

Hitachi Power Tools

SERVICE MANUAL

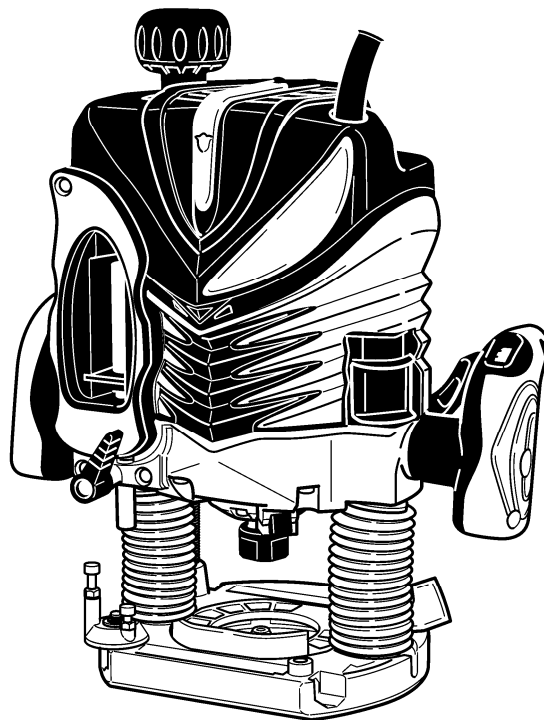
LIST Nos.
M 12V2: 0669
M 12SA2: 0670
Feb. 2006

PRODUCT NAME

Hitachi Router

Models M 12V2
M 12SA2

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M

HITACHI

 **Hitachi Koki Co., Ltd.**
International Sales Division

% PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[Bold]** numbers in the descriptions below correspond to the item numbers in the Parts Lists and exploded assembly diagram for the Model M 12V2. The **([Bold])** numbers in the descriptions below correspond to the item numbers in the Parts Lists and exploded assembly diagram for the Model M 12SA2. The disassembly and reassembly procedures described are the same for the Models M 12V2 and M 12SA2.

CAUTION: Prior to commencing disassembly, inspection or other maintenance, ensure without fail that the plug is disconnected from the power source.

%1. Disassembly

- (1) First, remove the bit. If further disassembly is attempted with the bit mounted on the router, it may cause damage to the cutting edges of the bit and/or serious injury to the handler.
- (2) Removal of the Base **[89]** **([85])** (Fig. 1 and Fig. 2)
 - (a) Stand the router upright so that the bottom surface of the Base **[89]** **([85])** is directed downward.
 - (b) Turn Lever (B) **[58]** **([56])** in a counterclockwise direction and lock Lever (A) **[62]** **([60])**.
 - (c) With a 10-mm wrench and a hex. bar wrench, loosen and remove the Seal Lock Hex. Socket Hd. Bolt M5 x 14 **[45]** **([43])**, and remove Knob (C) **[46]** **([44])**.
 - (d) Release Lever (A) **[62]** **([60])** and disassemble the Base **[89]** **([85])** from the main body. As Plunger Spring (R) **[41]** **([39])** and Plunger Spring (L) **[48]** **([46])** are installed within the columns of the Base **[89]** **([85])**, be sure to support the main body by firmly gripping the handle during disassembly.

