



## MODEL W 6VB2, W 8VB

### 1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[BOLD]** numbers in the descriptions below correspond to the item numbers in the Parts List and the exploded assembly diagram.

#### 1-1. Disassembly

##### A. Disassembly of the parts within the handle

###### (1) Removal of the Handle Cover

Loosen the three Tapping Screws D4 x 20 **[31]**, and remove the Handle Cover **[29]**.

###### (2) Removal of the Carbon Brushes

With a small flat-blade screwdriver, lift up on the Brush Holder **[36]**, and pull it out slightly.

Next, pull out the terminal portion which connects the two Carbon Brushes **[35]** and the lead wires from the Speed Control Switch **[32]**. When pulling the terminal, it is best to push the Carbon Brushes fully into the Brush Holder.

###### (3) Removal of the Cord

Loosen the two Tapping Screws D4 x 16 **[44]** which retain the Cord Clip **[45]**, and remove the Cord **[48]** together with the Cord Armor **[46]**.

##### B. Removal of the armature and stator

###### (1) Removal of the Armature

Remove the three Tapping Screws D4 x 40 **[9]** from the Gear Cover Ass'y **[10]**, and remove the Inner Cover Ass'y **[23]** from the Housing **[29]**. The Armature **[25]** can then be taken out.

###### (2) Removal of the Stator

First, remove the Fan Guide **[26]** from the inside of the Housing.

Then, loosen the two Tapping Screws D4 x 50 **[27]**, and lightly tap the end surface of the Housing **[29]** with a wooden hammer to loosen and remove the Stator **[28]**.

### C. Removal of the socket (B) ass'y, gear ass'y and second pinion ass'y

- (1) Remove the Gear Cover Ass'y [10] and the Inner Cover Ass'y [23], then the Socket (B) Ass'y [12], Gear Ass'y [15] and Second Pinion Ass'y [20] can be removed. If the Gear Ass'y [15] is hard to remove, lightly tap the end surface of the Inner Cover Ass'y [23] with a wood hammer. If the Second Pinion Ass'y [20] is hard to remove, lightly tap the end surface of the Gear Cover Ass'y [10] with a wood hammer. Be careful not to lose the Spring [14] on the outer circumference of the Gear Shaft [16] and the Washer [22] on the outer circumference of the Second Pinion Ass'y [20].

As shown in Fig. 1, insert two flat-blade screwdrivers between the Inner Cover Ass'y [23] and Gear Ass'y [15] at each side and remove the Gear Ass'y [15], Gear Shaft [16] and Ball Bearing [17] from the Inner Cover Ass'y as a single unit.

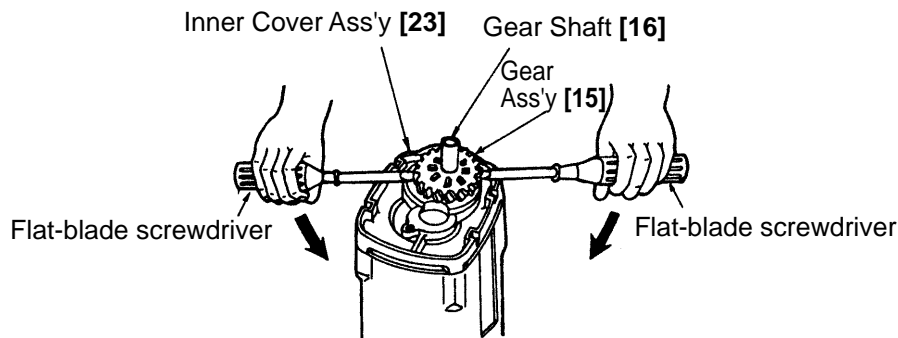


Fig. 1

### 1-2. Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

#### (1) Lubrication

Grease: Hitachi Motor Grease (Code No. 930035)

Application:

