Fig. 21

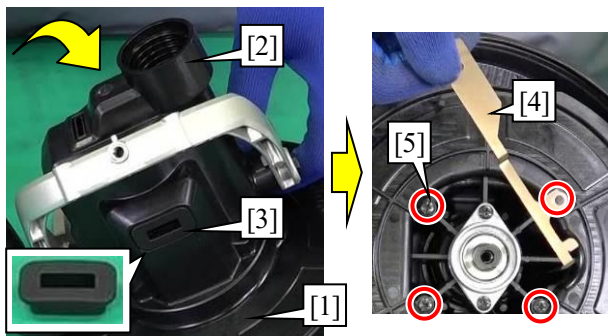


- 1 Assemble Frame [2] to Head cover [1], then tighten Hex bolt M8x22 [3] and Hex bolt M8x17 [4].

Note

Be careful with a mix-up between Hex bolt M8x22 [3] and Hex bolt M8x17 [4].

Fig. 22



- 2 Assemble Head cover [2] to Gear housing [1], then assemble Rubber caps [3] (2 pcs).
- 3 Insert Earth plate A [4] to the position as shown, then assemble it with Tapping screw 4x18 [5], and then tighten the other Tapping screws 4x18 [5] (3 pcs).

Fig. 23

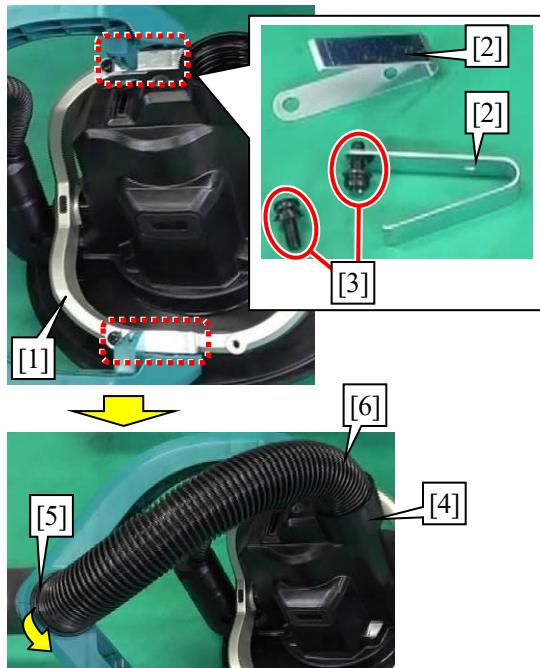


- 4 Widen Arm [1] slightly, then fit the projections of Frame [2] to Arm [1], and then assemble them with Sleeves 6 [3] (2 pcs) and Pan head screws M6x20 [4] (2 pcs).

Tips

Temporarily assemble Frame [2] to Arm section [1] with the projection of Frame faced toward Arm.

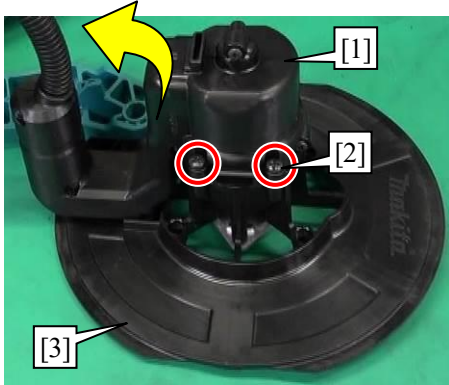
Fig. 24



- 5 Assemble Leaf springs [2] (2 pcs) to Frame [1] with Pan head screws M4x10 [3] (2 pcs).
- 6 First, screw one end of Hose 28-0.25 [6] into Head cover [4], then screw the other end into Hose connector [5].

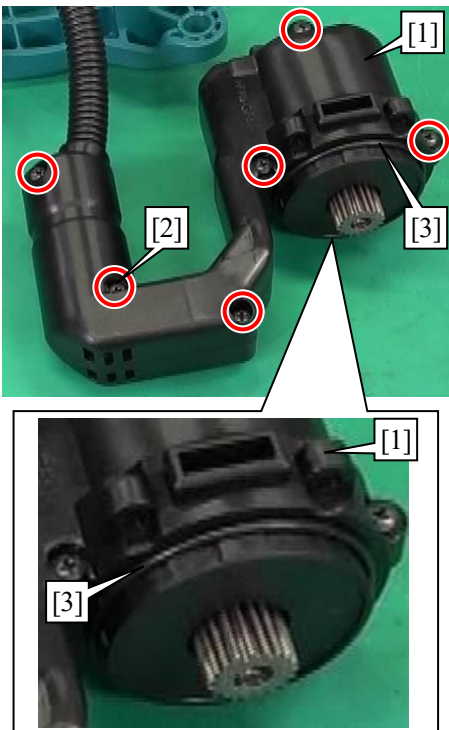
6-5 Motor section
6-5-1 Disassembling

Fig. 25



- 1 Remove Tapping screws 4x18 [2] (4 pcs) from Motor housing section [1], then remove Gear housing [3].

Fig. 26

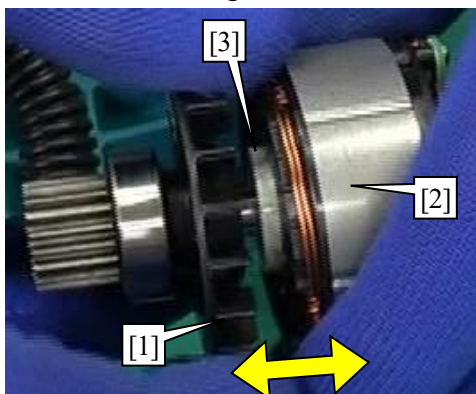


- 2 Remove Tapping screws 3x16 [2] (6 pcs) and O ring 48 [3] from Motor housing section [1].

Note

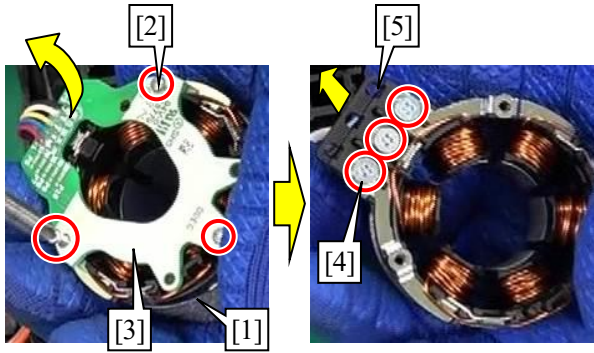
Motor housing [1] cannot be opened without removing O ring 48 [3].

Fig. 27



- 3 While holding Fan [1], pull out Rotor [3] from Stator [2].

Fig. 28



- 4 Remove Tapping screws PT 2x6 [2] (3 pcs) from Stator [1] with a No.1 Phillips screwdriver, then remove Printed circuit board [3].
- 5 Remove Flat head screws M3x6 [4] (3 pcs) from Stator [1] with a No.1 Phillips screwdriver, then remove Receptacle [5].

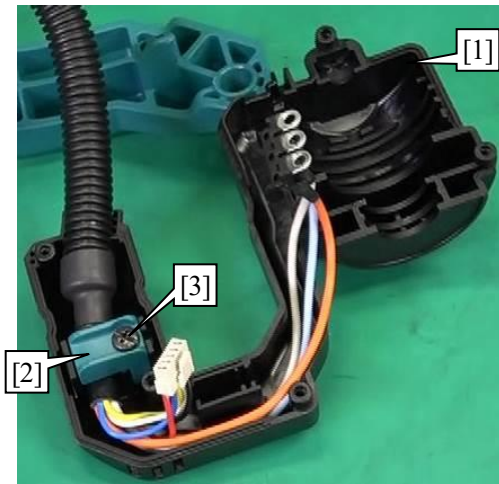
Tips

Remove Receptacle [5] by prying it up with a slotted screwdriver.

Note

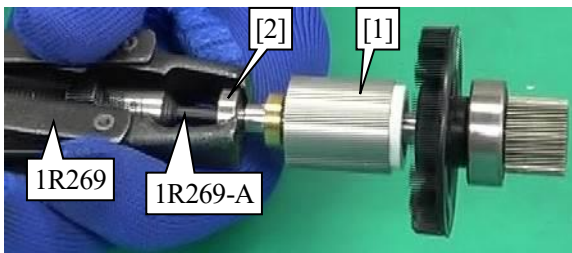
- Be careful not to strip the head of Tapping screws PT2x6 [2] nor Flat head screws M3x6 [4].

Fig. 29



- 6 Remove Strain relief [2] and Tapping screw 4x18 [3] from Motor housing [1].

