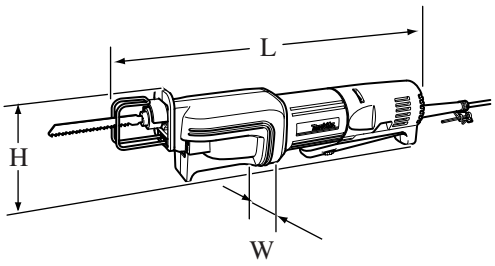
TECHNICAL INFORMATION

Models No. ► JR1000FT, JR1000FTK

Description ► Recipro Saw



Dimensions: mm (")	
Length (L)	345 (13-5/8)
Width (W)	65 (2-9/16)
Height (H)	96 (3-3/4)

CONCEPT AND MAIN APPLICATIONS

Compact and easy-to-use recipro saw has been developed for the following works:
* Square cutting plasters or wooden boards overhead in a room
* Grinding and deburring of the cross sections when making notches for door lock
* Cutting pipes, studs and boards located in hard-to-reach spots

B type shank blades commonly used for Jig-saw are available. Also, the other optional accessories help the operator do various applications.

Models JR1000FT and JR1000FTK are different in the standard equipment as described below.

► Specifications

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	3.3	50 / 60	340	175	310
220-240	1.6	50 / 60	340	175	310

Stroke per minute: min^{-1}		0 - 4,800
Length of Stroke: mm (")		14 (9/16)
Capacity	* Wood: mm (")	55 (2-3/16)
	**Pipe: dia. mm (")	ø25.4 (1)
Variable speed control		Yes
Net weight: kg (lbs)		1.5 (3.3)
Power supply cord: m (ft)		2.5 (8.2)

* when cutting with the supplied 105mm (4-1/8") length recipro saw blade for wood
**when cutting with the supplied 75mm (2-15/16") length recipro saw blade for metal

Note: The specifications of the tool shown above may differ from country to country.

► Standard equipment

Wrench holder
Hex. wrench (for adjustment of shoe)

For JR1000FT only: Jig saw blades(each 1 pc. of Nos. B-8, B-10, B-30)

For JR1000FTK only: Plastic carrying case,
Round file,
Flat file,
Sanding adapter,
Abrasive papers (1 pc. of WA60 and WA120: for use with sanding adapter),
Jig saw blades (1 pc. only of No. B-K and each 2 pcs. of Nos. B-8, B-10, B-19S, B-22S, B-24S and B-30)

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

► Optional accessories

B type shank jig saw blade, Plastic carrying case, Round file, Flat file,
Sanding adapter, Hook and loop type abrasive paper

Repair

CAUTION: Be sure to unplug the tool and remove the Jig saw blade for safety before repair/ maintenance.

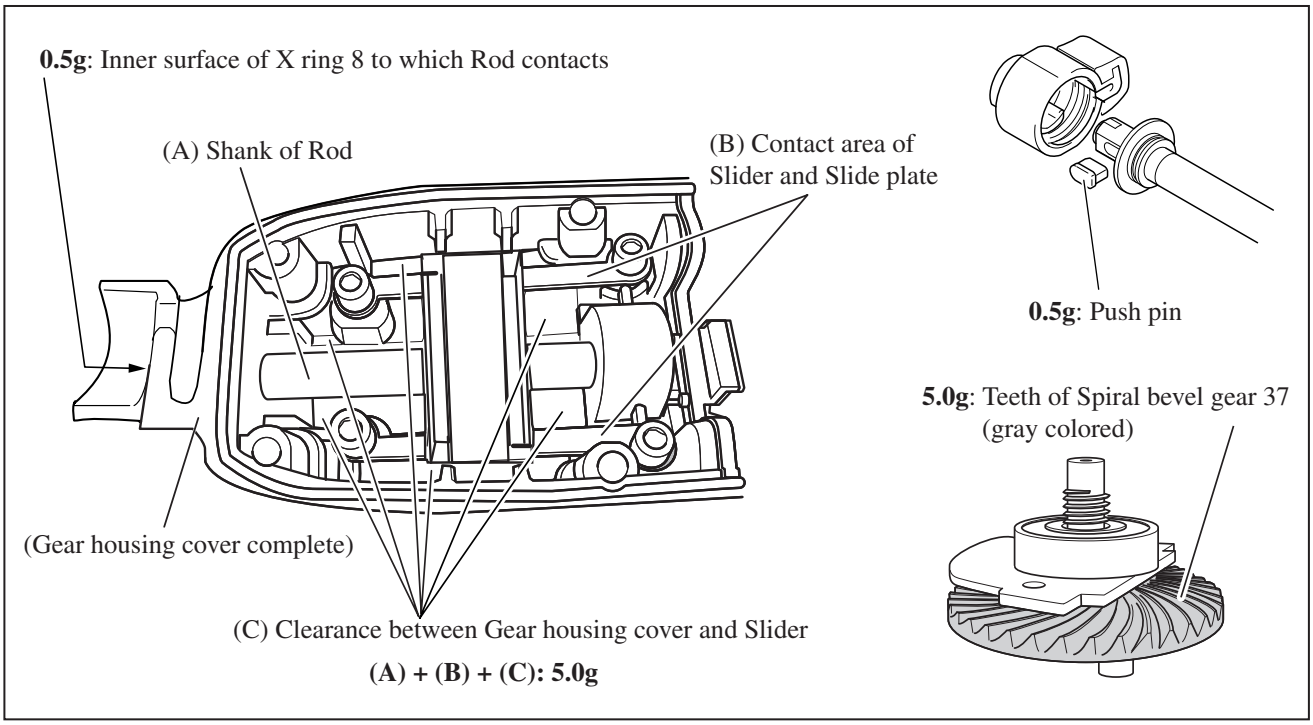
[1] NECESSARY REPAIRING TOOLS

Item No.	Description	Purpose
1R173	Retaining ring R pliers for internal ring	For installing/removing Retaining ring R-35
1R154	L type torx wrench M4	For installing/removing M4x10 Countersunk head screws for Slider
1R269	Bearing extractor	For removing Ball bearings 609LLB, 696ZZ and 6000DDW

