

MODELS

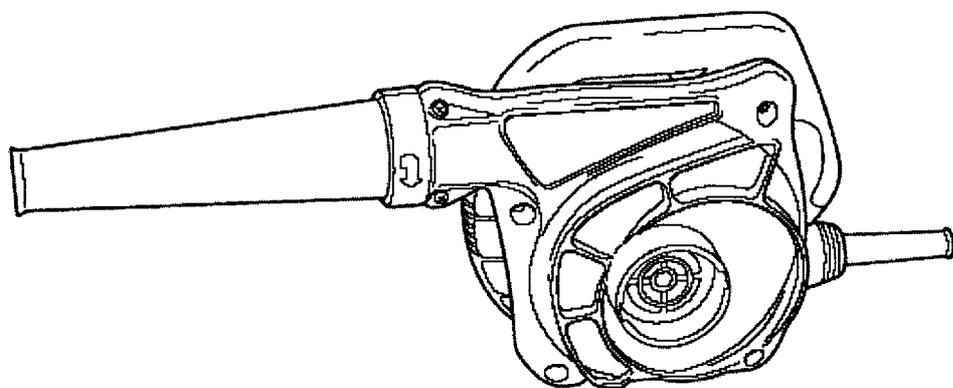
RB 40SA

RB 40VA

Hitachi Power Tools

BLOWER
RB 40SA
RB 40VA

**TECHNICAL DATA
AND
SERVICE MANUAL**



R

LIST Nos. RB 40SA: E703
RB 40VA: E704

Dec. 2004

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol is used in the place of company name and model name of our competitor.

The symbol utilized here is as follows:

Symbol Utilized	Competitor	
	Company Name	Model Name
C	MAKITA	UB1101

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1. PRODUCT NAME

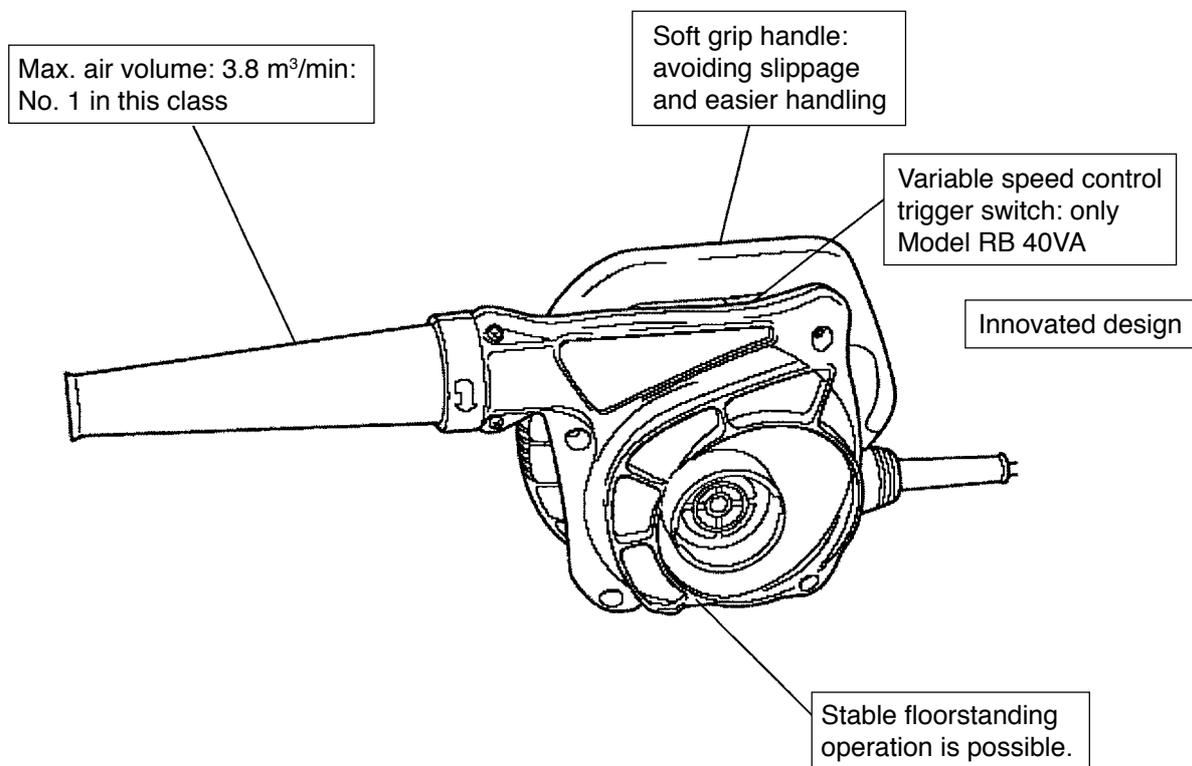
Hitachi Blower, Model RB 40SA

Model RB 40VA

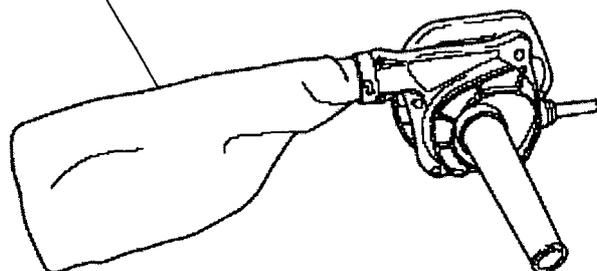
2. APPLICATIONS

- Blowing wood particles from wood working machines.
- Cleaning shavings from sashes or the like.
- Cleaning distribution boards and associated machine in power plants, factories, buildings and so on.
- Cleaning various types of facilities in lumber mills, tobacco plants, cement plants and spinning mills.
- Drying paint and mortar

