

TECHNICAL INFORMATION



PRODUCT

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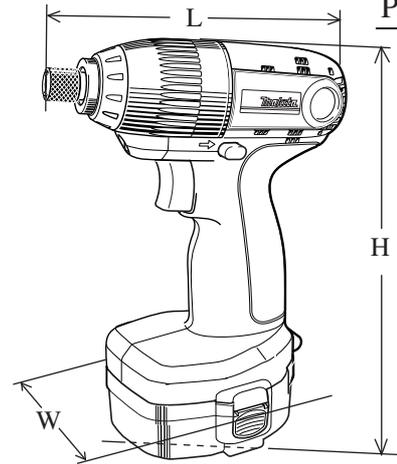
Models No. ▶ 6980FD

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 | |

► **Features and benefits**

Hammer Case of New Design
Elimination of screw hole protrusions reduces possibility of scratches on materials in operation, increasing maneuverability to a great extent.

LED Job light
For illuminated operation

Phosphorescent (glow-in-the-dark) bumper
Enables you to easily find this tool in dark locations.

Easy-to-Operate Large Trigger Switch for Variable Speed Control

Compact Design with an Overall Length of 163mm (6-3/8")

Powerful and Compact D28 Type DC Motor
*Rare earth magnet provides strong power.
*Motor life is extended by efficient cooling, replaceable armature, and externally accessible carbon brush.

Rubberized Soft Grip
Is ergonomically contoured to fit your palm perfectly for much more comfortable and controlled operation.

Hand strap can be attached.