[2] LUBRICATION

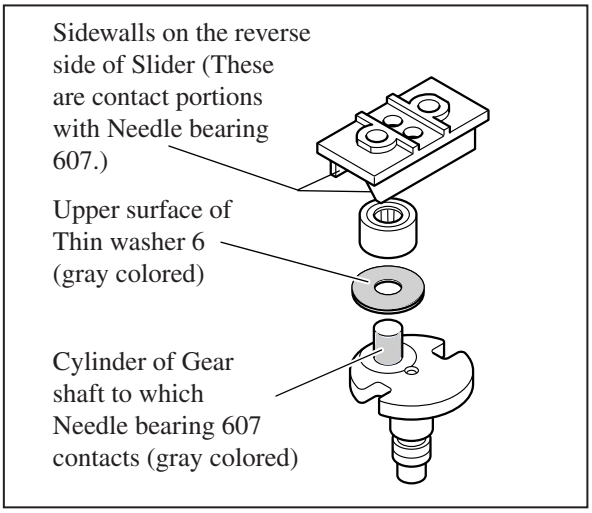
Apply Makita grease N. No.1 (11.0g) to the designated portions as illustrated in **Fig. 1**.

Fig. 1



Apply molybdenum grease (11.0g) to the designated portions as illustrated in **Fig. 2**.

Fig. 2



► Repair

[3] Disassembling/ assembling Shoe

Loosen M4x10 Hex. socket head bolt until Shoe can be moved. The bolt is set through the center of Plate for holding Shoe. See **Fig. 3, Fig. 4 and Fig. 5** for the detail.
Follow the disassembling procedure in reverse for fixing Shoe to the machine.

Fig. 3

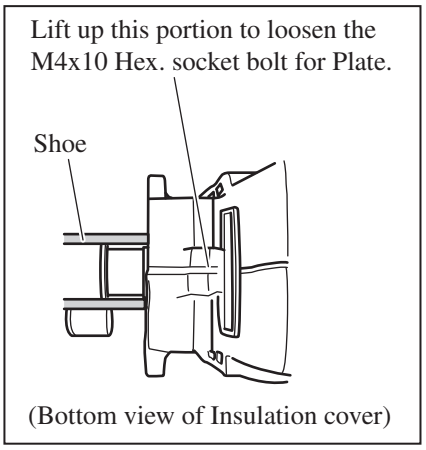


Fig. 4

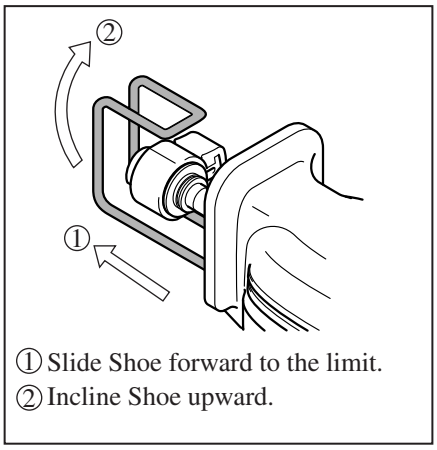
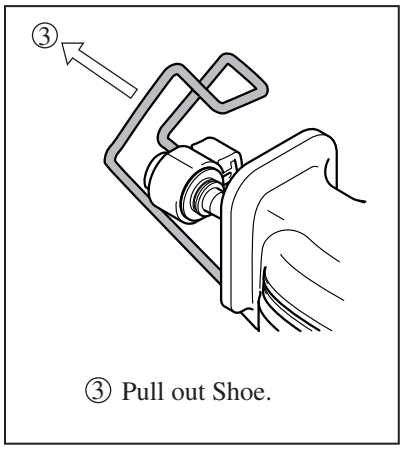


