MODEL CC 14SA

1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

Prior to commencing disassembly/reassembly (including replacement of the cut-off wheel), ensure that the Switch is turned OFF and the plug is removed from the power source. The circled numbers in the descriptions below correspond to the item numbers in the Part Lists and exploded assembly diagrams.

1-1. Disassembly:

As general disassembly can be accomplished by simply removing bolts and screws, only those procedures which require particular attention are described herein.

(1) Disassembly of the Cut-Off Wheel Section:

Tools Required:

- 17 mm Wrench (Standard Accessory)

Loosen the two M6 x 10 Wind Bolts **[5]**, and turn the Sub Cover **[4]** out of the way so that the Wrench **[501]** can be fitted onto the M10 x 25 Bolt **[11]** which secures the Cut-Off Wheel **[9]**. Then, while pressing in the Stopper Pin **[120]** located on the lower portion of the Housing Ass'y **[112]**, turn the Cut-Off Wheel until the Stopper Pin engages into the Spindle Gear Ass'y **[130]** and locks. After it has locked, loosen and remove the M10 x 25 Bolt **[11]** by turning it counter-clockwise with the Wrench, and take off Washer (A) **[10]**, Wheel Washer (B) **[8]** [on Model CC14SA, Wheel Washer **[8]**], and the Cut-Off Wheel **[9]**.

(2) Disassembly of the Motor Section:

Tools Required:

- Plus Screwdriver
- Minus Screwdriver
- Wooden or Plastic Hammer

First, remove the Cut-Off Wheel **[9]** by following the procedures described above.
Remove Wheel Washer (B) **[8]** [on Model CC 14SA, Wheel Washer **[8]**], loosen the four M6 x 65 Machine Screws **[133]** and the M6 x 10 Machine Screw **[6]**, and remove the Wheel Cover **[2]**. Remove the two Brush Caps **[110]** and take out the two Carbon Brushes **[111]**. Next, disassemble the Gear Case **[128]** together with the 6200VVCM Ball Bearing **[129]**, Spindle Gear Ass'y **[130]**, Bearing Collar **[131]** and 6206DDCM Ball Bearing **[132]**, and remove the Gauge Spring **[122]** and the Stopper Pin **[120]** together with the D6 E-Type Retaining Ring **[121]**. Then take out the Armature Ass'y **[117]** and the Fan Guide **[127]**. From the Stator Ass'y **[124]**, disconnect the two leadwires from the Brush Holders **[113]** on the Housing Ass'y **[112]**, and loosen the two M5 x 65 Machine Screws **[125]**.
Finally, lightly tap the Gear Case mounting surface of the Housing Ass'y **[112]** with a wooden or plastic hammer to loosen and remove the Stator Ass'y **[124]**.

(3) Disassembly of the Spring Section:

Tools Required:

- 13 mm Wrench
- 2.5 mm and 6 mm Hex. Bar Wrenches

Lower the Housing Ass'y **[112]**, and hook the Chain **[19]** on the head portion of the M4 x 35 Machine Screw **[108]** to keep the motor in the lowered position. Then, loosen the M8 Lock Nut **[40]** and remove the Spark Chute **[39]** [on Model CC 14SA, Spark Chute (B) **[39]**]. Next, remove the M8 x 20 Hex. Socket Hd. Bolt **[35]**.
Finally, release the Chain **[19]** and raise the Housing Ass'y **[112]** little by little until the motor is inverted.

CAUTION: When carrying out this procedure, do not release the Housing Ass'y suddenly or inadvertently.

Loosen the M5 x 12 Hex. Socket Set Screw **[12]** which secures the Housing Ass'y **[112]**, and extract the Shaft **[32]**. When the above procedures have been completed, the Spring **[13]** can be removed.

(4) Disassembly of the Trigger Switch Section:

Tools Required:

- Plus Screwdriver
- Pliers

After removing the two M4 x 25 Machine Screws **[101]**, the M4 x 35 Machine Screw **[108]**, and the M4 x 45 Machine Screw **[109]**, the Handle Cover **[107]** and the Trigger Switch **[106]** can be removed. Disconnect the black leadwires of the Stator Ass'y **[124]** and the Cord **[138]** from the Trigger Switch **[106]**, and cut off the leadwires which are connected by the Connector **[103]**, being sure to cut them off as close to the Connector as possible. Finally, remove the two M4 x 6 Machine Screws **[105]**, and take out the Trigger Switch.

(5) Disassembly of the Spindle Section:

Tools Required:

- Plus Screwdriver
- Minus Screwdriver
- Wooden or Plastic Hammer

Disassemble the Gear Case **[128]** by referring to the disassembly procedures for the Motor Section. Then, tap the wheel cover mounting surface of the Gear Case **[128]** lightly with the hammer to loosen and remove the Spindle Gear Ass'y **[130]** and the Bearing Collar **[131]**.

(6) Disassembly of Vise (A):

A. For One-Touch Vise Type Products:

Tools Required:

- 13 mm Spanner
- Pliers
- Roll Pin Remover

Loosen the M8 x 25 Bolt w/Washers **[18]** and the M8 x 25 Bolt **[22]**, and remove the One Touch Vise Ass'y **[60]** from the Base Ass'y **[44]**. Next, extract the D3 x 15 Split Pin **[26]**, and remove the Screw Ass'y **[17]**, the Female Screw Ass'y **[61]**, and the two M8 Bolt Washers **[23]**. Then, extract the D5 x 25 Roll Pin **[28]** from the Bolt **[25]**, and disassemble the D16 Bolt Washer **[27]** and Vise (A) **[24]**. To disassemble the Female Screw Ass'y **[61]**, first, with the Grip **[66]** in the raised position, extract the Screw Ass'y **[17]** from the Screw Holder **[63]**. Then loosen the two M4 x 12 Machine Screws **[69]**, and remove the Cover **[67]**. Finally, extract the D4 x 36 Roll Pin **[62]** from the Screw Holder **[63]**, and take out the Female Screw **[65]** and the Spring **[64]**.

