

TECHNICAL INFORMATION

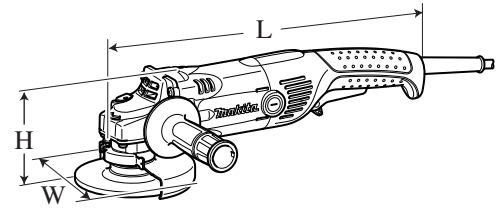


PRODUCT

P 1/11

Model No. ▶ GA5011/GA6011, GA5021/GA6021

Description ▶ Angle Grinders 125mm (5") /150mm (6")



CONCEPT AND MAIN APPLICATIONS

These four models have been developed as sister models of GA5010/GA6010 and GA5020/GA6020, featuring Large type switch trigger.
Models GA5021/GA6021 feature Super Joint System (SJS).

Dimensions: mm (")		
Model No.	GA5011	GA6011
Length (L)	384 (15-1/8)	
Width (W)	139 (5-1/2)	172 (6-3/4)
Height (H)	113 (4-7/16)	

Dimensions: mm (")		
Model No.	GA5021	GA6021
Length (L)	384 (15-1/8)	
Width (W)	139 (5-1/2)	172 (6-3/4)
Height (H)	120 (4-3/4)	

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	10	50/60	1,050	700	1,600
120	11	50/60	---	900	1,600
220	5.0	50/60	1,050	700	1,700
230	4.8	50/60	1,050	700	1,700
240	4.6	50/60	1,050	700	1,700

Model No.		GA5011	GA5021	GA6011	GA6021
Wheel size: mm (")	Diameter	125 (5)		150 (6)	
	Hole diameter	22.23 (7/8)			
No load speed: min.-1 = rpm		11,000		10,000	
Super Joint System (SJS)		No	Yes	No	Yes
Electric brake		No	Yes (North America only)	No	Yes (North America only)
Protection against electric shock		Double insulation			
Power supply cord: m (ft)		Australia: 2.0 (6.6), Other countries: 2.5 (8.2)			
Net weight: kg (lbs)		2.2 (4.8)	2.3 (5.1)	2.2 (4.8)	2.3 (5.1)

► Standard equipment

- Lock nut wrench 35 1 pc
- Lock nut wrench 28 1 pc
- Depressed center wheel 1 pc (125-36 for GA5011 and GA5021, 150-36 for GA6011 and GA6021)
- Side grip 1 pc

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

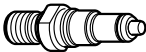
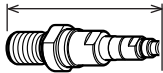

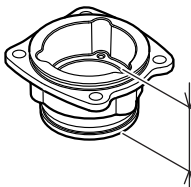
► Optional accessories

- Anti-vibration grip, Dust cover attachment, Loop handle, Toolless wheel cover
- GA5011, GA5021: Accessories for 125mm angle grinder
- GA6011, GA6021: Accessories for 150mm angle grinder

► **Repair**

CAUTION: Unplug the machine, and remove the wheel, the wheel cover, the inner and the outer flange from the machine for safety before repair/ maintenance in accordance with the instruction manual!

Note: Some parts numbers and descriptions differ from model to model. Refer to the following list and replace the descriptions in this technical information. (for example, Small spiral bevel gear means Spiral bevel gear 13 or Spiral bevel gear 11.)

Model No.	GA5011	GA6011	GA5021	GA6021
	without SJS-Super Joint System		with SJS-Super Joint System	
Description				
Small spiral bevel gear	13	11	13	11
Large spiral bevel gear	34A	35A	34B	35B
Ball bearing in Bearing box	6202DDW		6002DDW	
Ring spring on Spindle	11 (Inner diameter: 10.5mm)		7 (Inner diameter: 6.5mm)	
Spindle				Longer than that of GA5011 and GA6011
Bearing box				Longer than that of GA5011 and GA6011

[1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R004	Retaining Ring S Pliers ST-2	Removing Ring spring on Spindle
1R005	Retaining Ring R Pliers RT-2N	Removing Retaining ring R-30 from Gear housing.
1R030	Bearing Setting Pipe 25-17.2	Assembling Large spiral bevel gear
1R036	Bearing Setting Plate 17.2	
1R039	Armature Holder 41.5 Set for Vise	Holding Armature when removing Small spiral bevel gear from Armature
1R258	V Block (1set: 2pcs)	Holding Bearing box when removing Large spiral bevel gear from Spindle
1R268	Spring Pin Extractor 3	Removing Shoulder pin 5
1R269	Bearing extractor (small)	Removing Ball bearing 696ZZ
1R350	Ring 60	Holding Gear housing when disassembling Shaft lock mechanism
	Wrench 11	Removing / assembling M7 Hex nut from / to Armature shaft

[2] LUBRICATION

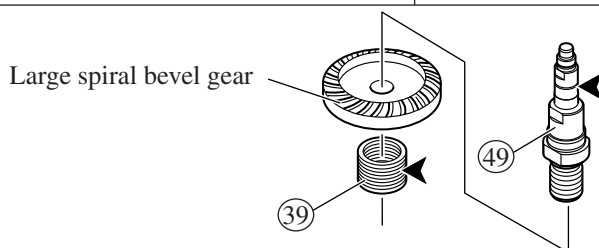
Lubricate the parts below in order to protect parts and product from unusual abrasion.

Put approx. 15g of Makita grease SG No.0 in the gear room of Gear housing.

Apply Makita Grease SG No.0 to the portions designated with the mark of ▼ . (Fig. 1)

Item No.	Description	Portion to lubricate
39	Lock spring 16 (GA5021 and GA6021 only)	Outer periphery
49	Spindle	Surface that contacts Large spiral bevel gear

Fig. 1



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -2. Small Spiral Bevel Gear, Armature, Ball bearing 6000DDW

