

TECHNICAL INFORMATION



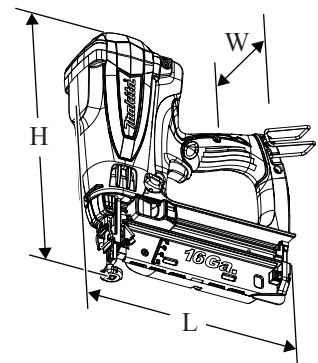
PRODUCT

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Models No. ▶ GF600 (FG01*1)

Description ▶ Cordless Brad Nailer

*1 Model number for North and Central American countries



CONCEPT AND MAIN APPLICATIONS

Model GF600 (FG01*1) is a gas driven cordless Brad nailer for 16Ga straight finish nails. Its main features are:

- Best possible ergonomic handle for high maneuverability
- Nose tip designed to provide better visibility for quick and easy access to a desired driving point of workpiece
- LED job light illuminates workpiece brightly for efficient operation in dark place.
- LED indication lamp with battery power warning and trouble detection functions for convenience in operation and repair.

This product is available in the following variations.

Model No.	Battery*2		Charger	Plastic carrying case	Offered to
	type	quantity			
GF600SE	BL7010 (Li-ion 1.0Ah)	2	DC07SA	Yes	All countries except North and Central American countries
GF600S		1			
GF600ZK	No	No	No	Yes	
FG01	BL7010 (Li-ion 1.0Ah)	2	DC07SA	Yes	North and Central American countries

Dimensions: mm (")	
Length (L)	266 (10-1/2)
Width*3 (W)	90 (3-1/2)
Height (H)	305 (12)

*3 Width is the same either with or without Hook.

The model also includes the accessories listed below in "Standard equipment".

*2 Battery is used as the power source for ignition spark, gas mixing, air intake/exhaust and supply of cooling air.

► Specification

Battery	Cell	Li-ion
	Voltage: V	7.2
	Capacity: Ah	1.0
	Energy capacity: Wh	7.2
	Charging time (approx.): min.	30 with DC07SA or DC10WA (DC10WB*1)
Nail	Gauge (Shank diameter)	16Ga
	Type	Straight finish nail
	Length: mm (")	15, 19, 22, 25, 30, 32, 35, 38, 40, 45, 50, 57, 60, 64 (5/8, 3/4, 7/8, 1, 1-3/16, 1-1/4, 1-3/8, 1-1/2, 1-9/16, 1-3/4, 2, 2-1/4, 2-3/8, 2-1/2)
Magazine capacity		100 nails (2 strips)
Motor*4		Coreless DC motor
Battery life*5		4,000 nails (approx.)
Fuel cell life*6		1,000 nails (approx.)
Driving depth adjustment		Yes (Toolless)
Anti-dry-fire mechanism		Yes
LED job light		Yes
Weight according to EPTA-Procedure 01/2003*7: kg (lbs)		2.2 (4.8)

*4 The motor is used for gas mixing, air intake/exhaust, supply of cooling air.

*5 Battery life: the number of nails to be driven on a single full battery charge

*6 Fuel cell life: the number of nails to be driven per Fuel cell *7 with Battery and Hook

► Standard equipment

- Safety goggles 1
- Nose adapter 1
- Hex wrench 3 1
- Hex wrench 4 1
- Short nail adapter set 1

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

► Optional accessories

- Finish nails
- Charger DC07SA
- Charger DC10WA (for all countries except U.S., Canada, Panama, Colombia and Guam)
- Charger DC10WB (for U.S., Canada, Panama, Colombia and Guam)
- Battery BL7010, Fuel cell, Cleaner, Lubricating oil
- Cleaning set (contains the following accessories in a special Tool bag: Cleaner/ 1
Lubricating oil/ 1, Hex wrench 4/ 1, Brush/ 1, Waste/ 1)

► Repair

- CAUTION:**
- Repair the machine in accordance with “Instruction manual” or “Safety instructions”.
 - Loosen Hex socket head bolts with L-shape wrench in advance before removing them using cordless impact driver with 1R228/ 1R229, or the top of 1R228/ 229 will damage.

[1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R005	Retaining ring pliers RT-2N	disassembling / assembling Retaining ring R-40
1R228	1/4” Hex shank bit for M4	disassembling / assembling M4 Hex socket head bolt
1R229	1/4” Hex shank bit for M5	disassembling / assembling M5 Hex socket head bolt
1R252	Round bar for arbor ø30-100	assembling Front cushion
1R291	Retaining ring S and R pliers	disassembling / assembling Retaining ring R-24
1R392	Knife type Hexalobular wrench TXN-8N	disassembling Front cushion

[2] LUBRICANT AND ADHESIVE APPLICATION

- Apply Lubricant oil VG100 to the inside of Cylinder. See **Fig. 1**.
- Apply Molybdenum disulfide to the specific portions in Chamber and Chamber top. Refer to **Figs. 2**.

Fig. 1

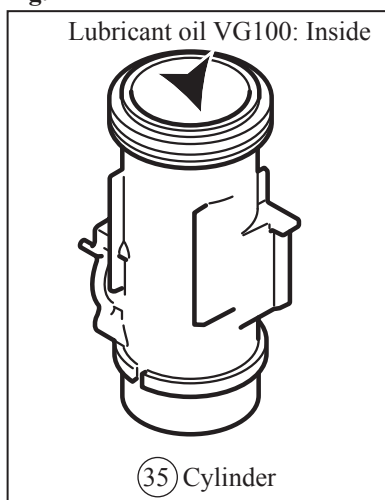
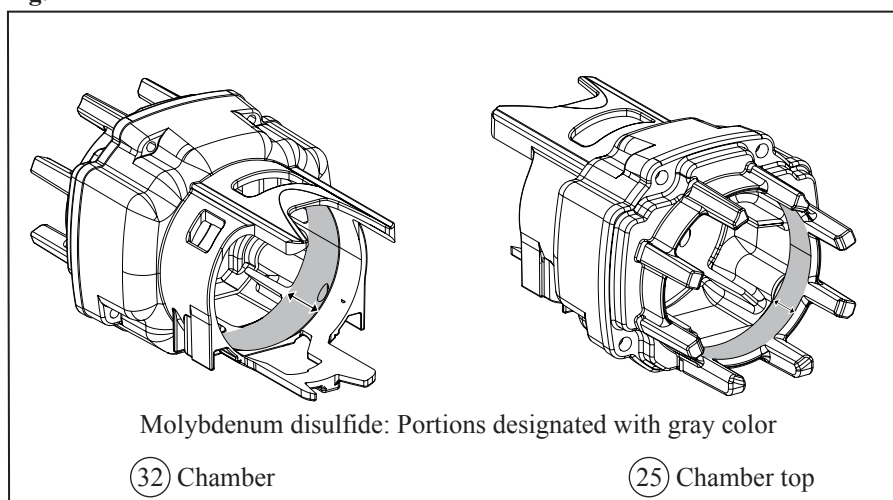


