

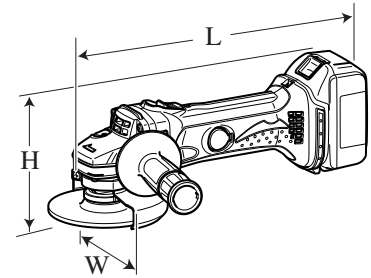
TECHNICAL INFORMATION

Model No. ▶ BGA452

Description ▶ Cordless Angle Grinders 115mm (4-1/2")

CONCEPT AND MAIN APPLICATIONS

Model BGA452 have been developed as the first Angle grinder of the MAKSTAR series models.



This new product is available in the following variations.

Model No.	Battery		Charger	Plastic carrying case
	type	quantity		
BGA452SFE BGA452*	BL1830	2	DC18SC	Yes
BGA452SFE3	BL1830	3	DC18SC	Yes
BGA452Z	No	---	No	No

Dimensions: mm (")	
Length (L)	317 (12-1/2)
Width (W)	129 (5-1/8)
Height (H)	126 (5)

*Model name for USA, Canada, Mexico, Panama

► Specification

Battery	Voltage: V	18
	Capacity: Ah	3.0
	Cell	Li-ion
Wheel size: mm (")	diameter	115 (4-1/2)
	hole diameter	22.23 (7/8)
No load speed: min-1=rpm		10,000
Overload protector		Yes
Net weight**: kg (lbs)		1.9 (4.2)

**Including only battery; Wheel, Wheel cover, Inner flange, Lock nut and Side grip are excluded.

► Standard equipment

- Lock nut wrench 28** or 35 1
 - Grip 36 compete 1
 - Depressed center grinding wheel 115-36 1
 - Cut-off wheel** 1
 - Wheel cover for cut-off wheel** 1
- (** for USA, Canada, Mexico, Panama)

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

► Optional accessories

- The same accessories as used for Model 9554NB
- Charger DC18SC, DC24SA, DC24SC
- Li-ion battery BL1830

► Repair

CAUTION: Remove the battery, grinding wheel and wheel cover from the machine for safety before repair/ maintenance !

[1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R005	Retaining Ring R Pliers ST-2	Removing retaining ring R-32 from bearing box
1R022	Bearing Plate	Removing armature
1R023	Pipe Ring	
1R045	Gear Extractor (large)	Removing spindle
1R269	Bearing Extractor	Removing ball bearing
1R278	Round Bar for Arbor 4-50	Removing armature
1R282	Round Bar for Arbor 8-50	Removing spiral bevel gear 19
1R291	Retaining Ring S and R Pliers	Removing retaining ring S-12
1R350	Ring 60	Removing armature
1R355	Gear Setting Tool	Assembling spiral bevel gear 19

[2] LUBRICATION

Apply Makita grease N. No.1 to the following portions designated with the black triangle to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate
③	O Ring 26	Whole surface
⑫	Gear Housing	Gear room (put about 7g.)

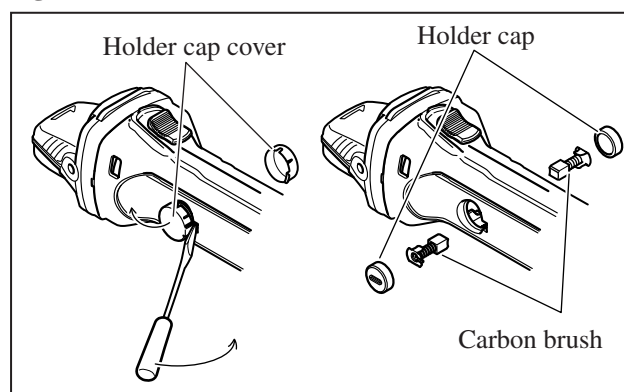
Fig. 1

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Armature, Spiral Bevel Gear 19

- 1) Remove Holder cap cover by levering up with a slotted screwdriver.
Then remove Holder cap and Carbon brush. (**Fig. 2**)

Fig. 2



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Armature, Spiral Bevel Gear 19 (cont.)

