

MODEL

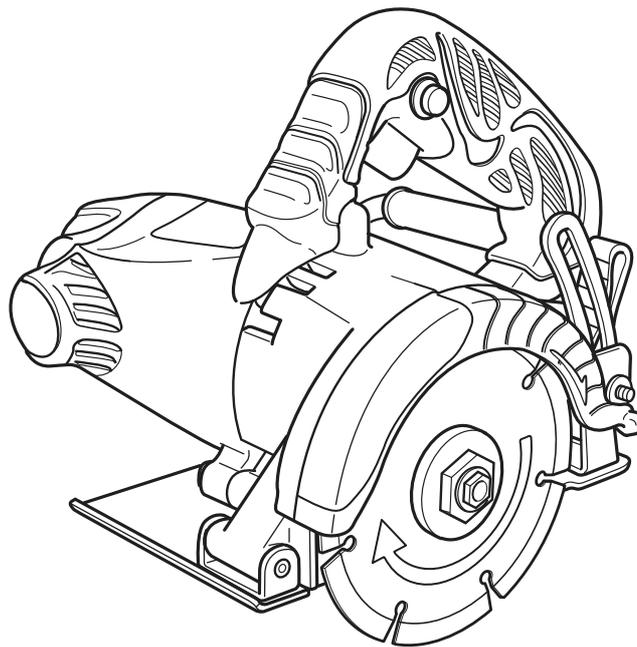
CM 4SB2

Hitachi
Power Tools

110 MM CUTTER
CM 4SB2

TECHNICAL DATA
AND
SERVICE MANUAL

C



LIST No. E710

Feb. 2006

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

Symbols Utilized	Competitors	
	Company Name	Model Name
C	MAKITA	4100NH

CONTENTS



	Page
1. PRODUCT NAME	1
2. MARKETING OBJECTIVE	1
3. APPLICATIONS	1
4. SELLING POINTS	1
4-1. Selling Point Descriptions	2
5. SPECIFICATIONS	4
5-1. Specifications	4
6. COMPARISONS WITH SIMILAR PRODUCTS	5
6-1. Specification Comparisons	5
6-2. Cutting Characteristics for Various Workpiece Materials	6
7. PRECAUTIONS IN SALES PROMOTION	7
7-1. Handling Instructions	7
7-2. Cautions on the Name Plate	8
7-3. Precautions in Use	9
8. DISASSEMBLY/REASSEMBLY GUIDE	10
8-1. Disassembly	10
8-2. Reassembly	14
8-3. Inspection after Reassembly	16
9. STANDARD REPAIR TIME (UNIT) SCHEDULES	17
Assembly Diagram for Model CM 4SB2	

1. PRODUCT NAME

Hitachi Cutter, Model CM 4SB2

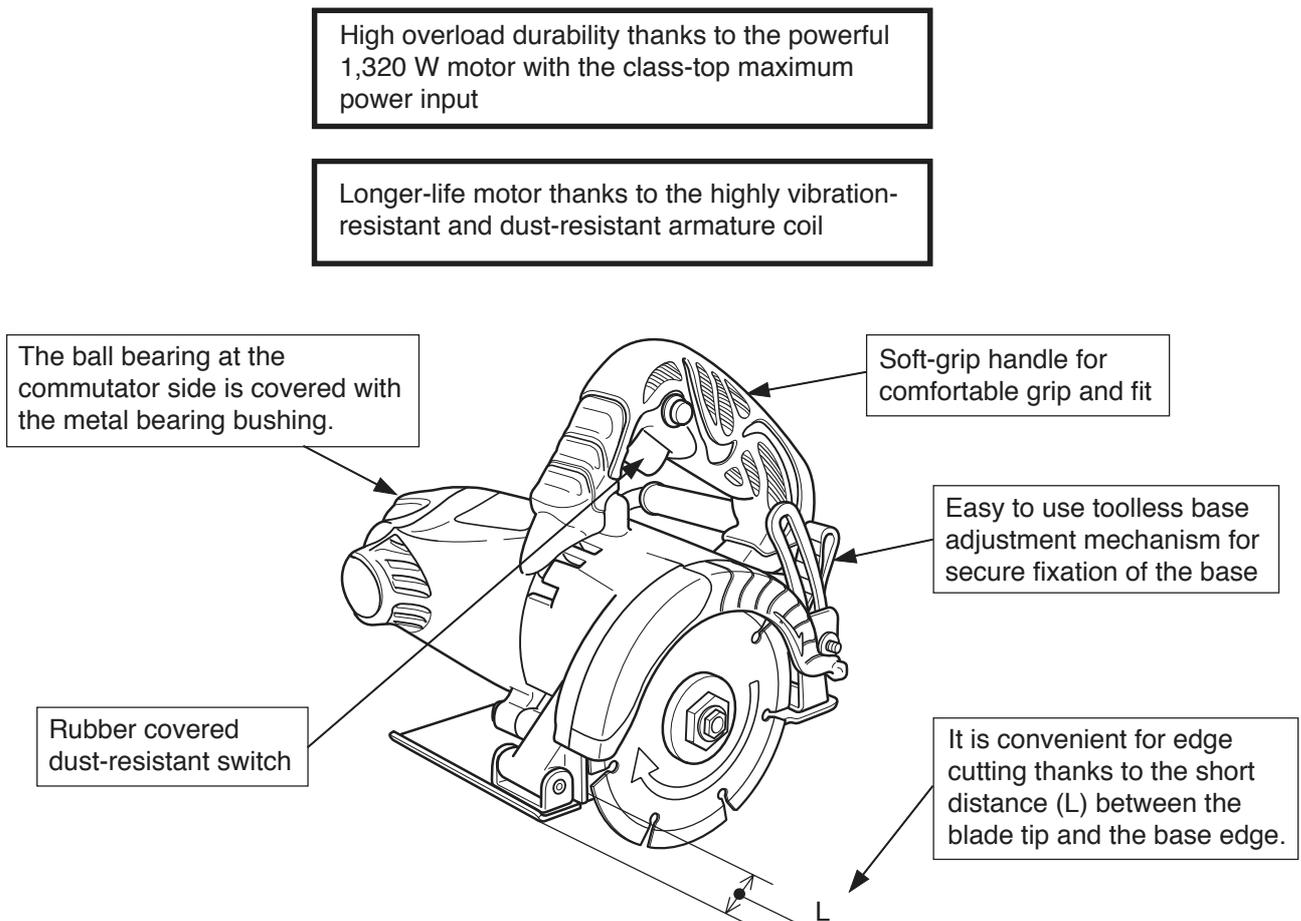
2. MARKETING OBJECTIVE

The sales of the current Model CM 4SB have been slowing down in the huge Chinese market due to the price war and spread of made-in-China products and fake brand name products. The new Model CM 4SB2 is the upgraded version of the current Model CM 4SB and the Model CM 4SA2 that has been mainly sold in Taiwan. The new Model CM 4SB2 has many selling points such as the powerful motor with the class-top maximum power input, highly vibration-resistant armature, toolless base adjustment mechanism, and ball bearing covered with metal bushing. In addition, the Model CM 4SB2 is novel and easy to operate thanks to the soft-grip handle and the compact body to differentiate from other products at a glance. With the new Model CM 4SB2, we aim to expand our market share.

