



## MODELS G 10SD1/G 12S1

### 1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

The circled numbers in the descriptions below correspond to the Item Numbers in the Parts Lists and exploded assembly diagrams.

#### 1-1. Disassembly of the Armature:

- (1) Loosen the M5 x 20 Machine Screw (29) and remove Wheel Guard (A) Ass'y (31).
- (2) Remove the Brush Caps (47), and take out the Carbon Brushes (48).
- (3) Loosen the D5 x 25 Tapping Screws (1), and remove the Gear Cover (4). Separate the Inner Cover (10) from the Housing Ass'y (40) with a screwdriver, and remove the Inner Cover (10) together with the Armature (11).
- (4) Holding the Armature (11), loosen the M7 Special Nut (5) with a wrench, and remove the Pinion (6).
- (5) Support the Inner Cover (10) with a tubular jig (inner diameter  $\phi$  63 -  $\phi$  72 is recommended), and push down on the Armature shaft with a hand press to remove the Armature (11). (see Fig. 3)

### 1-2. Disassembly of the Stator Ass'y:

- (1) After removing the Armature (11), disconnect the lead wire of the Stator Ass'y (13) from the Slide Switch (51). Then, remove the Brush Terminals (14) from the Brush Holders (49).
- (2) Loosen the D4 x 70 Hex. Hd. Tapping Screws (12), and remove the Stator Ass'y (13).

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

- (1) Loosen the M4 x 12 Machine Screws (25), and remove the Packing Gland (24) together with the Spindle (27), and Gear (19) from the Gear Cover (4) in a single body.
- (2) As illustrated in Fig. 4, support the angled surface of the Gear (19) with a J-129 Gear Puller (special repair tool, Code No. 970905), rest the J-129 Gear Puller on a J-130 Sleeve (special repair tool, Code No. 970907), and push down on the tip of the Spindle (27) with a hand press to remove the Gear (19).

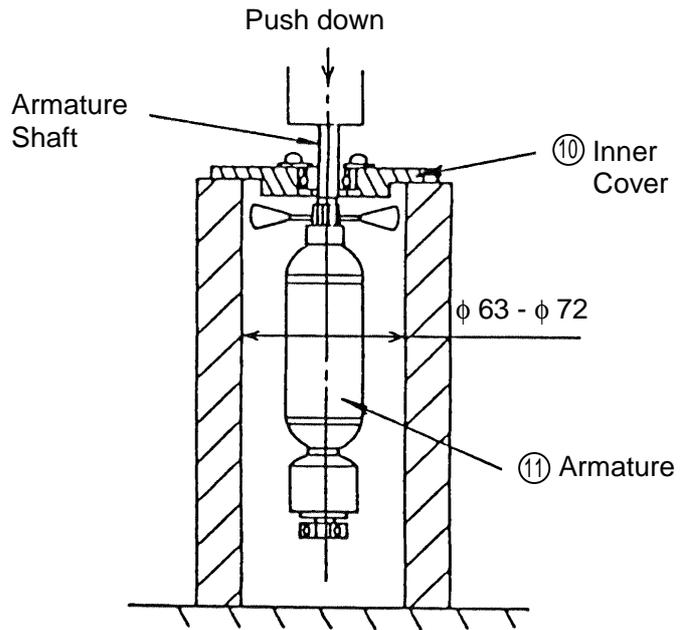


Fig. 3

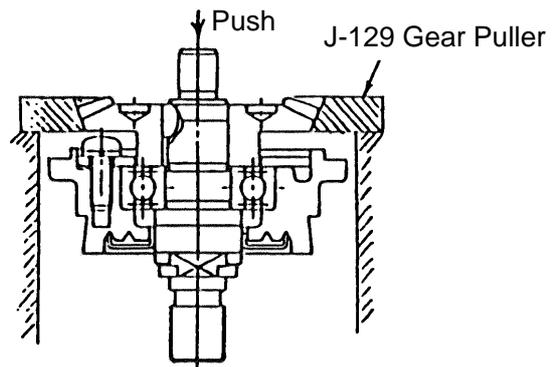


Fig. 4

### 1-4. Precautions on Reassembly:

- 1) Thoroughly coat Grease (Hitachi Motor Grease N.P.C. SEP-3A, Code No. 930035, is recommended) on the gear teeth of the Gear and Pinion. Special attention must be given to ensure that the grease is applied properly all the way to the base of each of the gear teeth.  
Failure to do so could result in early wear and/or damage to the Gear and Pinion.
- 2) Liberally Moisten the Inner Circumference of the Felt Packing with Machine Oil:  
Failure to properly moisten the inner circumference of the Felt Packing could cause early wear and/or damage of the Ball Bearing.
- 3) When replacing the Gear Cover Assembly with a new one, apply mixed oil into the inner roller of the Needle Bearing (Metal).  
Mixed Oil: Mix Hitachi Power Tool Grease No. 2 (unilube No. 00, Code No. 939302, is recommended) and Turbine Oil.  
Mixture Ratio: 1:1 (Weight Ratio)  
Supply Amount: 0.5cc

