1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[Bold]** numbers in the descriptions below correspond to the numbers in the Parts List and exploded assembly diagram for G 10SG and the numbers **<Bold>** to those in the Parts List and exploded assembly diagram for G 12SG.

1-1. Disassembly

1-1-1. Replacement of the Armature and Stator

(1) Remove the Brush Caps **[47] <46>** and take off the Carbon Brushes **[48] <47>**.

(2) Loosen the four D5 x 25 Tapping Screws **[1] <1>** which fix the Gear Cover Ass'y **[4] <4>**, and take off Inner Cover **[9] <9>** together with the Armature **[10] <10>** from the Housing Ass'y **[38] <38>**.
At this time, make sure that the Rubber Bushing **[16] <16>** is fitted in the housing ball bearing chamber. If the Rubber Bushing comes off the housing ball bearing chamber or adheres to the Ball Bearing **[15] <15>** reassemble the disc grinder according to 8 - 2. Reassembly.

(3) Loosen the two Tapping Screws (W/Flange) D4 x 45 **[58] <57>** securing the Tail Cover **[55] <54>** and remove the Tail Cover **[55] <54>**.

(4) Remove the four internal wires from the Stator **[13]** connected with the Brush Holder **[49] <48>**, the Pillar Terminal **[44] <44>** (or Connector **[45]**) and the Switch **[50] <49>**.

(5) Loosen the two Hex. Hd. Tapping Screws D4 x 70 **[12] <12>** securing the Stator **[13] <13>** and remove the Stator **[13] <13>** from the Housing Ass'y **[38] <38>**. If you have any trouble with removing the Stator **[13] <13>**, heat the Housing Ass'y **[38] <38>** to about 60˚C for easier dismantling.

1-1-2. Replacement of the Rubber Busing

Insert the J - 201 Spring Hook H - 75 (Special Repair Tool) between the Rubber Bushing **[16] <16>** assembled in the Housing Ass'y **[38] <38>** and the housing ball bearing chamber and pull out the Rubber Bushing **[16] <16>**.

1-1-3. Replacement of the Dust Seal

(1) Insert the hooks of the J-204 Bearing Puller (Special Repair Tool, Code No. 970982) between the Ball Bearing **[15] <15>** and the Dust Seal **[14] <14>** and fix the hooks with the wing bolts.Be careful not to insert the hook too much.

(2) Put the Bearing Puller on an appropriate stand. Push down the armature shaft with a hand press and pull out the Ball Bearing **[15] <15>**.

(3) Pull out the Dust Seal **[14] <14>** from the armature shaft.

1-1-4. Disassembly of the Pinion and Gear

(1) Loosen the M7 Special Nut **[5]** for G 10SG (M6 Special Nut **<5>** for G 12SG) on the Armature **[10] <10>**, and remove the Pinion **[6] <6>**.

(2) Loosen the four M4 x 12 Seal Lock Screws **[24] <24>** which fix the Packing Gland **[23] <23>**, and remove the Gear Cover Ass'y **[4] <4>**.

(3) As illustrated in Fig. 5, support the outer circumference of the Gear **[18] <18>** with a J-129 Gear Puller (Special Repair Tool, Code No. 970905), and push down on the upper portion of the Spindle **[26] <27>** with a hand press to separate the Gear **[18] <18>** from the Spindle **[26] <27>**.

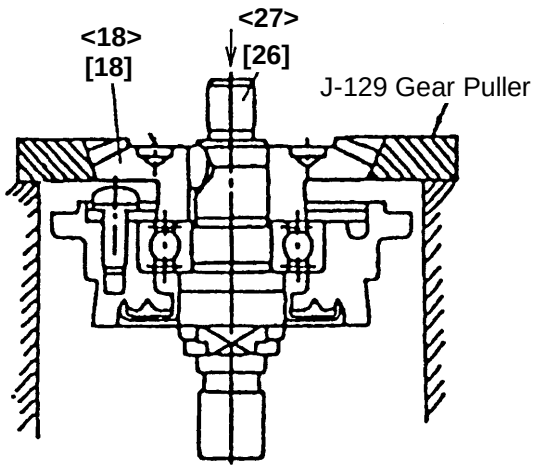


Fig. 5

1-2. Reassembly

Put the parts together in the reverse order of disassembly, with the precautions given below.

(1) Generously lubricate the teeth of Gear **[18] <18>** and Pinion **[6] <6>** with grease.Rub grease onto the teeth with your fingers so that the grease reaches each tooth bottom. Note that the Gear **[18] <18>** and Pinion **[6] <6>** if under-lubricated may wear at an faster rate.

