

TECHNICAL INFORMATION



PRODUCT

Models No. ▶ 6980FD

Description ▶ Cordless impact driver

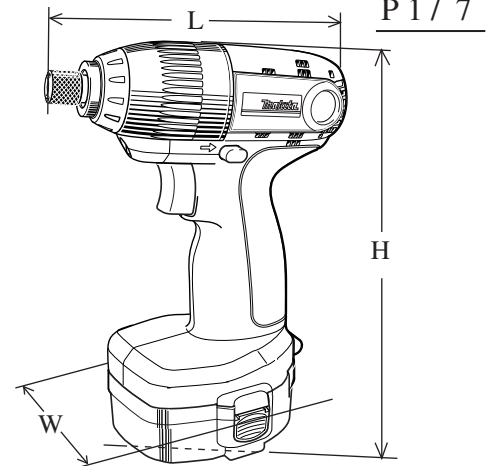
CONCEPT AND MAIN APPLICATIONS

The above product has been launched in the market, having the following features.

- * With built-in LED job light
- * Newly designed hammer case from which the projections for screw holes has been removed for increased maneuverability.
- * Phosphorescent (glow-in-the dark) bumper
- * Max. fastening torque: 125 N.m

The variations of this model are as listed below.

Model No.	Battery	Q'ty	Charger
6980FDWA	Battery 1222 Ni-Cd 2.0 Ah	1	DC1414
6980FDWAE	Battery 1222 Ni-Cd 2.0 Ah	2	
6980FDWDE	Battery 1234 Ni-MH 2.6 Ah	2	
6980FDWFE	Battery 1235 Ni-MH 3.0 Ah	2	
These 4 models come with battery cover and plastic carrying case together with the above charger and battery.			



Dimensions : mm (")	
Length (L)	163 (6-3/8)
Width (W)	94 (3-11/16)
Height (H)	235 (9-1/4)

► Specification

Voltage (V)	12.0	
No load speed (min-1=rpm)	0 - 2,600	
Impact per minute (min-1=bpm)	0 - 3,200	
Driving shank: mm (")	6.35 (1/4) Hex	
Capacities	Machine screw	M4 - M8 (5/32" - 5/16")
	Standard bolt	M5 - M12 (3/16" - 15/32")
	High Tensile bolt	M5 - M10 (3/16" - 3/8")
	Coarse thread	22 - 125mm (7/8" - 5") in length
Max. fastening torque : N.m (Kgf.cm)[in.lbs]	125 (1,270) [1,100]	
Electric brakes	Yes	
Variable switch	Yes	
Reverse switch	Yes	
Net weight: kg (lbs)	1.6 (3.5)	

► Standard equipment

- * Battery cover 2 pcs.
- * Plastic carrying case 1 pc.

< Note > The standard equipment for the tool shown may differ from country to country.

► Optional accessories

- | | | |
|-----------------------------|--|-----------------------------|
| * Various socket bits | * Battery 1220 Ni-Cd 1.3Ah | * Charger DC1414 |
| * Various drill chuck set | * Battery 1222 Ni-Cd 2.0Ah | * Charger DC1439 |
| * Bit piece | * Battery 1234 Ni-MH 2.6Ah | * Charger DC1804 |
| * Stopper for impact driver | * Battery 1235 Ni-MH 3.0Ah | * Automotive charger DC1422 |
| | * Battery 1235A Ni-MH 3.0Ah
w/Power display | |

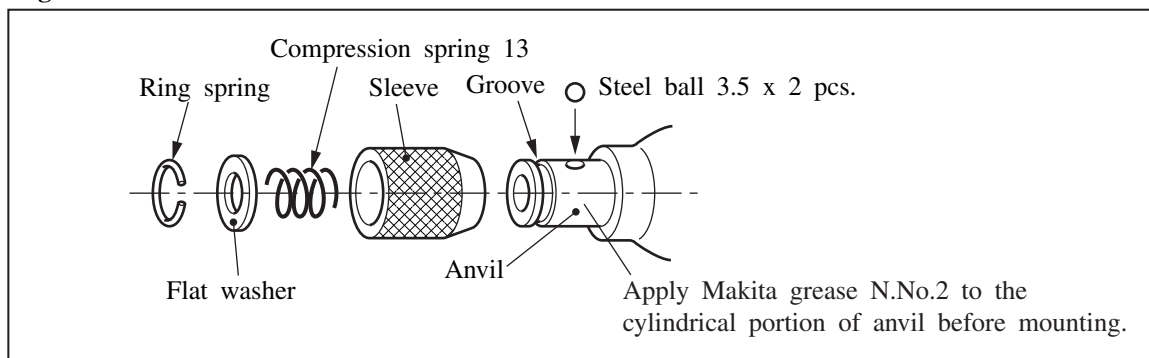
► Repair

1) Disassembling

1) -1. Disassembling Sleeve Section (Fig. 1)

