

MODEL

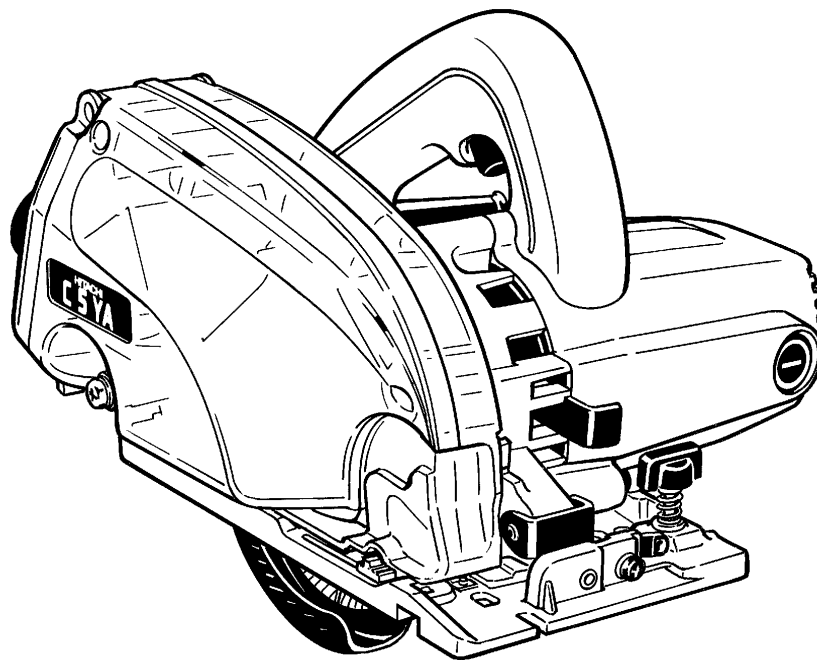
C 5YA

HITACHI
POWER TOOLS

C

DUSTLESS CIRCULAR SAW
C 5YA

TECHNICAL DATA
AND
SERVICE MANUAL



LIST No. 0589

Oct. 1999

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

CONTENTS

[Business Section]	Page
1. PRODUCT NAME	1
2. MARKETING OBJECTIVE	1
3. APPLICATIONS	1
4. SELLING POINTS	1
4-1. Selling Point Descriptions	2
5. SPECIFICATIONS	5
6. PRECAUTIONS IN SALES PROMOTION	6
6-1. Handling Instructions	6
6-2. Cautions on Name Plate	6
6-3. Precautions in Use	6
 [Service Section]	
7. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY	7
7-1. Disassembly	7
7-2. Reassembly	10
7-3. Lubrication	12
7-4. Tightening Torque	12
7-5. Insulation	12
7-6. Cleaning the Cover	12
7-7. Wiring Procedure	13
7-8. Wiring Diagram	13
8. STANDARD REPAIR TIME (UNIT) SCHEDULES	14
 [Appendix]	
Assembly Diagram for C 5YA	15

1. PRODUCT NAME

Hitachi Dustless Circular Saw, Model C 5YA

2. MARKETING OBJECTIVE

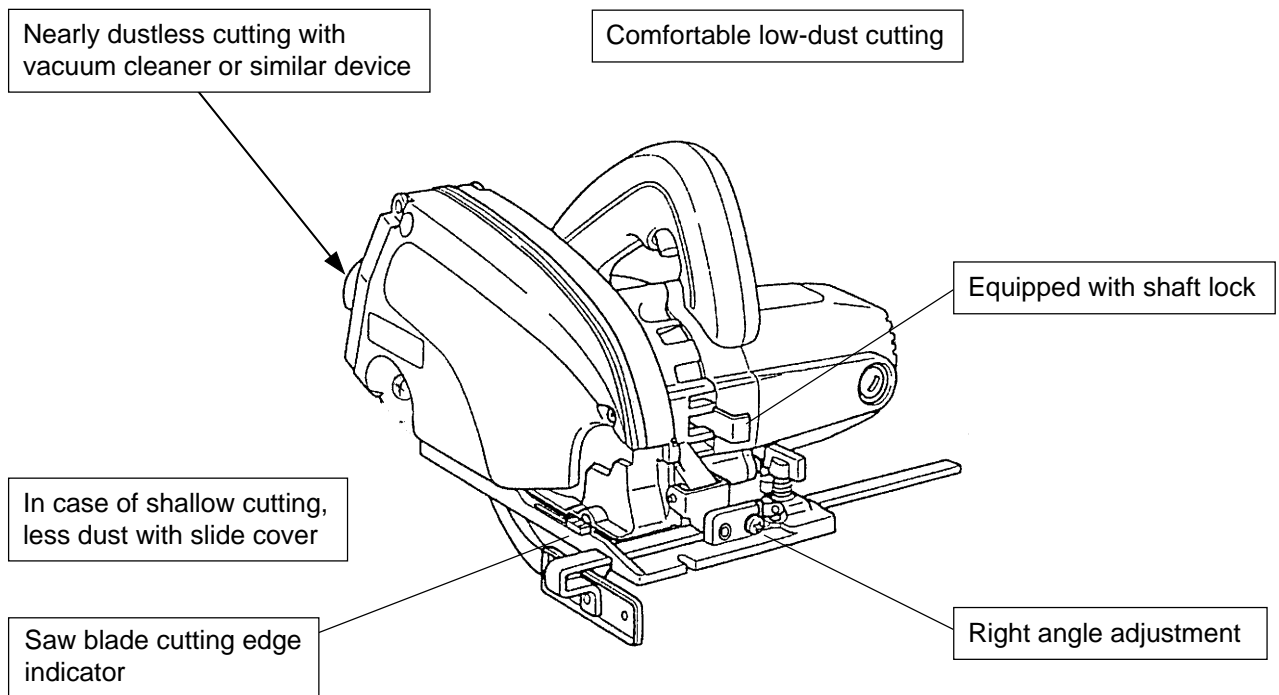
There have been a persistent demand to develop an efficient dust collecting circular saw, particularly for cutting fiber cement board materials in international markets such as New Zealand, etc.

Excessive particles produced during cutting operations may be harmful to the operator's health if an operator does not wear a bothersome dust-mask or similar device. Responding to those market requirements for a much cleaner cutting environment than conventional circular saws can provide, Hitachi is pleased to introduce the dust-collecting Circular Saw, Model C 5YA with adapter for connection to an appropriate power vacuum cleaner or Hitachi's exclusively designed dust collector or similar dust-collecting equipment. Increasing market requirements for human-friendly power tools should result in a significant sales performance.

