

Models No. ▶ GN420C (GN01*1)

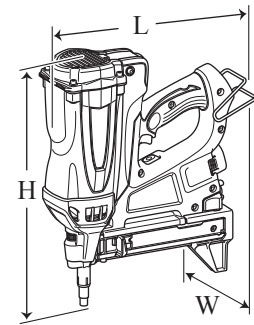
Description ▶ Cordless concrete nailer

*1 Model number for North and Central American countries

CONCEPT AND MAIN APPLICATIONS

Model GN420C (GN01*1) is Makita's first cordless nailer to drive pins into concrete. Its main features are:

- Lightweight body with slim nose for better maneuverability
- Nose tip designed to provide better visibility for quick and easy access to a desired driving point of workpiece
- Depth adjustment dial to raise/lower the nose without a wrench
- LED job light illuminates workpiece brightly for efficient operation in dark place



This product is available in the following variations.

Model No.	Battery		Charger	Plastic carrying case	Magazine assembly	Offered to	
	type	quantity					
GN420CSE	BL7010 (Li-ion 1.0Ah)	2	DC07SA	Yes	Short type	All countries except North and Central American countries	
GN420CLSE		2			Long type		
GN420CS		1			Short type		
GN420CLS		1			Long type		
GN420CZK	No	No	No		Short type		North and Central American countries
GN420CLZK	No	No	No		Long type		
GN01	BL7010 (Li-ion 1.0Ah)	2	DC07SA	Short type	North and Central American countries		
GN01L		2		Long type			

Dimensions: mm (")	
Length (L)	315 (12-3/8)*2 430 (17)*3
Width (W)	108 (4-1/4) *with hook extended to the max.: 125 (5)
Height (H)	390 (15-3/8)

*2: with Short magazine

*3: with Long magazine

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

► 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)
Pin	Gauge (Shank diameter): mm (")	2.6 - 3.1 (0.102 - 0.122)
	Length: mm (")	15 - 40 (5/8 - 1-9/16)
Magazine capacity	Short magazine	20 pins (2 strips)
	Long magazine	40 pins (4 strips)
Motor*4		Coreless DC motor
Work amount: shots (approx.)	on a single full battery charge	4,000
	per fuel cell	1,200
Driving depth adjustment		Yes
Anti-dry-fire mechanism		Yes
Trigger lock		Yes
LED job light		Yes
Weight according to EPTA-Procedure 01/2003: kg (lbs)		3.6 (7.9)*5/ 3.8 (8.3)*6

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

*5 with Short magazine assembly, Battery and Hook, without Fuel cell

*6 with Long magazine assembly, Battery and Hook, without Fuel cell

► Standard equipment

 Safety goggles 1
 Hex wrench 4 1

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

► Optional accessories

 Short magazine assembly
 Long magazine assembly
 Pins
 Fuel cell
 Charger DC07SA
 Charger DC10WA/DC10WB*1
 Battery BL7010

 Cleaner kit
 (contains the following accessories in a special Tool bag: Cleaner/ 1, Lubricating oil/ 1, Hex wrench 4/ 1, Brush/ 1, Cotton waste/ 1),
 Cleaner,
 Lubricating oil

► **Repair**

CAUTION: 1) Repair the machine in accordance with “Instruction manual” or “Safety instructions”.
 2) 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-58
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
1R268	Spring pin extractor M3	disassembling / assembling Spring pin 3-32
1R291	Retaining ring S and R pliers	disassembling / assembling Retaining ring R-24
1R350	Ring 60	receiving Chamber top for disassembling/ assembling four M5x20 Hex socket head bolts

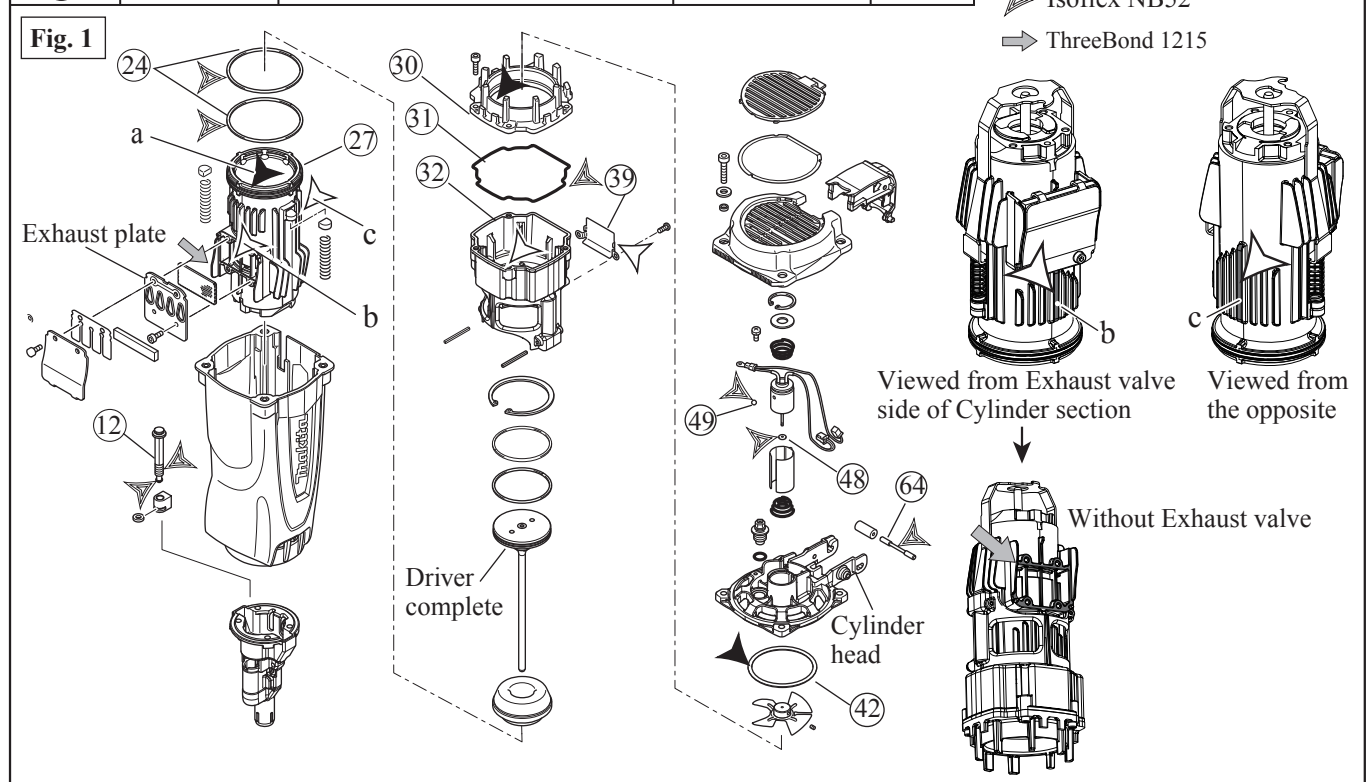
[2] LUBRICANT AND ADHESIVE APPLICATION

- Apply lubricants to the portions designated with triangles to protect parts and product from unusual abrasion.
- When disassembling Cylinder, apply ThreeBond 1215 to the contact portion with Exhaust plate designated with grey arrow.

LUBRICANT				
Item No.	Description	Portion to lubricate	Lubricant	Amount
⑫	Adjuster rod	Bottom end and thread	Isoflex NB52	a little
⑳	Cylinder ring (2 pcs.)	Whole surface	Lubricant oil VG100	
㉓	Cylinder	a: Inside that Driver complete contacts b and c: Outside that ㉓ Chamber contacts	Molybdenum disulfide	
㉖	Chamber top	Inside that Cylinder head contacts	Lubricant oil VG100	
㉗	Chamber seal ring	Whole surface	Isoflex NB52	
㉘	Chamber	Inside that ㉓ Cylinder contacts	Molybdenum disulfide	
㉙	Trigger lock plate	Surface that Chamber contacts	Molybdenum disulfide	
㉚	O ring 60	Whole surface	Lubricant oil VG100	
㉜	Epoxy washer	Outer and Inner periphery	Isoflex NB52	
㉝	Steel ball 3	Whole surface		
㉞	Shoulder pin 4			

ADHESIVE				
Item No.	Description	Portion to apply adhesive	Adhesive	Amount
㉓	Cylinder	Portions that Exhaust plate contacts	ThreeBond 1215	a little

- Lubrication oil VG100
- ▷ Molybdenum disulfide
- ▷ Isoflex NB52
- ➡ ThreeBond 1215