3. SELLING POINTS



Dust can be collected.
Dust bag is a standard
accessory.

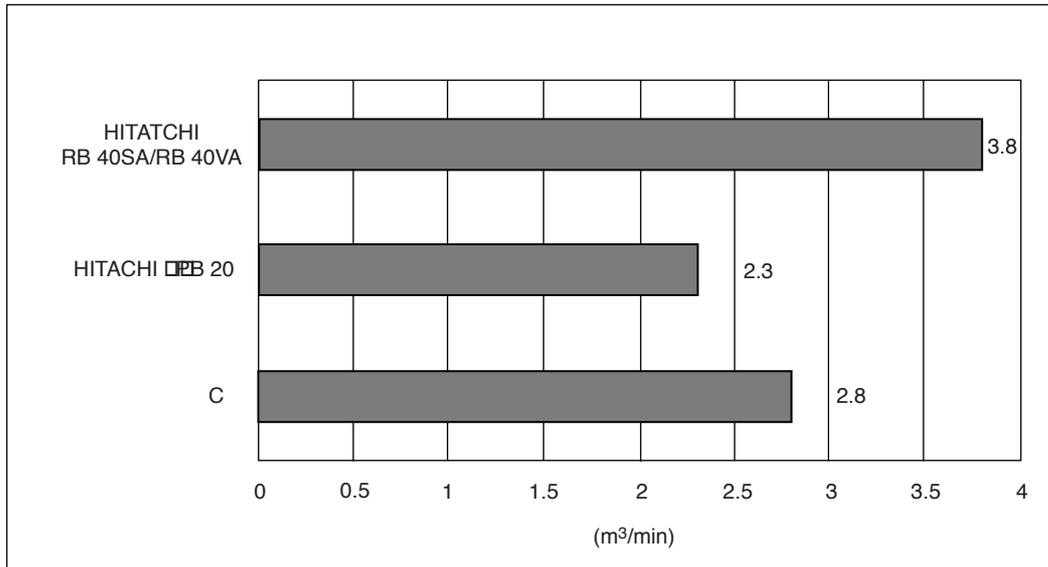


3-1. Selling Points Descriptions

(1) Maximum air volume: 3.8 m³/min

The fan shape and the air ducts are optimized to realize the greatest air volume 3.8 m³/min in the class.

Table 1 Comparison of max. air volume



(2) Soft grip handle

The grip of the Models RB 40SA and RB 40VA are soft and slip-resistant for comfortable operation.

(3) Dust bag is a standard accessory

The Models RB 40SA and RB 40VA can also collect dust because they are equipped with a dust bag as a standard accessory.

(4) Variable speed control trigger switch: only Model RB 40VA

The Model RB 40VA is equipped with the variable speed control trigger switch. The triggering amount is adjustable by the dial. The Model RB 40VA blows necessary volume of air at a fixed rate.

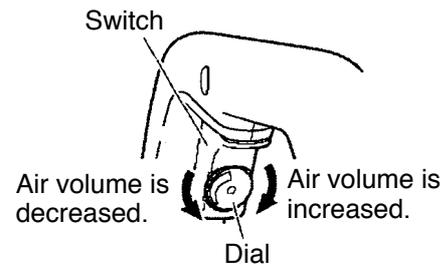


Fig. 3

(5) Stable floorstanding operation is possible

The Models RB 40SA and RB 40VA can stand straight on the floor thanks to the uniquely shaped handle, casing and casing cover. The Models RB 40SA and RB 40VA are convenient for continuous operation such as drying works because they can also be placed upside down on the floor stably.

4. SPECIFICATIONS

Model		RB 40SA	RB 40VA
Item			
Air volume		3.8 m ³ /min.	0 to 3.8 m ³ /min.
Air pressure		5.5 kPa	0 to 5.5 kPa
Power source		AC single phase 50/60 Hz	
Voltage, current and power input		Voltage (V)	Current (A)
		110 V	5.2
		220 V	2.6
		230 V	2.5
		240 V	2.4
		Power input (W)	
		550	
Type of motor		AC single phase commutator motor	
Enclosure	Housing handle cover	Glass fiber reinforced polyamide resin (green) and elastomer (black)	
	Casing Casing cover	Glass fiber reinforced polyamide resin (black)	
Type of switch		Trigger switch with stopper	Variable speed control trigger switch with stopper
Insulation structure		Double insulation	
Full load speed		16,000 min ⁻¹	0 to 16,000 min ⁻¹
Weight	Net (without cord)	1.7 kg	
	Gross	2.6 kg	
Packing		Corrugated cardboard box	
Standard accessories		<ul style="list-style-type: none"> • Nozzle 1 pc. • Dust bag 1 pc. 	