Fig. 2



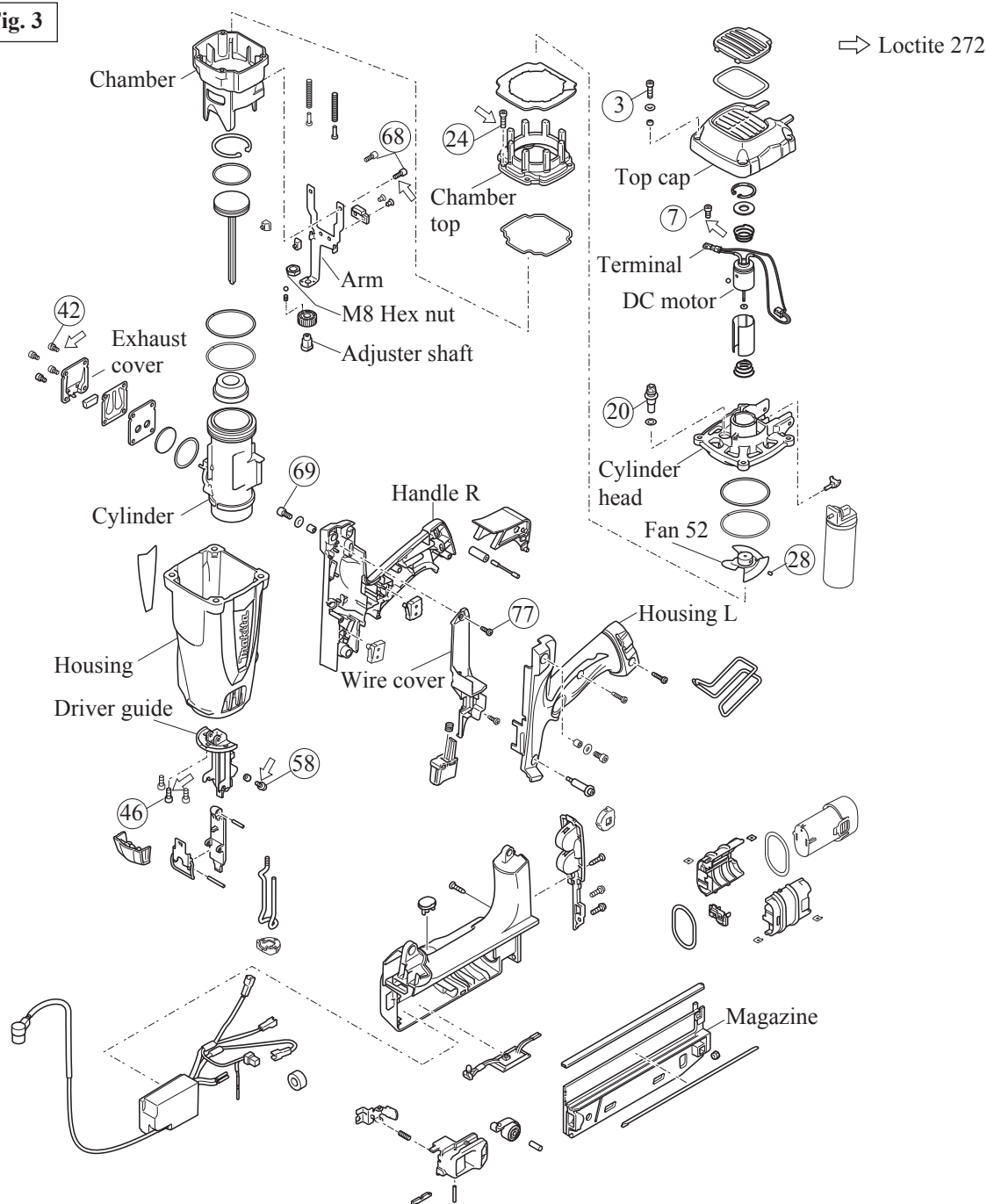
► **Repair**

[3] FASTENING TORQUE OF FASTENERS

Note: Apply a little amount of adhesive to the specific fasteners as drawn below.

Item No.	Fastener	Application (for fastening A to B)		Adhesive	Tightening torque (N.m)
		A	B		
③	M4x16 Hex socket head bolt (4 pcs.)	Top cap	Housing	N/A	4.0
⑦	M4x12 Hex socket head bolt	Terminal of DC motor	Cylinder head	Loctite 272	4.0
⑳	Spark plug	Spark plug	Cylinder head	N/A	1.0
㉔	M4x16 Hex socket head bolt (4 pcs.)	Chamber top	Chamber	Loctite 272	6.0
㉘	M3x4 Set screw	Fan 52	DC motor	N/A	1.1
㉔	M4x8 Hex socket head bolt (4 pcs.)	Exhaust cover	Cylinder	Loctite 272	3.0
㉖	M4x12 Hex socket head bolt (3 pcs.)	Driver guide	Cylinder	Loctite 272	4.0
㉙	M8 Hex nut	M8 Hex nut	Adjuster shaft	N/A	9.0
㉘	M4x12 Hex socket head bolt	Magazine	Driver guide	Loctite 272	4.0
㉖	M4x10 Hex socket head bolt (4 pcs.)	Arm	Chamber	Loctite 272	4.0
㉙	M5x12 Hex socket head bolt (2 pcs.)	Handle L and R	Cylinder head	N/A	4.0
㉗	4x12 Tapping screw (2 pcs.)	Wire cover	Handle R	N/A	1.0

Fig. 3



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver guide, Cylinder section

DISASSEMBLING

- (1) Remove M4x12 Hex socket head bolt. (Fig. 4)
- (2) Remove M4 Shoulder hex socket head bolt. (Fig. 4)
- (3) Loosen four M4x16 Hex socket head bolts, then remove Top cap. (Fig. 5)
- (4) While pulling Pusher lever in direction of a black arrow so as not to move to driver guide, tilt Housing slightly by hand and then slide it straight and gently in order not to hook with Fan 52. (Fig. 6)
- (5) Turn Adjuster dial in direction of a black arrow, then remove Contact top. (Fig. 7)