DISASSEMBLING

- 2) Separate Gear housing from Motor housing by removing four 4x30 Tapping screws. Then remove the assembly of Armature and Gear housing cover by levering Gear housing cover with a slotted screwdriver. (Fig. 3)
- 3) Armature can be disassembled using arbor press as illustrated in Fig. 4 if 1R022 can be inserted between Spiral bevel gear 19 and Ball bearing 629LLB. If not, disassemble as illustrated in Fig. 4A.
- 4) Remove Retaining ring S-9 from the shaft of Spiral bevel gear 19. (Fig. 5)
- 5) Disassemble Spiral bevel gear 19 by pressing with arbor press from the Armature installation side. (Fig. 6)
- 6) Remove Ball bearing 629LLB using 1R269. (Fig. 7)

Fig. 3

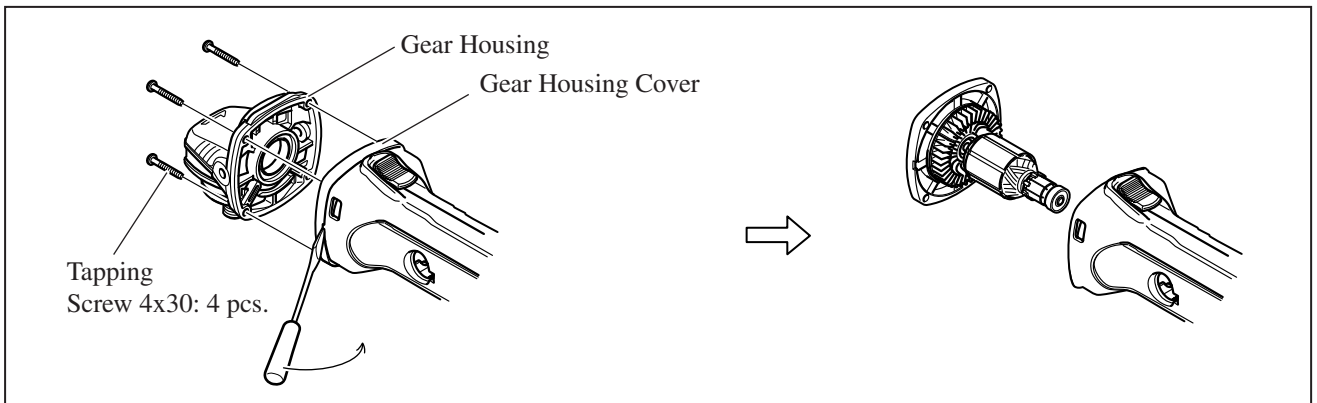


Fig. 4

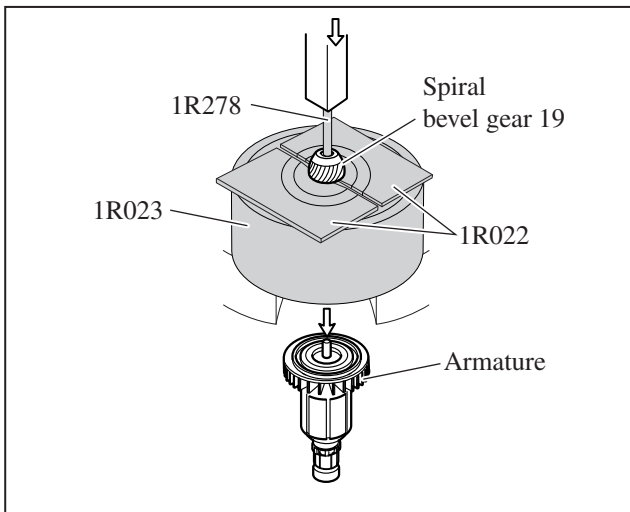


Fig. 4A

