TECHNICAL INFORMATION

Models No. ► BTD134 (LXDT03*1)

Description ► Cordless Impact Driver

*1 Model number for North and Central American countries

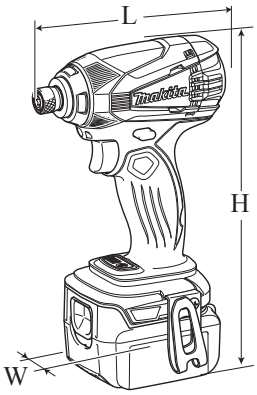
CONCEPT AND MAIN APPLICATIONS

Model BTD134 Cordless Impact Driver is an advanced version of Model BTD130F, featuring the same ergonomically designed handle and 4-pole motor as the existing model, plus more compact design, enhanced dust and drip-proof performance and battery fuel gauge*2. This product is powered by 14.4V/1.3Ah Li-ion battery BL1415 and 14.4V/3.0Ah Li-ion batteries BL1430 and BL1430A.

*2 This gauge is available for all countries except North and Central American countries

This product is available in the following variations.

Model No.	Battery		Battery cover	Charger	Plastic carrying case	Belt clip	Housing color
	type	quantity					
BTD134Z	No	No	No	No	No	Yes	Makita-blue
LXDT03Z							
BTD134RFE	BL1430 (Li-ion 3.0Ah)	2	1	DC18RC	Yes		
BTD134RFE3		3	2				
LXDT03		2	1	DC18RA			
BTD134RHE	BL1415 (Li-ion 1.3Ah)	2	1	DC18RC			



(with Battery BL1430)

Dimensions: mm (")	
Length (L)	138 (5-7/16)
Width (W)	79 (3-1/8)
Height (H)	220 (8-5/8)*3
	238 (9-3/8)*4

*3 with Battery BL1415
*4 with Battery BL1430

Specification

Battery	Voltage: V	14.4V
	Capacity: Ah	1.3/ 3.0 (battery BL1415/ BL1430 or BL1430A)
	Cell	Li-ion
	Charging time: min.	approx. 15/ 22 with DC18RC or DC18RA
Max output (W)		200
Driving shank		6.35mm (1/4") Hex
Capacities	Machine screw	M4 - M8 (5/32 - 5/16")
	Standard bolt	M5 - M14 (3/16 - 9/16")
	High tensile bolt	M5 - M12 (3/16 - 1/2")
	Coarse thread screw	22 - 125mm (7/8 - 4-7/8")
Impacts per min.: min.-1=ipm		0 - 3,200
No load speed: min.-1=rpm		0 - 2,400
Max. fastening torque*5: N.m (kgf.cm/ in.lbs)		155 (1,580/ 1,370)
Electric brake		Yes
Variable speed control by trigger		Yes
Reverse switch		Yes
LED job light		Yes
Weight according to EPTA-Procedure 01/2003: kg (lbs)		1.2*3/ 1.4*4 (2.6*3/ 3.1*4)

*5 torque at 3 seconds after seating, when fastening M14 high tensile bolt

Standard equipment

See the product variation list above.

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

Optional accessories

Phillips bits
Socket bits
Drill chucks
Bit piece
Drill bits with 6.35mm Hex shank
Hole saws for Impact driver
Stopper for Impact driver
Hook set (Belt clip)
Tool hanger
Battery protectors
Li-ion Battery BL1430
Li-ion Battery BL1430A
Li-ion Battery BL1415
Fast charger DC18RA
(for North and Central American countries only)
Fast charger DC18RC
(for all countries except North and Central American countries)
Charger DC18SD
Charger DC24SC
Automotive charger DC18SE

► Repair

CAUTION: Repair the machine in accordance with "Instruction manual" or "Safety instructions".

[1] NECESSARY REPAIRING TOOLS

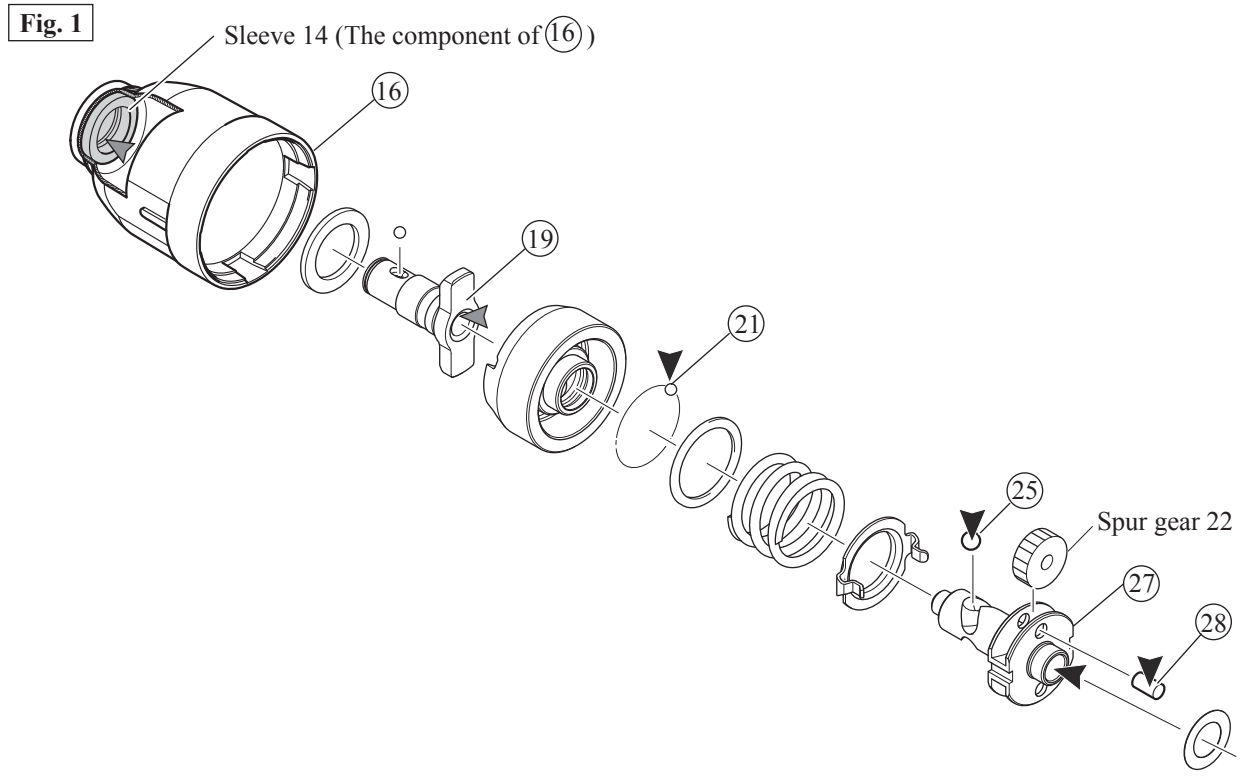
Code No.	Description	Use for
1R041	Vise plate	removing Hammer case complete
1R045	Gear extractor (large)	removing Hammer
1R223	Torque wrench shaft 20-90N·m	removing Hammer case
1R224	Ratchet head 12.7 (for 1R223)	
1R232	Pipe 30	removing Bit holder section
1R288	Screwdriver Magnetizer	removing Steel balls
1R291	Retaining Ring S and R Pliers	removing Ring spring 11 from Bit holder section
134847-1	Socket 30 -78 ass'y	removing Hammer case complete
134848-9	Socket 32 -50 ass'y	

[2] LUBRICANT

Apply the following lubricants to protect parts and product from unusual abrasion. (**Fig. 1**)

Item No.	Description	Portion to lubricate	Lubricant	Amount
⑯	Hammer case complete	Inside of Sleeve 14 which touches ⑲	Makita grease FA. No.2 ▼	a little
⑲	Anvil	Hole into which ㉗ Spindle top is inserted		
㉑	Steel ball 3.5 (24pcs.)	Whole portion	Makita grease N. No.2 ▼	
㉕	Steel ball 5.6 (2pcs.)	Whole portion		
㉗	Spindle	Hole into which Armature's drive end is inserted to engage Spur gear 22		2g
㉘	Pin 5	Whole portion		a little