DISASSEMBLY

(1) Take the disassemble step as illustrated in **Fig. 2 to 7.**

Fig. 2

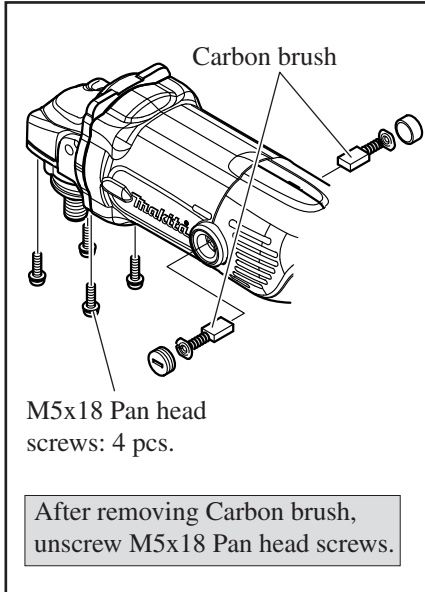


Fig. 3

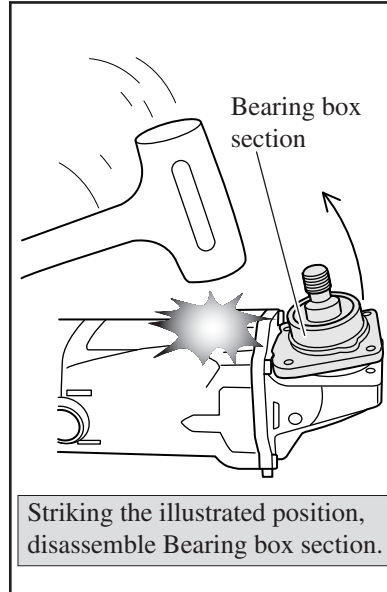


Fig. 4

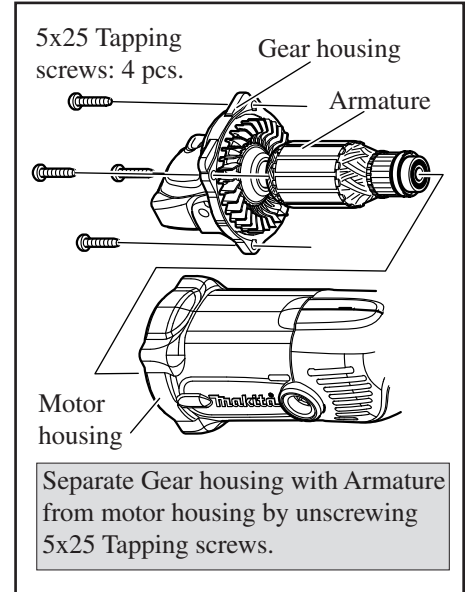


Fig. 5

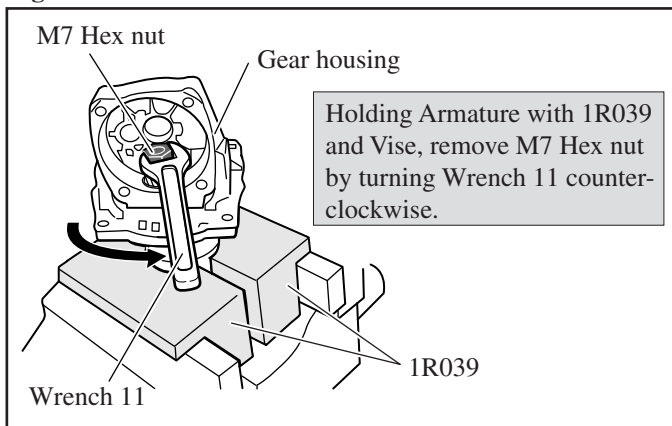


Fig. 6

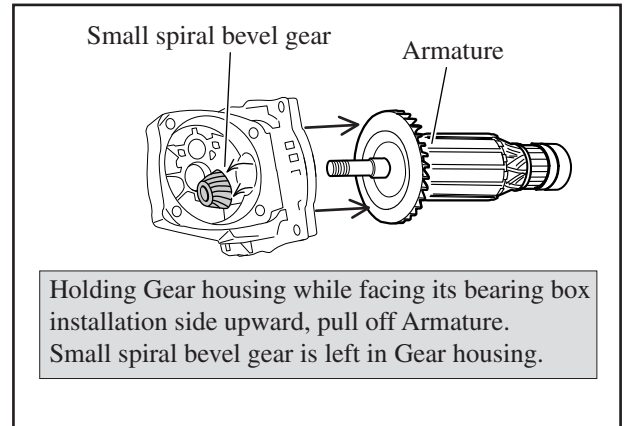
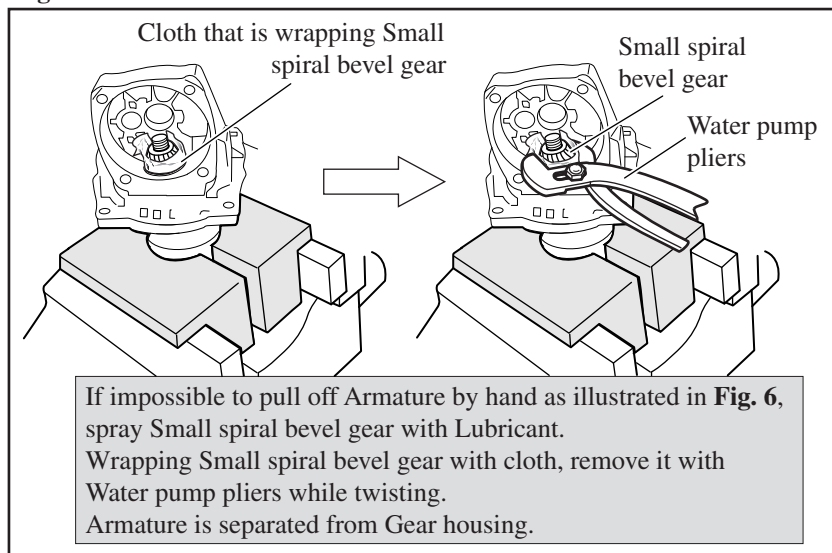


Fig. 7



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3] -2. Small Spiral Bevel Gear, Armature, Ball bearing 6000DDW

DISASSEMBLY

(2) Disassemble Ball bearing as illustrated in **Figs. 8 to 9 / 9A / 9B**.