5. COMPARISONS WITH SIMILAR PRODUCTS

Item	Unit	HITACHI			C
		RB 40SA	RB 40VA	PB 20	
Air volume (without nozzle)	m ³ /min	3.8	0 to 3.8	2.3	0 to 2.8
Air pressure	kPa	5.5	0 to 5.5	3.9	0 to 5.5
Noise level (with nozzle)	dB	84	84	—	85
Full load speed	min ⁻¹	16,000	0 to 16,000	13,000	0 to 16,000
Type of switch	—	Trigger switch with stopper	Variable speed control trigger switch with stopper	Trigger switch with stopper	Variable speed control trigger switch with stopper
Soft grip	—	Provided	Provided	Not provided	Not provided
Power output	W	550	550	335	600
Net weight (without cord)	kg	1.7	1.7	1.8	1.7
Cord length	m	5	5	5	5
Length (with nozzle)	mm	447	447	428	480
Standard accessories		Dust bag Nozzle	Dust bag Nozzle	Dust bag Nozzle	Dust bag Nozzle

6. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Models RB 40SA and RB 40VA Blowers 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 and Caution 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 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 disc grinders 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 customers during sales promotion.

6-2. Caution on Name Plate

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

CAUTION

Read thoroughly HANDLING INSTRUCTIONS before use.

7. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[Bold]** numbers in the descriptions below correspond to the item numbers in the parts list and exploded assembly diagram.

7-1. Disassembly

(1) Disassembly of the fan

Be sure to draw on work gloves before holding the Fan **[7]** to prevent injury to fingers. Remove Nozzle Ass'y (A) **[1]** from the main body. Remove the Tapping Screws (W/Flange) D4 x 20 (Black) **[9]** and the Tapping Screws (W/Flange) D4 x 25 **[35]** that secure the Casing Cover **[5]** to the casing. Remove the U-Nut M6 **[6]** and pull out the Fan **[7]** from the armature shaft.

(2) Disassembly of the armature

After removal of the Fan **[7]**, remove the Carbon Brushes (1 Pair) **[28]** from the Housing Ass'y **[20]**. Remove the Tapping Screws (W/Flange) D5 x 30 **[10]** that secures the casing to the housing ass'y. After removal of the Casing **[8]** from the Housing Ass'y **[20]**, the Armature **[15]** can be removed together with the Casing **[8]** or the Armature **[15]** is remained in the Housing Ass'y **[20]**. In either case, the Armature **[15]** can be removed by lightly tapping the end of the Casing **[8]** or the Housing Ass'y **[20]** with a wooden hammer.

(3) Disassembly of the armature

Remove the Tapping Screws (W/Flange) D4 x 20 (Black) **[9]** that secures the Handle Cover **[23]** to the Housing Ass'y **[20]**. Loosen the screw securing the cord of the Switch (1P Pillar Type) **[24]** and remove the cord.

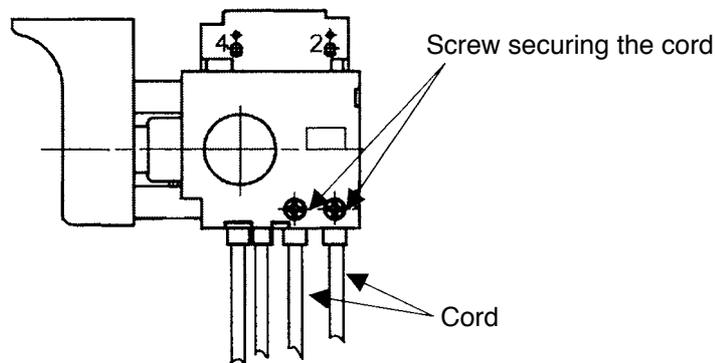


Fig. 4

Remove the internal wire or the choke coil of the Stator Ass'y **[18]** and the internal wire of the Noise Suppressor **[30]** by inserting a small-diameter screwdriver or a pin into the indentations adjacent to each terminal and pulling the internal wires lightly.

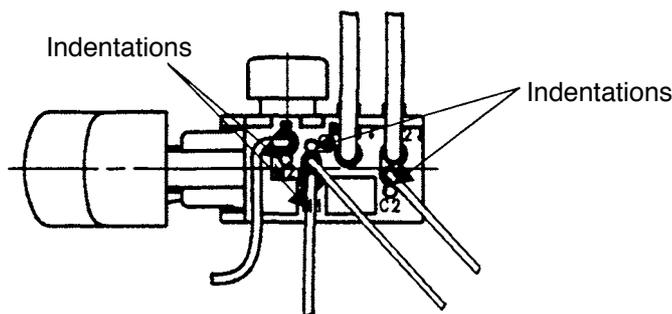


Fig. 5

7-2. Reassembly

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

- (1) Mount Washer (A) [14] to the Armature [15] so that the convex side of Washer (A) [14] faces the ball bearing. Press-fit the Ball Bearing 608DDW [13] as far as it will go.