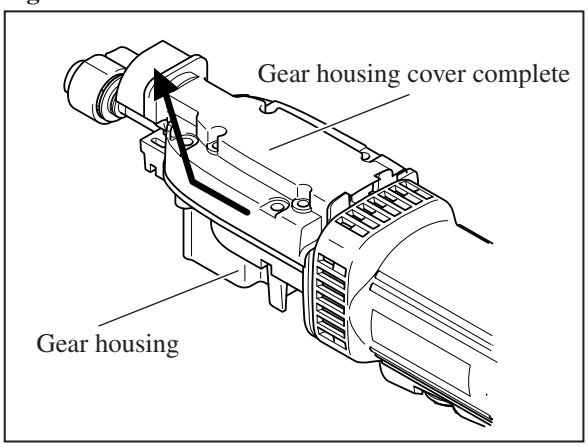
Fig. 5



[4] Disassembling/ assembling Gear Housing Cover

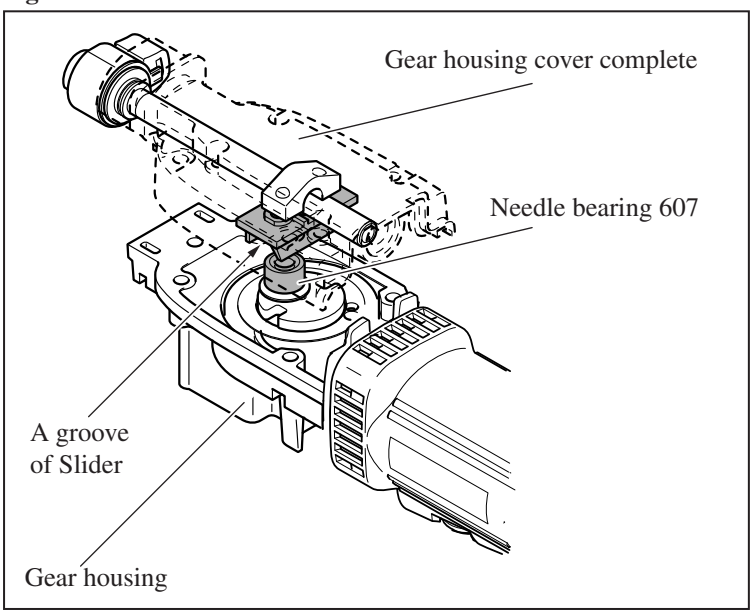
Remove four M4x25 Pan head screws to separate Gear housing cover complete from Gear housing, Then, lift up Gear housing cover complete while pushing it forward direction as shown in **Fig. 6**.

Fig. 6



To assemble Gear housing cover complete with Gear housing, pay attention that Needle bearing 607 in Gear housing cover complete should be put into a groove of Slider as shown in **Fig. 7**.

Fig. 7

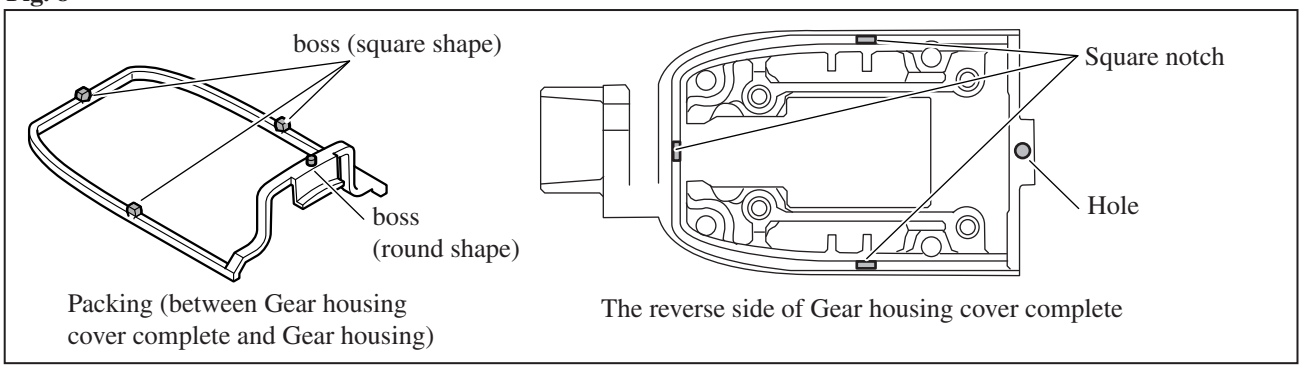


Repair

[5] Assembling Packing

Meet four bosses of Packing with three notches and a hole of Gear housing cover complete as illustrated in **Fig. 8**.

Fig. 8



[6] Disassembling/ assembling Gear Shaft

Remove Insulation cover from the machine.
Separate Light cover and LED circuit from the machine by removing two M4x16 Pan head screws as shown in **Fig. 9**.
Light cover has a hook to be hooked on a notch of Lead unit. When disassembling Light cover, lift up it while gently pushing as illustrated in **Fig. 9** with Flat screwdrivers. The hook of Light cover can be removed from the notch of Lead unit as shown in **Fig. 10**.
(When fixing Light cover to the machine, put lead wires into lead wire holders and set connectors in place as shown in **Fig. 11** so that they are not pinched between Light cover and LED circuit. Give attention to insert the hook of Light cover into the notch of Lead unit.