Fig. 8

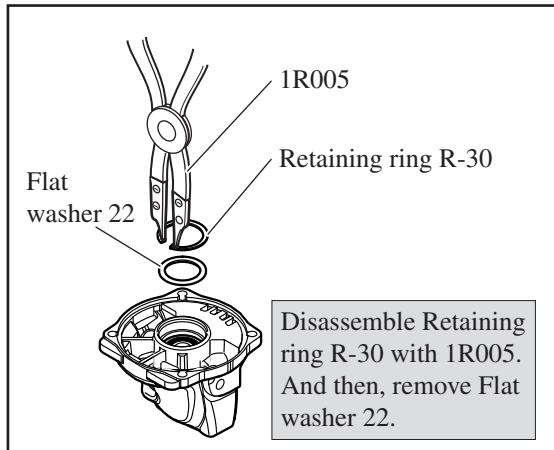


Fig. 9

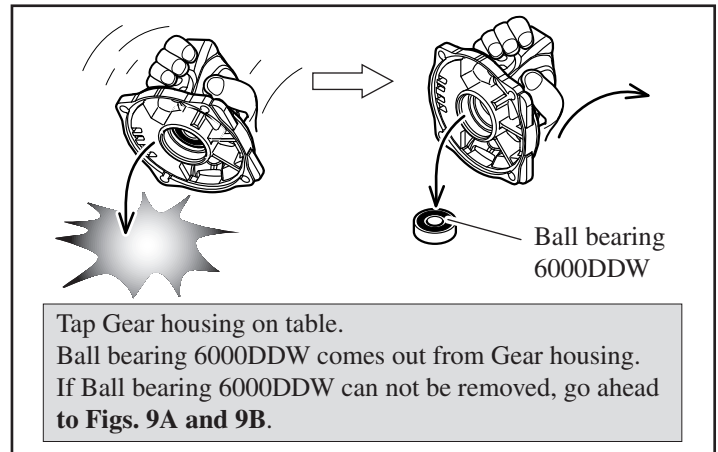


Fig. 9A

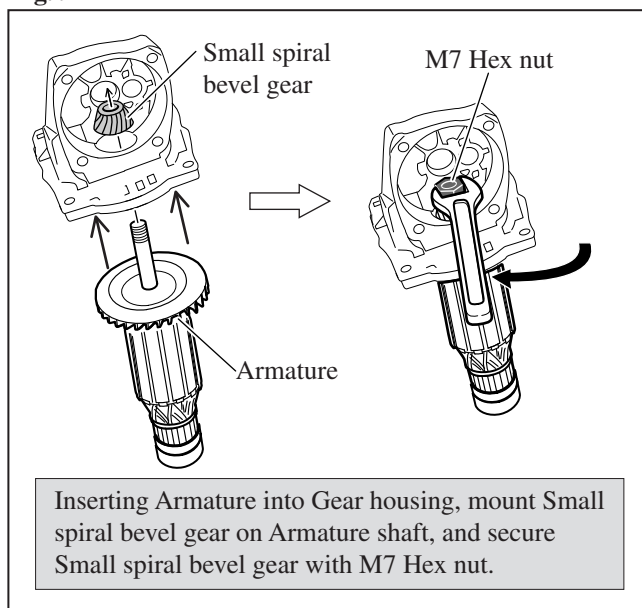
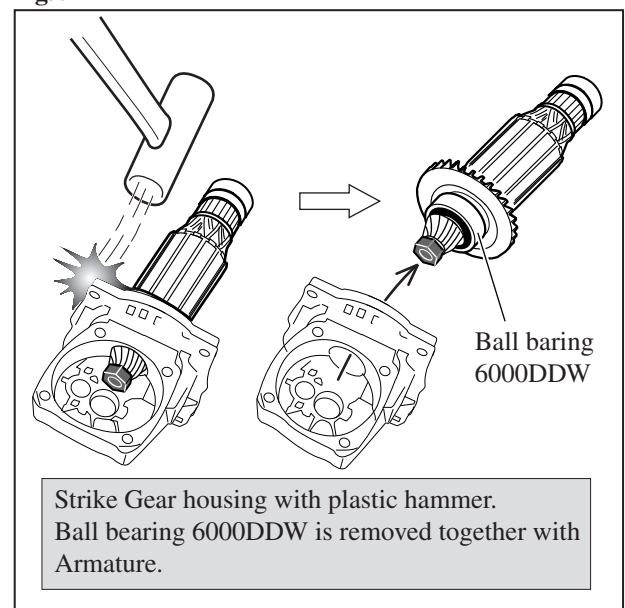


Fig. 9B



ASSEMBLY

- (1) Assemble Ball bearing 6000DDW into Gear housing. Refer to **Fig. 9**.
- (2) After assembling Flat washer 22, secure the Ball bearing 6000DDW and Flat washer 22 with Retaining ring R-30. Refer to **Fig. 8**.
- (3) Insert Armature into Gear housing. Refer to **Fig. 6**. And assembling Small spiral bevel gear to Armature shaft, secure it with M7 Hex nut. Refer to **Fig. 5**.
- (4) And then, do the reverse of the disassembling steps. Refer to **Figs. 2 to 4**.

► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -3A. Large Spiral Bevel Gear, Spindle, Ball bearing 6202DDW (GA5011, GA6011 without SJS)

DISASSEMBLY

- (1) Separate Bearing box section, as illustrated in **Figs. 2 and 3**.
- (2) Disassemble Bearing box section as illustrated in **Figs. 10, 11, 12 and 13**.