3. APPLICATIONS

- Cutting or striating stones such as marble and granite, tile, concrete, brick, and similar materials
<< Typical applications >>
- Upholstery work, decoration work, stone processing, tiling, electric work, and plumbing

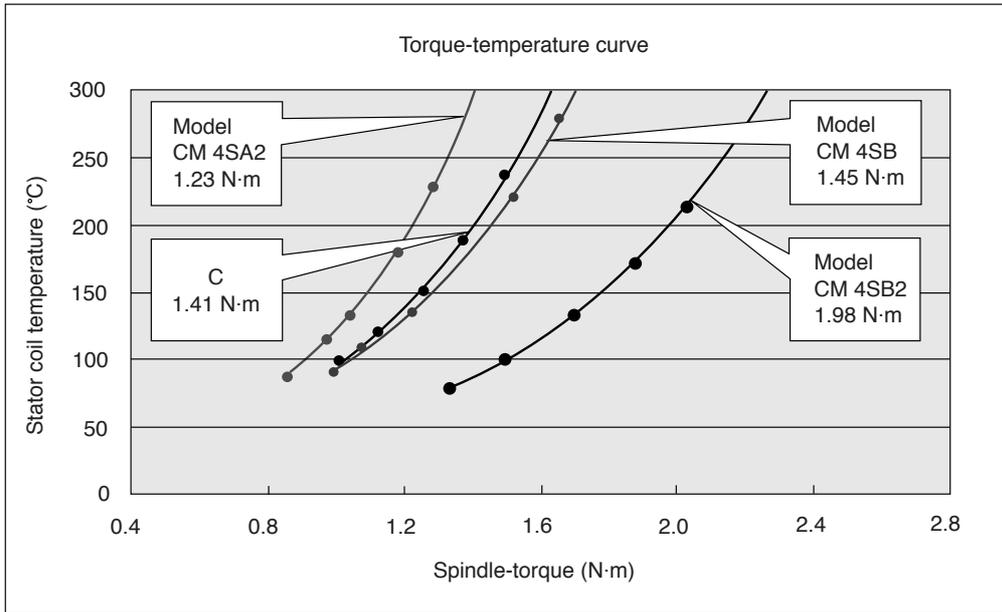
4. SELLING POINTS



4-1. Selling Point Descriptions

(1) Powerful 1,320 W motor with the class-top maximum power input

The Model CM 4SB2 has high overload durability thanks to the most powerful motor in the class.

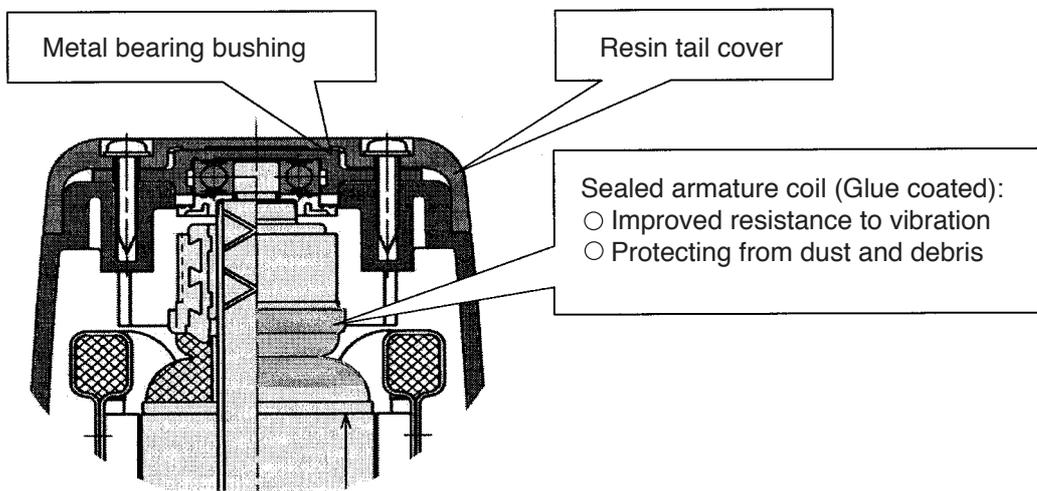


Following table shows a comparison of the spindle torque ratio with the conventional models and a competitor when the stator coil temperature is 200 °C. It is clear that high overload durability can be obtained as the torque becomes high.

	CM 4SB2	CM 4SB	CM 4SA2	C
Torque (N·m)	1.98	1.45	1.41	1.23
Torque ratio	1.37	1.0	0.97	0.85

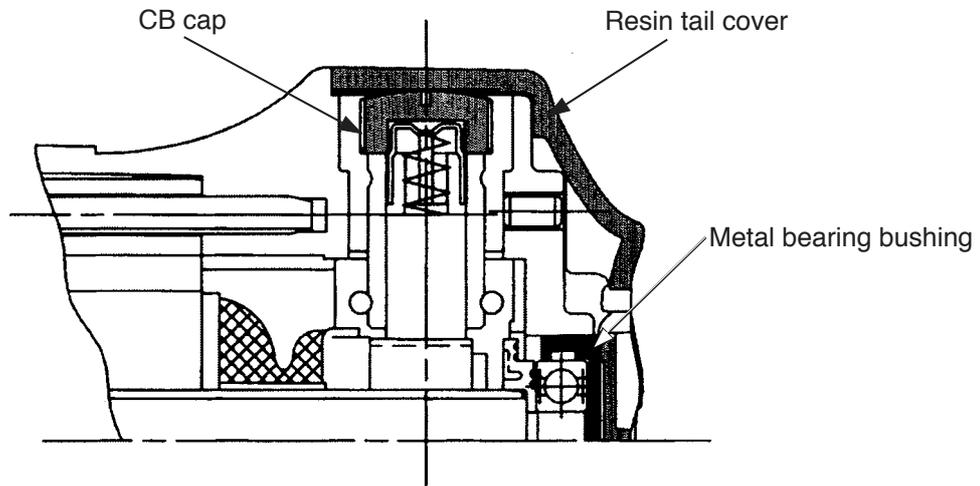
(2) Highly vibration-resistant and dust-resistant armature coil

The Model CM 4SB2 has substantially higher vibration resistance than the conventional model because movement of the coil due to vibration is suppressed by coating the periphery of the joint between the armature coil and the commutator with a special glue. It also prevents dust and debris of concrete or stone from getting in and scratching the coil surface.



(3) The ball bearing at the commutator side is covered with the metal bearing bushing

The resin housing incorporates the metal bearing bushing and the outer frame is covered with the resin tail cover to cope with weakness of the resin housing that it melts by heat of the ball bearing due to overload operation. This resin tail cover also prevents the CB cap from being loose by vibration.



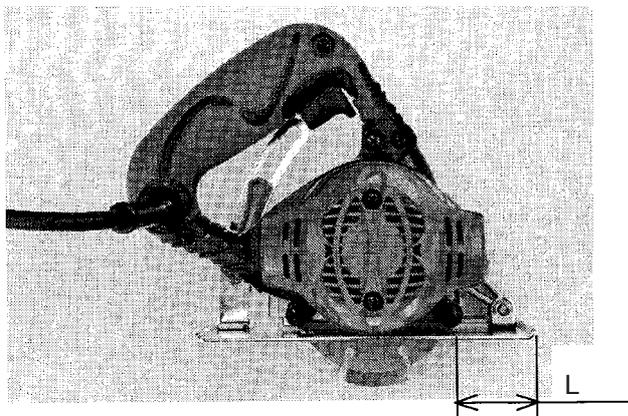
(4) Soft-grip handle for comfortable grip and fit

The handle grip is entirely covered with a soft resin material (called "elastomer") for nonskid grip and comfortable fit. This handle offers less user fatigue even if it is operated for a long time.

(5) Easy to use toolless base adjustment mechanism for secure fixation of the base

The Model CM 4SB2 has the base adjustment mechanism equipped with a lever to adjust the cutting depth without the aid of tools. In the case of the conventional models and the competitors, a wing bolt is used to fix the base link. However, there is a problem that such a wing bolt is apt to be loose during operation and lost without being noticed. In the case of the Model CM 4SB2, the base can be easily fixed and loosened just by raising and lowering the lever. In addition, the lever is prevented from being loose during operation.

(6) Short distance (L) between the blade tip and the base edge



Back side

The Model CM 4SB2 has the uniquely shaped base unit to shorten the dimension (L) as shown in the left figure. It is convenient for edge cutting.

Comparison of the dimension (L)

CM 4SB2	CM 4SB	CM 4SA2	C
28	38	38	42

The dimension (L) of the Model CM 4SB2 is 28 mm as shown in the table above. It is the shortest among the current models and C by 10 mm or more.