14.4 V Cluster Type Battery

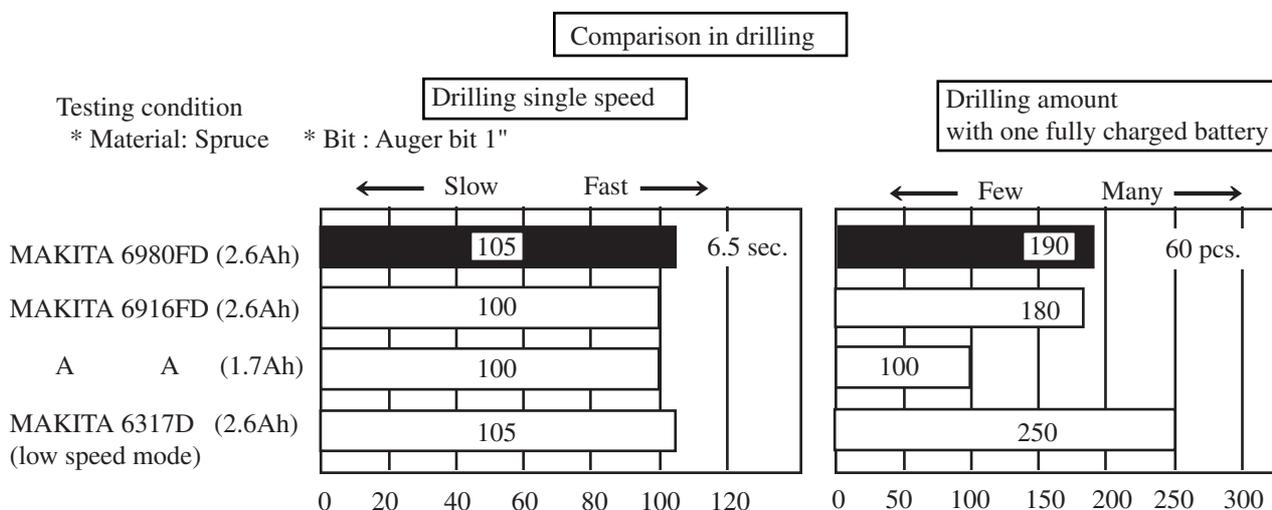
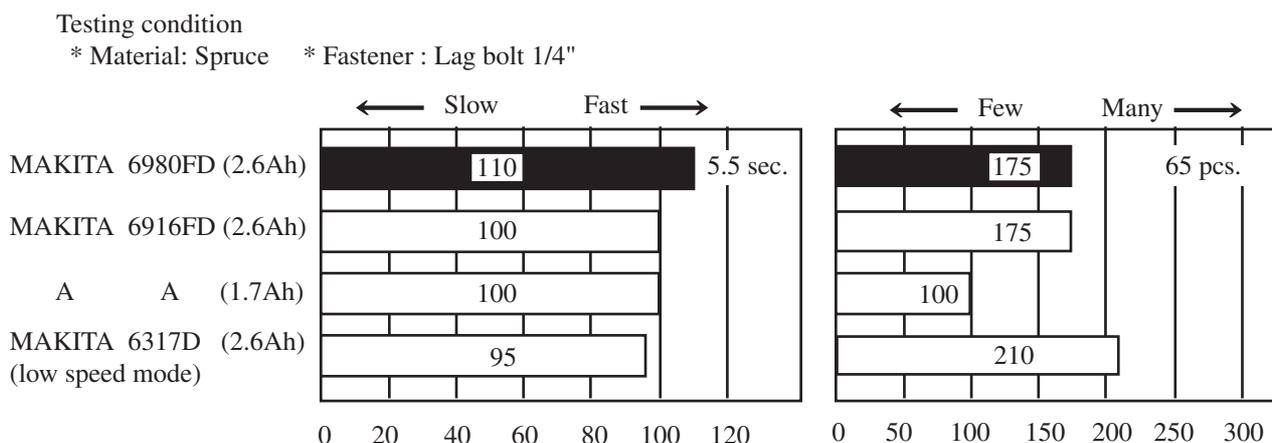
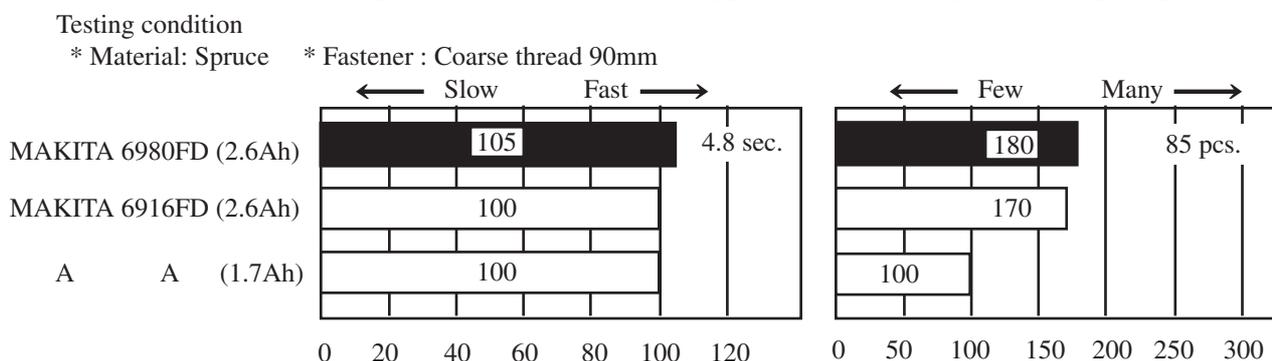
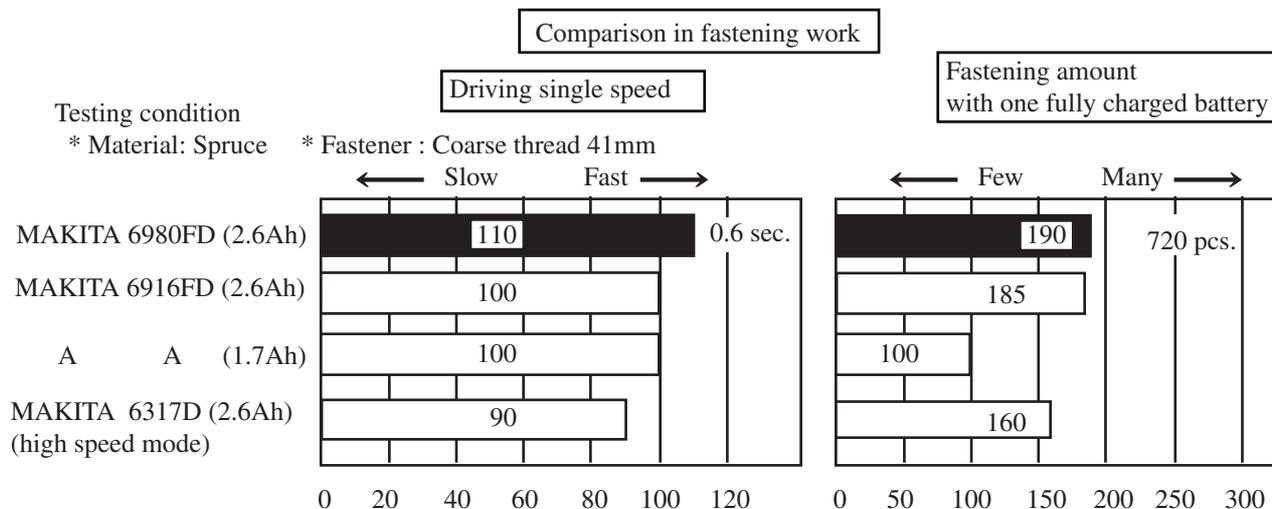
► **Comparison of products**

