



# MODELS

# DN 7DT/DN 7DV

## 1. REPAIR GUIDE:

Without fail, remove the Type EB 7 Battery from the main body of the tool before attempting repair work. Because the tool is cordless, if the battery is left in and the switch is activated inadvertently, the motor will start rotating unexpectedly and could cause serious injury.

### 1-1. Directions and Precautions for Disassembly and Reassembly of the Main Body:

The circled numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram for the Model DN 7DT. The numbers in squares are for the Model DN 7DV.

#### 1-1-1. Disassembly:

- (1) Removal of the Hook [21] [23] :

Place your fingers inside the Hook [21] [23] , and expand it outward enough so that it can be removed from the main body.

- (2) Disassembly of Housing (B):

Remove the six D3 x 16 Tapping Screws [13] [13] which fix the main body. Then grasp the lower portions of Housing (A) and Housing (B) where the battery is inserted, and gently separate them.

- (3) Removal of Built-In Parts:

After Housing (B) has been removed, the parts inside may be removed either together in an assembled state, or separated and removed individually.

- (4) Disassembly of Drill Chuck:

As illustrated in Fig. 1, secure a J-167 Spindle Lock Jig (Special Repair Tool, Code No. 970948) in a vise, and insert the spline portion of the Spindle [3] [3] into the spline hole of the J-167 Spindle Lock Jig. Next, fully open the jaws of the Drill Chuck [2] [2] , and remove the M5 x 17 Flat Hd. Screw [1] [1] by turning it clockwise with a slotted screwdriver. (Carefully remember that the M5 x 17 Flat Hd. Screw is left-hand threaded, and must be loosened by turning it clockwise.)

Finally, as illustrated in Fig. 1, clamp an M10 Hex. Bar Wrench in the Drill Chuck [2] [2] , and turn it counterclockwise to loosen and remove the Drill Chuck.

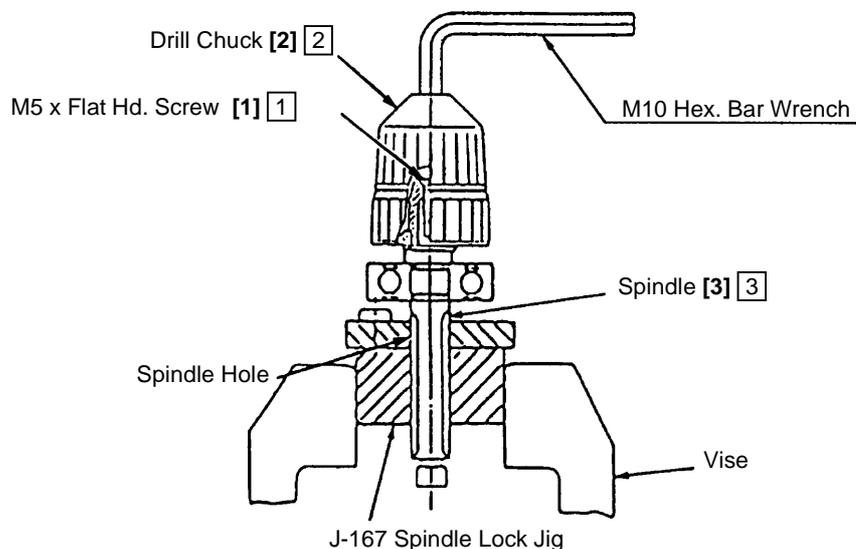


Fig. 1

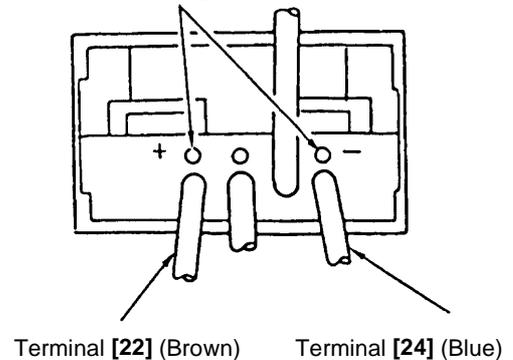
(5) Disassembly of Electrical Components:

(a) Model DN 7DT:

First, remove the assembled Motor [8], Drill Chuck [2], and related parts from Housing (A), as described in paragraph (3), above. Then, separate the Motor [8], Switch [20] and Terminals [22] [24] by following the procedures described and illustrated below.