- (1) Remove ring spring from the groove on anvil.
- (2) Now flat washer, compression spring 13, sleeve and 2 pcs of steel ball 3.5 can be removed from anvil.
- (3) Anvil can be removed from hammer case.

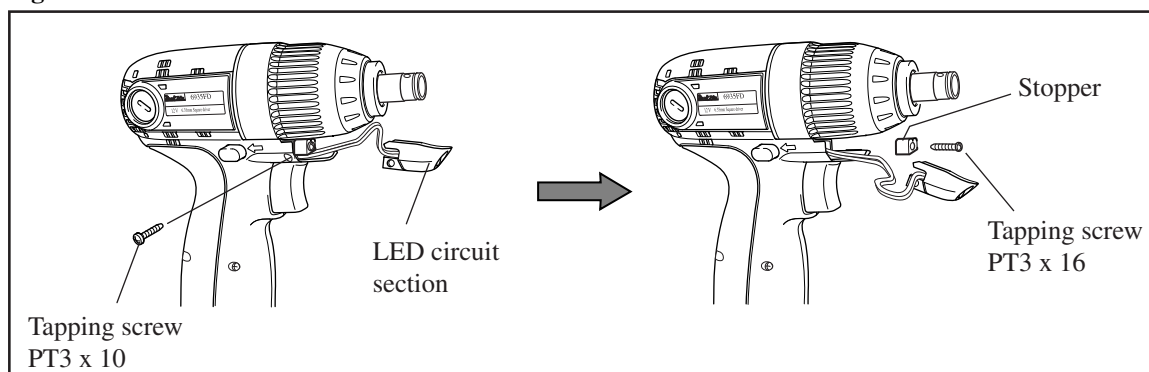
Fig. 1



1) -2. Removing Hammer Case Complete

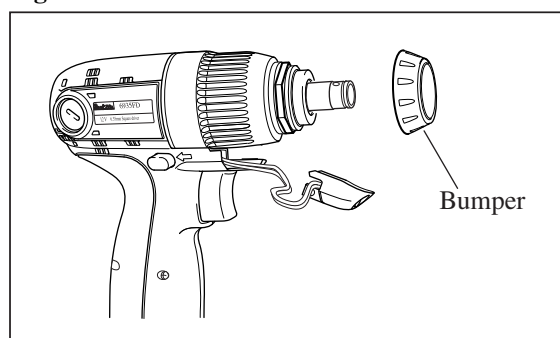
- (1) Pull LED circuit section out of housing by removing PT3 x 10 tapping screw. (Fig. 2)
- (2) Remove stopper by removing PT3 x 16 tapping screw. (Fig. 2)

Fig. 2



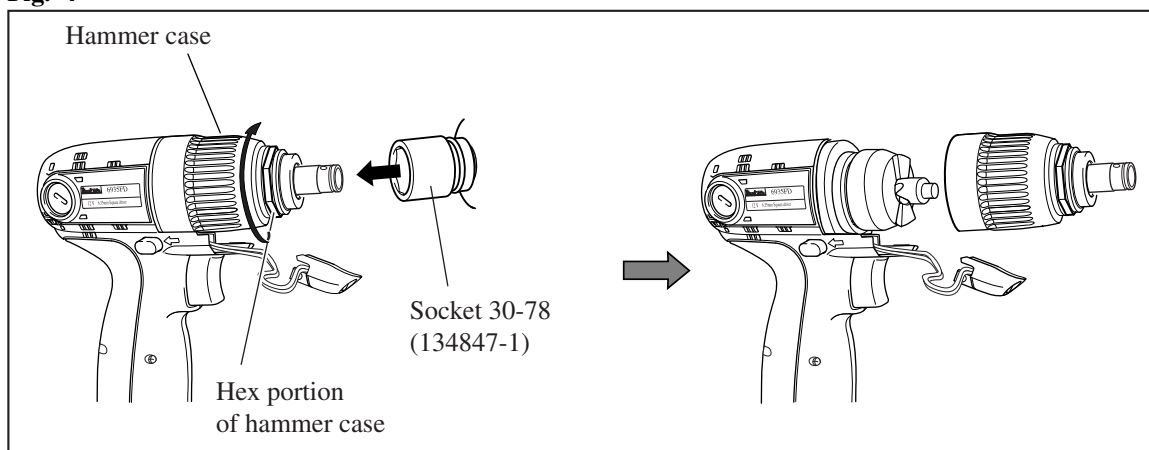
- (3) Remove bumper from hammer case. (Fig.3)