5. SPECIFICATIONS

5-1. Specifications

Item	Model	CM 4SB2		
Capacity		Max. cutting depth 34 mm (for 110 mm diamond wheel) 31.5 mm (for 105 mm diamond wheel)		
Diamond wheel size		Max. diameter 110 mm external dia. x 1 mm thickness x 20 mm internal dia.		
Type of motor		AC single phase commutator motor		
Power source		AC single phase		
Type of switch		Trigger switch		
Enclosure (Material and color)		Housing _____ Polycarbonate resin + elastomer Handle cover _____ Polycarbonate resin + elastomer Tail cover _____ Polyamide resin Gear cover _____ Aluminum die casting		
Full-load current and power input		Voltage	Full-load current	Power input
		110 V	12.6 A	1,320 W
		120 V	11.6 A	
		220 V	6.3 A	
		230 V	6.0 A	
		240 V	5.8 A	
No-load rotation speed		11,500/min.		
Weight	Net	2.8 kg (6.2 lbs.) (excluding cord)		
	Gross	3.8 kg (8.4 lbs.)		
Overall length x height		204 mm x 157 mm (8-1/32" x 6-3/16")		
Cord	Type	Two core cabtire cable		
	Overall length	2.5 m (8.2 ft.)		
Package		Corrugated fiberboard box		
Standard accessories		Box wrench 1 Wrench 1 Water plug (excluding China, U.S.A.) 1 Rubber adaptor (excluding China, U.S.A.) 1 Vinyl hose (excluding China, U.S.A.) 1		
Optional accessories		Diamond wheel • Segment type (for dry cutting) Diameter 106 mm (4-1/8") • Rim type (for wet cutting) Diameter 110 mm (4-3/8") • Rim type (for dry and wet cutting) Diameter 104 mm (4")		

6. COMPARISONS WITH SIMILAR PRODUCTS

6-1. Specification Comparisons

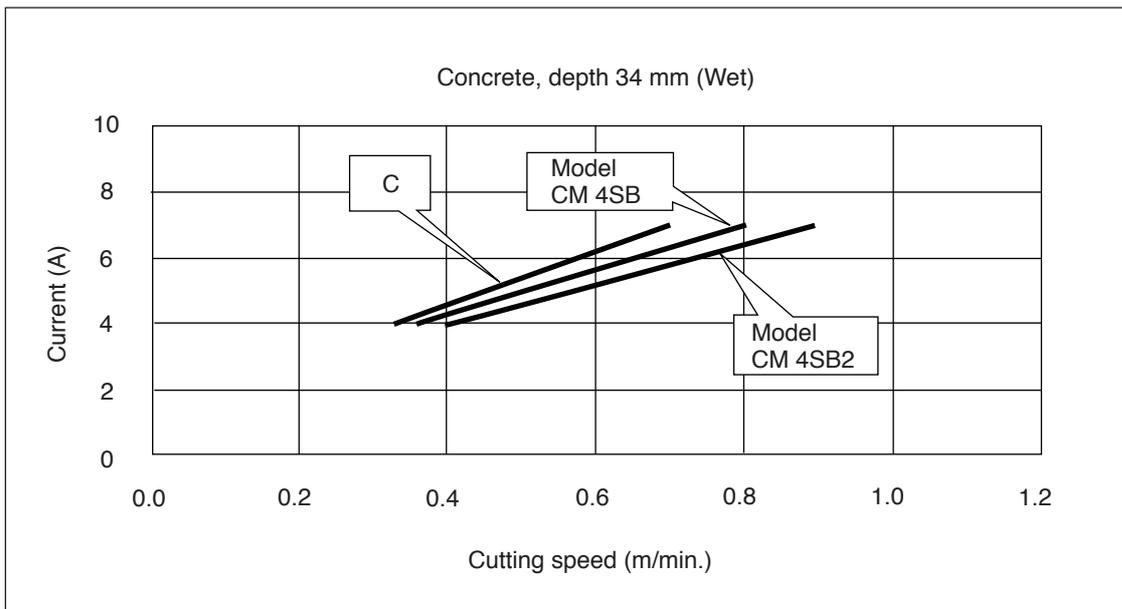
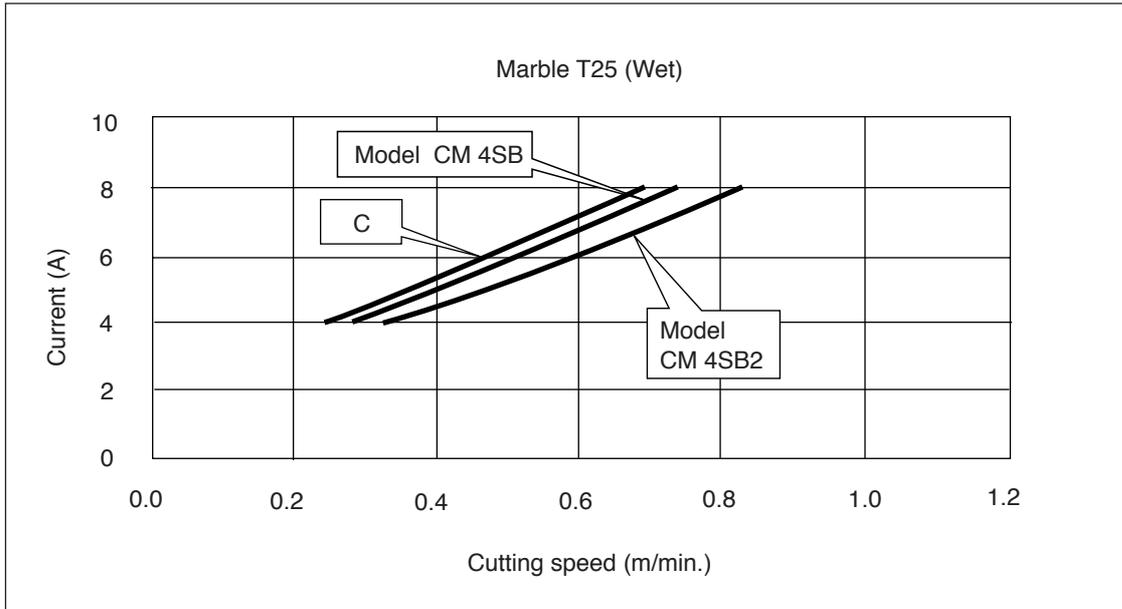
Maker · Model			HITACHI			C		
			CM 4SB2	CM 4SB	CM 4SA2			
Item · Unit								
Catalog specifications	Diamond wheel dia.		mm	110 (4-3/8")	110 (4-3/8")	110 (4-3/8")	110 (4-3/8")	
	Max. cutting depth		mm	34 (1-3/8")	34 (1-3/8")	34 (1-3/8")	34 (1-3/8")	
	No-load speed		/min	11,500	12,000	11,000	13,000	
	Power input		W	1,320	1,240	1,050	1,200	
	Weight (excludes cord)		kg	2.8 (6.2 lbs)	2.8 (6.2 lbs)	2.6 (5.7 lbs)	2.9 (6.4 lbs)	
Characteristics	Voltage		V	220	220	220	220	
	No-load	Speed		/min	11,700	12,000	11,500	12,500
		Noise level		db	85	85	86	88
		Vibration level		db	103 (1.4 m/s ²)	111 (3.6 m/s ²)	111 (3.6 m/s ²)	106 (2.0 m/s ²)
	Full-load	Current		A	6.3	5.9	5.0	5.7
		Speed		/min	7,900	8,500	7,300	8,500
		Torque		N·m	0.90 (1.22 ft-lbs)	0.80 (1.08 ft-lbs)	0.81 (1.10 ft-lbs)	0.83 (1.19 ft-lbs)
		Output		W	740	705	620	740
		Temperature rise	St. coil	K	51	84	78	77
	Ar. coil		K	63	72	96	86	
	Max. output		W	2,090	2,040	1,310	1,630	
	Max. torque		N·m	16.5 (22.4 ft-lbs)	13.1 (17.8 ft-lbs)	9.8 (13.3 ft-lbs)	8.8 (11.9 ft-lbs)	
	Weight (excludes cord)		kg	2.94 (6.5 lbs)	2.99 (6.6 lbs)	2.67 (5.9 lbs)	2.94 (6.5 lbs)	
	Overload durability		N·m ratio	1.95 136	1.43 100	1.33 93	1.43 100	
Features	Overall length		mm	204 (8-1/32")	201 (7-29/32")	195 (7-43/64")	206 (8-7/64")	
	Height		mm	156 (6-9/64")	156 (6-9/64")	156 (6-9/64")	164 (6-29/64")	
	Cord length		m	2.5 (8.2 ft)	2.5 (8.2 ft)	2.5 (8.2 ft)	2.5 (8.2 ft)	
	Distance between base edge and blade		mm	28 (1-7/64")	38 (1-1/2")	38 (1-1/2")	42 (1-21/32")	
	Metal bearing holder			Provided	Not provided	Not provided	Not provided	
	Sealed armature coil			Provided	Not provided	Not provided	Not provided	
	Soft grip handle			Provided	Not provided	Not provided	Not provided	
	Cutting depth setting			Large lever	Wing bolt	Wing bolt	Wing bolt	