Disconnect the Internal Wires (B) [9] [10] from the Motor [8] by melting their soldered connections with a soldering iron. The Internal Wires (B) [9] [10] and the Terminals [22] [24] can be extracted from the terminals of the Switch [20] by inserting a J-86 Pin (Special Repair Tool, Code No. 970828) into the holes provided on the Switch, as illustrated in Fig. 2, and bending the leaf springs away from the inner walls of the terminals of the Switch so that the leadwires can be gently pulled out by hand. However, when extracting the leadwires, special attention must be given to the following points:

Holes for inserting the J-86 Pin



**Fig. 2**

- \* Extract the leadwires with the J-86 Pin by gently and gradually bending back the leaf springs.
- \* Be very careful not to bend the leaf springs excessively. If bent excessively, they may become permanently deformed and lose their resiliency. In this case, replace the switch with a new one.

(b) Model DN 7DV:

First, remove the assembled Motor [8], Drill Chuck [2], and related parts from Housing (A), as described in paragraph (3), above. Then, separate the Motor [8], DC-Speed Control Switch [21] and Fin [24] by following the procedures described below.

Disconnect the Internal Wires (B) [9] [10] and the Terminals [25] [27] from the DC-Speed Control Switch [21] by melting their soldered connections with a soldering iron.

Remove the M3 x 5 Machine Screw [20] which fixes the FET (Field Effect Transistor) of the DC-Speed Control Switch [21] to the Fin [24], and remove the Fin [24].

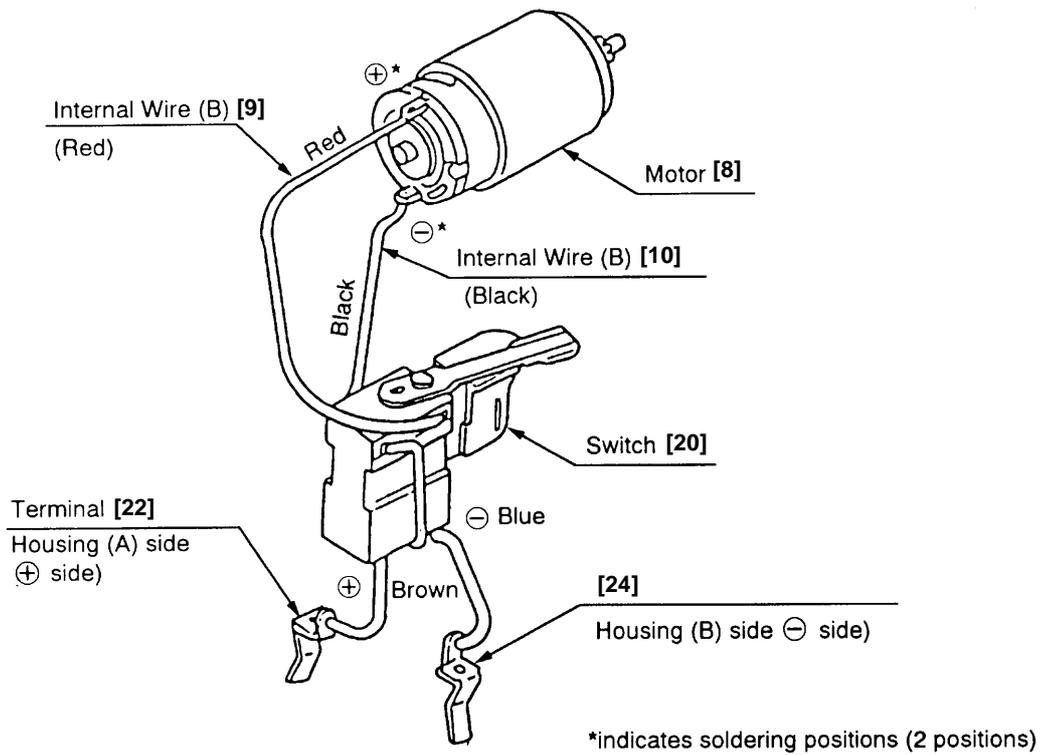
Disconnect the Internal Wires (B) [9] (Red) and [10] (Black) from the Motor [8] by melting their soldered connections with a soldering iron.