B. For Standard Type Products:

Tools Required:

- 13 mm Spanner
- Pliers

Loosen the M8 x 25 Bolt w/Washers **[18]** and the M8 x 25 Bolt **[22]**, and remove the Screw Vise Ass'y **[14]** from the Base Ass'y **[44]**. Next, extract the D3 x 15 Split Pin **[26]**, and remove the Screw Ass'y **[17]**, Female Screw **[20]**, and the two M8 Bolt Washers **[23]**. Then, extract the D5 x 25 Roll Pin **[28]** from the Bolt **[25]**, and disassemble the D16 Bolt Washer **[27]** and Vise (A) **[24]**.

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) Check the Bearing Locks:

In the event that the Armature Ass'y **[117]** has been removed, confirm without fail that the two Bearing Locks **[119]** are properly mounted in the Housing Ass'y **[112]** and the Gear **[128]**. Also, because of its high-speed rotation, the balance of the Armature Ass'y is very important to avoid excessive vibration. Accordingly, be very careful not to damage the fan of the Armature Ass'y, and avoid mounting ball bearing with excessive play.

(2) Replacement of Ball Bearings:

In the event that the Ball Bearings **[118] [126] [129]** and **[132]** which are mounted on the Armature Ass'y **[117]** and Spindle Gear Ass'y **[130]** are removed from the Housing Ass'y and Gear Case, they should be replaced with new ones. (This is to prevent bearing noise and possible early bearing failure.)

1-3. Lubrication.

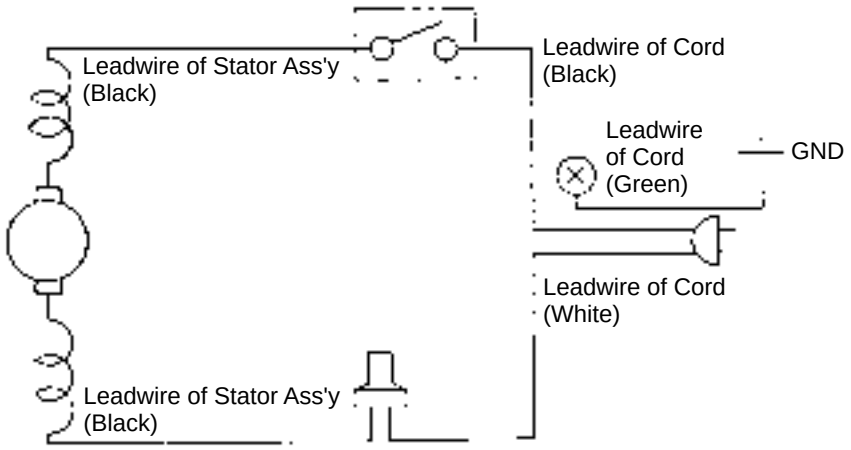
(1) Apply spindle oil to the following parts:

- The Spring **[13]** and the rotating portions of the Hinge **[36]** and Shaft **[32]**.
- The rotating portion of the tip of the Screw Ass'y **[17]**.
- The threaded portions of the Screw Ass'y **[17]** and the Female Screw **[20]** (Standard Type) or **[65]** (One-Touch Vise Type).
- The sliding portion of Vise (A) **[24]**.

(2) Insert approximately 25 grams of grease (Hitachi Motor Grease Case No. 29, Code No. 930035, is recommended) within the Gear Case **[128]**, ensuring that the pinion teeth of the Armature Ass'y **[117]** and the gear teeth of the Spindle Gear Ass'y **[130]** are liberally coated with the grease. Do not exceed 25 grams of grease; excessive grease could interfere with proper operation.

1-4. Wiring Connections:

- Conduct wiring as illustrated in the wiring diagram below.
- As incorrect wiring will result in irregular rotation or short circuiting, be particularly careful to confirm that all connections are correct.
- When reassembling the Gear Case **[128]** and/or Handle Cover **[107]**, be very careful not to pinch the leadwires between the mounting surfaces of the Housing Ass'y **[112]** and the Gear Case **[128]**, between the handle portion of the housing Ass'y **[112]** and the Handle Cover **[107]**, etc. Pinching the leadwires between components will cause failure of dielectric strength, and could be extremely hazardous.



Wiring Diagram

1-5. Insulation Tests:

Prior to reassembly, measure the insulation resistance of the electrical components (Stator Ass'y, Armature Ass'y, Trigger Switch, etc.), and confirm that resistance readings are in excess of 5 MΩ. Components which measure less than 5 MΩ must be replaced.

(1) Confirm Appropriate Wire Insulation:

When making leadwire connections, do not remove any more of the wire insulation than is necessary.

For example, ensure without fail that the wire cores of the leadwires leading from the Connector **[103]** are not exposed.

(2) Confirm Proper Insulation:

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

Insulation Resistance: 1 MΩ or more with 500 V DC Megohm Tester

Dielectric Strength: AC1000V/1 minute, with no abnormalities (for 110 V products)

(3) No-Load Current:

In factory test, after 30 minutes of no-load operation at 110 V 50/60 Hz, current measured 8.5 A or less.

1-6. Precision Standards:

Item	Tolerance
Deflection of Dummy Disc	0.3 mm or less / 300 mm
Rectangularity between the Table Surface and the Dummy Disc	0.3 mm or less / 300 mm
Rectangularity between Vise (A) and the Dummy Disc	0.5 mm or less / 100 mm