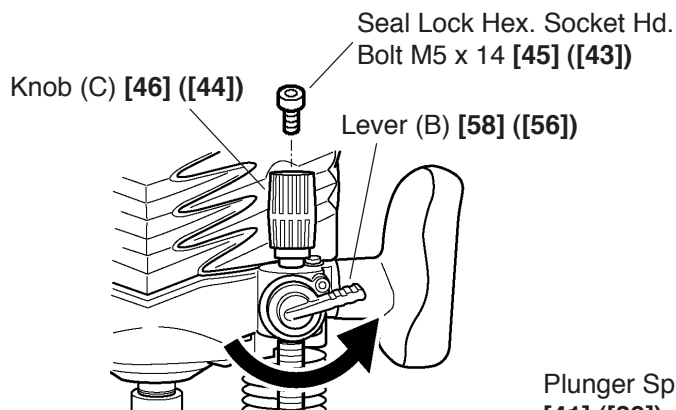


Fig. 1

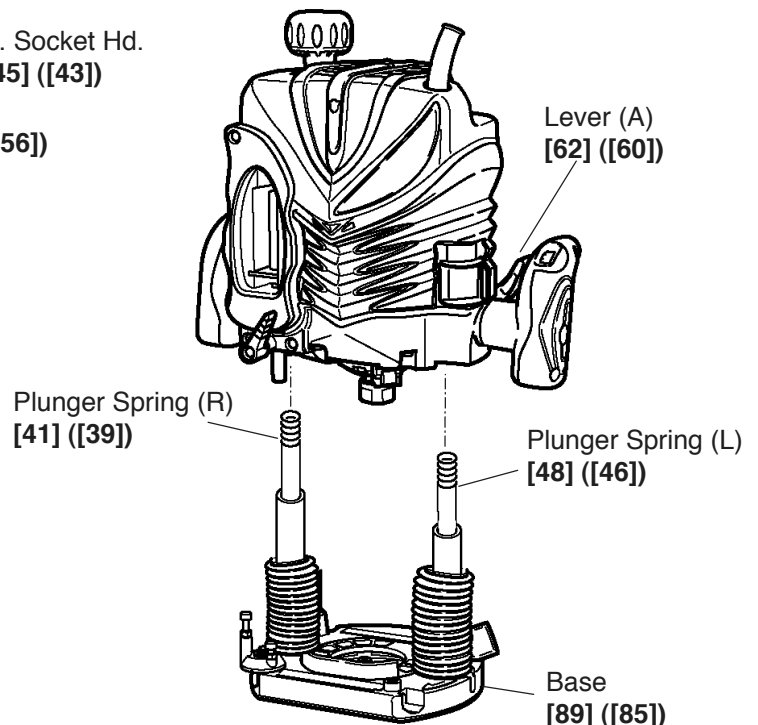


Fig. 2

(3) Removal of the Head Cover [3] ([3]) (Fig. 3)

Loosen and remove the two Tapping Screws (W/Flange) D4 x 30 (Black) [2] ([2]) and two Tapping Screws (W/Flange) D4 x 16 (Black) [21] ([19]), and move the Head Cover [3] ([3]) toward the Cord [36] ([34]).

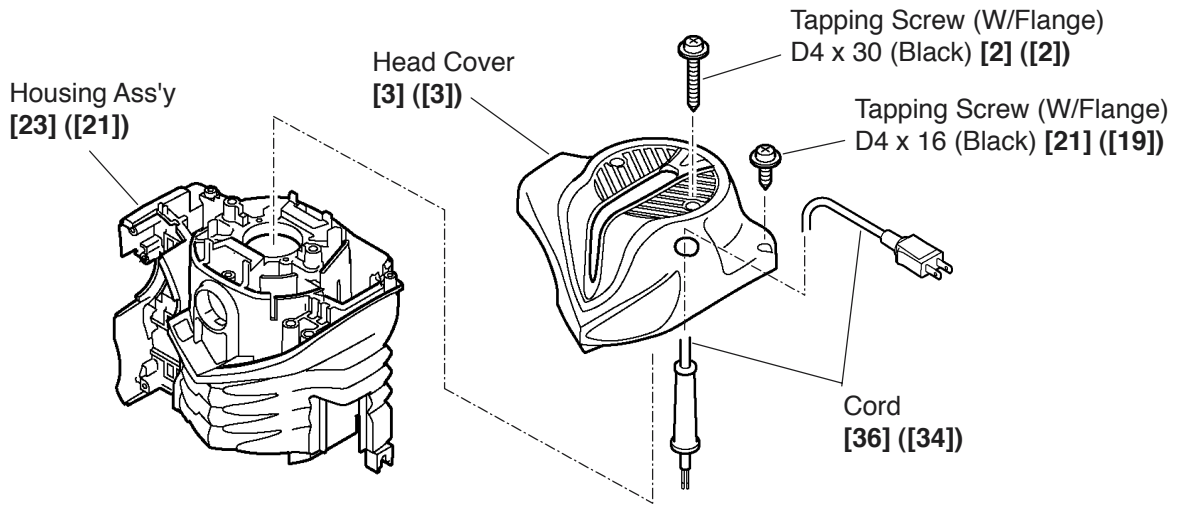


Fig. 3

(4) Remove Front Cover (B) [19] ([17]) and Front Cover (C) [52] ([50]) (Fig. 4 and Fig. 5)