3. APPLICATIONS

- (1) Cutting of T (Thickness) 7 or T9 mm fiber cement board
- (2) Cutting of various types of gypsum board materials

4. SELLING POINTS



4-1. Selling Point Descriptions

(1) Few dust with slide cover

The Model C 5YA is equipped with a slide cover that shields the clearance at the cutting edge (Fig. 1). This slide cover reduces scattering of chips from the cutting edge portion even if the cutting depth is shallow and improves dust collection efficiency.

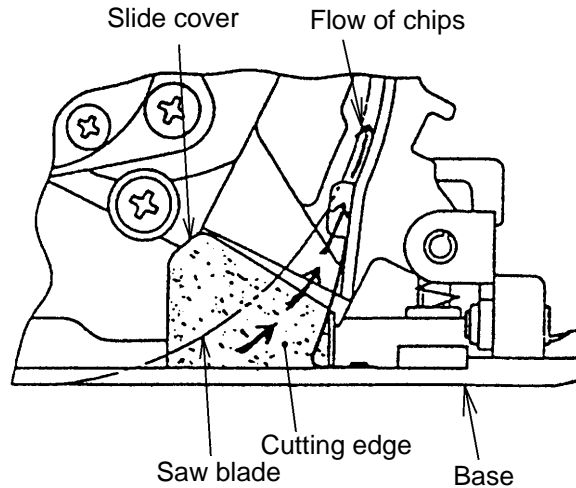


Fig. 1

(2) Nearly dustless cutting with vacuum cleaner or similar device

The hose of the dust collector can be directly mounted to the dust box through the rubber adapter according to the steps below (Fig. 2).

- (1) Remove the rubber cap from the rear of the dust box.
- (2) Connect the dust collector's hose firmly to the rubber adapter. Insert the rubber adapter into the outlet of the dust cap.

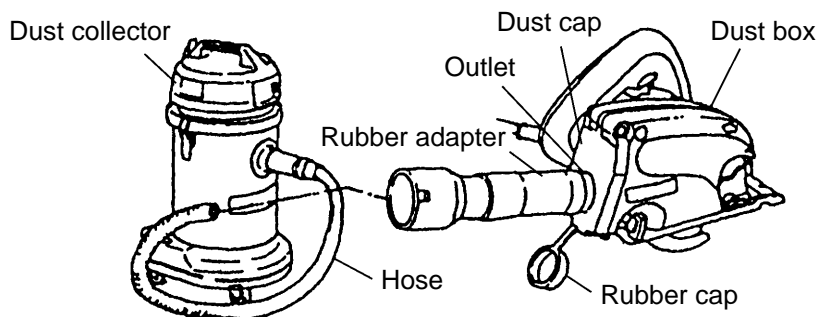


Fig. 2

(3) Adjusting right angle

The angle between the base and the saw blade can be finely adjusted to a right angle (Fig. 3). The adjustable range is $90^\circ \pm 1.5^\circ$. Thanks to this function, accurate cutting is achieved even when cutting thick or overlaid workpieces.

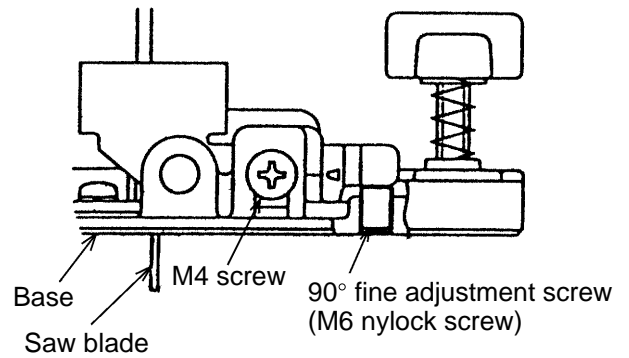


Fig. 3

(4) Indicator of saw blade

- The Model C 5YA is equipped with a movable slide plate that makes saw blade adjustment easier. This slide plate can guide the saw blade edge according to cutting depth (Fig. 4).
- Three lines are marked on the bottom of the base. These lines indicate the standard blade edge positions and cutting depth according to thickness of workpieces. Viewing from the bottom (Fig. 5), the right perpendicular lines indicate the standard blade edge positions at the maximum cutting depth.

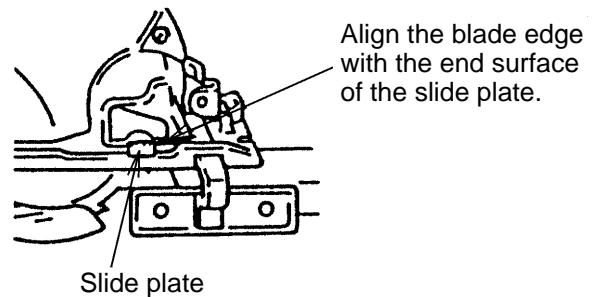


Fig. 4

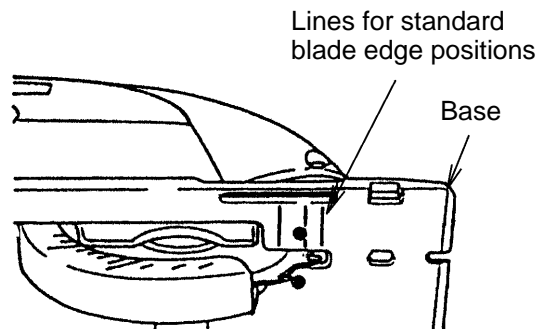


Fig. 5

(5) All-new design

The Model C 5YA has an innovative design with rounded appearance.

(6) Cutting depth scale

The cutting depth scale is marked in millimeters on the safety cover. By aligning the bottom of the base with the scale, you can easily set the desired cutting depth. The scale is graduated in 3-millimeter units. Ignore the numeric values in parentheses as they are specified for Japan use only.

(7) Spindle lock mechanism

The Model C 5YA is equipped with the same spindle lock mechanism as the compact circular saws for easy saw blade replacement.

(8) Other selling points

- A finger rest is provided on the base for accurate cutting (Fig. 6).
- A relief groove is provided on the bottom of the base to prevent snagging during operation (Fig. 7).

