



# MODEL

# DH 15DV

## 1. REPAIR GUIDE:

Without fail, remove the EB 12 Battery from the main body before starting maintenance work. Because the tool is cordless, if the battery is left in and the switch is activated inadvertently, the motor will start rotation unexpectedly, resulting in serious hazard:

### 1-1. Precaution and Suggestions for Disassembly and Reassembly of the Main Body:

The circled number in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagrams.

#### 1-1-1. Disassembly

##### (1) Disassembly of the Chuck Section:

As shown in Fig. 1, slide the Grip ② in the direction indicated by the arrow mark, and remove the Front Cap ①. The Grip ②, Ball Holder ③ inside the Grip, Holder Spring ④, and two Steel Balls ⑨ can then be removed from the Cylinder ⑪.

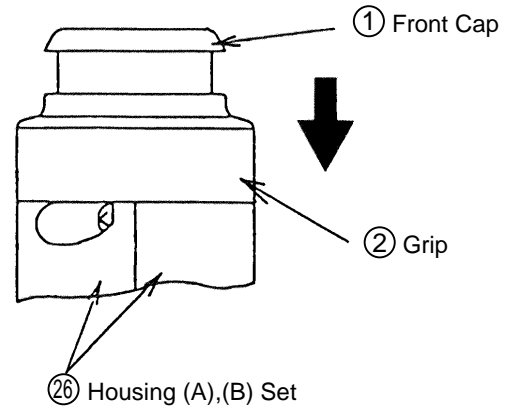


Fig. 1

##### (2) Disassembly of the Housing:

After removing the chuck section, loosen and remove the nine D4 x 20 Tapping Screws (Black) ②⑧ and the two D4 x 14 Tapping Screws ②⑦ which fix the main body. Then, separate the Housing (A) (B) Set ②⑥ by removing Housing (B) from Housing (A).

##### (3) Disassembly of the Hammering Mechanism Section:

When the Cylinder ⑪ and the Piton ②① are removed from Housing (A) in a single body, the arm of the Reciprocation Bearing ③⑤ will be extracted from the Piston ②①. Then extract Piston ②① from the Cylinder ⑪, and with a screwdriver or slender rod push the Second Hammer ①⑥ out through the hole in the tip end of the Cylinder ⑪ to disconnect the Striker ①⑨ retained by O-Ring (A) ①⑧. Pull out the First Gear ③⑦ without the bearing from the Second pinion ③①. Then remove the Collar ③⑥ and the Reciprocating Bearing ③⑤. Next, remove the Clutch ③③ toward the pinion side at the top of the Second Pinion ③①, and remove the O-Ring ③④. The Clutch ③③ and Clutch Spring ③② can then be removed from the Second Pinion ③①. remove the Retaining Ring for D14 Shaft ④④ which fixes the Change Lever ④① on the inner side of Housing (A), and extract the Change Lever ④① from Housing (A). Be very careful not to lose the D3.97 Steel Ball ④②.

##### (4) Disassembly of the Cylinder and Second Gear (Slip Mechanism Section):

Extract the Retaining Ring ⑤ from the Cylinder ⑪. Pull the Oil Seal ⑥ off of the Cylinder ⑪. Extract the Retaining Ring for D20 Shaft ⑦, and remove the 6904CM Ball Bearing ⑧ from the Cylinder ⑪ with a bearing puller. Be very careful not to lose the four D5.556 Steel Balls ⑩. Gear ⑫, Spring (A) ⑬, and Washer (A) ⑭ can then be removed from the Cylinder ⑪. Extract O-Ring (D) ①⑧ from deep within the Cylinder ⑪, and remove the Second Hammer ①⑥ from the Cylinder ⑪. [O-Ring (D) can be easily removed by using a Bozan Electric Tool H-75 Spring Hook to pull it out from the outside.] To prevent idle hammering, be sure to replace O-Ring (D) ①⑧ whenever the unit is disassembled.

##### (5) Disassembly of the Motor, Switch and Terminals:

After Housing (B) has been removed, the Motor Ass'y ②⑤, Switch ④⑤, and Terminals ⑤① and ⑤② can be taken out. To disassemble the removed Motor Ass'y ②⑤, Switch ④⑤, and Terminals ⑤① and ⑤②, carefully read the following step.