(a) Loosen and remove the two Machine Screws (W/Washers) M4 x 12 (Black) [44] ([42]), and remove Front Cover (C) [52] ([50]).

(b) Loosen and remove the Tapping Screw (W/Flange) D4 x 20 (Black) [18] ([16]), and remove Front Cover (B) [19] ([17]).

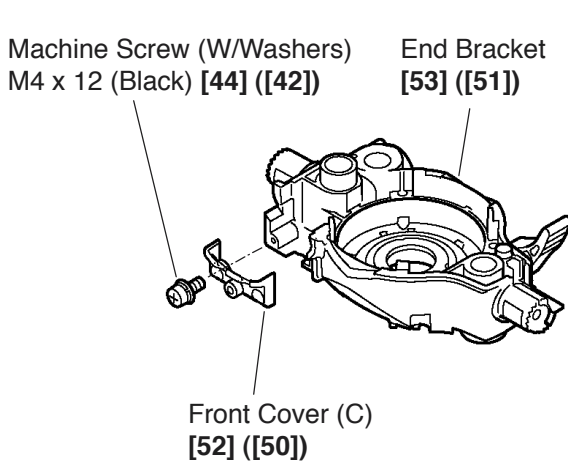


Fig. 4

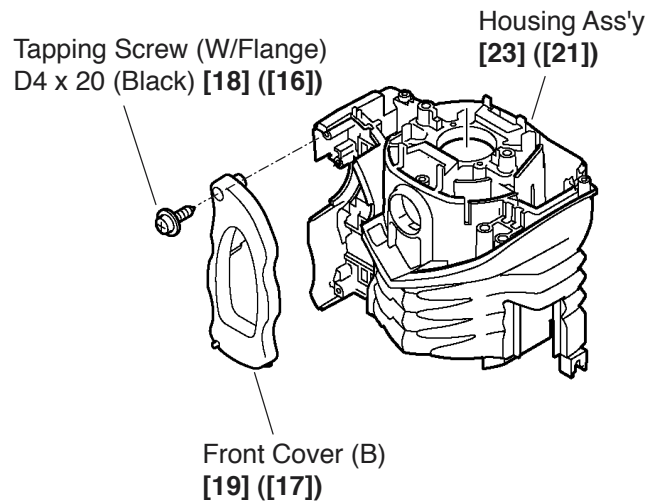


Fig. 5

- (5) Remove the Armature [28] ([26]) and the End Bracket [53] ([51]) (Fig. 6)
- Remove the Carbon Brushes (1 Pair) [33] ([31]).
 - Loosen and remove the two Tapping Screws (W/Flange) D4 x 16 (Black) [21] ([19]) and the Machine Screw (W/Washers) M6 x 30 (Black) [37] ([35]), and remove Handle (R) B [67] ([64]).
 - Disconnect Cord (A) [66] from the Controller Circuit Dial Set [5] and remove Handle (R) A [64] (Model M 12V2 only).
 - Loosen and remove the four Tapping Screws D5 x 50 [68] ([65]).
 - Being very careful to avoid hitting the Magnet [6] against the stator ass'y, remove the Armature [28] ([26]) and the End Bracket [53] ([51]) from the Housing Ass'y [23] ([21]). As the Magnet [6] is very fragile, it must be handled with the utmost caution (Model M 12V2 only).
 - Take out the Lock Piece [60] ([58]) which is mounted in the End Bracket [53] ([51]).
 - Being very careful not to damage the magnet component, fit a 14-mm wrench onto the hexagonal portion of the Magnet [6], and loosen and remove it from the Armature [28] ([26]) (Model M 12V2 only).
 - Loosen and remove the three Machine Screws (W/Washers) M4 x 12 (Black) [44] ([42]), then remove the Bearing Cover [71] ([68]), Pushing Button [73] ([70]) and Lock Spring (A) [72] ([69]).
 - Being very careful not to damage the outer surface of its core, secure the Armature [28] ([26]) in a vise.
 - Turn the Thrust Nut [70] ([67]) counterclockwise with a wrench to loosen and remove it.
 - With a handle press, disassemble the Armature [28] ([26]) from the End Bracket [53] ([51]).