Fig. 30

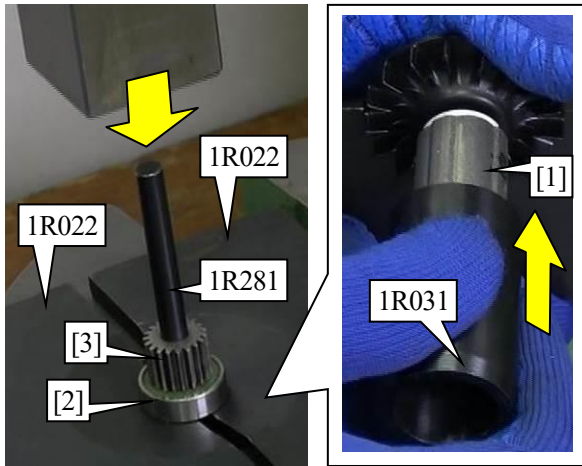


- 7 Pull out Ball bearing 695DDW [2] from the rear end of Rotor [1] with 1R269 and 1R269-A.

Tips

Use 1R269-A to remove the bearing because the rear shaft of Rotor is a small diameter.

Fig. 31



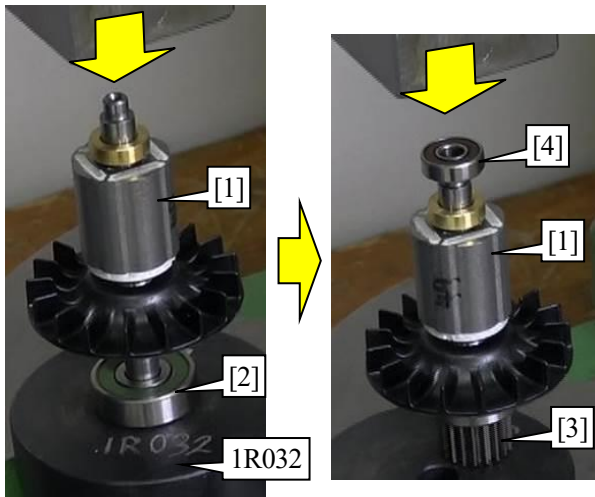
- 8 Put 1R031 over Rotor [1].
- 9 Push out Ball bearing 627DDW [2] and Spur gear 19 [3] from Rotor [1] with 1R022, 1R281 and Arbor press.

Tips

Because Rotor [1] is attracted to various parts of Arbor press and workability is poor, put 1R031 over Rotor [1] to disable magnetic force.

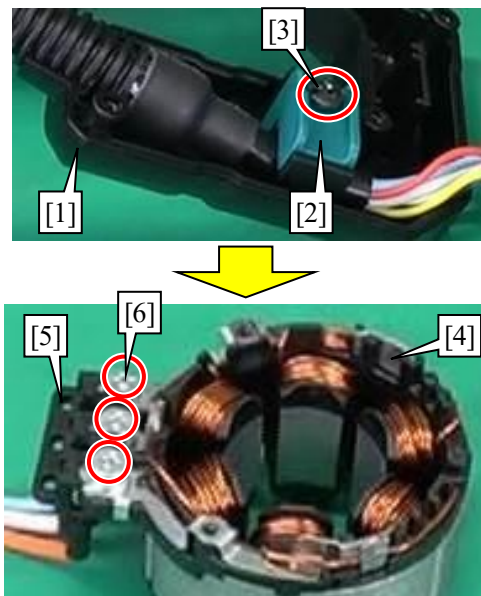
6-5-2 Assembling

Fig. 32



- 1 Press-fit Ball bearing 627DDW [2] to Rotor [1] with 1R032.
- 2 Press-fit Spur gear 19 [3] to Rotor [1].
- 3 Press-fit Ball bearing 695DDW [4] to Rotor [1].

Fig. 33

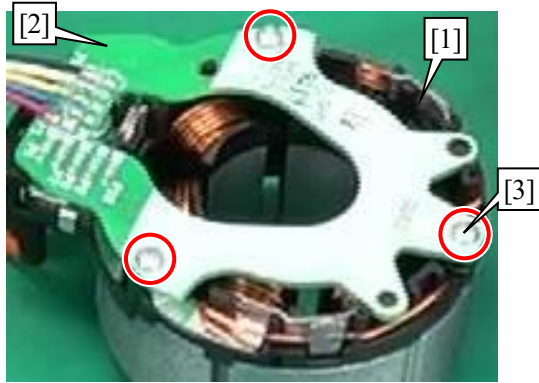


- 4 Assemble Strain relief [2] on Motor housing [1] with Tapping screw 4x18 [3] to hold Power supply cord unit. Refer to Circuit diagram and Wiring diagram for details.
- 5 Assemble Receptacle [5] to Stator [4] by tightening Flat head screws M3x6 [6] (3 pcs) with a No.1 Phillips screwdriver.

Note

Be careful not to strip the head of Flat head screw M3x6 [6].

Fig. 34

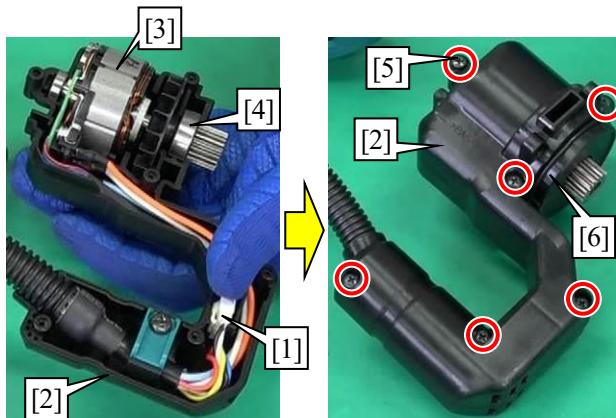


- 6 Assemble Printed circuit board [2] to Stator [1] by tightening Tapping screws bind PT 2x6 [3] (3 pcs) with a No.1 Phillips screwdriver.

Note

Be careful not to strip the head of Tapping screw PT2x6 [3].

Fig. 35



- 7 Insert Connector [1] into Printed circuit board, then assemble Rotor [4] to Stator [3], and then assemble them to Motor housing [2].

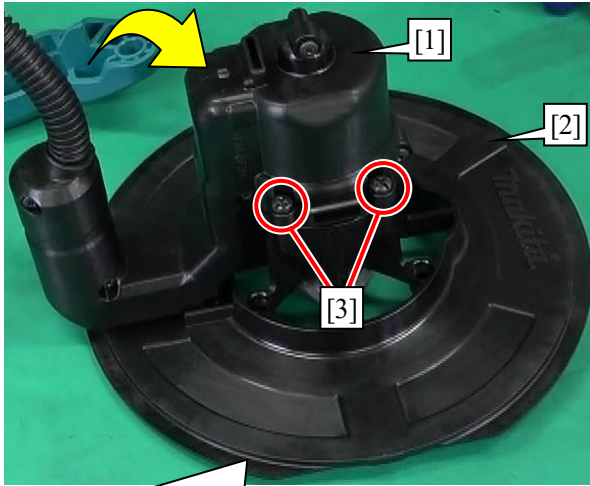
- 8 Assemble Motor housing [2] with Tapping screws 3x16 [5] (6 pcs).

- 9 Assemble O ring 48 [6] to Motor housing [2].

Note

Once Rotor [4] has been inserted, do not force it into Stator [3] any further or you will break Printed circuit board.

Fig. 36



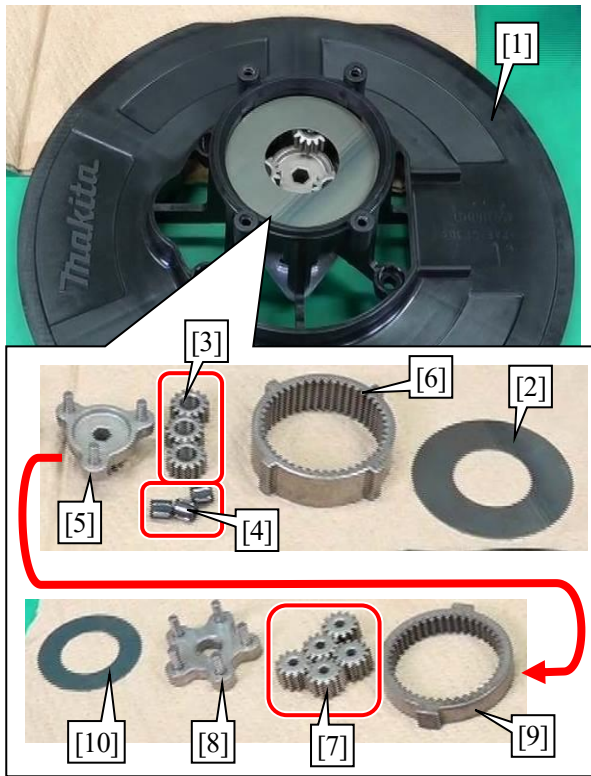
- 10 Assemble Motor housing section [1] to Gear housing [2] with Tapping screws 4x18 [3] (4 pcs).

Tips

When the gear is hard to fit, rotate Spindle [4] with an adjustable wrench.