Fig. 3



- (4) Fit socket 30-78 (Part No.134847-1) over the hex portion of hammer case. And then remove hammer case from housing by turning the socket clockwise as illustrated in Fig. 4.

Fig. 4



► Repair

1) -3. Disassembling Housing

- (1) After removing brush holder caps and carbon brushes, remove hammer section, ring 41 and internal gear 51 from housing. **(Fig. 5)**
- (2) Remove internal gear 51 by unscrewing 4 pcs. of pan head screw M4x12. **(Fig. 6)**
- (3) Remove eight PT3x16 tapping screws. Now housing R can be separated from housing L. **(Fig. 7).**

Fig. 5

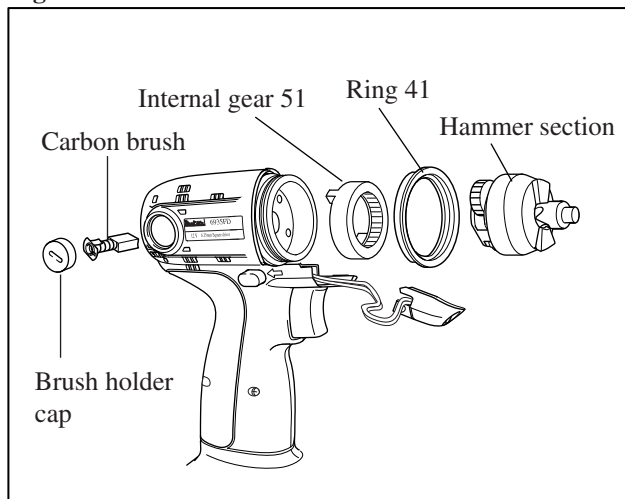


Fig. 6

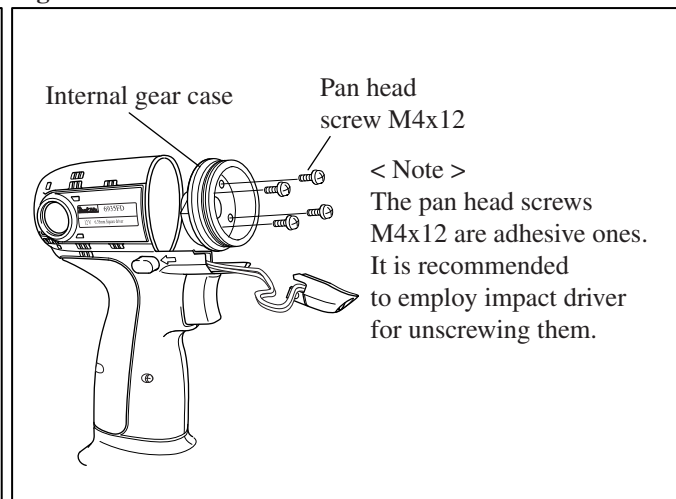
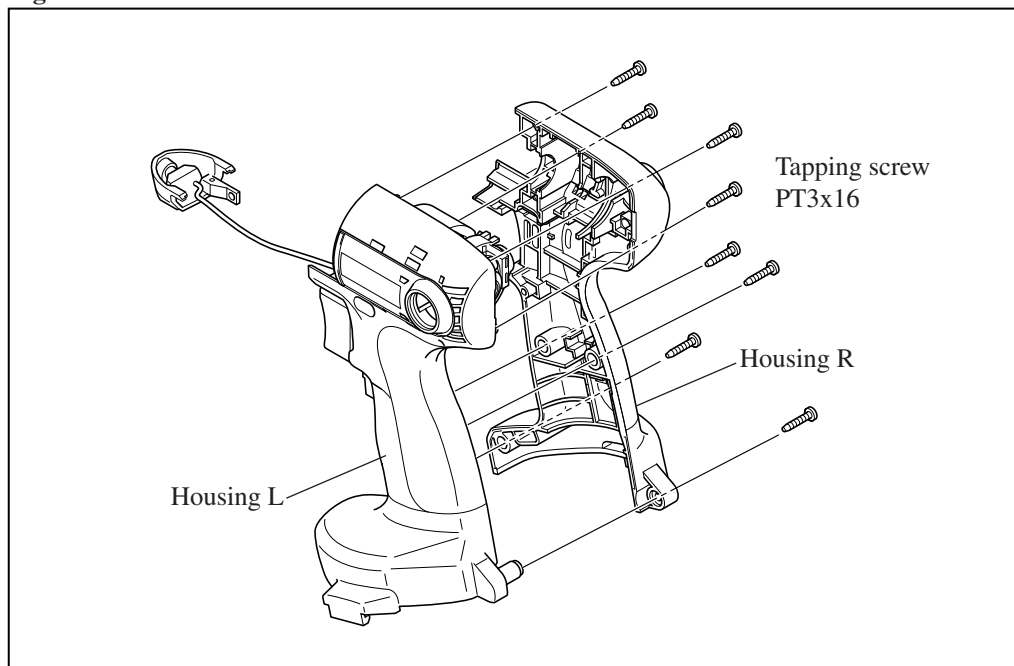