6-2. Cutting Characteristics for Various Workpiece Materials

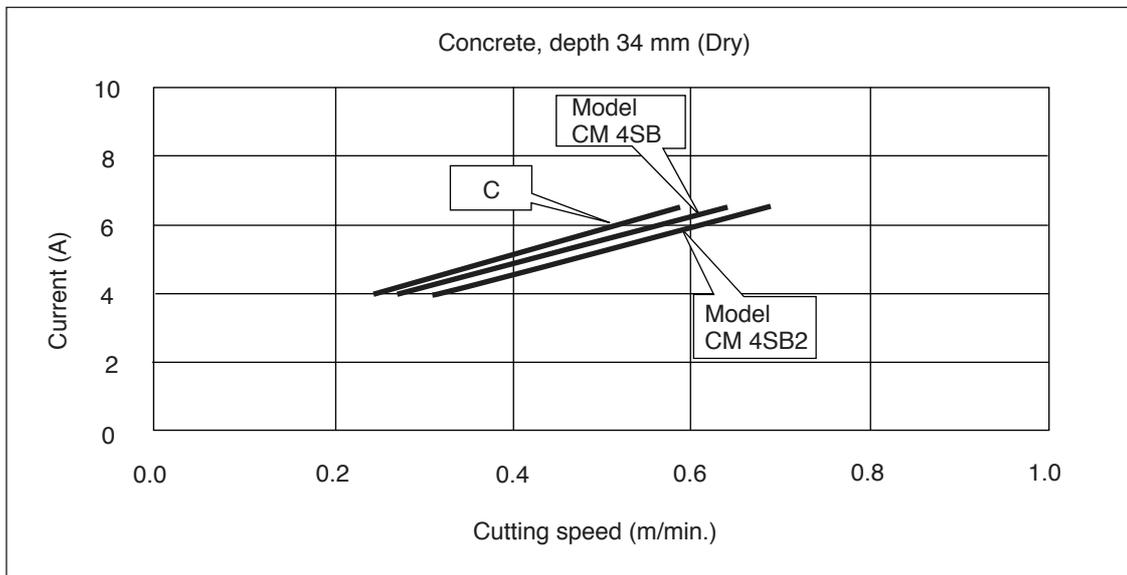
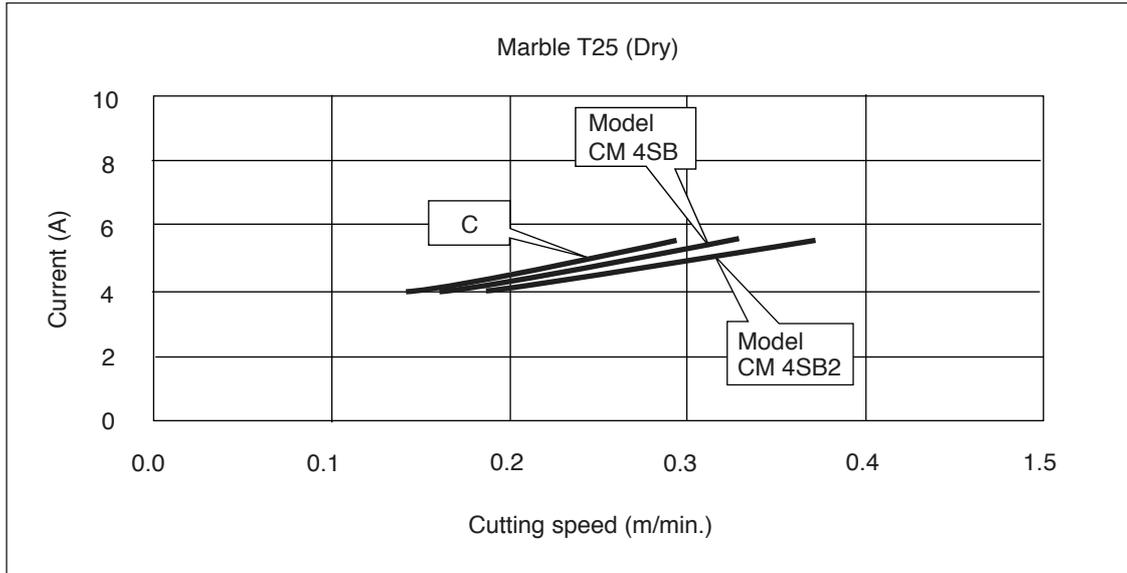
The relationships between cutting speed and load current for various workpiece materials are shown in the graphs below. At the same cutting speeds, the load currents of the Model CM 4SB2 are lower than those of the Model CM 4SB and maker C's model.

Power supply: 220 V 50 Hz
Diamond wheel: Segment type, 106 dia.
Rim type, 110 dia.

(1) For wet cutting



(2) For dry cutting



7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model CM 4SB2 Cutter by all of our customers, it is very important that at the time of sale the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the Name Plate attached to each tool.

7-1. Handling Instructions

Although every effort is made in each step of design, manufacture and inspection to provide protection against safety hazards, the dangers inherent in the use of any electric power tool cannot be completely eliminated. Accordingly, general precautions and suggestions for the use of electric power tools, and specific precautions and suggestions for the use of the cutter are listed in the Handling Instructions to enhance the safe and efficient use of the tool by the customer.

Salespersons must be thoroughly familiar with the contents of the Handling Instructions to be able to offer appropriate guidance to the customer during sales promotion.

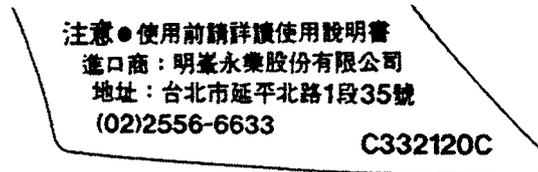
7-2. Cautions on the Name Plate

Each tool is provided with a Name Plate which contains the following basic safety precautions in the use of the tool.

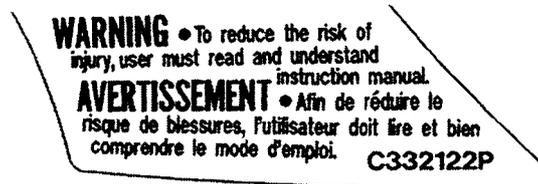
(1) For China



(2) For Taiwan



(3) For the U.S.A. and Canada



(4) For New Zealand



7-3. Precautions in Use

7-3-1. Wet cutting and dry cutting

The Model CM 4SB2 can be used for "wet cutting" applications except the ones exported to China, U.S.A. and Canada due to limitation of the standards. Although the Model CM 4SB2 has a double-insulation structure to prevent shock hazard during wet cutting, such insulation is not always complete depending on the customer's operating conditions, degradation level of the main body, etc. To prevent a possible accident, recommend the customer to install an earth leakage breaker when using water at operation.