Fig. 9

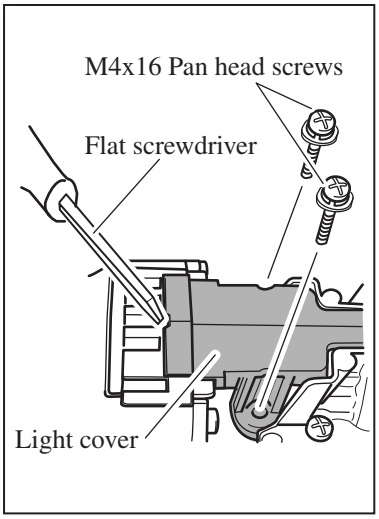


Fig. 10

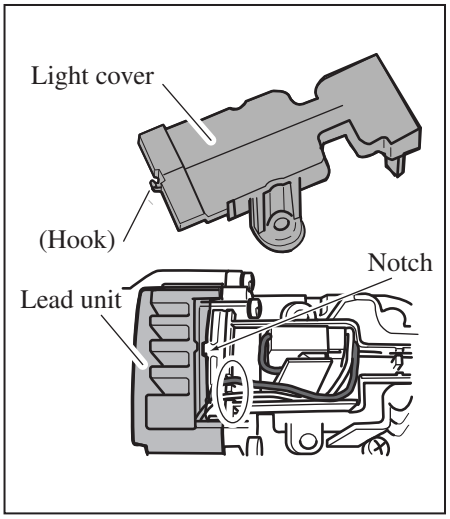
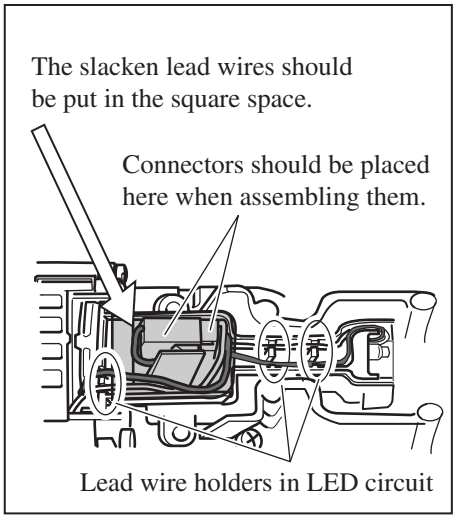


Fig. 11



Unscrew three M4x8 Pan head screws connecting Gear housing and Bearing retainer 37. See **Fig. 12**.
Remove Gear shaft unit from Gear housing.
Remove Ball bearing 696ZZ from Gear shaft using Bearing extractor (No. 1R269).
Loosen M8 Hex. nut using Lock nut wrench 20 (No. 782401-1) and Spanner 13 as illustrated in **Fig. 13.**

Fig. 12

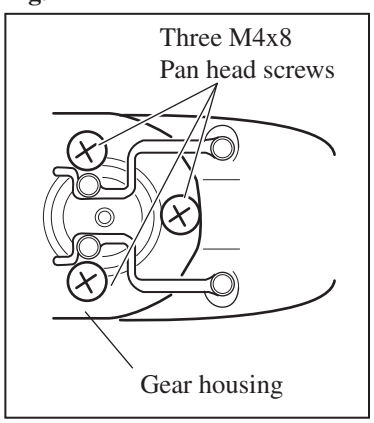
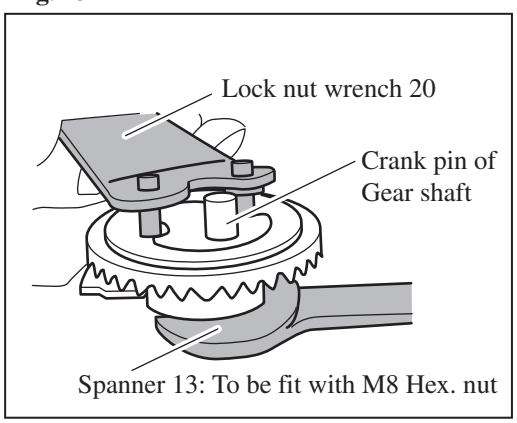


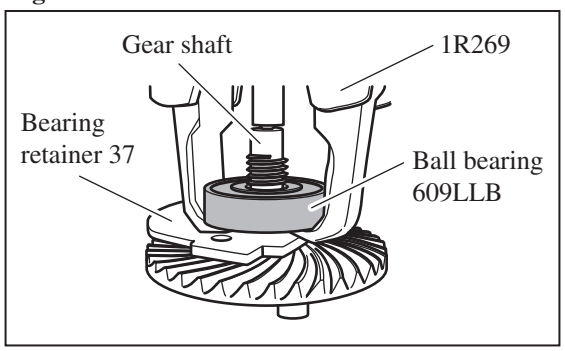
Fig. 13



Repair

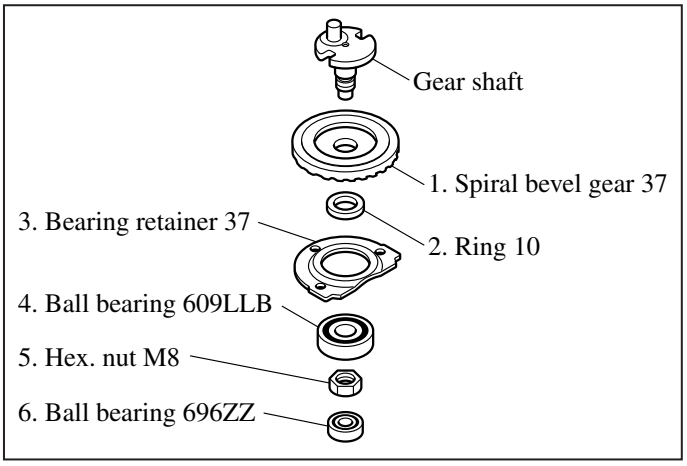
Insert the jaws of Bearing extractor between Ball bearing 609LLB and Bearing retainer 37 as illustrated in **Fig. 14**. Ball bearing 609LLB can be removed from Gear shaft using Bearing extractor.

Fig. 14



When assembling Gear shaft section, pay attention to the order of the component parts as shown in **Fig. 15**.

