

## 1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

Please pay particular attention to the following items during disassembly and reassembly.

Since the SV 8SA and the SV 12SF are of the same structure, explanation is given only on the Model SV 8SA.

The **[Bold]** numbers in the description correspond to the item numbers in the parts exploded diagram of the SV 8SA and the numbers in **<Bold>** to those in the parts exploded diagram of the SV 12SF.

### 1-1. Disassembly

#### 1-1-1. Remove the Felt Pad or the Pad [19] <19>

Remove the Felt Pad or the Pad [19] <19> by removing the four M4 x 10 Machine Screws [20] <20>.

#### 1-1-2. Remove the Base [18] <18>

Remove the Base [18] <18> together with the Paper Clips [37] <37> and the Felt [36] <36> by pulling out the Base [18] <18> in the arrow-indicated direction.

#### 1-1-3. Remove the Fan Guide [34] <34>

Remove the Fan Guide [34] <34> removing the two D4 x 20 Tapping Screws [35] <35>.

#### 1-1-4. Remove the Thrust Washer [32] <32> , the Ball Bearing 6001 DDUCM [31] <31> , the Dust Washer [30] <30> and the Balancer Fan [29] <29>

Remove the Thrust Washer [32] <32> , the Ball Bearing 6001 DDUCM [31] <31> , the Dust Washer [30] <30> and the Balancer Fan [29] <29> by removing the M4 x 12 Machine Screw [33] <33>.

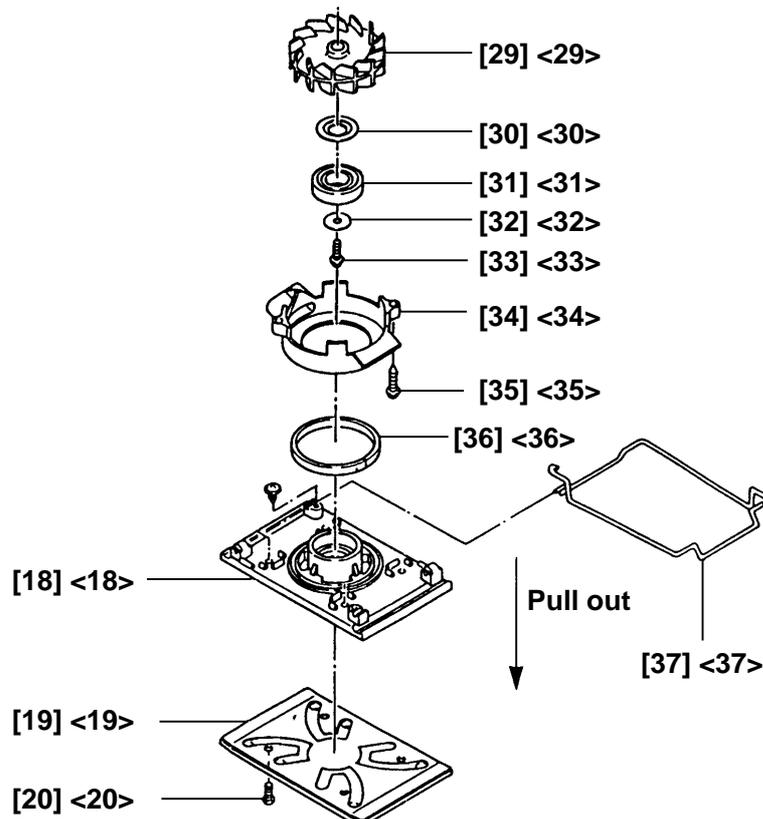


Fig. 3

### 1-1-5. Remove the Housing (B) [3] <3> and the Legs [16] <16>

After removing the Base [18] <18> and the Balancer Fan [29] <29> as indicated above, cut the Grip Tape [4] <4> along the perforations with a cutter. Then remove the four Tapping Screws with D4 Flanges [2] <2> securing the Housing (A) [12] <12> and the Housing (B) [3] <3> together, and the latter can be removed. The Legs [16] <16> can be removed by pulling them out of the Housing (A) [12] <12> or the Housing (B) [3] <3>.