6-6 Gear housing section
6-6-1 Disassembling

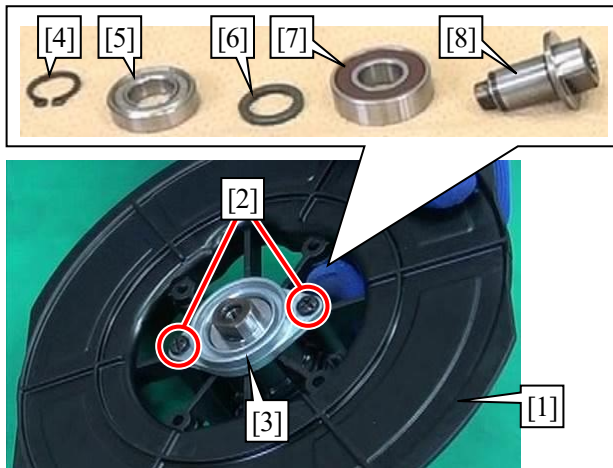
Fig. 37



1 Remove the following parts from Gear housing [1]:

- Flat washer 23 [2]
- Spur gears 14 [3] (3 pcs)
- Needle cages 307 [4] (3 pcs)
- Spur gear 17 [5]
- Internal gear 47 [6]
- Spur gears 13 [7] (5 pcs)
- Carrier complete [8]
- Internal gear 43 [9]
- Flat washer 18 [10]

Fig. 38



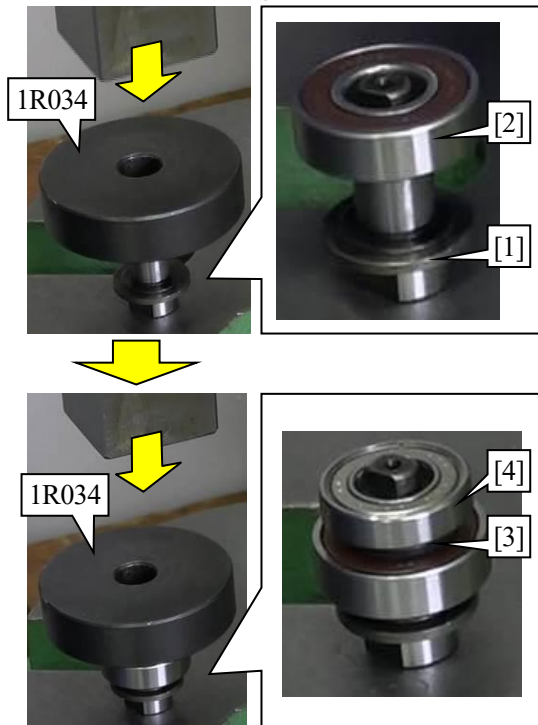
2 Remove Tapping screws 4x18 [2] (2 pcs) and Bearing retainer 47 [3] from Gear housing [1].

3 Remove Retaining ring S-12 [4] with 1R291.

4 Remove Ball bearing 6901ZZ [5], Flat washer 12 [6], Ball bearing 6001LLU [7] from Spindle [8] with 1R269.

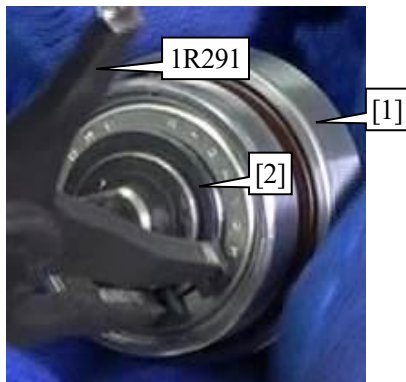
6-6-2 Assembling

Fig. 39



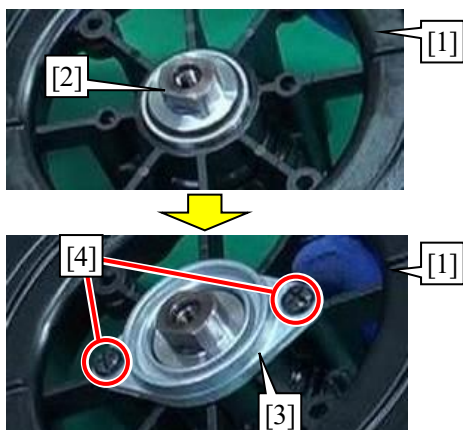
- 1 Press-fit Ball bearing 6001LLU [2] to Spindle [1] with 1R034.
- 2 Press-fit Flat washer 12 [3] and Ball bearing 6901ZZ [4] with 1R034.

Fig. 40



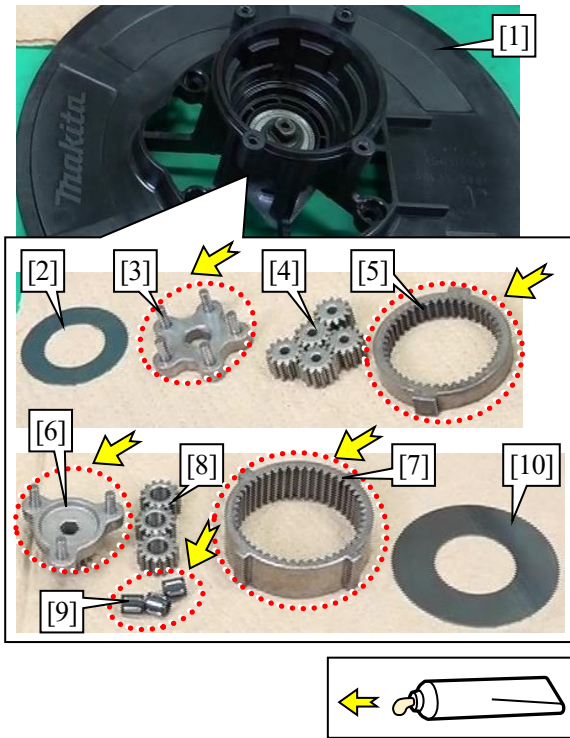
- 3 Assemble Retaining ring S-12 [2] to Spindle section [1] with 1R291.

Fig. 41



- 4 Assemble the following parts to Gear housing [1]:
 - Spindle section [2]
 - Bearing retainer 47 [3]
 - Tapping screws 4x18 [4] (2 pcs)

Fig. 42



5 Assemble the following parts to Gear housing [1]:

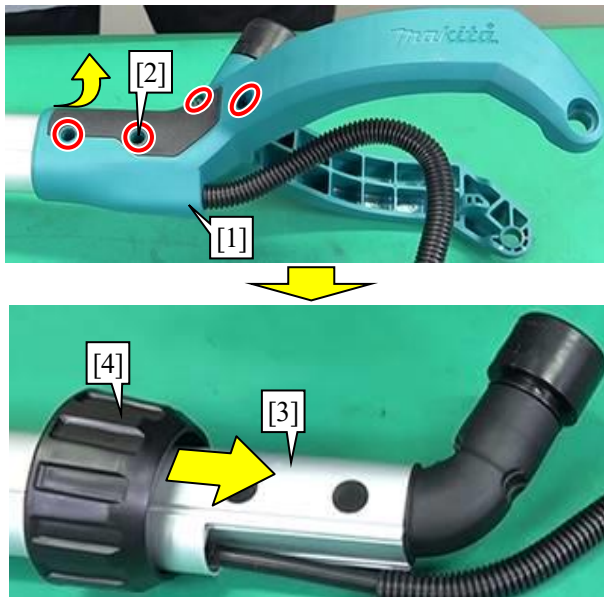
- Flat washer 18 [2]
- Carrier complete [3]
- Spur gears 13 [4] (5 pcs)
- Internal gear 43 [5]
- Spur gear 17 [6]
- Internal gear 47 [7]
- Spur gears 14 [8] (3 pcs)
- Needle cages 307 [9] (3 pcs)
- Flat washer 23 [10]

Tips

- Internal gear 43 [5] may have a tight fit, but should be pushed firmly into the bottom.
- Apply the specified grease to the teeth of Carrier complete [3], Pin of Spur gear 17 [6], Internal gear 43 [5] and Internal gear 47 [7].
- Apply the specified grease to Needle cages 307 [9], then assemble them to Spur gear 14 [8].

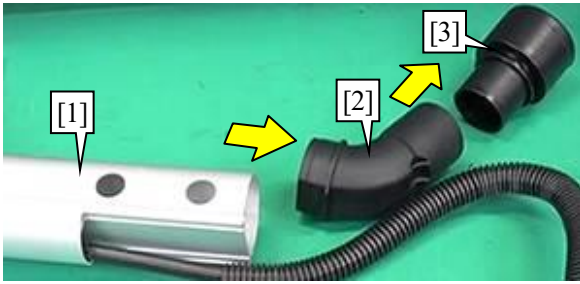
6-7 Pipe section
6-7-1 Disassembling

Fig. 43



- 1 Remove Tapping screws 4x18 [2] (4 pcs) from Arm section [1], then remove Arm [1] from Pipe A [3].
- 2 Remove Lock ring [4] from Pipe A [3].