Fig. 15



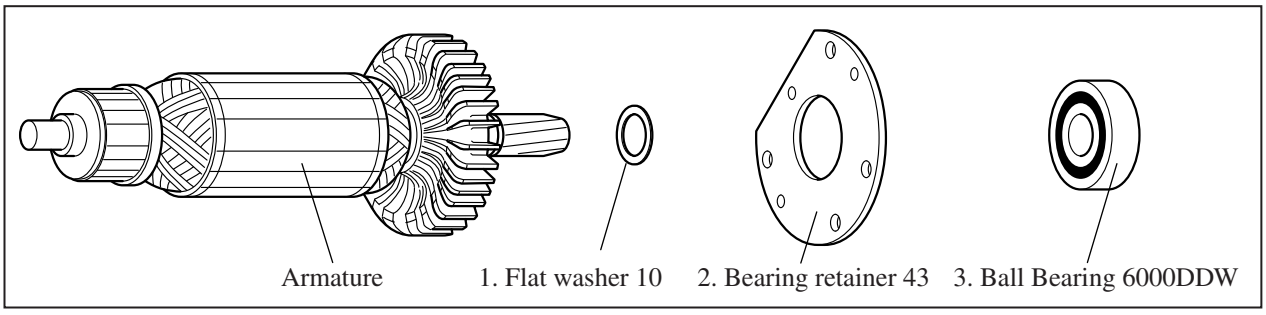
Do the reverse of disassembly procedure when installing Gear shaft section to the machine.

Note: Use new three M4x8 Pan head screws (No. 911506-2: with adhesive) connecting Bearing retainer 37 and Gear housing. If there are not these genuine parts, be sure to put adhesive onto the threads of M4x8 Pan head screws when screwing them.

[7] Disassembling/ assembling Armature section

Remove four 4x18 Tapping screws connecting Gear housing and Motor housing.
Take out Armature in Motor housing. Pay attention that Armature comes with Gear housing at this time.
Remove four M4x12 Pan head screws (with adhesive) connecting Bearing retainer 43 and Gear housing.
Armature can be separated from Gear housing.
After removing Retaining ring S-10 from the groove of Armature shaft, separate Bearing retainer 43 and Ball bearing 6000DDW from Armature shaft at a time.
Do the reverse of disassembly procedure when installing Armature section to the machine.
Pay attention to the order of the component parts as shown in **Fig. 16**.

Fig. 16



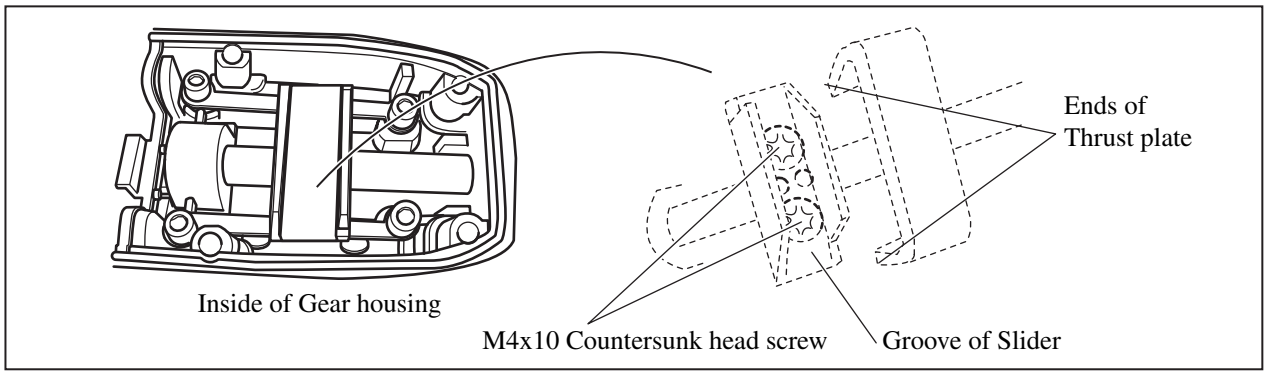
Note: Use new four M4x12 pan head screws (No. 911516-9: with adhesive) connecting Bearing retainer 43 and Gear housing. Be sure to put some adhesive onto the threads of M4x12 Pan head screws when screwing them.

► Repair

[8] Disassembling/ assembling Thrust plate, Rod and Holder

Gently hook each end of Thrust plate with Flat screwdriver and remove it from Slider as illustrated in **Fig. 17**.
When assembling them, push Thrust plate' ends until they are completely fit on a groove of Slider.

Fig. 17



Two M4x10 Countersunk head screws connecting Holder and Slider should be disassembled/assemblded using L-type torx wrench M4 (No.1R154) or T20 torx driver.
Be sure to replace new M4x10 Countersunk head screws when loosening them.
Some adhesive should be put onto the threads of the screws before use.
When fixing Holder to Slider with the two M4x10 Countersunk head screws;
1) tighten the screws alternately to even torque.
2) minimize the slant of Holder from its level position.

[9] Disassembling/ assembling Blade Holder

Remove Holder cover from Blade holder. After that, separate Dust cover from Blade holder and unlock Retainer ring R-18 from Rod using Retainer ring pliers for small size retaining ring (i.e., Part No. 1R173).
See **Fig. 18** for the relevant parts and refer to **Fig. 19** for how to disassemble Holder cover from Blade holder.