Fig. 10

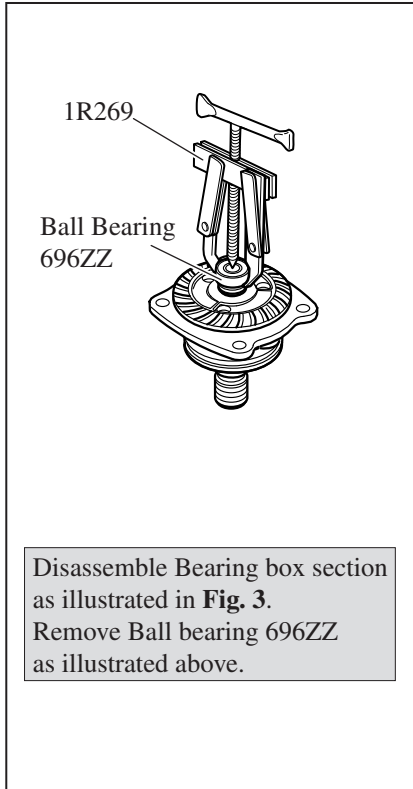


Fig. 11

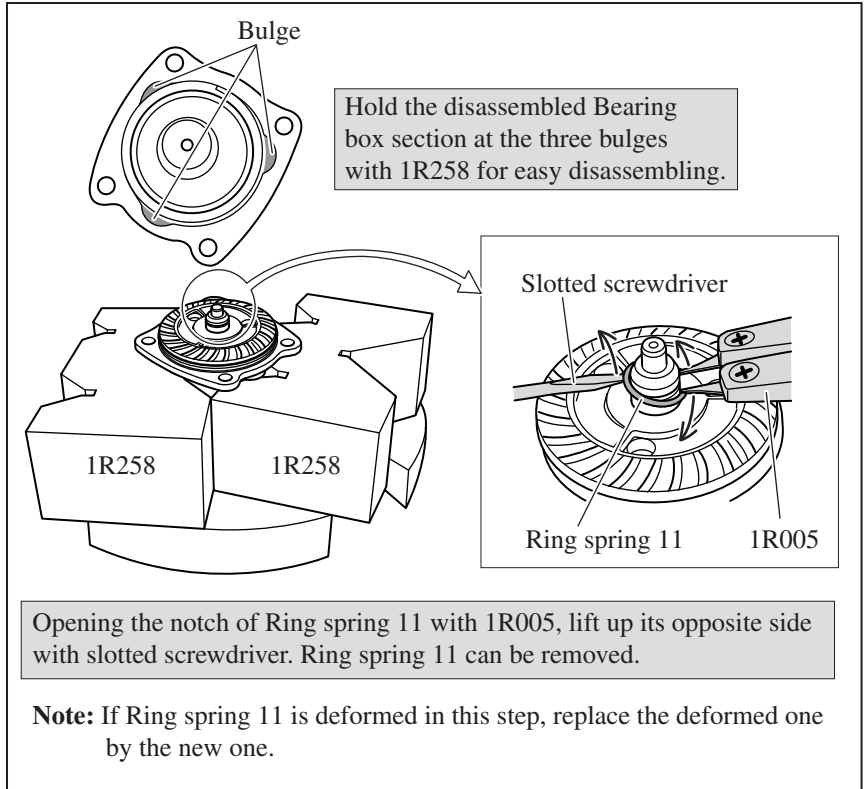


Fig. 12

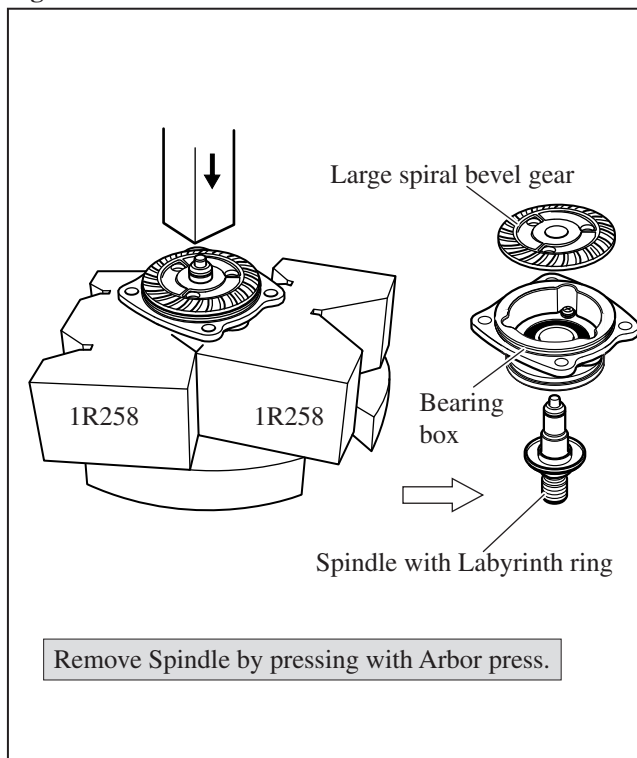
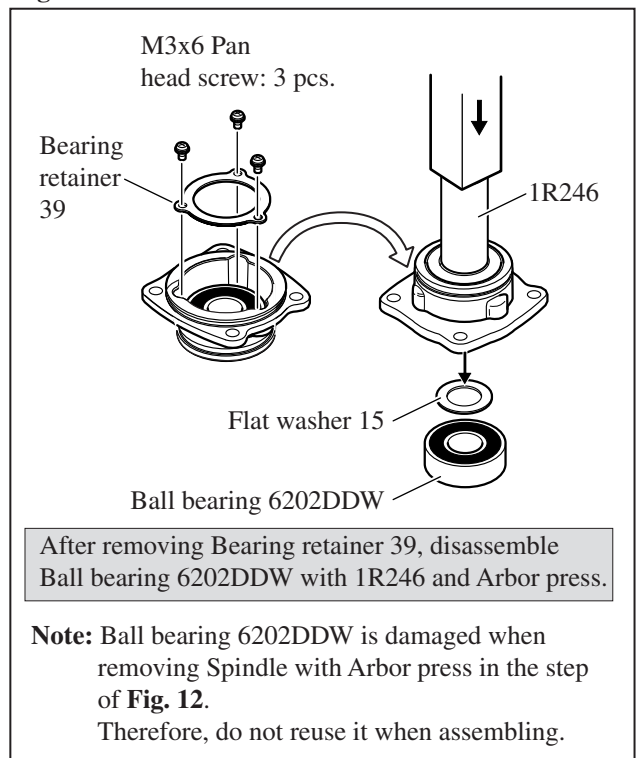


Fig. 13



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

**[3] -3A. Large Spiral Bevel Gear, Spindle, Ball bearing 6202DDW
(GA5011, GA6011 without SJS)**

ASSEMBLY

Bearing box section is assembled as illustrated in **Figs. 14 and 15**.
And assemble it to Gear housing. Refer to **Figs. 2 and 3**.

Fig. 14

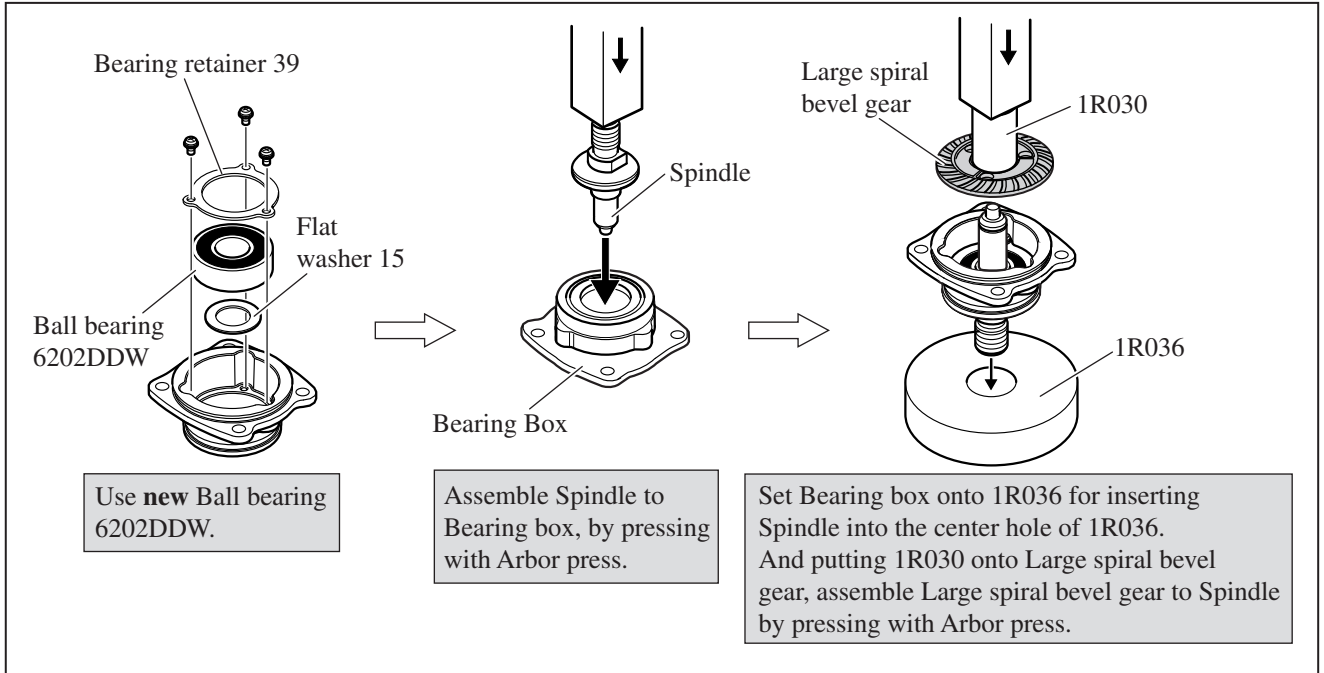
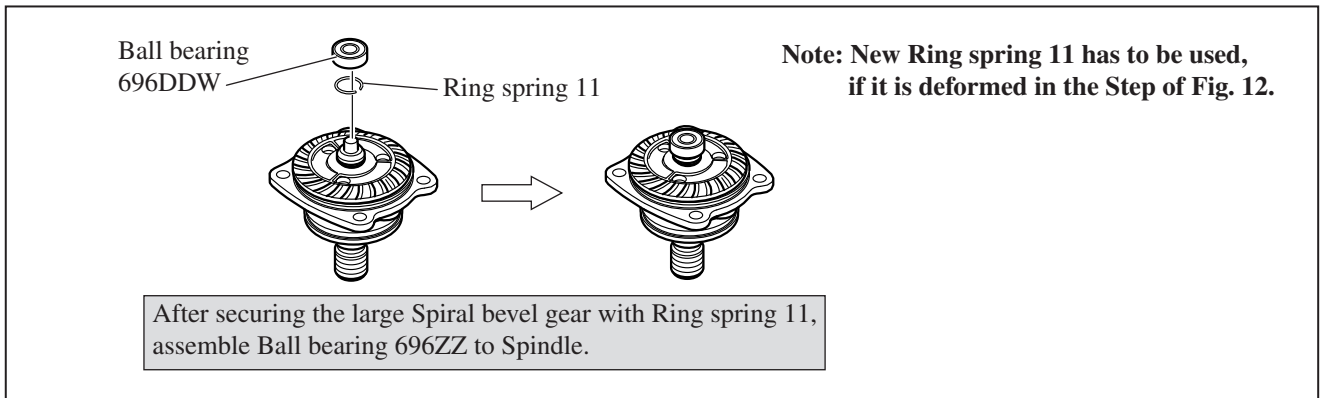