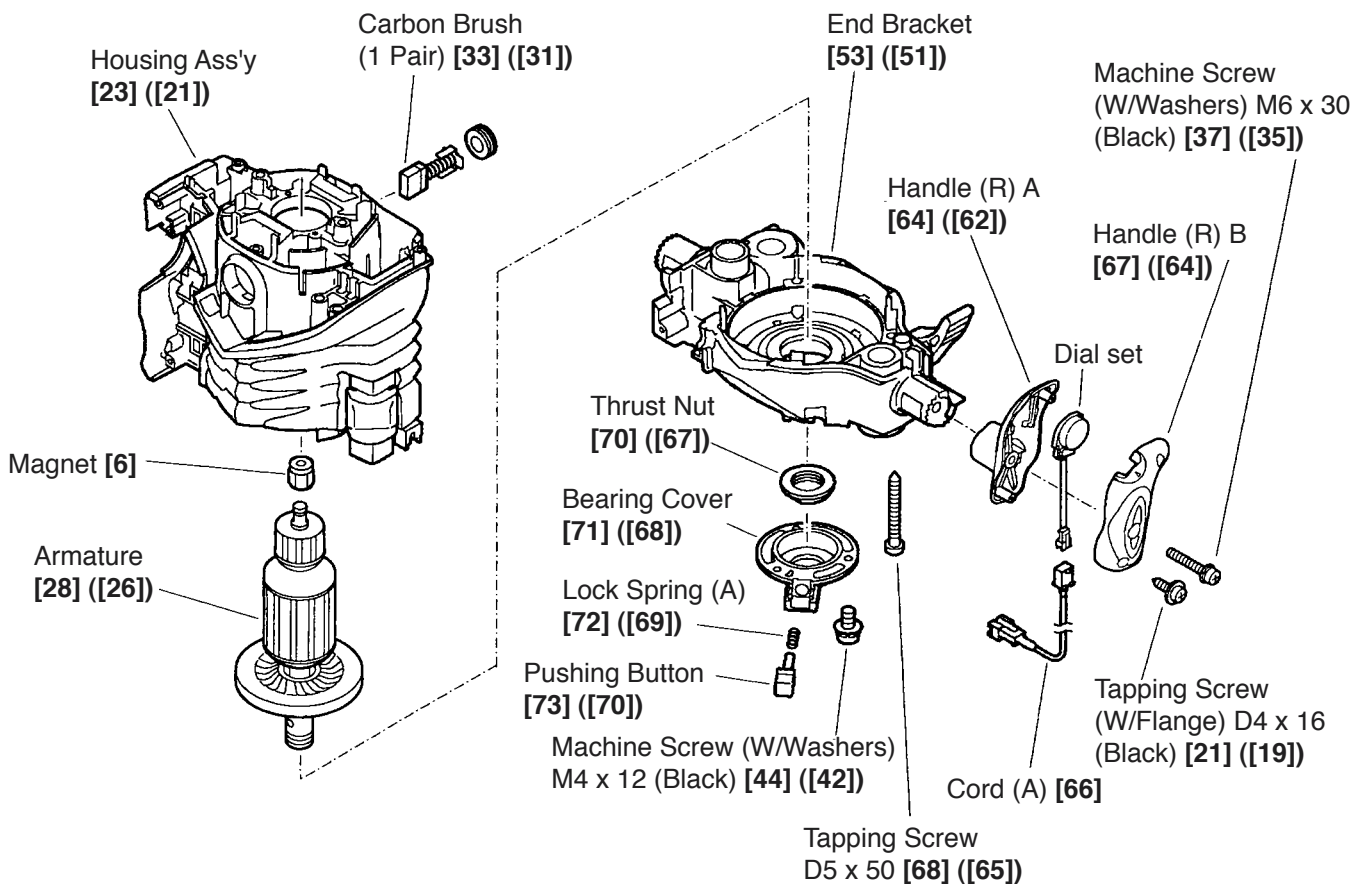


Fig. 6

(6) Remove the Stator Ass'y [26] ([24]) (Fig. 7)