7-3-2. Cautions in cutting or striating

- Instruct the customers to check the diamond wheel without fail before operation. Do not use a cracked, broken or bent wheel.
- Instruct the customers not to pour water or grinding fluid on the wheel when using the diamond wheel for dry cutting (segment type). Otherwise, the service life of the diamond wheel may be shortened.
- Instruct the customers to set the cutting depth to 20 mm or less, and not to cut a workpiece at a time but cut it in several steps if a cutting depth over 20 mm is required. Otherwise, the diamond wheel may be damaged and its service life may be significantly shortened as well as the motor burnout.
- The diamond wheel may be damaged and its service life may be significantly shortened if it is used for zigzag cutting, curve cutting, inclined cutting, or its side surface is used. Instruct the customers not to use the diamond wheel in such ways.
- Instruct the customers to wear safety glasses and masks without fail to protect themselves from dust especially during dry cutting.
- Although the Model CM 4SB2 is superior to the conventional models in overload durability, operation in overload or continuous long-term operation may shorten the service life of the Model CM 4SB2 and the diamond wheel. Instruct the customers not to operate the Model CM 4SB2 in overload.

8. DISASSEMBLY/REASSEMBLY GUIDE

Disassembly and reassembly procedures which require particular attention are described below. The **[Bold]** numbers in the descriptions below correspond to the item numbers in the Parts List and the exploded assembly diagram for the Model CM 4SB2. Be sure to unplug the Model CM 4SB2 from the outlet before disassembly or replacement of the diamond wheel.

8-1. Disassembly

(1) Removal of the diamond wheel (Fig. 1)

Loosen the Bolt (Left-Hand) M7 x 15 **[54]** using the Wrench (Hex. Socket 10/19.2 mm) **[501]** and the Box Wrench 10 mm **[502]** (standard accessories) then remove the diamond wheel. (The diamond wheel is secured with the left-hand thread bolt.)

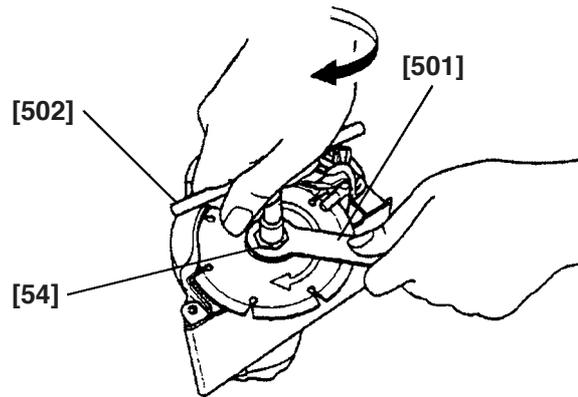


Fig. 1

(2) Disassembly of the Housing Ass'y **[13]** (Fig. 2)

- ① Loosen the two Tapping Screws (W/Flange) D4 x 20 (Black) **[14]** to remove the Tail Cover **[18]** then remove the two Brush Caps **[31]** and two Carbon Brushes (1 Pair) **[30]**.
- ② Loosen the three Machine Screws (W/Washers) M5 x 25 **[17]** to remove the Housing Ass'y **[13]** and Armature **[46]** from the Gear Cover **[41]**. Then pull the Fan Guide **[1]** out of the Housing Ass'y **[13]**

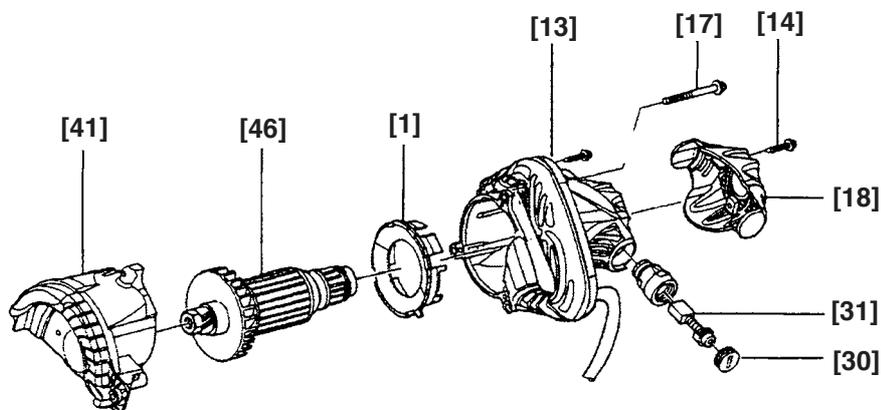


Fig. 2

(3) Disassembly of the base ass'y (Fig. 3)

- ① Remove the Retaining Ring (E-Type) For D8 Shaft [52] to remove the Link Lever [51]. Loosen the Special Bolt M6 [53] and remove the Washer M6 [50].
- ② Pull out the Roll Pin D6 x 36 [48] which connects the Gear Cover [41] and the Base [49].

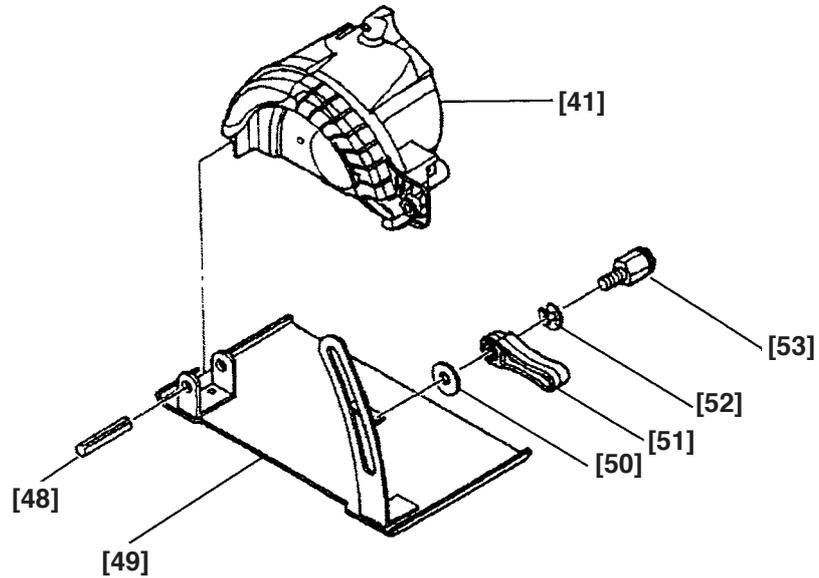


Fig. 3

(4) Disassembly of the Bearing Holder [37] (Fig. 4 and Fig. 5)

- ① Loosen the two Seal Lock Screws (W/Sp. Washer) M5 x 20 [47]. Tap gently the end surface of the Gear Cover [41] with a wooden hammer and remove the Bearing Holder [37] in an assembled condition.
- ② Pull out the O-ring [33] attached to the tip of the Spindle [38] and push the end surface of the Spindle [38] with a hand press holding the side of the Bearing Holder [37]. Then the Distance Piece [35] and the Spindle [38] can be removed in an assembled condition.

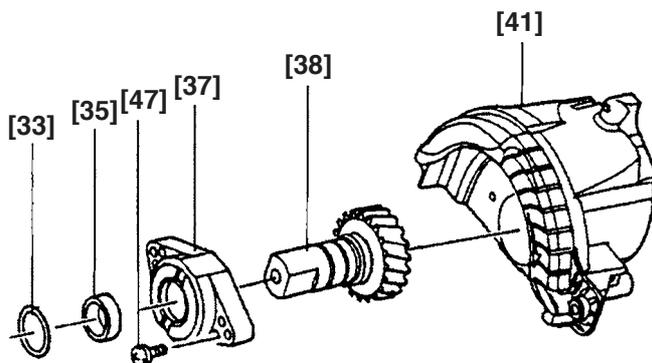


Fig. 4

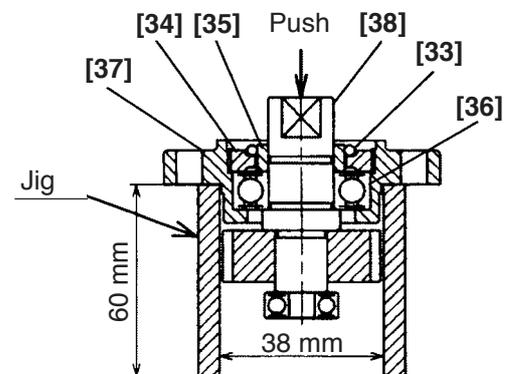


Fig. 5

(5) Disassembly of the Spindle [38] (Fig. 6)

Remove the Ball Bearing 606ZZC2PS2L [39] from the Spindle [38]. Push the end surface of the Spindle [38] with a hand press holding the side of the Gear [56] to remove the Gear [56].

