



MODEL

CN 16

1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

The circled numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram.

1-1. Disassembly:

(1) Disassembly of the Armature (7):

- A. Loosen the Brush Caps (32), and take out the Carbon Brushes (33).
- B. Loosen the four D5 x 30 Tapping Screws (1), remove the Gear Cover (2), and take out the Armature (7) together with the Inner Cover (4) in a single body from the Housing Ass'y (28).
- C. As illustrated in Fig. 9, support the Inner Cover (4) with an appropriate tubular jig (inner diameter of $\phi 63 - \phi 72$ mm), and press down on the pinion portion of the Armature Shaft with a hand press to loosen and remove the Armature (7).

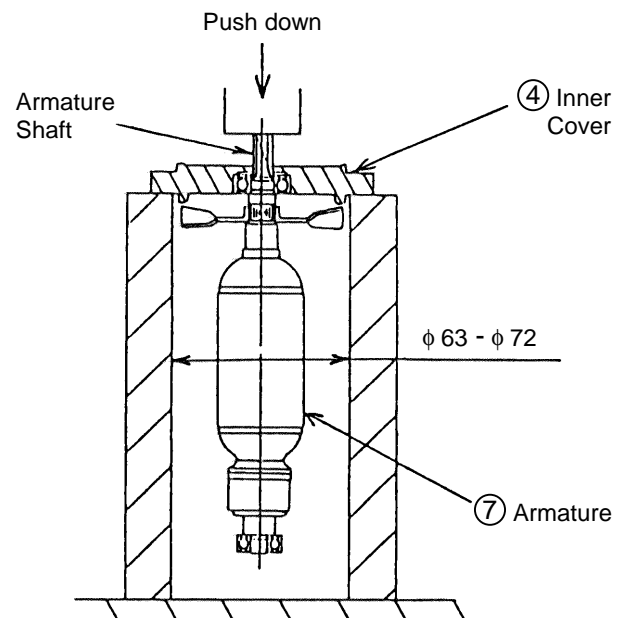


Fig. 9

(2) Disassembly of the Stator Ass'y (9):

- A. After the Armature (7) has been disassembled, loosen the D4 x 16 Tapping Screw (39), and remove the Tail Cover (44).
- B. Disconnect the leadwires of the Stator Ass'y (9) from the Slide Switch (37).
- C. Loosen the D4 x 12 Tapping Screw (36) so that Slide Switch (37) can be moved about.
- D. Loosen the two D4 x 16 Tapping Screws (39), and take out the Switch Holder (38).
- E. Disconnect the Brush Terminals (10) from the Brush Holders (34).
- F. After removing the two D4 x 60 Tapping Screws (8), gently tap the end surface of the Housing Ass'y (28) (gear cover side) with a wooden hammer to loosen and remove the Stator Ass'y (9) from the Housing Ass'y (28).

(3) Disassembly of the Gear Cover Section:

- A. Loosen the four D5 x 30 Tapping Screws (1), and remove the Gear Cover (2).
- B. Remove the Second Pinion Gear (3) and the Spindle (23).
- C. Loosen the M8 x 20 Hexagon Socket Hd. Screw (20), and remove the Die Holder (16).
- D. From the Gear Cover (2), take out the Connecting Rod Ass'y (21), the Piston (13) and the Punch (15).
- E. Loosen the M5 x 6 Hexagon Socket Hd. Set Screw (14), and remove the Punch (15).
- F. Fit an appropriate slender against either end of the D6 Pin (12), press the slender rod through with a hand press to remove the D6 Pin, and separate the Connecting Rod Ass'y (21) and the Piston (13).

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) Reassembly of the Housing Section:

- A. Prior to reassembly of the Stator Ass'y ⑨, insert the Slide Bar ②⑤ into the Housing Ass'y ②⑧, mount Slide Switch Knob (B) ②⑦ so that it is properly aligned with the Slide Bar ②⑤, and assemble them tightly with the M4 x 12 Flat Hd. Screw ②⑥.
- B. After connecting the two leadwires of the Stator Ass'y ⑨ to the Slide Switch ③⑦ as illustrated in Fig. 10, push them into the groove provided on the Switch Holder ③⑧ as shown.

(2) Reassembly of the Gear Cover Section:

- A. Grease (Hitachi Motor Grease No. 29, Code No. 930035, is recommended) is used inside the Gear Cover ②. Prior to reassembly, thoroughly remove the old grease and apply fresh grease liberally to the following, parts: the pinion portion of the Armature ⑦, the Second Pinion Gear ③, the Spindle ②③, the gear portion of the Spindle, the Connecting Rod Ass'y ②①, the M152112 Needle Bearing ②②, the needle bearing portion of the Inner Cover ④, the Piston ①③, the Punch ①⑤, and the inner circumference of the Die Holder ①⑥ where the Piston slides.
- B. When press-fitting the M152112 Needle Bearing ②② into the Connecting Rod Ass'y ②① with a hand press, fit an appropriate jig against engraved surface end of the Needle Bearing to push it properly into the Connecting Rod Ass'y.
- C. When reassembling the Die Holder ①⑥ into the Gear Cover ② (see Fig. 11), carefully ensure that the M8 x 20 Hexagon Socket Hd. Screw ②⑩ is properly aligned with the recessed hole on the Die Holder. Then, tighten the M8 x 20 Socket Hd. Screw ②⑩ to rated torque.