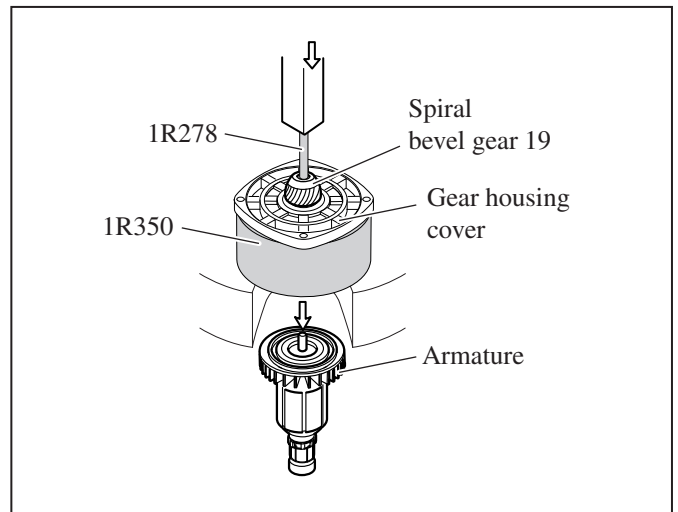


Fig. 5

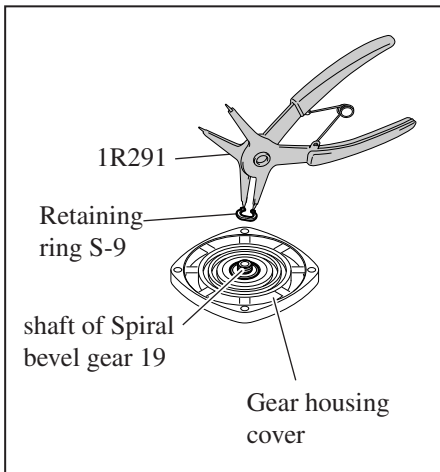


Fig. 6

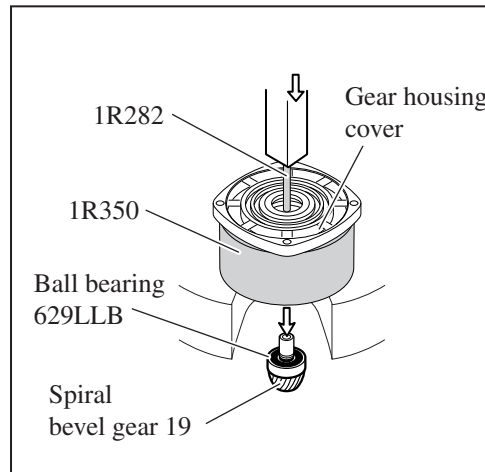
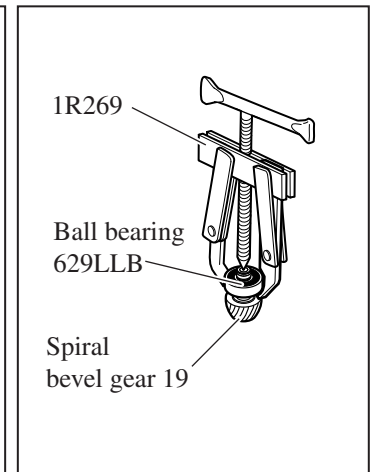


Fig. 7



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Armature, Spiral Bevel Gear 19 (cont.)

ASSEMBLING

- 1) Assemble Spiral bevel gear 19 to Gear housing as illustrated in **Fig. 8**.
- 2) Insert 1R355 into the hole of Spiral bevel gear 19. (**Fig. 9**)
- 3) Press down Armature with arbor press until the armature shaft contacts 1R355.

Important:

Armature is apt to tilt when pressing down with arbor press.

If you press down tilted Armature, armature shaft can be deformed in the worst case.

In order to press straight down, press Armature carefully every quarter turn until the armature shaft contacts 1R355.