### 1-1-6. Disassembly of the Armature [28] <28>, the Stators [25] <25> and Other Parts

- (1) Remove the two Carbon Brushes [15] <15> by lifting the Brush Holders [14] <14> off the Housing (A) [12] <12>.
- (2) Loosen the positive (+) terminal screw of the Slide Switch [22] <22> with a Phillips screwdriver and remove the lead wires of the Noise Suppressor [5] <5> (excl. the U.S.A.) and Cord [10] <10> and the lead wires of the Stator [25] <25>.
- (3) Loosen the negative (-) terminal screw of the Pillar Terminal [21] <21> with a flat-blade screwdriver and remove the lead wires of the Cord [10] <10> and the lead wires of the Stator [25] <25>, and the parts inside the Housing can then be removed.
- (4) With a bearing puller, pull off the two Ball Bearings 608 VVC2 [24] <24> press-fitted on both ends of the Armature [28] <28>.

## 1-2. Reassembly

Proceed as follows, paying particular attention to the items below.

### 1-2-1. Assembly of the Armature [28] <28> and the Stators [25] <25>

- (1) With a hand press, press the two Ball Bearings 608VVC2 [24] <24> until they hit against the stepped portion of the Armature Shaft.
- (2) Place the Stators [25] <25> and the Armature [28] <28> in sequence within the Housing (A) [12] <12> and make sure that the Armature [28] <28> can turn freely.

### 1-2-2. Installing the Balancer Fan [29] <29> and the Dust Washer [30] <30>

When inserting the Balancer Fan [29] <29> into the Armature Shaft, bring their flat faces into alignment. Also observe the proper direction of the Dust Washer [30] <30>. (See Fig.4.)

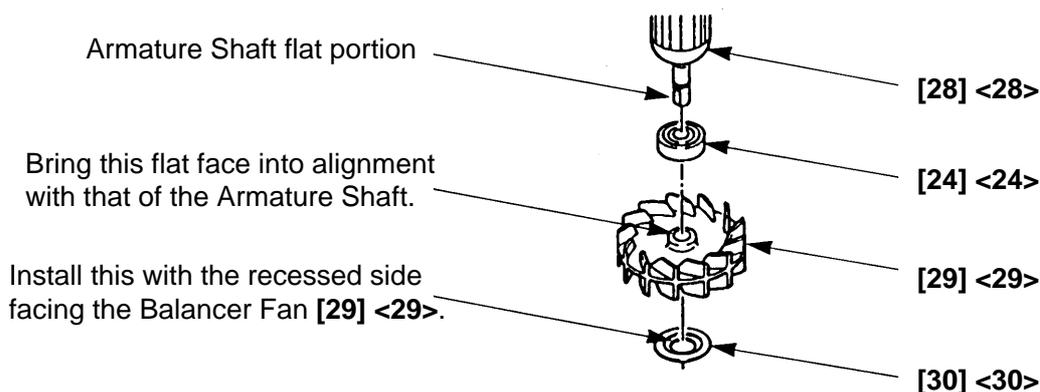
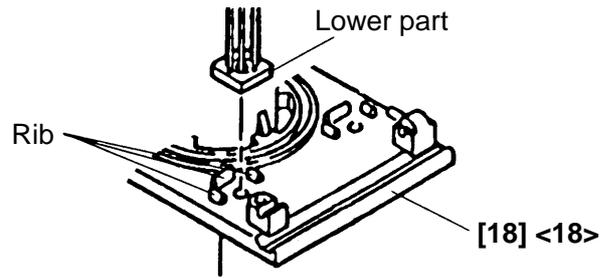


Fig.4

**1-2-3. Installing the Base [18] <18>**

Install the Legs [16] <16> so that their lower parts are fitted within the Ribs. (See Fig.5.)