Fig. 4

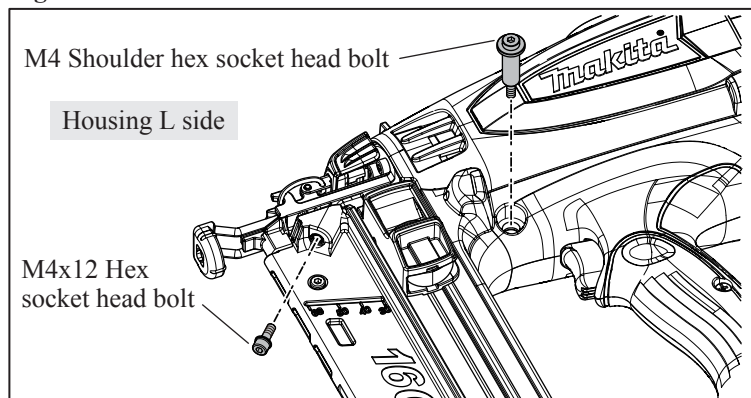


Fig. 5

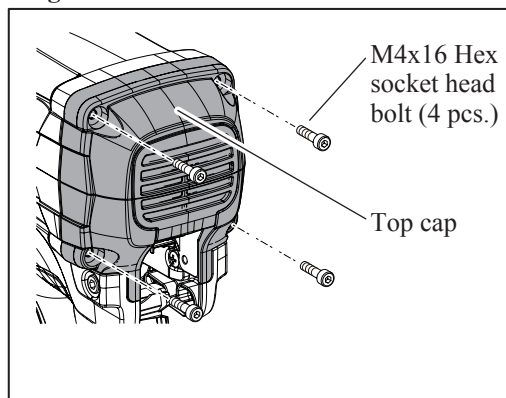


Fig. 6

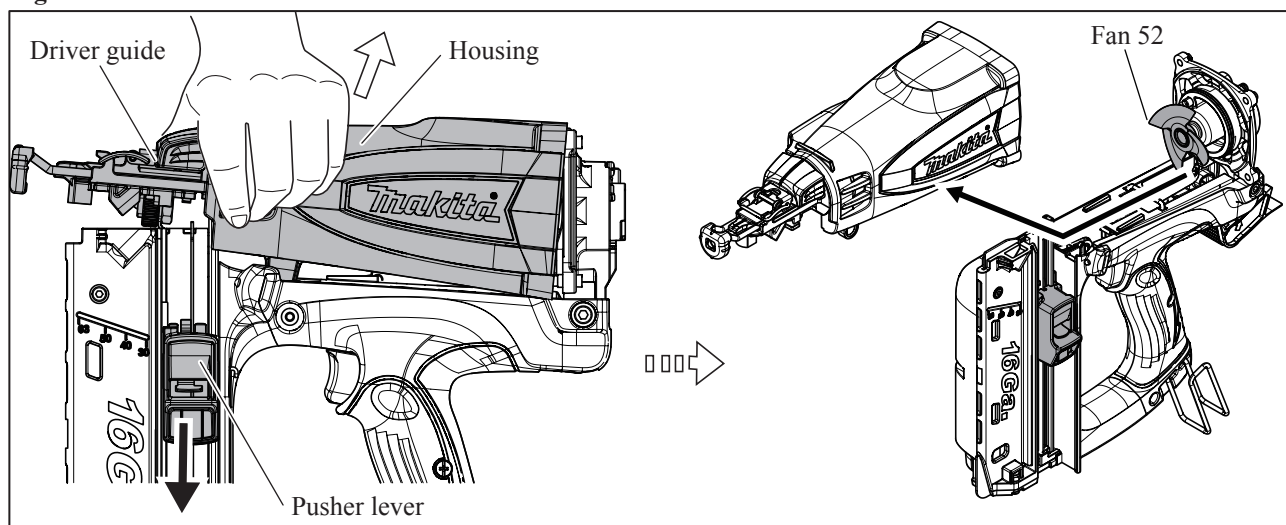
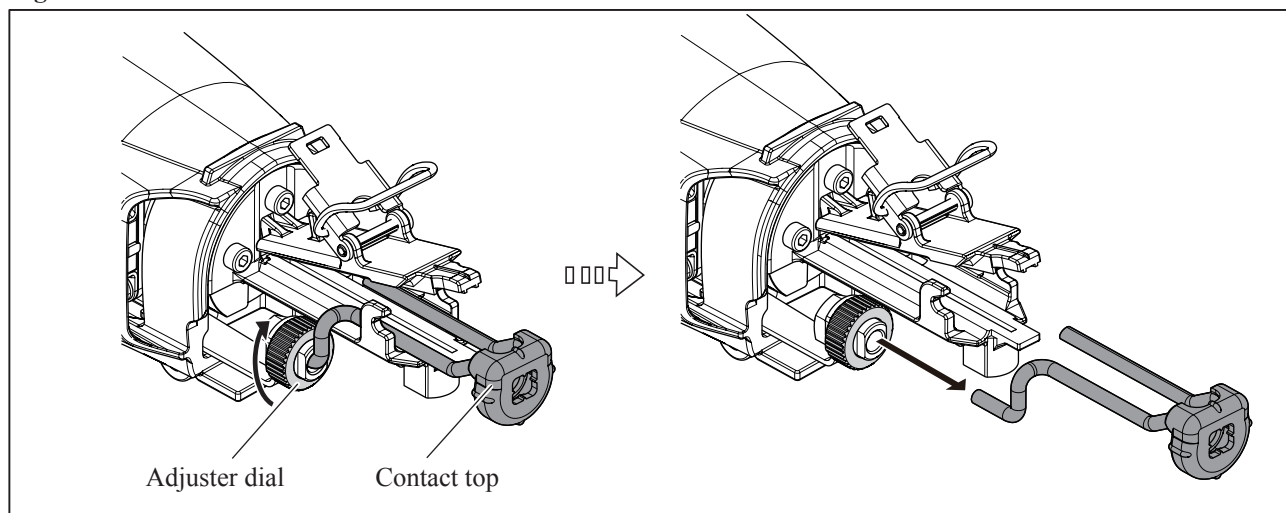


Fig. 7



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver guide, Cylinder section (cont.)

DISASSEMBLING

(6) Loosen three M4x12 Hex socket head bolts and remove Driver guide. Cylinder section is separated from Housing. (Fig. 8)

(7) Loosen two M4x10 Hex socket head bolts then remove Arm section. (Fig. 9)

Note: Be careful that the popping out or dropping off of Spring bushes and Compression springs 5 on Cylinder.

(8) Remove Retaining ring R-40 from Cylinder with 1R005. Driver complete can be removed. (Fig. 10)

(9) Push Front cushion in Cylinder with 1R392 through thread holes on the bottom of Cylinder. (Fig. 11)

Fig. 8

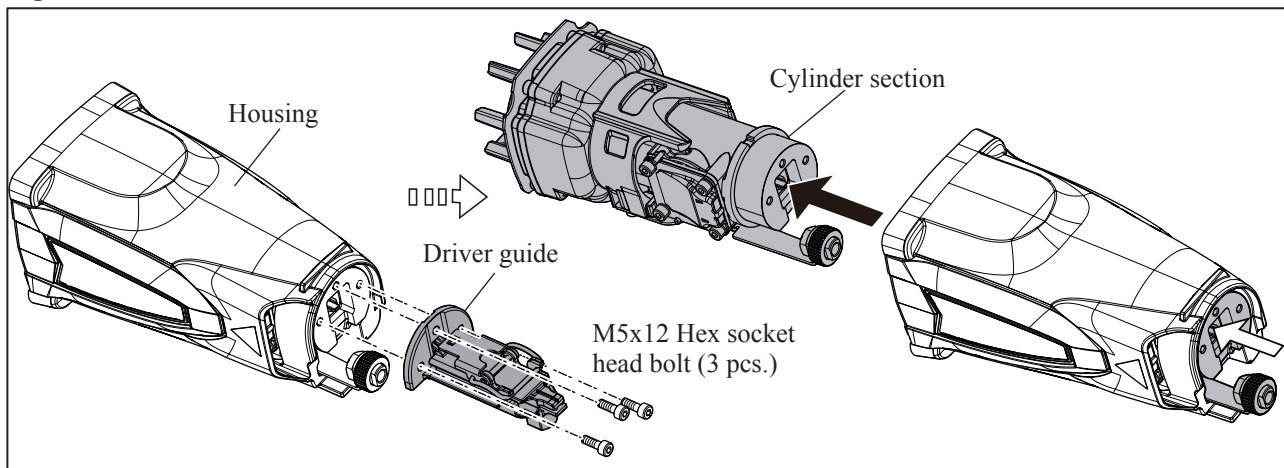


Fig. 9

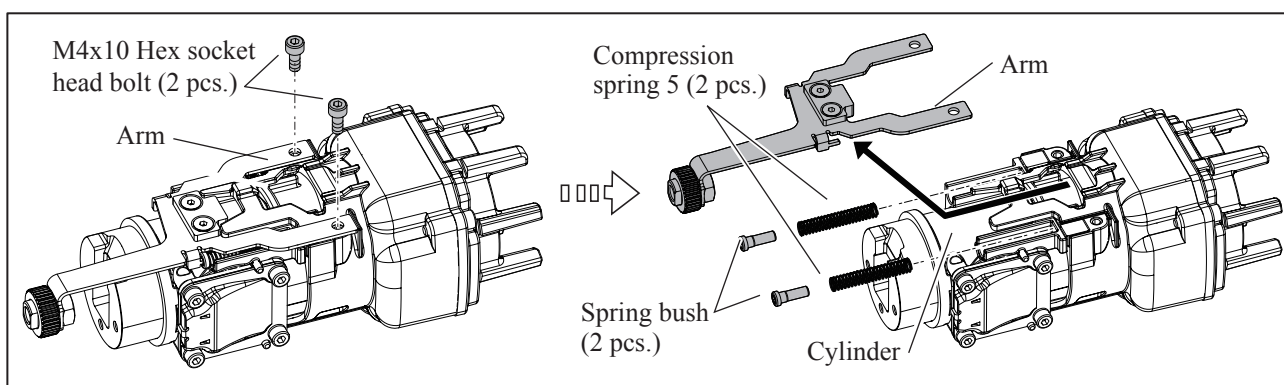


Fig. 10

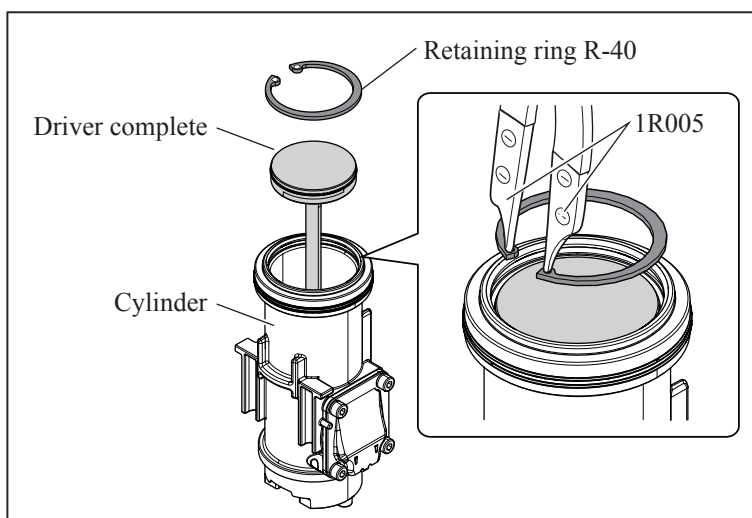
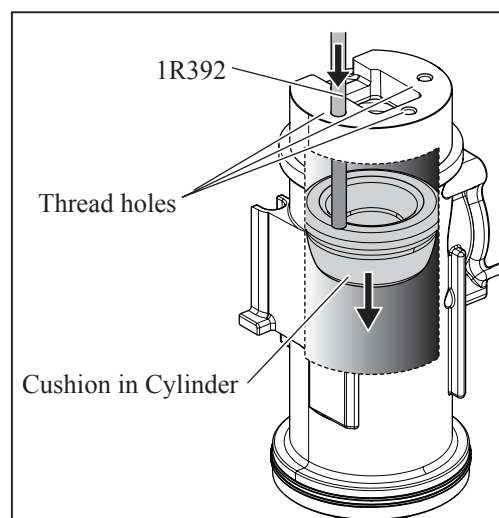


Fig. 11



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver guide, Cylinder section (cont.)