Fig. 15



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -3B. Large Spiral Bevel Gear, SJS system, Ball bearing 6002DDW (GA5021, GA6021 with SJS)

DISASSEMBLY

- (1) Separate Bearing box section, as illustrated in **Figs. 2 and 3**.
- (2) Disassemble SJS system and Ball bearing 6002DDW as illustrated in **Figs. 16 to 20 / 20A**.

Fig. 16

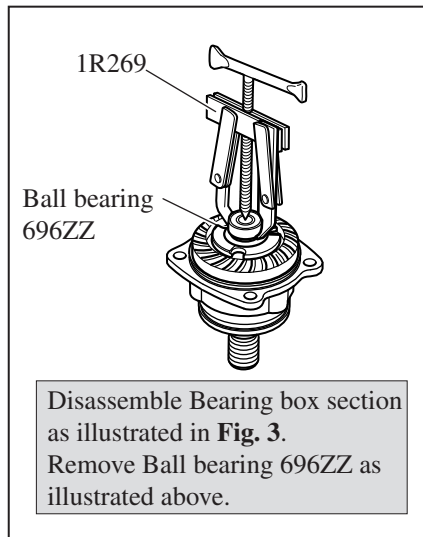


Fig. 17

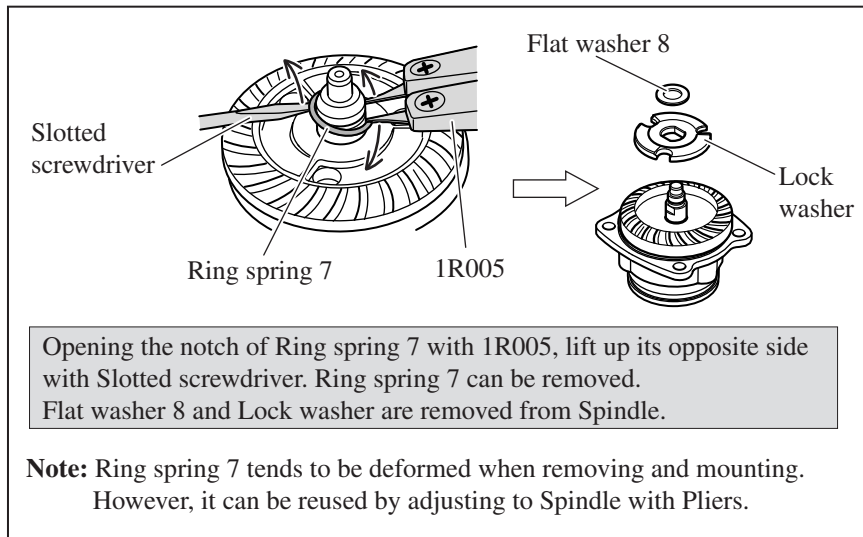


Fig. 18

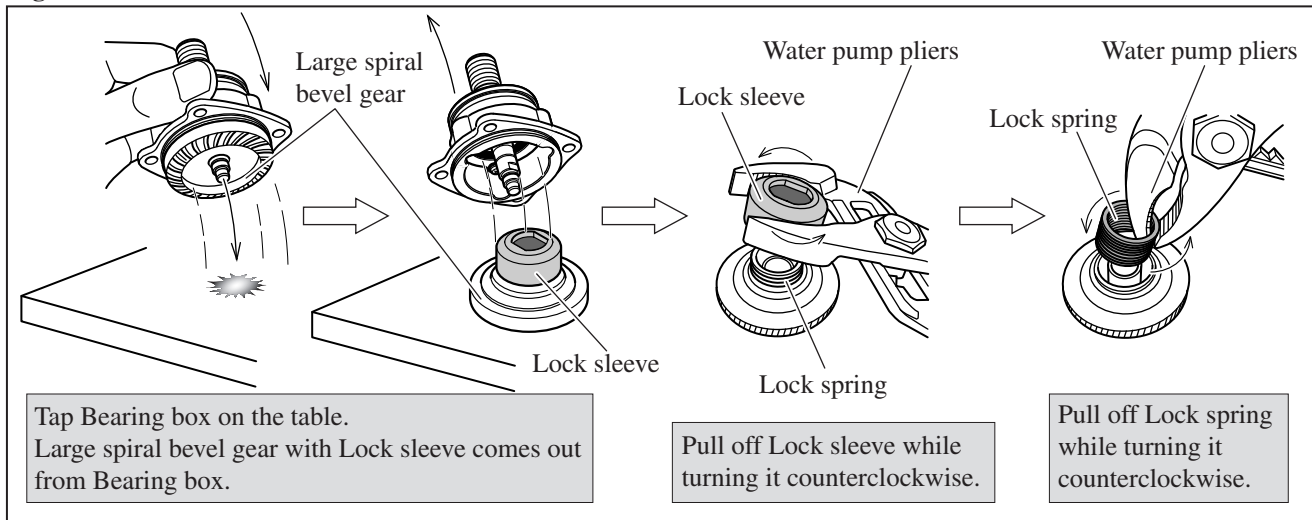
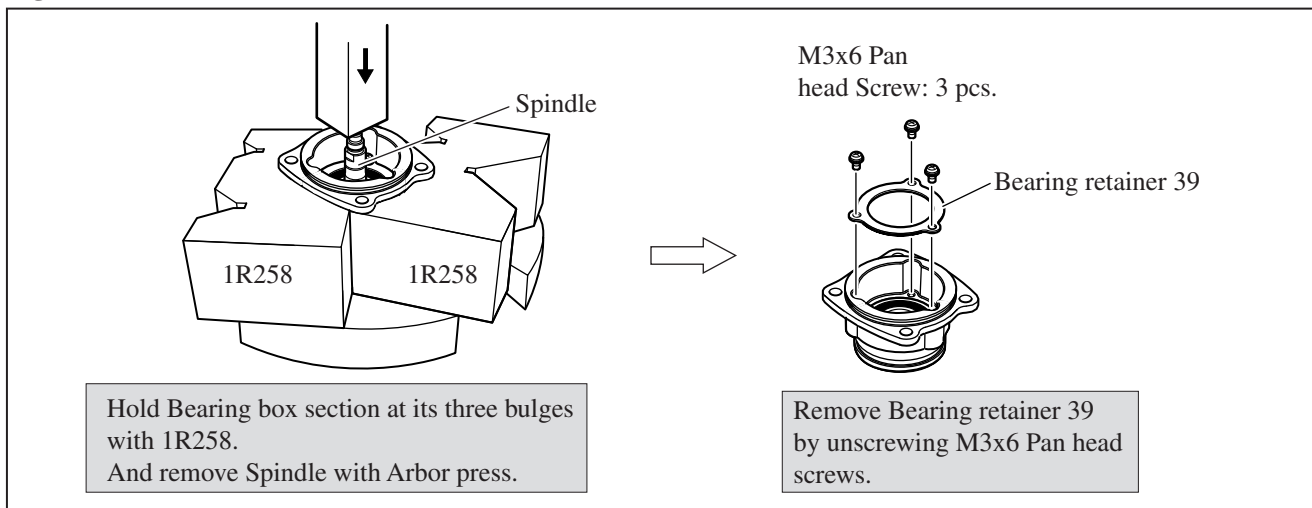