- 4) After putting Gear housing cover on Motor housing, press down the end surface of Spiral bevel gear 19 to fit the ball bearing on the commutator end of Armature securely in the bearing box of End bell complete. (**Fig. 10**)

Fig. 8

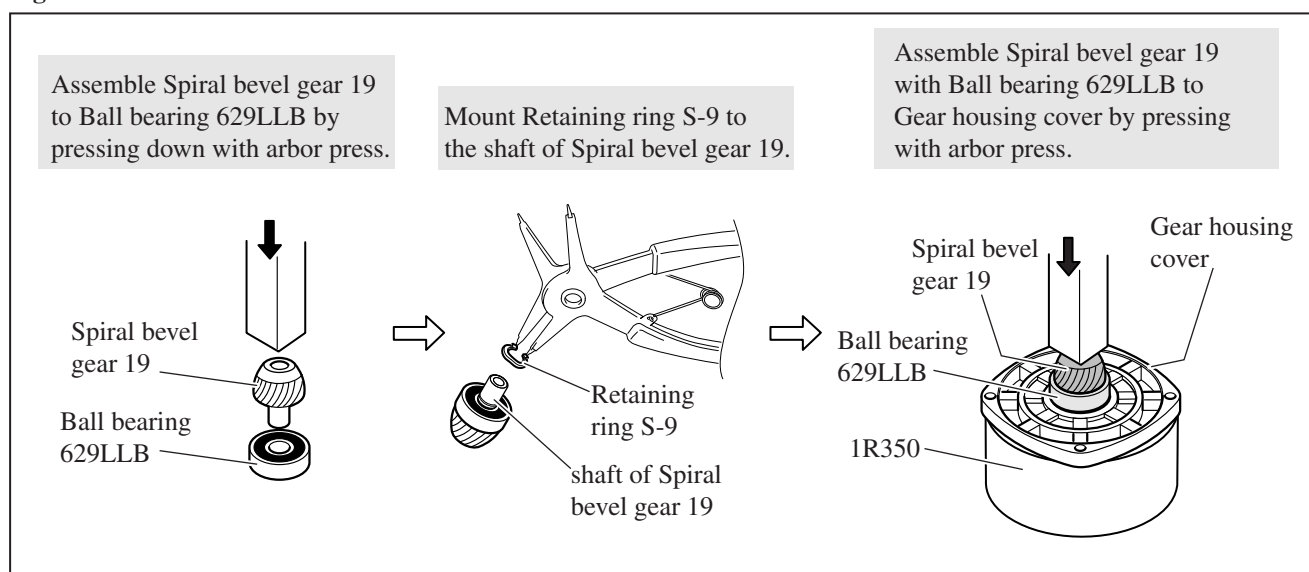


Fig. 9

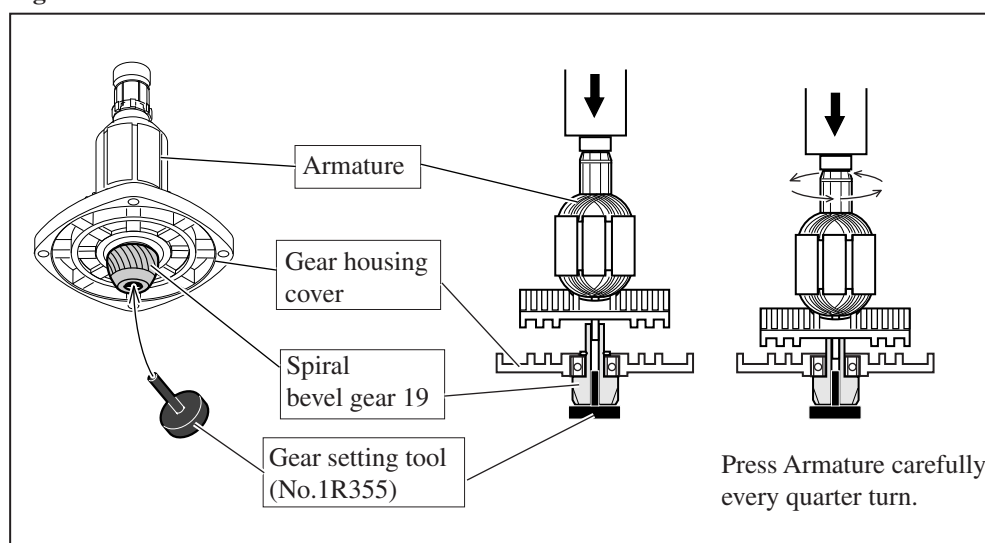
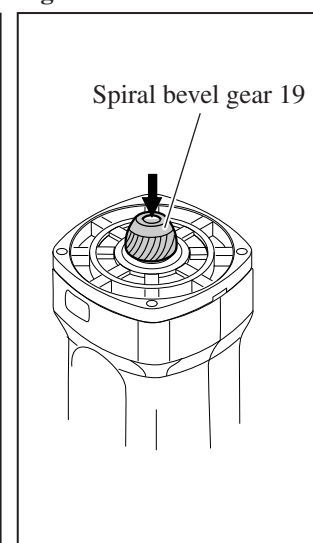