NOTE: It is recommended to replace the Gear [56] together with the Spindle [38]. (Because the press-fitting force is decreased as it is press-fitted without key.)

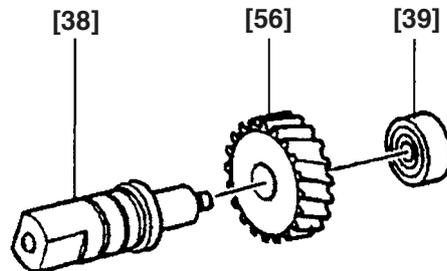


Fig. 6

(6) Disassembly of the Bearing Bushing [21] (Fig. 7)

- ① Pull out the Bearing Bushing [21] from the Housing Ass'y [13]. Remove the Rubber Ring [19] and the Rubber Washer [20] from the inside of the Bearing Bushing [21].

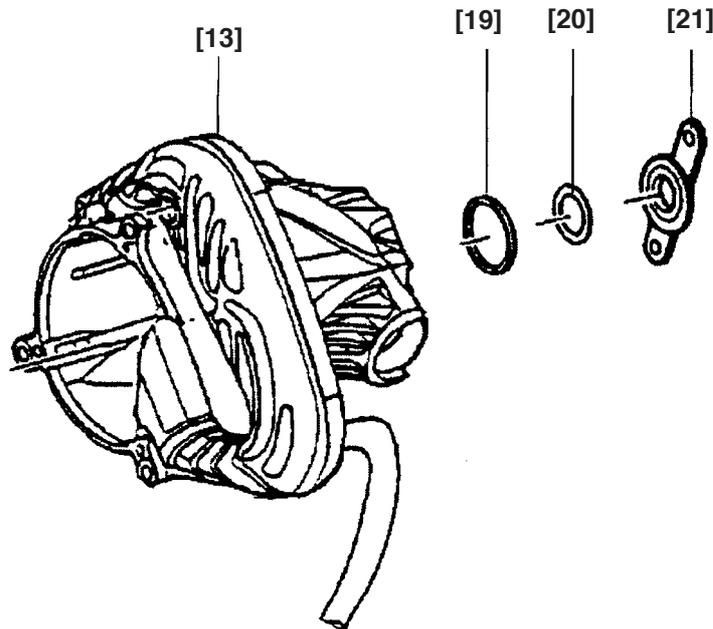


Fig. 7

(7) Disassembly of the Armature [46] (Fig. 8)

- ① Secure the Armature [46] and loosen the Special Nut M7 (right-hand thread) [42] to pull out the Pinion [43].
- ② Remove the Ball Bearing 629VVC2PS2L [44], Washer (A) [45], Ball Bearing 608VVC2PS2L [7] and Dust Seal [6] from both ends of the Armature [46].

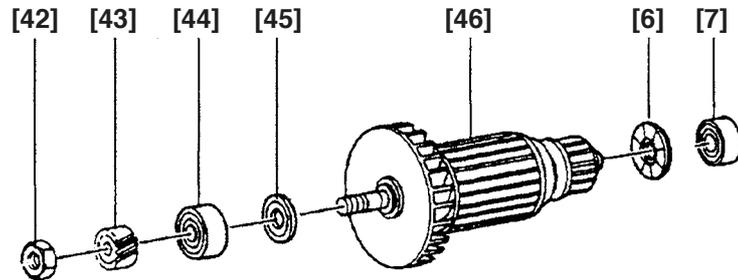


Fig. 8

(8) Disassembly of the Handle Cover [9] and the Switch (1P Screw Type) [11] (Fig. 9)

- ① Remove the three Tapping Screws (W/Flange) D4 x 20 (Black) [14] and remove the Handle Cover [9] from the Housing Ass'y [13].
- ② Loosen the small screw of the Switch (1P Screw Type) [11]. Then the two internal wires coming from the Stator Ass'y [4] and the two internal wires coming from the Cord [28] can be disconnected and the Switch (1P Screw Type) [11], Switch Rubber Cover [10] and Noise Suppressor [22] can be removed from the Housing Ass'y [13]. Remove the two Tapping Screws (W/Flange) D4 x 16 [25], Cord Clip [26], Cord [28] and Cord Armor [27] from the Handle Cover [9].
- ③ Remove Rubber Cover (B) [8] from the Handle Cover [9].

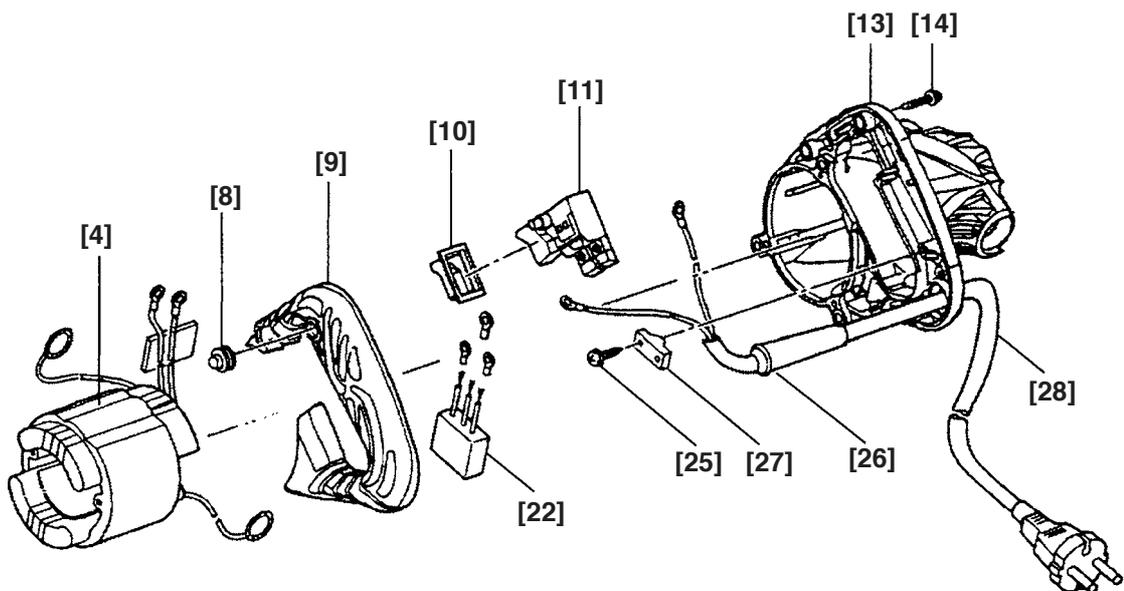


Fig. 9

8-2. Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

(1) Mounting direction of Washer (A) [45] and Dust Seal [6] (Fig. 10-1)

Check that there is a clearance between the Ball Bearing 629VVC2PS2L [44] and Washer (A) [45], and between the Ball Bearing 608VVC2PS2L [7] and the Dust Seal [6].

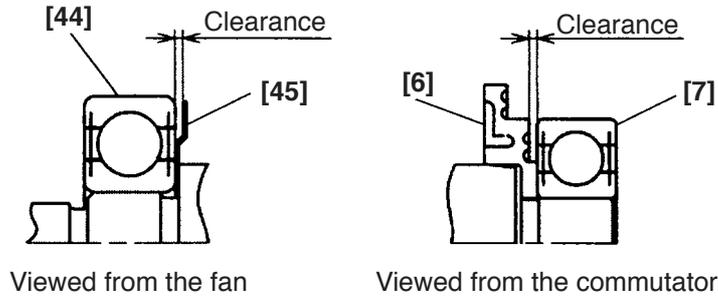


Fig. 10-1

(2) Sufficiently apply grease to the tooth portions of the Pinion [43] and the Gear [56] by rubbing with fingers.

Insufficient greasing may cause an early wear of the Pinion [43] and the Gear [56].