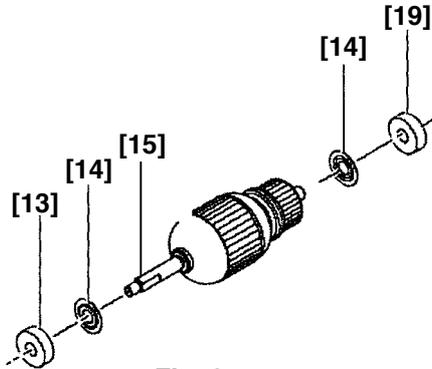


Fig. 6



Fig. 7

- (2) Check that the Bearing Lock [12] is mounted to the ball bearing chamber of the Housing Ass'y [20]. Then put the Armature [15] in the Stator Ass'y [18].
- (3) Check that the Bearing Lock [12] is mounted to the Casing [8]. Secure the Casing [8] to the Housing Ass'y [20] with the Tapping Screws (W/Flange) D5 x 30 [10].
- (4) Mount the Washer [11] to the armature shaft. Insert the Fan [7] aligning with the width across flat of the armature shaft and secure it with the U-Nut M6 [6]. The tightening torque of the U-Nut M6 [6] is 2.9 ± 0.5 N·m (30 ± 5 kgf·cm). Be careful not to overtighten the U-Nut M6 [6].
- (5) Secure the Casing Cover [5] to the Casing [8] with two Tapping Screws (W/Flange) D4 x 20 (Black) [9] and four Tapping Screws (W/Flange) D4 x 25 [35]. Be careful not to mistake the screw positions.

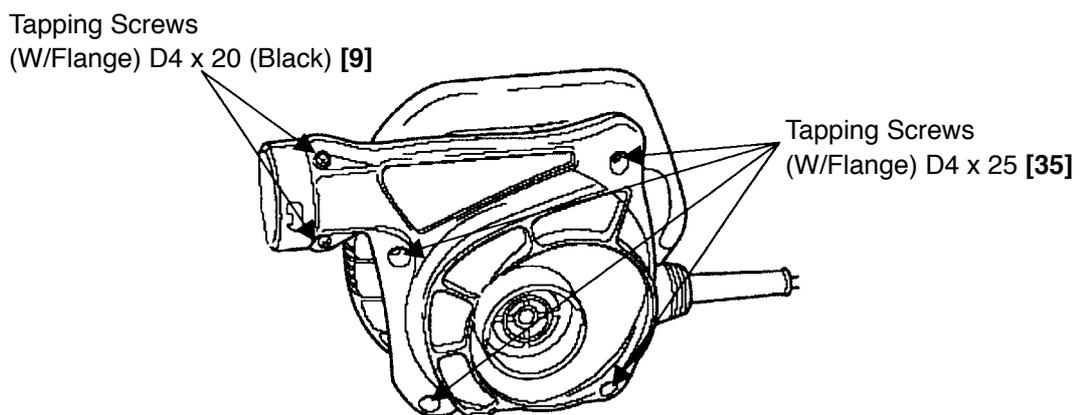


Fig. 8

- (6) Mount the Carbon Brushes (1 Pair) [28] to the Housing Ass'y [20].

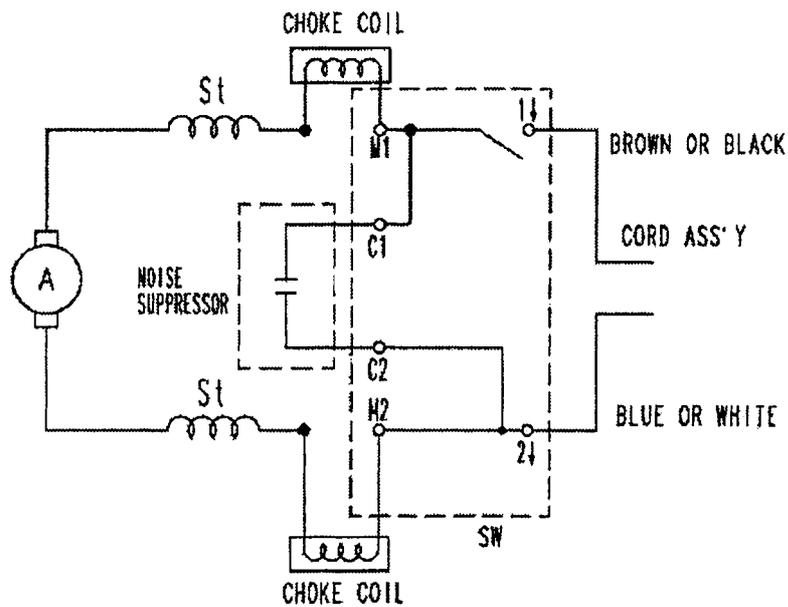
7-3. Tightening Torque

- (1) Tapping Screw D4 [9] [25] 2.0 ± 0.5 N·m (20 ± 5 kgf·cm)
- (2) Tapping Screw D5 [10] 2.9 ± 0.5 N·m (30 ± 5 kgf·cm)
- (3) U-Nut M6 [6] 2.9 ± 0.5 N·m (30 ± 5 kgf·cm)