Fig. 1



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1. Hammer case complete

DISASSEMBLING

(1) Twist and remove Bumper with slotted screwdriver. (**Fig. 2**)
(2) While releasing the hooks of Hammer case cover from Hammer case complete carefully, remove Hammer case cover. (**Fig. 3**)
(3) Unscrew two 3x16 Tapping screws on Rear cover and remove Rear cover. (**Fig. 4**)
(4) Unscrew eight 3x16 Tapping screws on Housing set (R) and then remove Housing set (R). (**Fig. 5**)
(5) Remove an assembled part consists of three sections from Housing set (L). (**Fig. 6**)
(6) Pull out Hammer section from the other sections. (**Fig. 7**)

Fig. 2

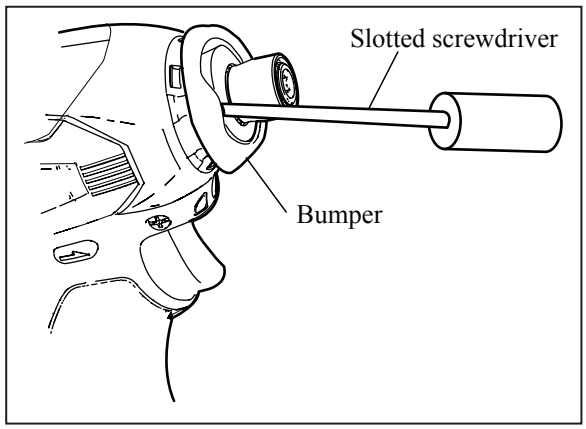


Fig. 3

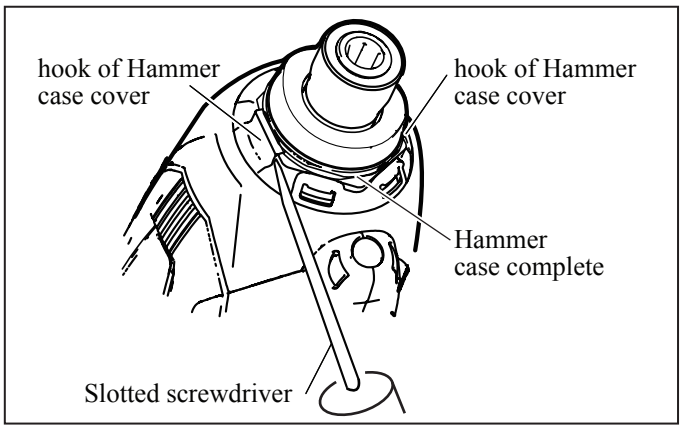


Fig. 4

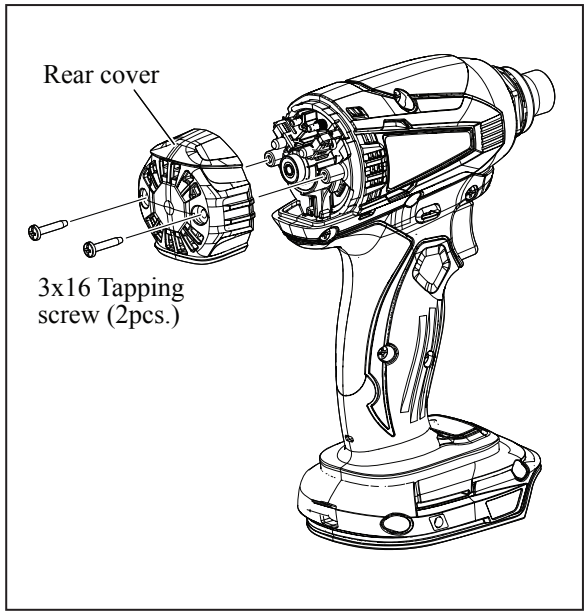


Fig. 5

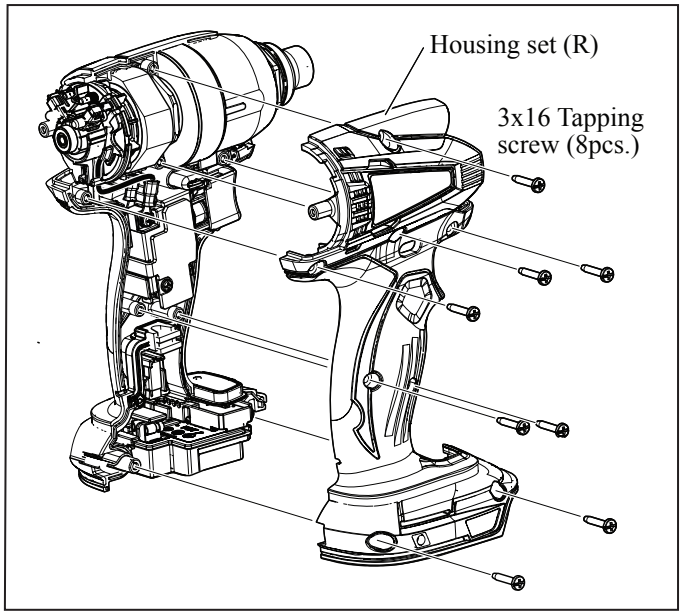


Fig. 6

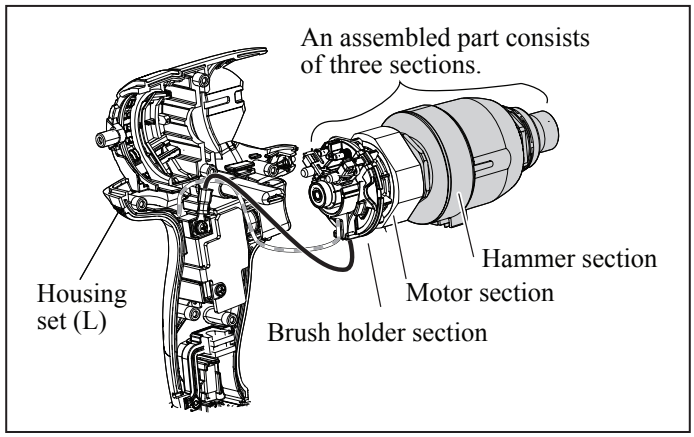
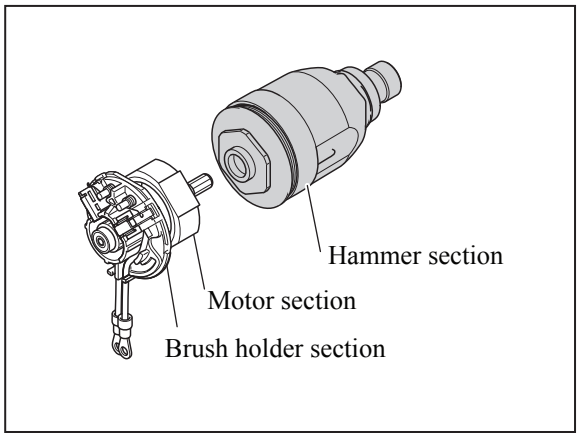


Fig. 7



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1. Hammer case complete (cont.)

DISASSEMBLING

(7) Hold 134848-9 with 1R041 in Vise, and then fit the hexagonal portion of Bearing box complete into 134848-9. (**Fig. 8**)

(8) Set 1R224 and 134847-1 to 1R223, and then fit the hexagonal portion on Hammer case complete into 134847-1 and turn 1R223 clockwise. (**Fig. 9**)

Note: Hammer case complete has a left hand thread.

(9) Hammer section can be disassembled as drawn **Fig. 10**.