(3) Be careful of the mounting direction of the Cord Clip [26]. (Fig. 10-2)

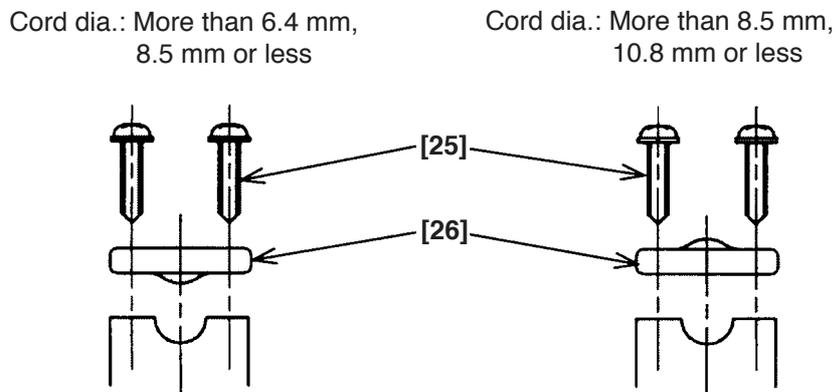


Fig. 10-2

(4) Lubrication

Nippeco SEP-3A grease

- Tooth portion of the Pinion [43]
- Tooth portion of the Gear [56]
- Inside of the gear chamber of the Gear Cover [41]: 5 g
- Inner and outer circumferences of the O-ring [33]

(5) Tightening torque

- Bolt (Left Hand) M7 x 15 [54] 10.2 ± 2.0 N·m (100 ± 20 kgf·cm)
- Special Nut M7 [42] 9.8 ± 1.47 N·m (100 ± 15 kgf·cm)
- Seal Lock Screw (W/Sp. Washer) M5 x 20 [47] 3.92 ± 0.98 N·m (40 ± 10 kgf·cm)
- Machine Screw (W/Washers) M5 x 25 [17] 3.43 ± 0.49 N·m (35 ± 5 kgf·cm)
- Hex. Hd. Tapping Screw D5 x 65 [2] 3.43 ± 0.49 N·m (35 ± 5 kgf·cm)
- Tapping Screw (W/Flange) D4 [14] [25] 1.96 ± 0.49 N·m (20 ± 5 kgf·cm)
- Brush Cap [31] 0.98 to 1.47 N·m (10 to 15 kgf·cm)
- Hex. Socket Set Screw M5 x 8 [16] 0.48 to 0.98 N·m (5 to 10 kgf·cm)

(6) Wiring diagram

To prevent rotation failure or reverse rotation, be very careful to ensure that wiring is done properly as illustrated below. (Fig. 11, 12, 13 and 14)

(6-1) Type I

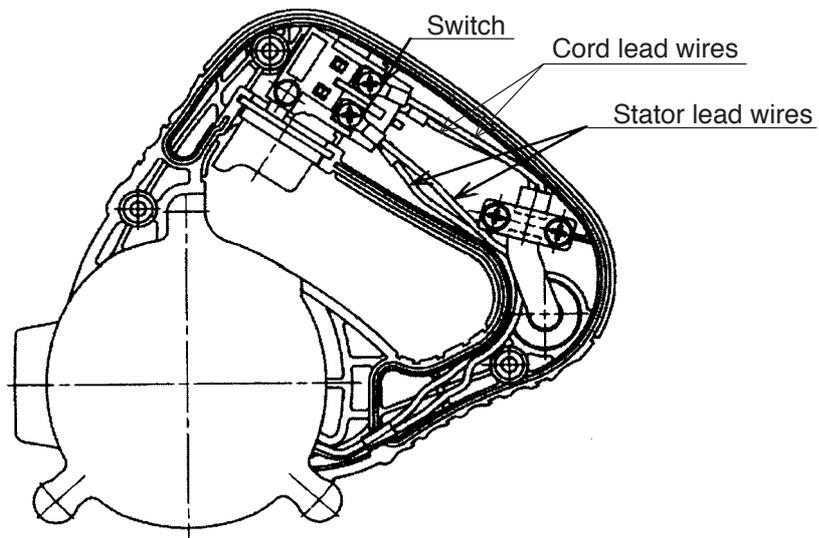


Fig. 11

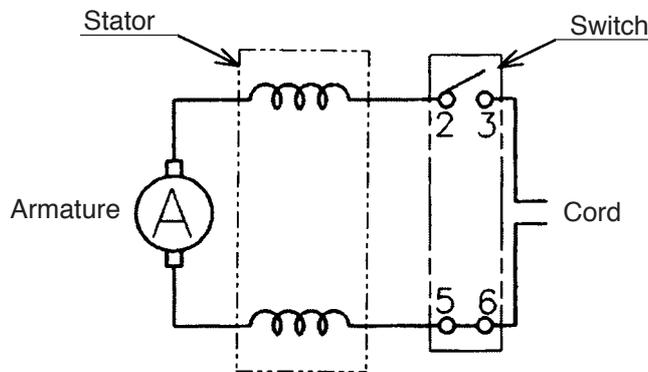


Fig. 12

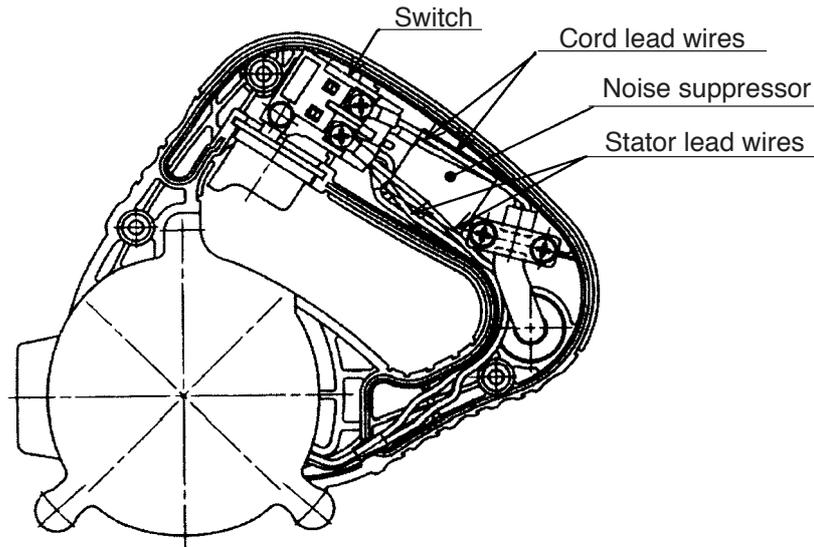


Fig. 13

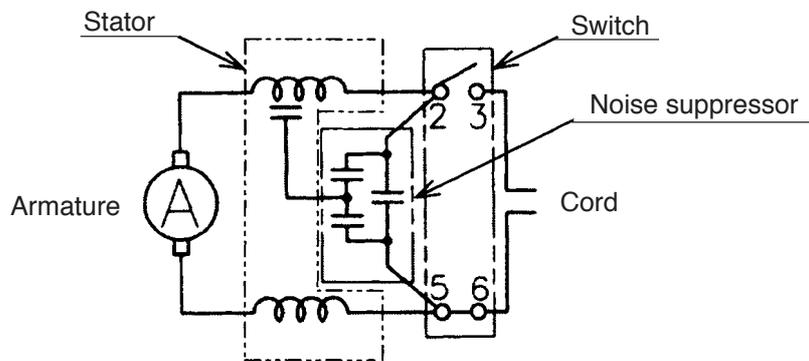


Fig. 14

8-3. Inspection after Reassembly

(1) Product accuracy

Runout of the diamond wheel: 0.6 mm maximum at the 100 mm dia. points

(2) Checking the insulation distance

Do not peel off the coating excessively at the connection of the internal wires. Do not get the internal wires in the joint of the handle.