Fig. 18

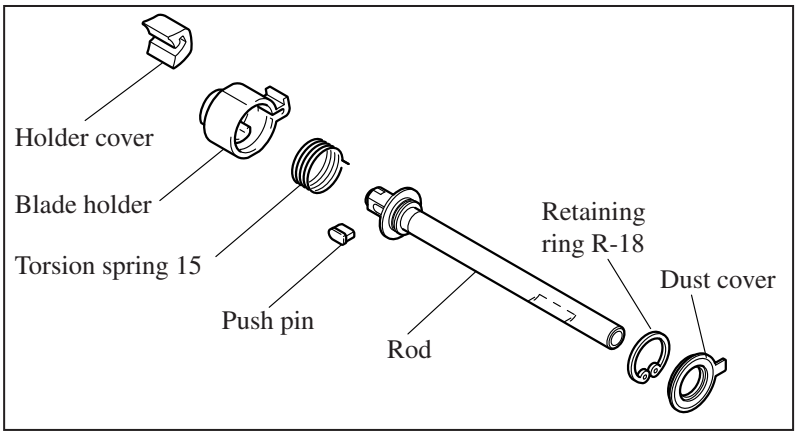
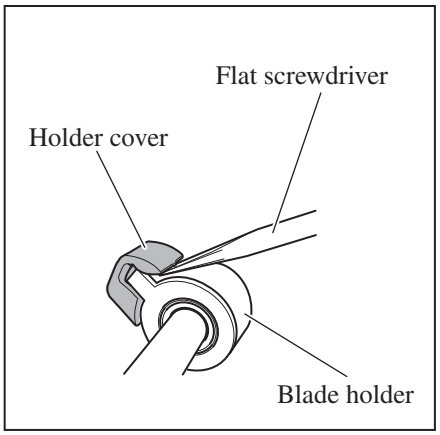
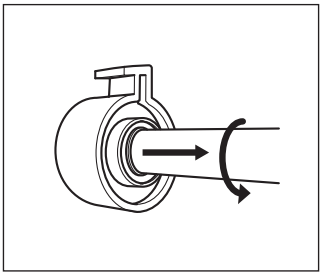


Fig. 19



Pull out Rod from Blade holder while turning it counterclockwise as illustrated in **Fig. 20.**

Fig. 20



► Repair

When assembling Blade holder section, apply 0.5g Makita grease N No.1 to Push pin. And then set Push pin in a oval hole of Rod. See **Fig. 1** in page 2. Pay attention that Push pin has a shape not to be set in the inverse direction.
Insert the tail of Torsion spring 15 facing inside into the hole of Rod. Refer to **Fig. 21**.
Aligning the mark of Blade holder and the another tail of Torsion spring 15, insert Rod with Torsion spring 15 and Push pin into Blade holder as shown in **Fig. 22**.

Fig. 21

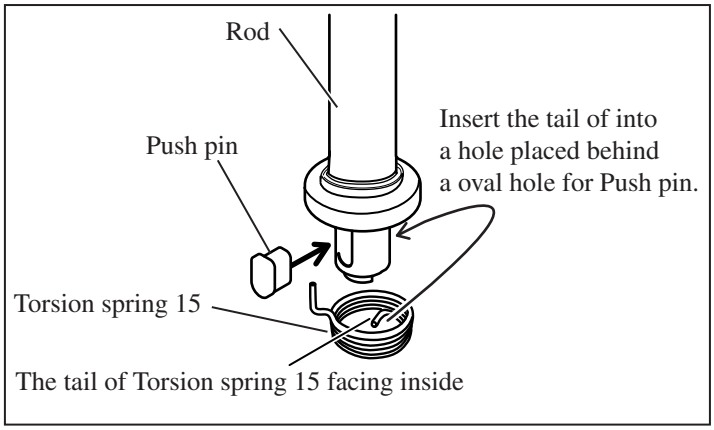
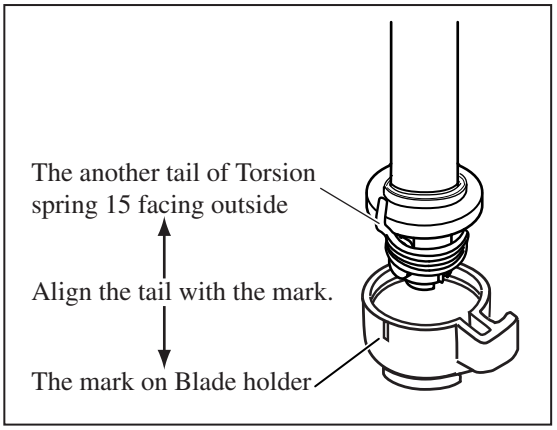


Fig. 22



As illustrated in **Fig. 23**, bring the tail of Torsion spring 15 clockwise to the space A of Blade holder and install the tail into the space A.
Cover the whole shapes of Push pin and Torsion spring 15 with Blade holder completely.
Install Retainer ring R-18 and Dust cover in place. Dust cover should be fit in Blade cover and should not lift up.
See **Fig. 24**.