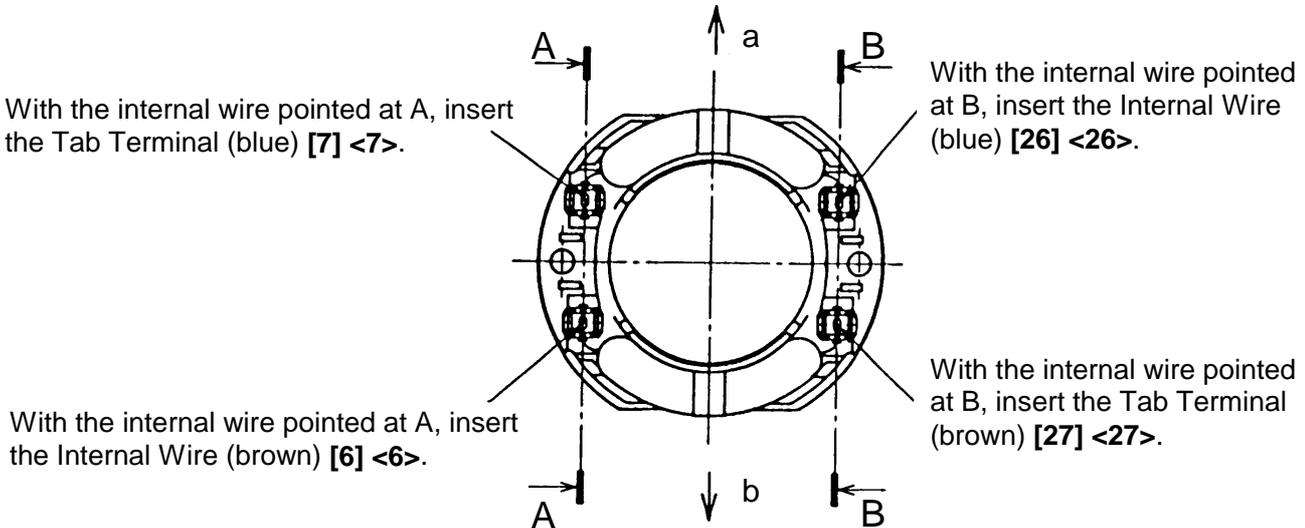
**Fig. 5**

**1-3. Screw Tightening Torque**

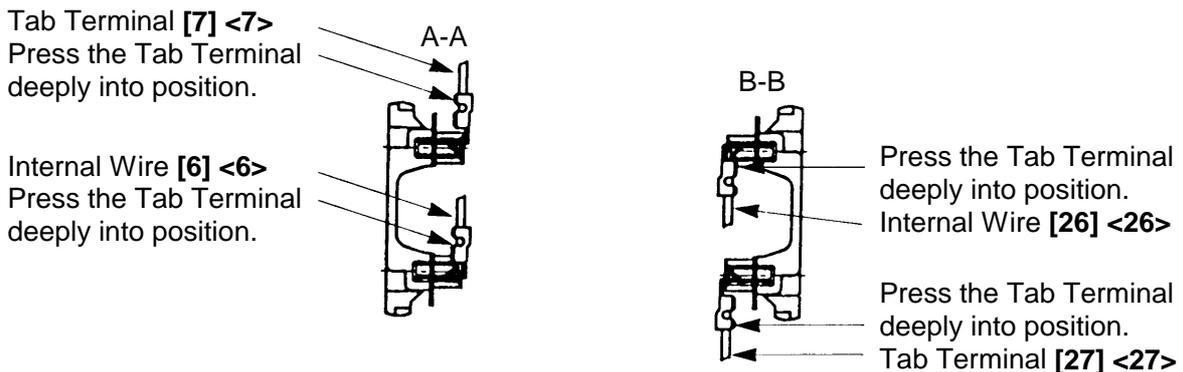
D4 x 10 Tapping Screws with Flange	}	1.96 ± 0.49 N·m (20 ± 5 kgf·cm)
D4 x 16 Tapping Screws with Flange		
D4 x 20 Tapping Screws with Flange		
D4 x 20 Tapping Screws		
M4 x 10 Machine Screws	}	1.8 ± 0.4 N·m (18 ± 4 kgf·cm)
M4 x 12 Machine Screw		
Pillar Terminals with terminal screws.....		0.39 ± 0.1 N·m (4 ± 1 kgf·cm)
Slide Switch with terminal screws .....		0.39 ± 0.1 N·m (4 ± 1 kgf·cm)

**1-4. Wiring and Connecting Diagrams**

Perform the wiring as follows.