Fig. 8

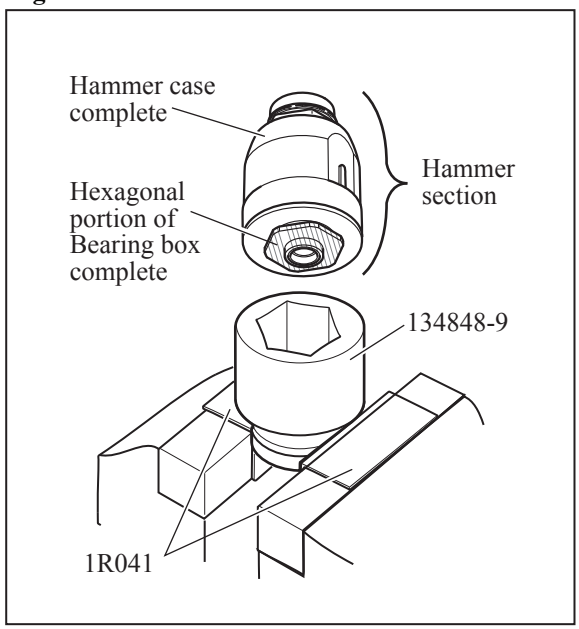
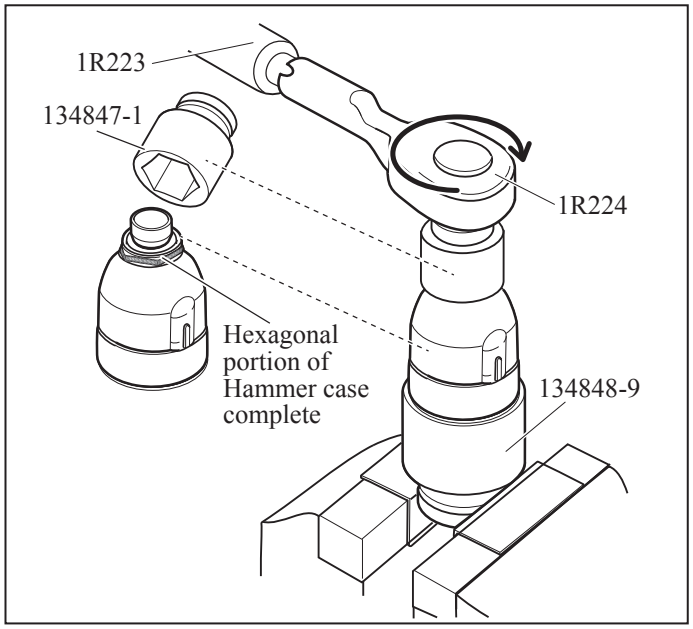


Fig. 9



ASSEMBLING

(1) Reverse the disassembling steps of Hammer case complete, Hammering mechanism, Internal gear 51, O ring 40 and Bearing box complete as drawn in **Figs 10 and 9**.

(2) Set 1R224 and 134847-1 to 1R223, and then fit the hexagonal portion on Hammer case complete into 134847-1 and turn 1R223 **counterclockwise**.

Note: The fastening torque has to be 30N.m to 40N.m.

(3) Hook Hammer case cover to the hexagonal portion of Hammer case complete, and then fit its hooks to the depressions on the reverse of Bumper.

Fig. 10

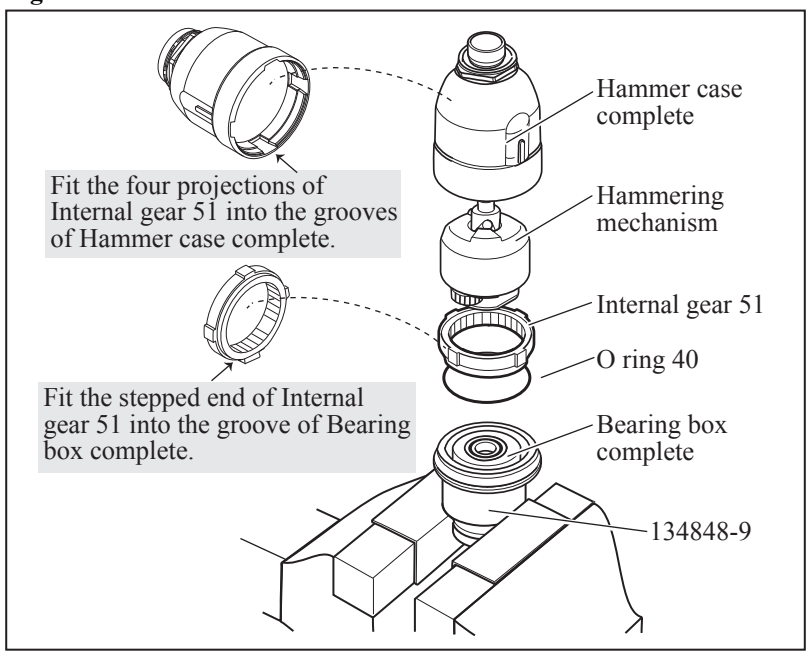
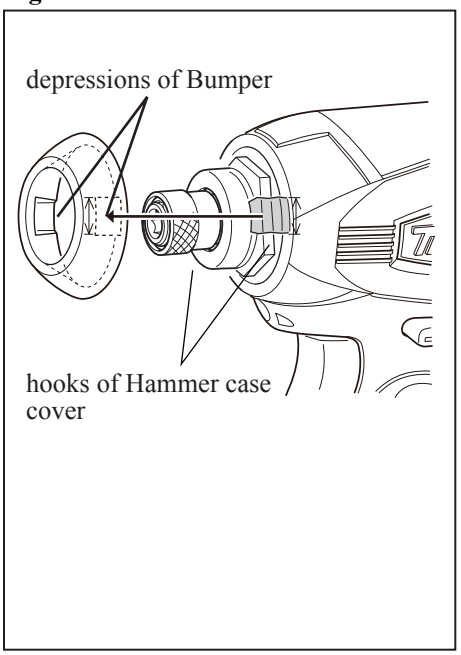


Fig. 11



Repair

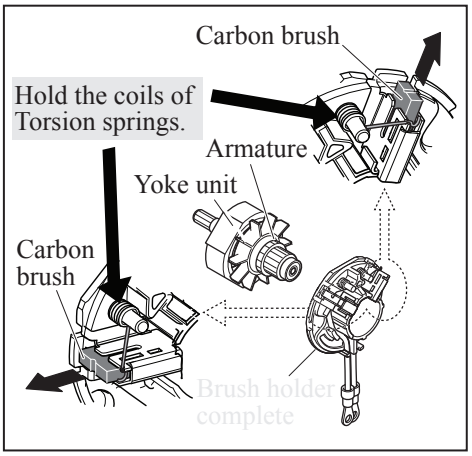
[3] DISASSEMBLY/ASSEMBLY

[3]-2. Motor section

DISASSEMBLING

(1) Remove Hammer section by steps drawn in **Fig. 2 to Fig. 7**.
(2) Release tail of each Torsion spring from Carbon brushes and hook these tails into the grooves around the edges of Brush holder. (**Fig. 12**)
(3) Keep Carbon brushes apart from the commutator of Armature. (**Fig. 12**)
(4) Hold the coils of Torsion springs not to be removed, and pull out Armature and Yoke unit together from Brush holder complete. (**Fig. 12**)

Fig. 12



ASSEMBLING

Take the disassembling step in reverse.

