



MODEL

CM 12Y

1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The procedures and precautions for disassembly and reassembly are described below. The **[Bold]** numbers in the descriptions below correspond to the item numbers in the parts list and exploded assembly diagram of CM 12Y.

Be sure to first disconnect the power plug when performing disassembly, reassembly and replacement of the diamond wheel.

1-1. Disassembly

1-1-1. Removal of the Diamond Wheel

Loosen the Bolt **[14]** with the provided Wrench **[502]** to remove the Diamond Wheel. (Note that the Bolt **[14]** for securing the Diamond Wheel is left-hand threaded.)

1-1-2. Disassembly of the Spindle (Fig. 1)

- (1) Loosen three Seal Lock Screws (W/Washer) M5 x 10 **[10]** and the Knob **[25]** to remove the Wheel Guard **[8]**.
- (2) Loosen the four Hex. Socket Hd. Bolts M5 x 16 **[19]** and remove the Packing Gland **[28]** from the Gear Cover Ass'y **[51]**.
- (3) Remove the Gear **[23]** and Feather Key **[20]** so that the Spindle **[31]** can be taken apart from the Packing Gland **[28]**.

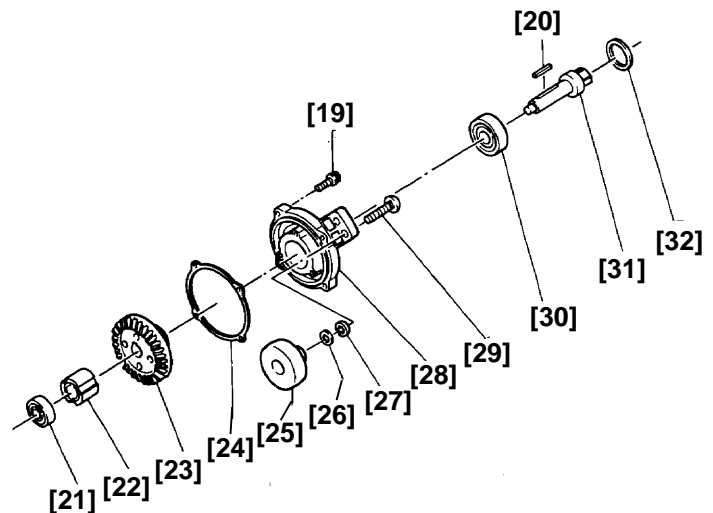


Fig. 1

1-1-3. Disassembly of the Drive Shaft (Fig. 2)

- (1) Loosen the four Machine Screws (W/Washers) M5 x 35 **[18]** to remove the Drive Shaft **[57]**.
- (2) Remove the U-Nut **[53]** and remove the Pinion **[54]** and Ball Bearings **[56]** **[21]** to take the Drive Shaft **[57]** apart. (Note that the U-Nut **[53]** for securing the Pinion is left-hand threaded.)

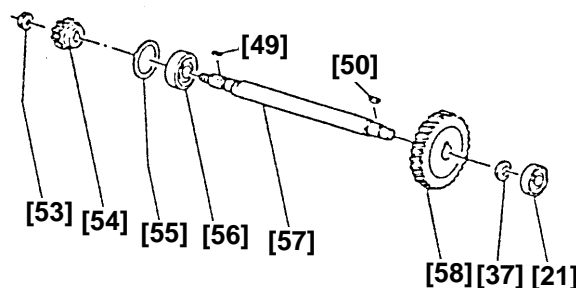


Fig. 2

1-1-4. Disassembly of the Armature Ass'y (Fig. 3)

- (1) After removing the Gear Cover Ass'y [51] and the Drive Shaft [57] as indicated in 8-1-4, remove the four Tapping Screws (W/Flange) D5 x 35 [65] so that the Armature [67] and the Inner Cover [66] can be taken apart from the Housing Ass'y [72].
- (2) Loosen the U-Nut [53] and remove Pinion (A) [36], Feather Key [49] and Space Washer [37] and press on the end face of the Armature by hand press while holding it with the jig indicated in Fig. 4 so as to remove the Armature.