**Fig. 6 Internal Wires Assembly Positions (View from Commutator Side)**



**Fig. 7 Inserting Direction of Internal Wires**

## Wiring Diagram with Noise Suppressor

With Noise Suppressor

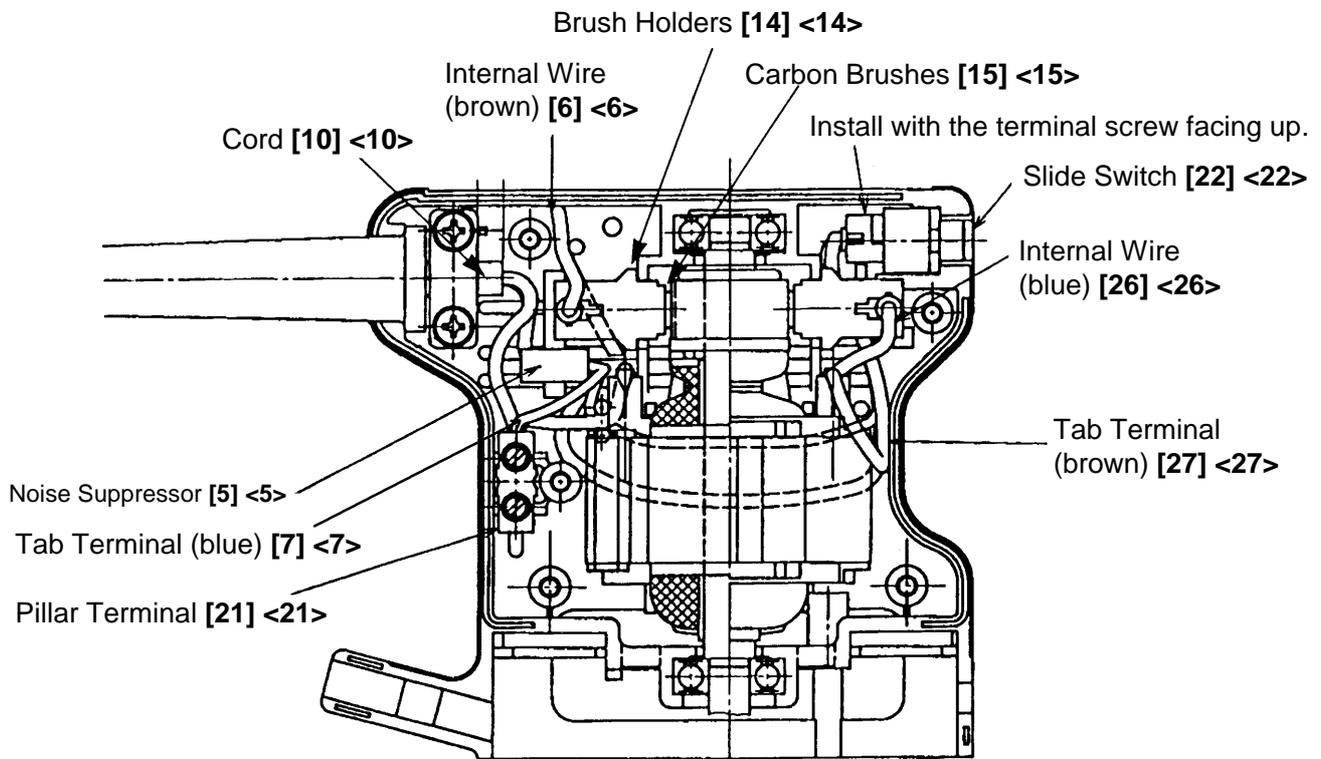


Fig. 8

Without Noise Suppressor (for the U.S.A.)

