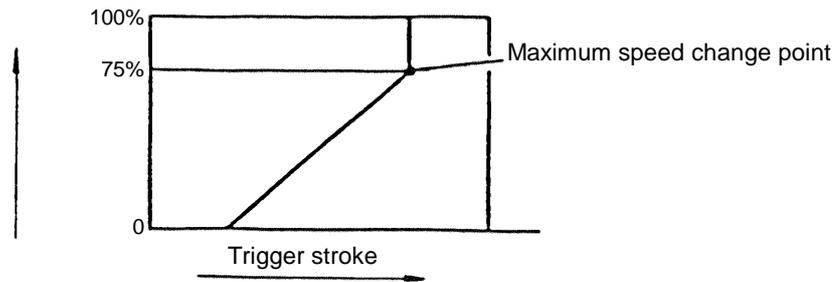




# MODELS FCJ 55VA/FCJ 55

## 1. VARIABLE SPEED SWITCH:

The switch in the Model FCJ 55VA is equipped with a variable speed control circuit. Through the control circuit, the speed can be controlled within up to 75% of maximum motor rotational frequency by varying the amount by which the switch is depressed. In addition, the speed may be locked at any desired speed through use of the adjust knob and stopper. A disadvantage of this system is that should the saw blade become bound in the workpiece material, resulting in stoppage of the motor, it could cause the control circuit to burn out. In such a case, the switch should be released and turned OFF immediately.



Switch Characteristic (Approximately shown converted into the linear line)

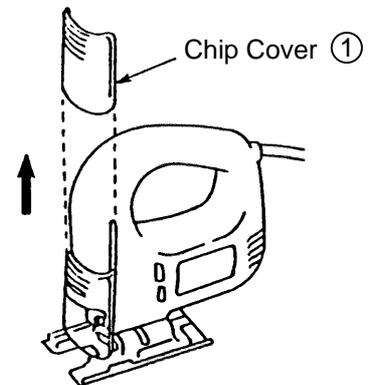
## 2. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

The circled numbers in the descriptions below correspond to the part numbers in the FCJ55VA Parts List. The disassembly and reassembly procedures are the same of Model FCJ 55, with the exception of the Switch and wiring diagrams. Where the part numbers are different, those in parenthesis are for FJC 55.

### 2-1. Disassembly:

#### 2-1-1. Remove the Chip Cover ①.

In the same manner as it is slid up and down for positioning, slide the Chip Cover ① upward to remove it from the main body.



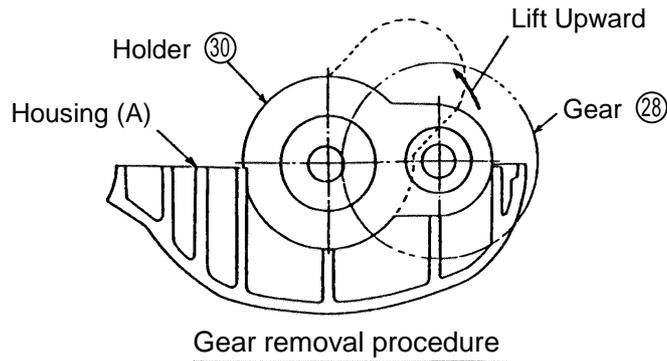
How to remove Chip Cover

#### 2-1-2. Disassembly of Housing (B) :

- (1) Remove the Hex. Socket Hd. Bolt M4 x 16 ⑳ with the accessory Hex. Bar Wrench 3MM ⑤①, and remove the Base ⑳, Guide Roller ㉑, and Base Locker ㉒.
- (2) Remove the seven Tapping Screws (W/FLANGE) D4 x 20 (BLACK) ㉓, and take off Housing (B) of Housing (A), (B) Set ㉔.

#### 2-1-3. Disassembly of the Gear

- (1) From Housing (A) of Housing (A), (B) Set ㉔, take out the Plunger ㉕ and Metal ㉖ (two pieces).
- (2) Lift the Gear ㉗ upward and remove it from the Holder ㉘. The Washer (C) ㉙ can be removed at the same time.



#### 2-1-4. Remove the Set Ring Ass'y:

Loosen the M4 x 8 Hex. Socket Hd. Bolt (19) of the Plunger (25), and take out the Set Ring Ass'y (26).

#### 2-1-5. Disassembly of the Armature and Stator

- (1) From Housing (A) of Housing (A), (B) Set (2), remove the Brush Holders (13), and take out the Carbon Brushes (12) (two pieces).
- (2) From Housing (A) of Housing (A), (B) Set (2), remove the Holder (30), Stator (34) Armature (32) in a single body. Then separate the individual parts.

#### 2-1-6. Removal of Wiring:

- (1) With a screwdriver, loosen the minus-hd, screws on the Switch (2P PILLAR TYPE) W/LOCK (4), and disconnect the leadwires from the Stator (34), Noise Suppressor (7), and Cord (15).
- (2) By removing Tube (D) (5) and the Connetor [Model FCJ 55 only] which connect the internal wires (35) - (38) of the Stator (34), Noise Suppressor (7), and Cord (15), the individual parts can be separated.

#### 2-2. Reassembly:

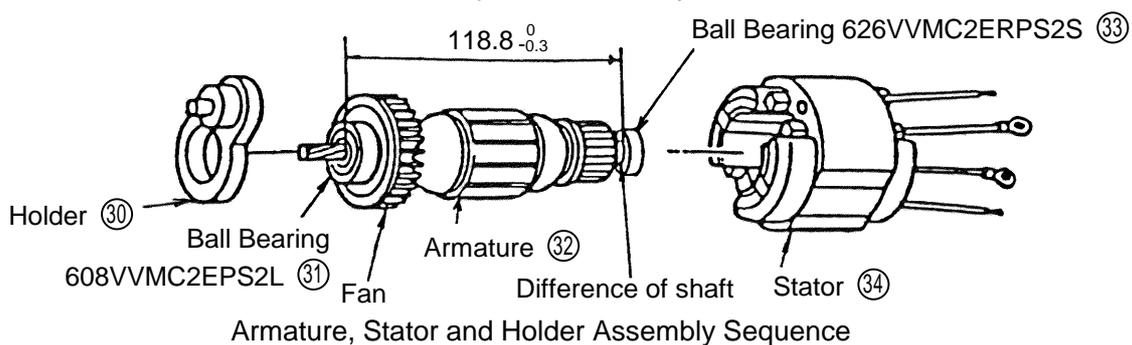
Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

##### 2-2-1. Wiring Connection:

Referring to the wiring diagrams and leadwire arrangements in Item 2-5, connect the leadwires of the Stator (34), Noise Suppressor (7), and Cord (15) to the Switch (2P PILLAR TYPE) W/LOCK (4).