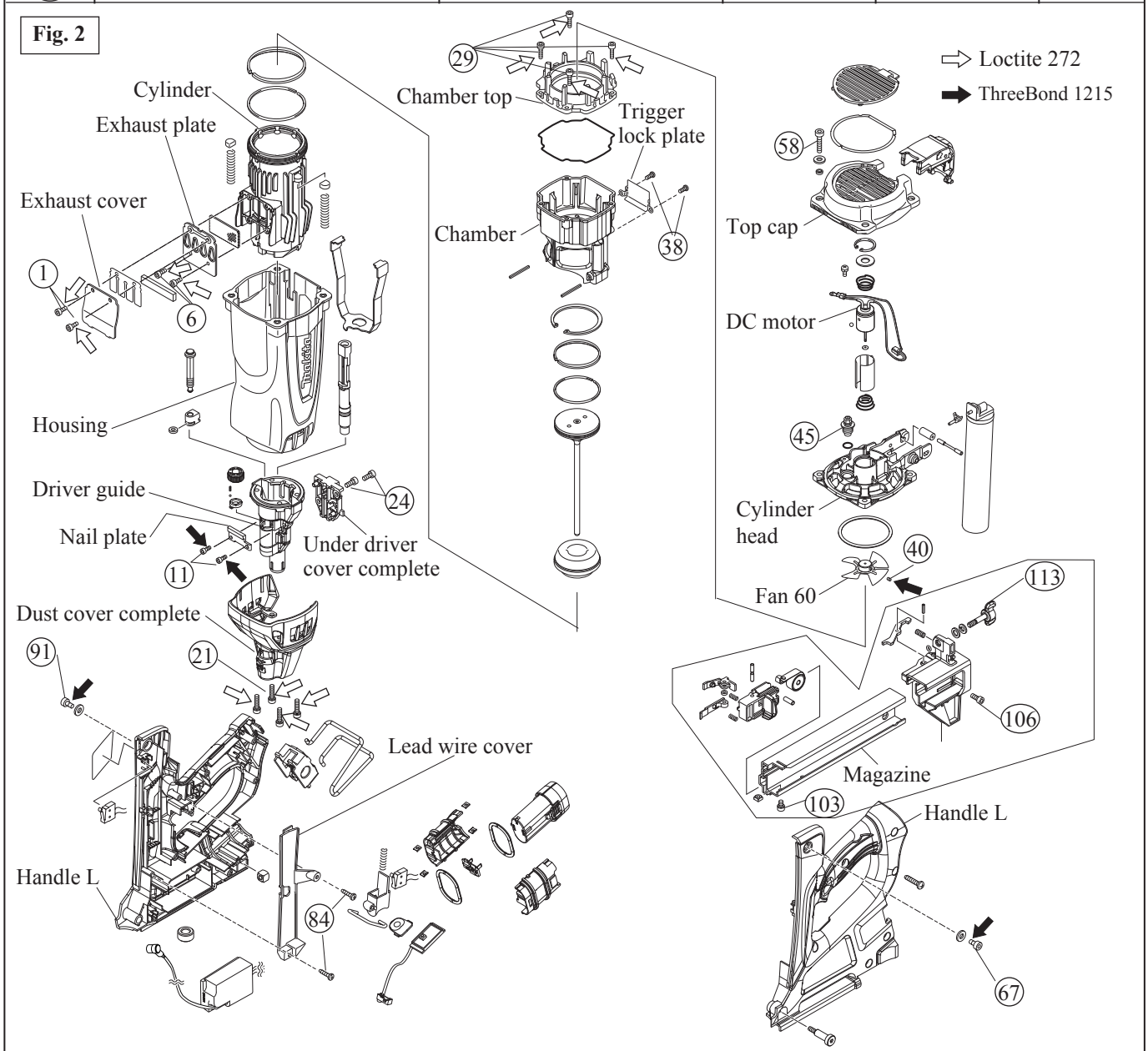


► **Repair**

[3] FASTENING TORQUE OF FASTENERS

Note: Apply two kinds of adhesives to the specific fasteners as drawn below.

Item No.	Fastener	Application (for fastening A to B)		Adhesive	Tightening torque (N.m)
		A	B		
①	M4x10 Hex socket head bolt (2 pcs.)	Exhaust cover	Cylinder	Loctite 272	4.0
⑥	M4x10 Hex socket head bolt (2 pcs.)	Exhaust plate	Cylinder	Loctite 272	4.0
⑪	M4x10 Hex socket head bolt (2 pcs.)	Nail plate	Driver guide	ThreeBond 1342	4.0
⑳	M5x20 Hex socket head bolt (4 pcs.)	Dust cover complete	Cylinder	Loctite 272	7.0
㉔	M5x12 Hex socket head bolt (2 pcs.)	Under driver cover complete	Driver guide	N/A	7.0
㉑	M4x16 Hex socket head bolt (4 pcs.)	Chamber top	Chamber	Loctite 272	6.0
㉛	M4x10 Pan head screw	Trigger lock plate	Chamber	N/A	3.0
④①	M3x4 Set screw	Fan 60	DC motor	ThreeBond 1342	1.0
④⑤	Spark plug	Spark plug	Cylinder head	N/A	2.0
⑤⑧	M5x25 Hex socket head bolt (4 pcs.)	Top cap	Housing	N/A	7.0
⑥⑦	M5x10 Hex socket head bolt	Handle L	Cylinder head	ThreeBond 1342	4.0
⑧④	4x18 Tapping screw (2pcs.)	Lead wire cover	Handle R	N/A	1.0
⑨①	M5x10 Hex socket head bolt	Handle R	Cylinder head	ThreeBond 1342	4.0
⑩③	M5x8 Hex socket head bolt	M5-8 Square nut	Magazine	N/A	4.0
⑩⑥	M5x14 Hex socket head bolt	Magazine cap	Magazine	N/A	4.0
⑪③	M6x29 Thumb screw	Magazine cap	Handle L/ R	N/A	1.0



► **Repair**

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver complete, Front cushion

DISASSEMBLING

- (1) Remove M5 Hex socket head shoulder bolt on Handle L. (Fig. 3)
- (2) Loosen four M5x25 Hex socket head bolts, then remove Top cap. (Fig. 4)
- (3) Tilt Housing slightly by hand (Fig. 5) and then slide it straight and gently in order not to hook with Fan 60. (Fig. 6)
- (4) Remove Retaining ring (INT) R-58 from Cylinder with 1R005. (Fig. 7)
- (5) Insert Phillips screwdriver from the tip of Driver guide to push Driver complete out of Cylinder, while holding two Piston rings with Slotted screwdriver to prevent them from being caught in the groove for Retaining ring (INT) R-58. (Fig. 8)
- (6) Loosen two M5x12 Hex socket head bolts and remove Under driver guide complete. (Fig. 9)

Fig. 3

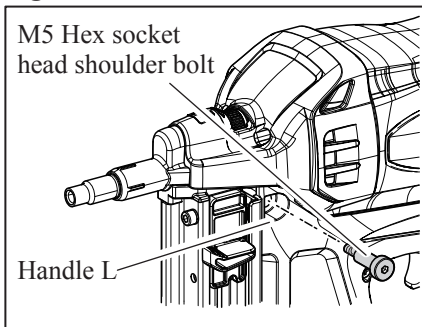


Fig. 4

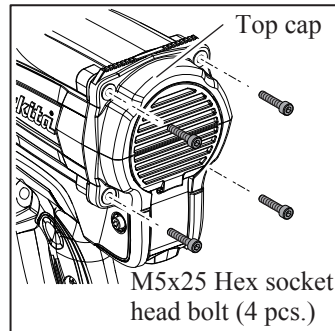


Fig. 5

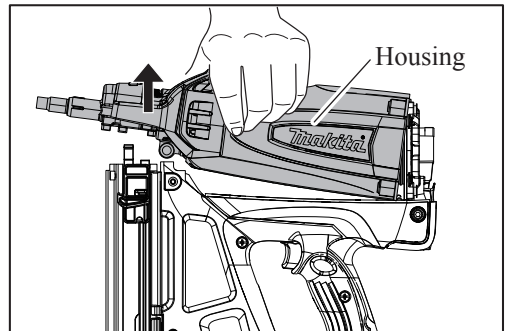


Fig. 6

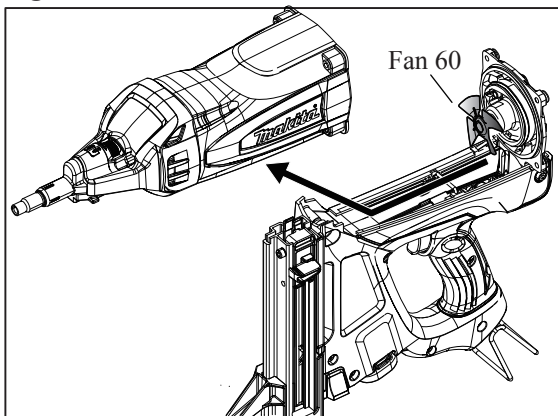


Fig. 7

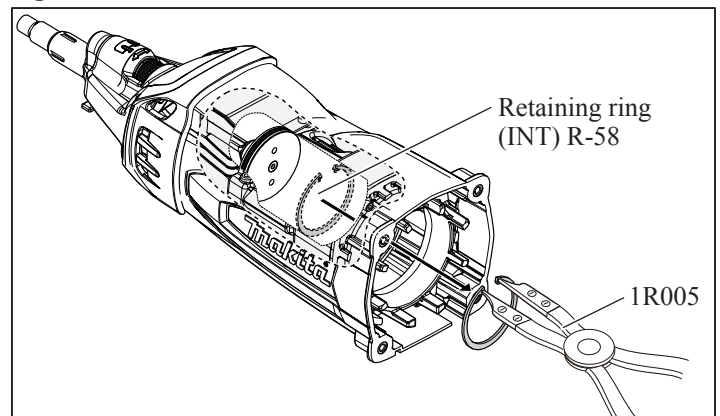


Fig. 8

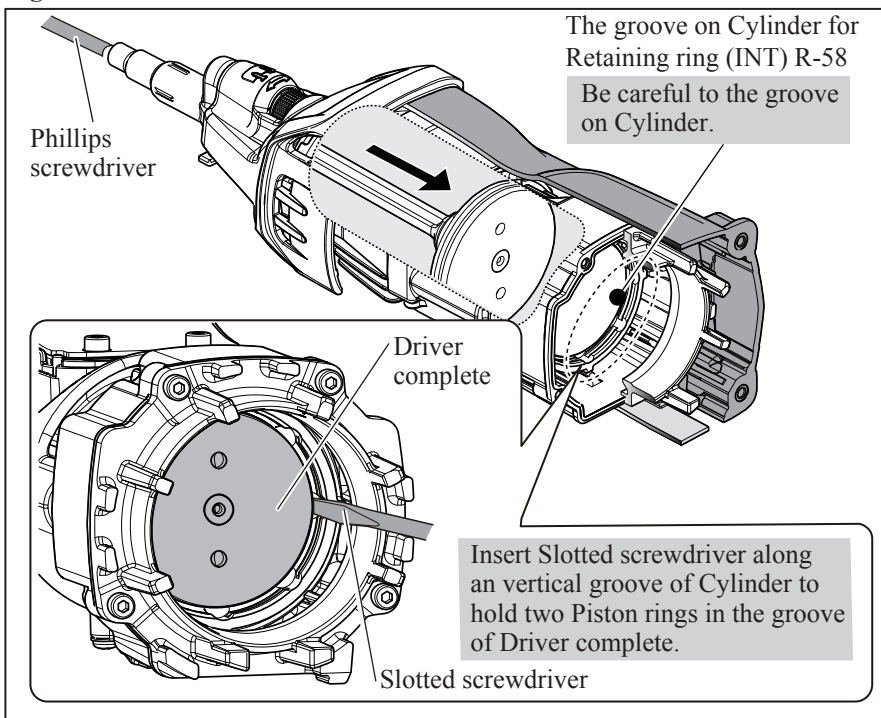
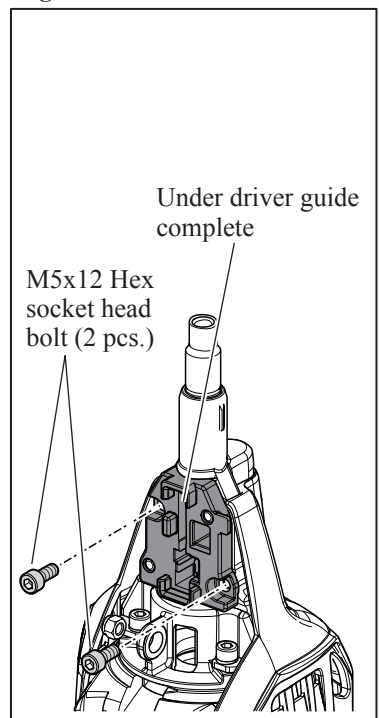


Fig. 9



► **Repair**

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver complete, Front cushion (cont.)