Fig. 10



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -2. Spiral Bevel Gear 39, Ball Bearing 6201DDW

DISASSEMBLING

- 1) Separate Bearing box from Motor housing. (Fig. 11)
- 2) Remove Ball bearing 696ZZ and Retaining ring S-12 from Spindle. (Figs. 12, 13)

Fig. 11

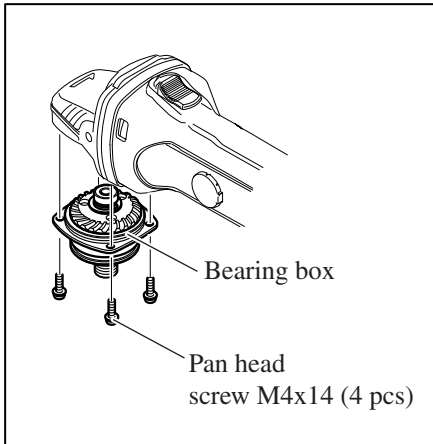


Fig. 12

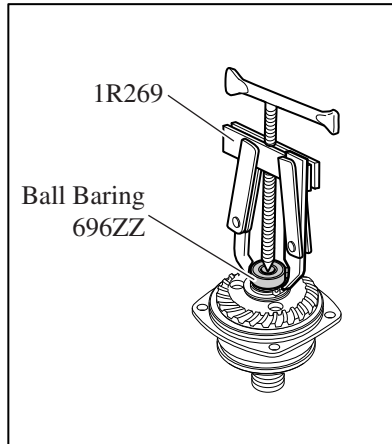
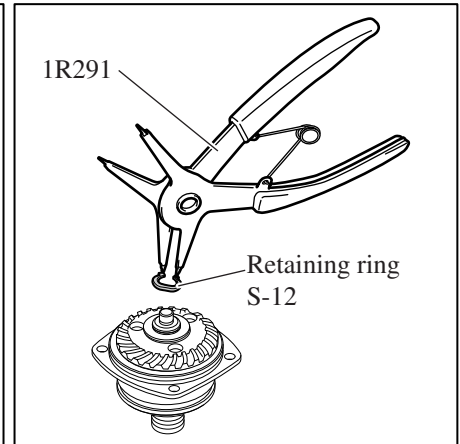


Fig. 13



- 3) Remove Flat washer 12, Spiral bevel gear 39 and Woodruff key 4 from Spindle. Then remove Spindle from bearing box with Gear extractor (No. 1R045). (Figs. 14, 15)
- 4) Remove Retaining ring R-32 with Retaining ring R pliers (No. 1R005). (Fig. 16)