(2) Be sure to soak the inner diameter of the Felt Packing **[22] <22>** with machine oil. Otherwise, its dust-sealing function will fail to work properly, resulting in an earlier damage of the Ball Bearing **[21] <21>**.

(3) When replacing the Armature Ass'y **[10] <10>** and the Ball Bearing **[15] <15>** on the commutator side, press inward on the Dust Seal **[14] <14>** while taking care of its direction until the end face of the Dust Seal **[14] <14>** hits against the a butting surface of the Armature Ass'y **[10] <10>** and make sure that Dust Seal **[14] <14>** cannot turn freely. Keep the end face of the armature shaft approximately 0.2mm (reference) distance inward of the end face of the Ball Bearing **[15] <15>**. (See Fig. 6)

The Dust Seal **[14] <14>** is an important element for improved dust protection of the Ball Bearing **[15] <15>**. Be sure to use a new one upon replacement.

Fit the Rubber Bushing **[16] <16>** into the housing ball bearing chamber before installing the Armature Ass'y **[10] <10>**. (See Fig. 7)

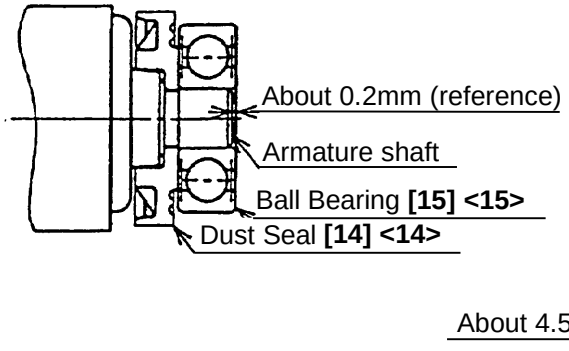


Fig. 6

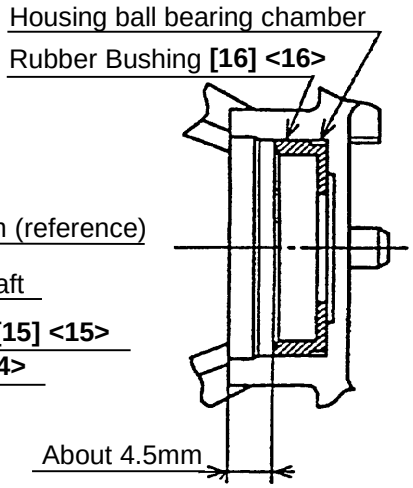


Fig. 7

(4) When installing the Stator **[13] <13>** into the Housing Ass'y **[38] <38>**, insert it while taking care of the placement of the internal wires of the Stator **[13] <13>** as indicated in Fig. 8.
Connect the four internal wires of Stator **[13] <13>** with the parts indicatd in Fig. 8