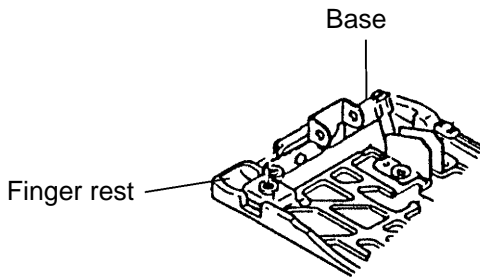


Fig. 6

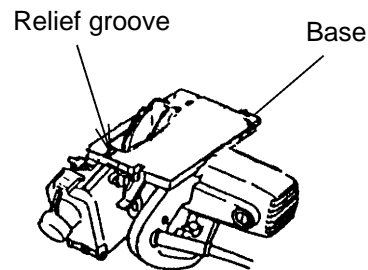


Fig. 7

- Some dividers are arranged in the dust box to improve dust collection efficiency and to prevent leakage of chips (Fig. 8).

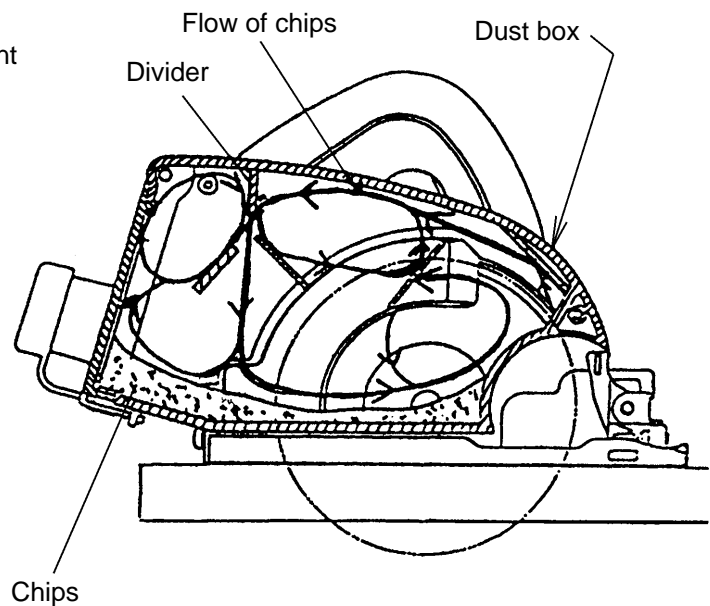


Fig. 8

5. SPECIFICATIONS

Saw blade diameter		125 mm					
Cutting depth		0 – 37 mm					
Standard saw blade		Tungsten carbide tipped (TCT) saw blade					
		Dimensions	External diameter	Hole diameter	Tip width	Thickness	Number of teeth
			125 mm (5")	20 mm	1.7 mm	1.2 mm	18
Power supply	Power source	AC single phase 50/60 Hz					
	Voltage	230 V					
Type of motor		Single-phase series commutator motor					
Enclosure		Housing Nylon resin (green) Handle cover Nylon resin (green) Gear cover Die-cast aluminum alloy (silver green) Base Die-cast aluminum alloy (silver) Dust box Polycarbonate resin [transparent (smoky gray)]					
Type of switch		Trigger switch with stopper					
Full-load current		4.6 A					
Power input		1,000 W					
Rotation speed		No-load : 5,000/min. Full-load : 3,200/min.					
Weight		Net : 3.1 kg (excluding the cord) Gross : 4.4 kg					
Packaging		Corrugated cardboard box [240 mm (D) x 325 mm (W) x 190 mm (H)]					
Cord		Type : Two-core cabtire cable Overall length : 5 m Nominal cross-sectional area : 0.75 mm ² Outside diameter : 7 mm					
Standard accessories		<ul style="list-style-type: none"> • Guide 1 • Box wrench 1 					
Optional accessories		<ul style="list-style-type: none"> • Dust collector (Models RP 30SA and RP 30Y) • Diamond wheel • TCT saw blade (125 mm) 					

6. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model C 5YA Dustless Circular Saw 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 on the Name Plate attached to each tool.

6-1. 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 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 Circular Saw are listed in the Handling Instructions to enhance the safe, 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.

6-2. Cautions on Name Plate

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

CAUTION

- Read thoroughly **HANDLING INSTRUCTIONS** before use.

6-3. Precautions in Use

While basic precautions in use are listed in the Handling Instructions and Name Plate, be particularly careful to ensure that the customer fully understands the following special precaution.

- (1) When cutting into a wall directly, dust collection efficiency may be decreased because of the variety of collected chips produced.

7. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

Disassembly and reassembly procedures which require particular precautions are described below.

The **[Bold]** numbers in the descriptions below and the circled numbers in the following figures correspond to the item numbers in the Parts List and the exploded assembly diagram for the Model C 5YA.

Be sure to unplug the Model C 5YA from the wall outlet before performing disassembly or replacement of the saw blade.

7-1. Disassembly

7-1-1. Removal of the Dust Box Ass'y (Fig. 8)

- (1) Release the Lever **[60]**, and adjust the Base Ass'y **[54]** to the minimum cutting depth position, then secure the Lever **[60]** in this position.
- (2) Loosen the Machine Screw M6 x 55 **[17]** and remove the Dust Box Ass'y **[14]** from the Gear Cover **[34]**.

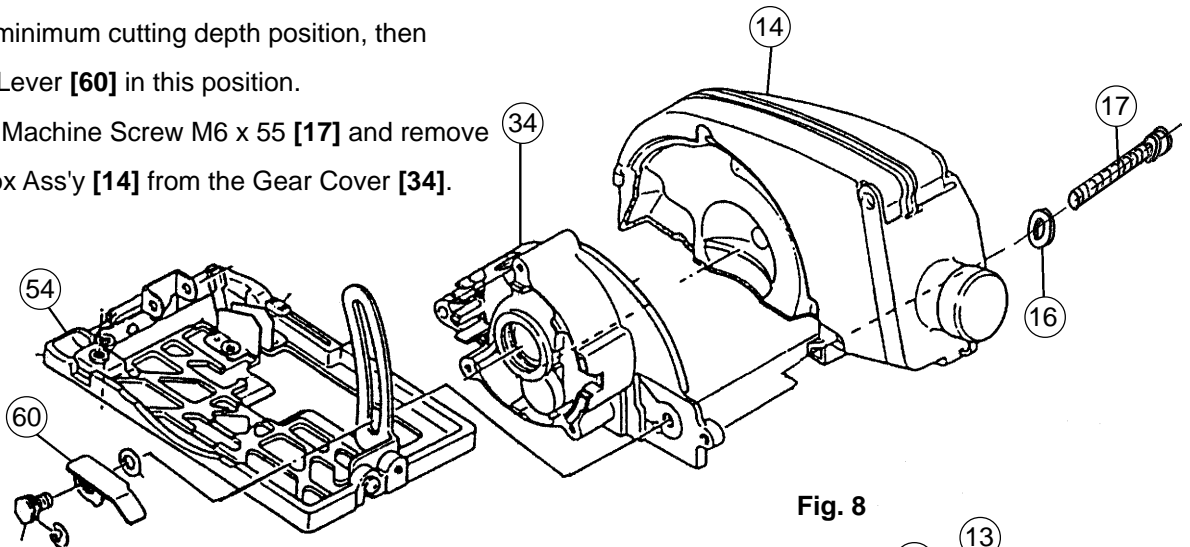


Fig. 8

7-1-2. Removal of the TCT Saw Blade (Fig. 9)

- (1) Push the Lock Lever **[31]** to secure the Armature **[30]**. Loosen the Bolt (W/Washer) M7 x 17.5 **[13]** with the attached Box Wrench 10 mm **[502]** to remove Washer (B) **[12]**, the TCT saw blade and Washer (A) **[11]**.