Fig. 7



► Repair

1) -4. Disassembling Hammer and Spindle Section

- (1) Press down hammer with Large gear extractor (1R045) by turning the handle. (Fig. 8)
- (2) Adjust the opening for steel ball insertion to the top of cam groove on spindle. (Fig. 8)
- (3) Remove 2 pcs of steel ball 5.6 from spindle. (Fig. 8)
- (4) Hold the hammer section as illustrated in Fig. 9, and then loose the handle of large gear extractor.

Caution: Do not hold gear extractor as illustrated in Fig. 8 when loosening the handle of gear extractor. Failure to follow this instruction could cause steel balls 3.5 to get out of hammer.

- (5) Now hammer section can be disassembled as illustrated in Fig. 10.
- (6) After removal of flat washer 24, steel balls 3.5 can be removed from hammer. (Fig. 11)

Fig. 8

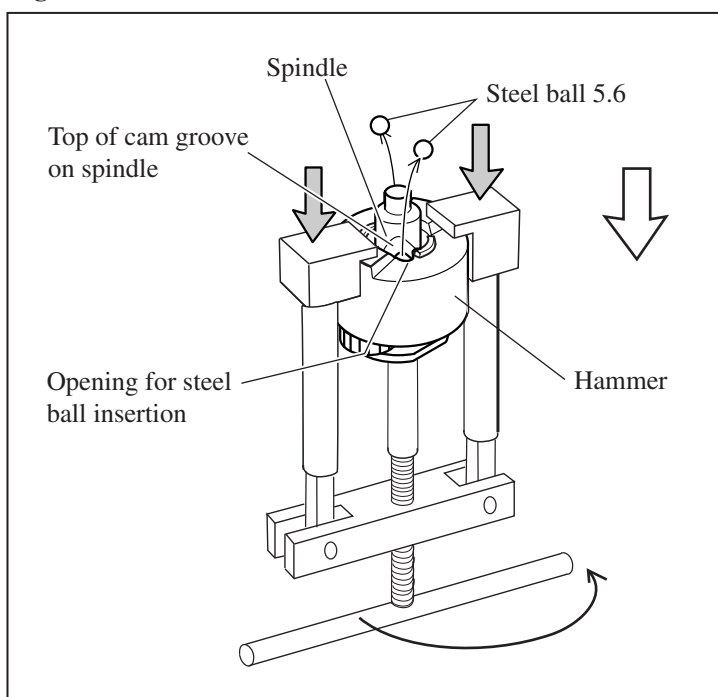


Fig. 9

