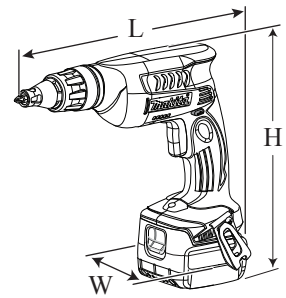


Models No. ▶ BFS441(LXSF02)*1, BFS451(LXSF01)*1

Description ▶ Cordless Screwdriver

*1: Model number for North and Central American countries



(The image above is BFS441.)

CONCEPT AND MAIN APPLICATIONS

Models BFS441 and BFS451 are pistol grip Cordless Screwdrivers with variable speed control switch, compact and lightweight body, well balanced tool design for easy handling and maneuverability, featuring the following main benefits:

- Best possible tool body for screwdriving
- Compatible with both 1.3Ah and 3.0Ah batteries
- Single LED job light with afterglow function

This model is available in the following variations.

BFS441 (LXSF02)*1

Model No.	Battery		Battery cover	Charger	Plastic carrying case	Systainer case
	Type	Quantity				
BFS441Z (LXSF02Z)*1	No	No	No	No	No	No
BFS441ZX	No	No	No	No	No	Yes
BFS441RFE	BL1430	2	1	DC18RA	Yes	No
BFS441RFX	BL1430	2	1	DC18RA	No	Yes

BFS451 (LXSF01)*1

Model No.	Battery		Battery cover	Charger	Plastic carrying case	Systainer case
	Type	Quantity				
BFS451Z (LXSF01Z)*1	No	No	No	No	No	No
BFS451ZX	No	No	No	No	No	Yes
BFS451RFE (LXSF01)*1	BL1830	2	1	DC18RA	Yes	No
BFS451RFX	BL1830	2	1	DC18RA	No	Yes

Dimensions: mm (")	
Length (L)	281 (11-1/8)*2 296 (11-5/8)*3
Width (W)	80 (3-1/8)
Height (H)	224 (8-7/8)*4
	241 (9-1/2)*5

- *2: with Magnetic connect bit 60
- *3: with Magnetic connect bit 76
- *4: with BL1415 or BL1815
- *5: with BL1430 or BL1830

All models also include the accessories listed below in "Standard equipment".

Specification

Specification		Model	BFS441	BFS451
Battery	Voltage: V		14.4	18
	Capacity : Ah		1.3/ 3.0	
	Cell		Li-ion	
	Energy capacity: Wh		19/ 44	24/ 54
	Charging time (approx.): min.		15/ 22 with DC18RA	
No load speed: min.-1 = rpm			0 - 4,000	
Driver bit: mm (")	Shank		6.35 (1/4) Hex	
Capacities: mm (") [drywall]	Diameter		4 (5/32)	
Electric brake			Yes	
Reverse switch			Yes	
Variable speed control by trigger			Yes	
LED job light			Yes	
Weight according to EPTA-Procedure 01/2003*6: kg (lbs)			1.4/ 1.6 (3.2/ 3.6)	1.5/ 1.7 (3.3/ 3.8)

*6: With Battery

Standard equipment

Phillips bit 2-25	2
Magnetic connect bit 6.35-60 or 6.35-76	1
Belt clip	1

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

Optional accessories

Phillips bit 1-25
Phillips bit 2-25
Phillips bit 3-25
Magnetic connect bit 6.35-60
Magnetic connect bit 6.35-76
Battery BL1415 for BFS441
Battery BL1430 for BFS441
Battery BL1815 for BFS451
Battery BL1830 for BFS451
Fast charger DC18RA
Charger DC24SC (for all countries except North American countries)
Charger DC18SD
Automotive charger DC18SE

► **Repair**

CAUTION: Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

[1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R269	Bearing extractor (small)	removing Ball bearing 608ZZ

[2] LUBRICANT AND ADHESIVE APPLICATION

Apply the following lubricants to protect parts and product from unusual abrasion. (Fig. 1)

Item No.	Description	Portion to lubricate	Lubricant	Amount
③	Locator complete	Thread portion	▷ VG100	a little
④	Dust seal sleeve	Internal surface		
⑦	Locator base	Internal surface of Dust seal 13 that Spindle 125S complete contacts	▶ Makita grease FA No.2	a little
⑩	Spindle 125S complete	Surface that Clutch cam contacts		
⑰	Bearing complete	Internal surface		
⑱	Gear complete	⑱A Teeth portion		
		⑱B Concave for Steel ball 4	a little	
⑪	Flat washer 25	Surface that Compression spring 25 contacts	▷ VG32	a little

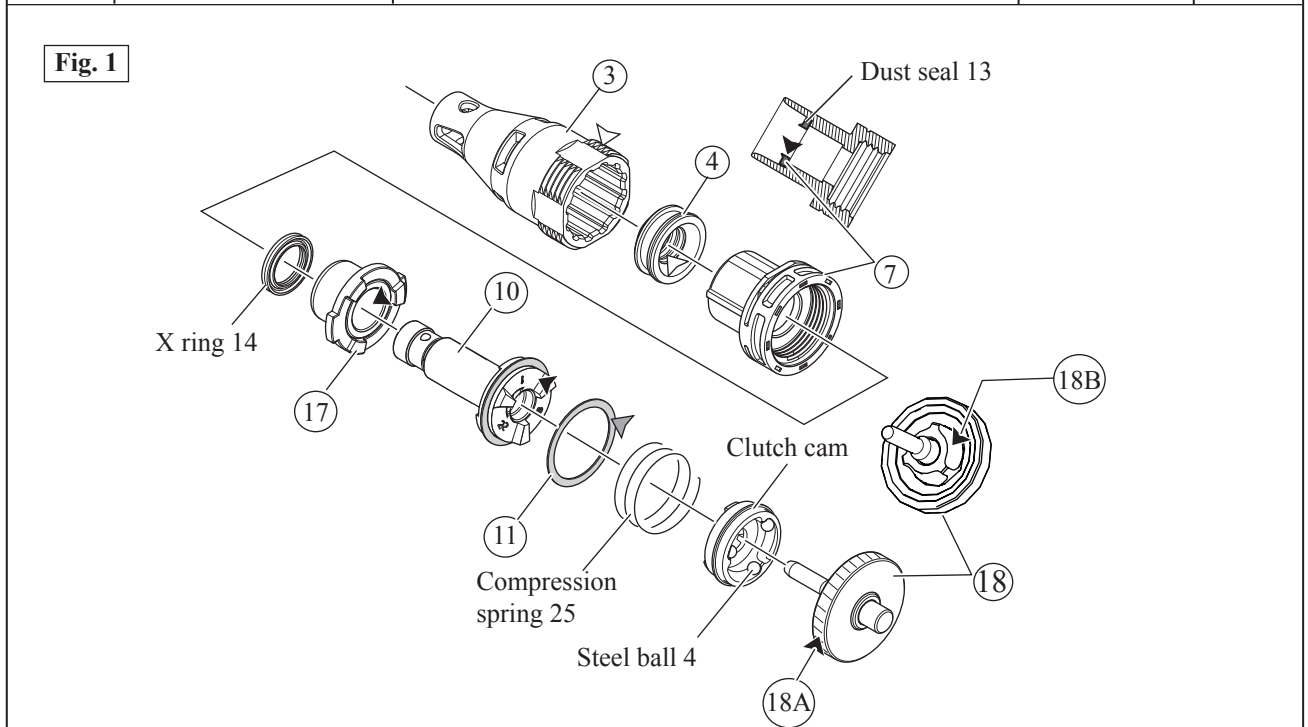
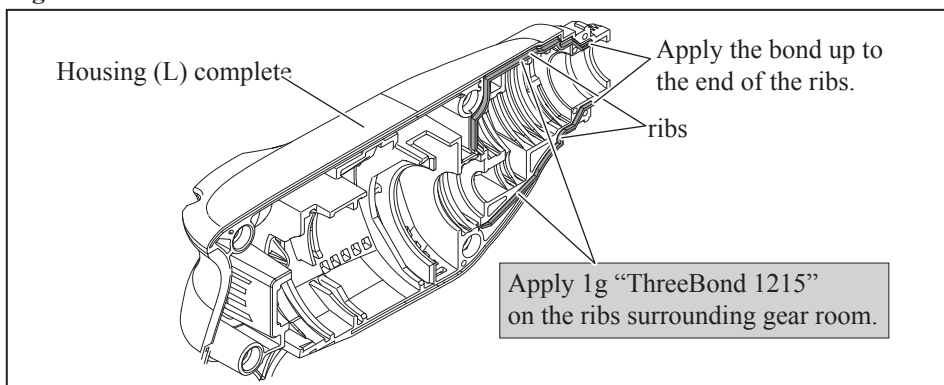