ASSEMBLING

(1) Insert Front cushion into Cylinder from the upper side, then push it to the bottom side using Arbor press and 1R252.
(Fig. 12)

Note: Be careful not to fail the direction of Front cushion.

(2) When assembling Driver complete to Cylinder;

- face the groove of Driver complete to Latch side. (Fig. 13)
- push Piston ring 39 into the groove of Driver complete with a slotted screwdriver so as not to get damaged.

(Fig. 14)

(3) Set two Cylinder rings 54 into the grooves of Cylinder so that the angle between their gaps is more than 90°.

(Fig. 15)

Note: • There are four Cylinder rings 54 in total. Refer to Fig. 28.

- Because Cylinder ring 54 is fragile, treat it carefully.

Fig. 12

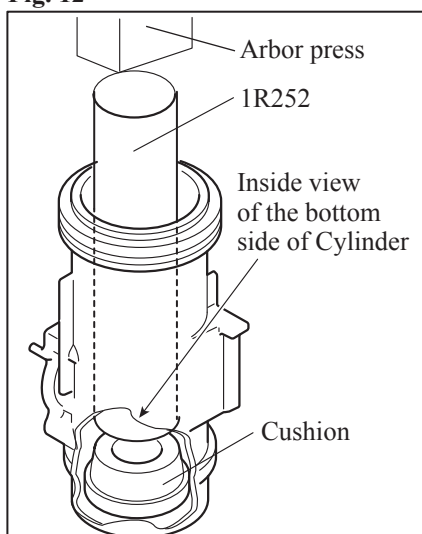


Fig. 13

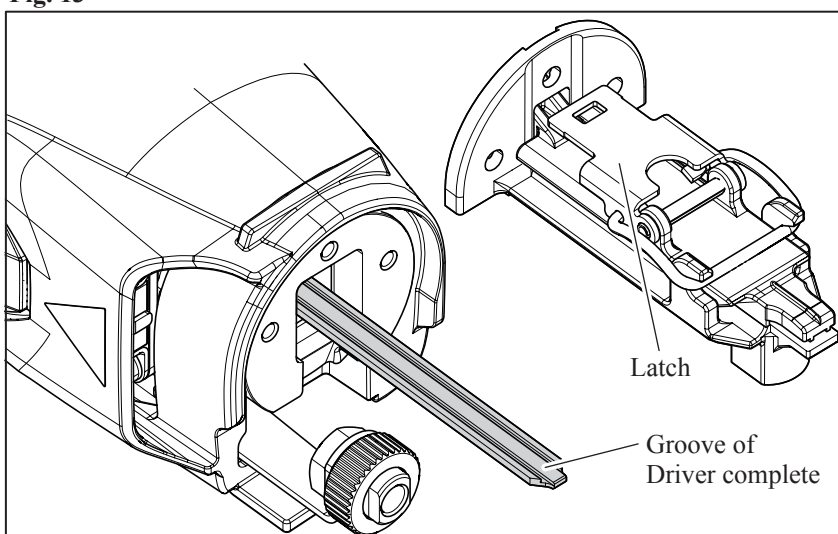


Fig. 14

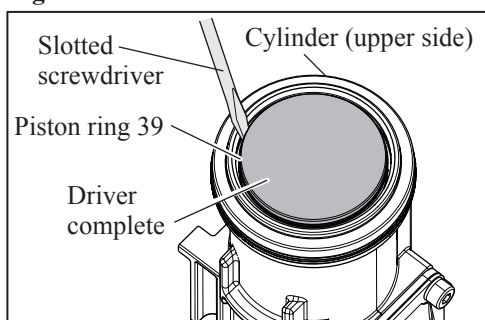
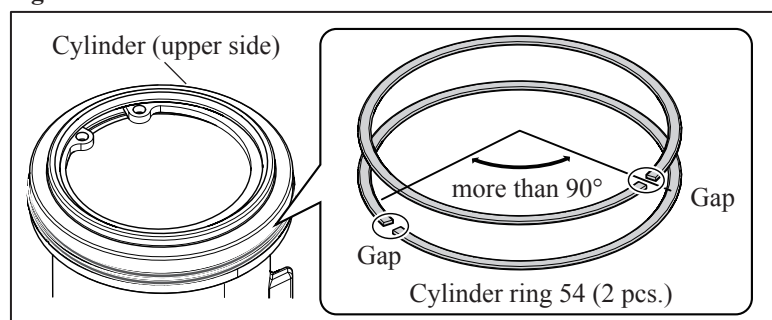


Fig. 15



► Repair

[4] DISASSEMBLY/ASSEMBLY

[4]-2. Exhaust valve section

DISASSEMBLING

When the tip of Driver complete does not hit the nail head in use because Driver complete does not return to the highest position, disassemble the exhaust valve section to check malfunctions as follows:

- (1) Remove Cylinder section from Housing. Refer to [4]-1.
- (2) Loosen four M4x8 Hex socket head bolts then remove Exhaust cover, Silencer, Exhaust valve and Exhaust plate. (**Fig. 16**)
- (3) Deformed or damaged Exhaust valve/ Exhaust plate causes Driver complete to hit the nail head incompletely. If yes, replace the deformed/ damaged part with a new one/ new ones.

Important: When Driver complete returns to the highest position, two tabs of Exhaust valve have to be attached firmly to two holes of Exhaust plate.

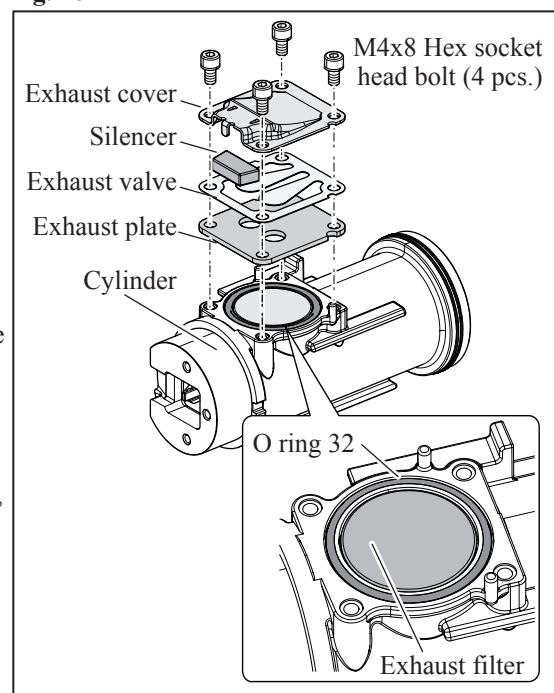
- (4) When Exhaust valve and Exhaust plate do not have any problems, air leakage from O ring 32 under Exhaust plate possibly happens. Replace O ring 32 with a new one.

ASSEMBLING

Assemble by reversing the disassembly procedure.

Note: Do not fail to set Silencer in place.