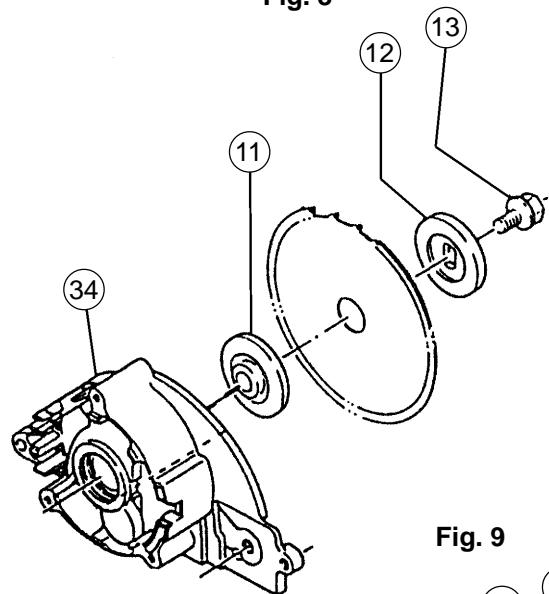


Fig. 9

7-1-3. Disassembly of the Safety Cover Ass'y (Fig. 10)

- (1) Remove the Return Spring **[7]** from the Gear Cover **[34]** and Safety Cover (A) Ass'y **[6]**.
- (2) Loosen the three Seal Lock Flat Hd. Screws M4 x 12 **[10]** to remove the Bearing Cover **[9]** and Safety Cover (A) Ass'y **[6]**.

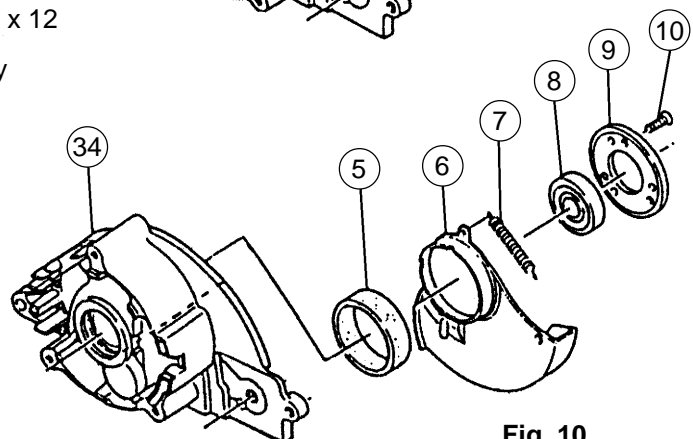


Fig. 10

7-1-4. Removal of the Housing Ass'y (Fig. 11)

- (1) Loosen the Brush Cap [41] with a flat-blade screwdriver and remove the Carbon Brushes [40].
- (2) Loosen the three Machine Screws (W/Washers) M5 x 45 (Black) [19] and remove the Housing Ass'y [22] from the Gear Cover [34].

7-1-5. Removal of the Base Ass'y (Fig. 11)

- (1) Remove the Retaining Ring (E-type) For D10 Shaft [59], then remove the Hex. Bolt M8 x 8.5 [58], Lever [60] and Bolt Washer M8 [61].
- (2) Pull out the Roll Pin D6 x 30 [56] which connects the Base Ass'y [54] with the Gear Cover [34].

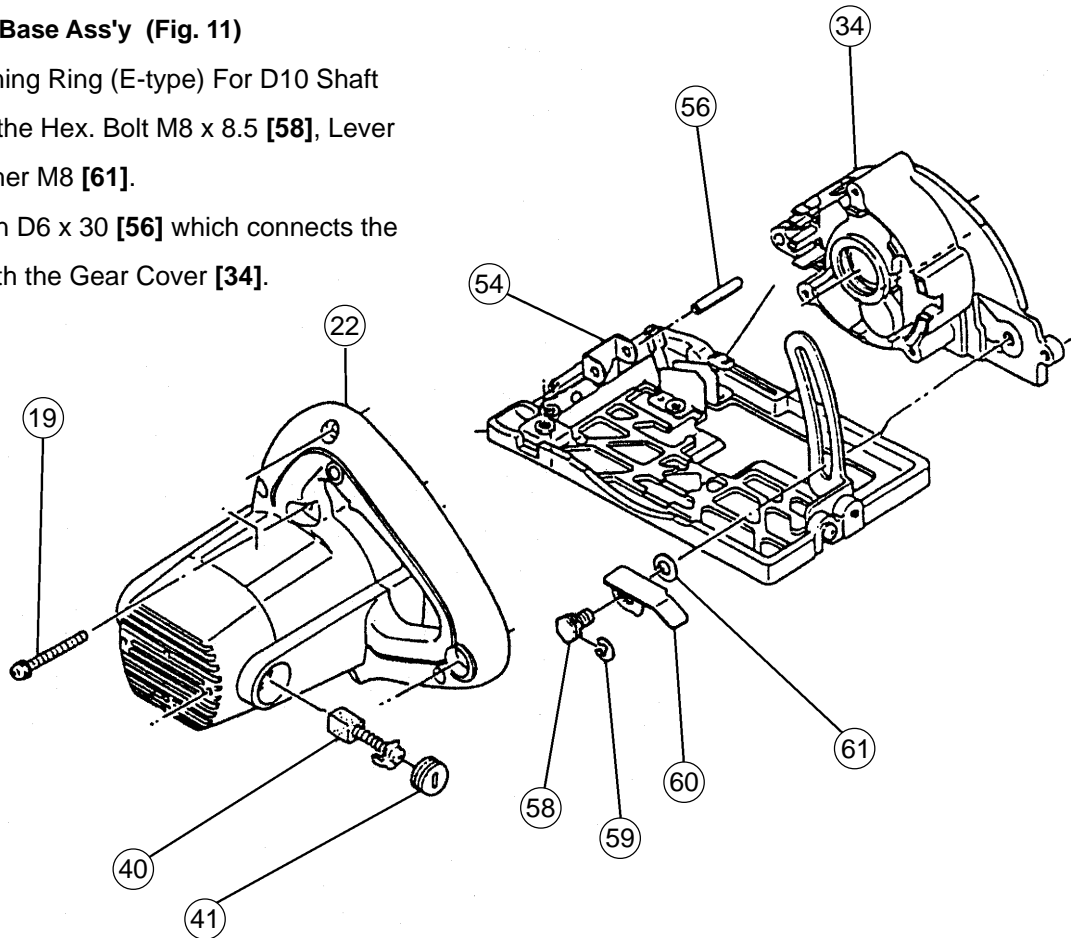


Fig. 11

7-1-6. Removal of the Spindle and Gear Set (Fig. 12)