Fig. 44



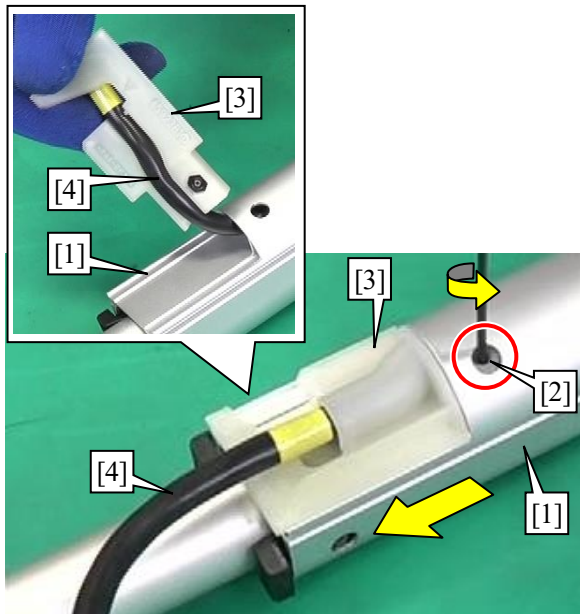
- 3 Remove Joint [2] from Pipe A [1].
- 4 Remove Hose connector [3] from Joint [2].

Fig. 45



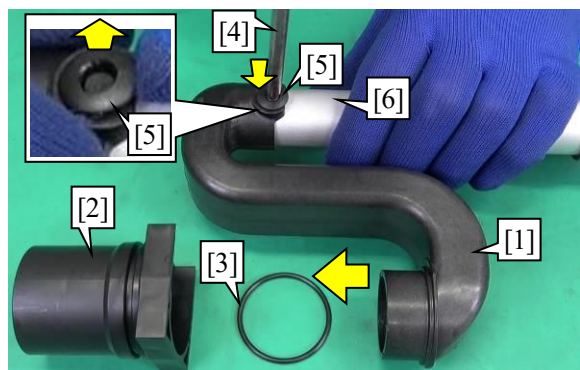
- 5 Remove Lock sleeve [2] from Pipe A [1].

Fig. 46



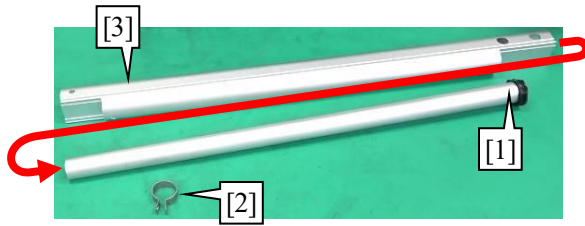
- 6 Remove Set screw M4x8 [2] from Pipe A [1], then remove Cord holder [3] and Power supply cord unit [4].

Fig. 47



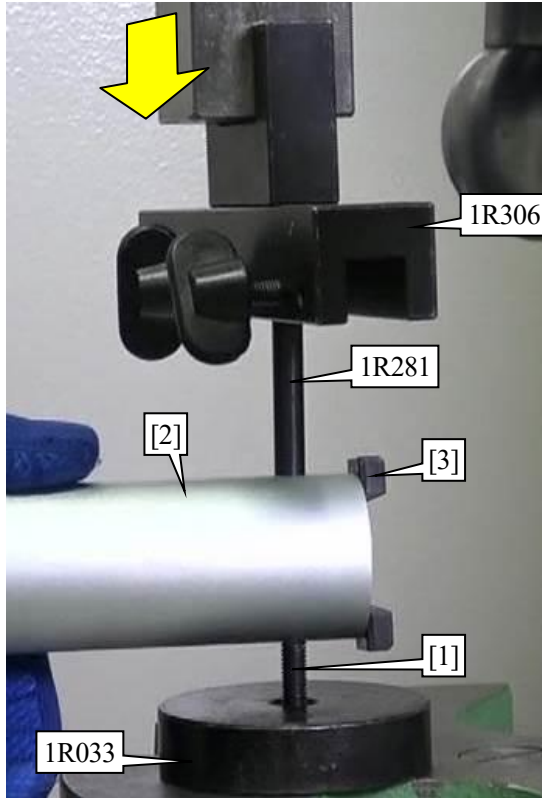
- 7 Remove Dust nozzle B [2] and O ring 32 [3] from Dust nozzle A [1].
- 8 Push in the center of Rivet 7 [5] with a screwdriver [4] or the like to remove Rivet 7 [5], then remove Dust nozzle A [1] from Pipe B [6].

Fig. 48



- 9 Remove Clamp 24 [2] from Pipe B [1].
- 10 Remove Pipe B [1] from Pipe A [3] in direction of red arrow.

Fig. 49



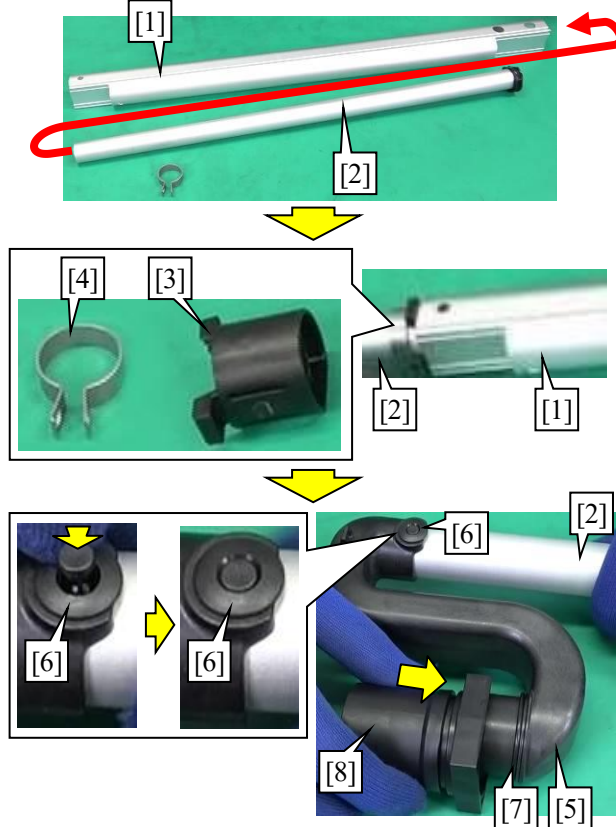
- 11 Remove Pipe stopper A [3] from Pipe A [2] with 1R306, 1R281, 1R033, Hex socket head bolt M6 [1] and Arbor press.

Tips

Push out the projection of Pipe stopper A [3] with a screwdriver. Because Pipe stopper A [3] cannot be reused, breaking it may be better way for the removal. Be sure to replace it with a new one.

6-7-2 Assembling

Fig. 50

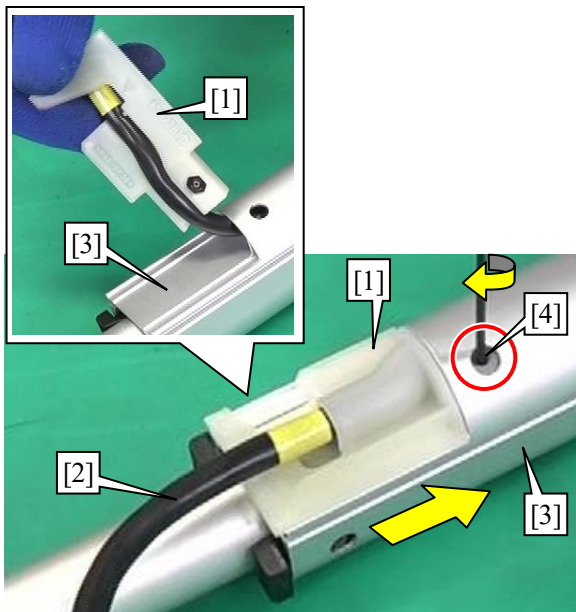


- 1 Assemble Pipe B [2] to Pipe A [1] in direction of red arrow.
- 2 Assemble Pipe stopper A [3] to Pipe A [1].
- 3 Assemble Clamp 24 [4] and Dust nozzle A [5] to Pipe B [2].
- 4 Push in the head of Rivet 7 [6], then assemble Dust nozzle A [5] to Pipe B [2].
- 5 Assemble O ring 32 [7] and Dust nozzle B [8] to Dust nozzle A [5].

Tips

Clamp 24 [4] is bent at one tip, but the orientation of the bent portion does not matter.