##### 2-2-2. Reassembly of the Armature and Stator

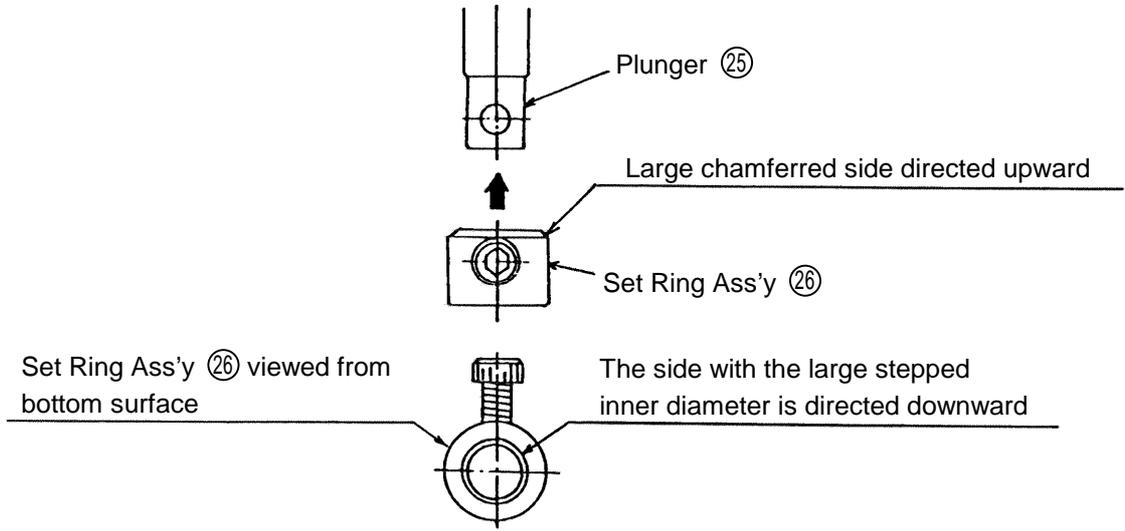
- (1) Press fit Ball Bearing 608VVMC2EPS2L (31) and Ball Bearing 626VVMC2ERPS2S (33) onto the Armature (32). Stop the press fitting when Ball Bearing 608VVMC2EPS2L (31) comes in contact with the Fan. With vernier calipers or a similar tool, check that the press fit dimension is  $118.8_{-0.3}^0$ . As excessive press fitting can cause deformation or other damage to the Fan, particular attention is required. Also, if press fitting is insufficient, it will cause loss of thrust of the Armature (32), resulting heat generation. Accordingly, press fit Ball Bearing 626VVMC2ERPS2S (33) until it butts against the stepped portion of the Shaft.
- (2) Insert the Armature (32) into the Holder (30), put the assembly into the Stator (34).



(3) Insert the already assembled Stator (34), Armature (32), and Holder (30) into Housing (A) of Housing (A), (B) Set (2), and confirm that the Armature rotates smoothly.

**2-2-3. Reassembly of the Plunger and Set Ring Ass'y:**

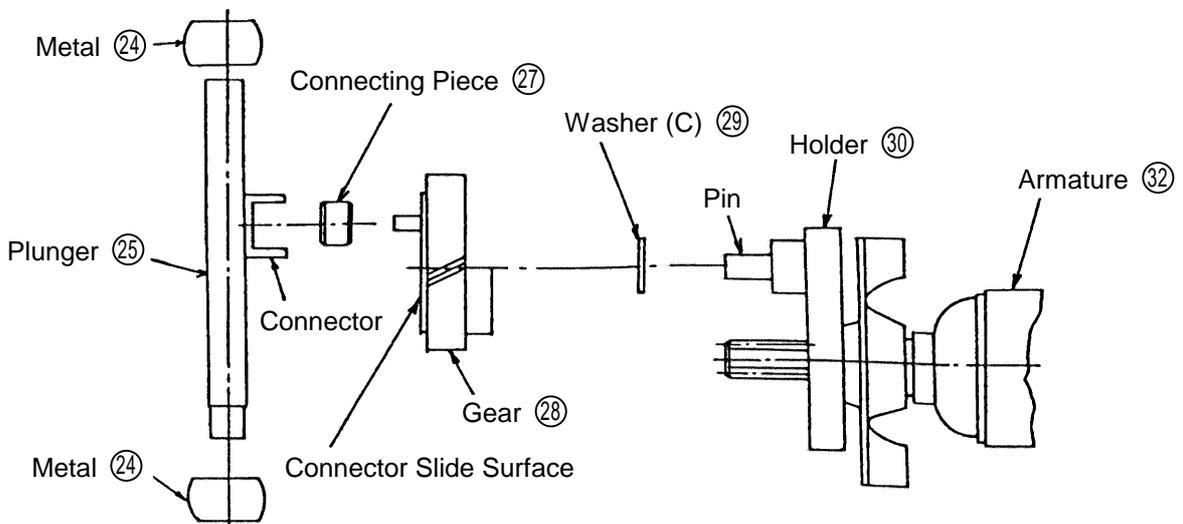
Insert the Set Ring Ass'y (26) into the Plunger (25) after confirming its direction and position, and tighten the Hex. Socket Hd. Bolt M4 x 8 (19).