(3) Measurement of insulation resistance and dielectric strength

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

Insulation resistance: 7 M Ω or more

Dielectric strength: AC 4000V/1 minute, with no abnormalities 220 V – 240 V products

AC 2500V/1 minute, with no abnormalities 110 V – 120 V products

(4) No-load current

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

110 V: 4.7 A maximum 220 V: 2.6 A maximum 230 V: 2.4 A maximum 240 V: 2.5 A maximum

9. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
CM 4SB2		Work Flow						
		Tail Cover Handle Cover Cord Cord Armor			Housing Ass'y Stator Ass'y			
	General Assembly	Armature Ball Bearing (608VV) Ball Bearing (629VV) Bearing Bushing						
		Pinion Gear Cover Spindle and Gear Set Bearing Holder Bearing Cap Ball Bearing (606VV)						
	Base Ass'y	Ball Bearing (6002VV)						

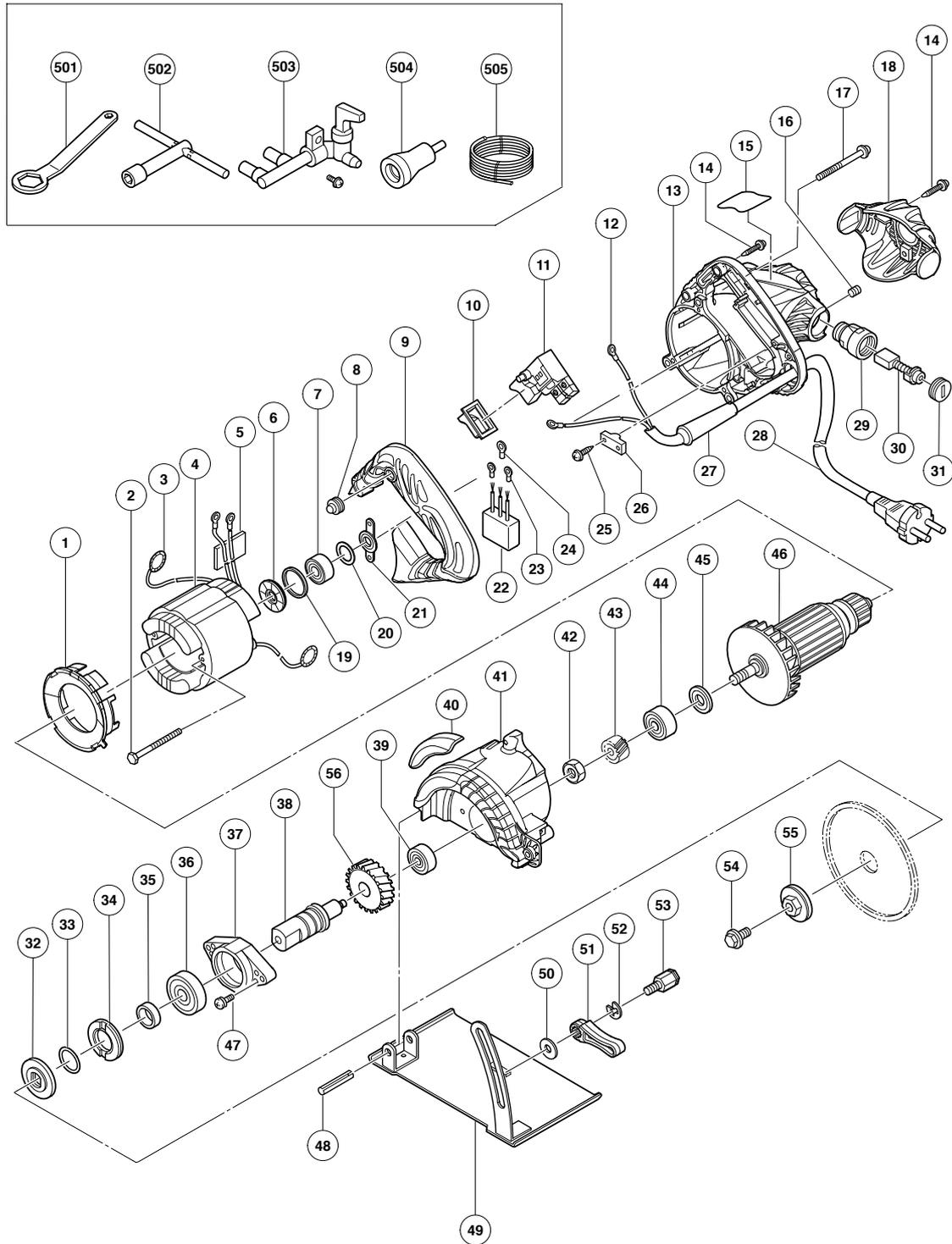
ELECTRIC TOOL PARTS LIST

■ CUTTER

2006 · 2 · 13

Model CM 4SB2

(E1)



PARTS

CM 4SB2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	325-526	FAN GUIDE	1	
2	960-251	HEX. HD. TAPPING SCREW D5X65	2	
3	930-703	BRUSH TERMINAL	2	
* 4	340-651J	STATOR ASS'Y 110V	1	INCLUD. 3 FOR TPE
* 4	340-651C	STATOR ASS'Y 110V	1	INCLUD. 3
* 4	340-651D	STATOR ASS'Y 120V	1	INCLUD. 3
* 4	340-651E	STATOR ASS'Y 220V	1	INCLUD. 3
* 4	340-651G	STATOR ASS'Y 220V	1	INCLUD. 3 FOR CHN
* 4	340-651H	STATOR ASS'Y 230V	1	INCLUD. 3
* 4	340-651F	STATOR ASS'Y 230V-240V	1	INCLUD. 3 FOR KUW, SIN, IND
5	983-858	SEAL PACKING	1	
6	325-525	DUST SEAL	1	
7	608-VVM	BALL BEARING 608VVC2PS2L	1	
8	956-866	RUBBER COVER (B)	1	
* 9	325-534	HANDLE COVER ASS'Y	1	INCLUD. 8
* 9	325-535	HANDLE COVER	1	FOR NZL
10	325-527	SWITCH RUBBER COVER	1	
* 11	325-531	SWITCH (1P SCREW TYPE) W/LOCK	1	
* 11	325-532	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR USA, CAN
* 11	325-533	SWITCH (1P SCREW TYPE) W/O LOCK	1	FOR NZL
12	980-063	TERMINAL	2	FOR CORD
13	325-516	HOUSING ASS'Y	1	INCLUD. 16, 29
14	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	5	
15		NAME PLATE	1	
16	938-477	HEX. SOCKET SET SCREW M5X8	2	
17	317-751	MACHINE SCREW (W/WASHERS) M5X25	3	
18	325-522	TAIL COVER	1	
19	325-524	RUBBER RING	1	
20	325-956	RUBBER WASHER	1	
21	325-523	BEARING BUSHING	1	
* 22	994-273	NOISE SUPPRESSOR	1	FOR NZL, CHN, TPE
* 23	980-063	TERMINAL	2	FOR NOISE SUPPRESSOR
* 24	938-108	TERMINAL	1	FOR NOISE SUPPRESSOR
25	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	
26	960-266	CORD CLIP	1	
* 27	953-327	CORD ARMOR D8.8	1	
* 27	938-051	CORD ARMOR D10.1	1	
* 28	500-447Z	CORD	1	(CORD ARMOR D8.8)
* 28	500-234Z	CORD	1	(CORD ARMOR D8.8) FOR INA, IND
* 28	500-455Z	CORD	1	(CORD ARMOR D8.8) FOR THA
* 28	500-423Z	CORD	1	(CORD ARMOR D8.8) FOR KUW, SIN
* 28	500-241Z	CORD	1	(CORD ARMOR D8.8) FOR USA, CAN
* 28	500-474Z	CORD	1	(CORD ARMOR D10.1) FOR VEN, TPE
* 28	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR NZL
* 28	500-409Z	CORD	1	(CORD ARMOR D8.8) FOR CHN
* 28	500-435Z	CORD	1	(CORD ARMOR D8.8) FOR HKG
29	958-900	BRUSH HOLDER	2	
30	999-043	CARBON BRUSH (1 PAIR)	2	
31	945-161	BRUSH CAP	2	
32	956-879	WASHER (B)	1	
33	944-486	O-RING (1AP-20)	1	