Note: • When passing Armature through Yoke unit, make sure that the notch on Yoke unit is positioned on Armature drive end. (**Fig. 13**)
Because Armature is attracted to magnet of Yoke unit, be careful to hold them not to pinch fingers and prevent the coils against damage.
• When assembling the motor section to Bearing box complete, insert Armature drive end into Internal gear 51 engaging with Spur gears 22 . (**Figs. 13 and 1**)
• When the assembled sections (Hammer section, motor section and Brush holder section) is set on Housing set (L), fit the projection of the housing into the notch on Yoke unit. (**Figs. 13 and 6**)
• Be sure to check the following positions as drawn in **Fig. 14**.
(1) Flat portion of Brush holder complete
(2) Ribs on Housing set (L)
(3) Projection on Hammer case complete

Fig. 13

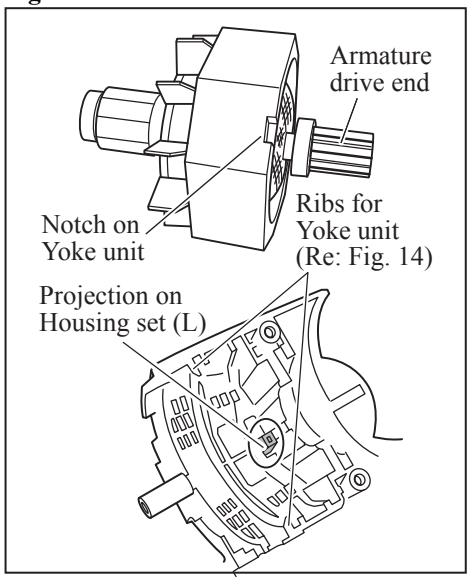
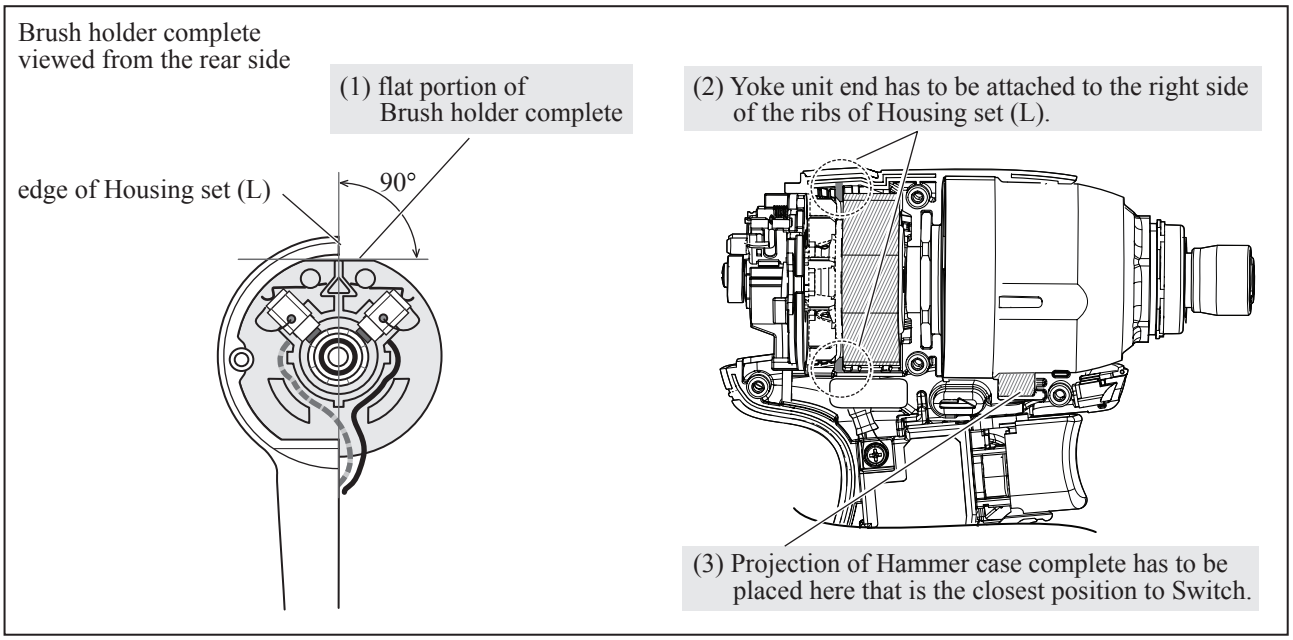


Fig. 14



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-3. Assembling Switch, F/R change lever and Switch plate complete

(1) Fit the projection of Switch to the notch of F/R change lever and assemble them to Housing set (L). (**Fig. 15**)
(2) Insert Switch plate complete to Housing set (L). (**Fig. 16**)
(3) Fit Sponge A into Seal and set them to Housing set (L). (**Fig. 17**)
Note: Align the end of Sponge A with the side end of Seal to be flat.
(4) Set Sponge B on the rib of Housing set (R). (**Fig. 18**)
Note: Use new Sponge A and Sponge B to assure the drip-proof construction.

Fig. 15

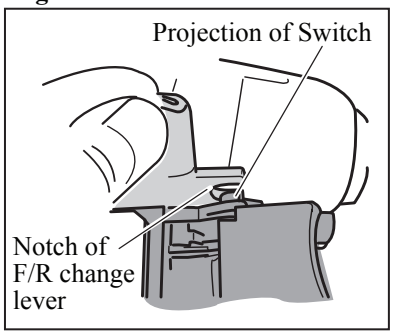


Fig. 16

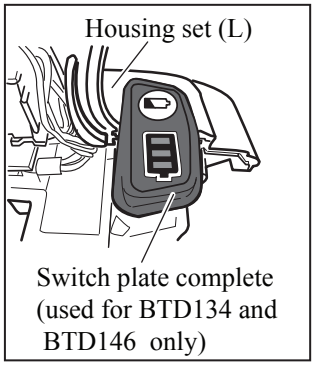


Fig. 17

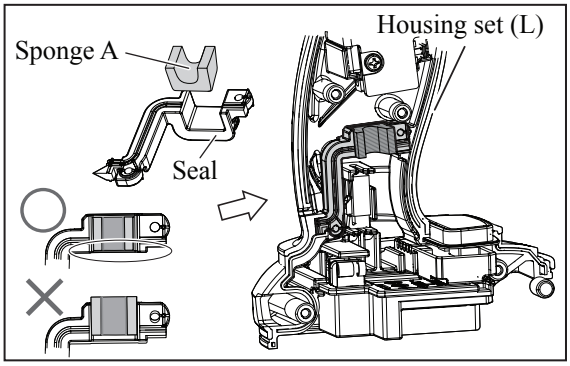
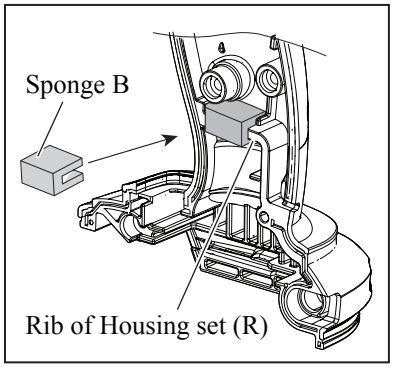


Fig. 18



[3]-4. Disassembling Bit holder section

(1) Remove Hammer section by steps drawn in **Fig.2 to Fig. 7**.
(2) Remove the following parts from Hammer section. (**Figs. 8, 9 and 10**)
Hammering mechanism, Internal gear 51, O ring 40 and Bearing box complete
(3) Put Hammer case complete on 1R232 to disassemble Bit holder section easily. (**Fig. 19**)
(4) Expand the open end of Ring spring 11 with 1R291 and raise the opposite of Ring spring 11 by index finger while pressing the top of Sleeve by thumb. (**Fig. 20**)
The components are removed from Anvil as drawn in **Figs. 21 and 22**.