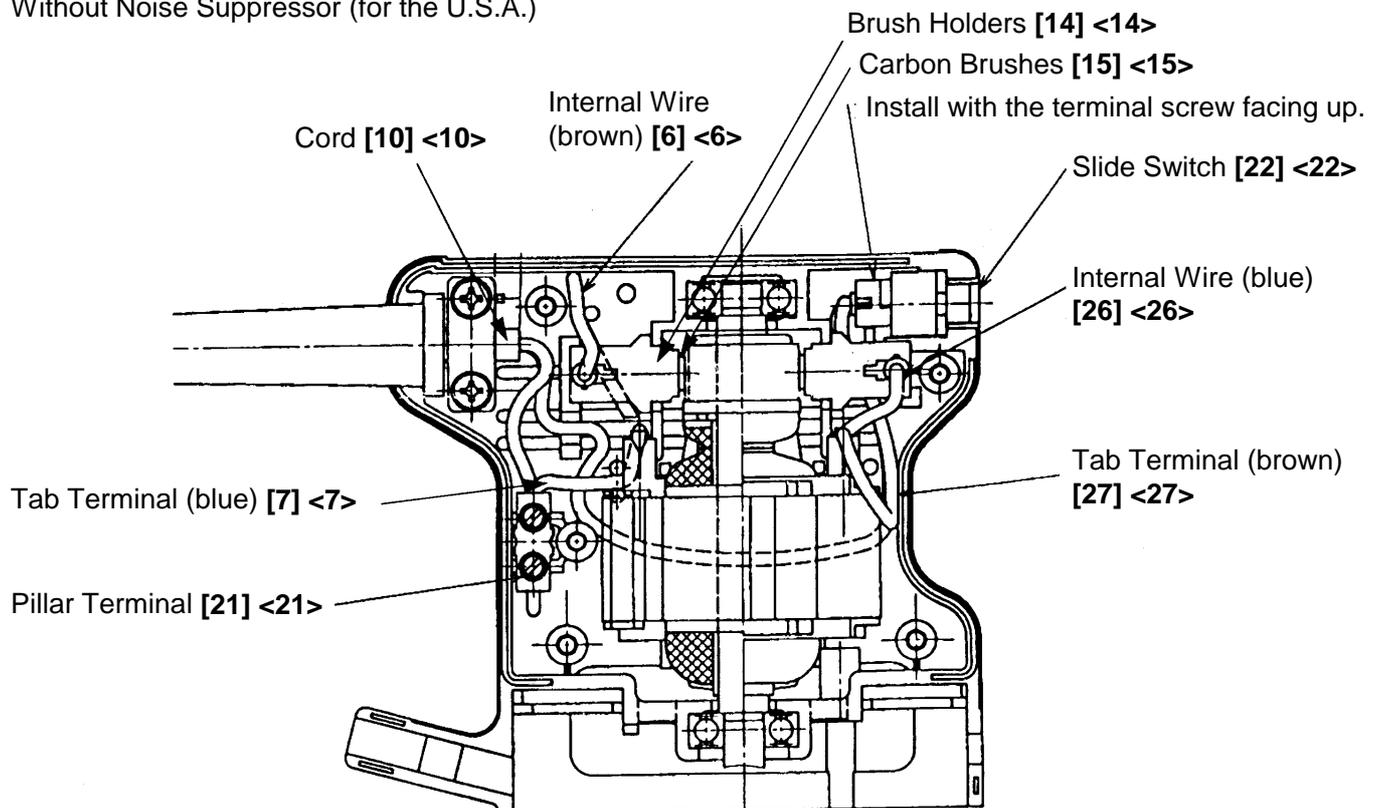
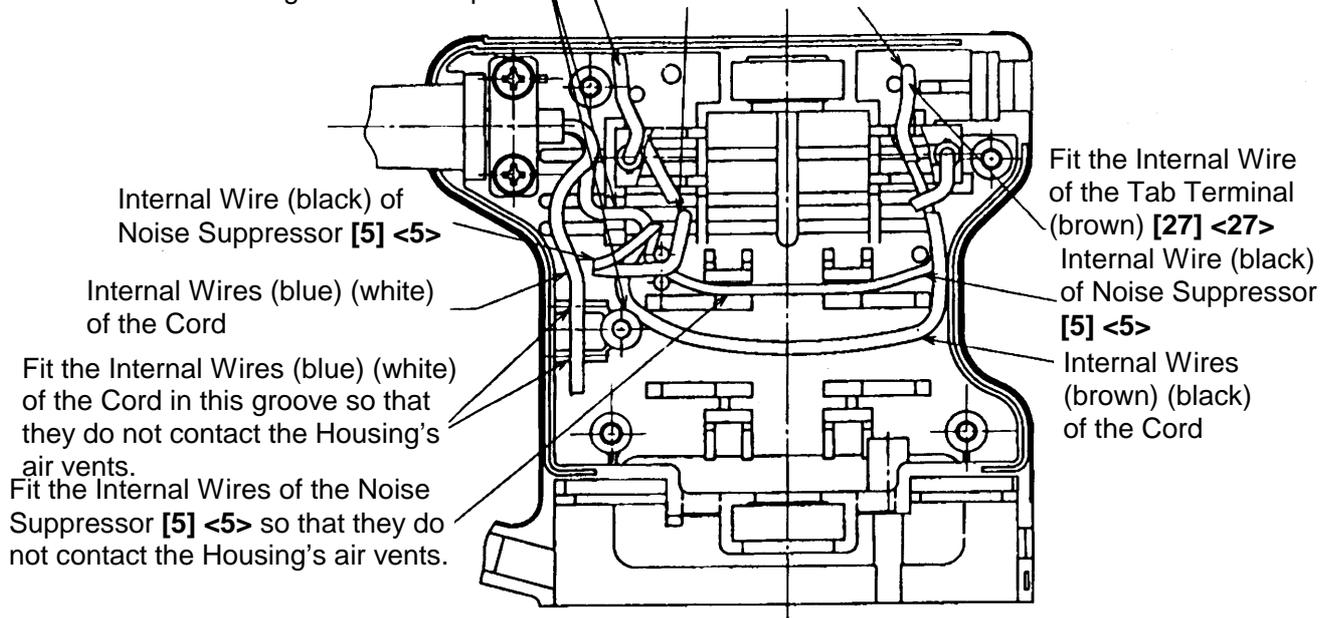