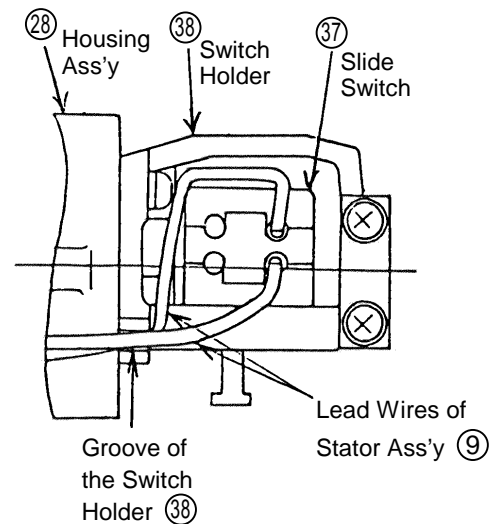


Fig. 10

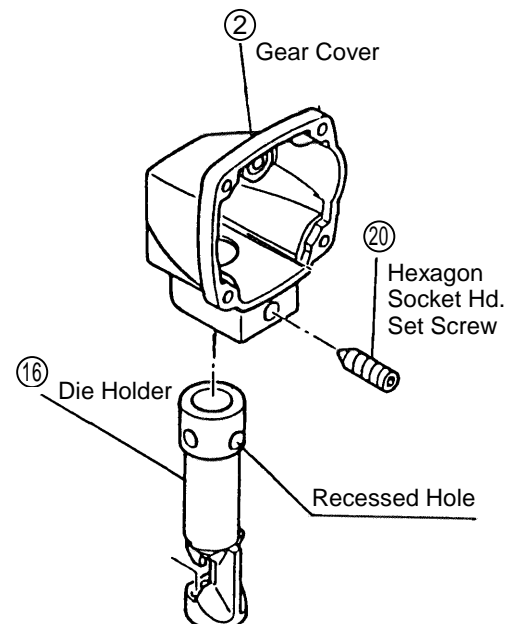


Fig. 11

1-3. Lubrication:

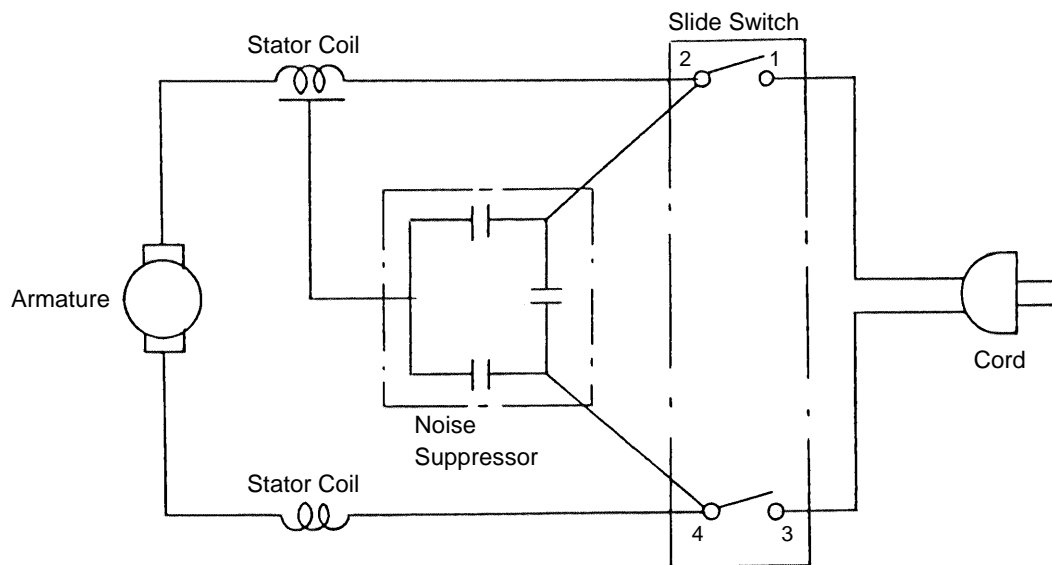
Within the Gear Cover ②, the grease (Hitachi Motor Grease No. 29, Code No. 930035, is recommended) is utilized. Apply 15 grams (.53 oz) of grease within the Gear Cover ②.