Fig. 1

Apply adhesive ThreeBond 1215 to the ribs surrounding gear room of Housing (L) complete. (Fig. 2)

Fig. 2



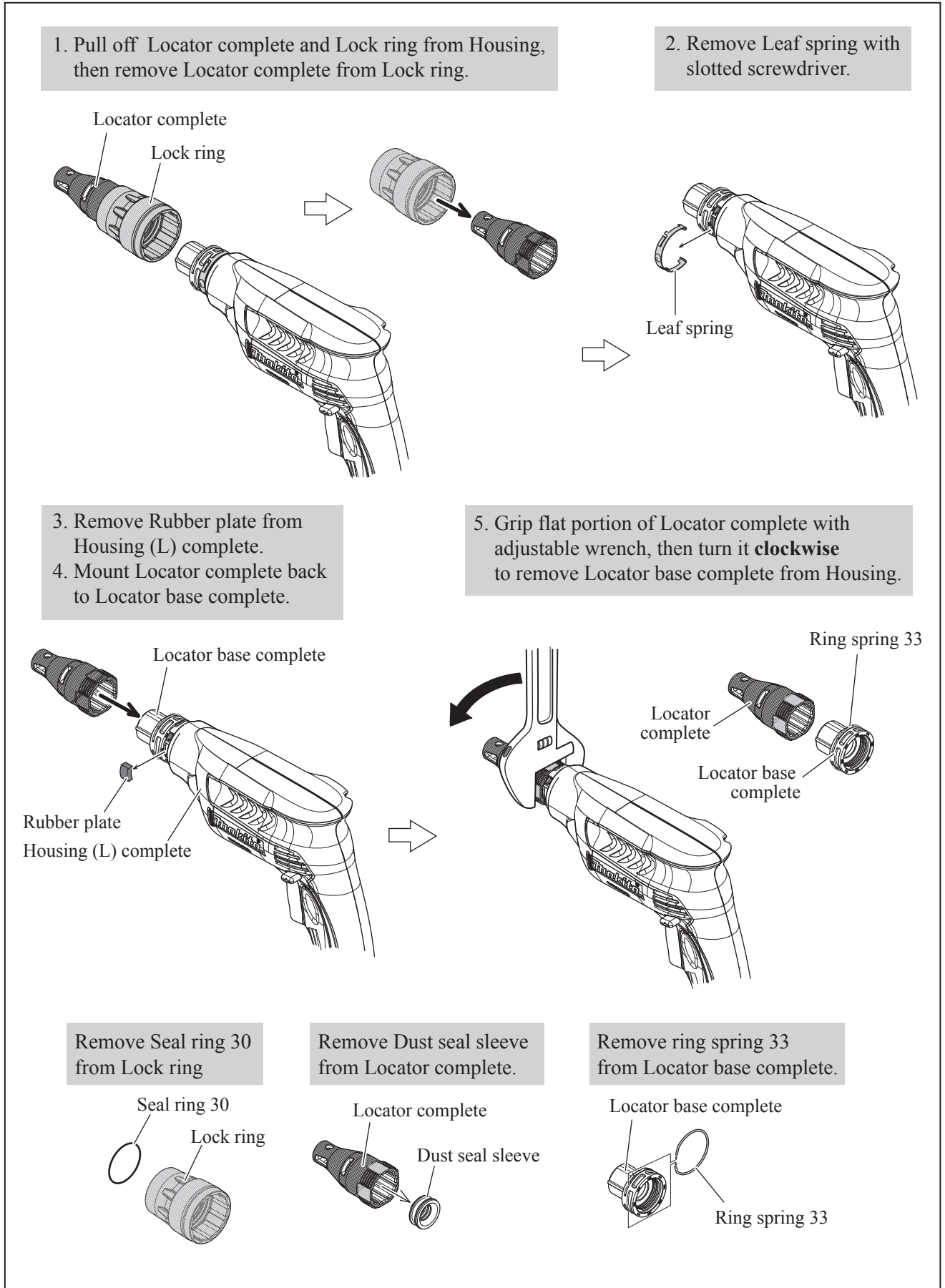
► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-1. Locator Section