DISASSEMBLING

(7) Put Chamber top on 1R350. Loosen four M5x20 Hex socket head bolts and remove Dust cover complete. (Fig. 10)

(8) Turn Adjuster to “shallow” position to the full. (Fig. 11)

While pulling up Driver guide with Contact top held, turn the driver guide and remove from Arm. (Fig. 12)
 Cylinder section is removed from Housing.

(9) Put the blade of Slotted screwdriver between Cylinder and Front cushion, then twist Slotted screwdriver along the inner periphery of Cylinder step by step to remove Front cushion from Cylinder. (Fig. 13)

Fig. 10

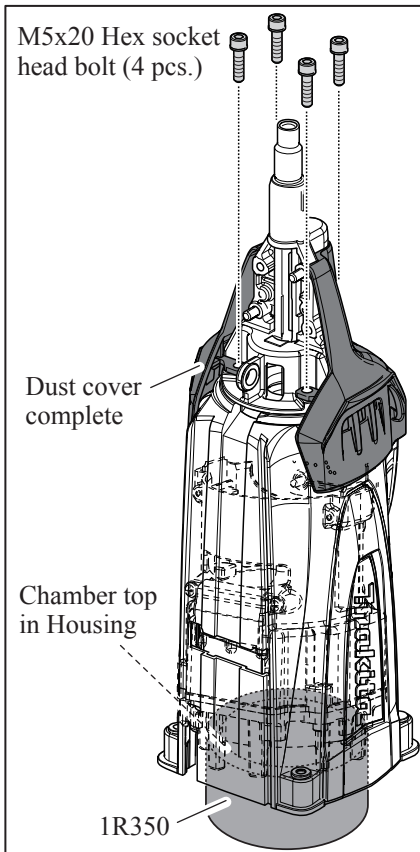


Fig. 11

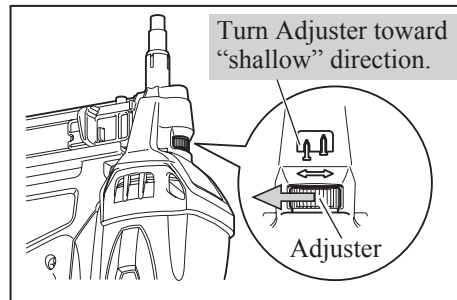


Fig. 12

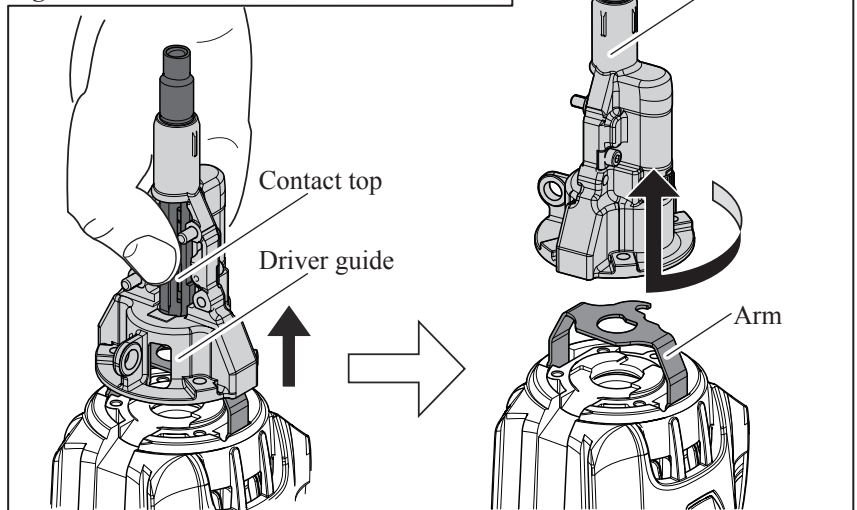
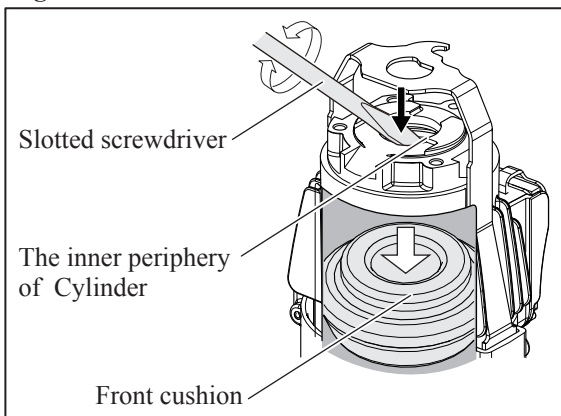


Fig. 13



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Driver complete, Front cushion (cont.)

ASSEMBLING

(1) Remove O-ring 60 from Cylinder head.

After cleaning the ring and apply Lubricant oil VG100, return it back to Cylinder head. (Refer to **Fig. 1**)

(2) Assemble Front cushion to Cylinder to push the cushion with a grip of hammer until it stops. (**Fig. 14**)

(3) Assemble Driver complete to Cylinder so that the angle between the gaps of two Piston rings should be more than 90° . (**Fig. 15**) Use Slotted screwdriver to prevent two Piston rings from being caught in the groove on Cylinder. (**Fig. 8**)

(4) Put Cylinder section into Housing. Support them by putting Chamber top portion on 1R350. (**Fig. 10**)

(5) Turn Adjuster for Pin fastening to “shallow” position to the full. (**Fig. 11**)

(6) While pushing down Driver guide with Contact top held, turn the driver guide in direction of an arrow and assemble Arm to Adjuster rod. (**Figs. 16**)

Important: When setting to the shallowest position is impossible, Contact top and Adjuster block are stuck each other in Driver guide. Instead of (5), do the following steps to remove Contact top from Adjuster block.

A. Loosen two M4x10 Hex socket head bolts and remove Nail plate. (**Fig. 17**)

B. Apply the tip of Slotted screwdriver to Contact top and tap the grip head of the screwdriver with Plastic hammer to move Contact top to the nose side on Driver guide. (**Fig. 18**)