Fig. 19

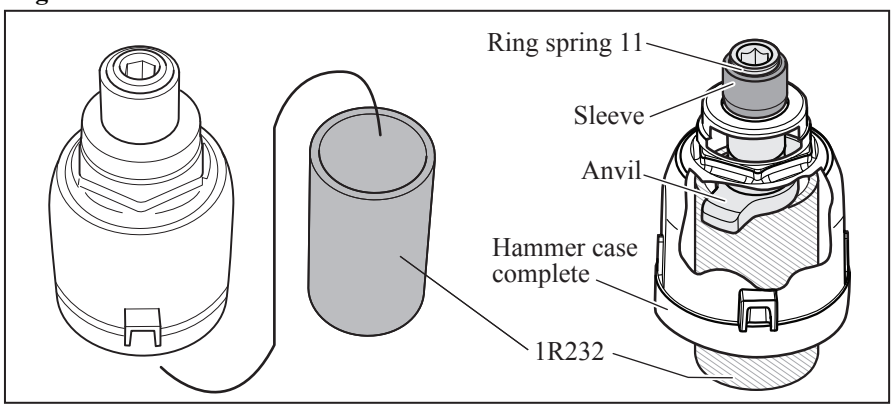


Fig. 20

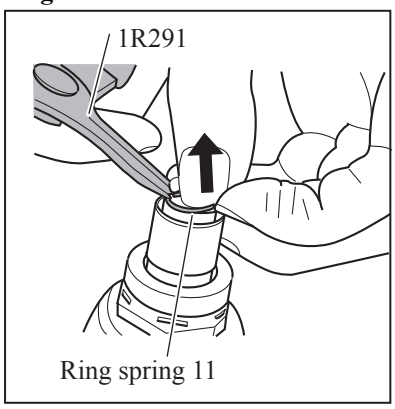


Fig. 21

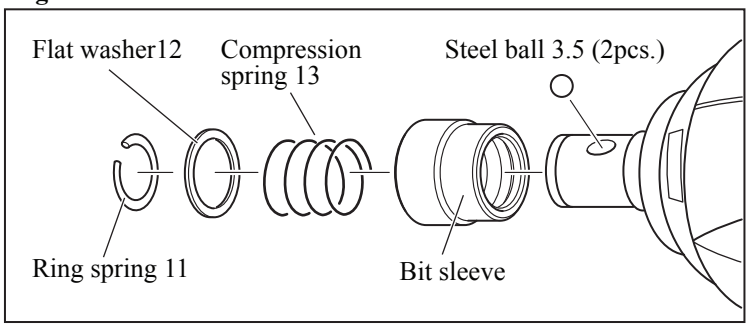
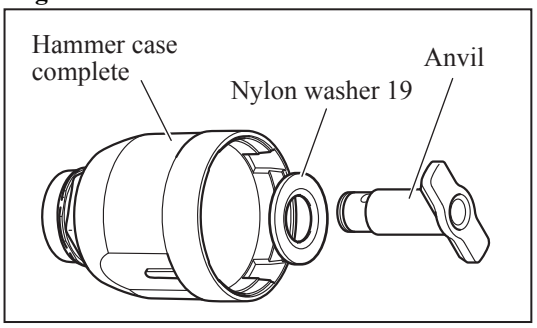


Fig. 22



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-5. Hammering mechanism

DISASSEMBLING

(1) Remove Hammer section by steps drawn in **Fig. 2 to Fig. 7**.
(2) Press down Hammer to the full with 1R045 and then reverse the handle to align the openings in Hammer with the top of cam groove on Spindle.
(3) Remove two Steel balls 5.6 from Spindle using Tweezers or 1R288. (**Fig. 23**)
(4) When Hammer is separated from Spindle, the setting posture is turned upside down from shown in **Fig. 23 to Fig. 24** to prevent Steel balls 3.5 from being dropped. There are 24pcs. of Steel balls 3.5 in the groove of Hammer. (As drawn in **Fig. 25**, the groove is designed to have a space equivalent to one Steel ball 3.5.)

Fig. 23

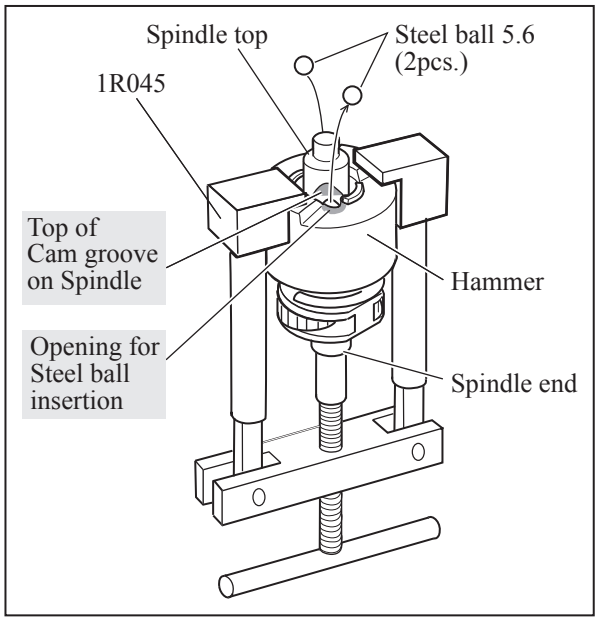


Fig. 24

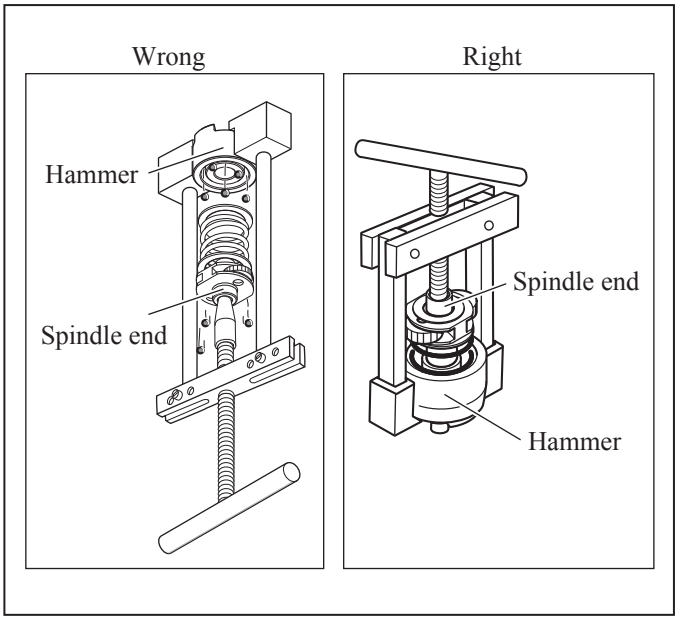
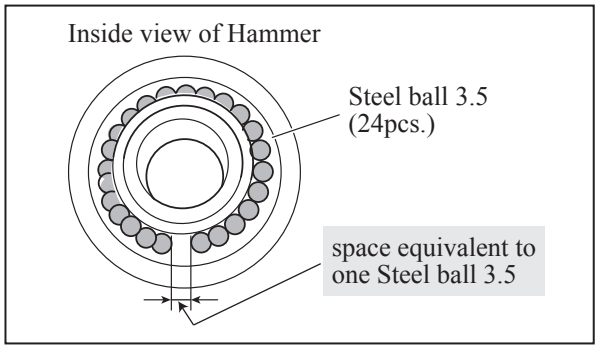