- (a) Remove the Controller Circuit Dial Set [5]. (Model M 12V2 only)
- (b) Loosen and remove the two Tapping Screws D4 x 12 [7] ([5]), and remove the Bearing Bushing [8] ([6]).
- (c) Disconnect the Brush Terminals [25] ([23]) of the Stator Ass'y [26] ([24]) from the brush holders.
- (d) Lift out the Switch (2P Pillar Type) W/O Lock [30] ([28]) from the Housing Ass'y [23] ([21]).
- (e) Loosen the minus-head screws on the terminals of the Switch (2P Pillar Type) W/O Lock [30] ([28]), and disconnect the lead wires of the Stator Ass'y [26] ([24]) from the Switch (2P Pillar Type) W/O Lock [30] ([28]).
- (f) Loosen and remove the two Hex. Hd. Tapping Screws D5 x 70 [27] ([25]).
- (g) With a plastic hammer, gently tap on the lower end of the Housing Ass'y [23] ([21]) (the end where the End Bracket [53] ([51]) is connected) to loosen and separate the Stator Ass'y [26] ([24]) from the Housing Ass'y [23] ([21]).

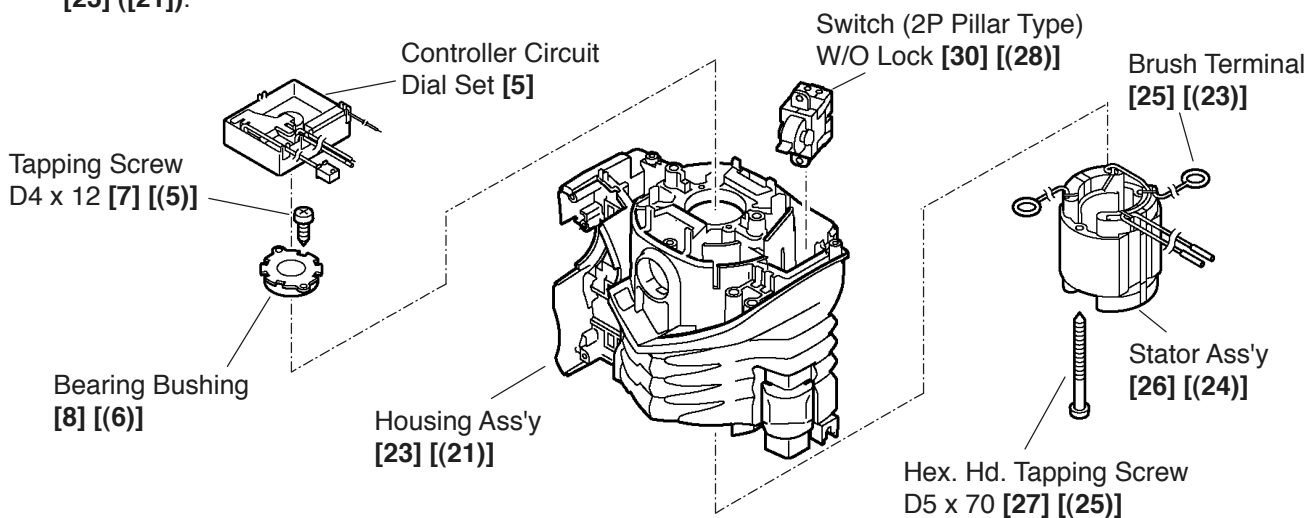


Fig. 7

(7) **CAUTION:**

As these models are specifically designed to ensure that the armature is dynamically balanced, there is extremely little allowable play or imbalance in comparison with other Hitachi electric power tools. For this reason, be sure to handle the armature and its associated parts very carefully during disassembly and reassembly.