DISASSEMBLING

Fig. 3



► **Repair**

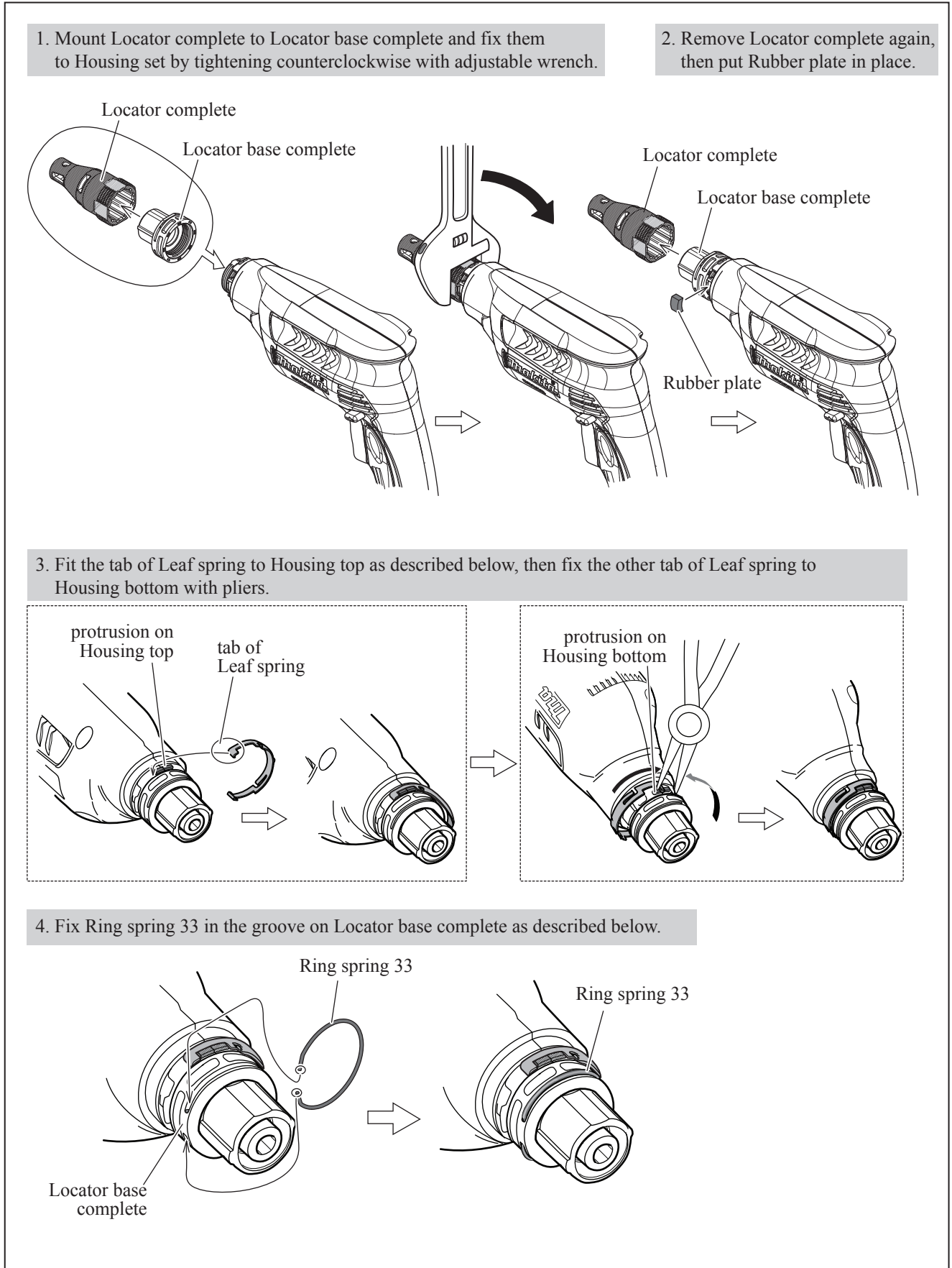
[3] DISASSEMBLY/ASSEMBLY

[3]-1. Locator Section

ASSEMBLING

1) Assembling of Locator base complete, Locator complete, Leaf spring and related parts. (Fig. 4)

Fig. 4



► Repair

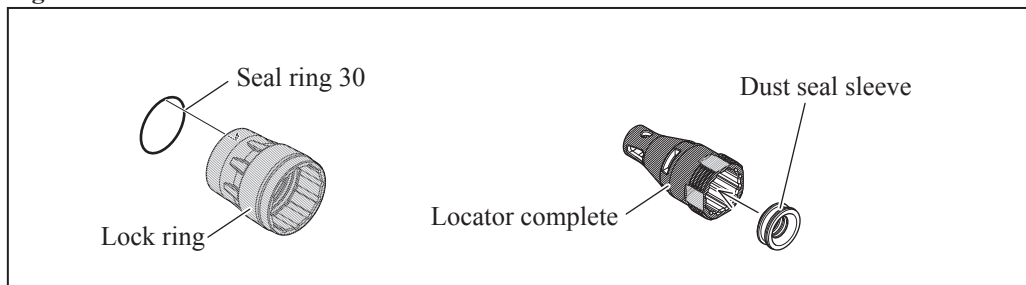
[3] DISASSEMBLY/ASSEMBLY

[3]-1. Locator Section

ASSEMBLING

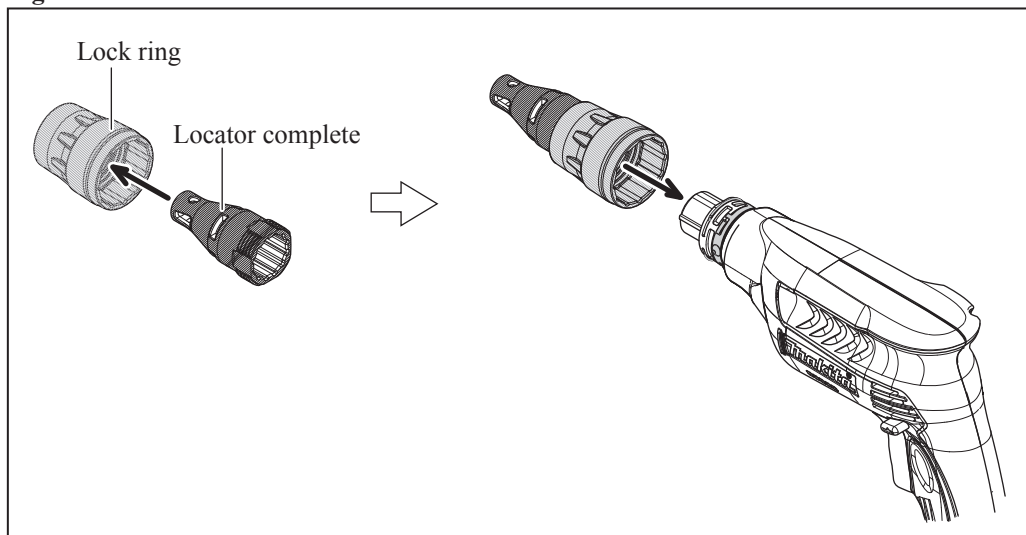
- 2) Make sure to put Seal ring 30 in Lock ring and Dust seal sleeve in Locator complete before mount them on Housing. (Fig. 5)

Fig. 5



- 3) Insert Locator complete into Lock ring and mount them on Housing. (Fig. 6)