Fig. 14

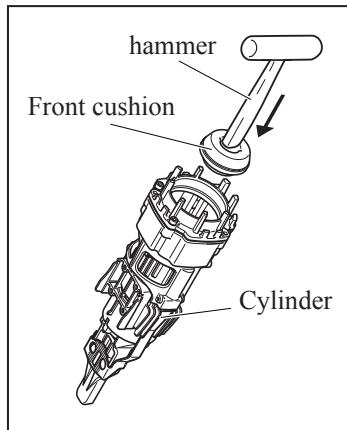


Fig. 16

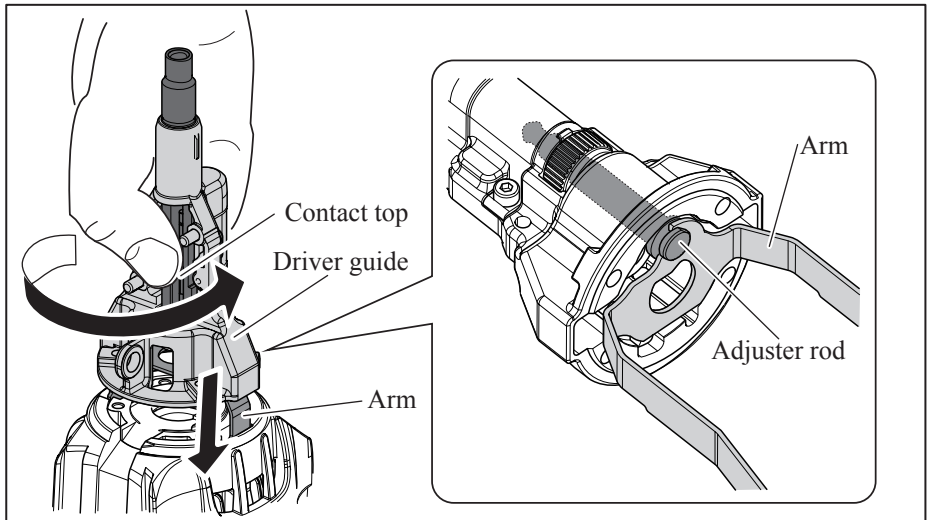


Fig. 15

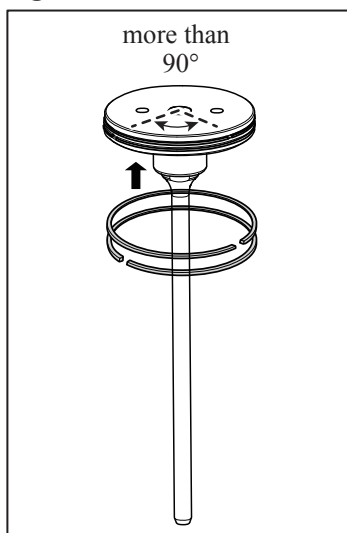


Fig. 17

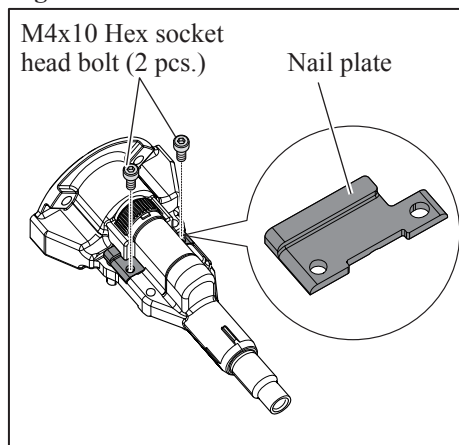
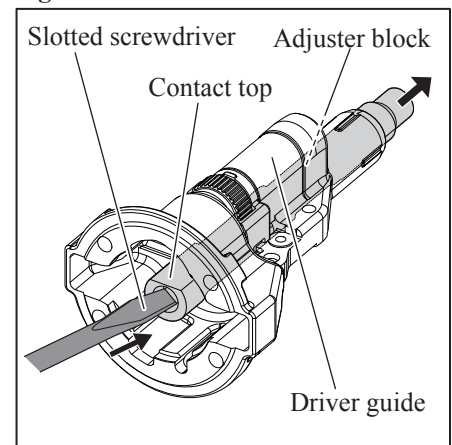


Fig. 18



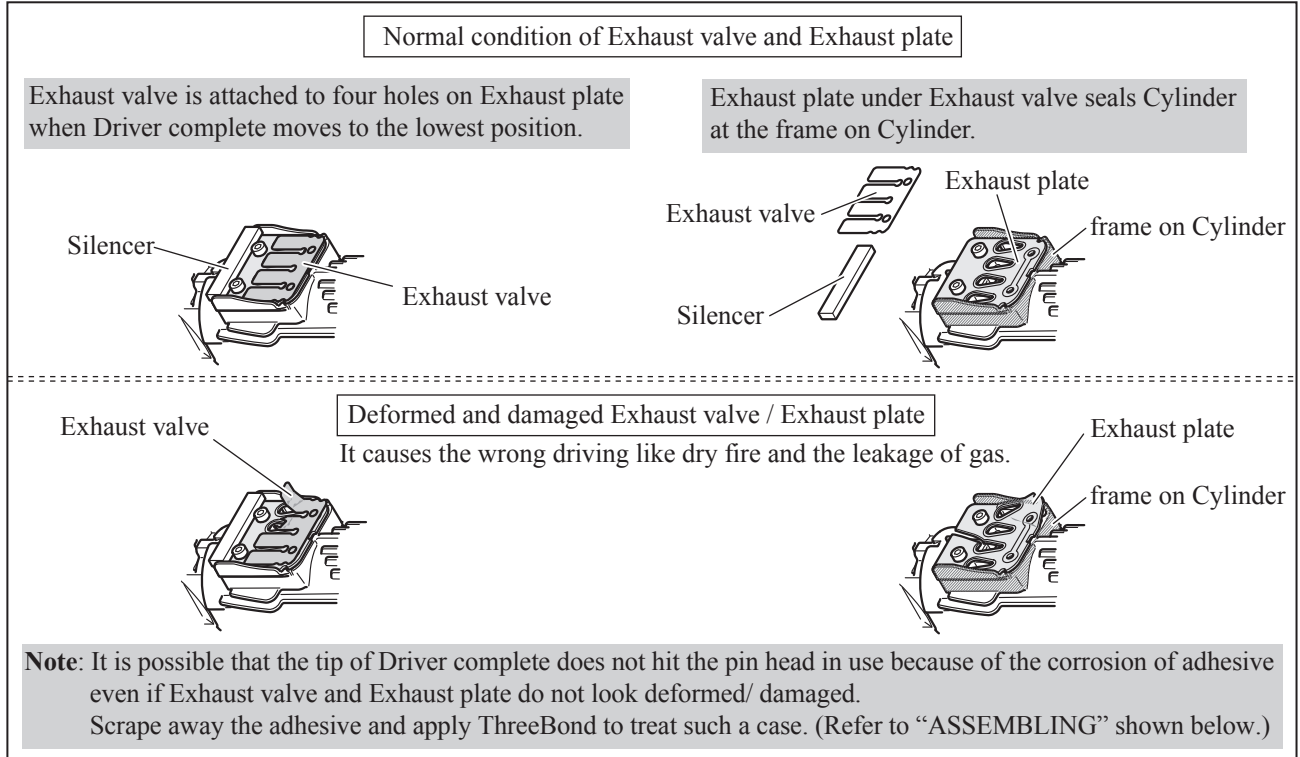
► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Exhaust valve section

When the tip of Driver complete does not hit the pin head in use, disassemble the exhaust valve section to check malfunctions as drawn in **Fig. 19**.

Fig. 19



DISASSEMBLING

- (1) Remove Cylinder section from Housing. Then remove Contact top, Arm plate and Front plate from Cylinder. (Refer to [4]-1.)
- (2) Disassemble Exhaust mechanism as drawn in **Figs. 20 and 21**.

Fig. 20

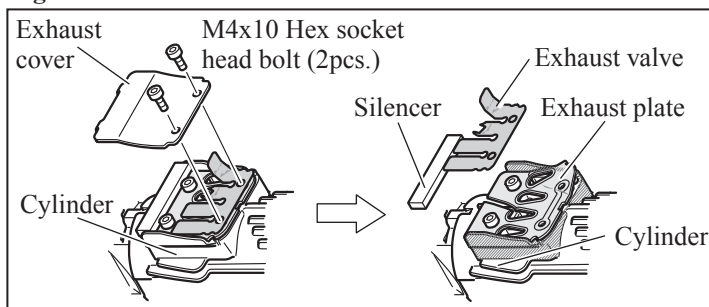
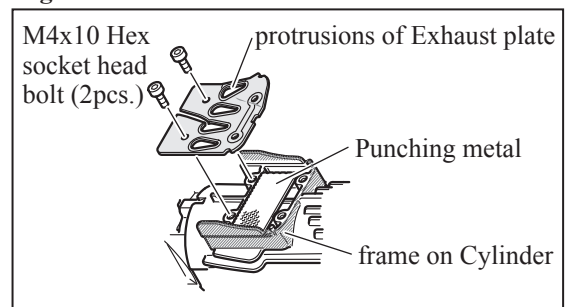


Fig. 21



ASSEMBLING

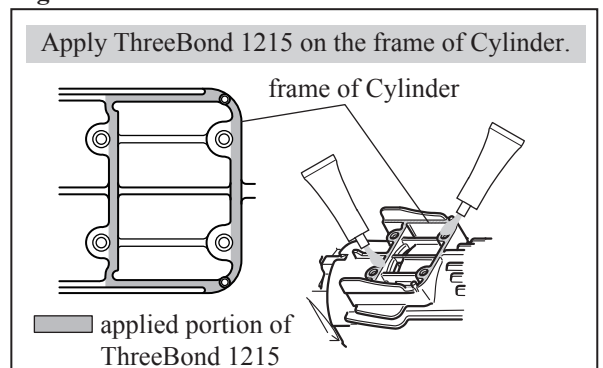
- (1) Use slotted screwdriver to scrape away adhesive left on the frame on Cylinder. (**Fig. 22**)

Note: The incomplete scraping causes the leakage of gas.

- (2) Assemble the disassembled parts by reversing the disassembly procedure. (**Figs. 21 and 20**)

- Note:**
- Attach Exhaust plate and tighten it with two M4x10 Hex socket head bolt so that the protrusion face Exhaust valve installation side. Refer to **Fig. 21**.
 - Wait until ThreeBond 1215 dries at least **three hours**, and then try shooting pins before actual work. Incomplete drying causes the leakage of gas.

Fig. 22



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-3. Chamber

DISASSEMBLING

- (1) Disassemble Cylinder section from Housing as mentioned in [4]-1. **Driver complete, Front cushion.**
 - (2) Push two Spring pins 3-32 out of Chamber with Metal hammer and 1R268. Cylinder section is removed. **(Fig. 23)**
- Note:**
- Do not hit Chamber. **(Fig. 23)**
 - Be careful not to remove two Compression springs 8 from their original positions on Cylinder to prevent missing/damaging before the next step. **(Fig. 24)**
- (3) Remove two Compression springs 8 by enlarging the ends of Arm carefully in direction of white arrows and moving straight in direction of a black arrow. **(Fig. 25)**
 - (6) Remove Chamber top and Chamber seal ring from Chamber. **(Fig. 26)**