Model No.		Makita			A
		6980FD	6916FD	6919D	A
Battery	Voltage : V	12	12	12	12
	Current capacity : Ah	2.6	2.6	3.0	1.7
	Battery cell	Ni-MH	Ni-MH	Ni-MH	Ni-Cd
Charging time : min.		approx. 60	approx. 60	approx. 27	approx. 45
Max. fastening torque : N.m [in.lbs]		125 [1,110]	100 [887]	110 [960]	115 [1,000]
No load speed (min-1=rpm)		0 - 2,600	0 - 2,300	0 - 2,600	0 - 2,400
Impact per minute (min-1=bpm)		0 - 3,200	0 - 3,000	0 - 3,200	0 - 3,000
Material of hammer case		Aluminum	Magnesium	Magnesium	Magnesium
LED job light		Yes	Yes	Yes	No
Externally accessible brush		Yes	Yes	Yes	No
Soft grip		Yes	Yes	Yes	Yes
Dimensions	Length : mm ["]	163 [6-3/8]	165 [6-1/2]	163 [6-3/8]	167 [6-9/16]
	Width : mm ["]	94 [3-11/16]	94 [3-11/16]	94 [3-11/16]	82 [3-1/4]
	Height : mm ["]	235 [9-1/4]	231 [9-1/8]	222 [8-3/4]	235 [9-1/4]
Net weight : Kg [lbs]		1.5 [3.3]	1.5 [3.3]	1.6 [3.5]	1.7 [3.7]

▶ Comparison of products

Numbers in the charts below are relative values when the results for Model A of the competitor A has been indexed at 100.

< Note > The working speed and amount may differ, depending on the condition of wooden materials.



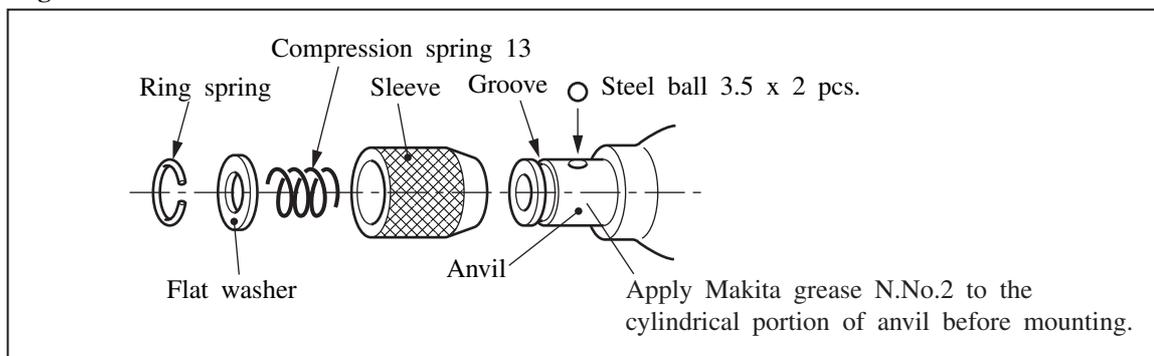
► Repair

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.

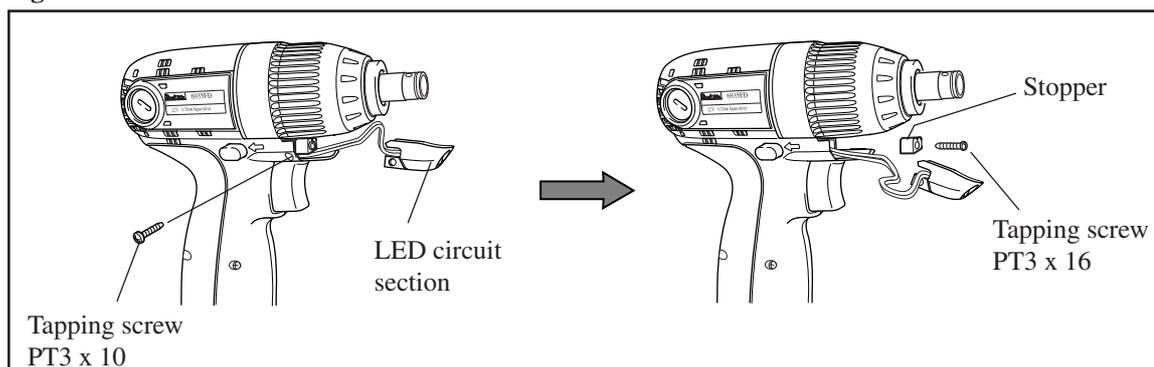
Fig. 1



1) -2. Removing Hammer Case Complete

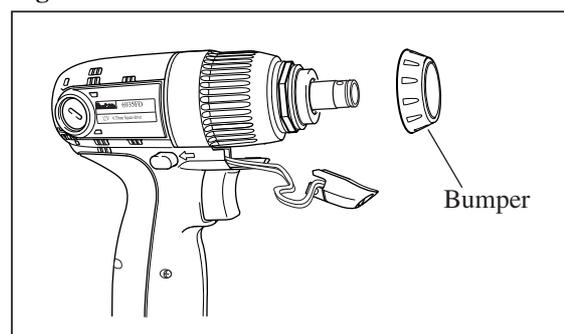
- (1) Pull LED circuit section out of housing by removing PT3 x 10 tapping screw. (Fig. 2)
- (2) Remove stopper by removing PT3 x 16 tapping screw. (Fig. 2)