- (1) Loosen the two Seal Lock Flat Hd. Screws M5 x 12 [4]. Tap the end surface of the Gear Cover [34] with a wooden hammer, then the parts shown in Fig. 12 can be removed.
- (2) Push the end surface of the spindle using a hand press to remove the Ball Bearing 6002DDCMPS2L [8].
- (3) Remove the Ball Bearing 626VVC2PS2L [1] with a bearing puller.

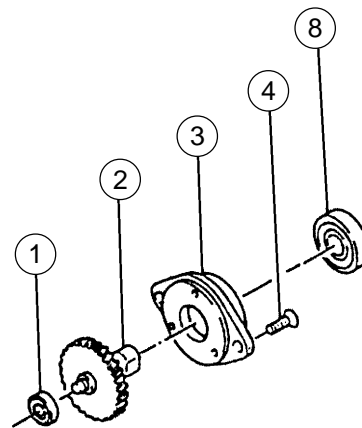


Fig. 12

7-1-7. Removal of the Armature (Fig. 13)

- (1) Remove the Lock Lever [31] and tap the end surface of the Housing Ass'y [22] with a wooden hammer. The Armature [30] and Fan Guide [29] can then be removed.
- (2) Remove the Fan Guide [29], Rubber Washer [24] and Bearing Lock [23].
- (3) Remove the Ball Bearing 6001VVCMP2L [32] and Ball Bearing 608VVC2PS2L [25] with a bearing puller, and remove Washer (A) [26].

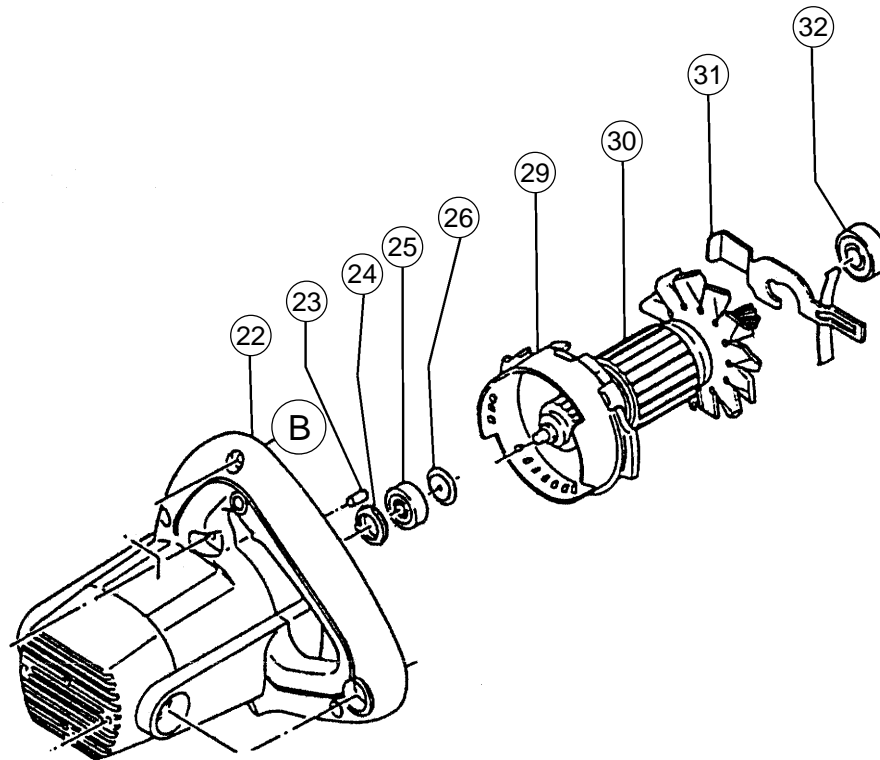


Fig. 13

7-2. Reassembly

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

7-2-1. Reassembly of the Rubber Ring [33]

Ensure that the Rubber Ring [33] is properly inserted into the groove of the bearing chamber in the Gear Cover [34]. During reassembly, be careful not to damage the Rubber Ring [33].

7-2-2. Assembling the Wiring Block [27] and Stator [28] (Figs. 14 and 15.)

- (1) When installing the Stator [28] in the Housing Ass'y [22], attach the Wiring Block [27] to the Stator [28] and press-fit them into the Housing Ass'y [22].
- (2) The brush terminals of the Wiring Block [27] are automatically connected to the Brush Holders [39] when the Stator [28] is press-fitted. At this time, check that the brush terminals do not extend beyond the end of Brush Holders [39]. If they do, push them in with a flat-blade screwdriver.