Fig. 51

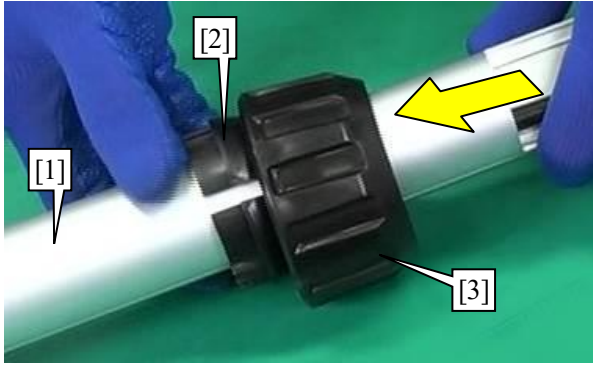


- 6 Assemble Power supply cord unit [2] to Cord holder [1].
- 7 Assemble Cord holder [1] to Pipe A [3] with Set screw M4x8 [4].

Note

- Assemble Power supply cord unit [2] into Cord holder [1] at the yellow tape position of the cord.
- Note the orientation of Power supply cord unit [2] assembled in Pipe A complete [3].

Fig. 52

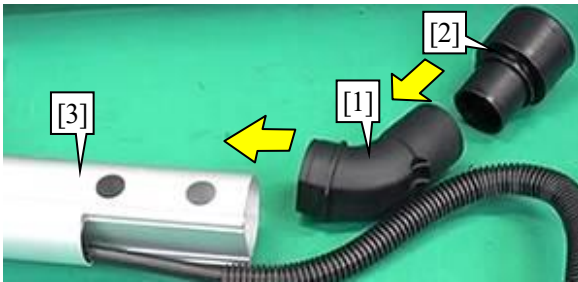


- 8 Assemble Lock sleeve [2] and Lock ring [3] to Pipe A [1].

Tips

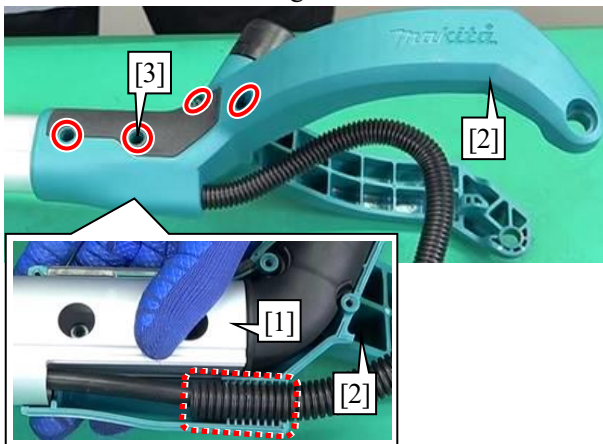
The direction of assembling the cut of Lock sleeve [2] may be either way.

Fig. 53



- 9 Assemble Hose connector [2] to Joint [1].
- 10 Assemble Joint section [1] to Pipe A [3].

Fig. 54

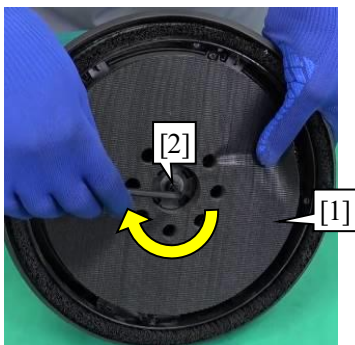


- 11 Assemble Arm sections [2] (2 pcs) to Pipe A [1] with Tapping screws 4x18 [3] (4 pcs).

6-8 Pad

6-8-1 Assembling

Fig. 55



- 1 Assemble Pad [1], then hold Pad [1] firmly by hand to prevent it from turning, and then tighten Hex socket head bolt 6x16 [2] with Hex wrench 5.

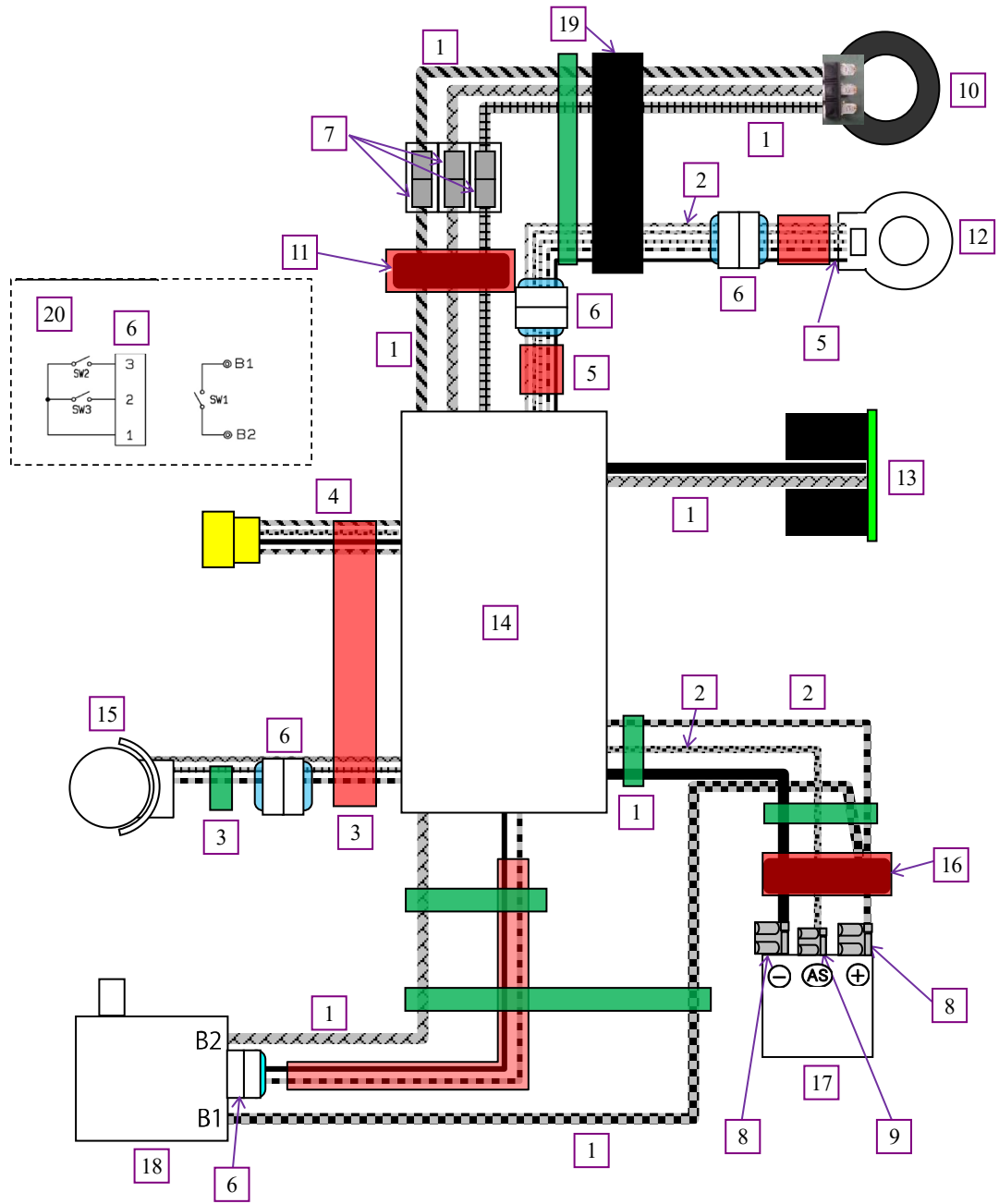
Note

Check that Pad [1] rotates smoothly.

7 CIRCUIT DIAGRAM

Fig. 56

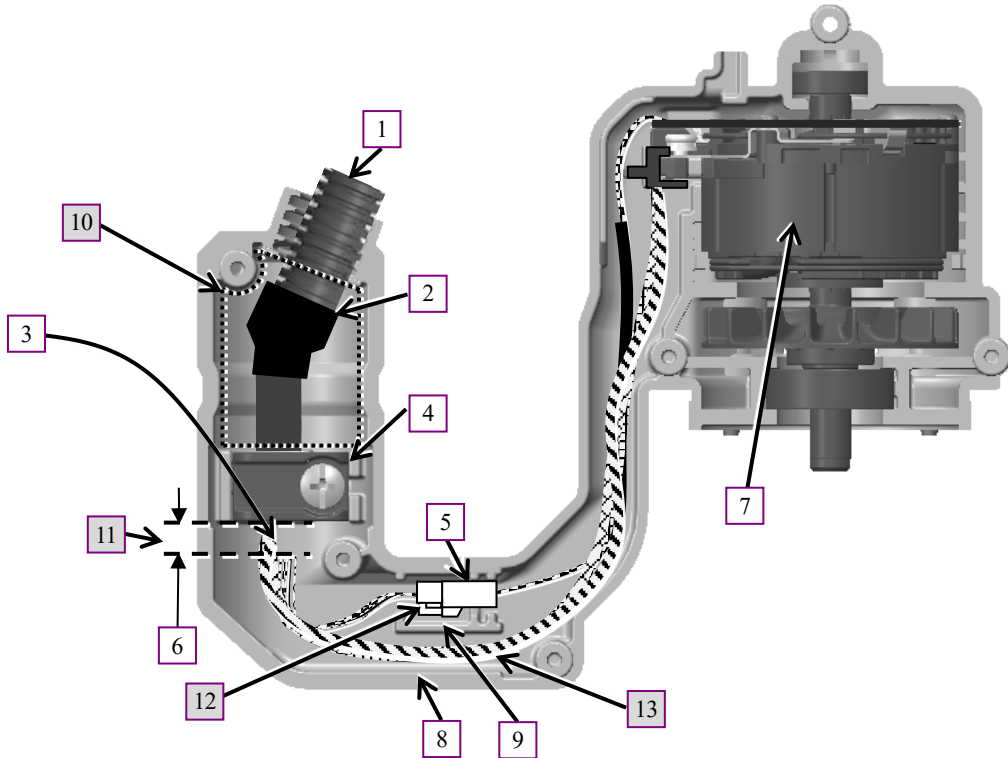
Color index of lead wires' sheath			
White		Orange	
Blue		Green	
Yellow		Black	
Red			