**1-5. Amount of Lubricant:**

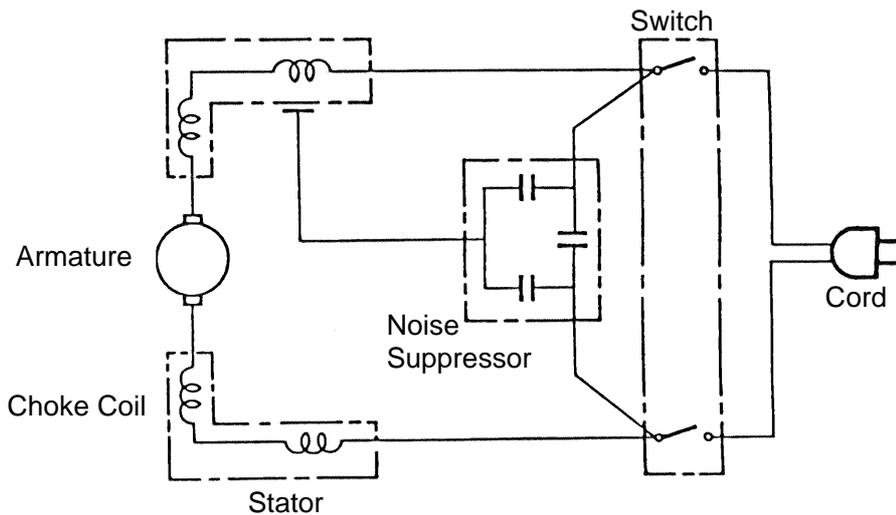
- Pinion chamber of Gear Cover ④ (supply from Inner Cover side).....8gr. of N.P.C. SEP-3A Grease (Code No. 930035).  
Also, thoroughly apply Grease on the gear teeth of the Gear and Pinion. (see Para. 1-4.)
- Needle Bearing (Metal).....Mixed Oil 0.5cc  
 Mixed Oil: Hitachi Power Tool Grease No. 2 (Code No. 939302) and Turbine Oil.  
 Mixture Ratio: 1:1 (Weight Ratio)

**1-6. Tightening Torque of Each Screw or Nut:**

- M4 Machine Screws ⑦ ⑳ ㉕..... 18 ± 4 kgf-cm
- D4 Tapping Screws ⑤① ⑤③ ⑤⑨..... 20 ± 5 kgf-cm
- D5 Tapping Screws ① ⑫..... 30 ± 5 kgf-cm
- M7 Special Nut ⑤..... 65 ± 10 kgf-cm
- M4 Flat Hd. Screw ⑳..... 6 +  $\frac{3}{0}$  kgf-cm

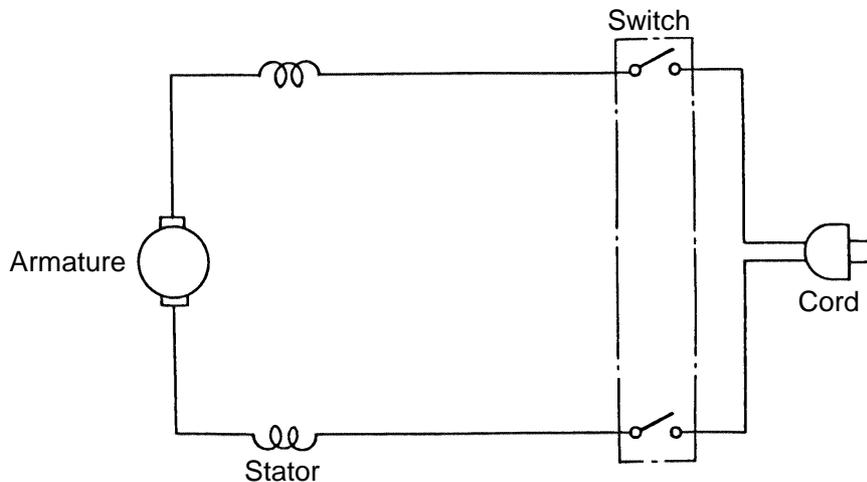
**1-7. Wiring Diagram:**

(1) For European countries, South Africa and New Zealand



**Fig. 5**

(2) For other countries



**Fig. 6**

**1-8. Remaining Reassembly:**

Remaining reassembly can be accomplished by following the disassembly procedures in reverse.

**1-9. Insulation Tests:**

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

Insulation Resistance: 7MΩ or more with DC500V Megohm Tester.

Dielectric Strength: AC4000V/1 minute, with no abnormalities..... 220V - 240V  
(and 110V for U.K. products)  
AC2500V/1 minute, with no abnormalities..... 110V - 127V  
(except U.K. products)

**1-10. 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	120 V	127 V	220 V	230 V	240 V
Current (A) Max.	2.5 A	2.5 A	2.1 A	2.1 A	1.3 A	1.2 A	1.2 A