Fig. 23

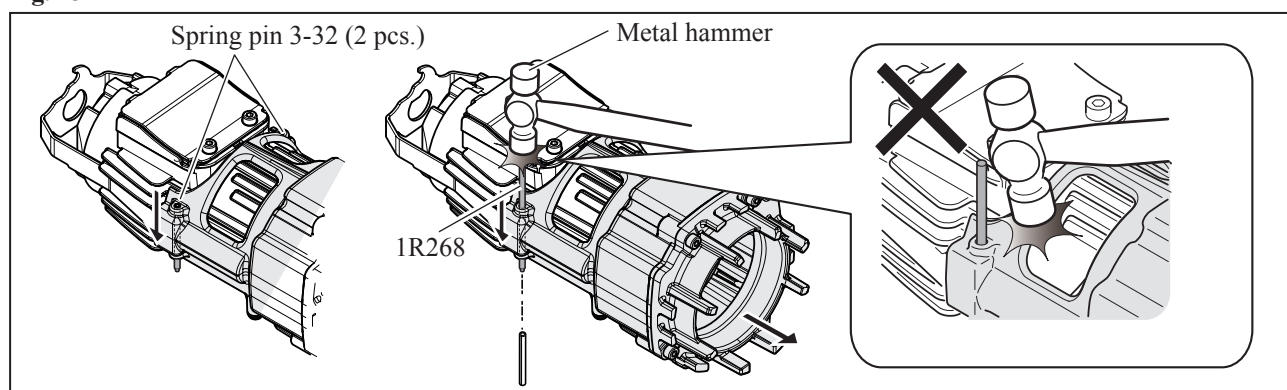


Fig. 24

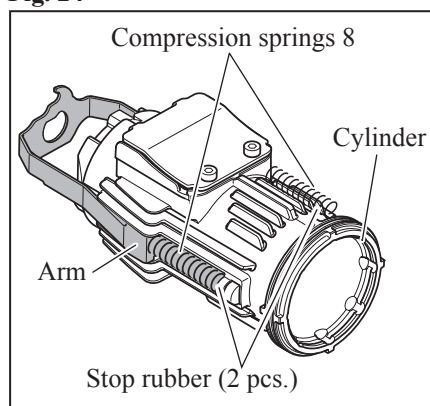


Fig. 25

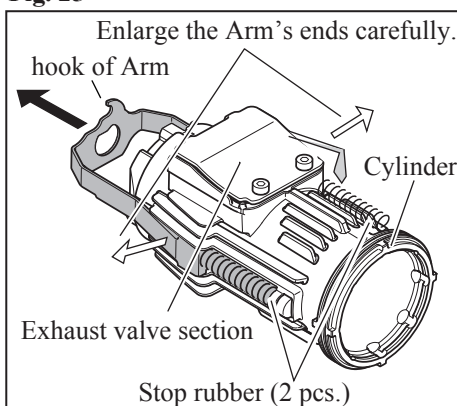
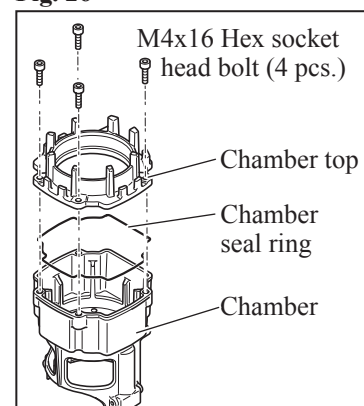


Fig. 26



ASSEMBLING

Assemble by reversing the disassembly procedure described above.

- Note:**
- Assemble Cylinder rings to Cylinder so that the angle between the gaps of two rings should be more than 90° . **(Fig. 27)**
 - Apply the specific lubricants in accordance with the instruction shown in **Fig. 1**.
 - Face the hook of Arm to Exhaust valve section as drawn in **Fig. 25**.
 - Insert each Spring pin 3-32 for approx. 5mm depth with aligning two holes of Chamber with those of Cylinder. And then, set Spring pins 3-32 in place with water pump pliers. **(Fig. 28)**

Fig. 27

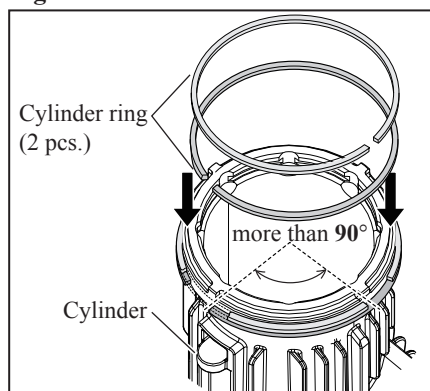
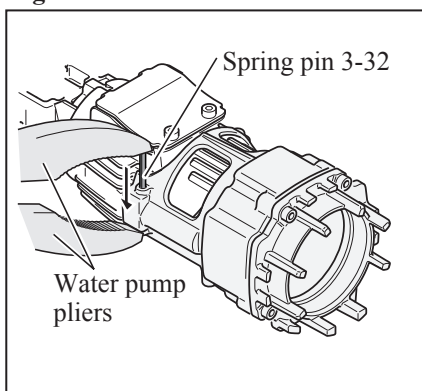


Fig. 28



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-4. Driver guide

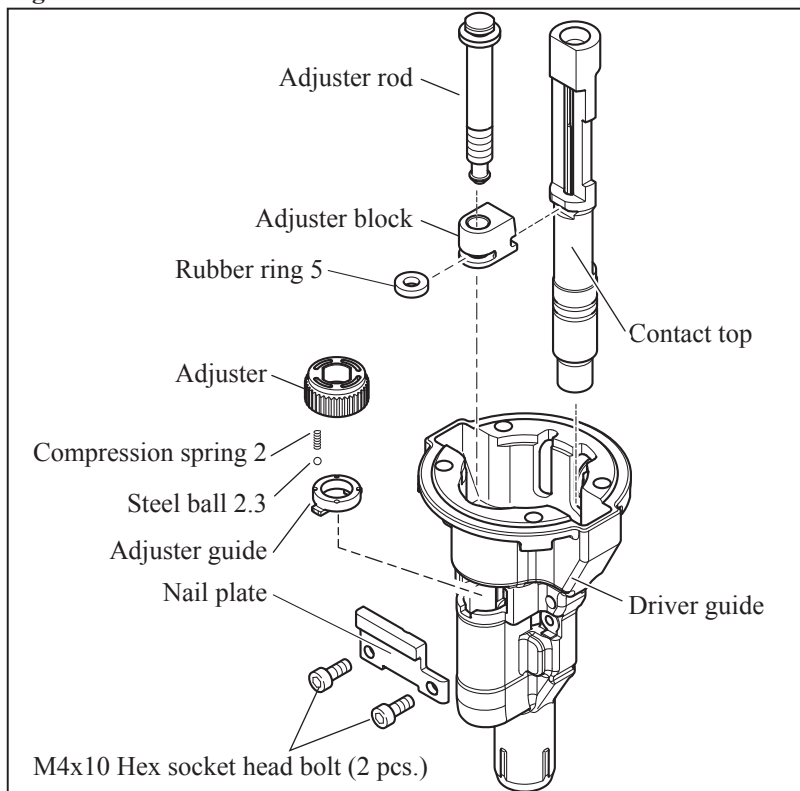
DISASSEMBLING

- (1) Remove Driver guide section in accordance with [4]-1.
- (2) Loosen two M4x10 Hex socket head bolts then remove Nail plate in accordance with Fig. 17.
- (3) Turn Adjuster to “shallow” position to the full. (Refer to Fig. 11 in [4]-1.)
At the time when Adjuster cannot be turned anymore by finger, set Wrench 9 to Adjuster rod on the flats then turn Adjuster rod in direction of the black arrow. (Fig. 29)

Driver guide section can be removed as drawn in Fig. 30.

Note: Once Rubber ring 5 is removed from Adjuster rod, the inside of Rubber ring 5 is stripped. Be sure to replace it with a new one.

Fig. 30



ASSEMBLING

Refer to Fig. 30.

- (1) Insert Rubber ring 5 into Adjuster block. Then engage the groove of Adjuster block with the projection on the center of Contact top.
- (2) Assemble Compression spring 2, Steel ball 3 and Steel ball 2.3 to Adjuster, and then insert the assembled part into Driver guide.
- (3) Pass Adjuster rod through Adjuster as Fig. 31.
- (4) While pushing the head of Adjuster rod toward Adjuster block, turn Adjuster to “deep” direction. (Figs. 31 and 32)
- (5) Set Driver guide section in place. Refer to [4]-1.

Fig. 32

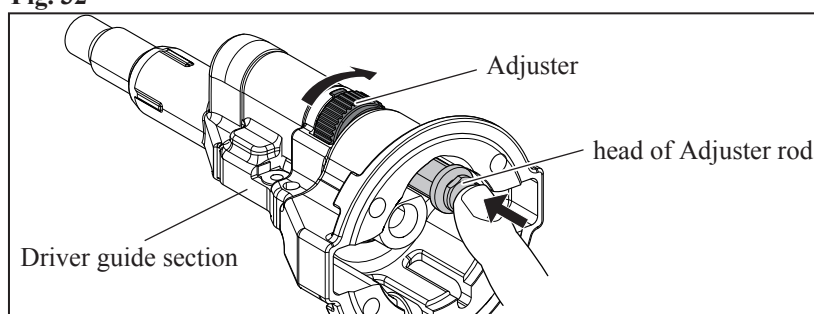


Fig. 29

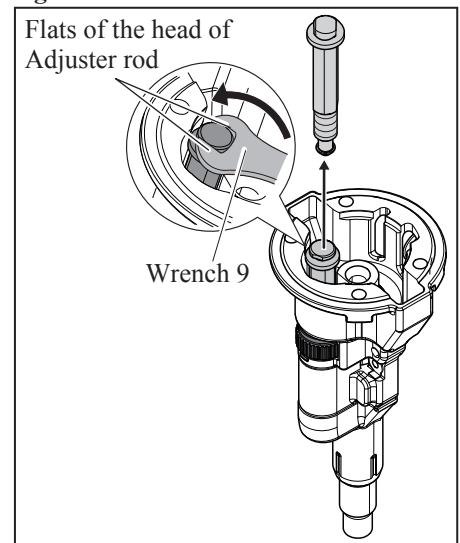
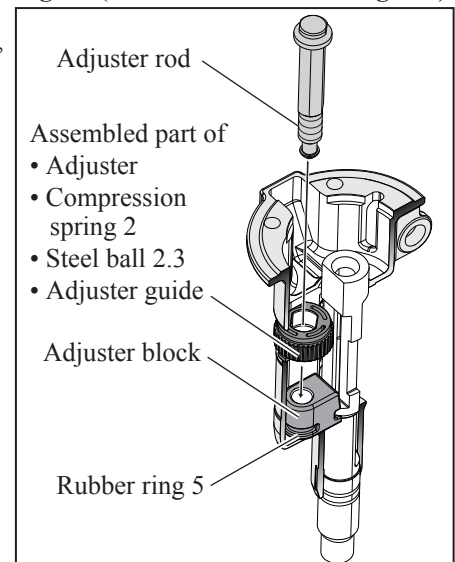


Fig. 31 (Cross section of Driver guide)



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-5. Handle L

DISASSEMBLING

(1) Disassemble Handle section from Housing as mentioned in [4]-1.