1	AWG16	11	Line filter ø17-15mm (if used)
2	AWG22	12	Controller B
3	AWG24 UL1685	13	Capacitor
4	AWG26 UL1685	14	Controller
5	AWG28	15	Dial
6	Connector	16	Line filter ø17-30mm (if used)
7	Bullet terminal	17	Terminal
8	Flag receptacle with lock (#250, t=0.8)	18	Switch
9	Flag receptacle with lock (#187, t=0.8)	19	Power supply cord unit
10	Stator	20	Circuit diagram of Switch

8 WIRING DIAGRAM
8-1-1 Motor housing section

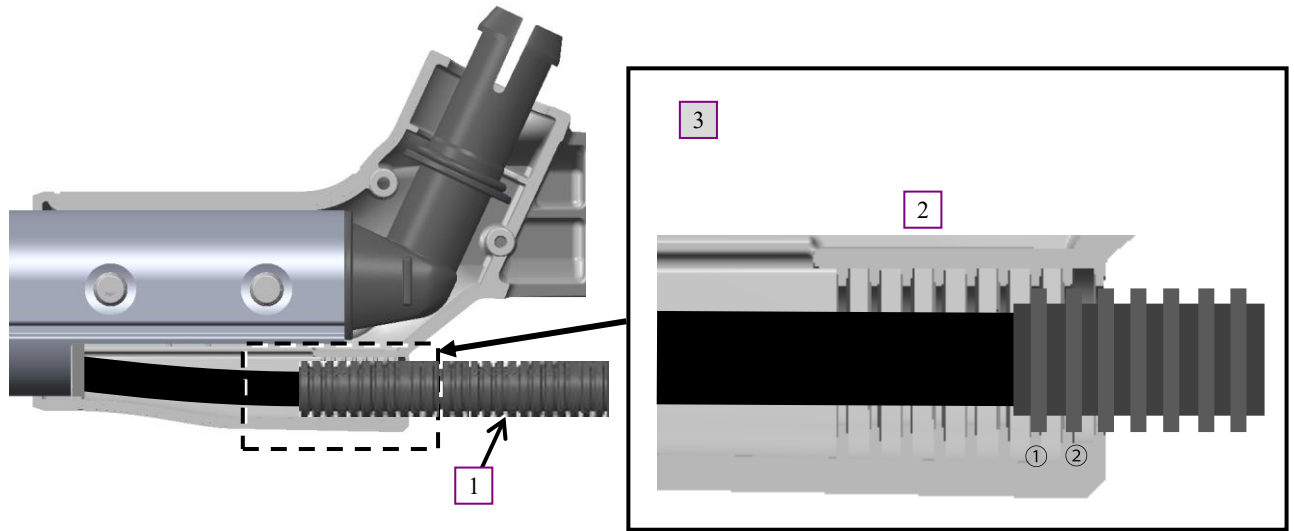
Fig. 57



1	Power supply cord unit	6	3mm or more
2	Tube	7	Stator
3	Sheath portion	8	Rib B
4	Strain relief	9	Rib A
5	Connector		
10	Place Tube in this space.		
11	Fix Power supply cord unit so that its sheath portion comes out 3mm or more from the edge of Strain relief.		
12	Place Connector in the position as shown.		
13	Route the thick lead wires to Stator between Rib A and Rib B.		

8-1-2 Arm section

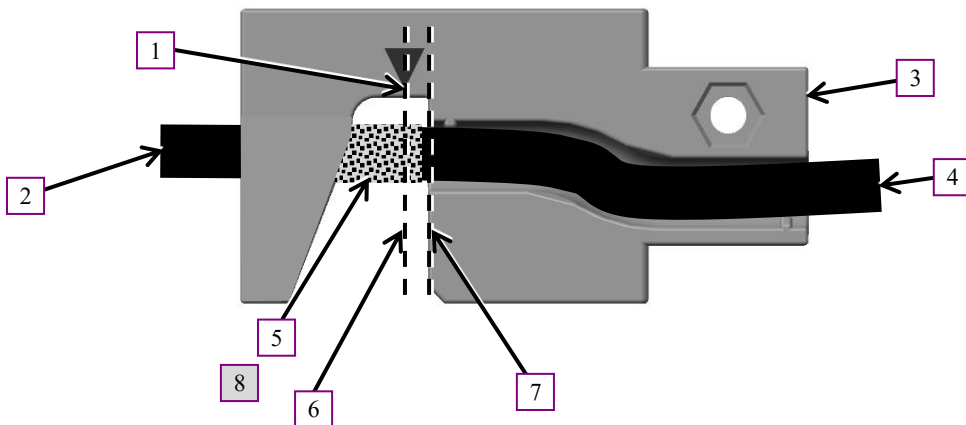
Fig. 58



1	Corrugated tube	2	NOK
3	Set Corrugate tube on Arm set so that the convex portions should be overlapped to the concave portions three or more as shown.		

8-1-3 Cord cover section

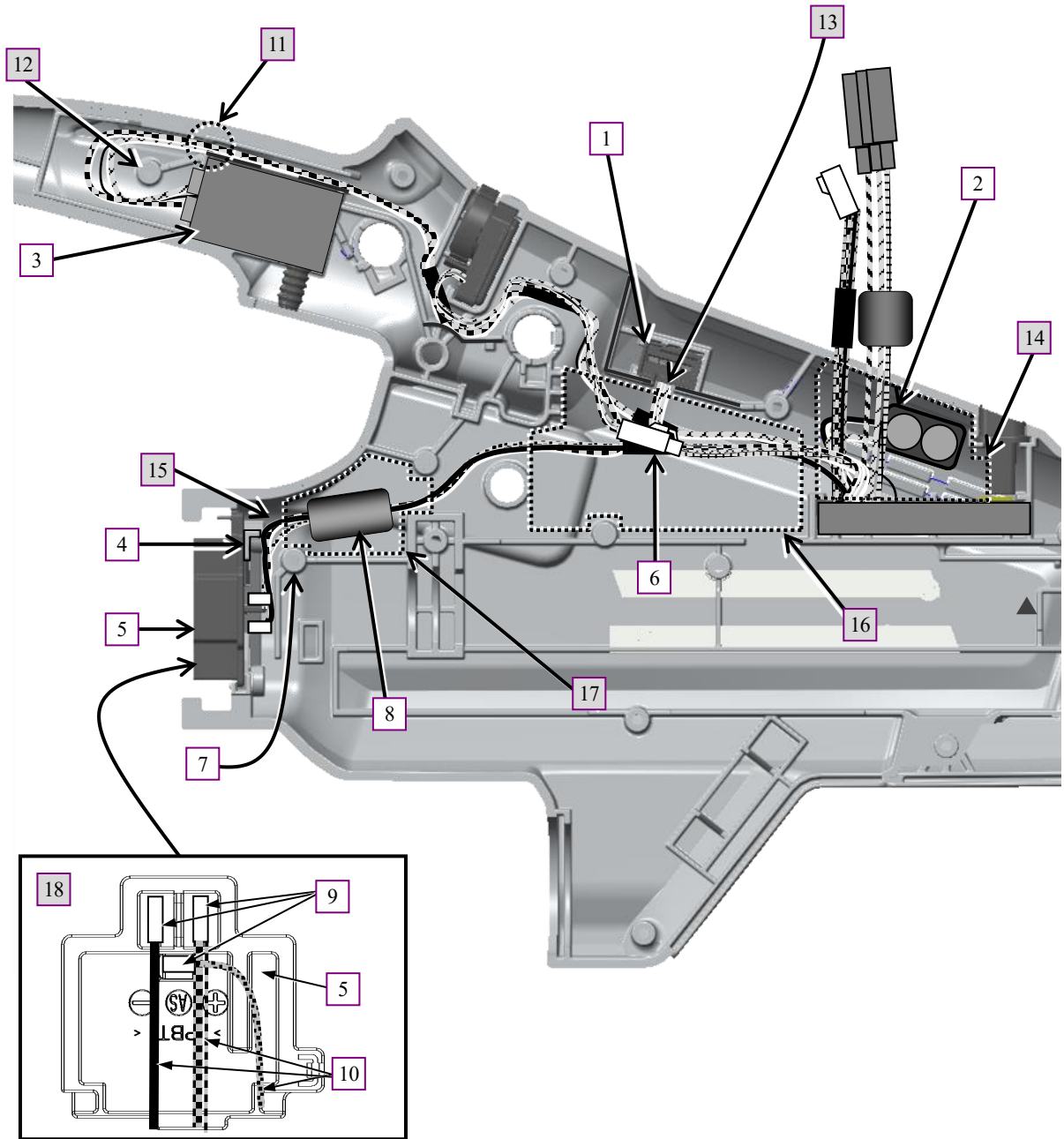
Fig. 59



1	Triangle marking	5	Tape A
2	Power supply cord unit (Bullet terminal side)	6	Dotted line B (The top of Triangle marking)
3	Cord cover	7	Dotted line A
4	Power supply cord unit (Motor side)		
8	Put Power supply cord unit in Cord cover so that the edge of Tape A (Motor side) places between Dotted lines A and B.		