Fig. 25

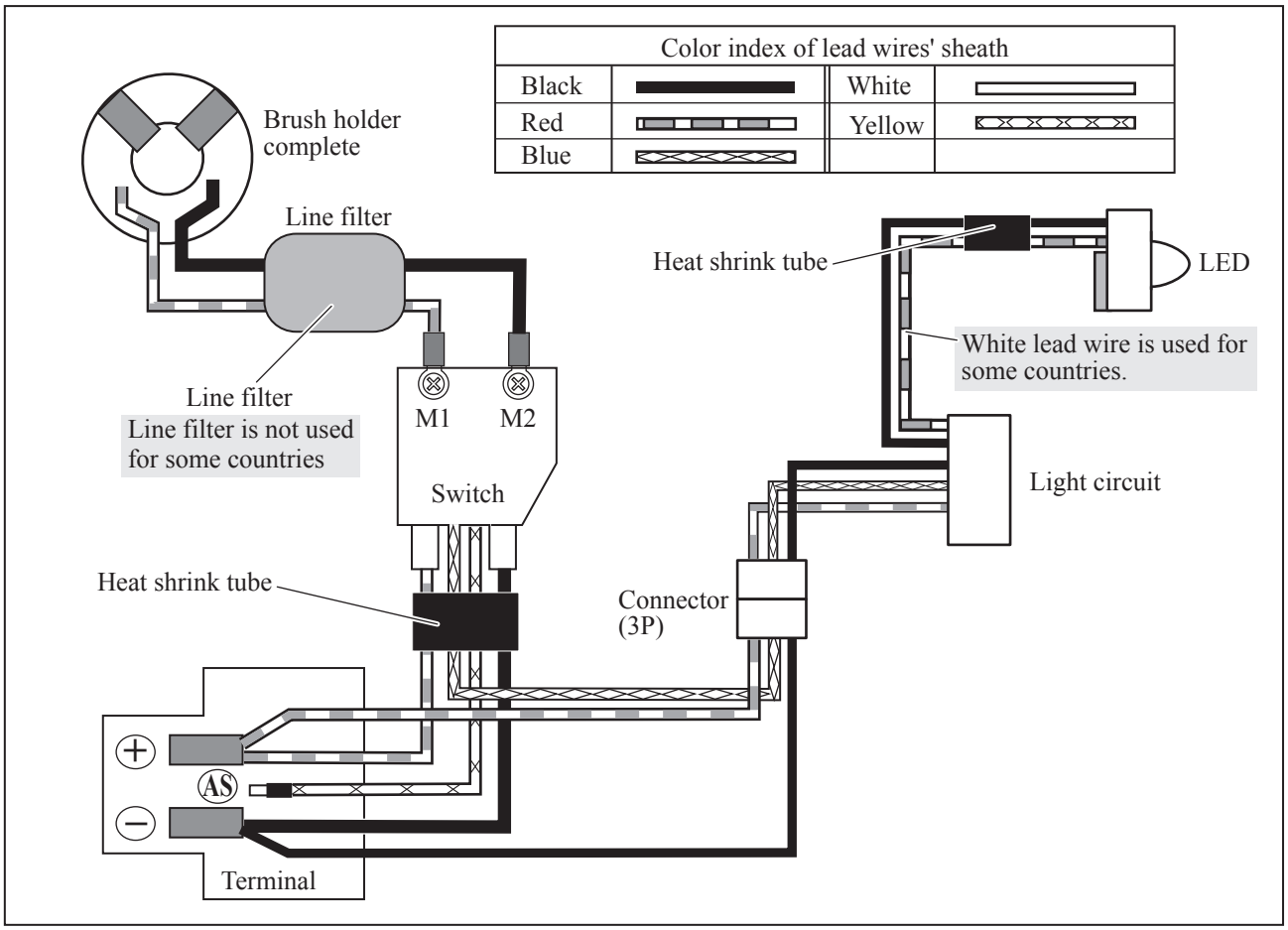


ASSEMBLING

Reverse the disassembling step.

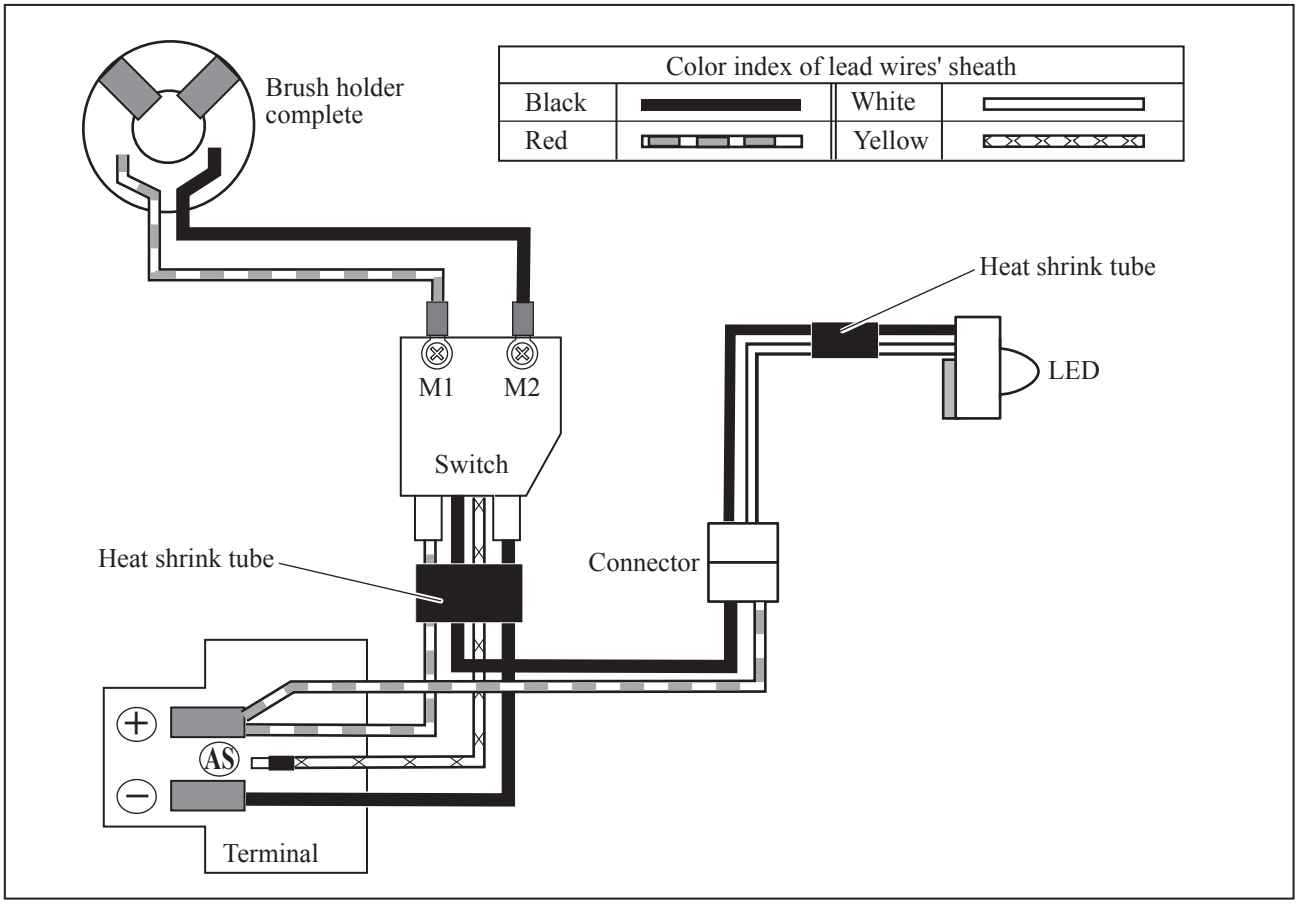
Circuit diagram

Fig. D-1 (Specifications)



Circuit diagram

Fig. D-2 (Specifications for LXDT03/ LXDT04)



Wiring diagram

Fig.D-3

Lead wires of LED circuit before putting Switch into Housing set (L)

Fix Lead wires into Lead wire holders or with Rib and Boss.

Do not slack Lead wires around here. Never pinch them between Ribs/ Bosses of Housing set (L and R).
The space between Rib and Boss is allowed to use as Lead wire holder.