Fig. 2



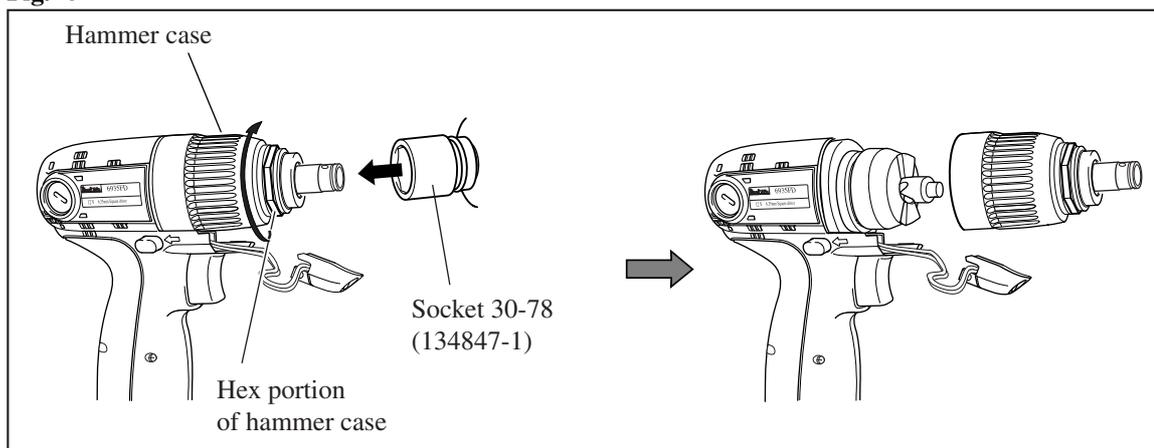
- (3) Remove bumper from hammer case. (Fig.3)