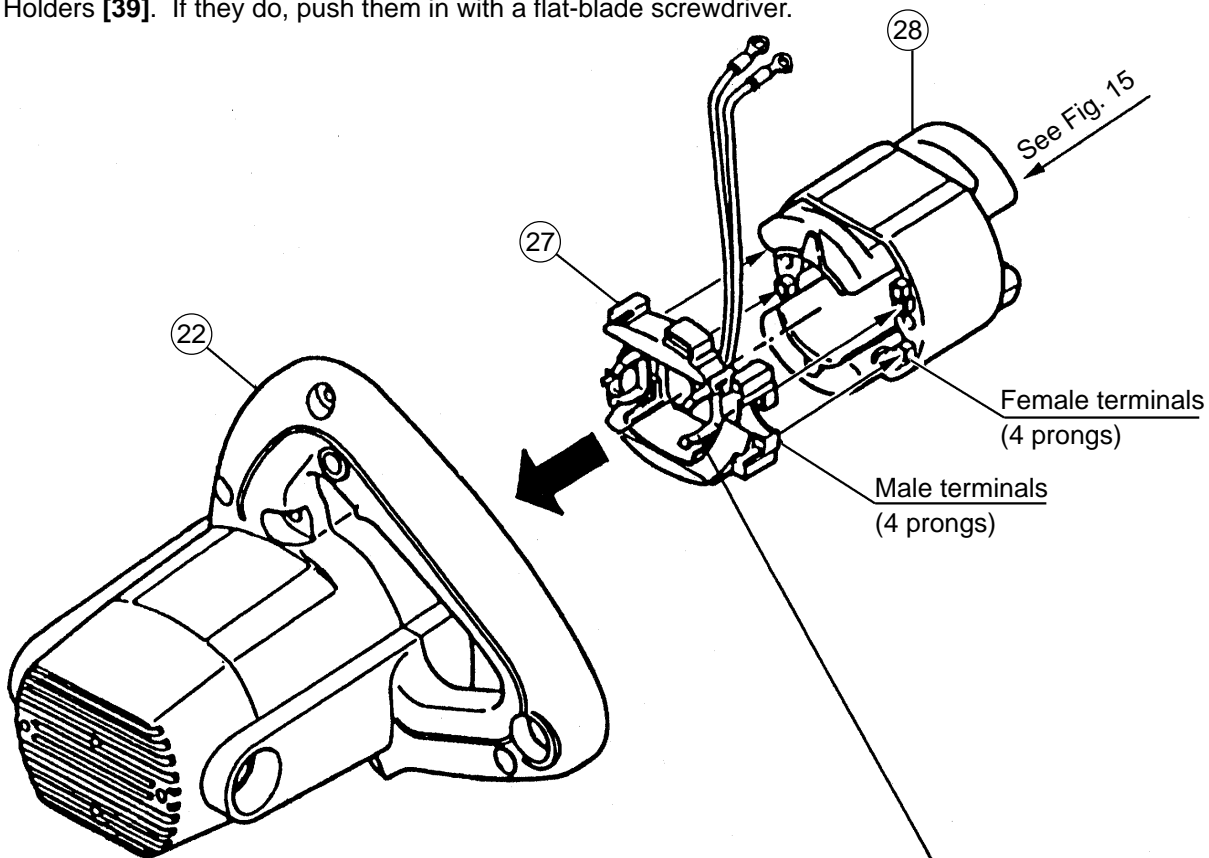


Fig. 14

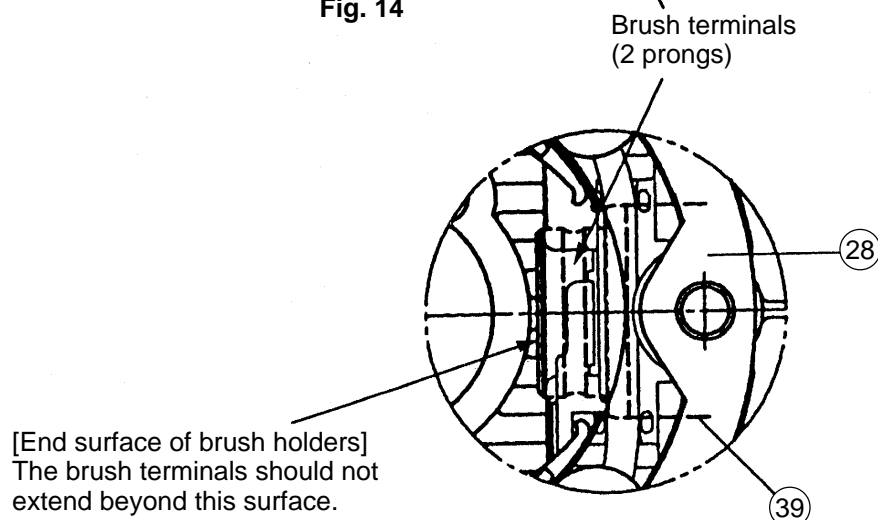


Fig. 15

7-2-3. Reassembly of the Bearing Lock [23] and Rubber Washer [24] (Fig. 16)

Before reassembling the Armature [30], be sure to install the Bearing Lock [23] and Rubber Washer [24] in the bearing chamber of the Housing Ass'y [22] in order. Ensure that the Rubber Washer [24] is reassembled in the proper direction.

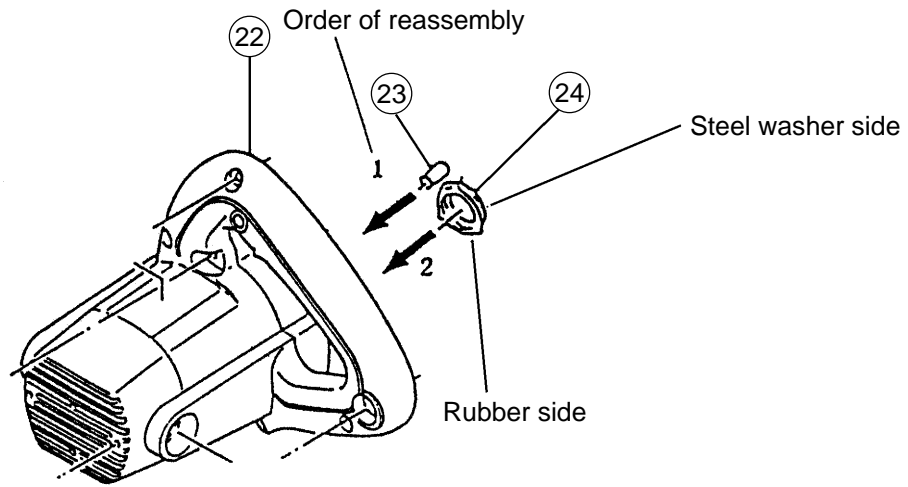


Fig. 16

7-2-4. Replacement of the Ball Bearing 608VVC2PS2L [25]

When replacing the Ball Bearing 608VVC2PS2L [25] only, ensure that Washer (A) [26] is reassembled in the proper direction and there is a clearance between the Ball Bearing 608VVC2PS2L [25] and Washer (A) [26]. (Fig. 17)

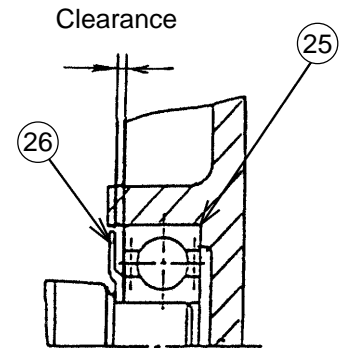


Fig. 17

7-3. Lubrication

- The gear chamber of the Gear Cover [34] Nippeco Grease (SEP-3A) 8 g

Apply grease to the gear and pinion well.