Fig. 16



[4]-3. Pusher section

DISASSEMBLING

- (1) Remove Housing. Refer to [4]-1.
- (2) Remove Pusher section from Magazine. (**Fig. 17**)
- (3) Disassemble Pusher section by pulling out Pin 3. (**Fig. 18**)

Fig. 17

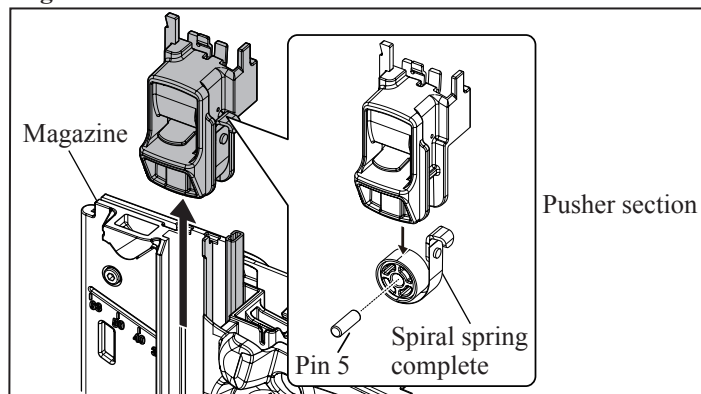
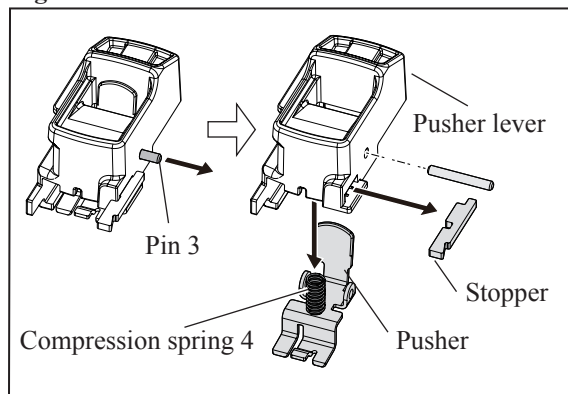


Fig. 18



ASSEMBLING

Assemble by reversing the disassembly procedure.

- While pushing Spiral spring complete and Pusher to Pusher lever as drawn in **Fig. 19**, slide Pusher section into Magazine.

Note: Hook the hook portion of Spiral spring complete with the specific portion of Magazine cover complete. (**Fig. 20**)

Fig. 19

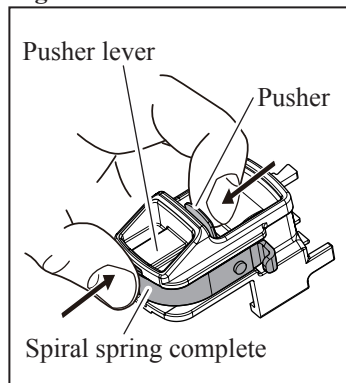
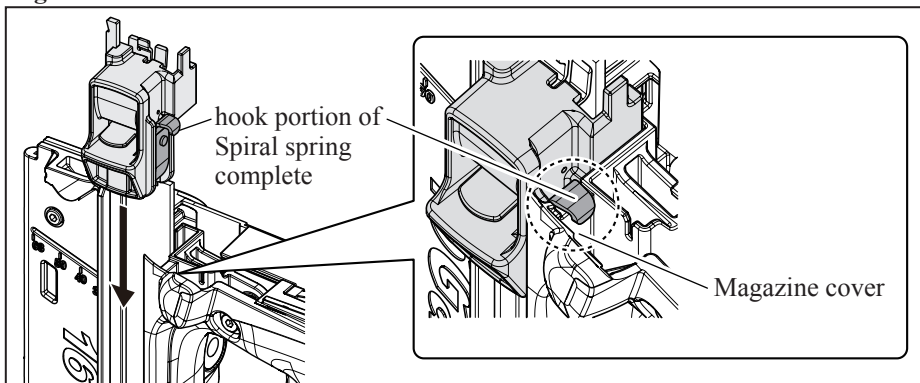


Fig. 20



► Repair

[4] DISASSEMBLY/ASSEMBLY

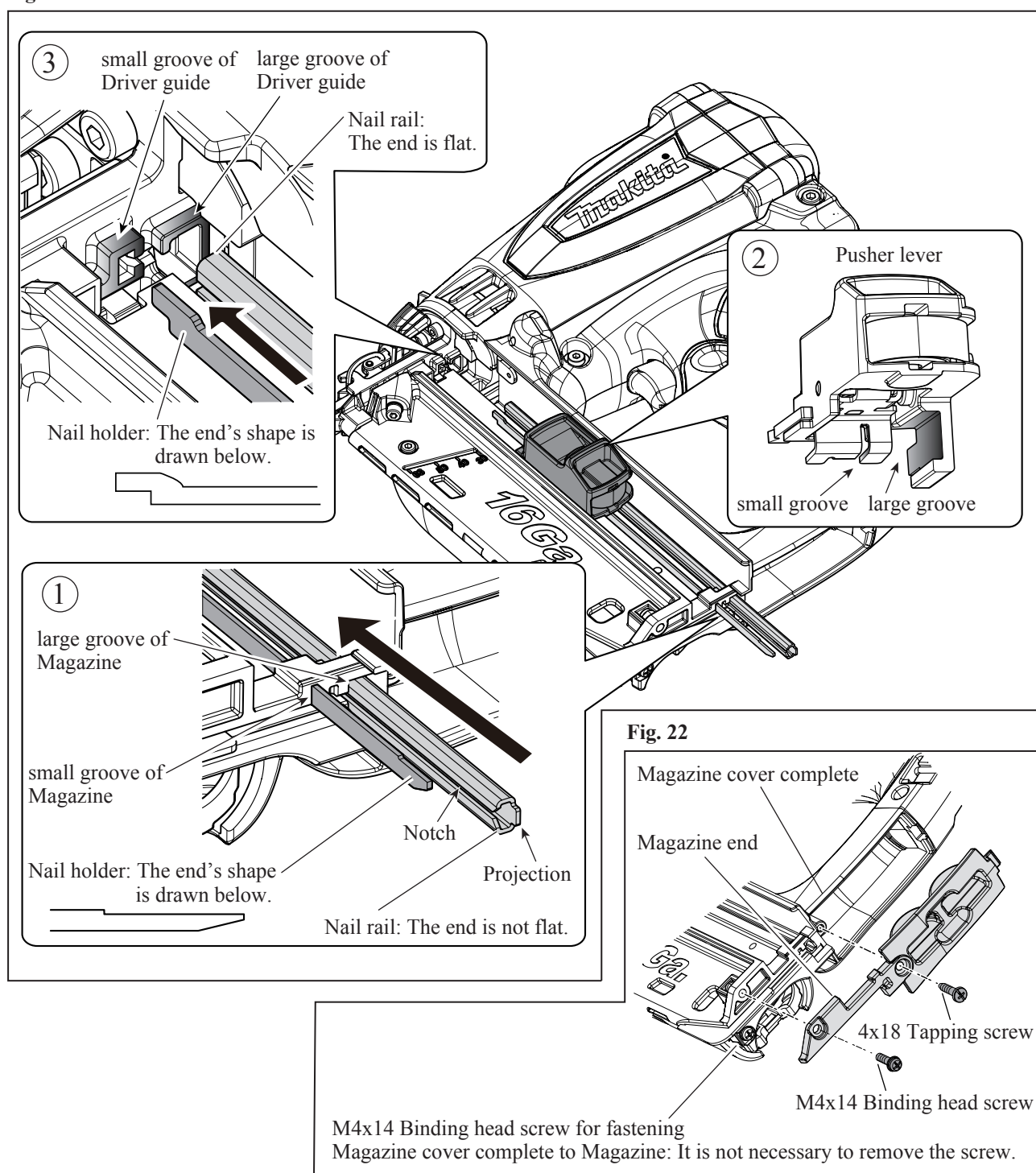
[4]-3. Pusher section (cont.)