Fig. 6



► **Repair**

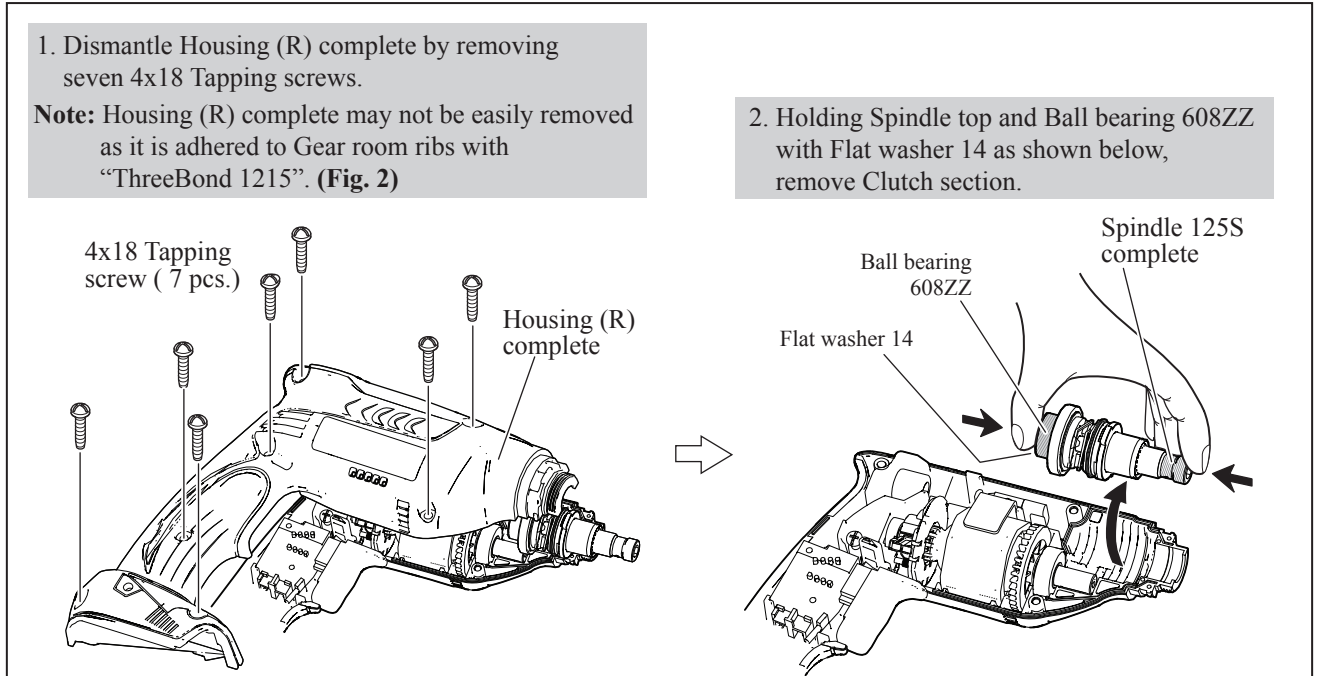
[3] DISASSEMBLY/ASSEMBLY

[3]-2. Clutch Section

DISASSEMBLING

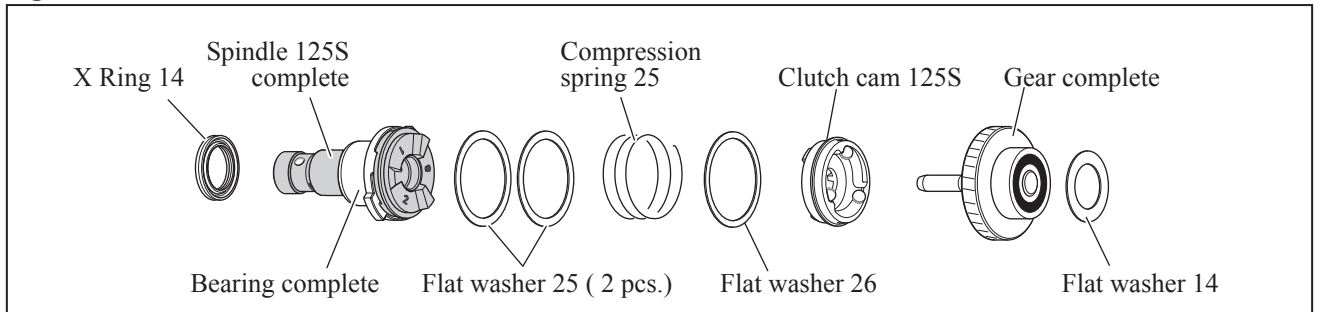
- 1) Disassemble Locator section (**Fig. 3**) and remove Magnetic connect bit from Spindle 125S.
- 2) Separate Spindle section from Housing L (**Fig. 7**).

Fig. 7



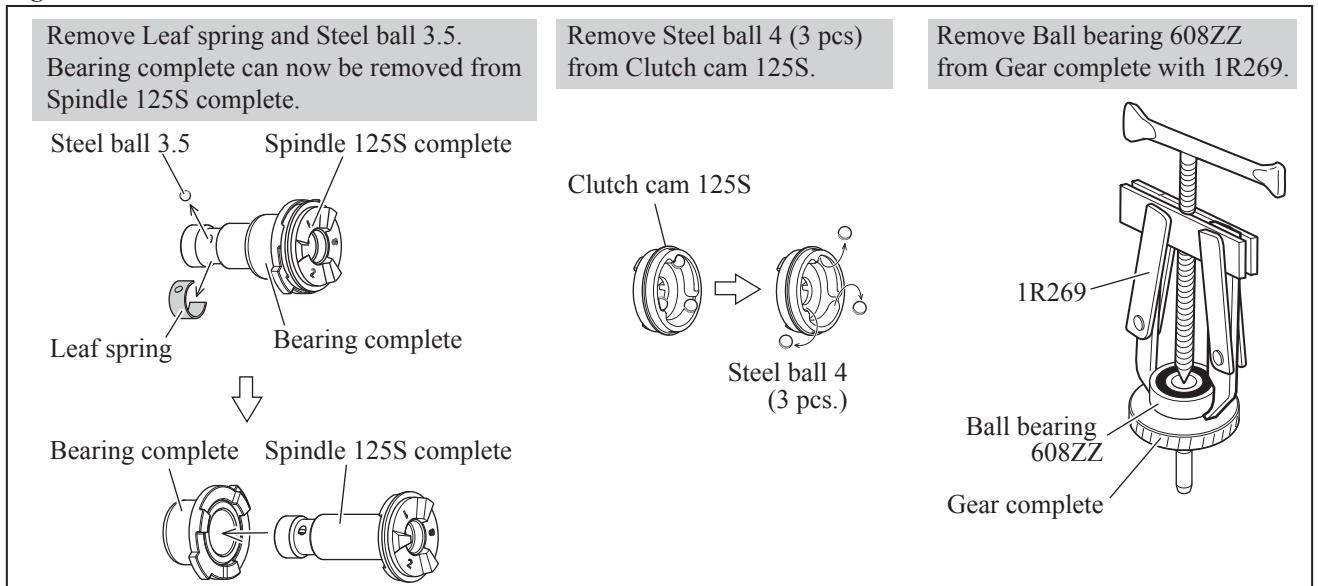
- 3) Disassembling of Clutch section (**Fig. 8**).

Fig. 8



- 4) Spindle 125S, Clutch cam 125S and Gear complete can be disassembled as described below (**Fig. 9**).