With a soldering iron, heat the leadwires (red and black) of the Motor Ass'y (25) and leadwires of the Terminals (50) (brown) and (52) (blue), and disconnect them from the Switch. At this time, be very careful not to overheat the Switch, as this could cause malfunction. Then remove the two D4 x 10 Tapping Screws (27) which fix the Terminals (50) and (52). Please note that the Model DH 15DV utilizes silver plating to prevent heat generation at the terminals caused by vibration and current conduction. If the motor must be replaced, the terminals have also reached the end of their effective service life. Accordingly, if the Motor Ass'y (25) is replaced, also replace the Terminals (50) and (52).

#### (6) Removal of the Rubber Seals:

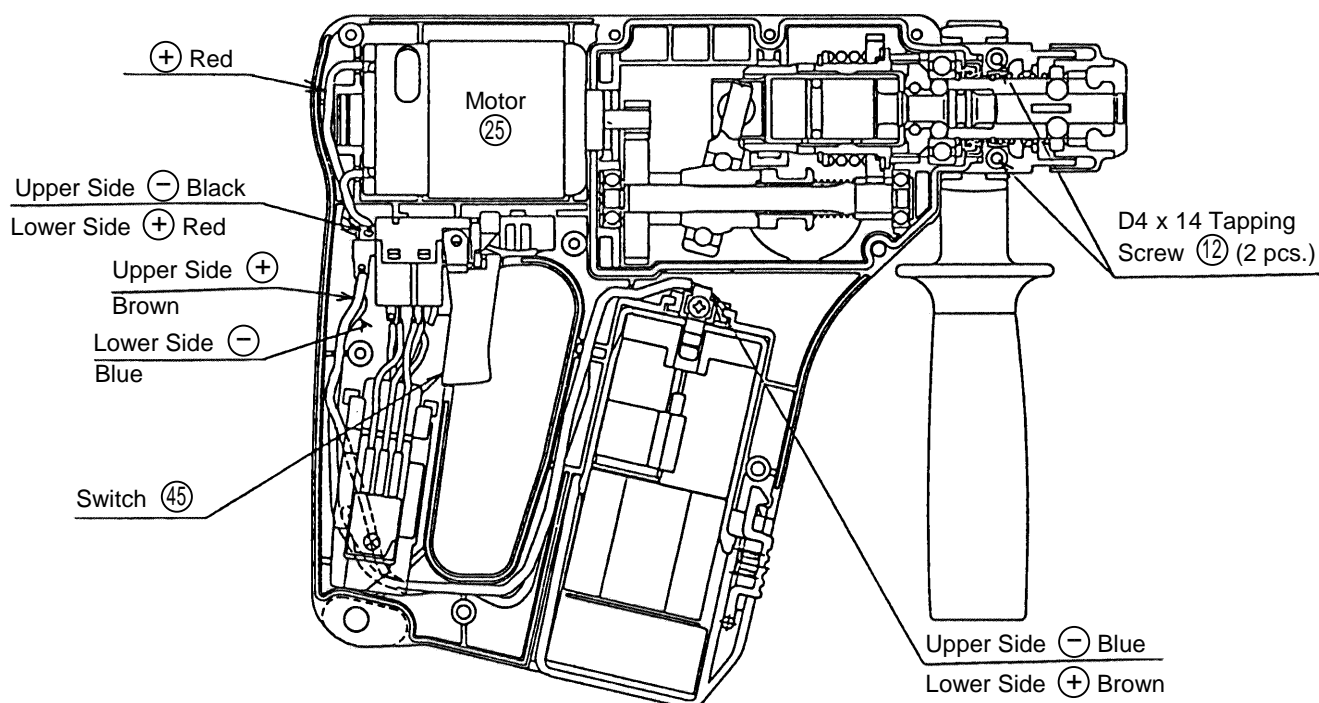
Carefully remove Rubber Seal (A) (46) and Rubber Seal (B) (47) fitted into Housings (A) and (B) by prying them out with a thin, slender screwdriver or similar tool from their inner sides. Be very careful not to damage the rubber seals, as this could cause grease leakage.