ASSEMBLING

Refer to **Fig. 21**

- (1) While pulling Pusher lever to the center of Magazine, set Housing in place.
 - (2) Insert Nail rail and Rail holder into each groove on Magazine in order of ①, ②, and ③ .
 - Pass the front end of Nail rail through the large groove of Pusher lever.
 - Pass the front end of Nail holder through the small groove of Pusher lever.
 - Insert the front end of Nail rail into the large groove of Driver guide.
 - Insert the front end of Nail holder into the small groove of Driver guide.
- Note:** Be careful to the directions of Nail rail and Nail holder. Refer to ① and ③ for the shapes.
- (3) Fasten Magazine end to Magazine cover complete with 4x18 Tapping screw and to M4x14 Binding head screws. (**Fig. 22**)

Fig. 21



► Repair

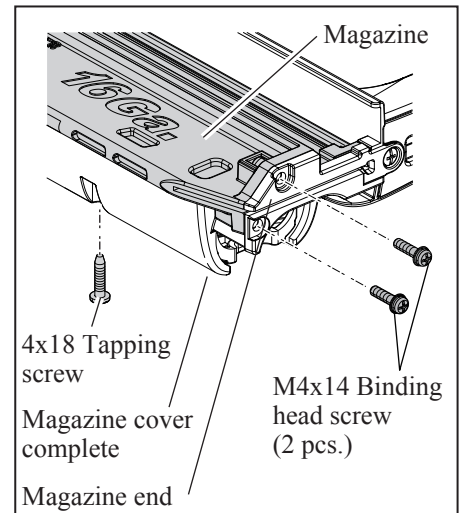
[4] DISASSEMBLY/ASSEMBLY

[4]-4. Magazine

DISASSEMBLING

- (1) Remove Housing. Refer to [4]-1.
- (2) Remove Pusher section. Refer to [4]-3.
- (3) Remove two M4x12 Binding head screws and 4x18 Tapping screw in Magazine cover complete and Magazine end. (Fig. 23)
Magazine is removed from Magazine cover complete and Magazine end.

Fig. 23



[4]-5. DC motor

DISASSEMBLING

- (1) Remove Housing and Handle section. Refer to [4]-1.
- (2) Remove Pusher section. Refer to [4]-3.
After that, refer to Fig. 24 and go ahead to the following steps.
- (3) Remove Plug cap, then separate Spark plug from Cylinder head with Socket bit 8 or Wrench 8.
- (4) Pull out Connector of DC motor from Connector of Spark unit, and separate Earth terminal of DC motor from Cylinder head by removing M4x12 hex socket head bolt.
(Refer to Fig. D-1 of Circuit diagram)
- (5) Loosen M3x4 Set screw, then remove Fan 52. (Fig. 25)
- (6) Remove Retaining ring R-24 from the upper side of DC motor using 1R291, then pull out DC motor.

ASSEMBLING

- (1) Pass two tubes (designated by an arrow) of DC motor through one of Conical compression spring 12-18, Flat washer 10 and Retaining ring R-24 (designated by a rectangle). (Fig. 24)
- (2) Pass the spindle of DC motor through the other Conical compression spring 12-18.
Note: Face the small sides of two Conical compression springs 12-18 toward DC motor side as drawn in Fig. 26.
- (3) Do not fail to attach Epoxy washer 2 with grease on the center hole of DC motor along the spindle. (Fig. 26)
- (4) Install the rail of Motor sleeve to one of groove on Cylinder head. Meanwhile, attach Steel ball 3 onto the depression on DC motor with grease and assemble them so that Steel ball 3 comes to the silt of Motor sleeve in Cylinder head. (Fig. 27)

Fig. 24

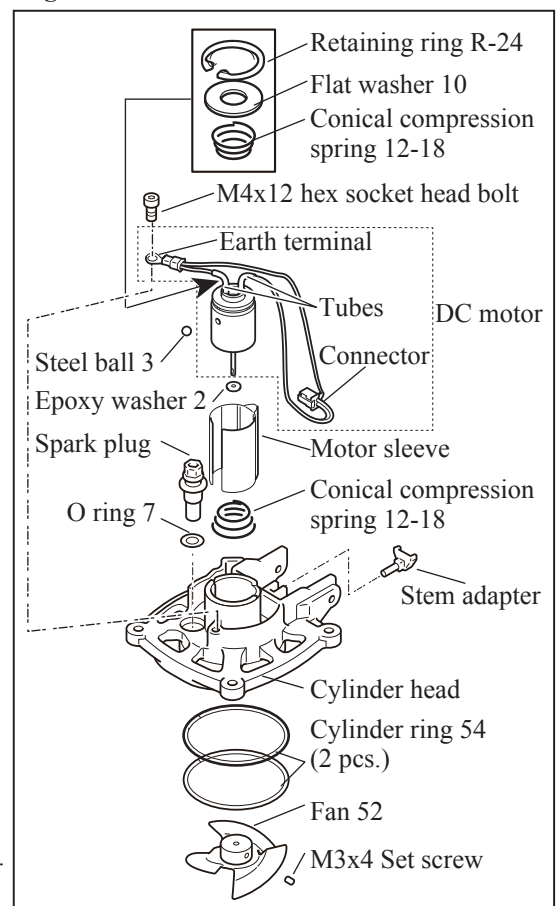


Fig. 25

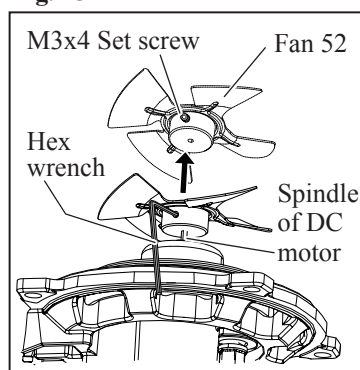


Fig. 26

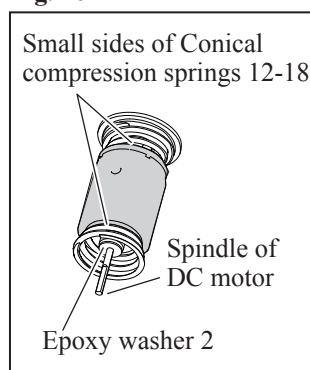
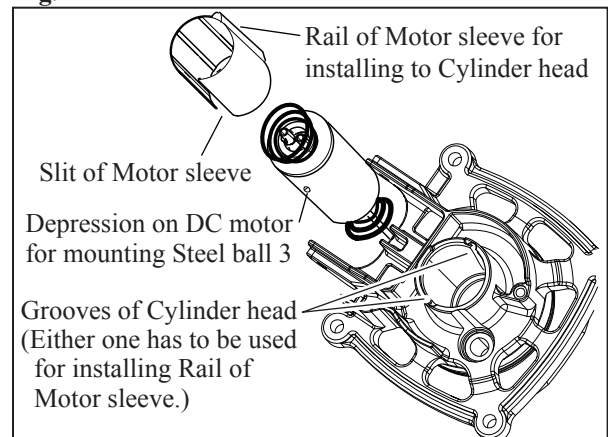


Fig. 27



► Repair

[4] DISASSEMBLY/ASSEMBLY

[4]-5. DC motor (cont.)

ASSEMBLING

(5) While compressing two Conical compression springs 12-18, fit Retaining ring R-24 into the groove on Cylinder head with 1R291. (Fig. 24)

(6) Set two Cylinder rings 54 into the grooves of Cylinder head so that the angle between their gaps is more than 90°. (Fig. 28)

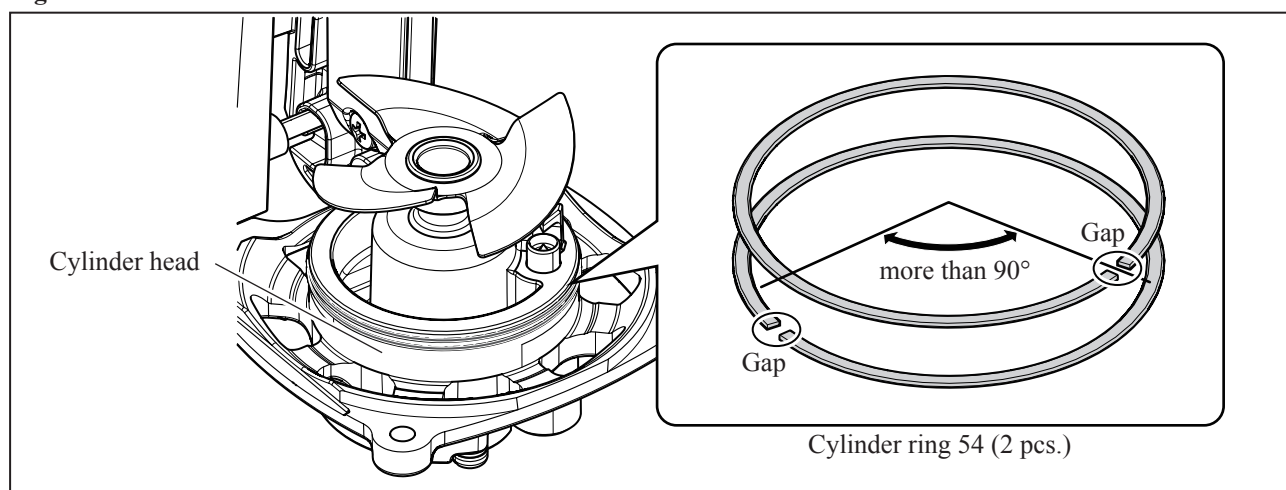
Note: • There are four Cylinder rings 54 in total. (Refer to Fig. 15.)