**1-1-2. Reassembly:**

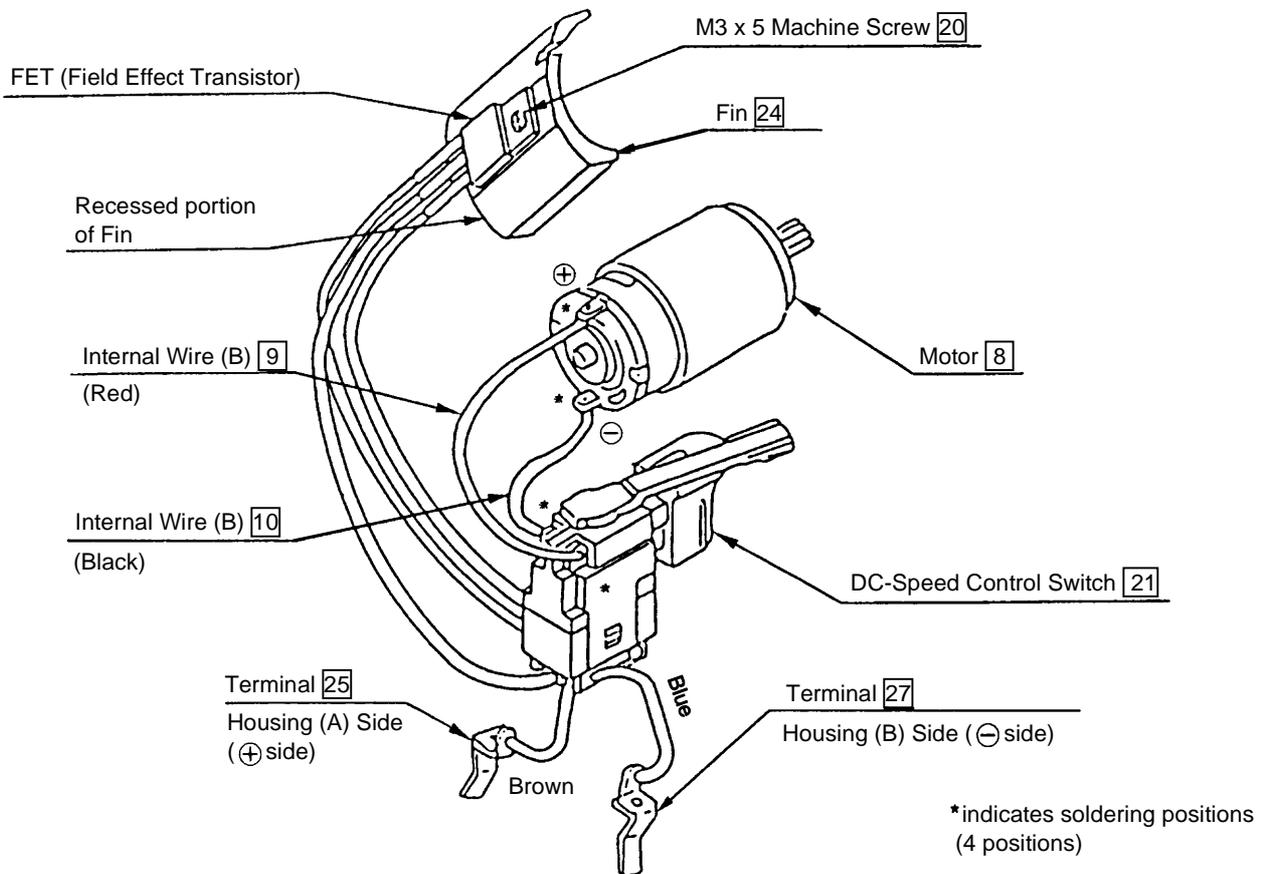
Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following points. Please note that paragraphs (1) and (2) are applicable to the Model DN 7DT only, paragraphs (3) - (5) are applicable to the Model DN 7DV only, and the remaining paragraphs are applicable to both models.

- (1) Ensure that the wiring of the Model DN 7DT is connected in accordance with the internal wire arrangement illustrated in Fig. 3.
- (2) When inserting the internal wires into the terminals of the Switch [20], carefully confirm that the leaf spring connector for each wire is not excessively deformed. On completion of internal wire connections, ensure that they cannot be easily pulled out of the Switch when gently pulled by hand.
- (3) Ensure that the wiring of the Model DN 7DV is connected in accordance with the leadwire arrangement illustrated in Fig. 4.

- (4) When reassembling the Fin 24 to the FET of the DC-Speed Control Switch 21 , ensure that the Fin mounting direction is correct as indicated in Fig. 4. Also, ensure that the M3 x 5 Machine Screw 20 is tightened to rated torque: 0.3 - 0.4 Nm (3 - 4 kgfcm, 0.22 - 0.29 ft-lb)
- (5) Be very careful not to bend or otherwise damage the base portions of the internal wires of the FET which are connected to the DC-Speed Control Switch 21 .