(2) Loosen M6x29 Thumb screw then remove Magazine section. (Fig. 33)

Note: Because the screw is detachment-proof fastener, it is not necessary to entirely remove it from Magazine section.

(3) Remove the following screws/ bolts that fasten Handle L to Handle R. (Fig. 34)

- six 5x25 Tapping screws
- M5x10 Hex socket head bolt
- M5 Hex socket head shoulder bolt

The above steps enable you to replace parts in Handle R. Refer to the pages of Circuit diagram/ Wiring diagram.

Fig. 33

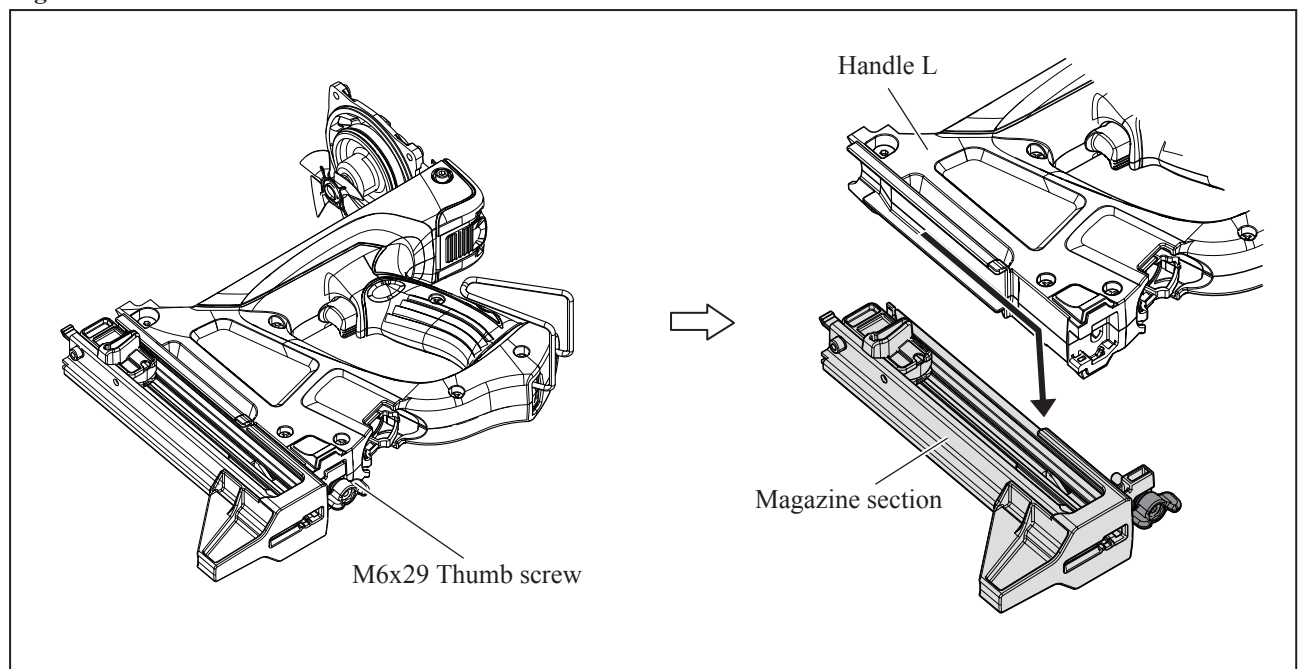
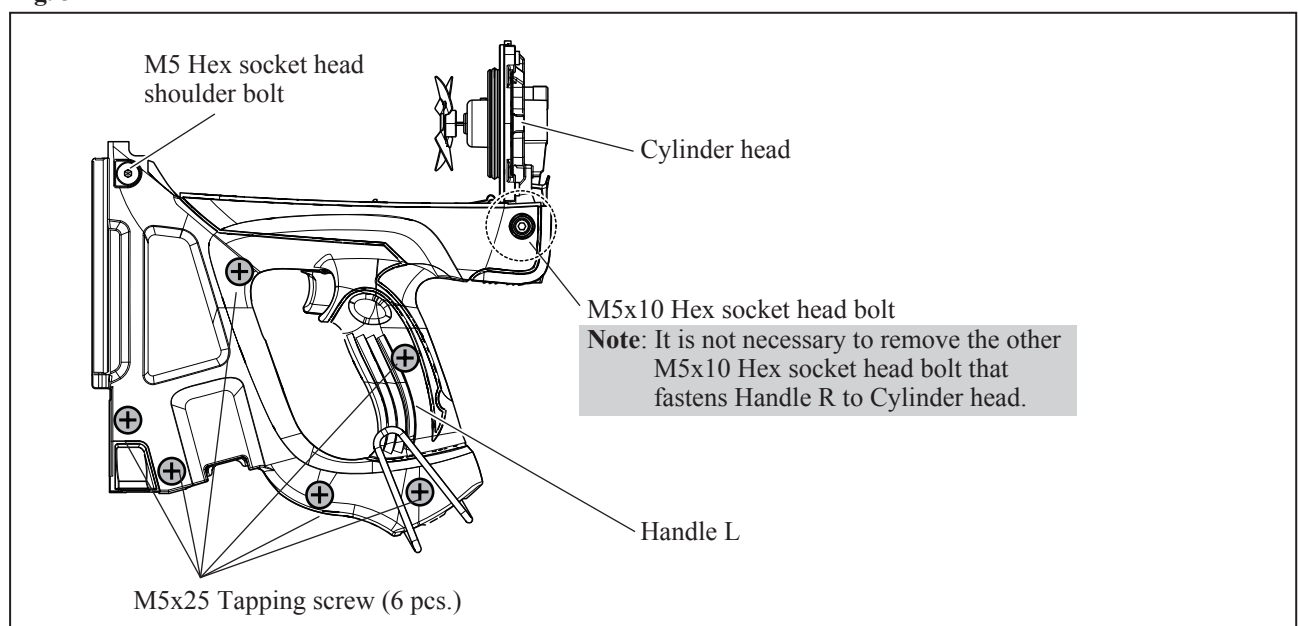


Fig. 34



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-6. Magazine

DISASSEMBLING

- (1) Remove Magazine section in accordance with [3]-5.
- (2) When removing Pusher holder is required, insert Hex wrench 4 (an standard equipment) into the hole of Magazine to prevent Pusher holder from popping out, and then loosen M5x8 Hex socket head bolt. (Fig. 35)

Note: Two magazines are available.

The components are as shown in Figs. 36 and 37.

Fig. 35

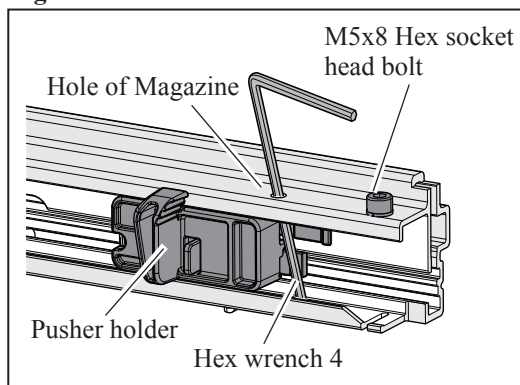


Fig. 36

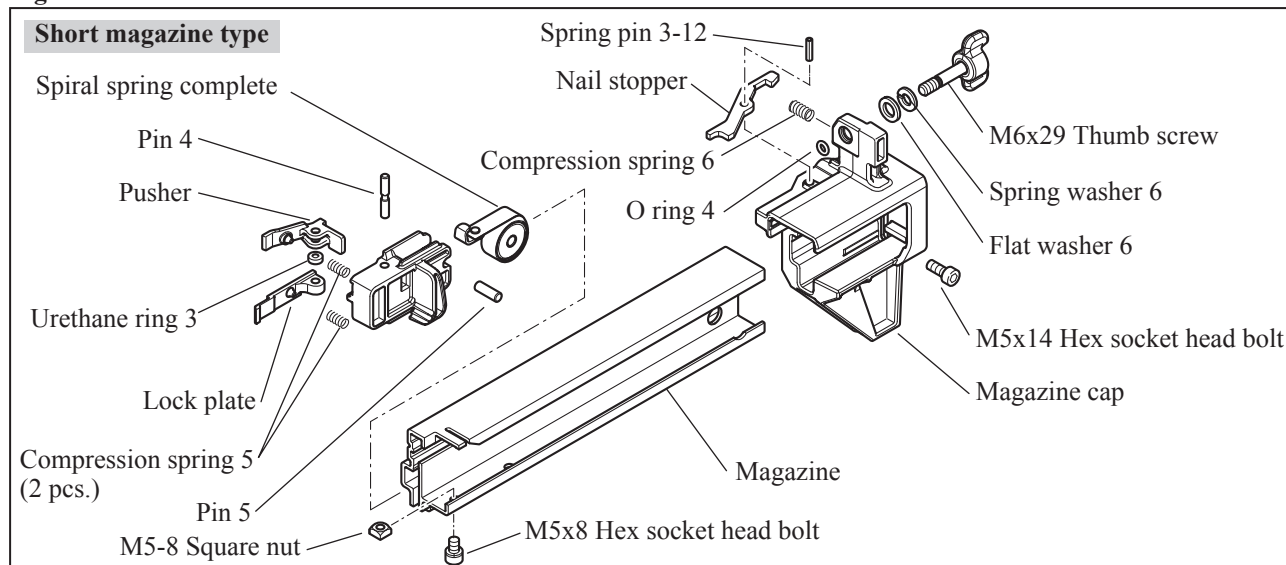
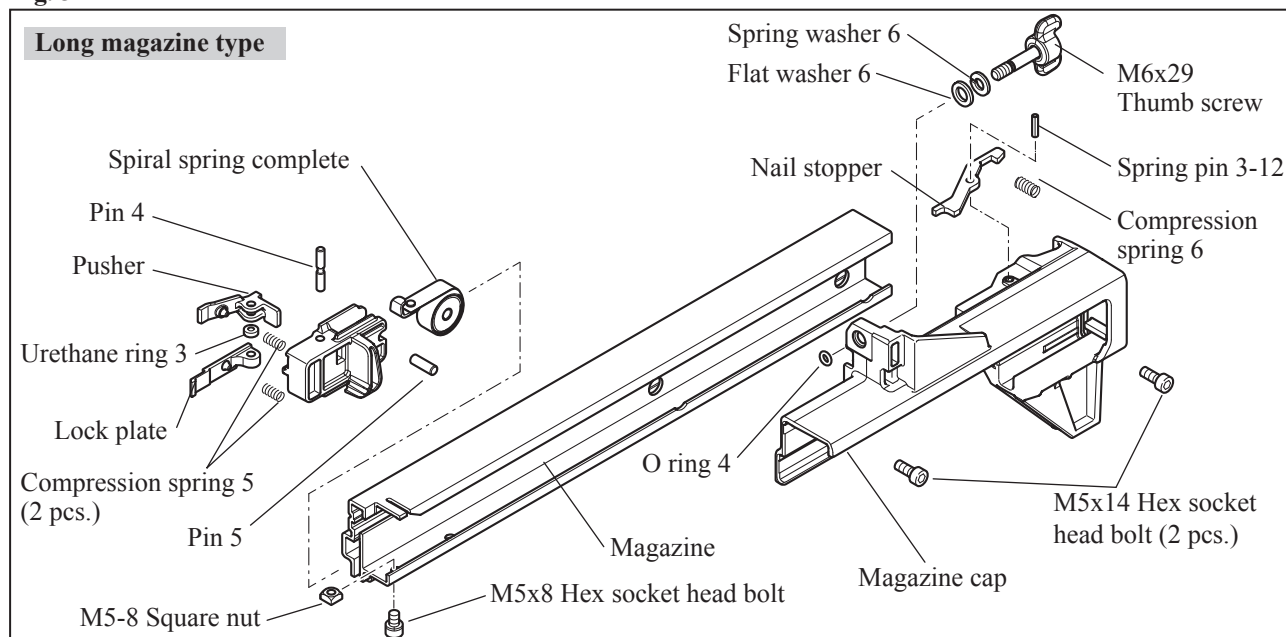