(8) Remove the Special Nut TR12 [55] ([53]) (Fig. 8)

- (a) Loosen the Hex. Socket Set Screw M6 x 6 [59] ([57]) and remove Lever (B) [58] ([56]).
- (b) Turn the Special Bolt M20 [56] ([54]) clockwise and remove it.
- (c) Loosen and remove the Machine Screw (W/Washers) M4 x 12 (Black) [44] ([42]), and remove the Special Nut TR12 [55] ([53]) from the Special Bolt M20 [56] ([54]).

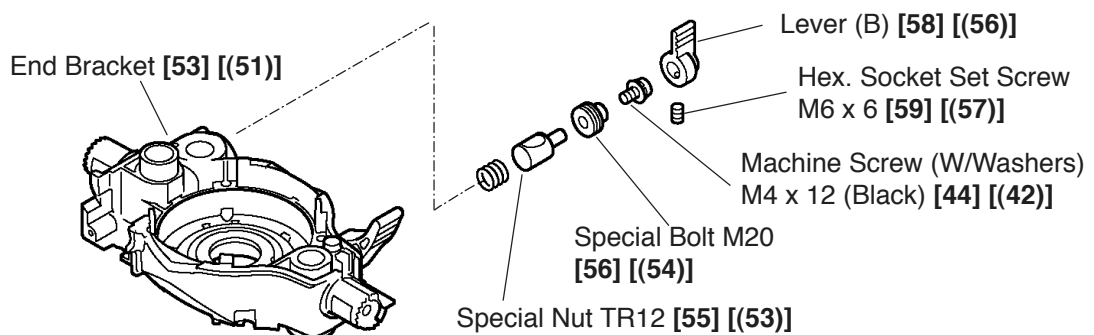


Fig. 8

2. Reassembly

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

(1) Reassembly of the Special Nut TR12 [55] ([53]) (Fig. 9 and Fig. 10)

- (a) Insert the Special Nut TR12 [55] ([53]) to the hole of the Special Bolt M20 [56] ([54]) and secure them with the Machine Screw (W/Washers) M4 x 12 (Black) [44] ([42]).
- (b) Insert the Spring [54] ([52]) to the hole of the End Bracket [53] ([51]), and insert the Special Bolt M20 [56] ([54]) to the End Bracket [53] ([51]) with turning counterclockwise until the surface of the Special Bolt M20 [56] ([54]) and the End Bracket [53] ([51]) becomes equal height.
- (c) Attach Lever (B) [58] ([56]) with the position as Fig. 10. And secure it with the Hex. Socket Set Screw M6 x 6 [59] ([57]).

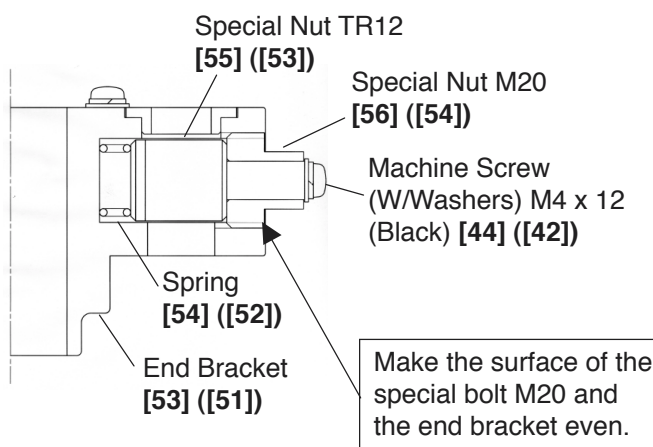


Fig. 9

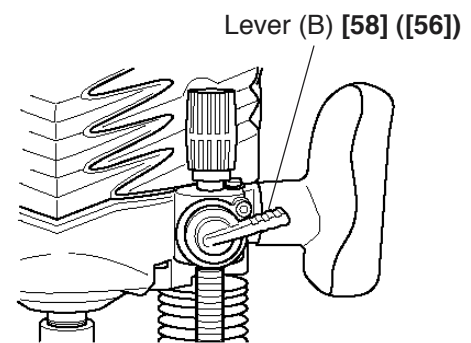


Fig. 10

(2) Wiring procedure

During installation, be careful not to pinch the lead wires between the housing and the head cover.