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

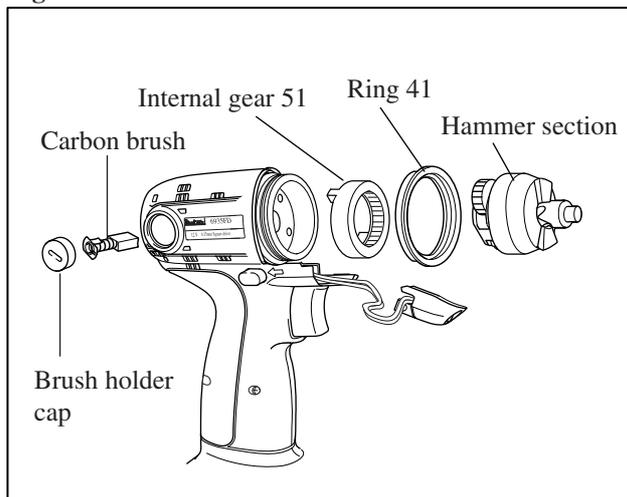


Fig. 6

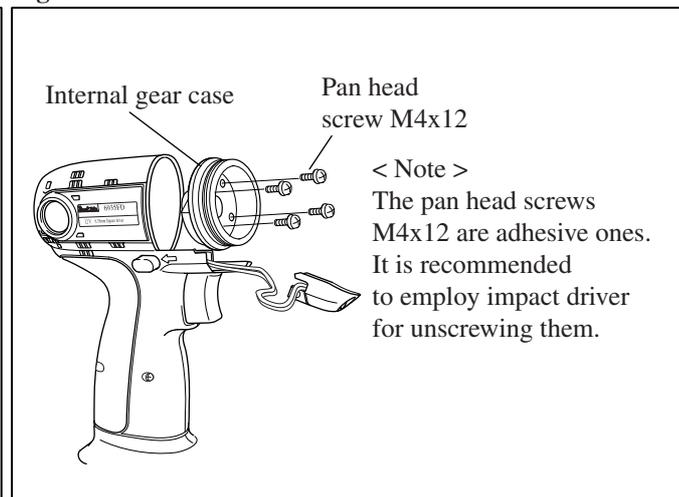
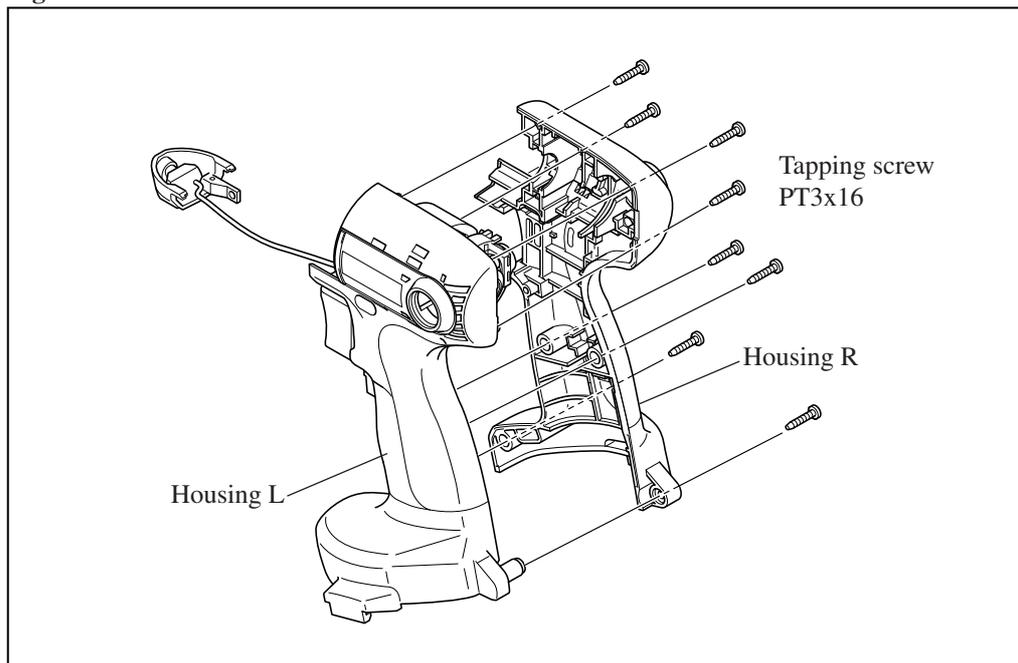