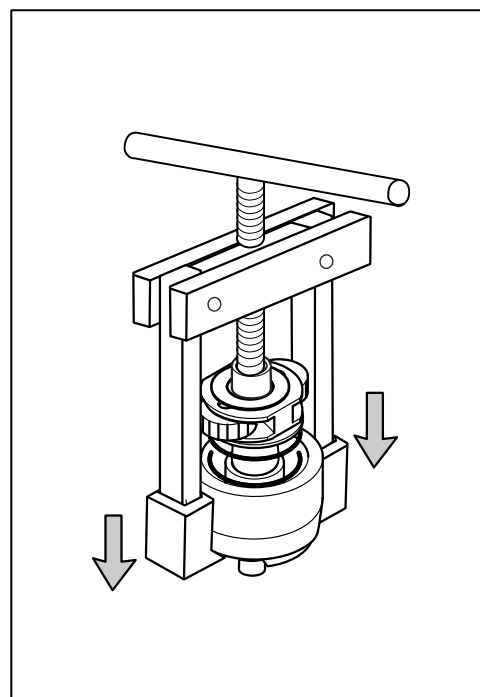


Fig. 10

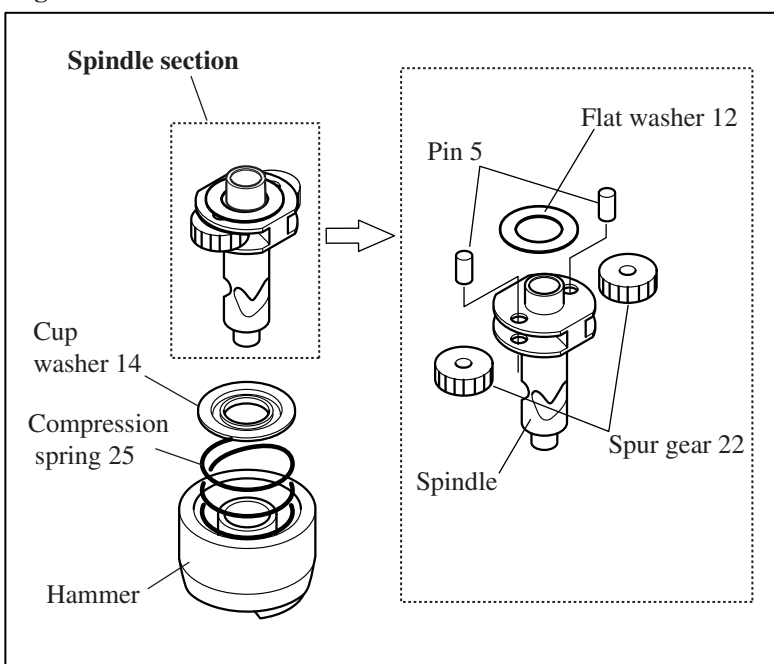
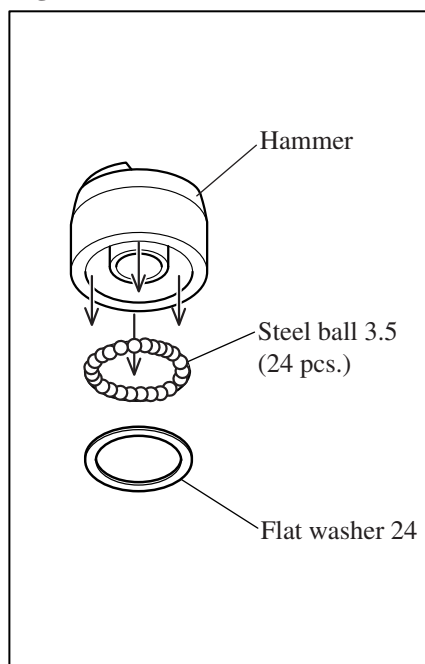


Fig. 11



► Repair

2) Assembling

2) -1. Assembling Sleeve Section

Do the reverse of disassembling procedure.

2) -2. Assembling Hammer and Spindle Sections

(1) Before assembling the parts, apply Makita grease N. No.2 to the following parts.

- * Top of the spindle where anvil contacts: approx. 0.5 g
- * 2 pcs of steel ball 5.6: approx. 0.5 g
- * 24 pcs of steel ball 3.5 which are mounted to hammer: approx. 0.5 g
- * 2 pcs of spur gear 22: approx. 2.0 g

(2) And then do the reverse of disassembling procedure. (Fig. 11, 10, 9 and 8)

Note: Make sure that all of 24 steel balls (size = 3.5) are installed on hammer. (Fig. 11)

2) -3. Assembling Housing

When assembling the housing, be sure to follow the instructions below.