(2-1) Model M 12V2

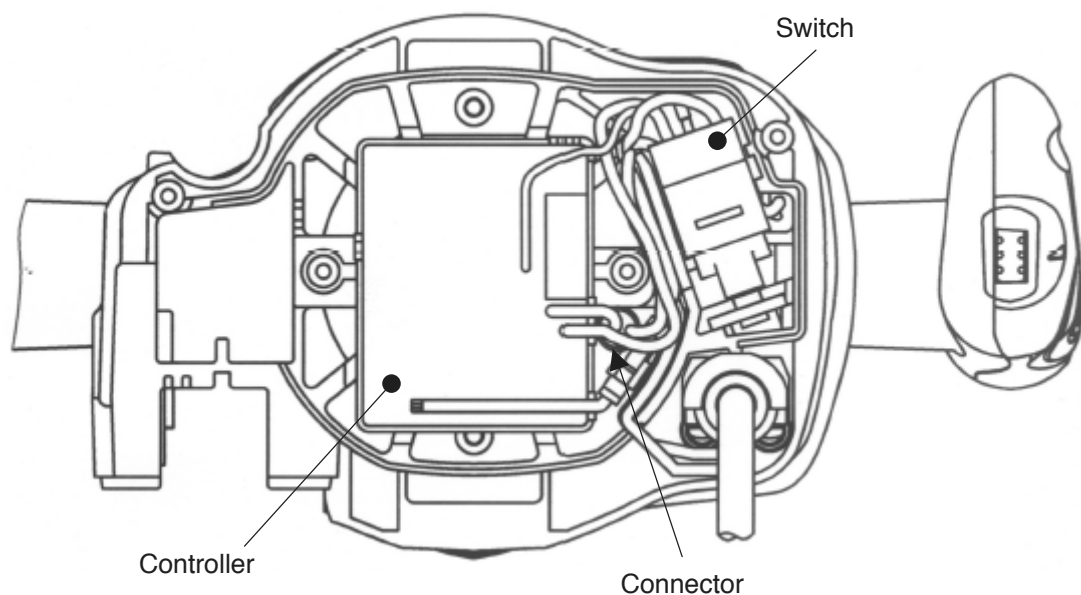


Fig. 11

(2-2) Model M 12SA2

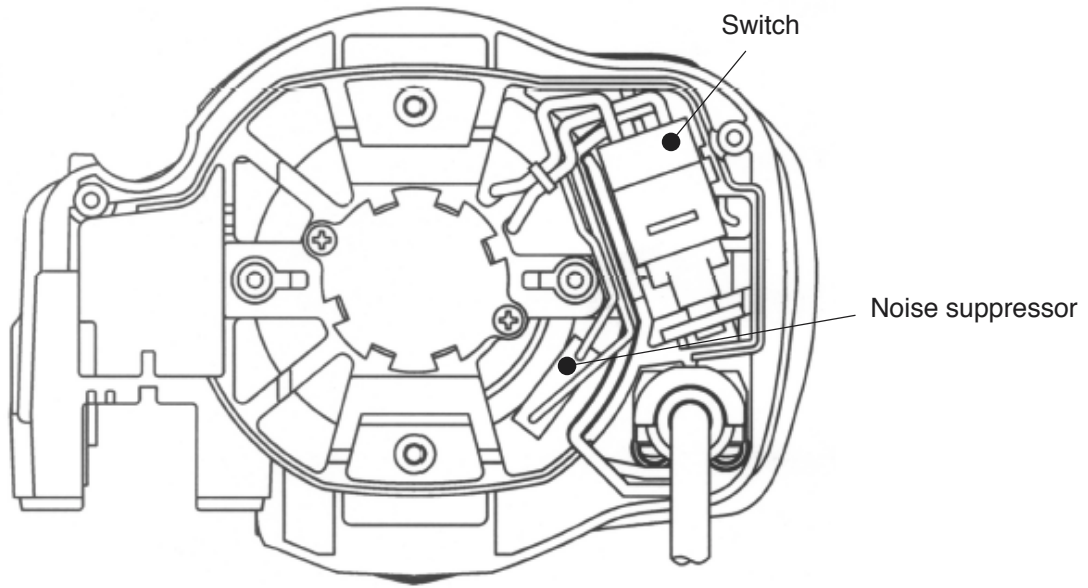


Fig. 12

(3) Wiring diagram

(3-1) Model M 12V2

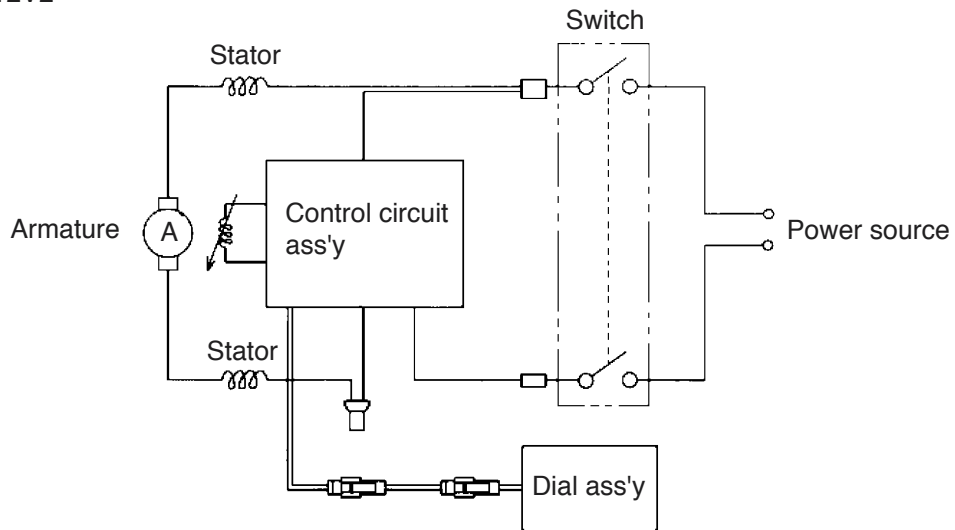


Fig. 13

(3-2) Model M 12SA2