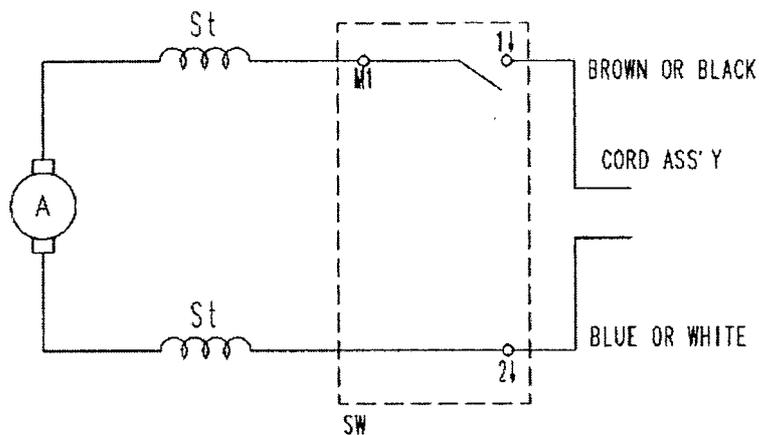
7-4. Wiring Diagram

(1) RB 40SA

(a) Products with noise suppressor and choke coil:

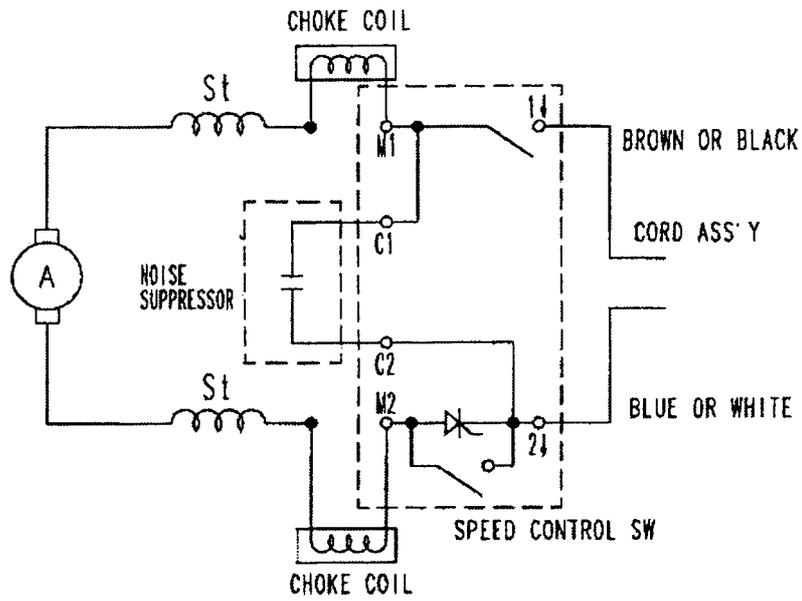


(b) Products without noise suppressor and choke coil:

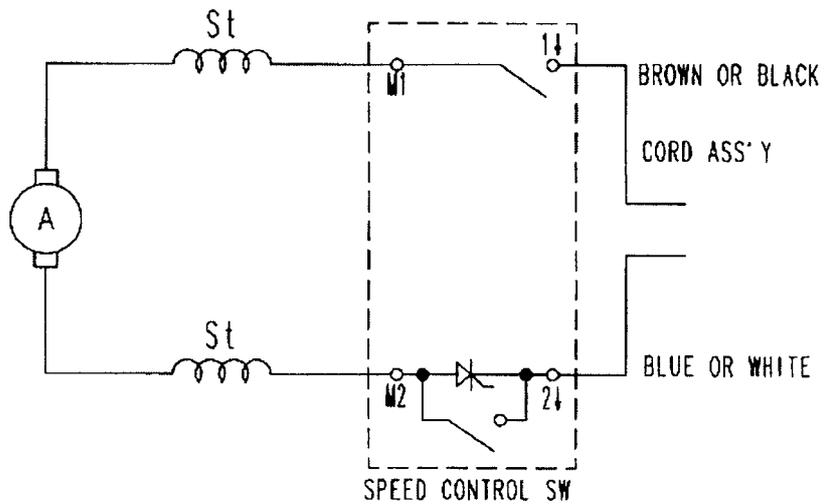


(2) RB 40VA

(a) Products with noise suppressor and choke coil:

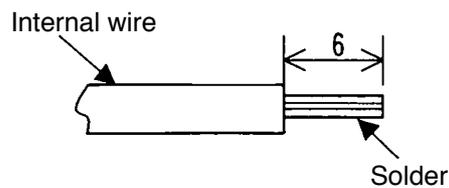


(b) Products without noise suppressor and choke coil:



7-5. Connection to the Switch

Solder the tips of the internal wires of the Stator Ass'y [18], Noise Suppressor [30] and Choke Coil [31]. Then insert them into the terminals of the Switch (1P Pillar Type) [24].