Fig. 9

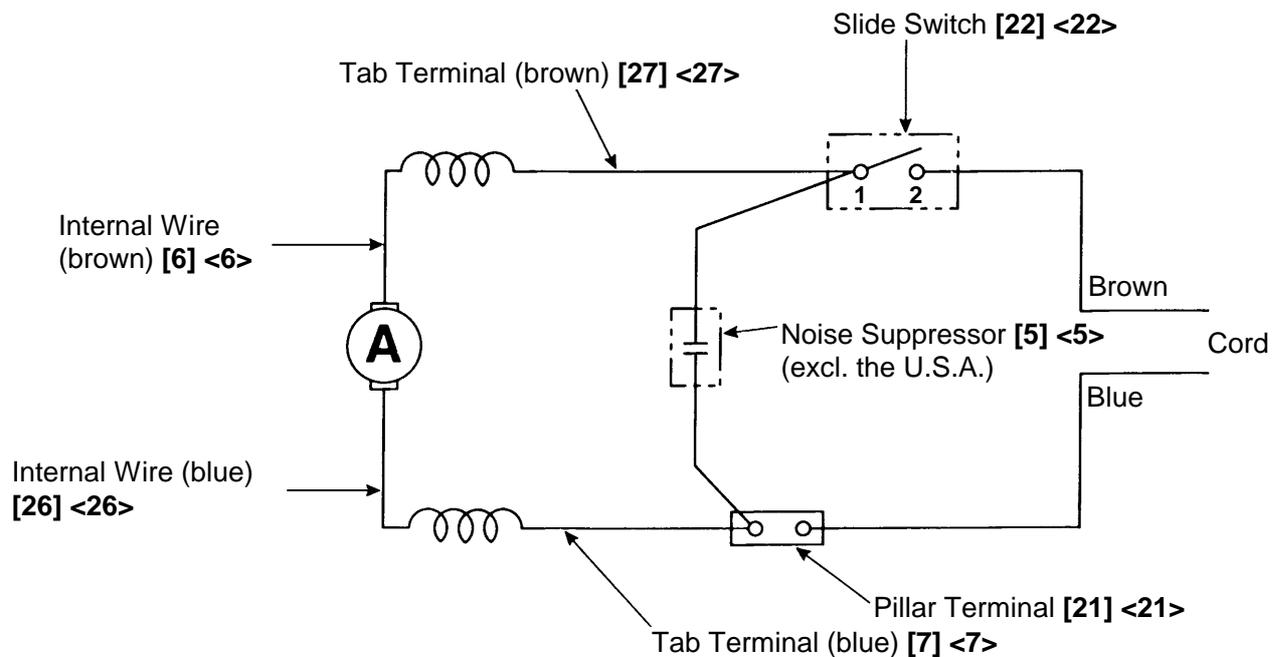
Fit the Internal Wire (brown) [6] <6> in this gap.

Fit the Internal Wires (brown) (black) of the Cord in this groove so that they do not contact the Housing's conductive part.



**Fig. 10 Wiring Diagram of the Internal Wires  
(Cord, Noise Suppressor, Internal Wires, Tab Terminals)**

Connecting Wiring Diagram  
With Noise Suppressor



**Fig. 11**

Without Noise Suppressor (for the U.S.A.)