1. Before mounting the internal parts, make sure that rubber pin 4 is installed on each of housing R and L. (Fig. 12)
2. When mounting FET and FET spacer to yoke unit, tighten a ST3x8 tapping screw to the recommended torque of 1.1 - 1.5N.m (11 - 15kgf.cm). (Fig. 13)
3. When fastening housing R to housing L, tighten each of eight PT3x16 tapping screws to the recommended torque of 1.1 - 1.3N.m (11 - 13kgf.cm). (Fig. 14)
4. When mounting LED circuit section, tighten a tapping screw PT3 x 10 to the recommended torque of 0.54 - 0.66N.m (5.3 - 6.5 kgf.cm). (See Fig. 2 in page 2.)

Fig. 12

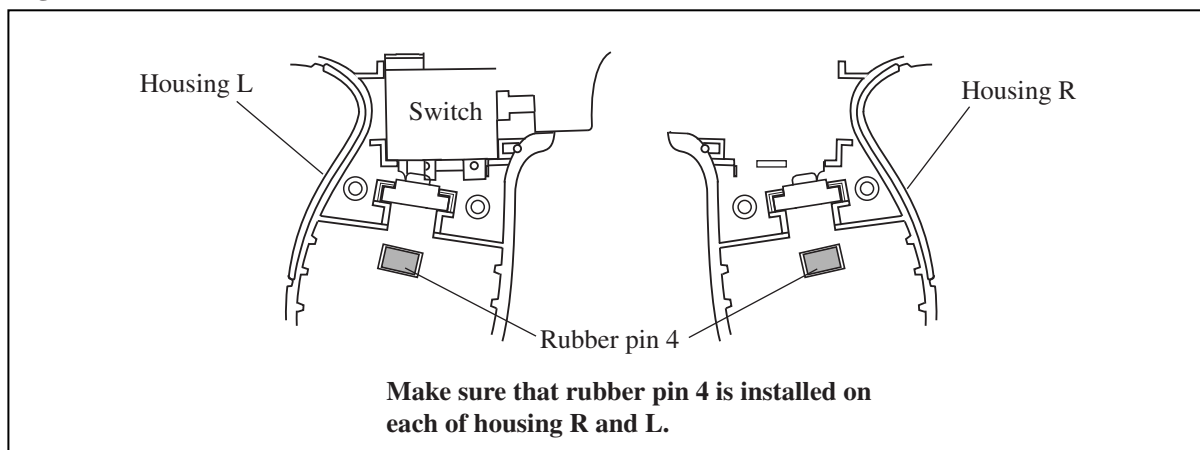


Fig. 13

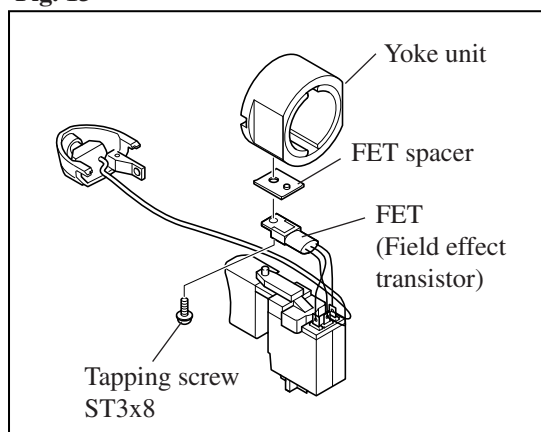
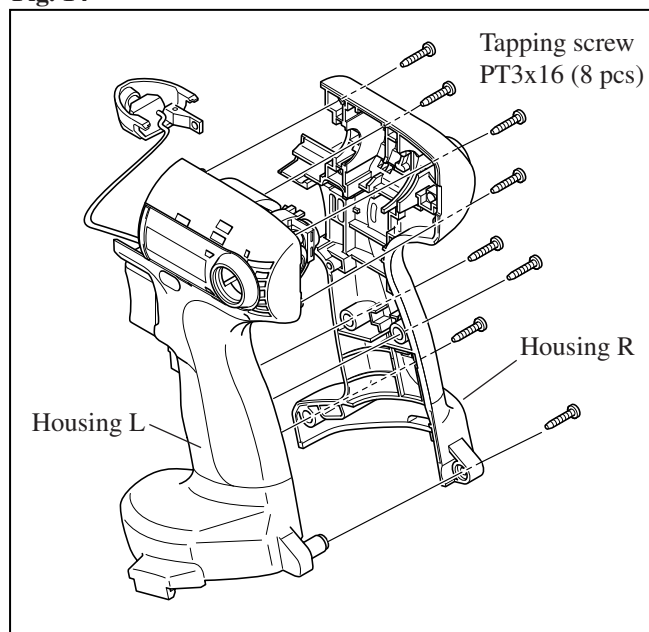