1-4. Screw Tightening Torques:

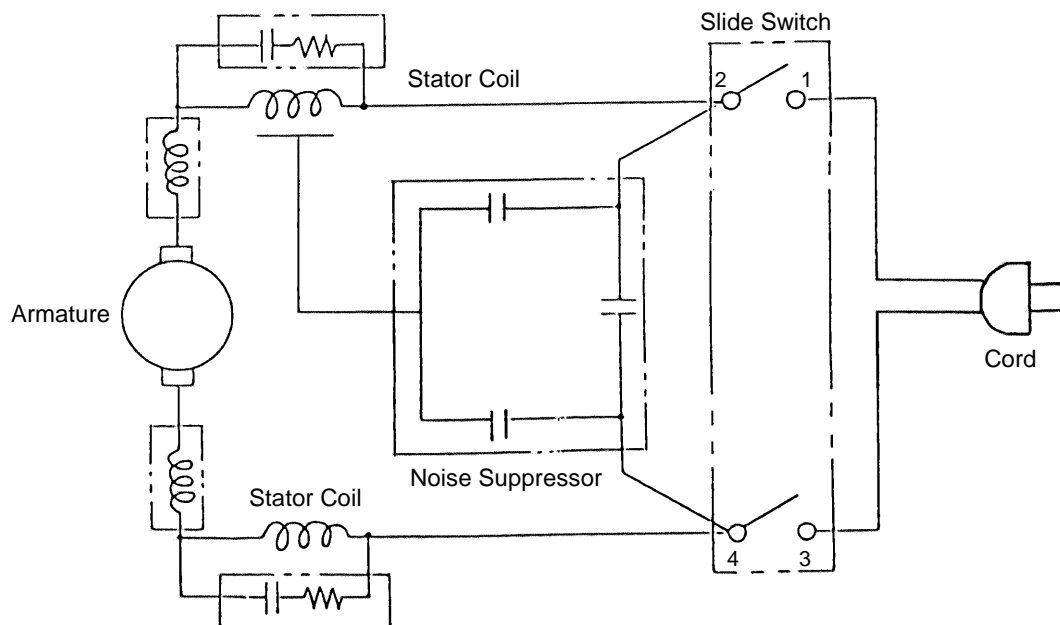
(1) D5 Tapping Screws ①	25 - 35 kg-cm (22 - 30 lb-in)
(2) D4 Tapping Screws ⑧ ③⑥ ③⑨	15 - 25 kg-cm (13 - 22 lb-in)
(3) M4 Flat Hd. Screw ②⑥	6 - 9 kg-cm (5 - 8 lb-in)
(4) M5 Hexagon Socket Hd. Set Screw ⑭	20 - 30 kg-cm (17 - 26 lb-in)
(5) M8 Hexagon Socket Hd. Set Screw ⑳	80 -100 kg-cm (70 - 90 lb-in)

1-5. Wiring Diagram :

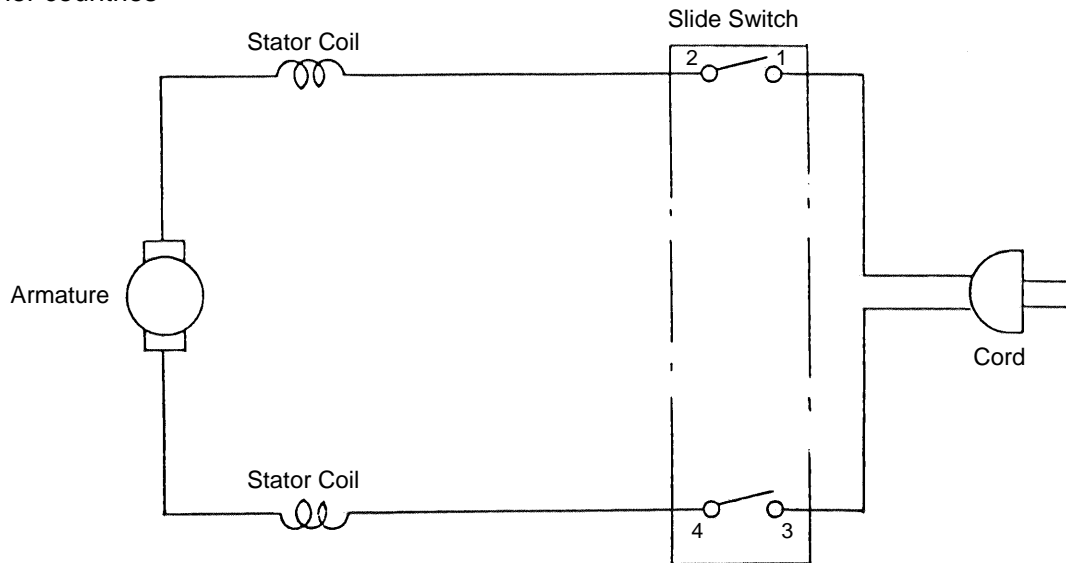
(1) For European countries (except Finland and New Zealand)



(2) For Finland and New Zealand



(3) For other countries



1-6. Insulation Tests:

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

Insulation Resistance: $7M\Omega$ or more with DC500 V Megohm Tester.

Dielectric Strength: AC4000 V/1 minute, with no abnormalities 220 V - 240 V (and 110V for U. K. products)
 AC2500 V/1 minute, with no abnormalities 110 V - 127 V (except U. K. products)

1-7. 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 (Max.)	1.6 A	1.6 A	1.5 A	1.4 A	0.85 A	0.85 A	0.8 A