Fig. 37

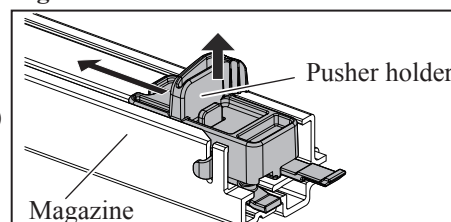


ASSEMBLING

Assemble by reversing the disassembly procedure.

Note: When assembling Pusher holder to Magazine: while lifting Pusher holder, slide it horizontally to Magazine. (Fig. 38)

Fig. 38



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-7. DC motor, Spark plug

DISASSEMBLING

See **Fig. 39**.

- (1) Remove Housing from Handle section as mentioned in **[4]-1**.
- (2) Remove Plug cap of Spark unit from Spark plug, then remove Spark plug with Wrench 8/ Cordless impact driver with Socket bit 8.
- (3) Disconnect Earth terminal of DC motor from Cylinder head by removing M4x8 Pan head screw. Remove Connector of DC motor from Connector of Switch unit as drawn in **Fig. 40**.
- (4) Loosen M3x4 Set screw with Hex wrench, then remove Fan 60 from DC motor. (**Fig. 41**)
- (5) Remove Retaining ring R-24 from Cylinder head with 1R291, then pull out DC motor .

Fig. 40

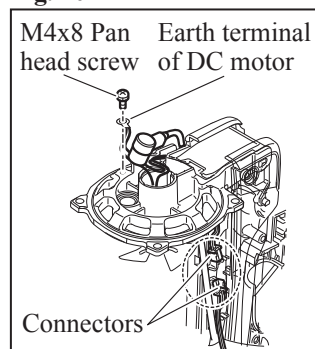


Fig. 41

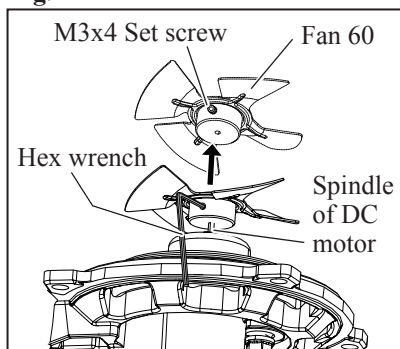
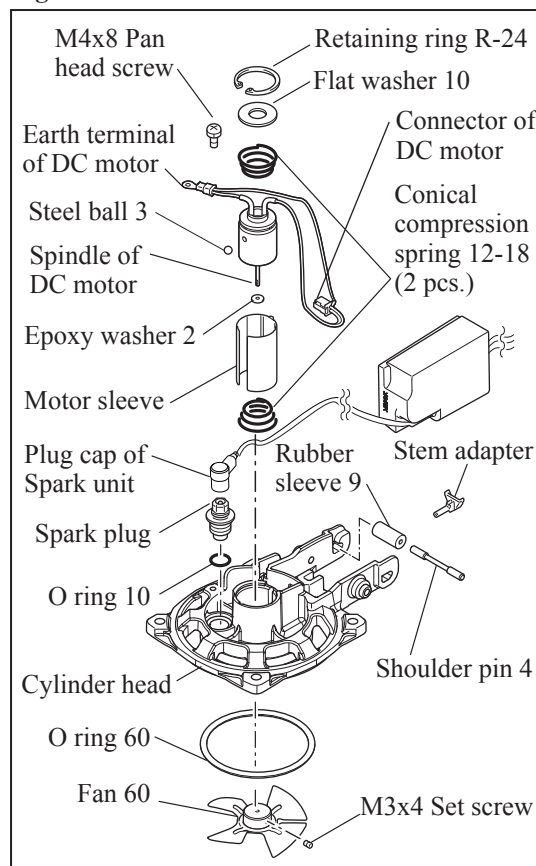


Fig. 39



ASSEMBLING

- (1) Pass Lead wires of DC motor through one of Conical compression spring 12-18, Flat washer 10 and Retaining ring R-24. (**Fig. 42**)
 - (2) Put the other Retaining ring R-24 into the bottom of Cylinder head. (**Fig. 39**)
- Note:** Be careful to the directions of two Conical compression springs 12-18.
- (3) Do not fail to insert Epoxy washer 2 into the center hole of DC motor along the spindle. (**Fig. 43**)
 - (4) Install 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 slit of Motor sleeve in Cylinder head. (**Fig. 44**)
 - (5) While compressing two Conical compression springs 12-18, fit Retaining ring R-24 into the groove of Cylinder head with 1R291.
 - (6) Assemble the rest parts by reversing the disassembly procedure.
- Note:** Be careful to the fastening torque of Spark plug because the thread is plastic. Refer to **Fig. 2**.

Fig. 42

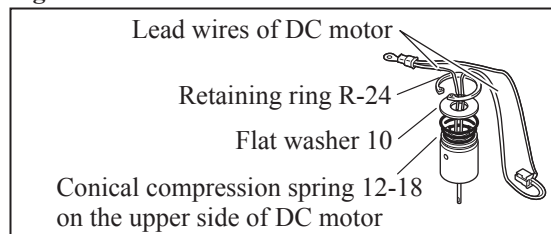


Fig. 43

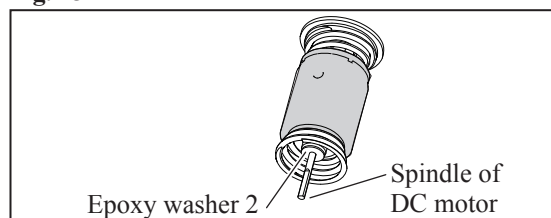
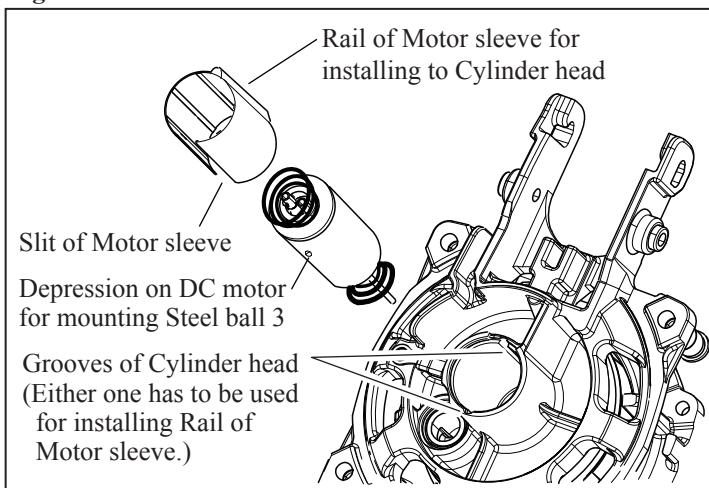


Fig. 44



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3]-8. How to check of Spark and DC motor

(1) Separate Handle section from Housing, then remove Handle L from Handle R as drawn in **Figs. 33 and 34**.

(2) Remove Fan 60 from DC Motor as drawn in **Fig. 41**.

Note: Be sure to remove Fan 60 for safe maintenance.