- Because Cylinder ring 54 is fragile, treat it carefully.

(7) Assemble the rest of the parts by reversing the disassembly.

Note: Do not give too much torque to Spark plug because the thread is plastic.

Fig. 28



[5] How to check of Spark and DC motor

DC motor and Spark plug can be tested with Housing removed as follows:

(1) Remove Housing from the machine, and then remove Fan 52.

Note: Do not fail to remove Fan 52 for safe maintenance.

(2) Install Battery to the machine.

(3) Press the tab on Fan 52 side (1) and pull Trigger (2), and just one spark happens in the electrode gap of Spark plug when there are no problems on ignition.

Note 1: • When only Trigger is pulled, just Spindle starts revolving without any spark in the electrode gap.

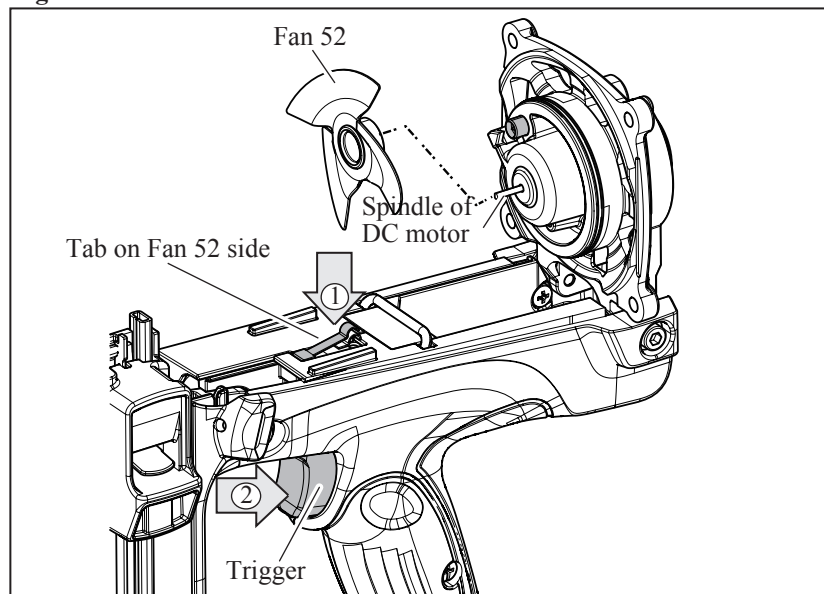
- Even if Trigger is pulled several times with the tab pressed continuously, just one spark happens by the first pulling.
- Prevent electric shock.

Note 2: If there is no spark/ weak spark from Spark plug, wipe Oil away from the spark area with a cloth then test it again.

(4) When pressing of the tab is pressed, check that Spindle of DC motor runs for two seconds. If yes, DC motor is in order.

(5) After completing the reassembly, install gas cartridge and Battery in place. After mounting nails in magazine, try a test.

Fig. 29



► Repair

[6] Diagnosis by Indication lamp

Color of the indication lamp means the followings.

Blinking green: Normal status

Blinking red: Need to recharge the battery cartridge

Lighting-up-red: Recharge the battery cartridge. Nailing can not be performed due to no remaining battery capacity.

Blinking orange after blinking green and red alternatively: Fault detection is running.

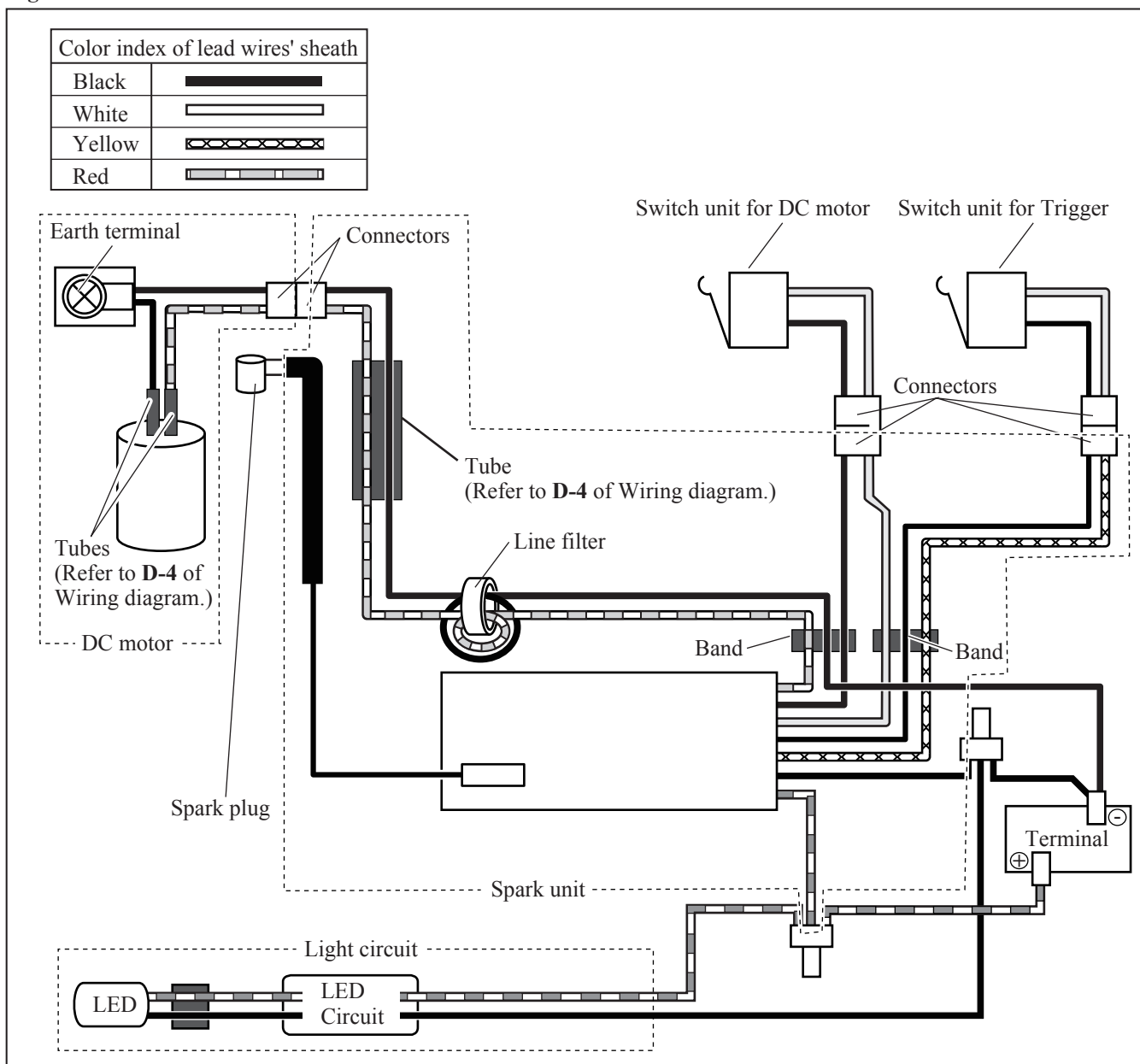
Remove and reinsert the battery cartridge to reset. If fault detection is running again, it is malfunction condition as shown in Fig. 30.