- (a) Fill a moderate amount of grease in the Gear Cover Ass'y [10]. (If the Gear Cover Ass'y is new, fill it with 7 g of grease.)
- (b) Outer circumference and clutch of the Socket (B) Ass'y [12]
- (c) Teeth and clutch of the Gear Ass'y [15]
- (d) Outer circumference of the Gear Shaft [16]
- (e) Teeth and outer circumference of the Second Pinion Ass'y [20]
- (f) Teeth of the First Gear [21]
- (g) Pinion of the Armature [25]

#### (2) Tightening torque

- Handle cover retaining screws ..... 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Cord clip retaining screws ..... 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Gear cover retaining screws ..... 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Stator retaining screws ..... 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Speed control switch retaining screws ..... 4 – 8 kg•cm (3.5 – 6.9 lbs-in)

### 1-3. Wiring Diagrams

#### (1) Products with noise suppressor

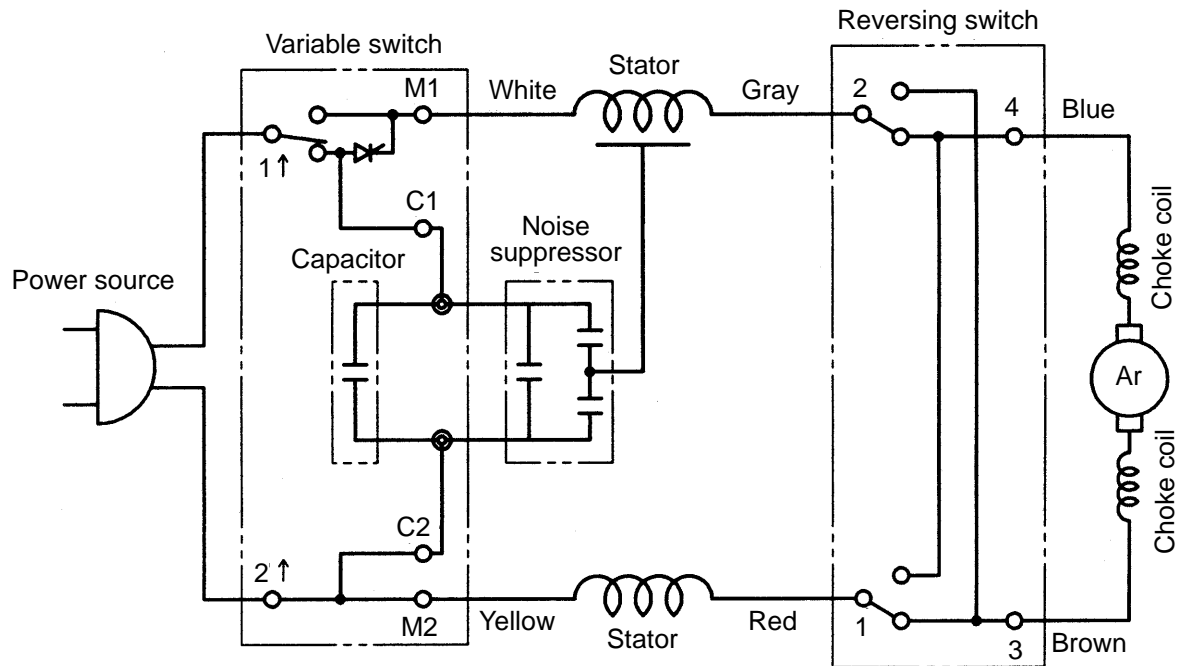


Fig. 2

#### (2) Products without noise suppressor

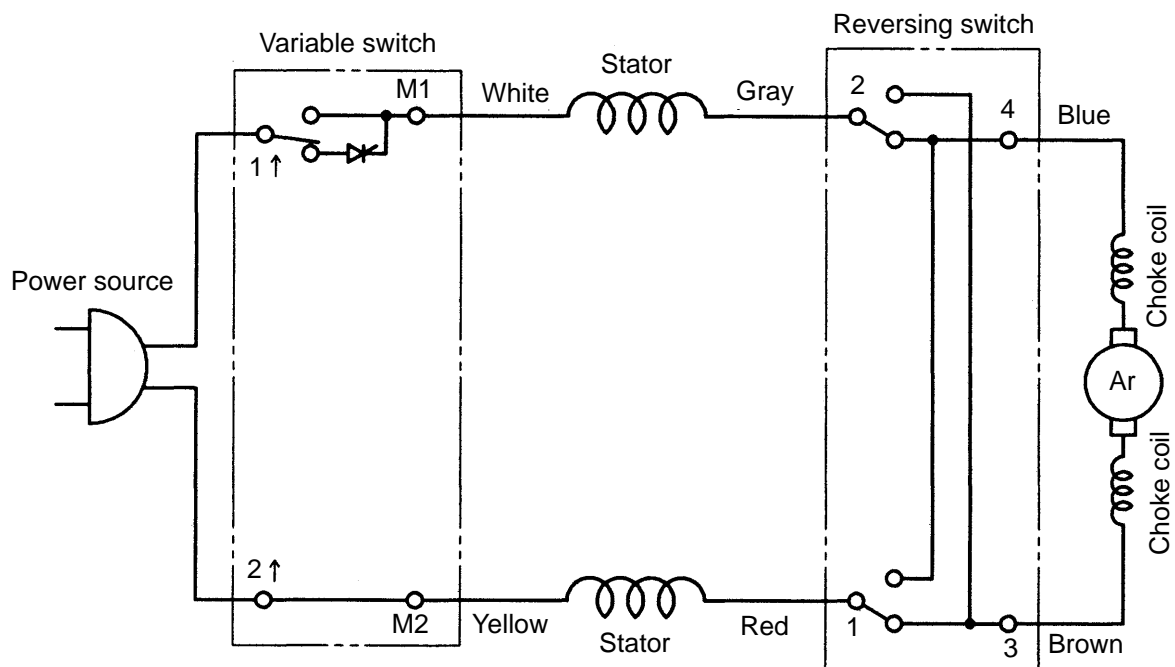


Fig. 3

## 1-4. Internal Wire Arrangement and Wiring Work

### A. Internal wire arrangement

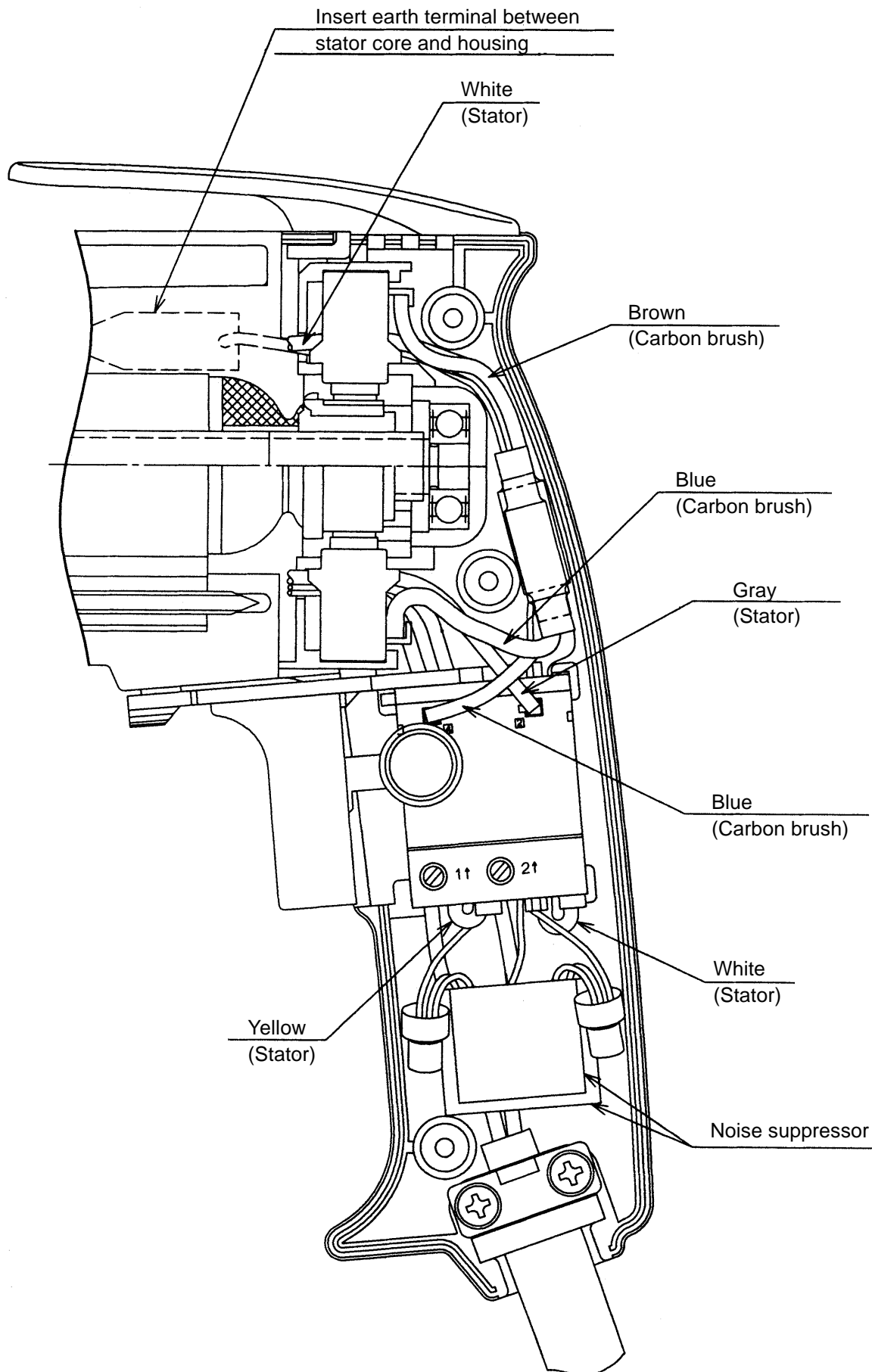


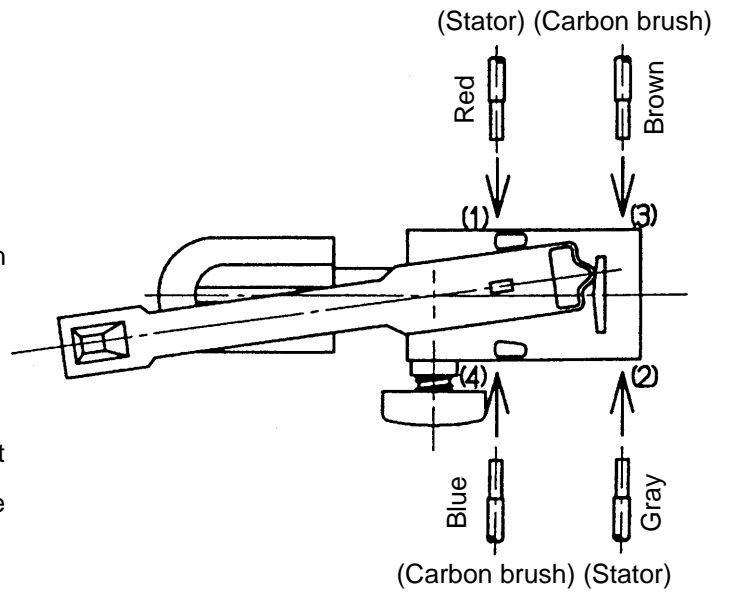
Fig. 4 Schematic diagram

## B. Additional wiring work

General internal wiring can be accomplished by referring to paragraph 1-3 and 1-4-A. The followings are special instructions for switch connection.

### (1) Wiring of reversing switch

Insert the lead wire (red) coming from the stator into the terminal (1) of the reversing switch, and the lead wire (gray) into the terminal (2) as shown in Fig. 5. Insert the lead wire (brown) coming from the carbon brush into the terminal (3) and the lead wire (blue) into the terminal (4). After insertion, pull each lead wire slightly to check that the lead wires do not come off. To disconnect the lead wires, insert a small flat-blade screwdriver into the slots near the terminals and pull out the lead wires.