Fig. 14



► Repair

2) -4. Assembling Hammer Case to Housing

(1) When mounting internal gear case to housing, be sure to follow the instructions below. (**Fig. 15**)

- * Always use brand-new M4x12 pan head screw.
- * Tighten each of four M4x12 pan head screws to the recommended torque of 0.88 - 1.8 N.m (9.0 - 18 kgf.cm).

(2) Fit socket 30-78 (Part No.134847-1) over the hex portion of hammer case, and then tighten the socket to the recommended torque of 25 - 30 N.m (260 - 310 kgf.cm). (**Fig.16**)

Caution:

Do not fail to install anvil on hammer case before fastening hammer case to housing.

Fig. 15

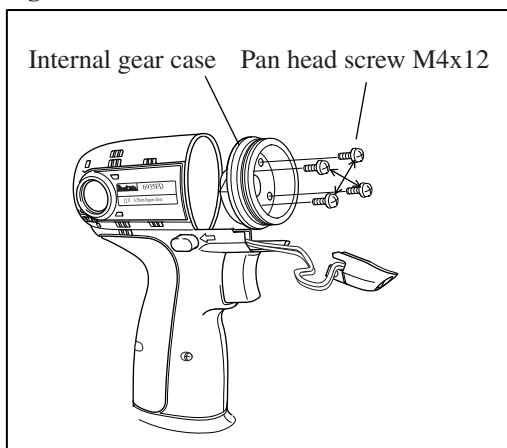
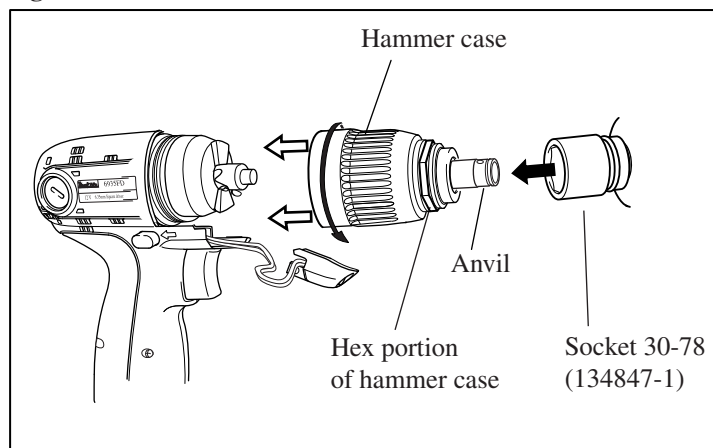