Fig. 30

Number of blinking orange	Possible electrical-malfunction
1	Melting a part of for DC motor / Disconnection of Trigger switch
2	Melting a part of Switch for DC motor / Melting a part of Trigger switch
3	Melting a part of Switch for DC motor
4	Melting a part of Trigger switch
5	Disconnection of DC motor
6	Malfunction on Spark unit

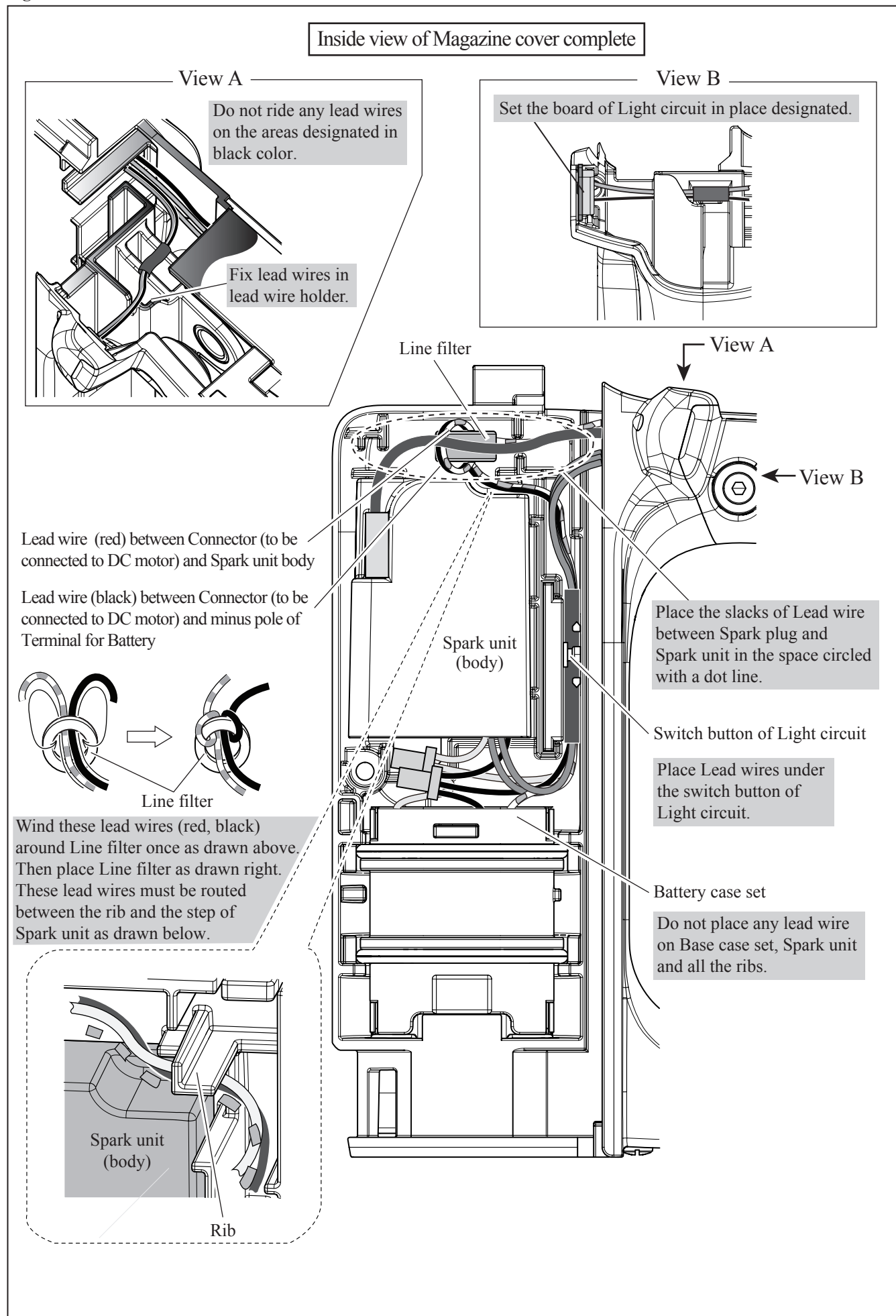
► Circuit diagram

Fig. D-1



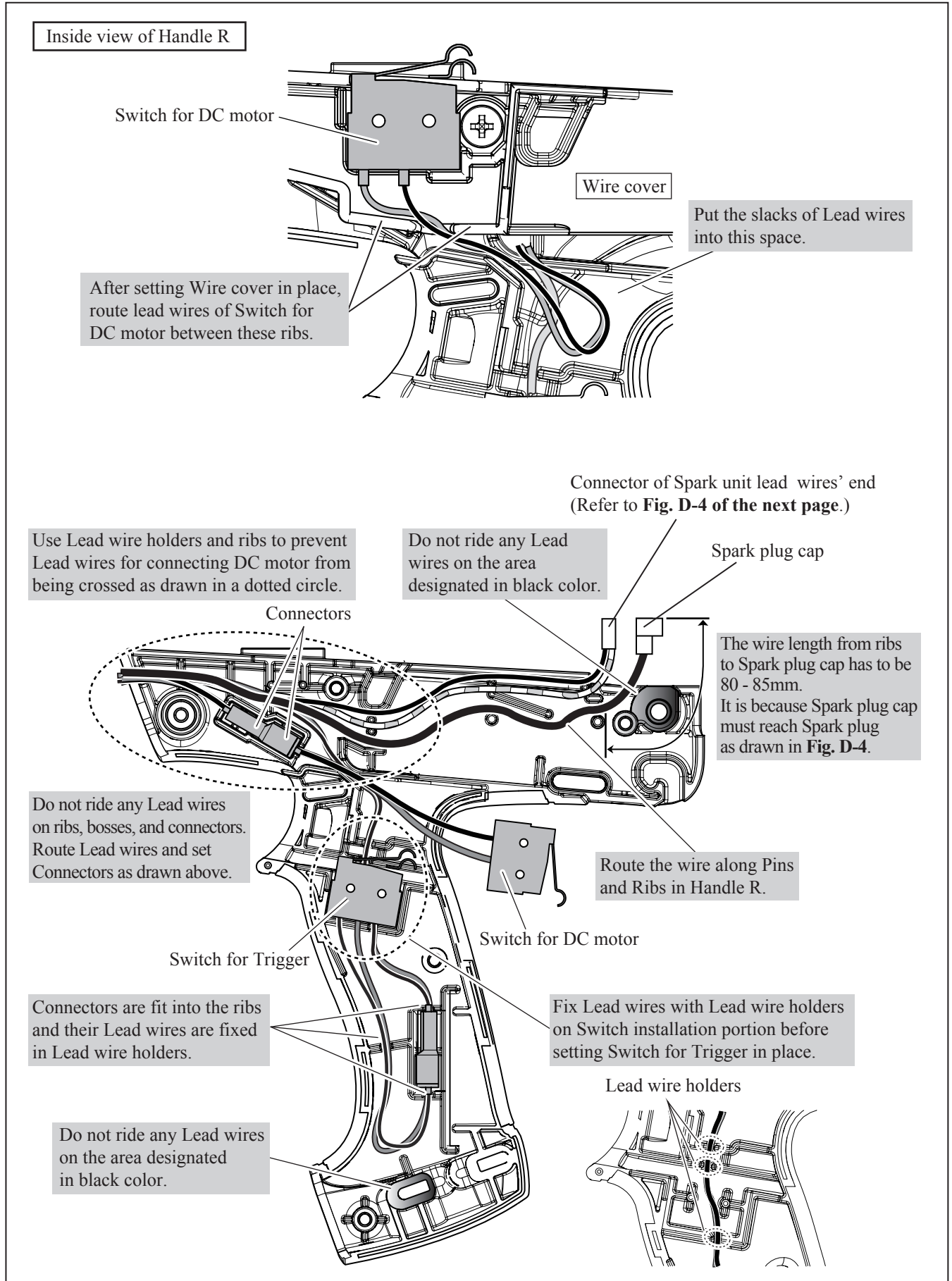
► **Wiring diagram**

Fig. D-2



▶ Wiring diagram

Fig. D-3



► **Wiring diagram**

Fig. D-4