Fig. 19



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -3B. Large Spiral Bevel Gear, Spindle, Ball bearing 6002DDW (GA5021, GA6021 with SJS)

DISASSEMBLY

Fig. 20

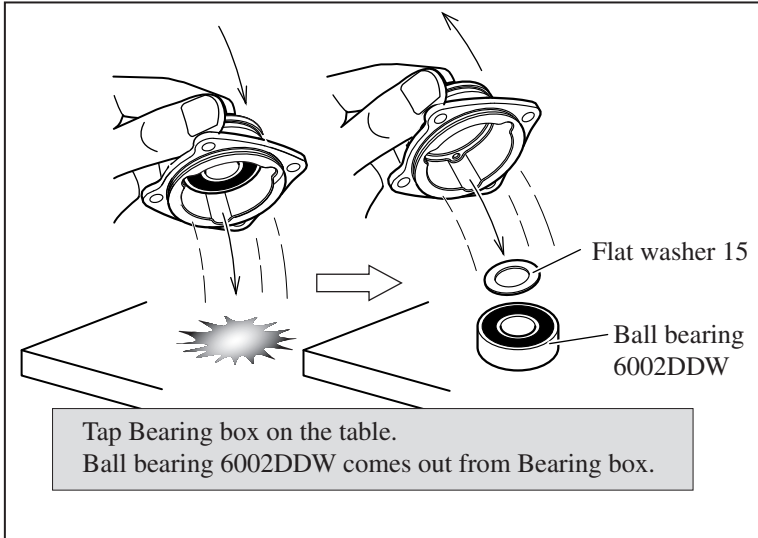
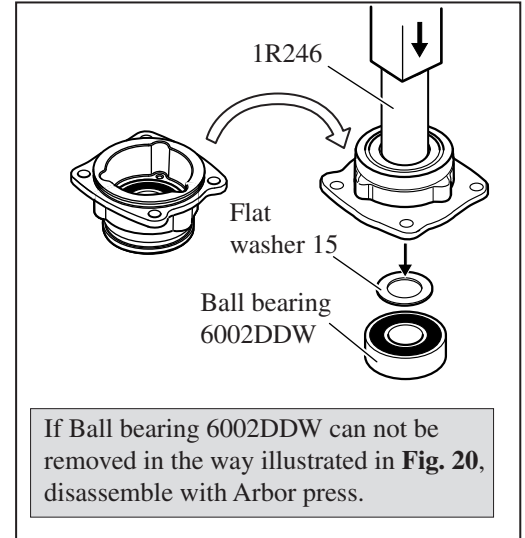


Fig. 20A



ASSEMBLY

- (1) Assemble Ball bearing 6002DDW and Spindle to Bearing box as illustrated in Fig. 21.
- (2) Assemble SJS components to Large Spiral bevel gear as illustrated in Figs. 22 and 23.

Fig. 21

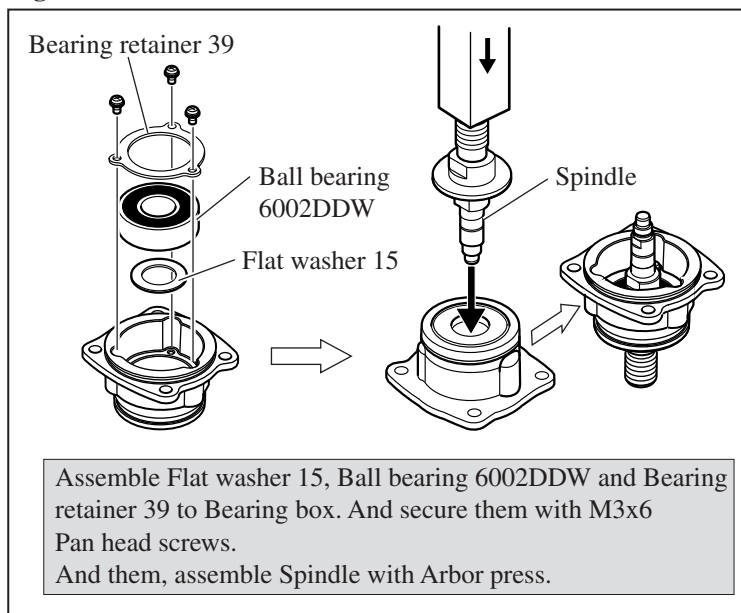


Fig. 22

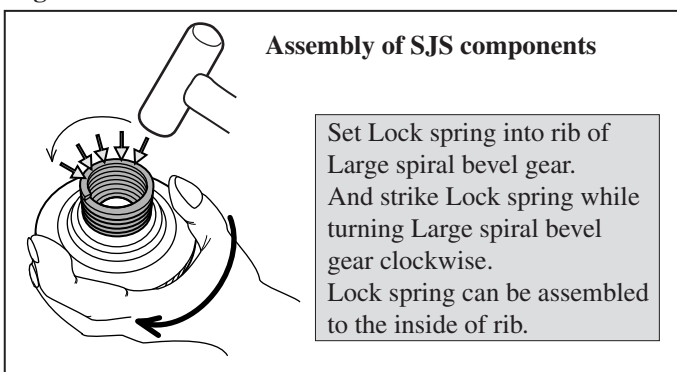
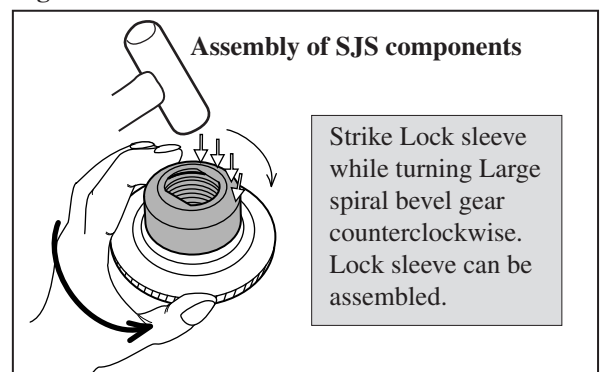