Fig. 9



► **Repair**

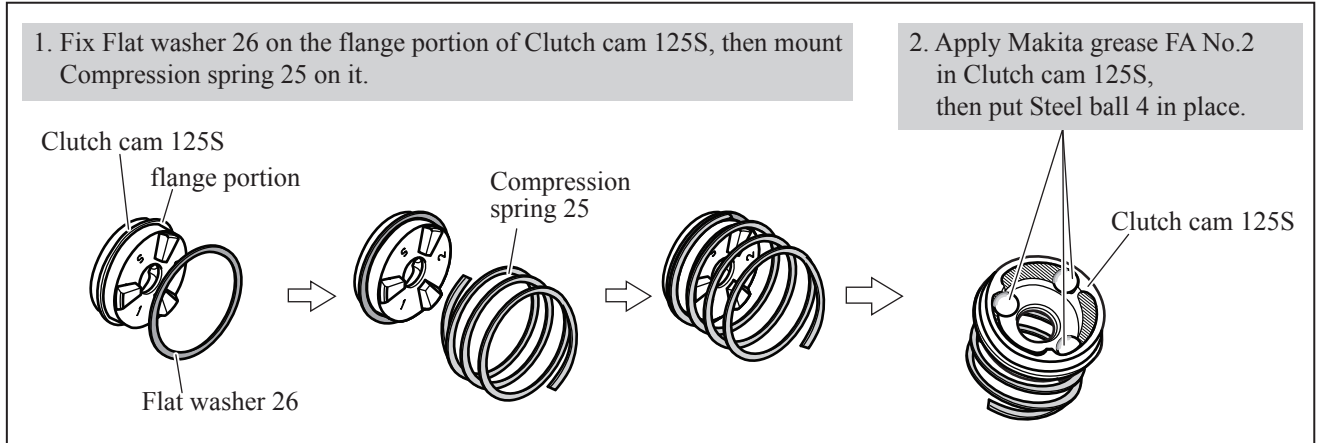
[3] DISASSEMBLY/ASSEMBLY

[3]-2. Clutch Section

ASSEMBLING

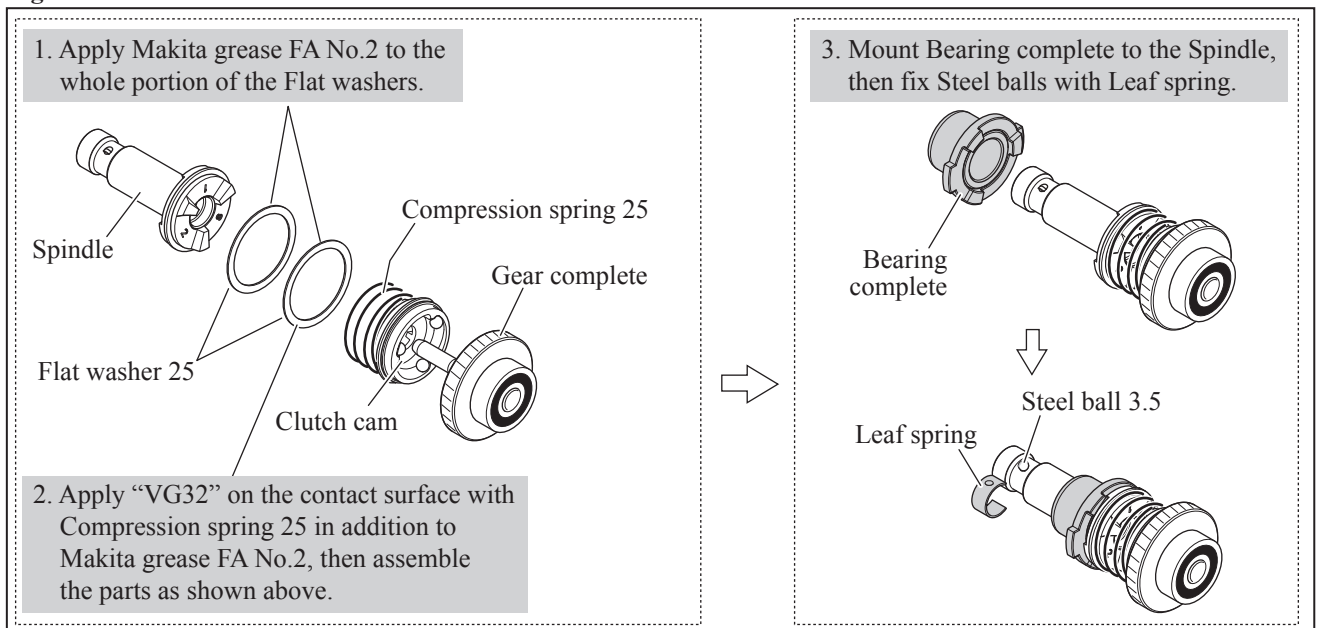
1) Assemble the component parts to Clutch cam 125S. (Fig. 10)

Fig. 10



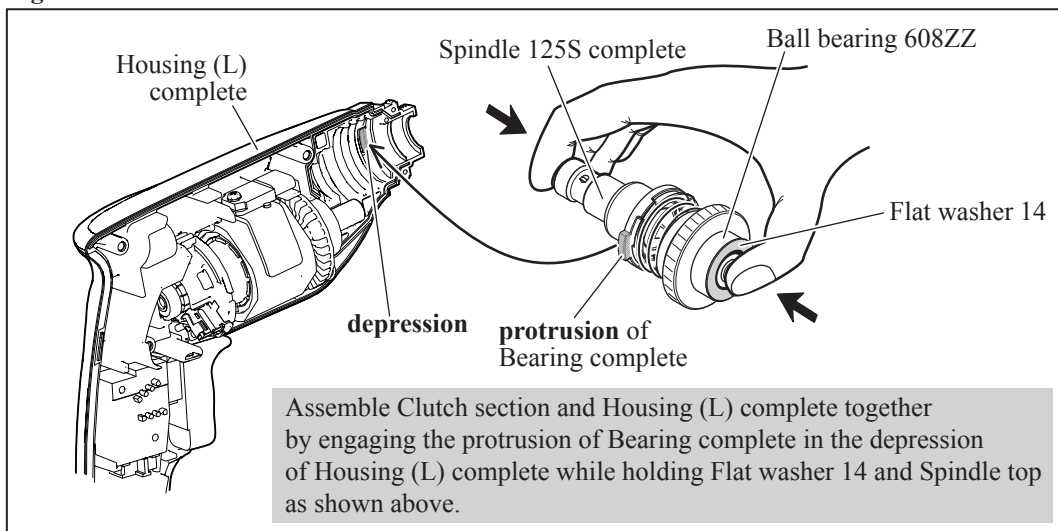
2) Assemble Gear complete, Spindle 125S complete and Bearing complete. (Fig. 11)

Fig. 11



3) Assemble the Clutch section to Housing (L) complete. (Fig. 12)

Fig. 12



► **Repair**

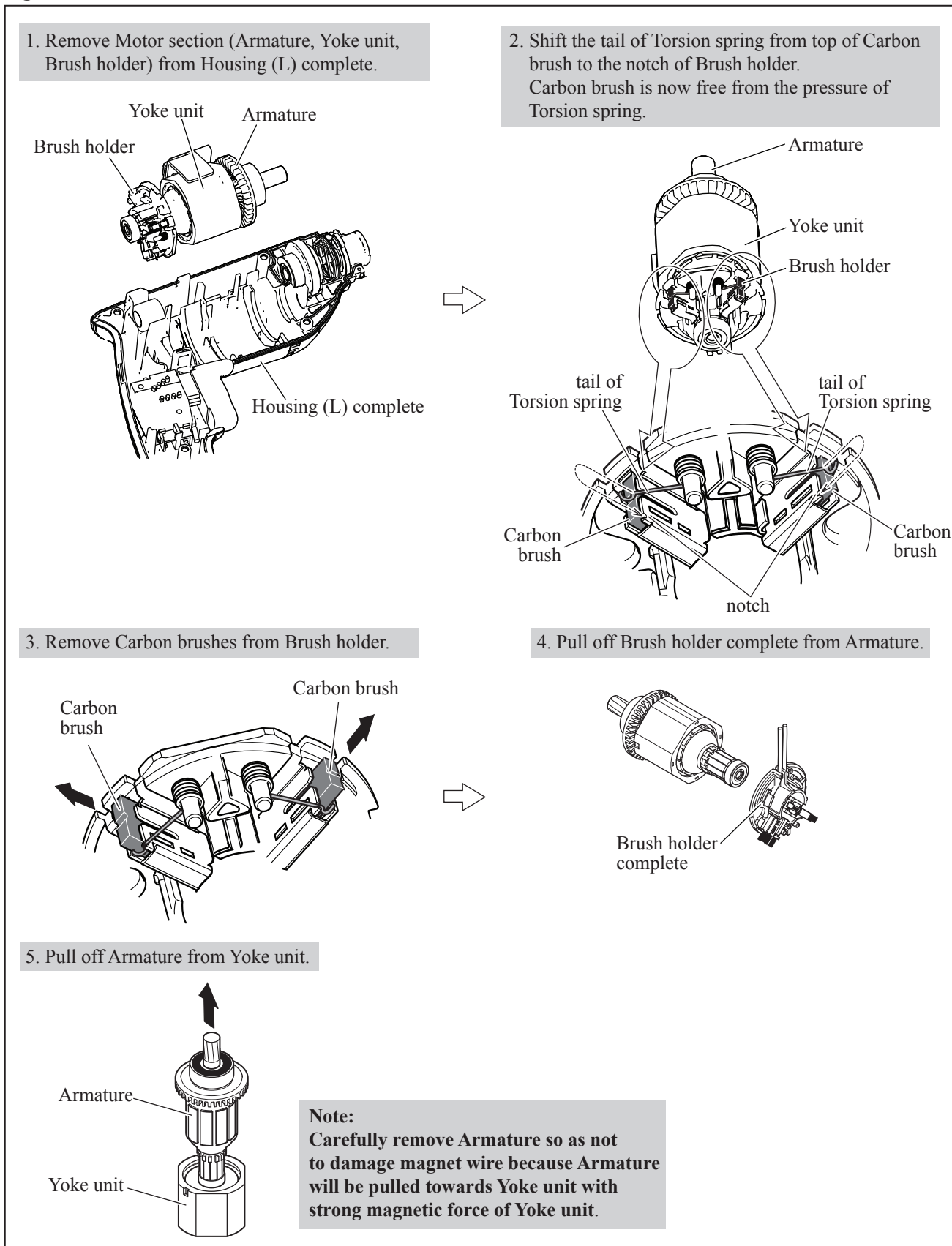
[3] DISASSEMBLY/ASSEMBLY

[3]-3. Motor Section (Armature, Yoke unit, Brush holder)