8-1-4 Handle section

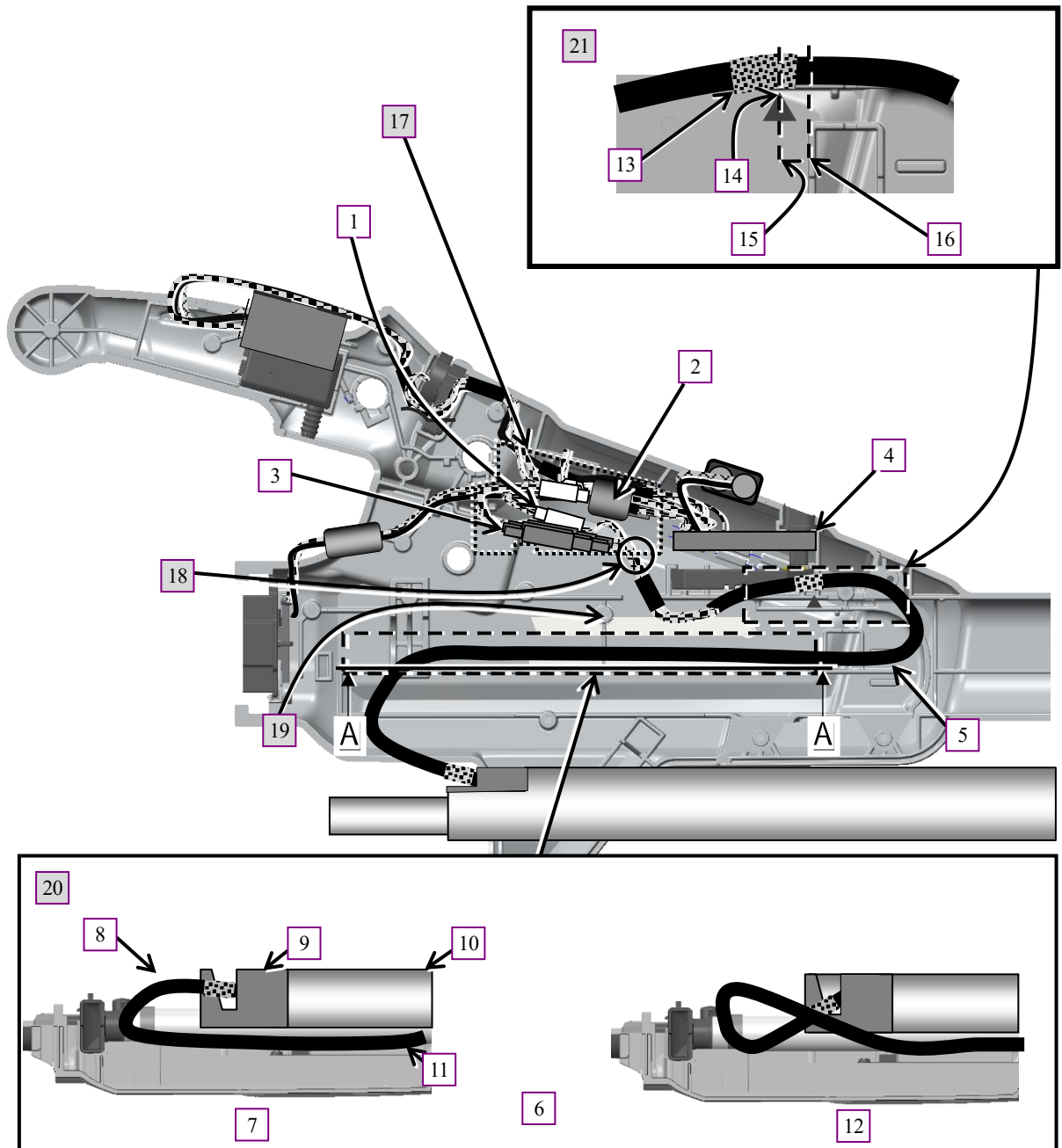
Fig. 60



1	Connector for Wireless unit	6	Connector (3-pin)
2	Capacitor	7	Boss A
3	Switch	8	Line filter on Lead wires with Terminal (if used)
4	Rib A	9	Flag receptacle
5	Terminal	10	Lead wire
11	Fix Lead wires to Switch in this lead wire holder so that the red or white lead wire can be placed on the top.		
12	Be careful not to route Lead wires on this boss.		
13	Fix Lead wires to Connector for Wireless unit in this groove.		
14	Place Capacitor in this space.		
15	Route Lead wires to Terminal between Rib A and Boss A.		
16	Place Connector (3-pin) in this space.		
17	Place Line filter on Lead wires with Terminal in this space.		
18	Assemble Flag receptacle to Terminal as shown.		

9-1-1 Handle section

Fig. 61



1	Connector (5-pin)	9	Cord cover
2	Line filter with Controller lead wires connect to Bullet terminals (if used).	10	Pipe A
3	Bullet terminal	11	Power supply cord unit
4	Controller	12	NOK
5	Power supply cord unit	13	Tape B
6	SEC.A-A	14	Triangle marking
7	OK	15	Dotted line B (The top of Triangle marking)
8	Pipe B	16	Dotted line
17	Bullet terminals, Connector (5 pins) and Line filter on Lead wire with Bullet terminal of Controller must be stored in the space designated with a dot line.		
18	Fix Power supply cord unit lead wires in this groove.		
19	Be careful not to route Power supply cord unit lead wires on this rib.		
20	<ul style="list-style-type: none"> Place Power supply cord unit in this space. Be careful not to twist Power supply cord unit lead wires as NOK. 		
21	Place Power supply cord unit so that the edge of Tape B (Motor side) is in the area between the dotted lines A and B.		

10 TROUBLESHOOTING

Whenever you find any trouble in your machine, first, see this list to check the machine for solution.

10-1 Note for Repairing

The content may vary depending on the model.

- 1 Use a full charged battery which has a star mark.
- 2 When Housing is disassembled, check the conditions of each part (Mechanical lock, Adherence of iron powder to Rotor and Stator, Disconnection of Connectors, Lead wires, Assembling of Stator, Connection of Terminal unit and Battery, etc.).
- 3 Be sure to test the machine 10 times to correctly diagnose functions such as Variable speed control, etc.
- 4 In order to make it easier to reproduce symptoms, run the motor at Lowest speed.
- 5 Use the following Repairing tools for diagnosing Switch.

Repairing tools	Purpose
1R402	For checking variable resistance value or electrical continuity at contact points
1R402-B	
1R413	For checking variable resistance value or electrical continuity at contact points

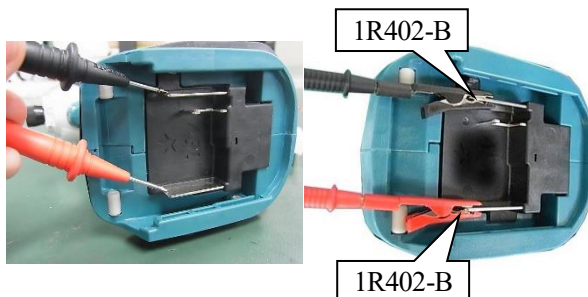
10-2 Test for checking the short-circuit in FET (Field Effect Transistor) of controller

Fig. 62



- 1 Set Digital tester (1R402) to Diode mode.

Fig. 63



- 2 Connect Black probe to the plus pole of Terminal unit, and Red probe to the minus pole.

Tips

By attaching 1R402-B to each probe of 1R402, you can make your hands free for easier check.