Assembly of Plunger and Set Ring Ass'y

**2-2-4. Reassembly of the Gear Section:**

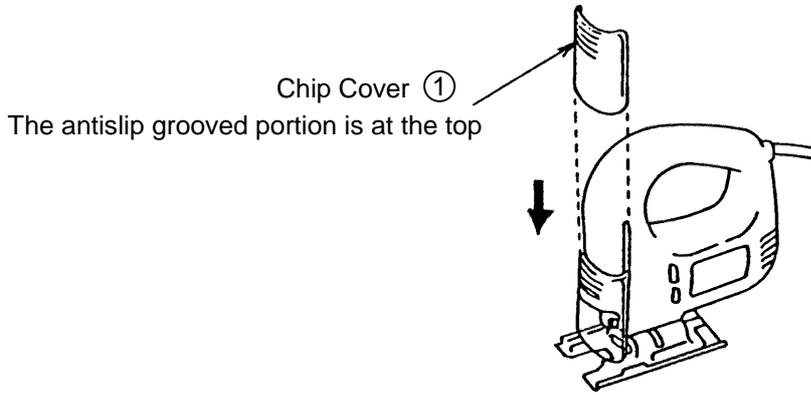
- (1) Pull the pin portion of the Holder (30) upward, mount the Washer (C) (29) and Gear (28) onto the pin, and place it back in its original position.
- (2) Mount the Metal (24) (two pieces) onto the Plunger (25), and put them into Housing (A) of Housing (A), (B) Set (2). At this time, carefully align Connection Piece (27) and connector, and confirm that each component is properly installed.



Reassembly and Lubrication Procedures for Gear

**2-2-5. Other:**

- (1) When re-mounting Housing (A) of Housing (A), (B) Set ②, be very careful to ensure that the leadwires are not excessively slack, and that they are not pinched between components during reassembly.
- (2) When reassembling the Chip Cover ① onto the main body, be sure it is mounted in the correct direction.



**2-3. Lubrication:**

- (1) Apply Hitachi Motor Grease No. 29 (Code No. 930035) to the following:
  - In Housing (A) ..... 7 gr.
  - In Housing (B) ..... 5 gr.
  - The gear teeth, pin, and connector slide surface of the Gear ⑳
  - The pinion portion of the Armature ㉓
  - The inner and outer surfaces of the Connecting Piece ㉗.
  - The external portion of the plunger and the inner surface of the connector on the Plunger ㉕
- (2) Soak the following in SAE No. 30 Turbine Oil:
  - Metal ㉔

**2-4. Tightening Torques:**

- Tapping Screw (W/FLANGE) D4 x 20 (BLACK) ⑨
  - Tapping Screw (W/FLANGE) D4 x 16 ⑰
  - Hex. Socket Hd. Bolt M4 x 16 ㉓
  - Hex. Socket Hd. Bolt M4 x 8 ⑰
- } 20 ± 5 kg-cm
- } 5 ± 2 kg-cm

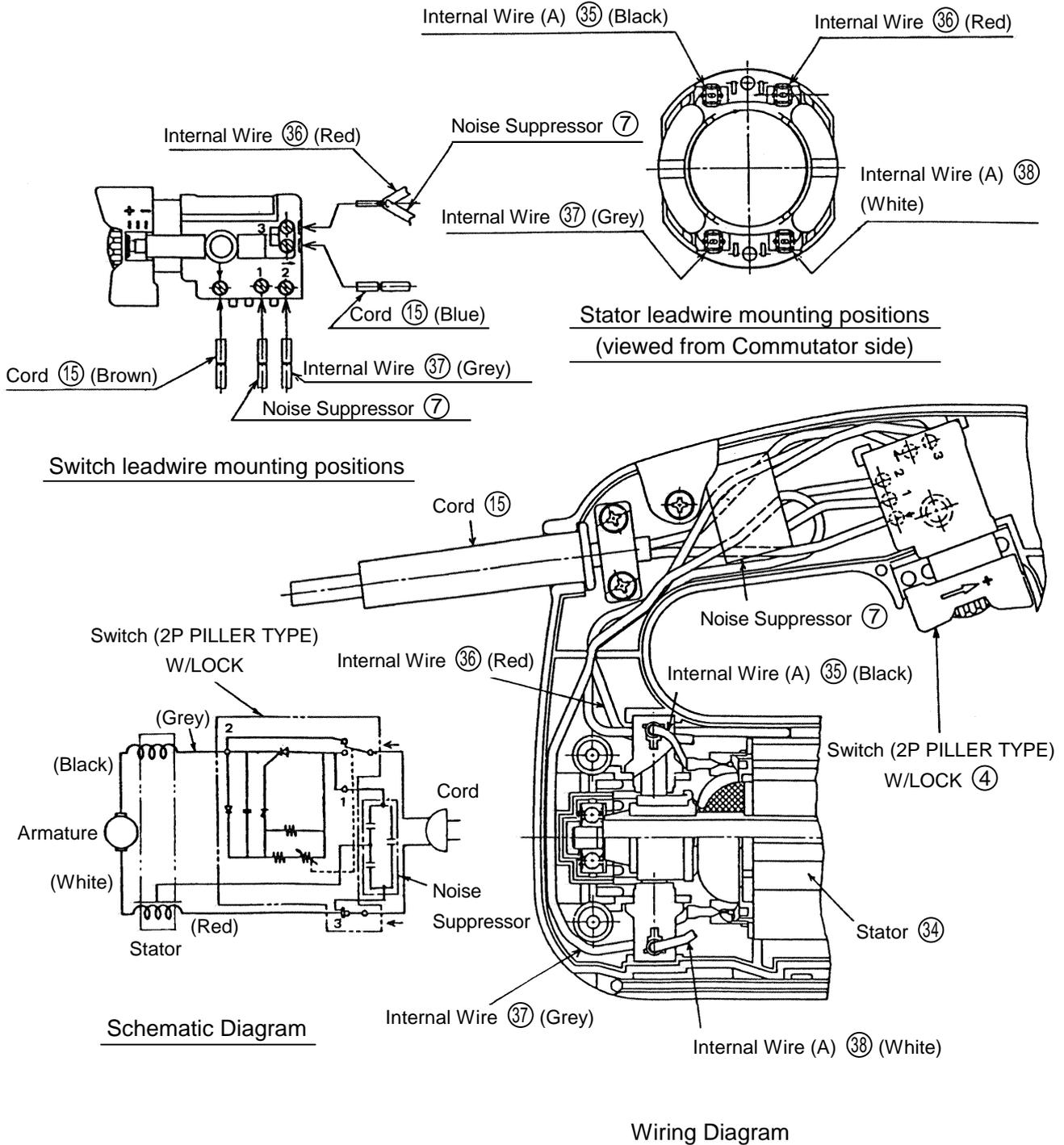
**2-5. Wiring Diagrams and Leadwire Arrangements:**