Fig. 23

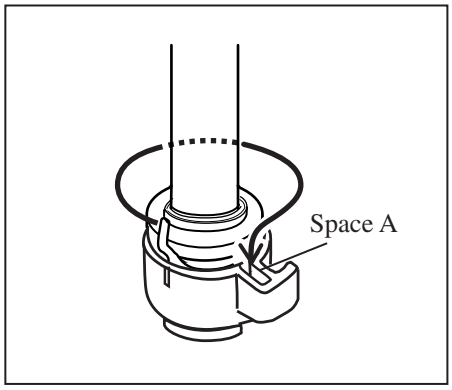
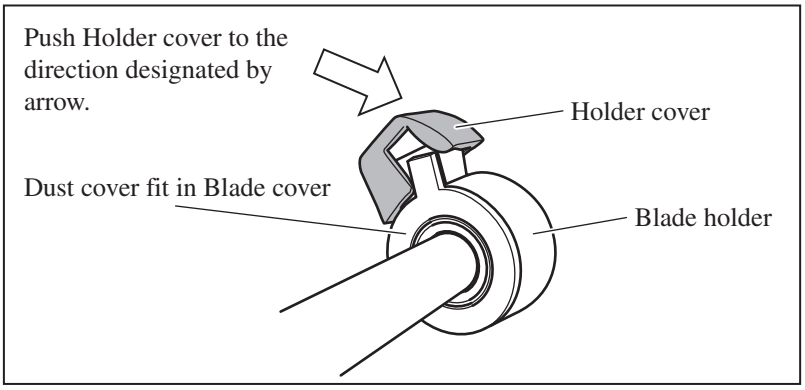