Fig. 14

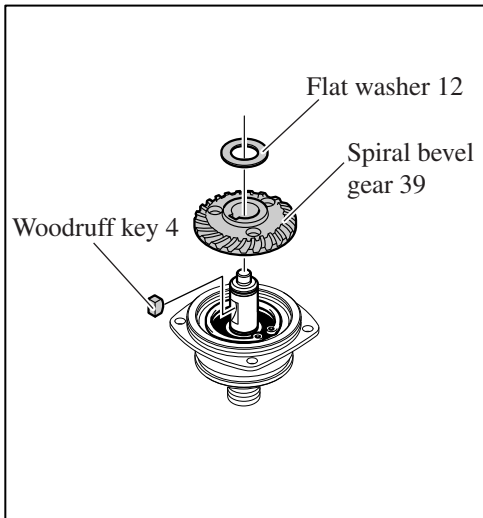


Fig. 15

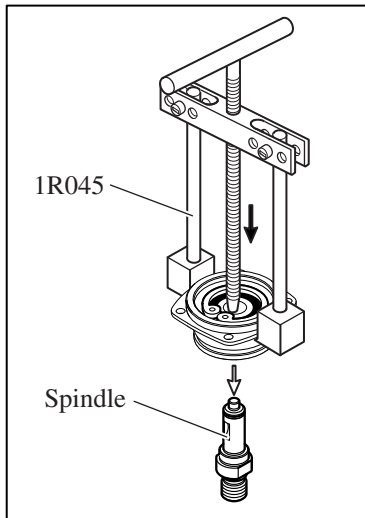
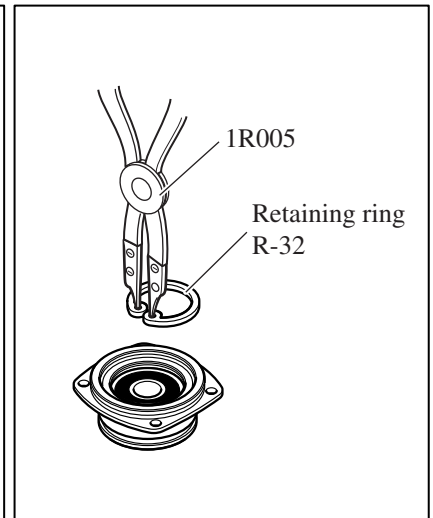
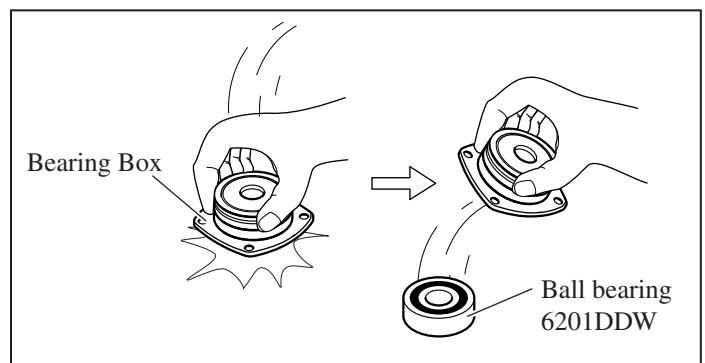


Fig. 16



- 5) Remove Ball bearing 6201DDW from Bearing box by tapping Bearing box straight against a surface of work bench or the like. (Fig. 17)
If cannot be removed by hand, use arbor press.

Fig. 17



ASSEMBLING

Do the reverse step of the disassembling steps.

► **Repair**

[3] **DISASSEMBLY/ASSEMBLY**

[3] -3. **Shaft Lock Mechanism**

DISASSEMBLY

- 1) Remove Bearing box from Gear housing.
- 2) Pull off Shoulder pin 4. (**Fig. 18**)

Important:

Do not pull off Shoulder pin 4 without holding Pin cap because Compression spring 8 would sling Pin cap.