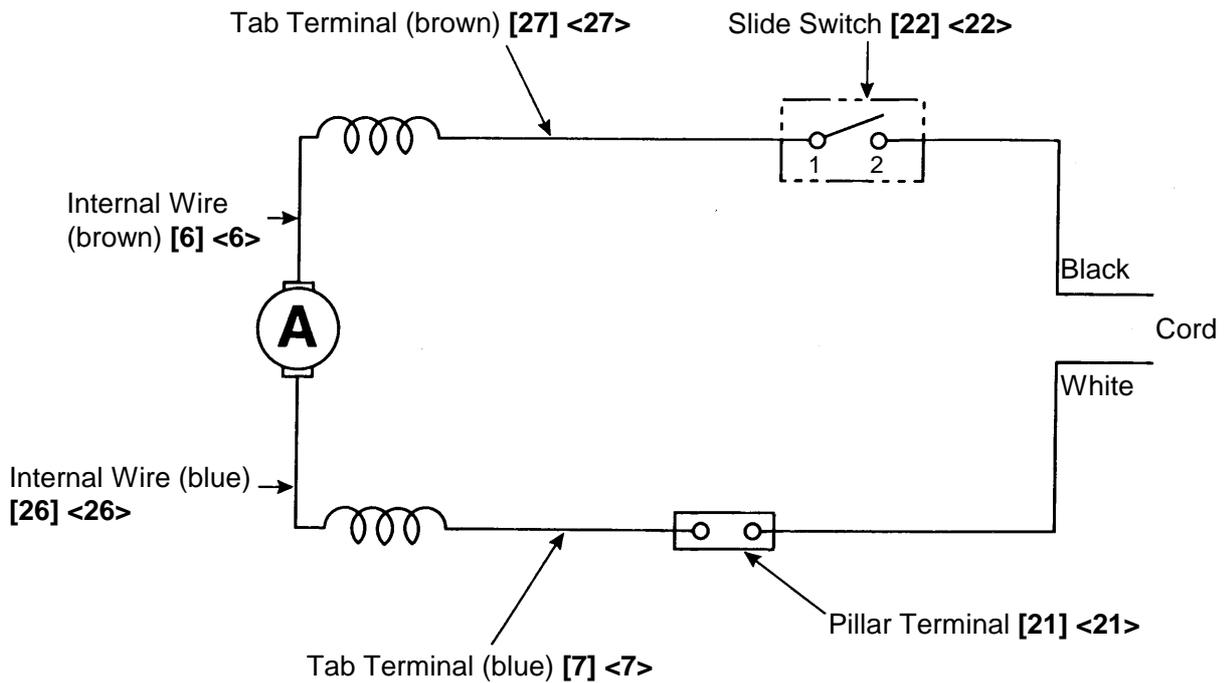


Fig. 12

**1-5. Insulation Tests**

On completion of disassembly and repair, measure the insulation resistance and conduct a dielectric strength test.

Insulation Resistance: 7 MΩ or more with DC 500 V megohm tester

Dielectric:Strength: AC 4,000 V/1 min.  
 with no abnormalities 220 V - 240 V  
 (and for 110 V U.K. products)

AC 2,500 V/1 min.  
 with no abnormalities 110 V - 127 V

**1-6. No-Load Current Value**

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

Voltage	110 V	115 V	120 V	127 V	220 V	230 V	240 V
Current (A) Max.	1.15 A	1.10 A	1.05 A	0.99 A	0.57 A	0.55 A	0.53 A

## 2. STANDARD REPAIR TIME (UNIT) SCHEDULES

Model	Variable		10	20	30	40	50	60
	Fixed							
SV 8SA SV 12SF		Work Flow						
	General Assembly							
	Fixed Cost	Grip Tape Felt Pad Base Paper Clip		Fan Guide Thrust Washer Ball Bearing (6001DDUCM) Dust Washer Balancer Fan	Slide Switch Cord Stator Armature Ball Bearing (608VVC2) x 2 pcs.			
	Grip Tape Felt Pad Base Paper Clip	0 min.						
	Cord	10 min.				Housing (A) Housing (B) Leg x 2 pcs. Brush Holder x 2 pcs. CB x 2 pcs.		
	Others	20 min.						