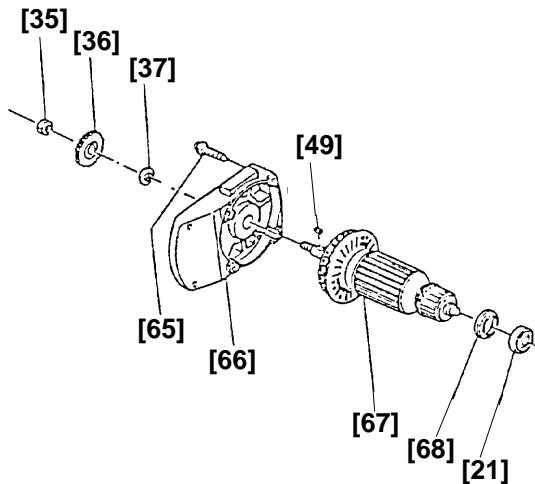


Fig. 3

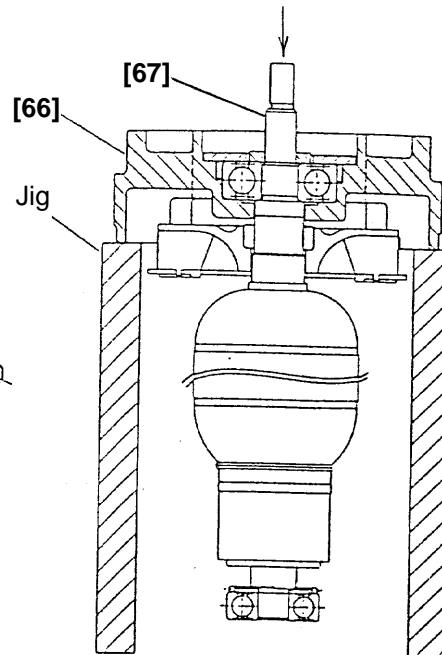


Fig. 4

1-2. Reassembly

Perform reassembly in reverse order of disassembly while observing the given precautions and taking care of the following points.

- (1) Amply apply grease to the tooth surfaces of the Gear [23], Pinion [54], First Gear (A) [58] and Pinion (A) [36].

Carefully rub in grease with your fingers so that it reaches all the way to the bottom of the teeth. Insufficient grease may result in early wear of the parts.

- (2) When replacing the Ball Bearing [21] on the commutator side of the Armature [67], take note of the direction of the Dust Seal [68] (Fig.5).

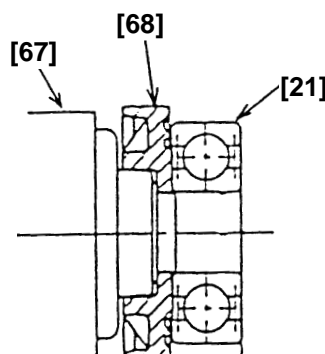


Fig. 5

1-3. Lubrication

* Bevel gear chamber of the Gear Cover Ass'y [51]	Nippeco grease JF375	45 g
* Gear chamber of the Inner Cover [66]	Nippeco grease JF375	60 g

1-4. Tightening Torques

* Tapping screw (W/Frange) D4	2.0 ± 0.5 Nm (20 ± 5 kgfcm)
* Tapping screw (W/Frange) D5	2.9 ± 0.5 Nm (30 ± 5 kgfcm)
* Machine screw M4	1.8 ± 0.4 Nm (18 ± 4 kgfcm)
* Machine screw M5	3.4 ± 0.7 Nm (35 ± 7 kgfcm)
* Machine screw M6	4.9 ± 1.0 Nm (50 ± 10 kgfcm)
* Hex. socket hd. bolt (W/Washer) M5	7.9 ± 1.5 Nm (80 ± 15 kgfcm)
* Hex. socket hd. bolt (W/Washer) M6	9.8 ± 2.0 Nm (100 ± 20 kgfcm)
* U-nut M8	13.7 ± 2.0 Nm (140 ± 20 kgfcm)
* Bolt M12t	34.3 ± 7.4 Nm (350 ± 75 kgfcm)