Fig. 16

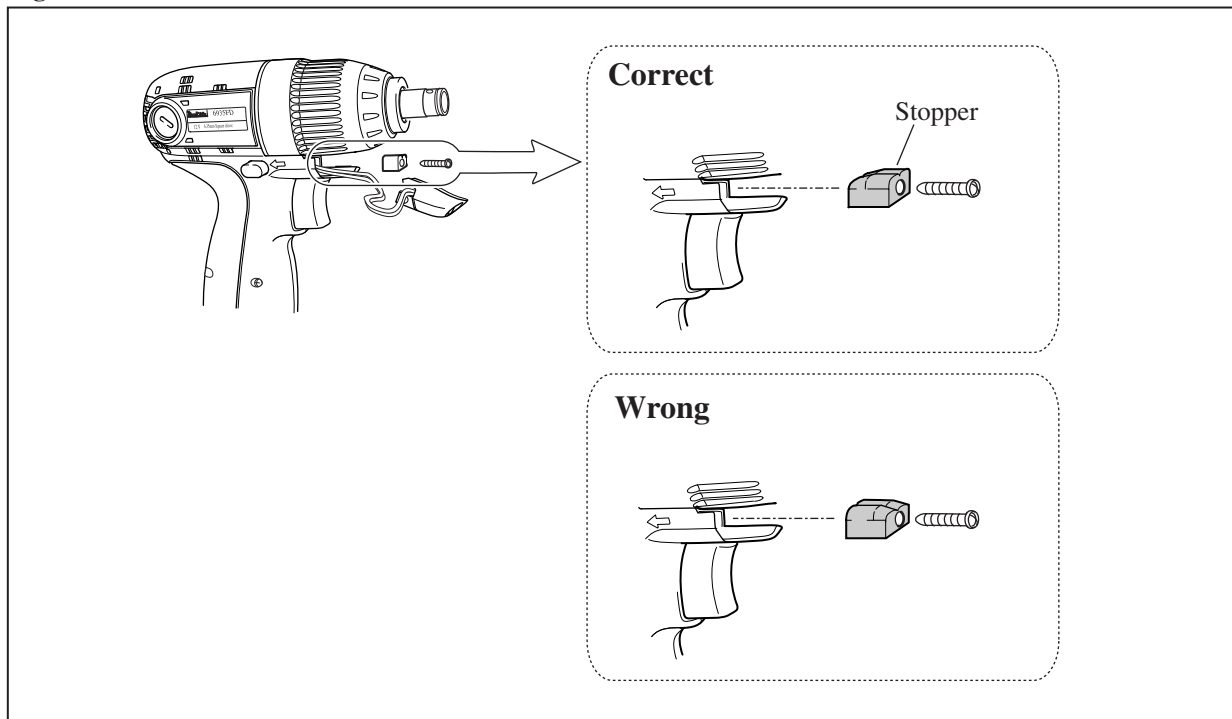


(4) Install stopper on housing.

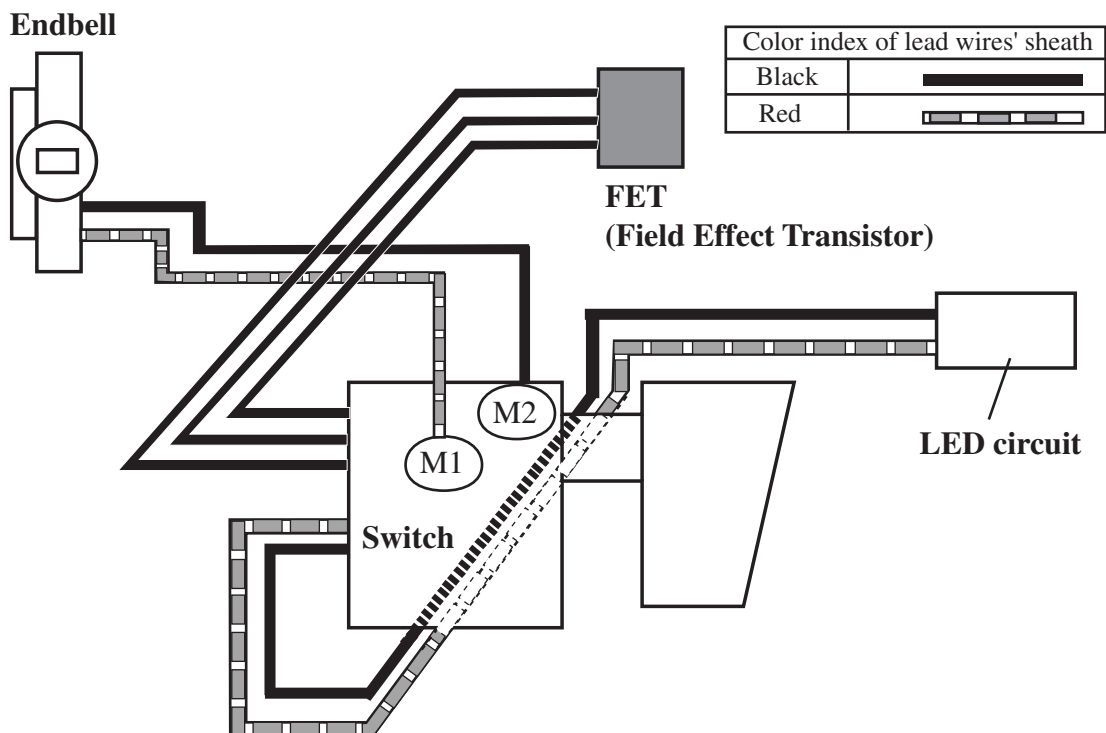
Caution:

Because stopper is not reversible when installed on housing, be sure to place it as illustrated in **Fig. 17**.

Fig. 17



► **Circuit diagram**



► **Wiring diagram**