Fig. 7



► 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

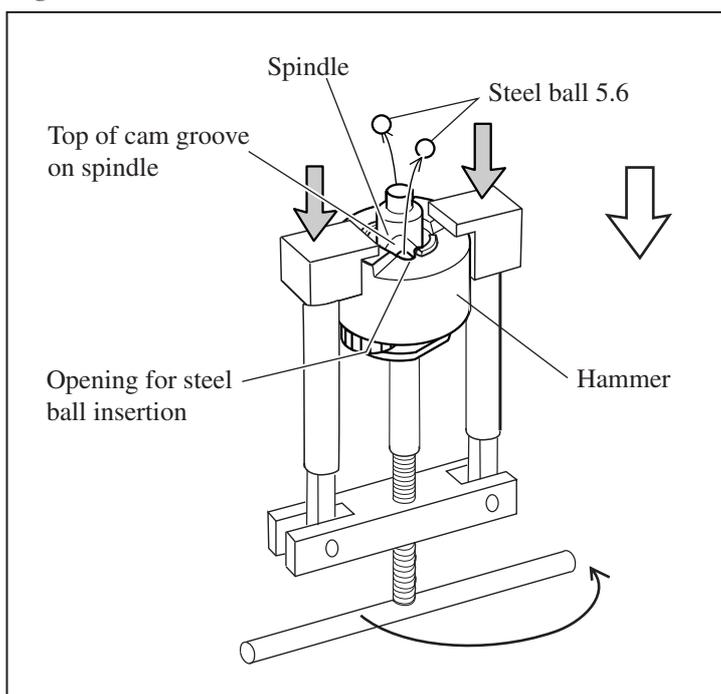


Fig. 9

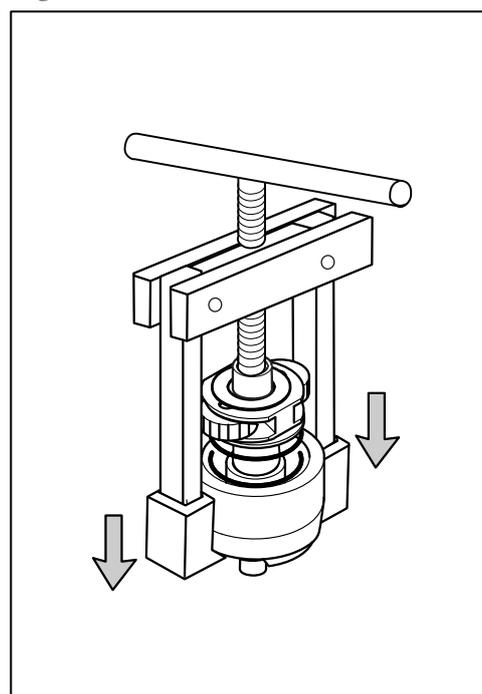


Fig. 10

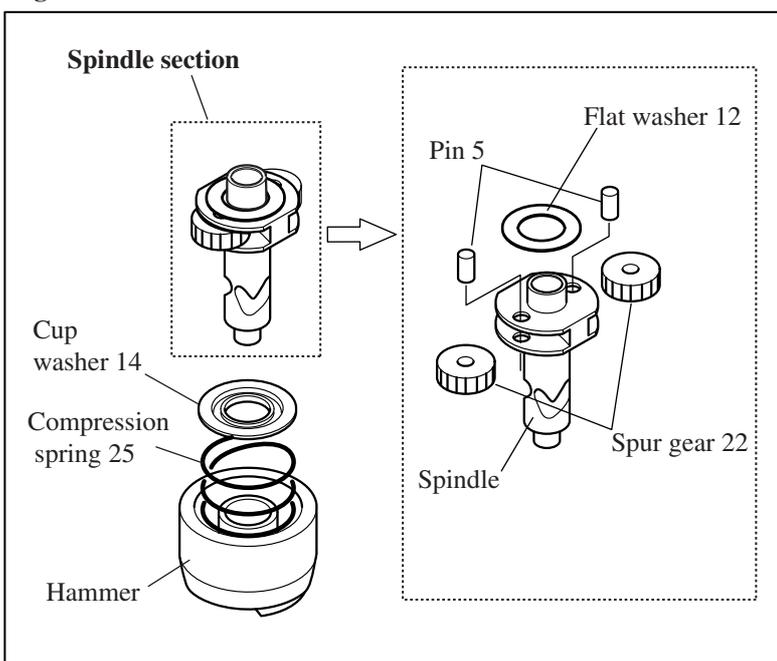
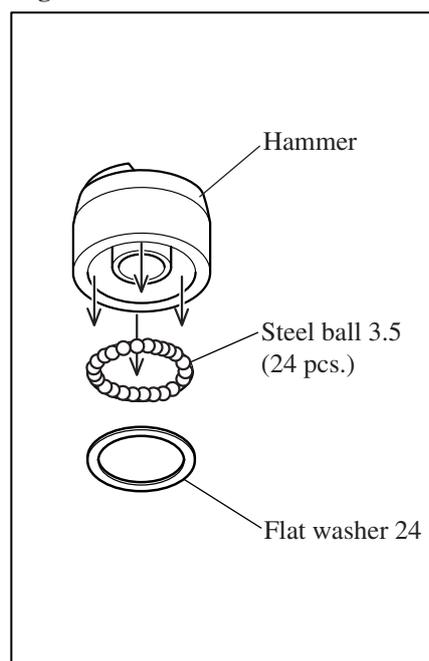


Fig. 11



► 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 4.)