1-5. Wiring Diagram

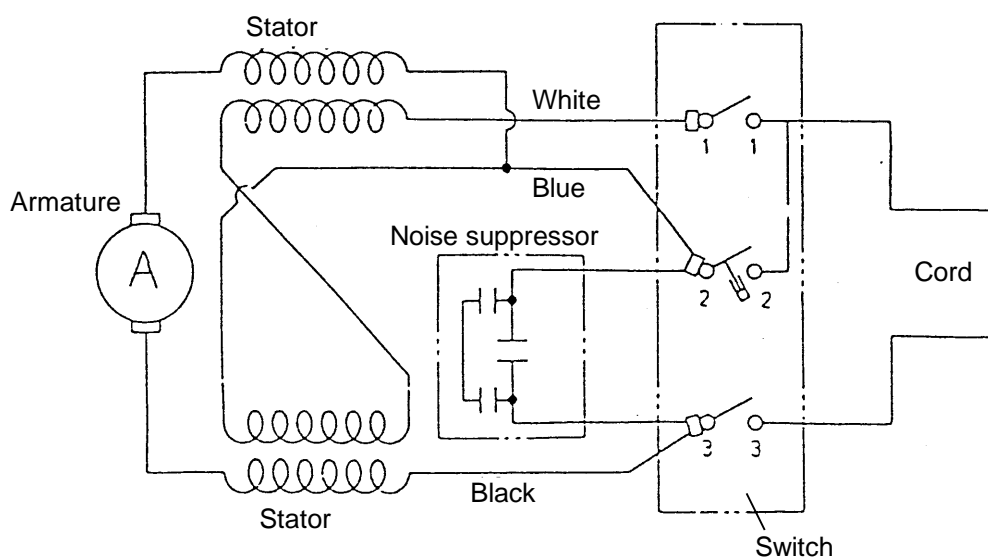


Fig. 6

1-6. Insulation Tests

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

Insulation Resistance: $7M\Omega$ or more with DC 500 V Megohm Tester.

Dielectric Strength: AC 4,000 V for 1 minute, with no abnormalities..... 230 V

110 V for 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	230 V
Current (A) Max.	6.0 A	3.5 A

2. STANDARD REPAIR TIME (UNIT) SCHEDULES

Model	Fixed	Variable	10	20	30	40	50	60
CM 12Y	General Assembly	Fixed Cost Wheel Guard 0 min. Pipe Handle 0 min. Cord 10 min. Others 20 min.	Work Flow	Packing Gland Seal Plate(A) Gear Lock Sleeve Spindle				
			Wheel Washer(D) Wheel Washer(C) Wheel Washer(B) Guard Holder Wheel Guard Knob Dust Collector(A) Dust Collector(B) Rubber Cap Spacer	Feather Key (4x4x25) Ball Bearing (6200VVCN) Ball Bearing (6302DD) Seal Plate(B)				
			Pipe Handle(B) Joint Plate Dust Guard		Pinion(A) Fan Guide	Bearing Cover Rubber Ring(B) Inner Cover Armature Dust Seal Ball Bearing (6301DD) Ball Bearing (6200VV)		
			Handle(A) Handle(B) Switch Cord	Tail Cover Bearing Bushing	Pinion Thrust Washer(A) Ball Bearing (6301VV) Drive Shaft First Gear(A) Ball Bearing (6200VV)	Gear Cover Ass'y		
							Housing Ass'y Stator Ass'y	