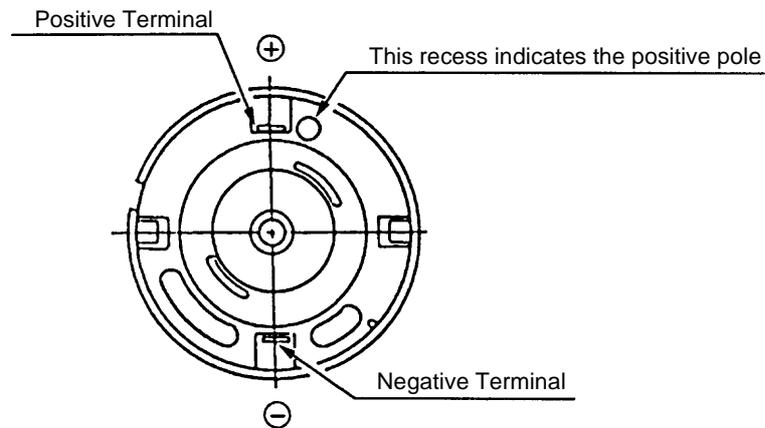


**Fig. 3 Internal Wire Arrangement of the Model DN 7DT**



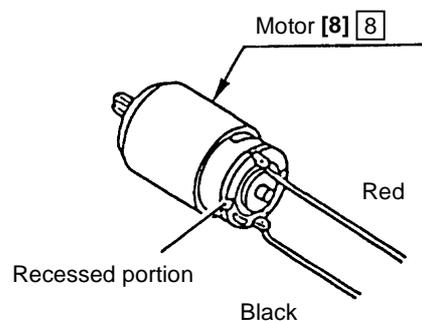
**Fig. 4 Internal Wire Arrangement of the Model DN 7DV**

- (6) When soldering the Internal Wires (B) [9] [9] (Red) and [10] [10] (Black) onto the Motor [8] [8] , be very careful to ensure correct Motor polarity. As illustrated in Fig. 5, there is a circular recessed mark close to the terminal which indicates the positive pole.



**Fig. 5**

- (7) When installing the Terminal [22] [25] (Brown) in Housing (A) [18] [18] , pay particular attention to polarity. (See Fig. 3 or Fig. 4)
- (8) When installing the Shift Knob [11] [11] , ensure that the Shift Spring [19] [19] , is properly installed in the Shift Spring chamber (recessed portion) of Housing (A) [18] [18] .
- (9) Ensure that the Motor [8] [8] is installed so that its recessed portion is properly aligned and engaged with the matching chock in the Housing (A) (B) Set [18] [18] . (See Fig. 6)



**Fig. 6**

- (10) Tighten each fastening screw with the appropriate tightening torque indicated below.
- \* D3 x 16 Tapping Screws [13] [13] .....0.79 - 1.2 Nm (8 - 12 kgfcm, 0.58 - 0.87 ft-lb)
  - \* M3 x 5 Machine Screw [20] .....0.29 - 0.39 Nm (3 - 4 kgfcm, 0.22 - 0.29 ft-lb)
  - \* M5 x 17 Flat Hd. Screw [1] [1] .....2.9 - 3.6 Nm (30 - 37 kgfcm, 2.2 - 2.7 ft-lb)
  - \* Drill Chuck [2] [2] .....12.8 - 16.7 Nm (130 - 170 kgfcm, 9.4 - 12.3 ft-lb)
- (11) Liberally coat grease (Hitachi Motor Grease, Code No. 930035, is recommended) on all sliding and rotating portions, and on the gear teeth.
- (12) On completion of reassembly, confirm without fail that the Drill Chuck [2] [2] rotation direction conforms to the settings of the change lever on the Switch [20] [21] . For example, when the change lever is set to the "R" position, the Drill must rotate clockwise when viewed from the tail of the tool.

## 1-2 Precautions on Disassembly and Reassembly of the Model UC 7SB Charger:

For details concerning the disassembly, reassembly and precautions in use of the Model UC 7SB Charger, please refer to the Technical Data and Service Manual for the Model UC 7SB Charger.

## 2.STANDARD REPAIR TIME (UNIT) SCHEDULES

Model	Variable		10	20	30	40	50	60 min.
	Fixed							
DN 7DT DN 7DV		Work Flow						
	General Assembly	Hock		Housing (A) Housing (B) Motor Switch				
	Fixed Costs							
	Hock							
	: 0 minutes							
	Others							
	: 20 minutes			Second Pinion Spindle Final Gear BB (6000VV) Metal D4 x 6				