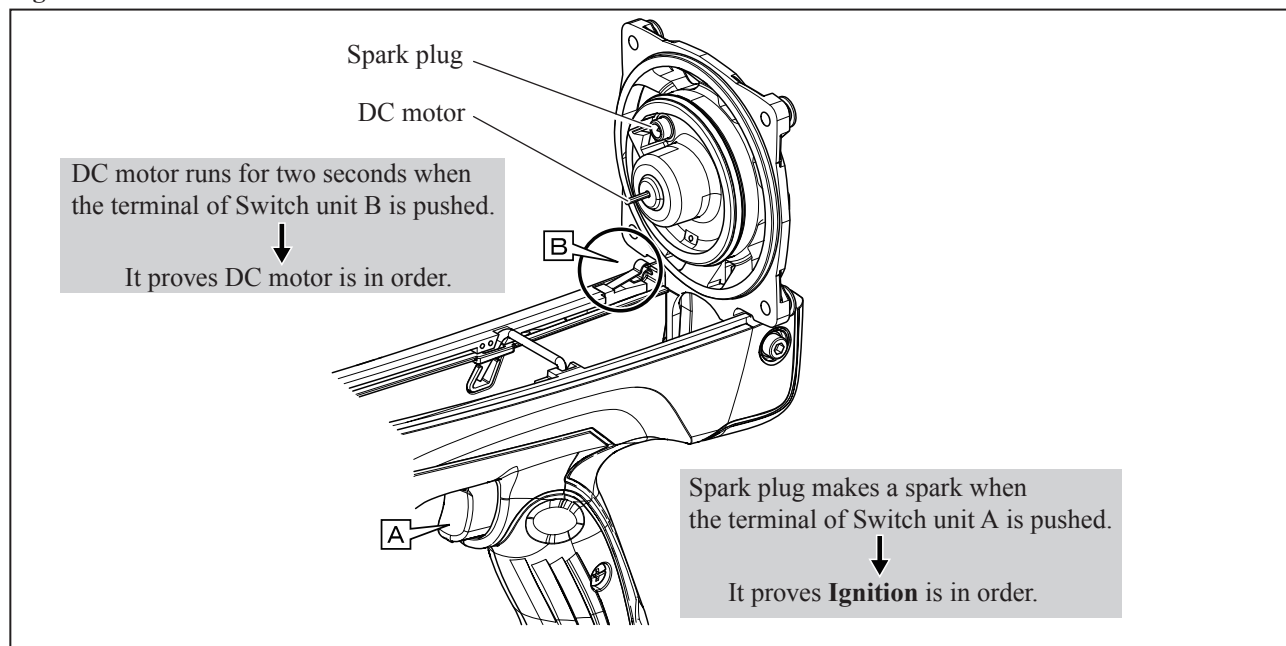
(3) Setting Battery to the machine, start the following tests. (**Fig. 45**)

* **Ignition** by pushing the terminal of Switch unit A

* **DC Motor** by pushing the terminal of Switch unit B

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

Fig. 45



[3]-9. 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 or 10 seconds: Fault detection is running.

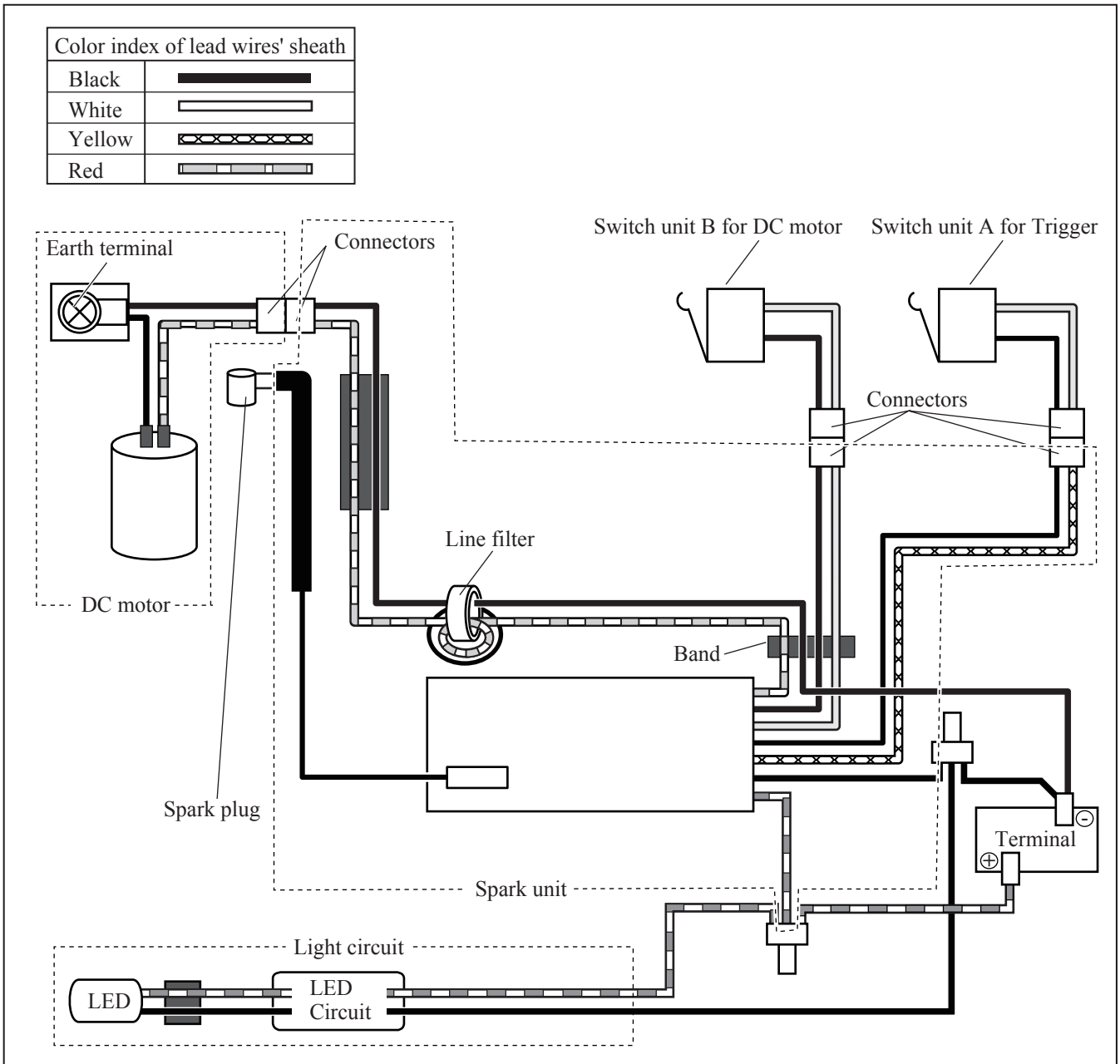
Remove and reinsert the battery cartridge to reset. If fault detection is running again, it is malfunction condition as shown in **Fig. 46**.

Fig. 46

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

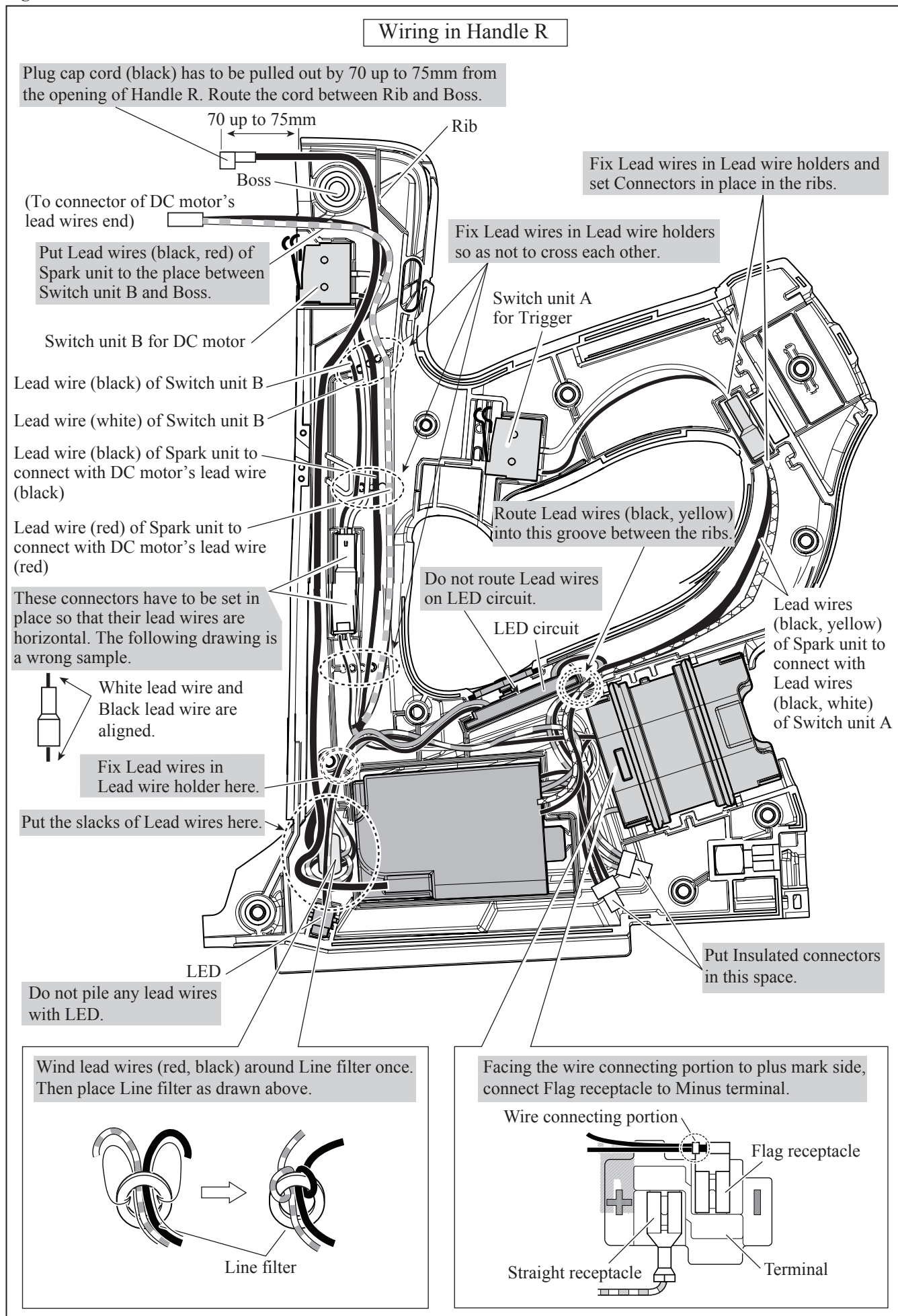
► **Circuit diagram**

Fig. D-1



► **Wiring diagram**

Fig. D-2



► **Wiring diagram (cont.)**

Fig. D-3