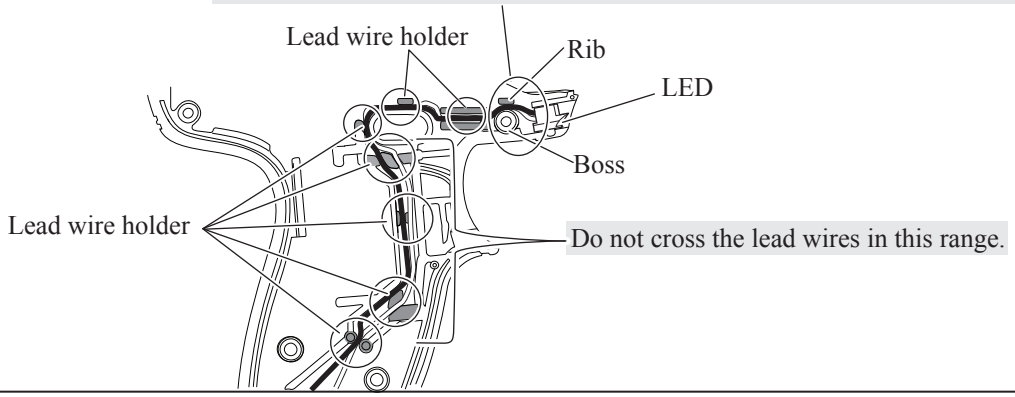
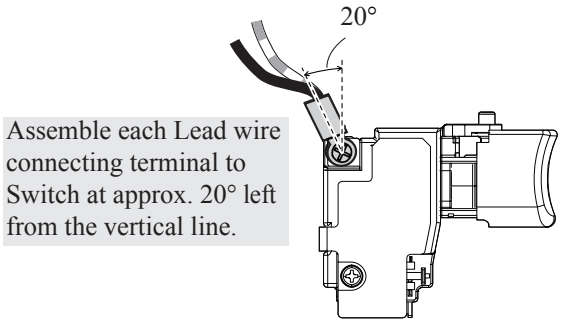


Fig.D-4

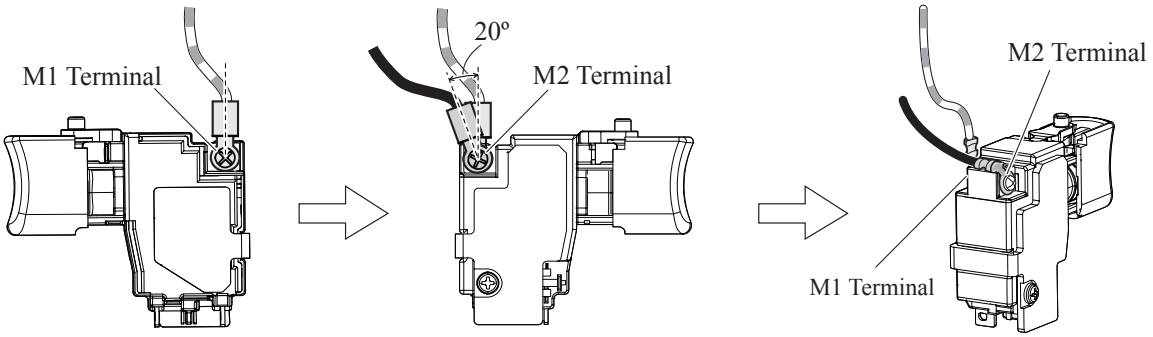
Lead wires of Brush holder complete to Switch

Specifications without Line filter



Assemble each Lead wire connecting terminal to Switch at approx. 20° left from the vertical line.

Specifications with Line filter



Assemble Lead wire (red) with M1 terminal to Switch vertically.

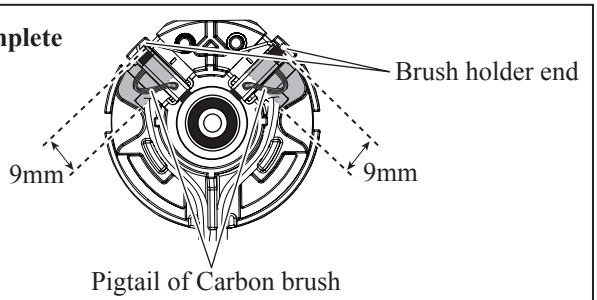
Assemble Lead wire (black) with M2 terminal to Switch at approx. 20° left from the vertical line.

Fully bend M2 terminal of Lead wire (black) to reserve the space for Line filter.

Fig.D-5

Pigtails on Brush holder complete

Pigtails of Carbon brushes have to be put in the areas designated in gray color without being projected when Brush holder complete is set in place.



Wiring diagram

Fig.D-6 (Specifications with Line filter)

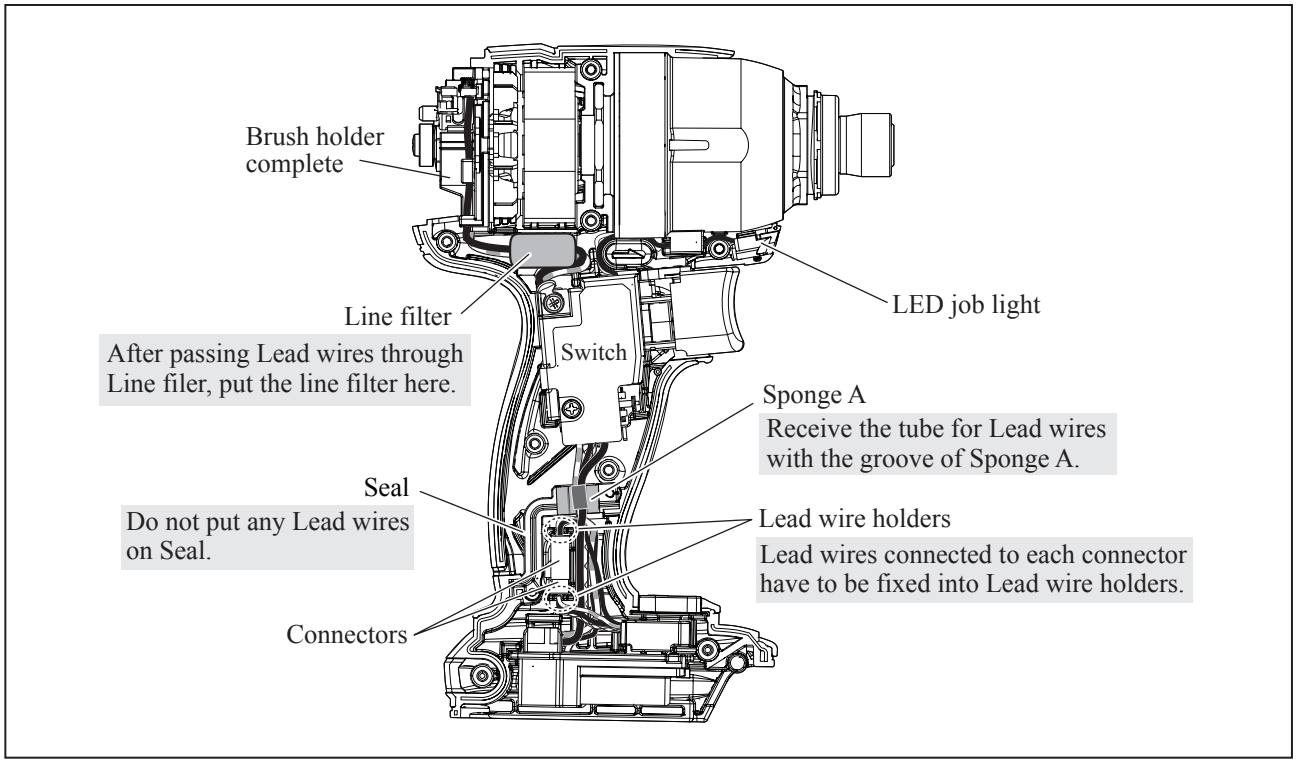
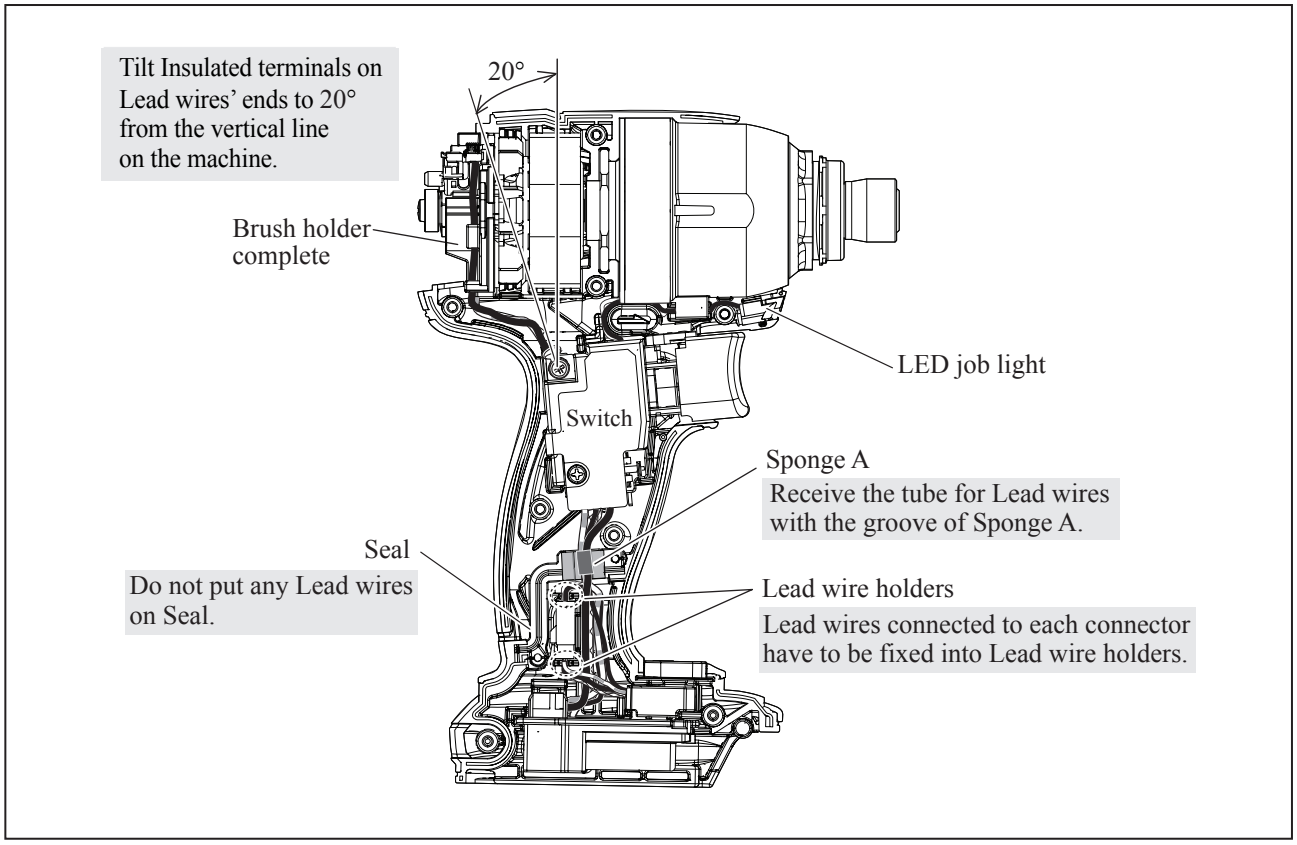