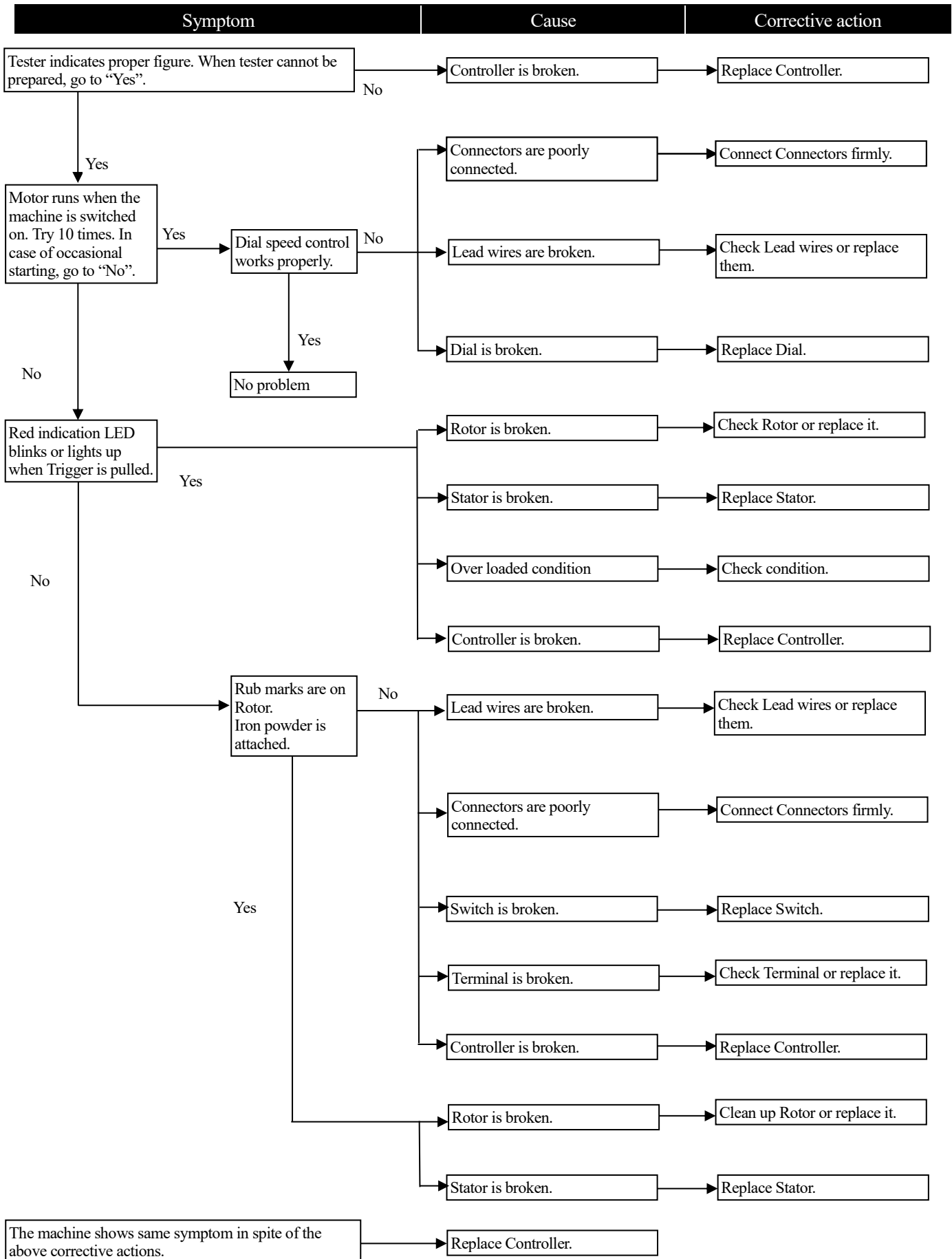
Note

Be careful not to reverse them. The reversed contacts could spoil the test.

- 3 Wait until the figure on Tester gets stable.
- 4 Controller is in order if Tester indicates $0.8 \pm 0.1V$. If Tester indicates 0V or 0.4V approx., Controller is broken. Replace it with a new one.

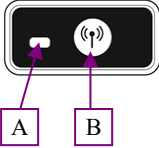
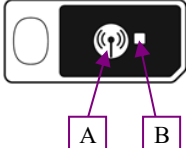
10-3 Flowchart for Troubleshooting

Check the items in the following flowchart in order from the top to bottom. Description of the item is referred to CIRCUIT DIAGRAM. After corrective action, return to the start of Troubleshooting and re-check again.


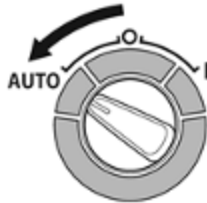


10-4 Wireless activation




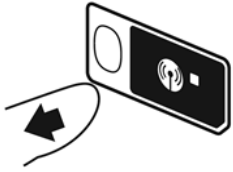
- Be sure to prepare non-defective AWS-supported tool and vacuum cleaner for efficient defect inspection.
- Check Step 1 (10-4-1) to Step 3 (10-4-3) in order and if some troubles happen, see [10-4-4](#).
- During the inspection, do not use microwave oven nearby.

AWS-supported tool		AWS-supported vacuum cleaner	
			
A	Wireless activation lamp	A	Wireless activation button
B	Wireless activation button	B	Wireless activation lamp

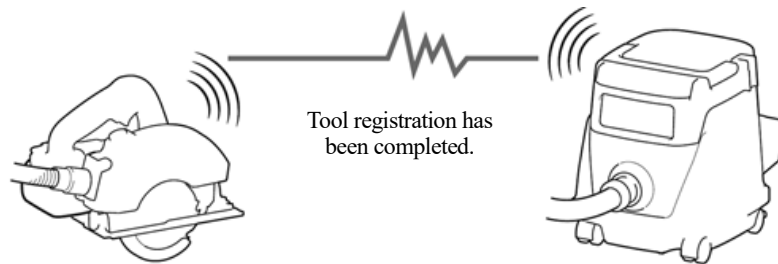
10-4-1 Step 1: Preparation for Wireless activation

AWS-supported tool		AWS-supported vacuum cleaner	
<ol style="list-style-type: none"> 1 Install battery/batteries. 2 Make sure that Wireless activation lamp lights up in red, then the lamp turns off. 3 Press Wireless activation button briefly, then make sure that the lamp blinks in blue. 		<ol style="list-style-type: none"> 1 Install battery/batteries or plug in the machine. 2 Set the stand-by switch to "AUTO".  3 Make sure that Wireless activation lamp lights up in red, then blinks in blue. 	

10-4-2 Step 2: Tool registration

AWS-supported tool	AWS-supported vacuum cleaner
<p>1 Press and hold down Wireless activation button, then make sure that Wireless activation lamp blinks in green.</p>  <p>2 After the lamp starts blinking in green, release your finger.</p> 	<p>1 Press and hold down Wireless activation button, then make sure that Wireless activation lamp blinks in green.</p>  <p>2 After the lamp starts blinking in green, release your finger.</p> 

- 3** Make sure that, after Wireless activate lamps blink in green, the lamps light up in green (without blinking) for 2 seconds, then start blinking in blue.

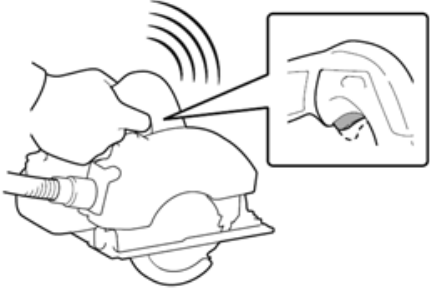
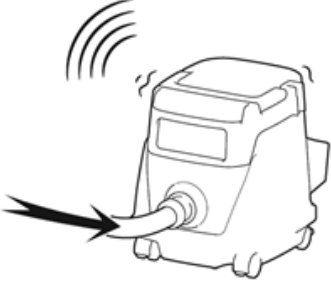


Note

If Wireless activation lamp does not light up in green, restart from Step 1 ([10-4-1](#)).
 If the light does not light up again, go to [10-4-4](#).

10-4-3 Step 3: Checking wireless activation

The tool and cleaner should be about 5m apart from each other.

AWS-supported tool	AWS-supported vacuum cleaner
<p>Make sure that, when the tool is activated, Wireless activation lamp lights up in blue.</p> 	<p>Make sure that, when the tool is activated, Wireless activation lamp lights up in blue and Wireless activation works properly.</p> 

10-4-4 What to check and Corrective action

Whenever you disassemble AWS-supported tool and vacuum cleaner, be sure to check AWS-related parts for broken wires or poor wire connection.

AWS-supported tool			AWS-supported vacuum cleaner		
Step	What to check	Corrective action	Step	What to check	Corrective action
1, 2, 3	Wireless unit	check, replace	1	Power switch	check, replace
1, 3	Connector connection failure	check, clean	1, 2, 3	Wireless unit complete	check, replace
1, 3	Sub controller	check, replace	1, 3	Controller	check, replace
1, 3	Controller	check, replace			