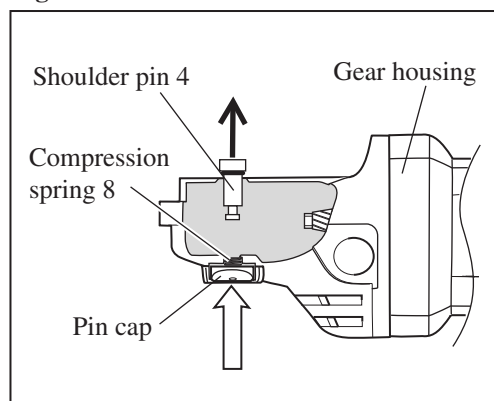
ASSEMBLY

Push Shoulder pin 4 through Gear housing and Compression spring 8 into Pin cap.

Important:

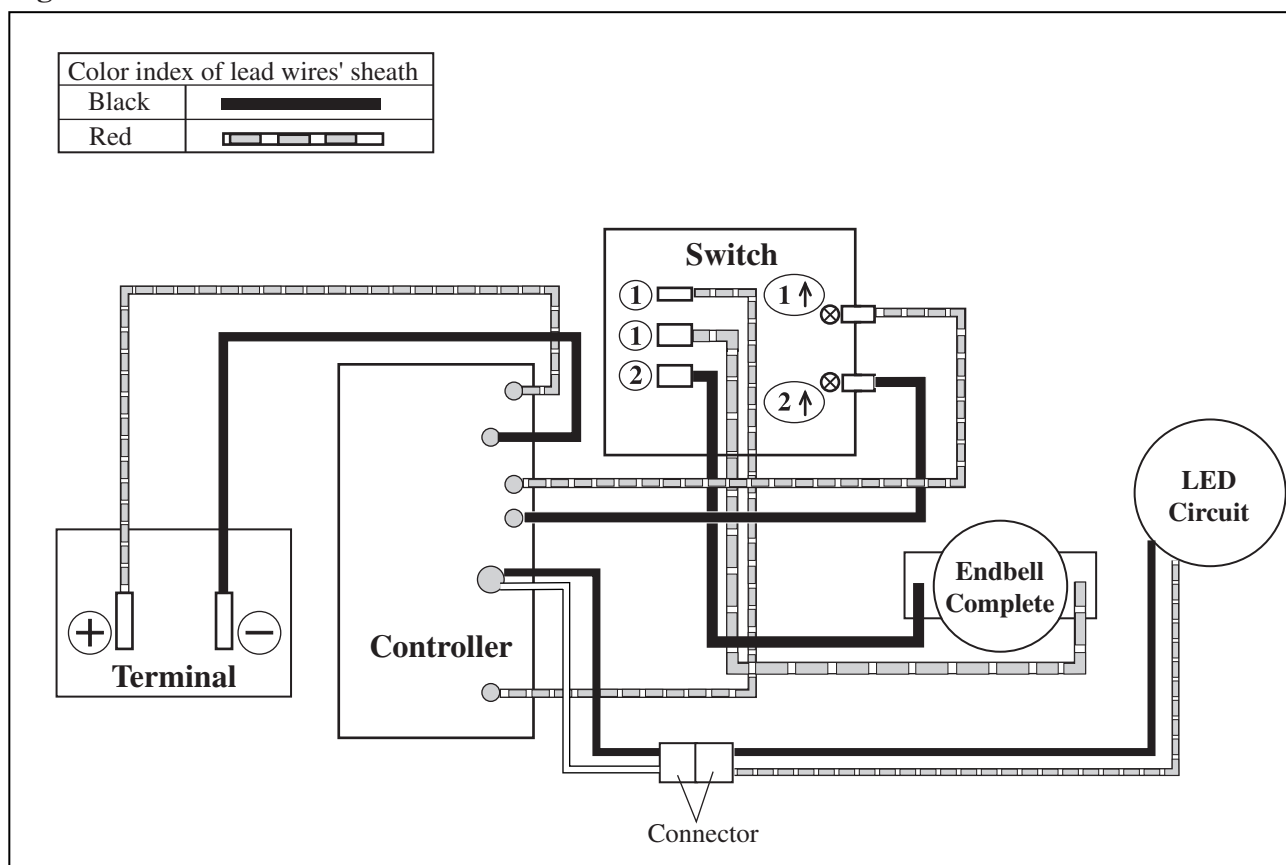
Do not reuse removed Pin cap because removal of Shoulder pin 4 damages the inside surface of Pin cap, producing plastic dust. Therefore, be sure to use a new Pin cap for replacement and to remove all the plastic dust on Shoulder pin 4.