7-6. Insulation Tests

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

Insulation resistance: 7 M Ω or more with DC 500 V megohm tester

Dielectric strength: AC 4,000 V/1 minute, with no abnormalities ······ 220 V — 240 V

(and 110 V for U. K. products)

AC 2,500 V/1 minute, with no abnormalities ······ 110 V

(except for U. K. products)

7-7. No-load Current Value

After no-load operation for 30 minutes, the current value in the case of operation with the nozzle should be as follows.

Voltage	110 V	220 V	230 V	240 V
Current	5.2 A	2.6 A	2.5 A	2.4 A

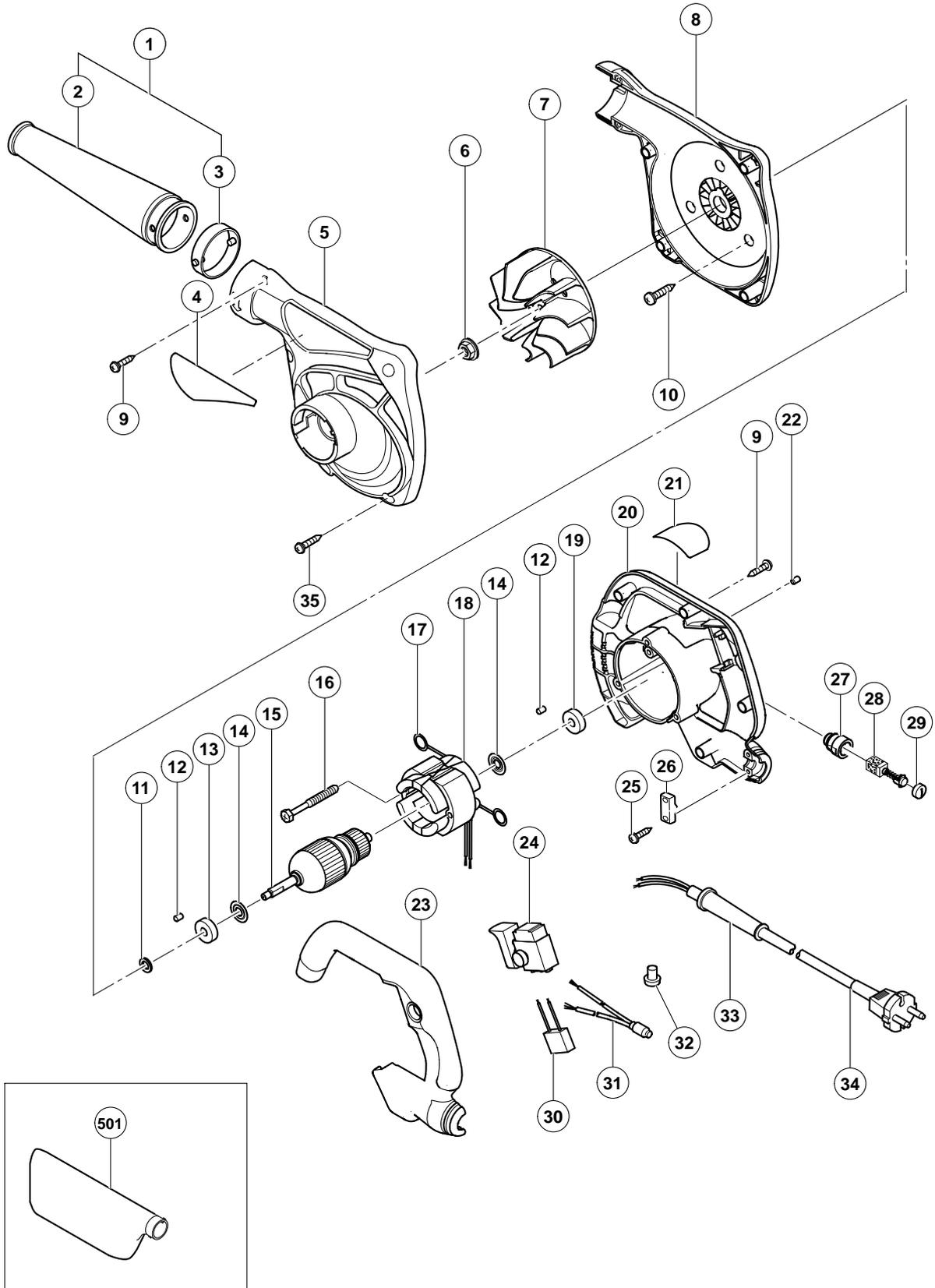
ELECTRIC TOOL PARTS LIST

■ BLOWER

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Model RB 40SA

(E1)