7-4. Tightening Torque

- Bolt (W/Washer) M7 x 17.5 [13] 100 ± 20 kgf•cm
- Seal Lock Flat Hd. Screw M5 x 12 [4] 35 ± 7 kgf•cm
- Seal Lock Flat Hd. Screw M4 x 12 [10] 18 ± 4 kgf•cm
- Machine Screw (W/Washers) M5 x 45 (Black) [19] 35 ± 7 kgf•cm
- Tapping Screw (W/Washers) D5 x 60 [46] 30 ± 5 kgf•cm
- Tapping Screw (W/Flange) D4 [20] [45] 20 ± 5 kgf•cm
- Hex. Socket Set Screw M5 x 8 [38] 7.5 ± 2.5 kgf•cm
- Brush Cap [41] 10 ± 5 kgf•cm
- Machine Screw M6 x 55 [17] 18 ± 4 kgf•cm

7-5. Insulation

After overhaul, insulation testing and measurement of insulation resistance must be accomplished.

7-6. Cleaning the Cover

Clean the exterior of the tool with a soft cloth moistened with soapy water, and dry thoroughly.

Chloric solvent, gasoline, and thinner will cause plastic components to dissolve.

7-7. Wiring Procedure (Figs. 18 and 19)

Wiring should be carried out by referring to Figures 18 and 19. During installation, be careful not to pinch the leadwires between the housing and the handle cover.

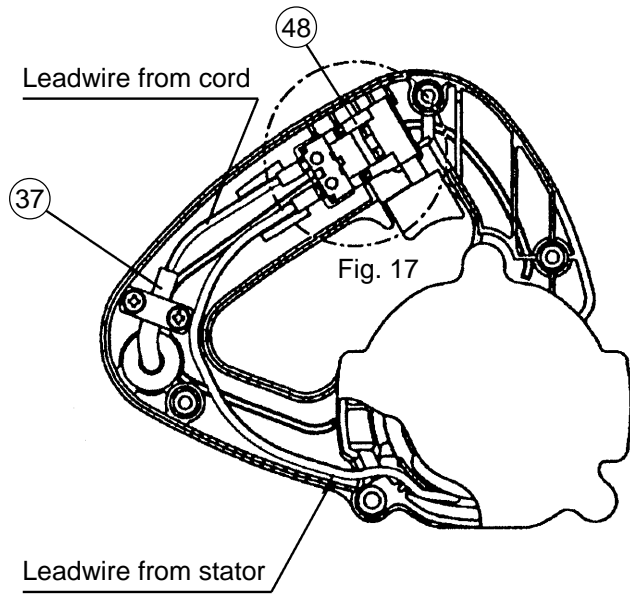


Fig. 18

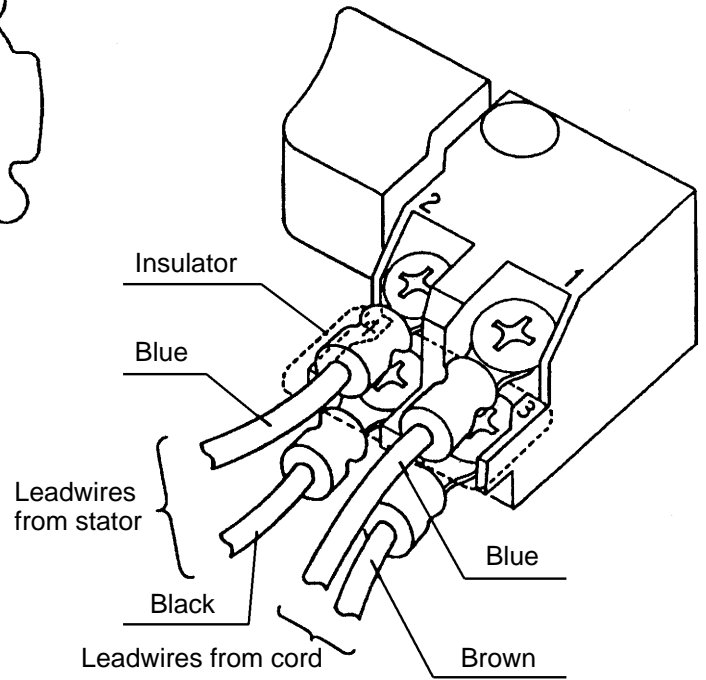


Fig. 19 (Expanded drawing of switch)

7-8. Wiring Diagram (Fig. 20)