Fig. 18



► **Circuit diagram**

Fig. 19



► Wiring diagram

[1] Connecting Controller's Lead Wires to Switch

Connect the Controller's lead wires to Switch with the wire connecting portions facing Endbell. (Fig. 20)

[2] Connecting Controller's Lead Wires to Terminal

Connect the Controller's lead wires to Terminal as illustrated in Fig. 21.

Fig. 20

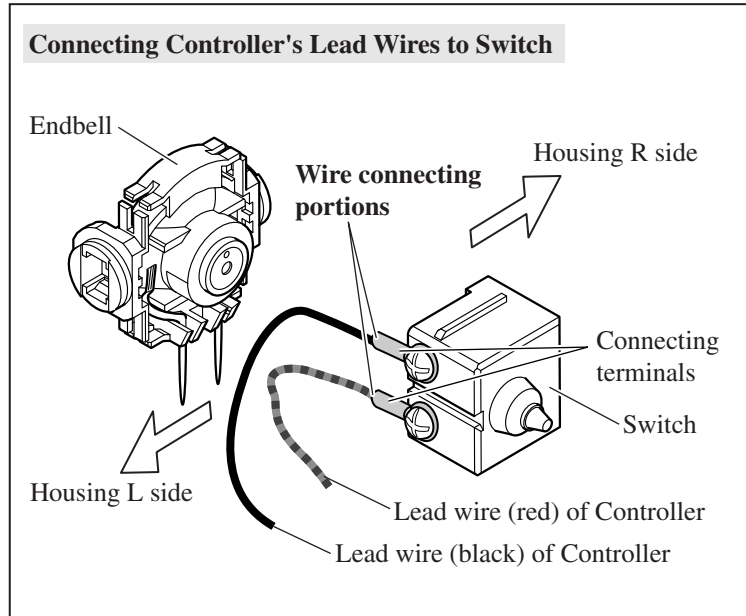
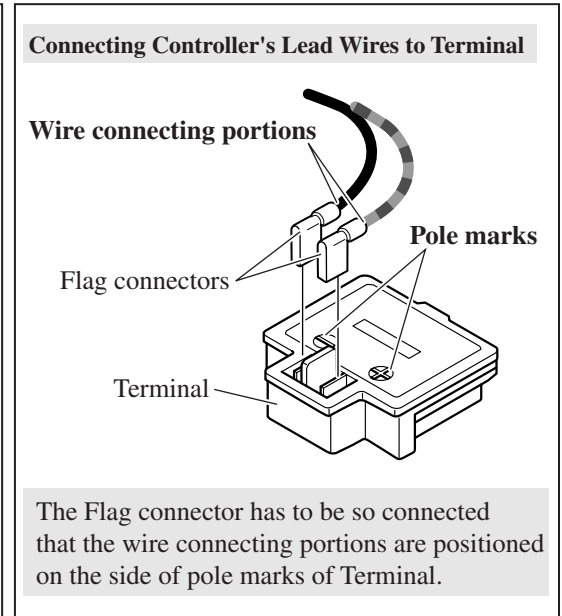


Fig. 21



[3] Wiring in Housing

See Fig. 22.

- ① Controller's lead wires (black, red) to Terminal must be routed under Controller.
- ② Lead wires (black, red) of LED circuit to Connector must be fixed with lead wire holder.
- ③ Assemble Yoke unit to Housing (L) with the rib of Housing (L) fit in the notch of Yoke unit.

Fig. 22