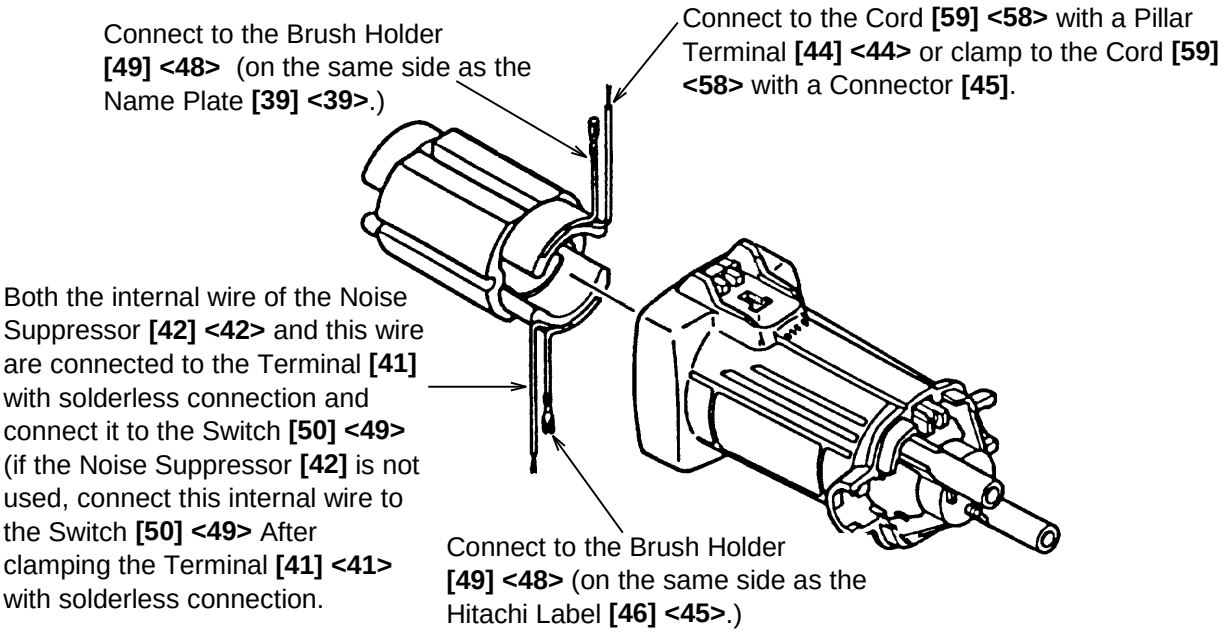


Fig. 8

(5) When connecting the Earth Terminal **[40] <40>** to the internal wire (the middle wire among three) of the Noise Suppressor **[42] <42>**, strip the insulation sheath on the internal wire by about 6 mm and press connect it together with the Earth Terminal **[40] <40>** with a clamping tool on the market.

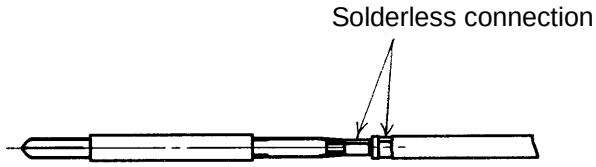


Fig. 9

(6) When replacing the Gear Cover Ass'y **[4] <4>**, lubricate the metal part with mixed oil.
Mixed oil: Mixture of Hitachi power tool grease No. 2 (Unilube No.00) and tubine oil
* Mixure ratio....1:1 (weight ratio) * Volume....0.5 cc

1-3. Lubrication Points and Types of Lubricant

* Pinion chamber of Gear Cover Ass'y **[4] <4>**.....Nippeko grease (SEP-3A) 10 g

Generously rub grease onto the Gear and Pinion.

* Metal.....Mixed oil 0.5 cc

Mixed oil: Mixture of Hitachi power tool grease No.2

(Unilube No. 00) and turbine oil

Mixture ratio.....1:1 (weight ratio)

1-4. Tightening Torque

D4 Tapping Screw **[12] <12> [53] <52> [58] <57>**.....2.0 ± 0.5 Nm (20 ± 5 kgfcm, 1.5 ± 0.4 ft-lbs)

M4 Slotted Hd. Screw (Seal Lock) **[7] <7>**.....1.8 ± 0.4 Nm (18 ± 4 kgfcm, 1.3 ± 0.3 ft-lbs)

M4 Seal Lock Screw (W/SP. Washer)**[19] <19> [24] <24>**

.....1.8 ± 0.5 Nm (18 ± 4 kgfcm, 1.3 ± 0.3 ft-lbs)

D5 Tapping Screw **[1] <1>**.....2.9 ± 0.5 Nm (30 ± 5 kgfcm, 2.2 ± 0.4 ft-lbs)

M5 Machine Screw (W/SP. Washer)**[28] <28>**.....1.6 ± 0.4 Nm (16 ± 4 kgfcm, 1.2 ± 0.3 ft-lbs)

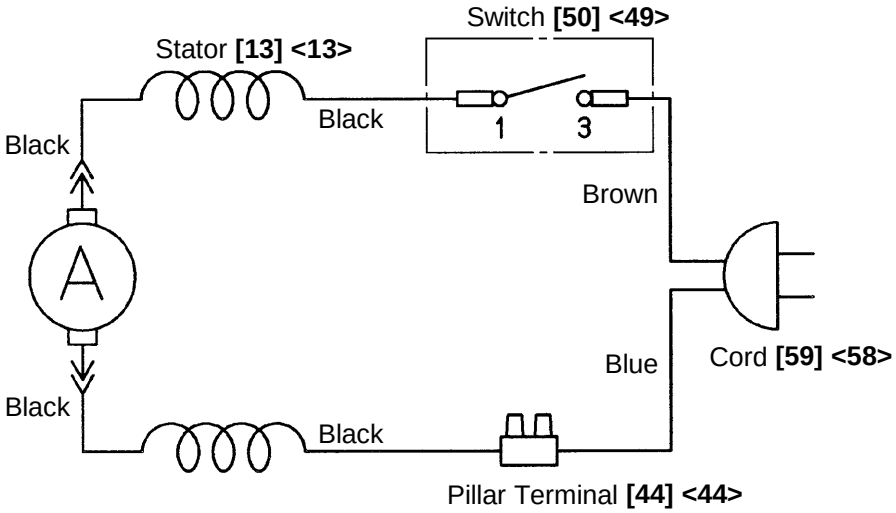
Special Nut M7 **[5]**.....6.4 ± 1.0 Nm (65 ± 10 kgfcm, 4.7 ± 0.7 ft-lbs)