Fig. 12

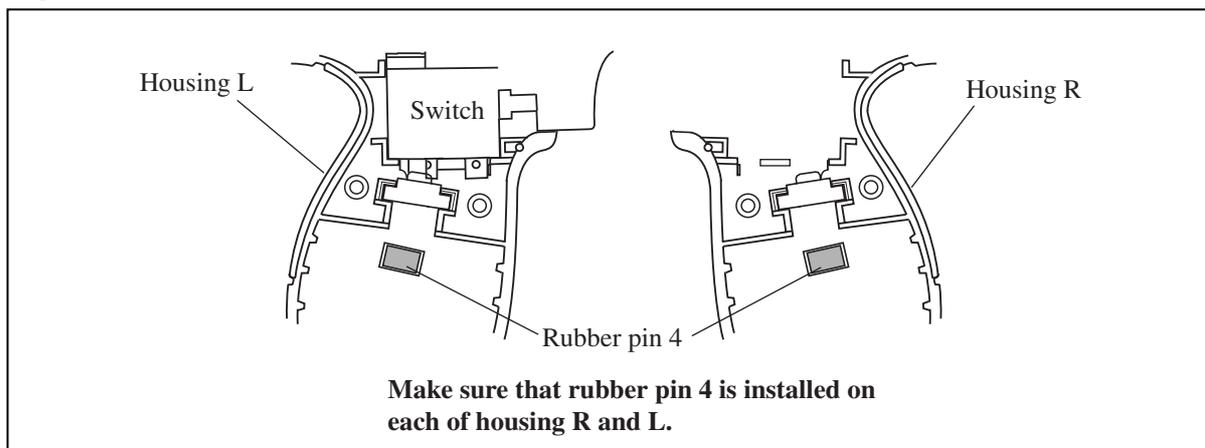


Fig. 13

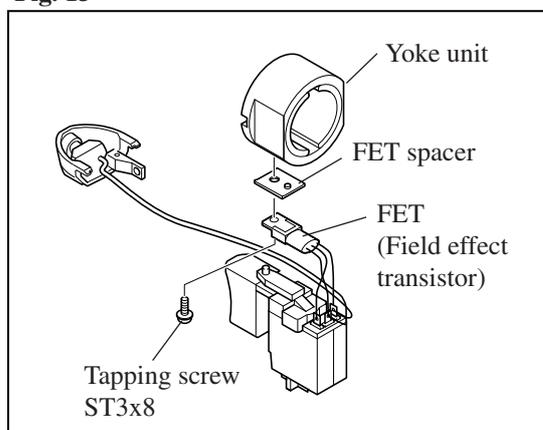
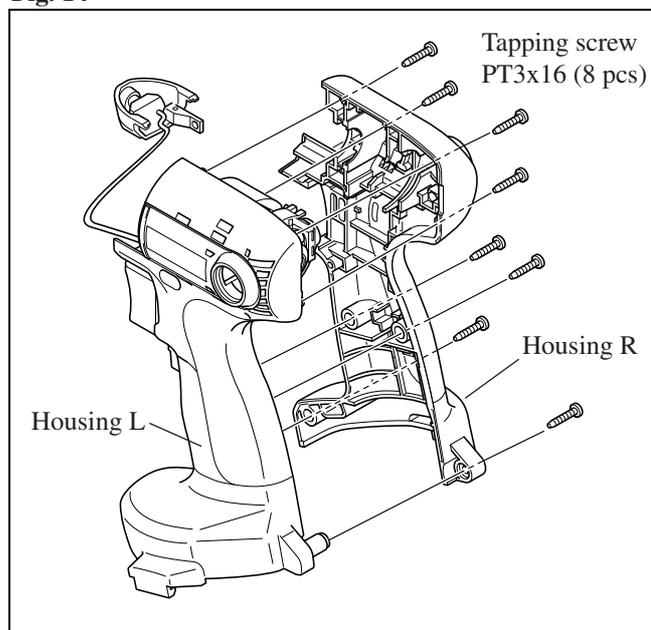


Fig. 14



► 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

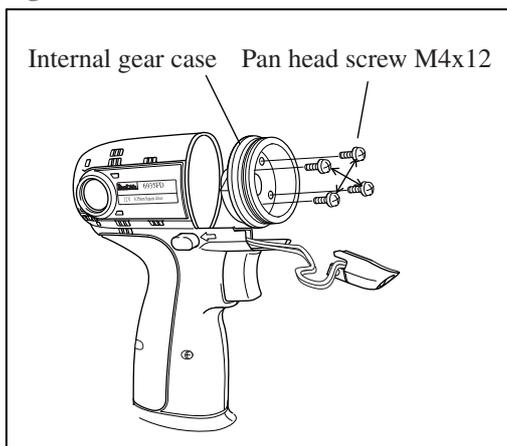
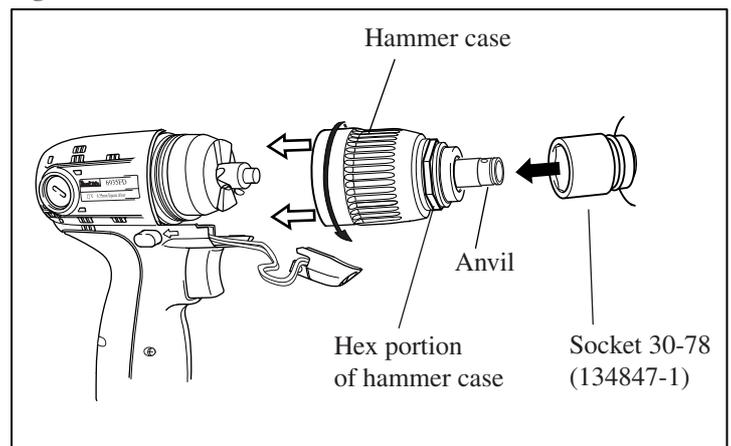