Conduct wiring in accordance with the diagrams and arrangements illustrated below. However, be particularly careful not to confuse the different arrangements for Model FCJ 55VA and Model FCJ 55.

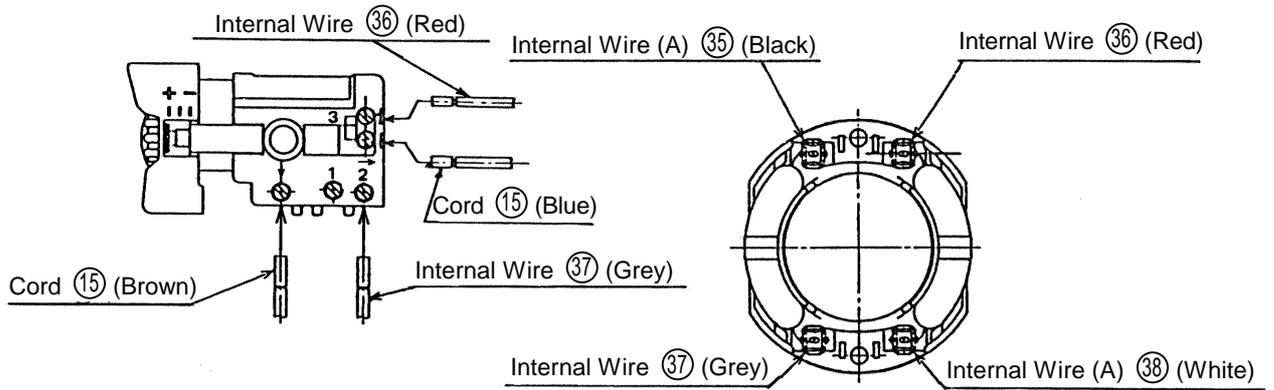
**2-5-1. Model FCJ 55VA Wiring Schematic Diagrams:**

The number 1, 2, and 3 in the diagrams refer to Switch terminal numbers.

(1) For Models with a Noise Suppressor:

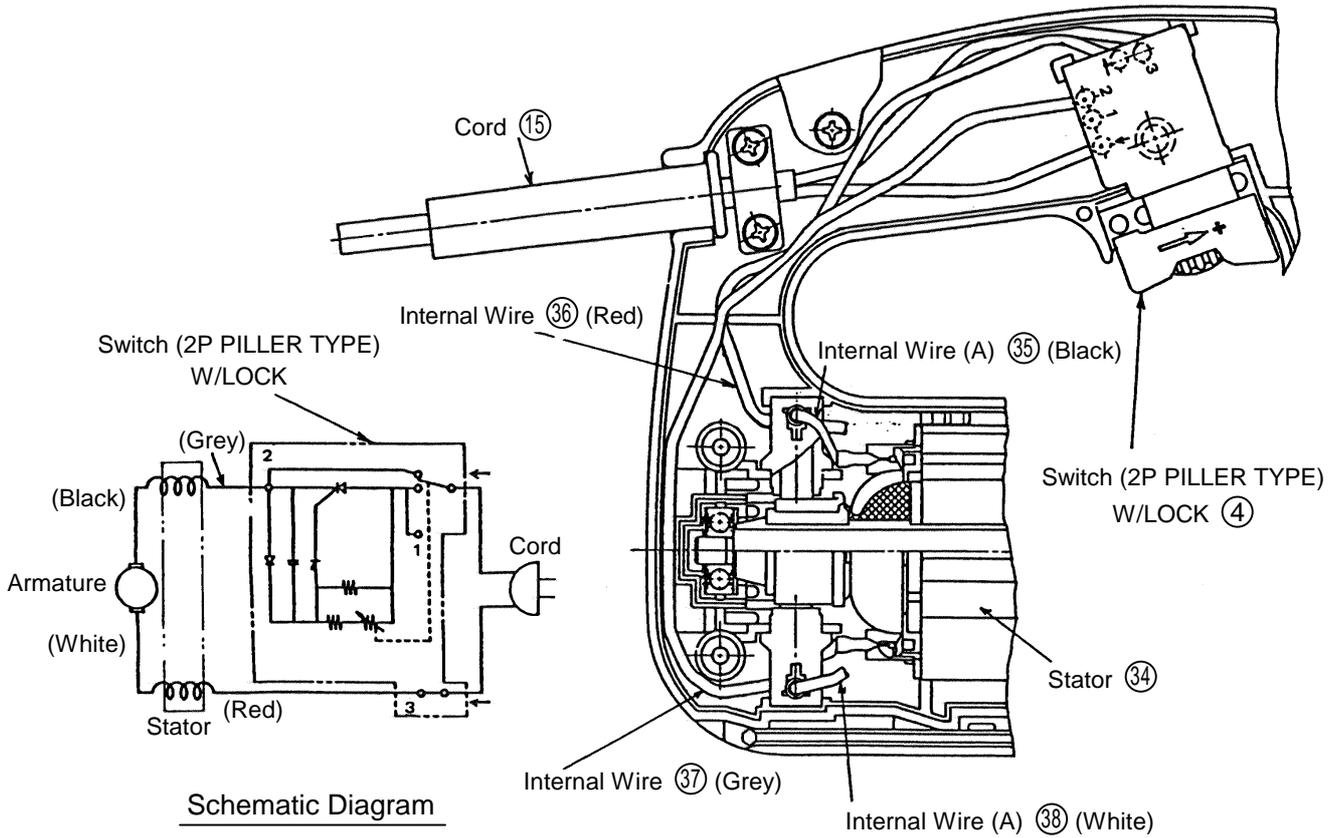


(2) For Models Without a Noise Suppressor:



Switch leadwire mounting positions

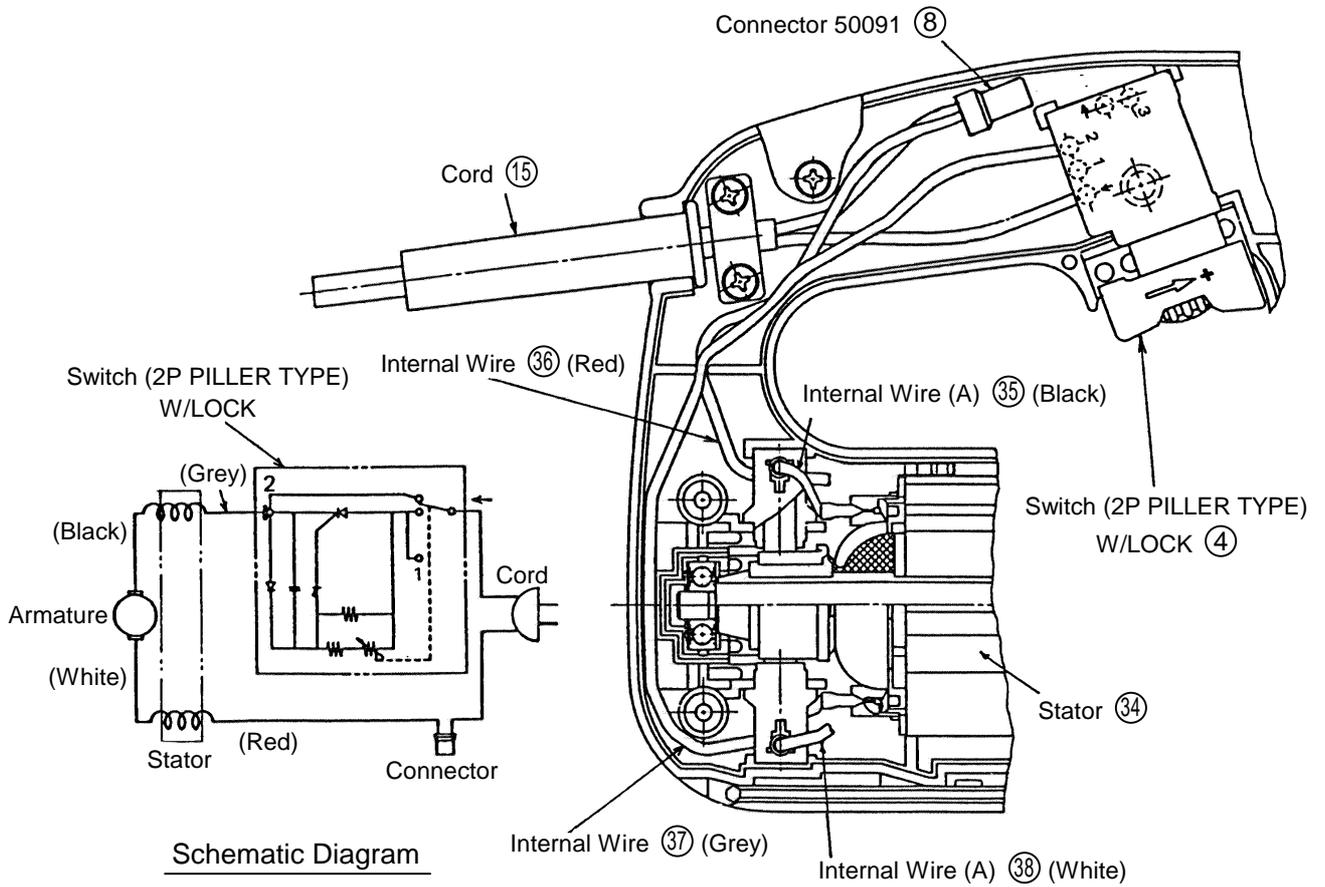
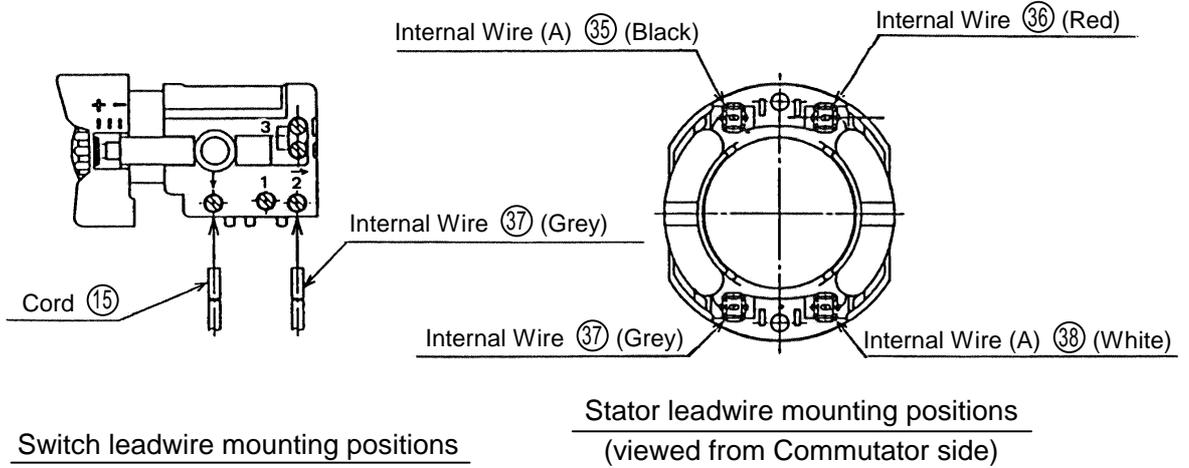
Stator leadwire mounting positions  
(viewed from Commutator side)