Fig. 23



► **Repair**

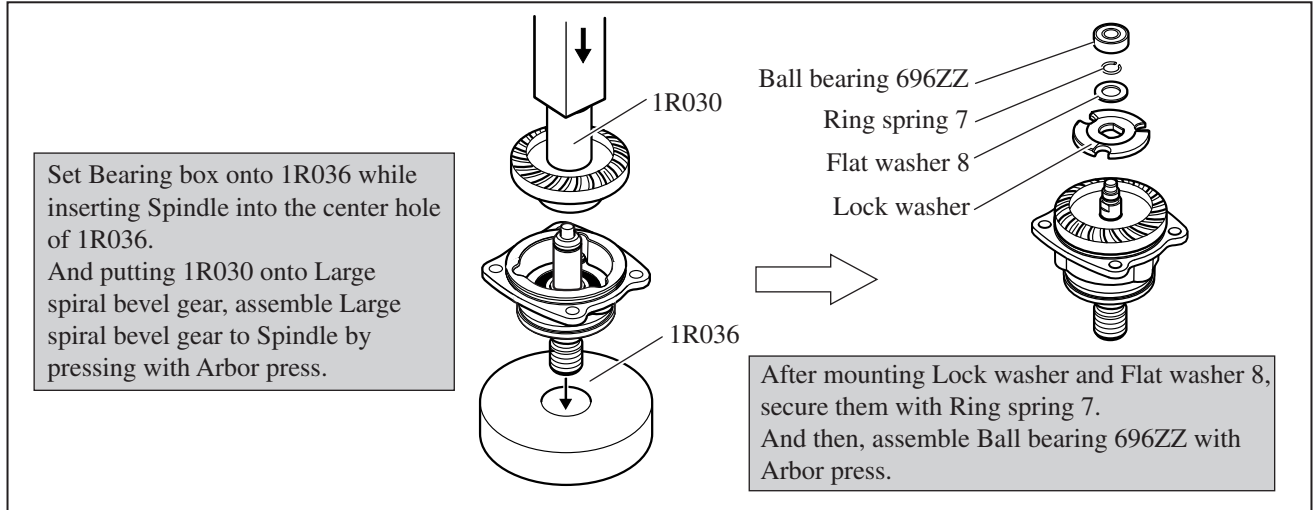
[3] DISASSEMBLY/ASSEMBLY

**[3] -3B. Large Spiral Bevel Gear, Spindle, Ball bearing 6002DDW
(GA5021, GA6021 with SJS)**

ASSEMBLY

(3) Assemble Large spiral gear with SJS components to Spindle as illustrated in **Fig. 24**.

Fig. 24



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -4. Shaft Lock Mechanism

DISASSEMBLY

- (1) Remove Bearing box from Gear housing. And remove Carbon brush from Motor housing. (Fig. 2 and 3)
- (2) Separate Gear housing from Motor housing. (Fig. 4)
- (3) Remove Armature from Gear housing. (Figs. 5, 6 and 7)
- (4) Shaft lock mechanism can be disassembled as illustrated in Figs. 25 and 26.

Fig. 25

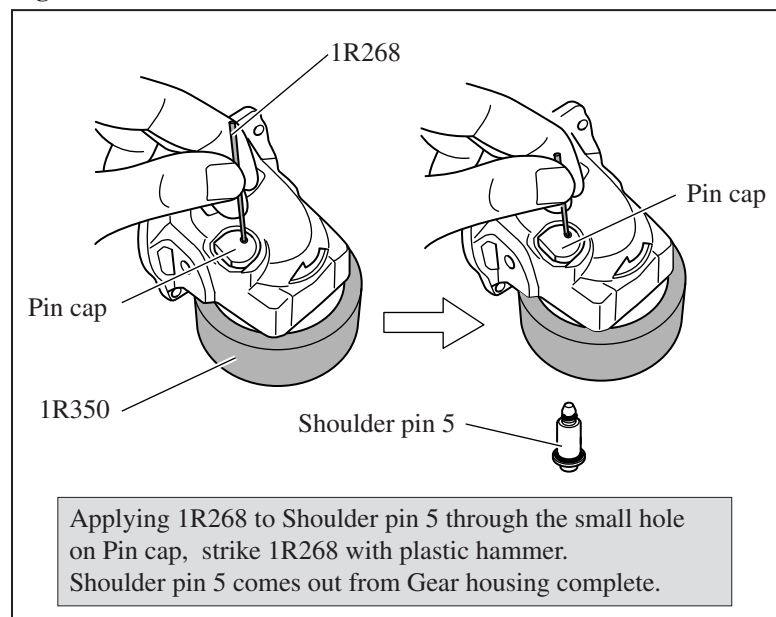
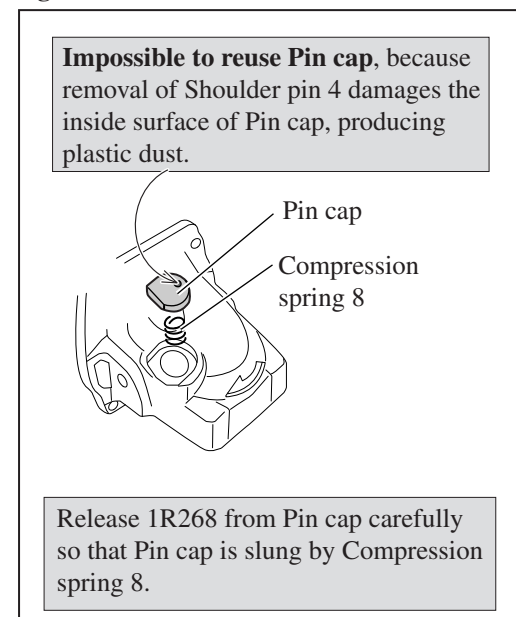


Fig. 26



ASSEMBLY

- (1) Be sure to use new Pin cap for replacement and remove all the plastic dust on Shoulder pin 5. (Fig. 27)
- (2) Assemble the components for Shaft lock mechanism as illustrated in Fig. 28.