Fig. 16

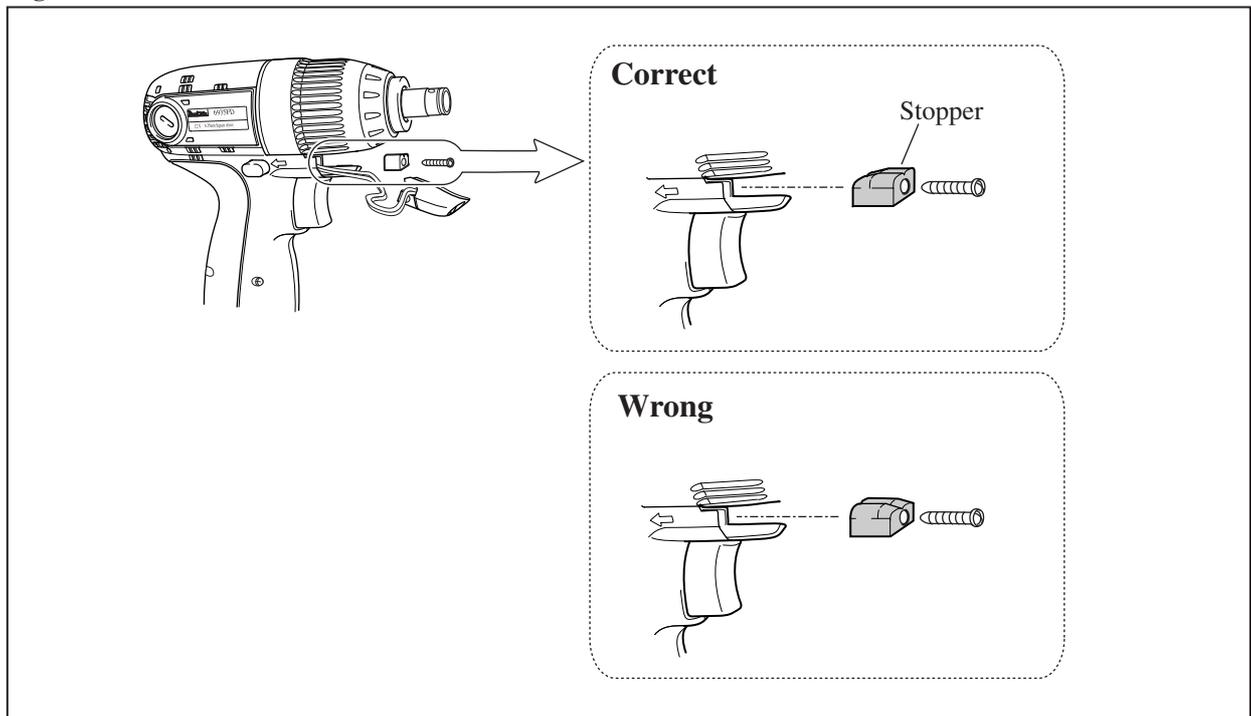


(4) Install stopper on housing.

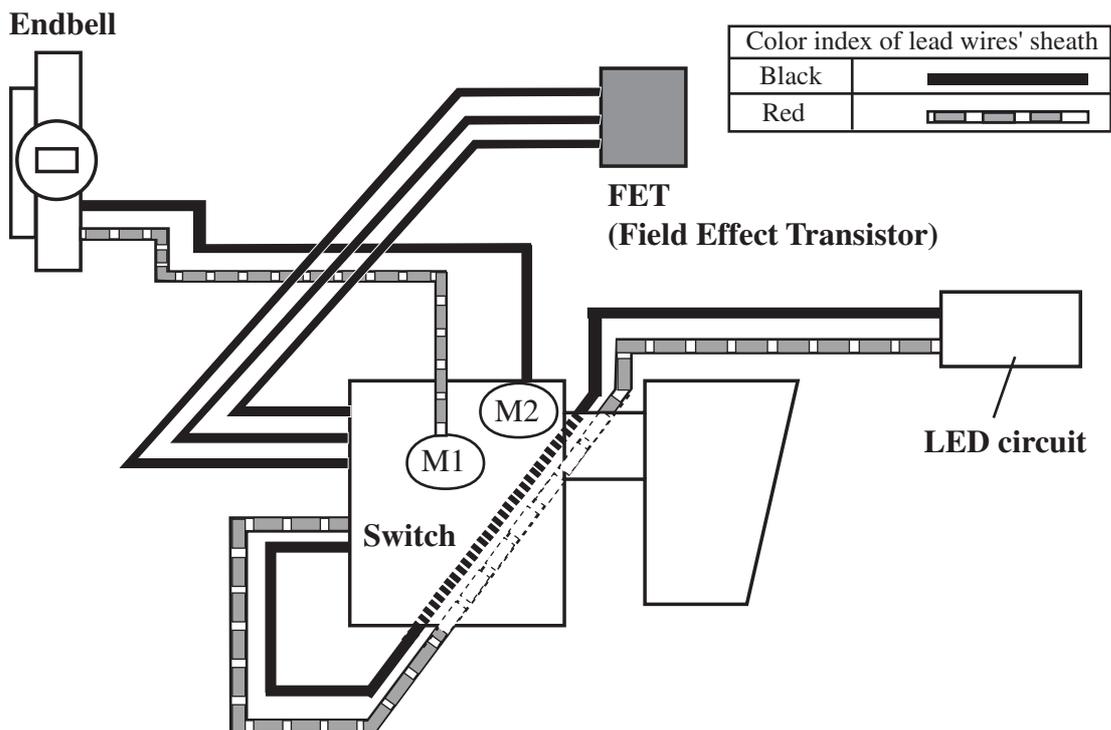
Caution:

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**