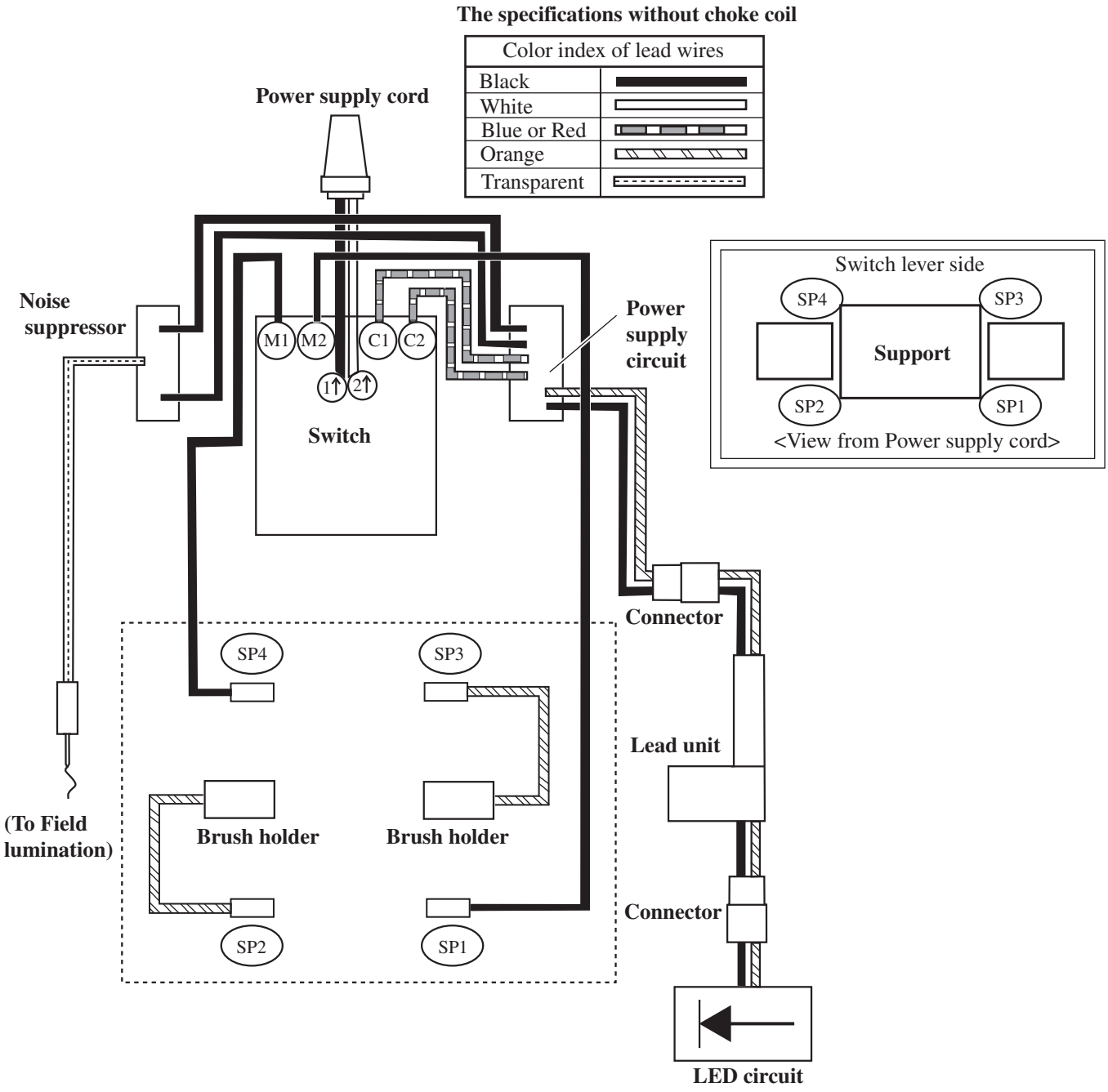
Fig. 24



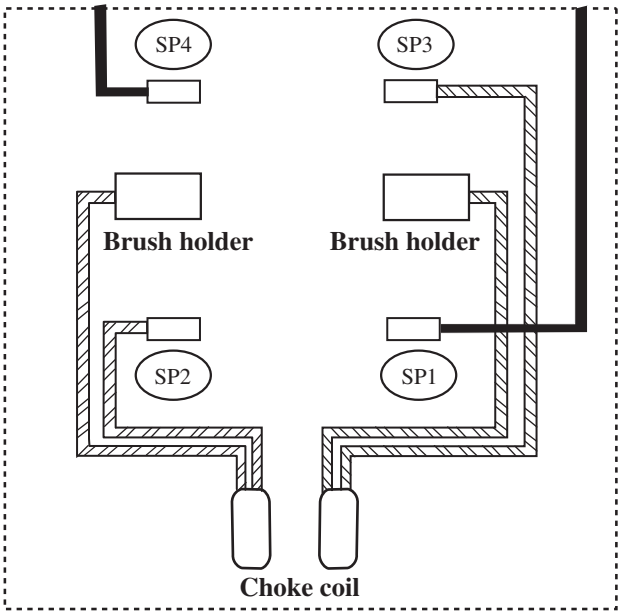
[10] Fastening Torque to Screws, Nuts and Bolts

4x18 Tapping screws, 4x35 Tapping screws	Connecting Rear cover R and Rear cover L	1.3 up to 1.8 N.m (13 up to 18kgf.cm)
4x18 Tapping screws	Connecting Gear housing and Motor housing	1.3 up to 1.8 N.m (13 up to 18kgf.cm)
4x65 Tapping screws	Connecting Field and Motor housing	1.3 up to 1.8 N.m (13 up to 18kgf.cm)
M4x12 Tapping screws	Connecting Bearing retainer 43 and Gear housing	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M8 Hex. nut	For Gear shaft	11.2 up to 15.0 N.m (114 up to 153kgf.cm)
M4x10 Countersunk head screws	Connecting Plate and Gear housing	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M4x10 Countersunk head screws	Connecting Slider and Holder	1.8 up to 3.1 N.m (18 up to 30kgf.cm)
M4x25 Pan head screws	Connecting Gear housing and Gear housing cover complete	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M4x16 Pan head screws	Connecting Light cover and Gear housing	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M4x8 Pan head screws	Connecting Bearing retainer 37 and Gear housing	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M4x8 Hex. socket head bolts	Connecting Slide plate and Gear housing cover complete	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)
M4x10 Hex. socket head bolts	Connecting Plate and Gear housing	0.88 up to 1.8 N.m (9.0 up to 18kgf.cm)

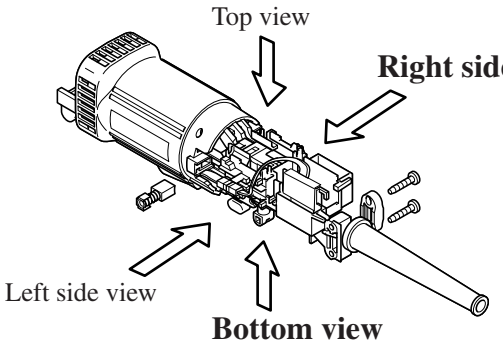
Circuit diagram



If choke coil is factory-assembled, the diagram in the dash line is as below.



► Wiring diagram



Bottom view

Right side view

Power supply cord

Power supply cord

Pulling lead wire (black) toward power supply cord side, hook it with two bosses and put it into lead wire holders 1, 2 and 3 in order.

Put the slack portion of the followings in the area surrounded with square.
* Lead wire (blue or red) of Field
* Lead wire (black) of Brush holder
* Lead wire (orange) of Choke coil

Lead wire holder 3

Lead wire holder 2

Lead wire holder 1

Two bosses to hook lead wire

Lead wire holder B

Lead wire holder A

Brush holder

Brush holder

Lead wire (orange) of Choke coil

Lead wire (black) of Brush holder

Lead wire (blue or red) of Field

The terminal of Noise suppressor's lead wire (transparent)

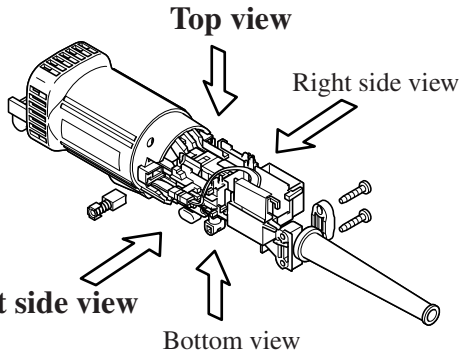
Route lead wires of LED to lead wire holders.

Pulling lead wire (transparent) of noise suppressor to the power supply cord side, route it to lead wire holders A and B in order.

Lead wire (transparent) of Noise suppressor

Pulling the followings to the power supply cord side, route them to lead wire holders.
* Lead wire (blue or red) of Field
* Lead wire (black) of Brush holder
* Lead wire (transparent) of Noise suppressor

► Wiring diagram



Left side view

Top view

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

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

Power supply cord

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

Power supply cord

Support

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

Lead wire holder 2

Lead wire holder 1

Noise suppressor

Switch

Power supply circuit

Lead wire (black) of Field

Lead wires (red) of power supply circuit

If choke coil is used, put lead wires (black) of brush holder into lead wire holders.

Pulling lead wire (black) of Brush holder toward the support, put it into lead wire holder.

Choke coil

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

Pulling lead wire (black) of Field to power supply cord side, put it into lead wire holder.
Put lead wires with connector of power supply circuit into lead wire holder.