Special Nut M6 **<5>**.....6.4 ± 1.0 Nm (65 ± 10 kgfcm, 4.7 ± 0.7 ft-lbs)

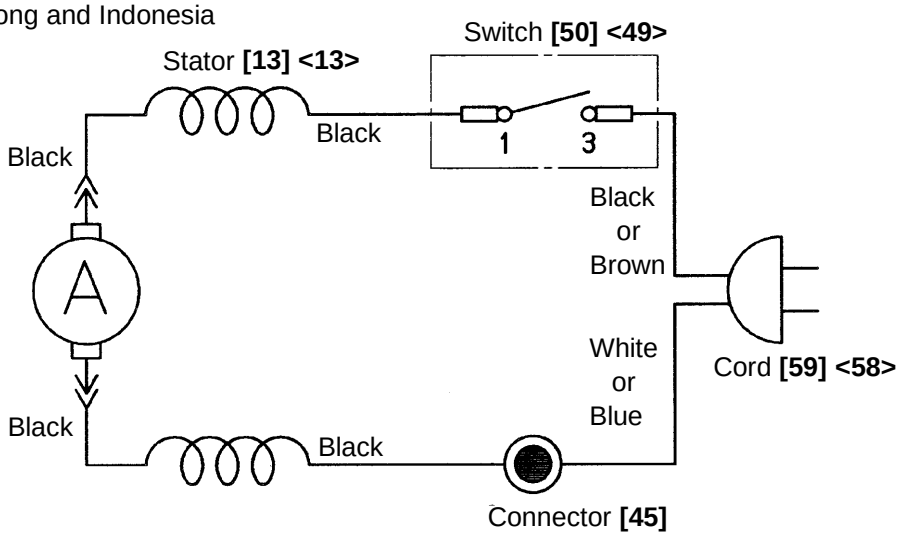
Brush Cap **[47] <46>**.....0.6 ± 0.2 Nm (6 ± 2 kgfcm, 0.4 ± 0.1 ft-lbs)

1-5. Wiring Diagrams

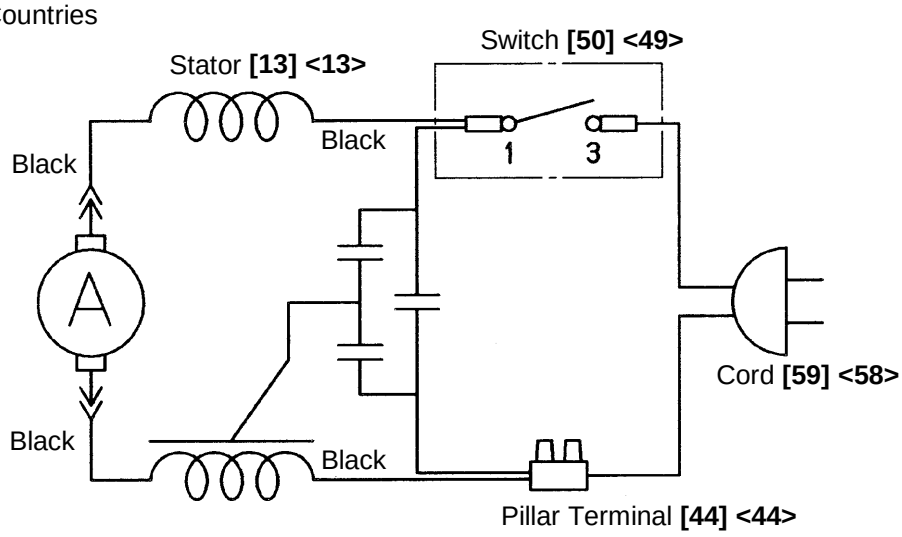
For China



For Hong Kong and Indonesia



For Other Countries



1-6. Insulation Tests

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

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

Dielectric strength test : 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
(expect U.K. products)

1-7. No-Load Current Value

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

Voltage	110 V	115 V	220 V	230 V	240 V
Current (A) max.	2.7	2.7	1.35	1.35	1.38

2. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable / Fixed	10	20	30	40	50	60 min.
G 10SG G 12SG	General Assembly	Work Flow Switch Switch Holder Tail Cover Cord Armor Brush Holder Wheel Guard Ass'y	Housing Ass'y Stator Slide Bar Spring Slide knob Pinion Ball Bearing (608VV) Ball Bearing (626VV) Inner Cover Armature Dust Seal Rubber Bushing Pushing Button Gear Cover Ass'y Lock Pin Gear	Bearing Cover (B) Ball Bearing (6001VV) Felt Packing Packing Gland Spindle Fringer			