ASSEMBLING

- 1) Disassemble Locator section (**Fig. 3**) and remove Magnetic connect bit from Spindle 125S.
- 2) Separate Housing (R) complete (**Fig 7**).
- 3) Disassemble Motor section from Housing (L) complete. (**Fig. 13**)

Fig. 13



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-3. Motor Section (Armature, Yoke unit, Brush holder)

ASSEMBLING

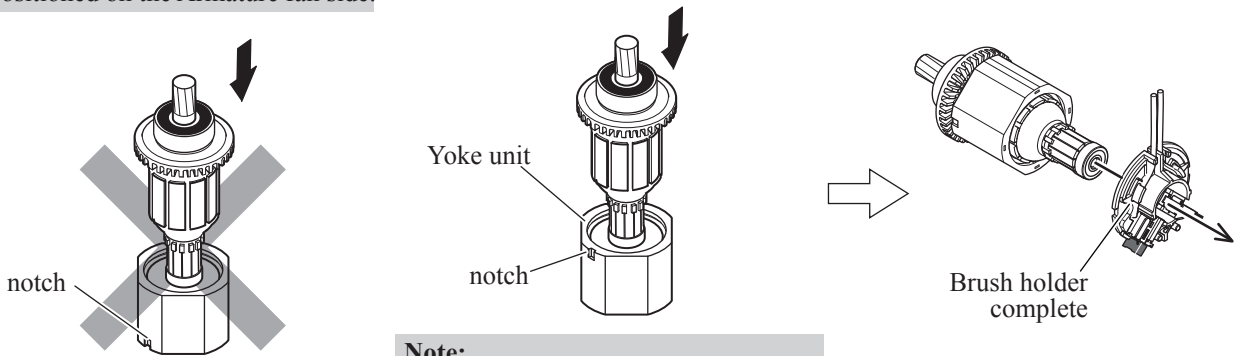
1) Assemble Motor section as described in **Fig. 14**.

Fig. 14

Note:
The notch on Yoke unit must be positioned on the Armature fan side.

1. Insert Armature into Yoke unit in the direction of the arrow.

2. Mount Brush holder complete to Armature.



Note:
Carefully insert Armature to Yoke unit so as not to damage magent wire or pinch your finger because Armature will be pulled towards Yoke unit with strong magnetic force of Yoke unit.

3. Assemble Motor section to Housing (L) complete by engaging the notch of Yoke unit to the protrusion of Housing (L) complete. Then make sure that Yoke unit and Brush holder complete are exactly mounted to Housing (L) complete. (**Fig. 14A, 14B**)

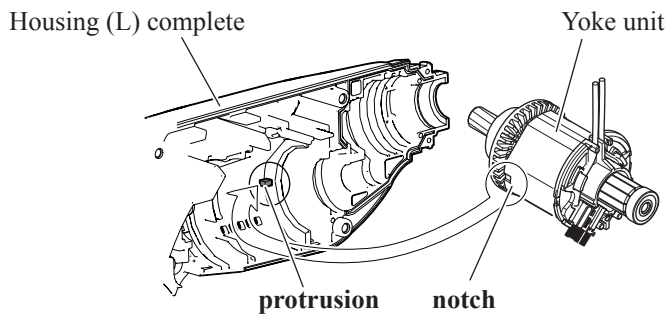


Fig. 14A

The flat portion of Brush holder complete must be at right angle vertically as shown below when it is mounted to Housing (L) complete.

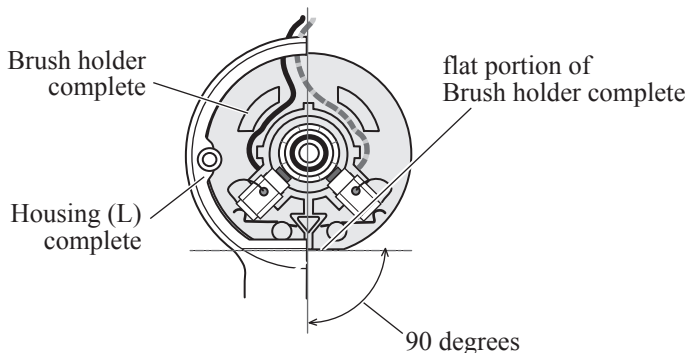
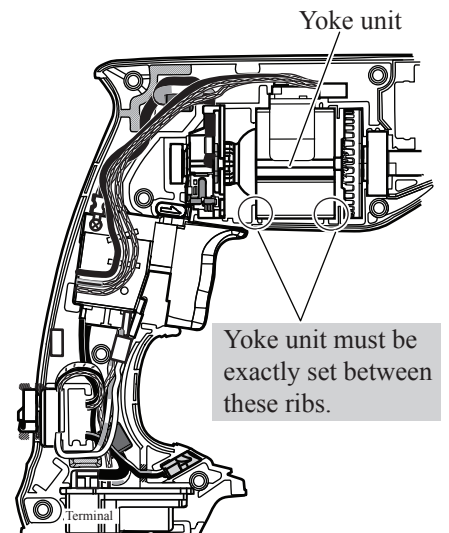