Fig. 27

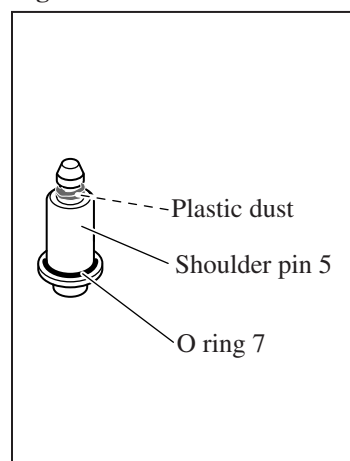
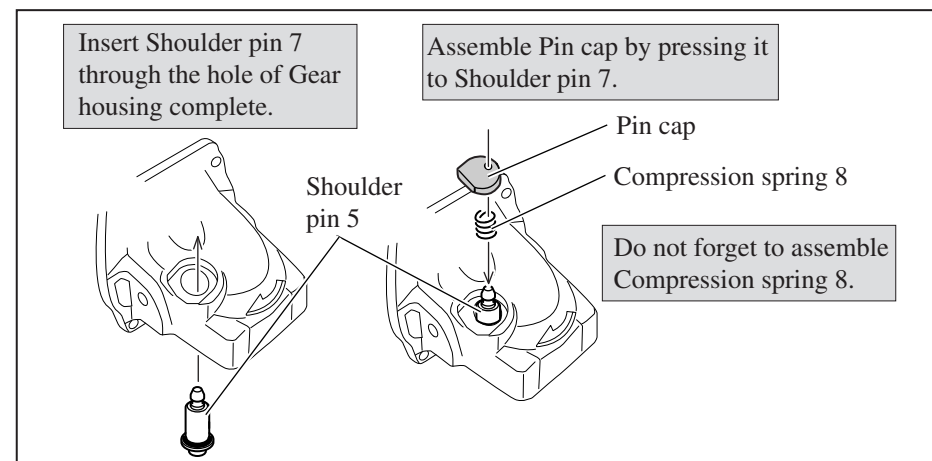
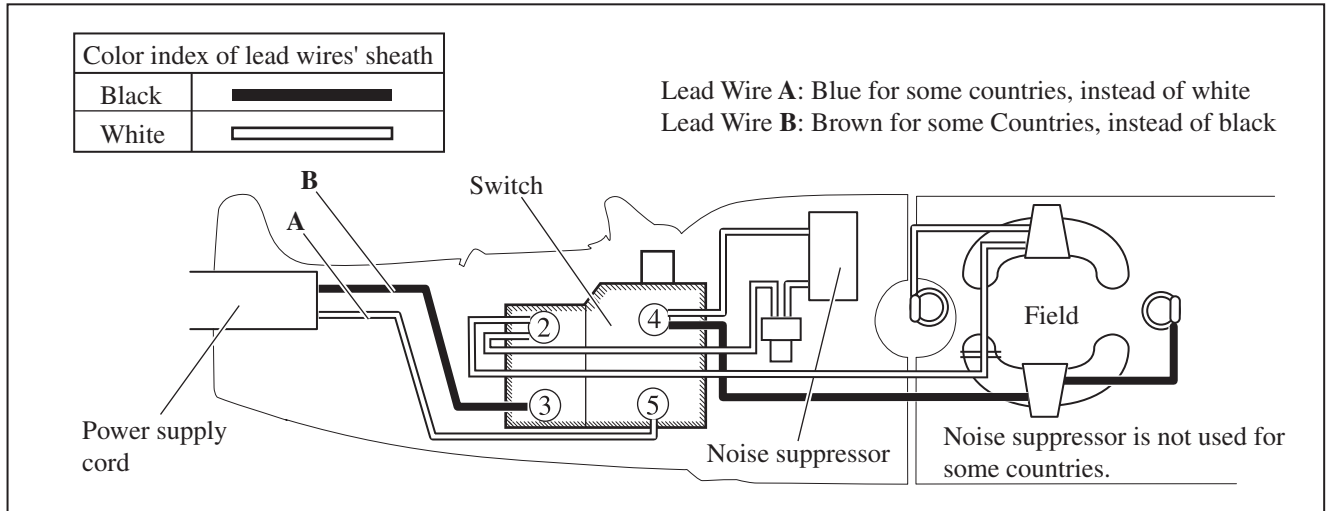


Fig. 28



► **Circuit diagram**

Fig. D-1



► **Wiring diagram**

Fig. D-2

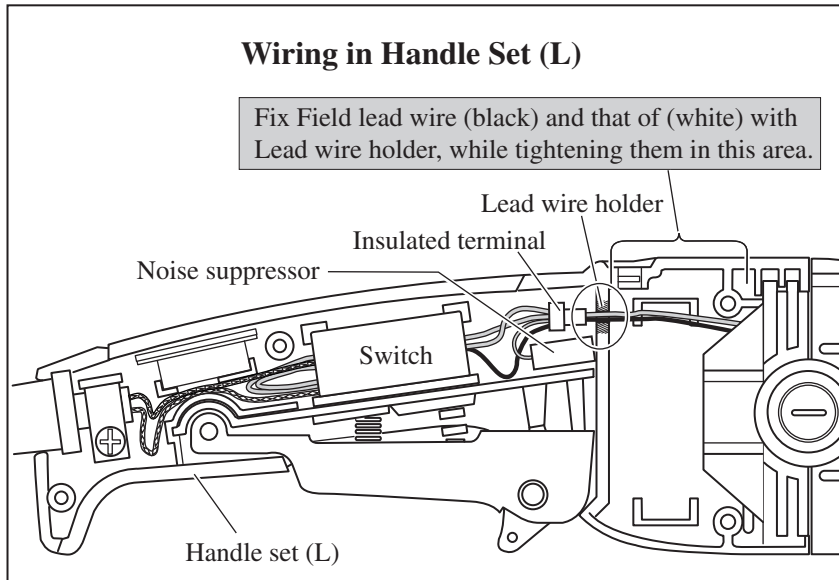


Fig. D-3

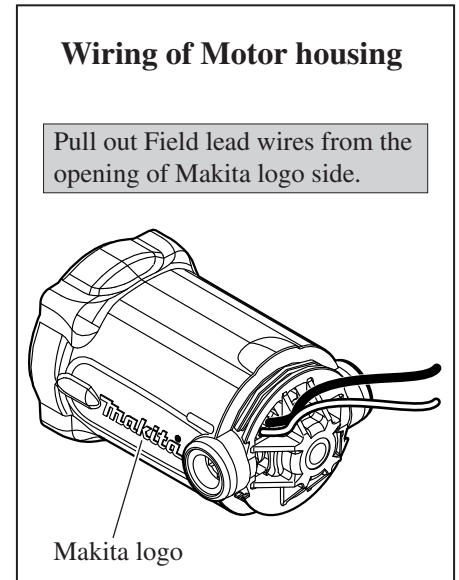


Fig. D-4