Schematic Diagram

Wiring Diagram

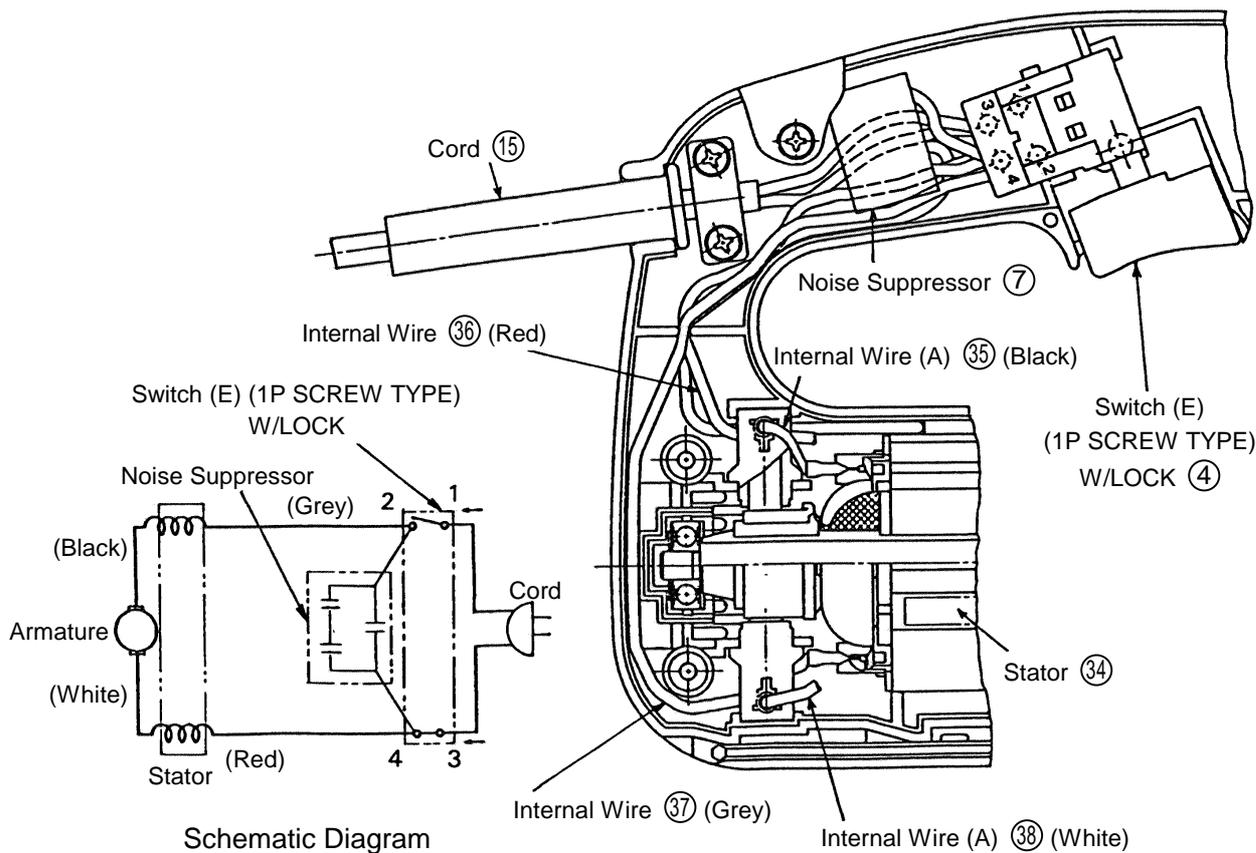
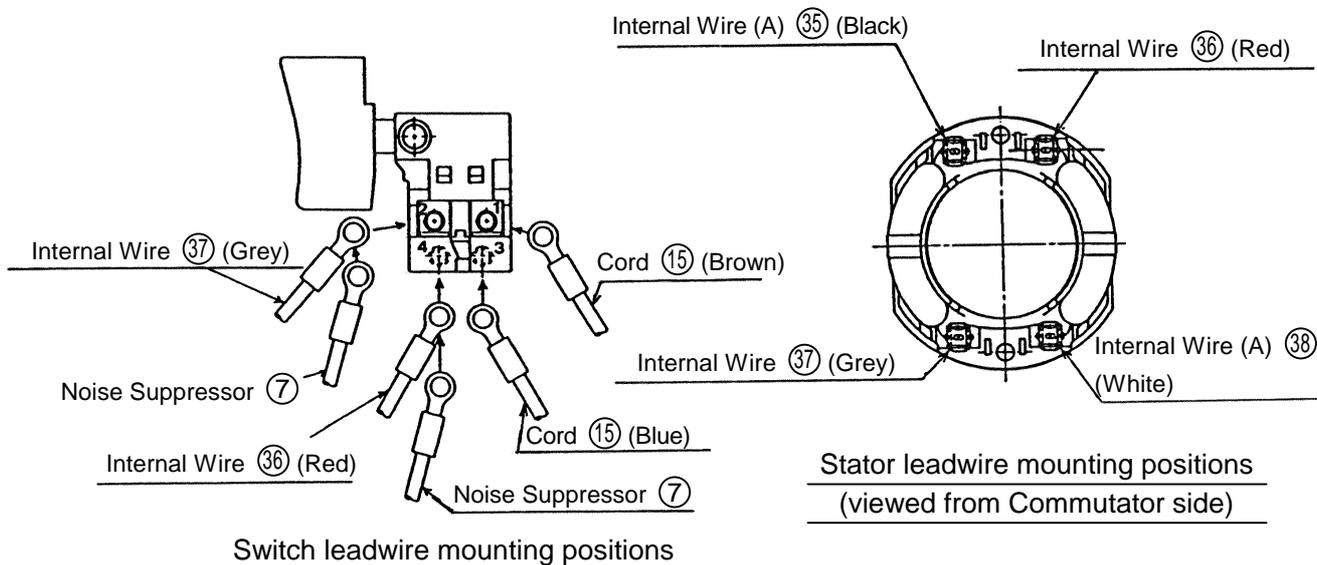
(3) For Models Without Noise Suppressor but With Connector:



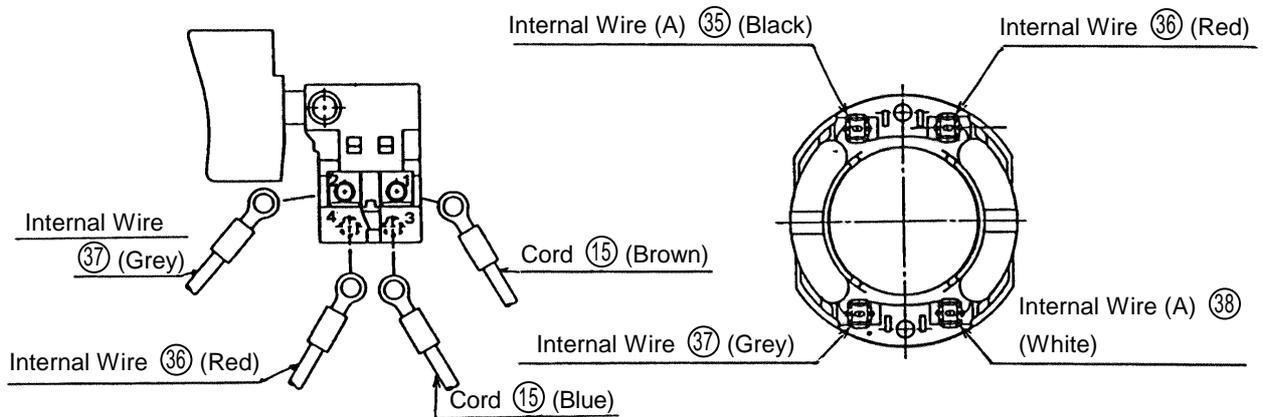
**2-5-2. Model FCJ 55 Wiring and Schematic Diagrams:**

The number 1, 2, 3, and 4 in the diagrams refer to Switch terminal numbers.

(1) For Models with a Noise Suppressor:

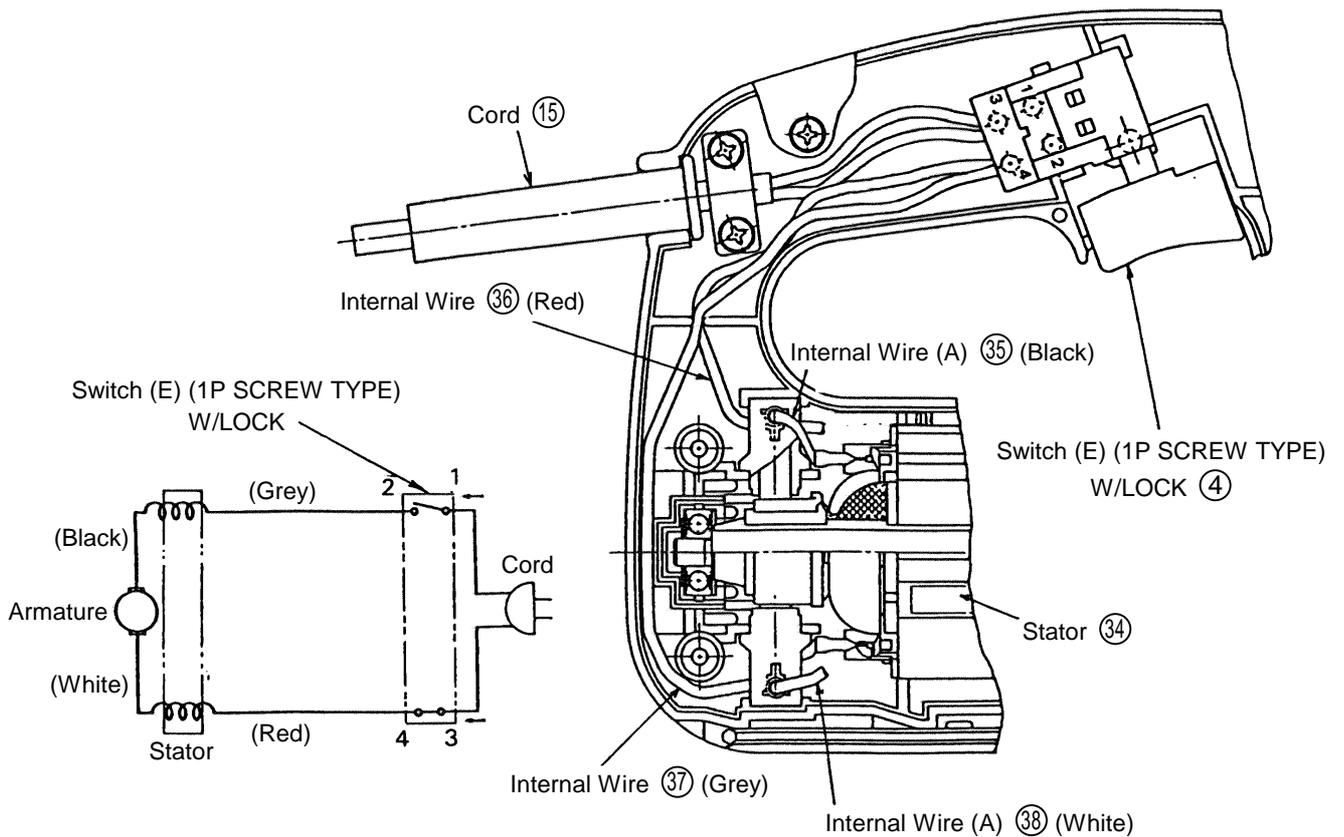


(2) For Model Without a Noise Suppressor:



Switch leadwire mounting positions

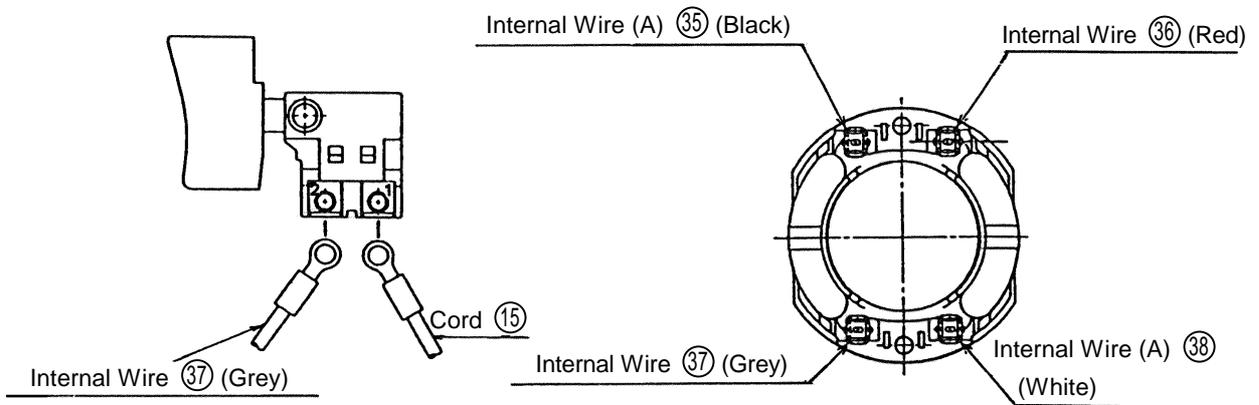
Stator leadwire mounting positions  
(viewed from Commutator side)



Schematic Diagram

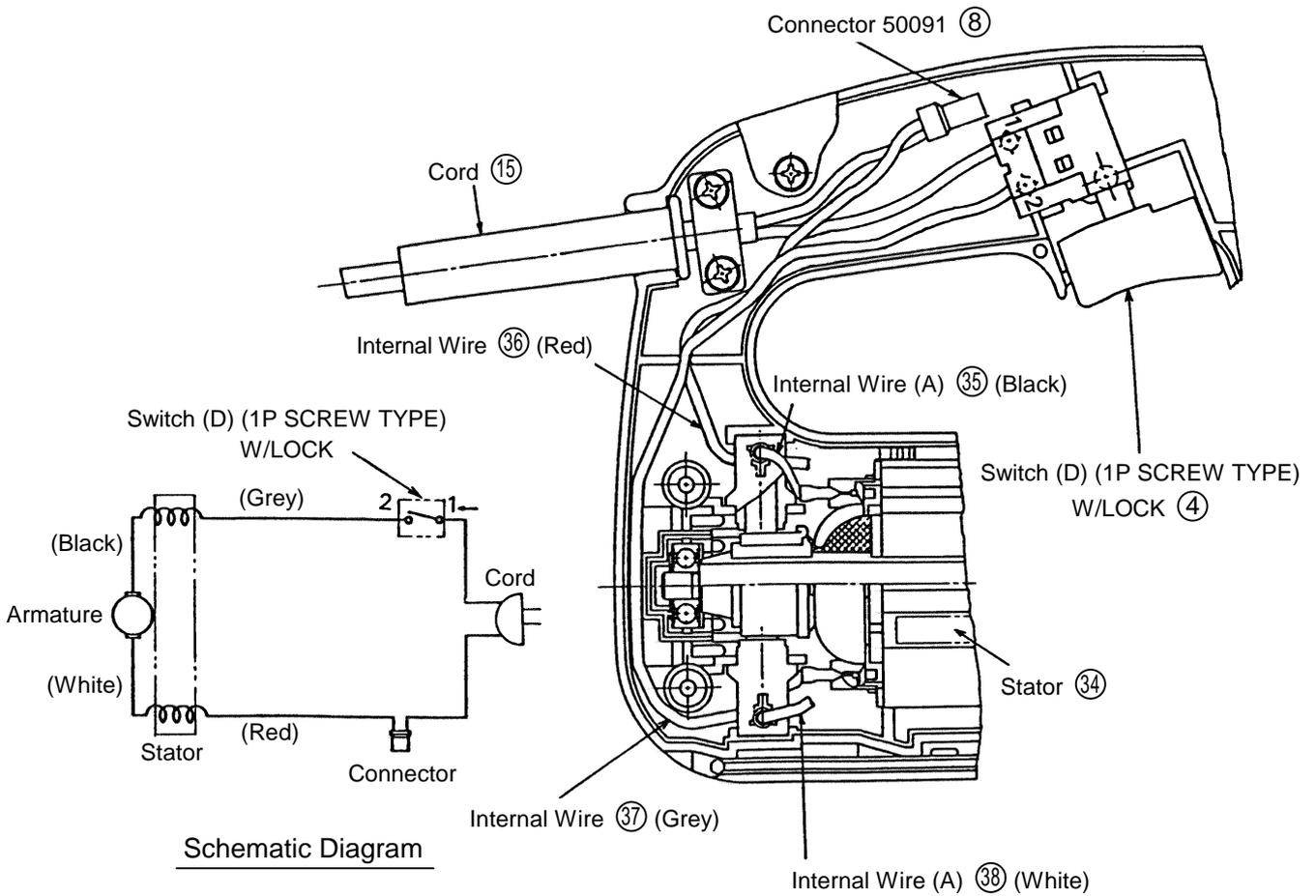
Wiring Diagram

(3) For Models Without Noise Suppressor but With Connector:



Switch leadwire mounting positions

Stator leadwire mounting positions  
(viewed from Commutator side)



Schematic Diagram

Wiring Diagram

**2-6. Insulation Tests:**

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

**2-7. No-Load Current Values:**

After 30 minutes of no-load operation, current values should be as follows:

110V ....	} Less than 1.8A	220V .....	Less than 1.0A
115V ....		230V .....	Less than 0.9A
120V ....		240V .....	Less than 0.9A
127V ....			