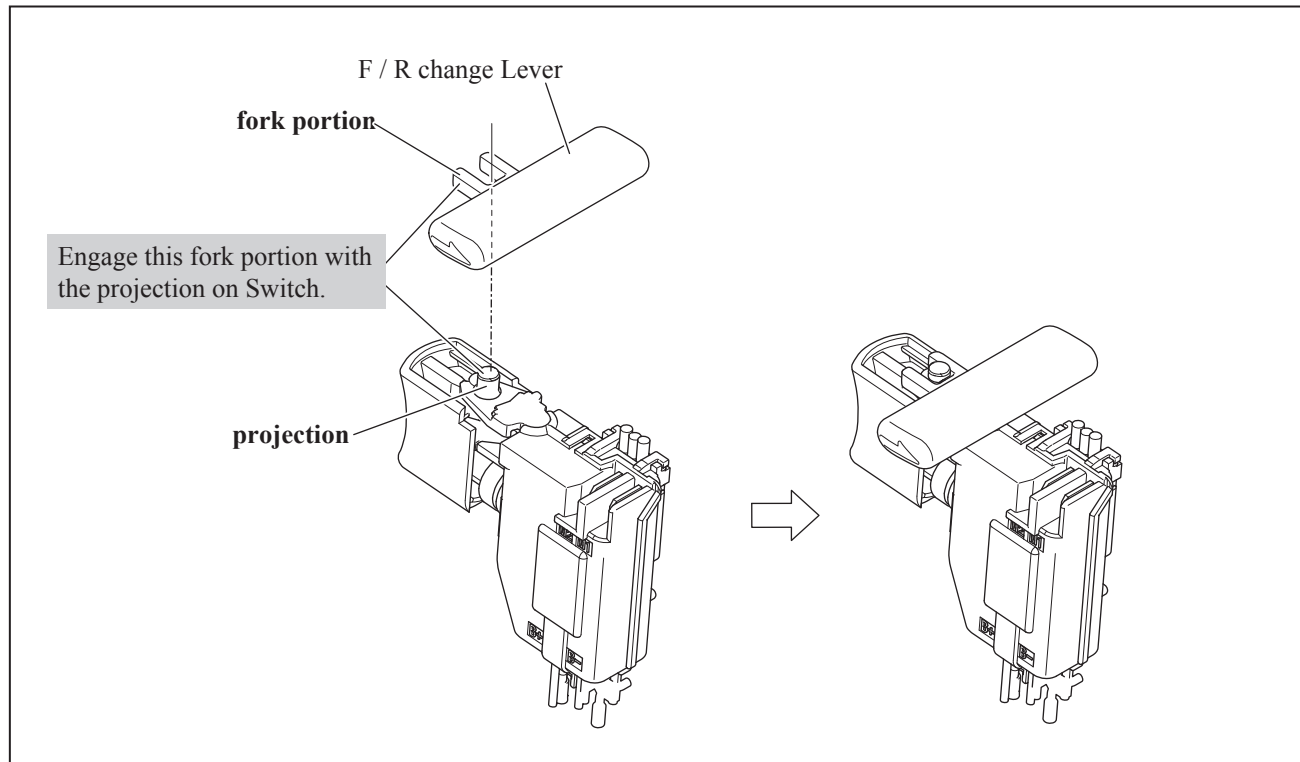
Fig. 14B



▶ Repair**[3] DISASSEMBLY/ASSEMBLY****[3]-4. F/R Change Lever**

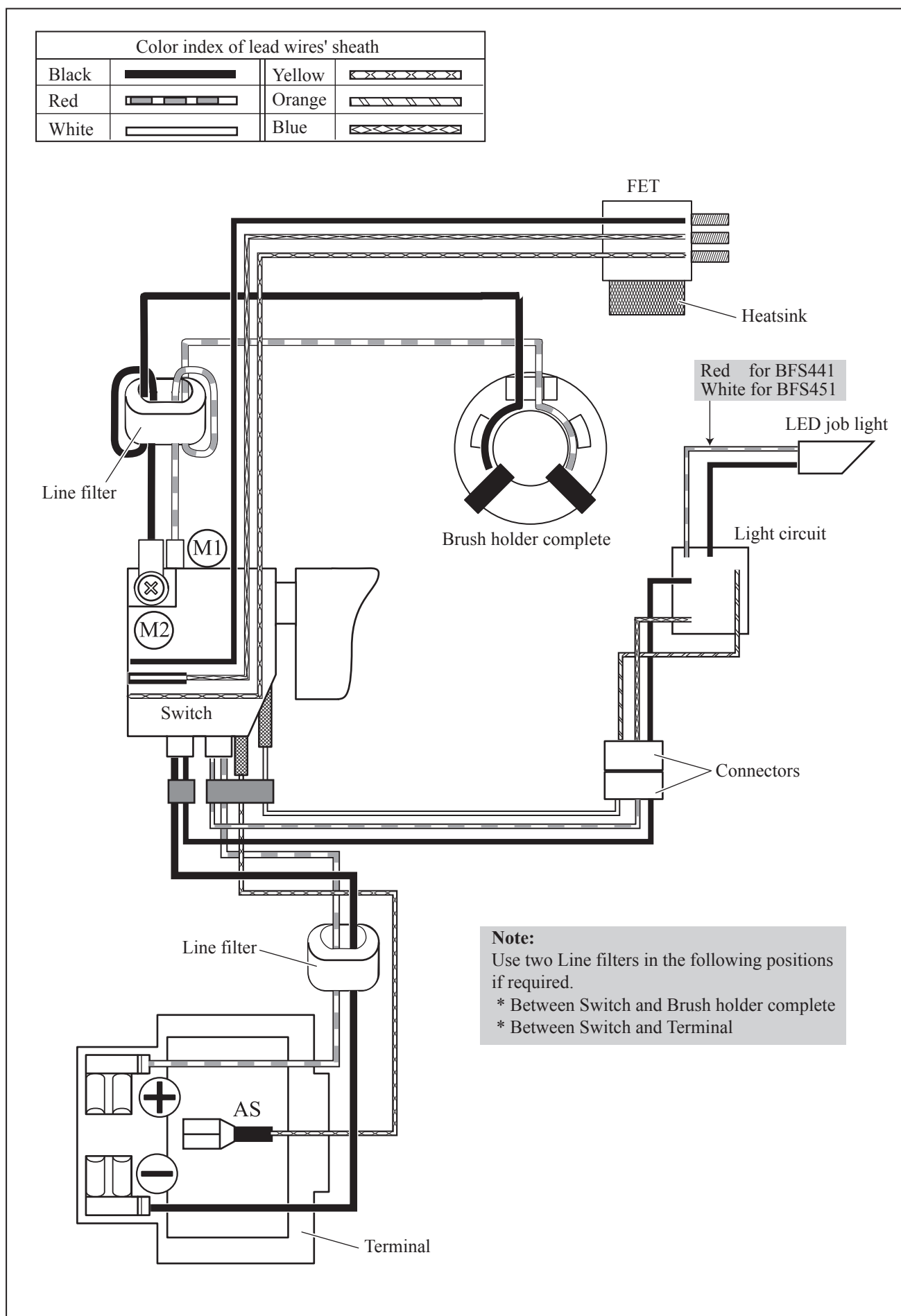
ASSEMBLING

Be sure to mount F/R change lever on Switch before assembling Housing (R) complete. (Fig. 15)

Fig. 15

► Circuit diagram

Fig. D-1



► Wiring diagram

Brush holder complete and Switch unit come with Line filter as complete unit for the countries requiring Line filters (**Fig. D-2, D-3**).