Fig.D-7 (Specifications without Line filter)



Wiring diagram

Fig.D-8 (Specifications for LXDT03/ LXDT04)

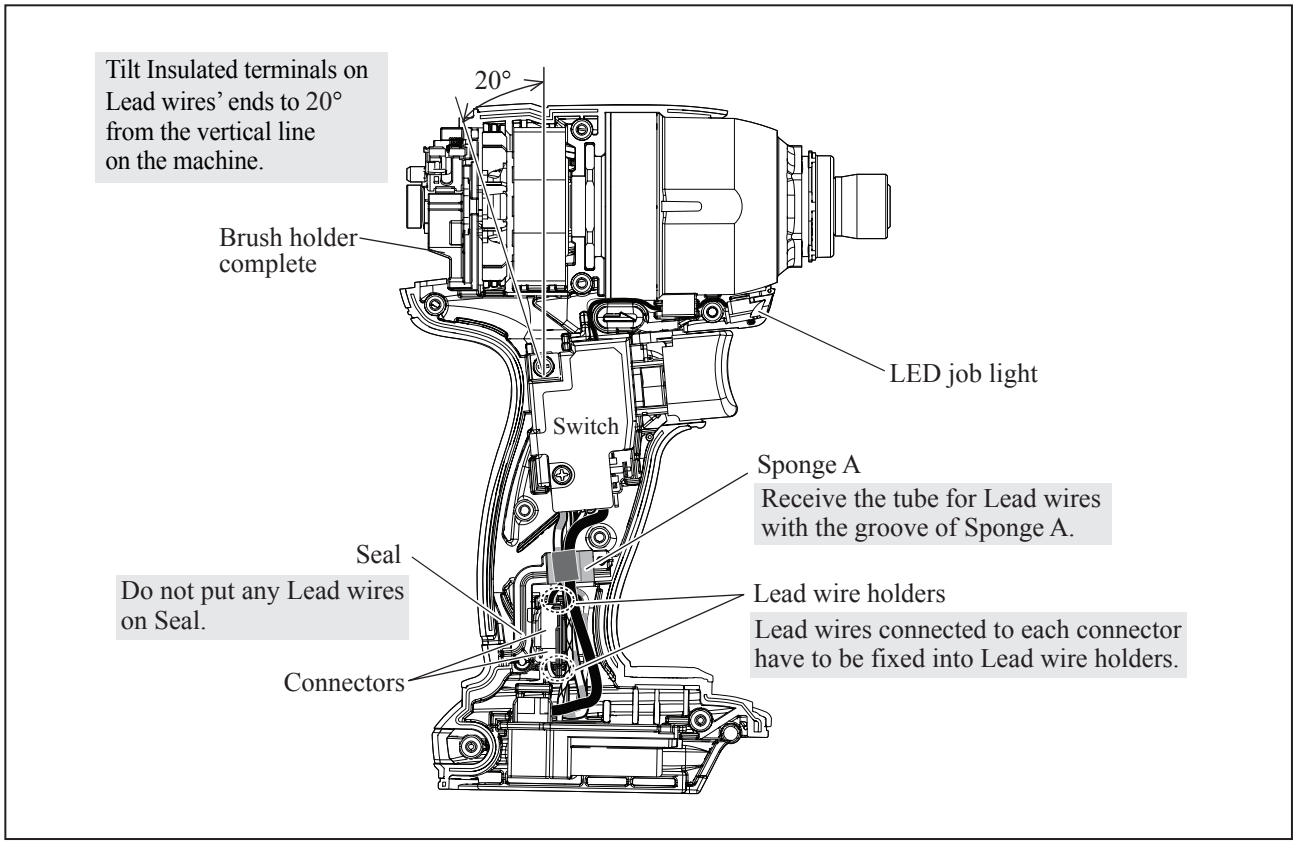
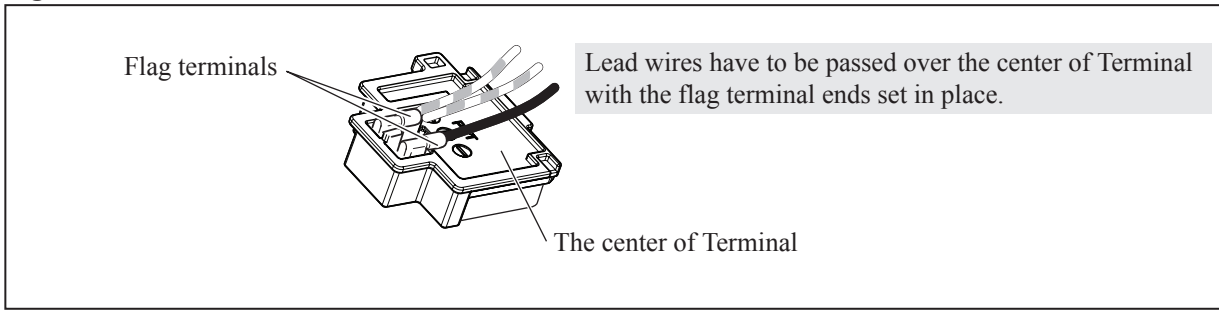



Fig.D-9