PARTS

RB 40SA

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	323-582	NOZZLE ASS'Y (A)	1	INCLUD. 2, 3
2		NOZZLE	1	
3	323-583	HOLDER (A)	1	
4		HITACHI LABEL	1	
5	323-573	CASING COVER	1	
6	323-572	U-NUT M6	1	
7	323-571	FAN	1	
8	323-570	CASING	1	
9	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	6	
10	305-507	TAPPING SCREW (W/FLANGE) D5X30	3	
11	930-079	WASHER	1	
12	931-701	BEARING LOCK	2	
13	608-DDW	BALL BEARING 608DDW	1	
14	982-631	WASHER (A)	2	
* 15	360-683C	ARMATURE 110V	1	
* 15	360-683E	ARMATURE 220V-230V	1	
* 15	360-683F	ARMATURE 240V	1	
16	980-864	HEX. HD. TAPPING SCREW D5X40	2	
17	930-630	BRUSH TERMINAL	2	
* 18	340-602L	STATOR ASS'Y 110V	1	INCLUD. 17
* 18	340-602H	STATOR ASS'Y 220V-230V	1	INCLUD. 17
* 18	340-602E	STATOR ASS'Y 220V-230V	1	INCLUD. 17 FOR ITA, AUT, CHN
* 18	340-602F	STATOR ASS'Y 240V	1	INCLUD. 17
19	608-DDW	BALL BEARING 608DDW	1	
20	323-576	HOUSING ASS'Y	1	INCLUD. 22, 27
21		NAME PLATE	1	
22	938-477	HEX. SOCKET SET SCREW M5X8	2	
23	340-054	HANDLE COVER	1	
24	323-575	SWITCH (1P PILLAR TYPE)	1	
25	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	
26	960-266	CORD CLIP	1	
27	957-571	BRUSH HOLDER	2	
28	999-021	CARBON BRUSH (1 PAIR)	2	
29	931-266	BRUSH CAP	2	
* 30	930-039	NOISE SUPPRESSOR	1	FOR ITA, AUT, CHN
31	303-837	CHOKE COIL	2	
32	959-141	CONNECTOR 50092 (10 PCS.)	2	
33	307-217	CORD ARMOR D7.2	1	
* 34	500-409Z	CORD	1	(CORD ARMOR D7.2)
* 34	500-447Z	CORD	1	(CORD ARMOR D7.2) FOR SYR
* 34	930-049	CORD	1	(CORD ARMOR D7.2) FOR VEN
* 34	500-468Z	CORD	1	(CORD ARMOR D7.2) FOR INA, CHN
* 34	500-423Z	CORD	1	(CORD ARMOR D7.2) FOR KUW, SIN
* 34	500-435Z	CORD	1	(CORD ARMOR D7.2) FOR HKG
35	306-999	TAPPING SCREW (W/FLANGE) D4X25	4	