Fig. D-2

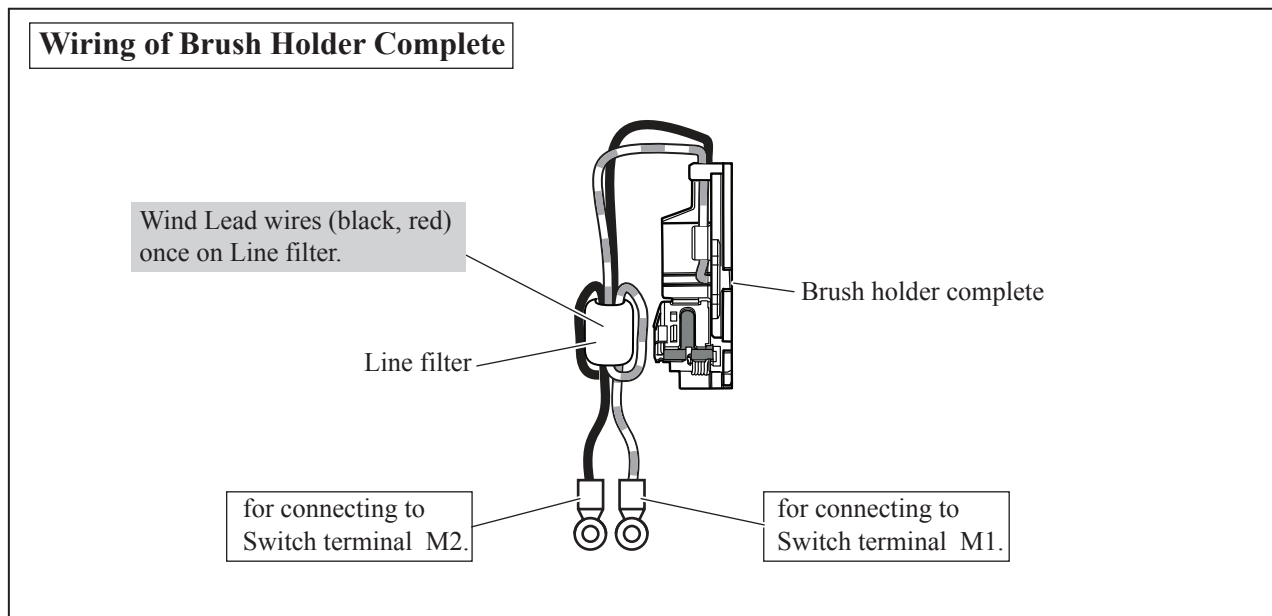
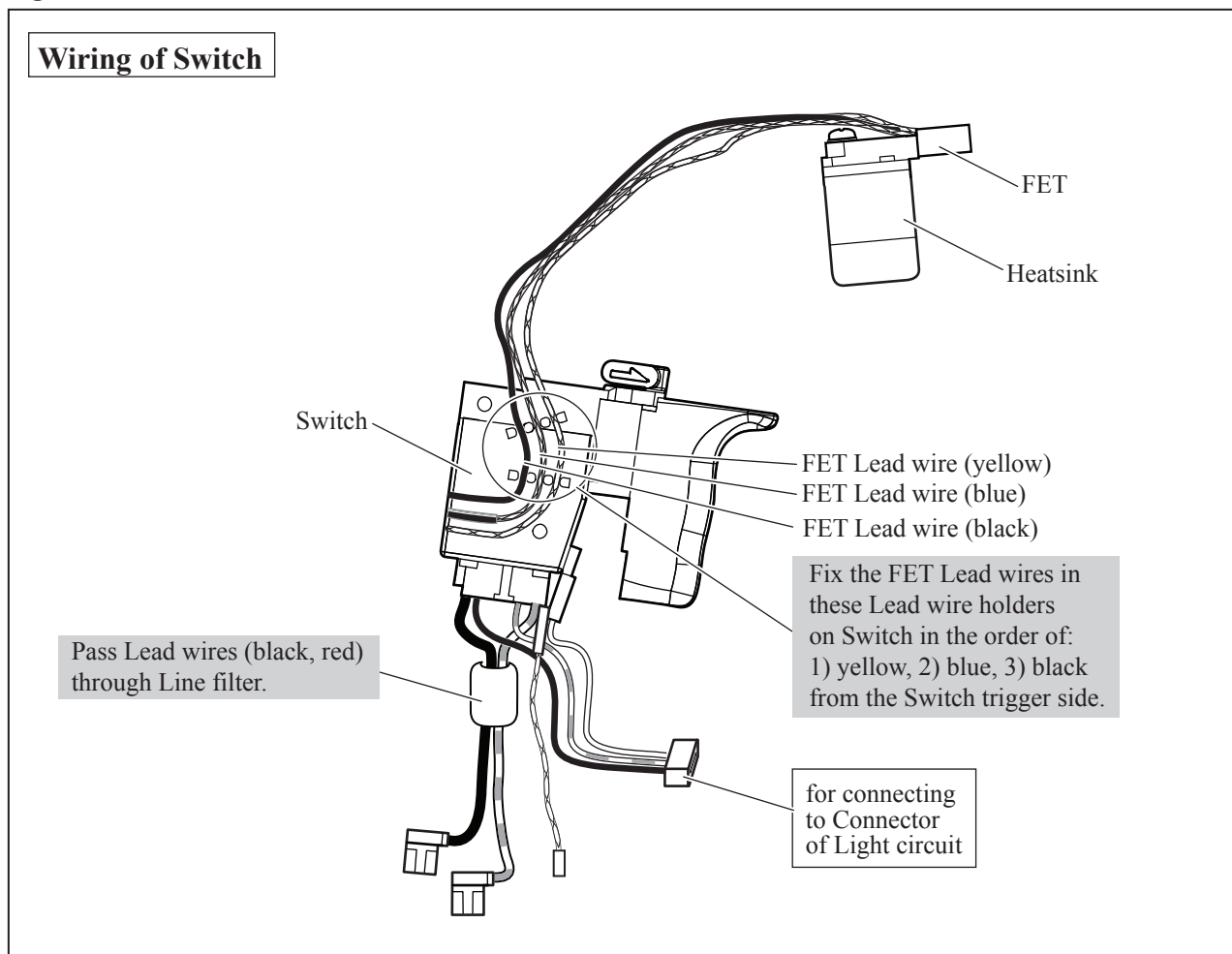


Fig. D-3



▶ Wiring diagram

Setting Carbon brush

Installing and removal of Carbon brush. (Figs. D-4, D-5)

Fig. D-4

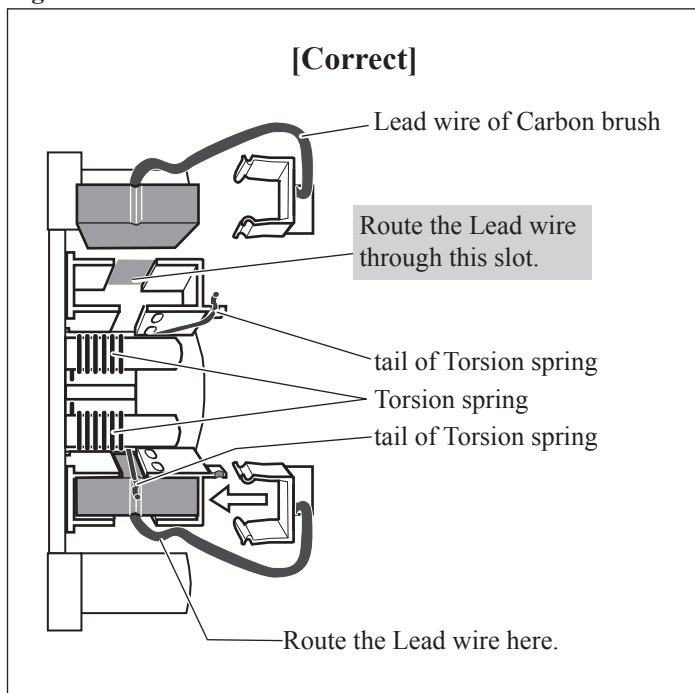
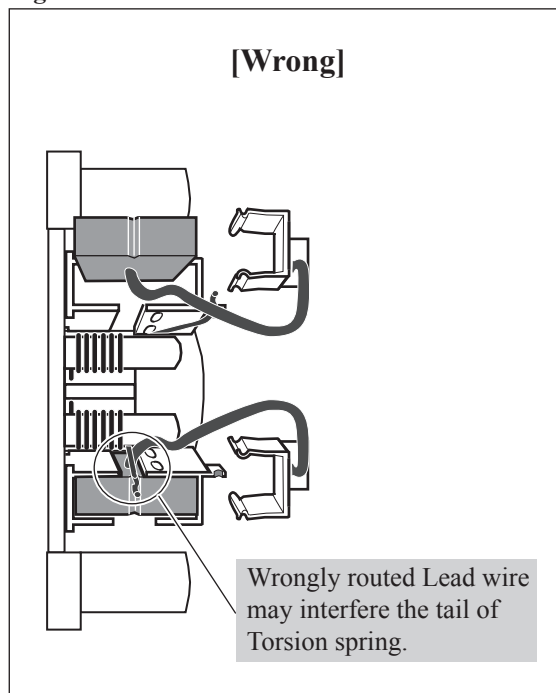


Fig. D-5



► **Wiring diagram**

Fig. D-5