#### 1-1-2. Reassembly:

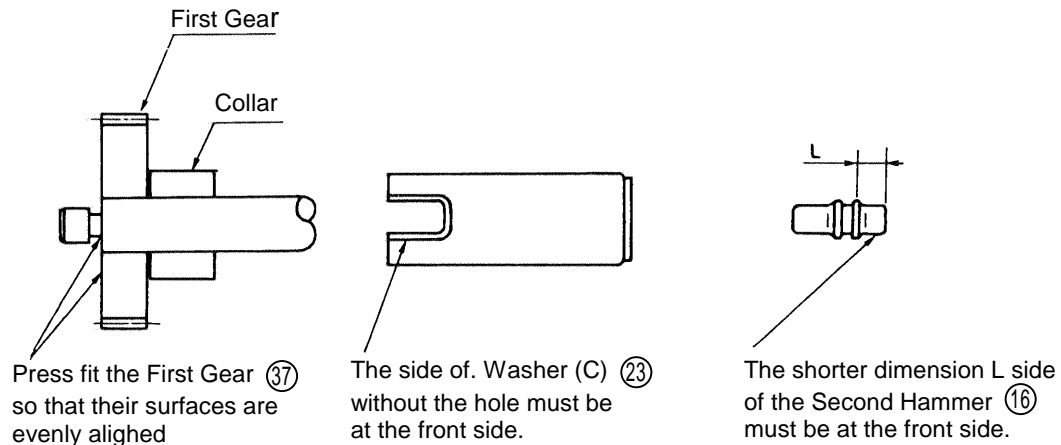
Reassembly can be accomplished by following the disassembly procedures in reverse. However, particular attention should be given the following points.

(1) Refer to Fig. 2 for wiring arrangements.

(2) When installing the Terminal Piece (51) and Motor Ass'y (25) into Housing (A), be very careful not to mistake their positive and negative polarities (see Fig. 2). As the blue and brown leadwires cross between the terminals, carefully ensure they are properly connected as illustrated.



**Fig. 2 Wiring Arrangement and Part Locations**



**Fig. 3 Installation Direction of Various Parts**

- (3) When installing Washer (C) (23) and the Second Hammer (16), be very careful to ensure they are installed in the proper direction (see Fig. 3).
- (4) When pressure fitting the First the Gear (37), ensure that its surface is flush with the surface of the Second Pinion (31). At this time also check to ensure that there is a clearance between the Collar (36) and the First Gear (37) to allow the Collar to rotate (see Fig. 3).
- (5) During reassembly, coat JF-315 grease on the following places. Also insert 30g of JF-375 grease around the Reciprocating Bearing (35).  
The gear teeth of the pinion on the motor, the gear teeth of the First Gear (37), the teen of the Second Pinion (31), the sliding portions of the Clutch (33) and the Reciprocating Bearing (35), the outer circumference of the Second Hammer (16), O-Ring (B) (17) mounted on the Second Hammer (16), the outer circumference of the Piston (21), the outer circumference of the Striker (19), the O-Ring (20) mounted on the Striker (19), the gear teeth and claw portions of the Second Gear (12), the inner surface of the Metal (24), the lip portion of the Oil Seal (6), the outer circumference and hole portion of the Piston Pin (22), the pin portion thin portion and O-Ring of the Change Lever (40), the outer circumference of the groove on the Clutch, the inner surface of the Cylinder (11), and the O-Ring (43). Also, coat NPC SEP-3A when assembling the Steel Balls (9) (10) and (42).
- (6) When installing the two D4 x 14 Tapping Screws (Class 2) (27), be very careful not to install the D4 x 20 Tapping Screws (W/Flange) (28) (black color) by mistake. Their positions are clearly designated (see Fig. 2).
- (7) Tightening Torques:  
Tighten screws to the designated torque.

D4 x 10 Tapping Screws (49)	}	1.47 - 2.45 N·m
D4 x 14 Tapping Screws (27)		15 - 25 kgf·cm
D4 x 20 Tapping Screws (28)		13 - 22 in-lbs
- (8) On completion of reassembly, confirm without fail that the rotation direction conforms to the push button setting indications. When the push button is set to the (R) side, rotation direction must be clockwise when viewed from the rear (handle) end of the tool.

## **1-2. Precautions in Disassembly and Reassembly of the Charger:**

Please refer to Technical Data and Service Manual for Model UC 12Y or UC 12YA for precautions on disassembly and reassembly of the UC 12Y or UC 12YA Charger.