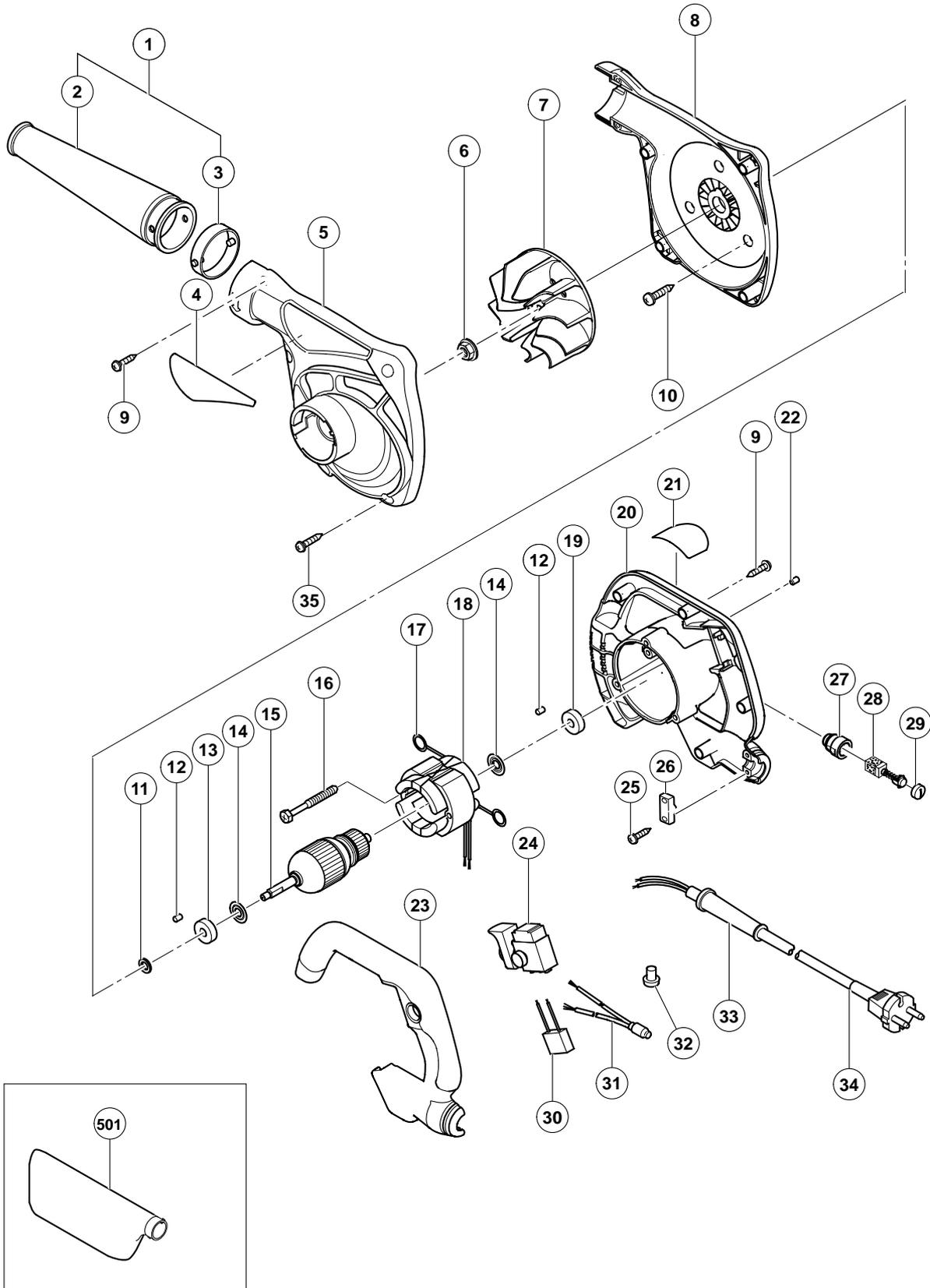
ELECTRIC TOOL PARTS LIST

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Model RB 40VA

(E1)



PARTS

RB 40VA

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	323-582	NOZZLE ASS'Y (A)	1	INCLUD. 2, 3
2		NOZZLE	1	
3	323-583	HOLDER (A)	1	
4		HITACHI LABEL	1	
5	323-573	CASING COVER	1	
6	323-572	U-NUT M6	1	
7	323-571	FAN	1	
8	323-570	CASING	1	
9	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	6	
10	305-507	TAPPING SCREW (W/FLANGE) D5X30	3	
11	930-079	WASHER	1	
12	931-701	BEARING LOCK	2	
13	608-DDW	BALL BEARING 608DDW	1	
14	982-631	WASHER (A)	2	
* 15	360-683C	ARMATURE 110V	1	
* 15	360-683E	ARMATURE 220V-230V	1	
* 15	360-683F	ARMATURE 240V	1	
16	980-864	HEX. HD. TAPPING SCREW D5X40	2	
17	930-630	BRUSH TERMINAL	2	
* 18	340-602K	STATOR ASS'Y 110V	1	INCLUD. 17
* 18	340-602E	STATOR ASS'Y 220V-230V	1	INCLUD. 17
* 18	340-602H	STATOR ASS'Y 220V-230V	1	INCLUD. 17 FOR GBR, SAF, EUROPE, AUT, SUI
* 18	340-602J	STATOR ASS'Y 240V	1	INCLUD. 17
19	608-DDW	BALL BEARING 608DDW	1	
20	323-576	HOUSING ASS'Y	1	INCLUD. 22, 27
21		NAME PLATE	1	
22	938-477	HEX. SOCKET SET SCREW M5X8	2	
23	324-054	HANDLE COVER	1	
24	323-086	SWITCH (1P PILLAR TYPE)	1	
25	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	
26	960-266	CORD CLIP	1	
27	957-571	BRUSH HOLDER	2	
28	999-021	CARBON BRUSH (1 PAIR)	2	
29	931-266	BRUSH CAP	2	
* 30	930-039	NOISE SUPPRESSOR	1	EXCEPT FOR SYR, SIN
* 31	303-837	CHOKE COIL	2	EXCEPT FOR SYR, SIN
* 32	959-141	CONNECTOR 50092 (10 PCS.)	2	EXCEPT FOR SYR, SIN
33	307-217	CORD ARMOR D7.2	1	
* 34	500-409Z	CORD	1	(CORD ARMOR D7.2)
* 34	500-447Z	CORD	1	(CORD ARMOR D7.2) FOR SYR
* 34	500-423Z	CORD	1	(CORD ARMOR D7.2) FOR SIN
* 34	500-439Z	CORD	1	(CORD ARMOR D7.2) FOR NZL, AUS
* 34	500-435Z	CORD	1	(CORD ARMOR D7.2) FOR GBR (110V)
* 34	500-237Z	CORD	1	(CORD ARMOR D7.2) FOR GBR (230V)
35	304-035	TAPPING SCREW (W/FLANGE) D4X25 (BLACK)	4	