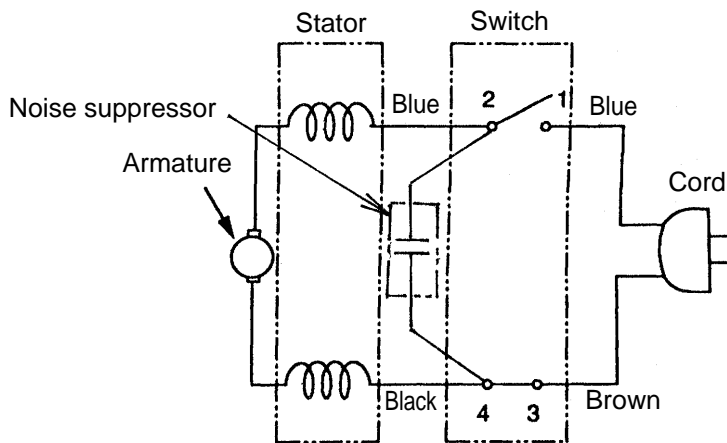
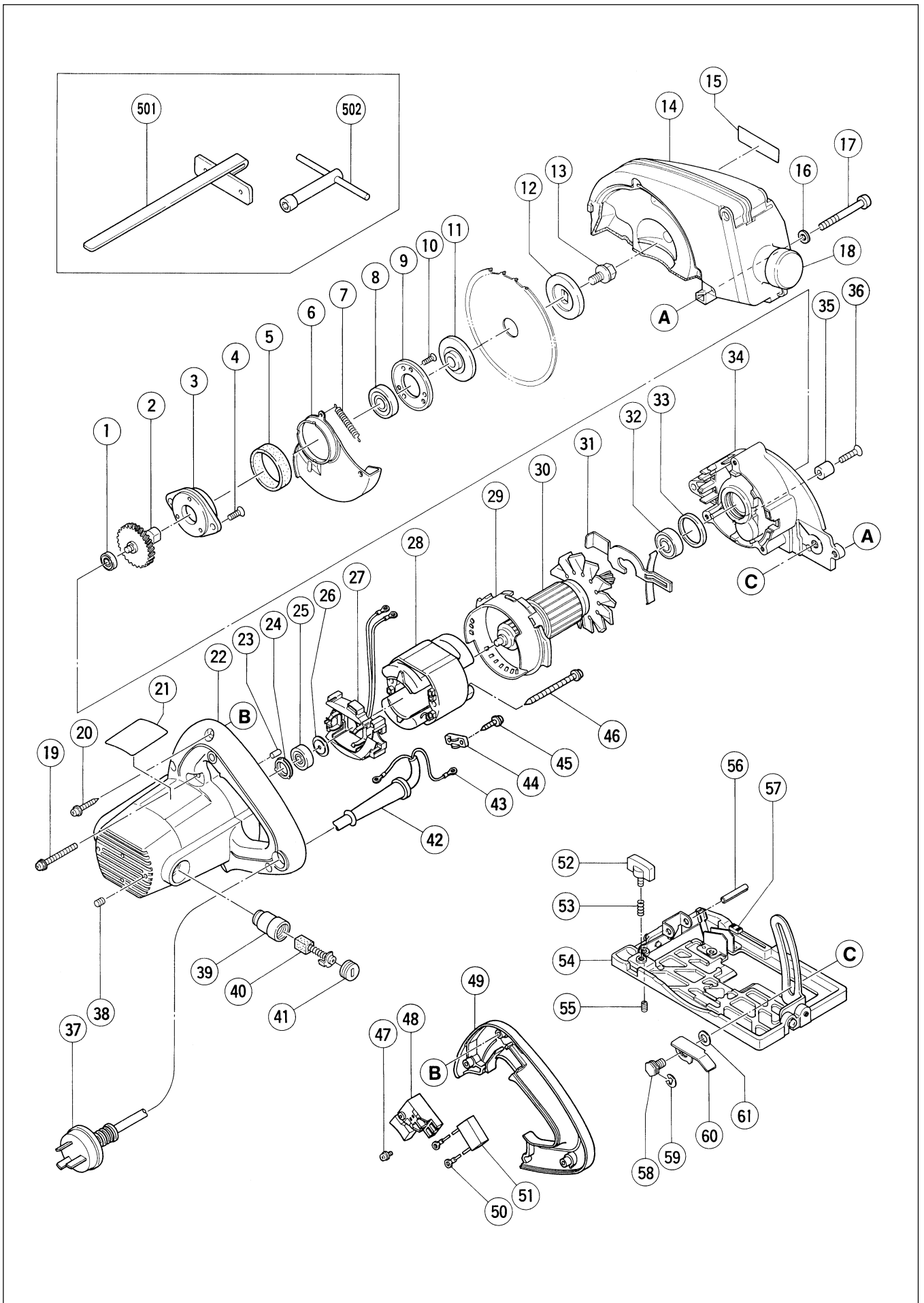


Fig. 20

8. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.	
	Fixed								
C 5YA	Work Flow								
	General Assembly		Cord Switch (C) Handle Cover Housing Ass'y Stator Dust Box Ass'y TCT Saw Blade Safety Cover (A) Ass'y Return Spring Seal Packing (B)	Armature Ball Bearing 6001VVCMP2L Ball Bearing 608VVC2PS2L Lock Lever Rubber Washer Washer (A)	Ball Bearing 626VVC2PS2L Spindle and Gear Set Bearing Holder Ball Bearing 6002DDCMPS2L Gear Cover Rubber Ring				
		Base Ass'y							

Assembly Diagram for C 5YA



PARTS

C 5YA

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	626-VVM	BALL BEARING 626VVC2PS2L	1	
2	318-308	SPINDLE AND GEAR SET	1	
3	307-925	BEARING HOLDER	1	
4	305-568	SEAL LOCK FLAT HD. SCREW M5X12	2	
5	310-843	SEAL PACKING (B)	1	
6	310-640	SAFETY COVER (A) ASS'Y	1	INCLUD.5
7	944-344	RETURN SPRING	1	
8	600-2DD	BALL BEARING 6002DDCMPS2L	1	
9	310-637	BEARING COVER	1	
10	993-244	SEAL LOCK FLAT HD. SCREW M4X12	3	
11	318-309	WASHER (A)	1	
12	318-310	WASHER (B)	1	
13	957-749	BOLT (W/WASHER) M7X17.5	1	
14	310-642	DUST BOX ASS'Y	1	INCLUD.15,18
15		HITACHI LABEL	1	
16	995-634	WASHER (B) D12.5	1	
17	949-788	MACHINE SCREW M6X55 (10 PCS.)	1	
18	313-568	CAP	1	
19	302-434	MACHINE SCREW (W/WASHERS) M5X45 (BLACK)	3	
20	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	3	
21		NAME PLATE	1	
22	311-954	HOUSING ASS'Y	1	INCLUD.38,39
23	931-701	BEARING LOCK	1	
24	308-058	RUBBER WASHER	1	
25	608-VVM	BALL BEARING 608VVC2PS2L	1	
26	982-631	WASHER (A)	1	
27	311-958	WIRING BLOCK	1	
28	340-347E	STATOR 220V-230V	1	
29	307-917	FAN GUIDE	1	
30	360-350E	ARMATURE 220V-230V	1	
31	307-918	LOCK LEVER	1	
32	600-1VV	BALL BEARING 6001VVCMP2L	1	
33	958-130	RUBBER RING	1	
34	310-636	GEAR COVER	1	
35	310-842	CUSHION	1	
36	949-793	FLAT HD. SCREW M5X20 (10 PCS.)	1	
37	500-439Z	CORD	1	
38	938-477	HEX. SOCKET SET SCREW M5X8	2	
39	957-051	BRUSH HOLDER	2	
40	999-043	CARBON BRUSH (1 PAIR)	2	
41	935-829	BRUSH CAP	2	
42	953-327	CORD ARMOR D8.8	1	
43	980-063	TERMINAL	1	
44	937-631	CORD CLIP	1	
45	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	
46	309-467	TAPPING SCREW (W/WASHER) D5X60	2	
47	305-499	MACHINE SCREW (W/WASHER) M3.5X6	4	
48	302-470	SWITCH (C) (1P SCREW TYPE) W/O LOCK	1	
49	311-955	HANDLE COVER	1	
50	980-063	TERMINAL	2	
51	311-935	NOISE SUPPRESSOR	1	

STANDARD ACCESSORIES

C 5YA

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
501	302-756	GUIDE	1		
502	940-543	BOX WRENCH 10MM	1		

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601	313-041	DIAMOND WHEEL (SEGMENT) 106MM-D20 HOLE	1		
602	310-632	TCT SAW BLADE (A) 125MM-D20 HOLE-NT18	1		