**Fig. 5 Wiring of reversing switch**

(2) Wiring of variable speed control switch

Insert each cord into the terminal 1 ↑ and terminal 2 ↑ of the speed control switch as shown in Fig. 6, and tighten the screw [tightening torque:  $0.6 \pm 0.2 \text{ N}\cdot\text{m}$  ( $6 \pm 2 \text{ kgf}\cdot\text{cm}$ ,  $5.2 \pm 1.7 \text{ lbs}\cdot\text{in}$ )].

Insert the lead wire (white) coming from the stator into the terminal M1 and the lead wire (yellow) into the terminal M2. Insert each lead wire (white) coming from the noise suppressor into the terminal C1 and C2. After insertion, pull each lead wire slightly to check the lead wires do not come off. To disconnect the lead wires, insert a small flat-blade screwdriver into the slots near the terminals and pull out the lead wires.

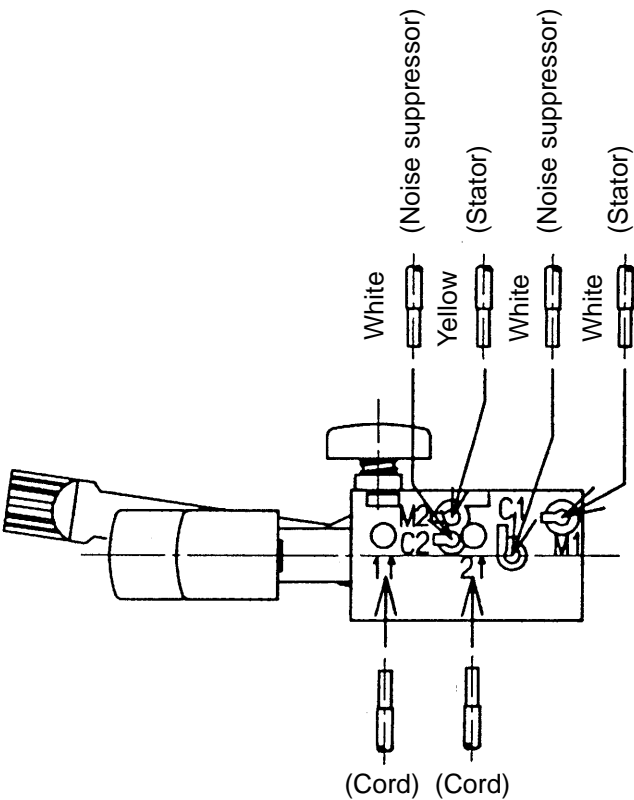


Fig. 6 Wiring of speed control switch

1-5. Insulation Tests

On completion of reassembly after repair, measure the insulation resistance and conduct the dielectric strength test.

Insulation resistance: 7 M Ω or more with DC 500 V Megohm Tester

Dielectric strength: AC 4,000 V/1 minute, with no abnormalities ..... 220 V – 240 V (and 110 V for U.K. products)  
AC 2,500 V/1 minute, with no abnormalities ..... 110 V – 127 V (except for U.K. products)

1-6. No-load Current Values

After no-load operation for 30 minutes, the no-load current value should be as follows

Voltage (V)	110	115	120	220	230	240
Current (A) max.	2.5	2.5	2.5	1.2	1.2	1.1

## 2. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Fixed	Variable	10	20	30	40	50	60 min.
W 6VB2 W 8VB		Work Flow						
		Speed control switch						
		Cord Armor		Housing.Handle				
		Cord		Cover Set				
		Carbon Brush x 2		Stator				
		General Assembly						
				Armature				
				Ball Bearing (608VV) x 2				
				Inner Cover Ass'y				
		Spring						
		Gear Ass'y						
		Gear Shaft						
		Ball Bearing (608VV) x 2						
		Second Pinion Ass'y						
		First Gear						
		Gear Cover Ass'y						
		Sub Stopper(B)	Set Ring					
		Locator (A)	Socket (B) Ass'y					
		Lock Sleeve (A)	Steel Ball D3.175					
		O-Ring (S-28)						
		Fringer (A)						
		O-Ring (F)						