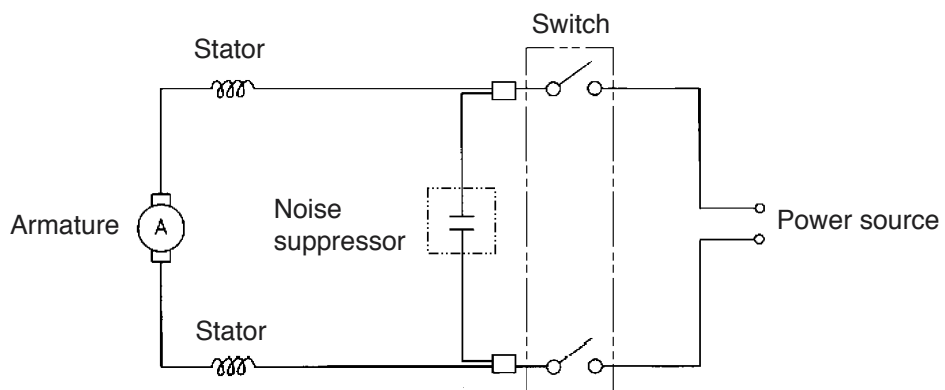


Fig. 14

(4) Tightening torque of screws and bolts

Tapping screw D4 x 12	2.0 ± 0.5 N·m (20 ± 5 kgf·cm)
Tapping screw D4 x 16	2.0 ± 0.5 N·m (20 ± 5 kgf·cm)
Tapping screw D4 x 20	2.0 ± 0.5 N·m (20 ± 5 kgf·cm)
Tapping screw D4 x 30	2.0 ± 0.5 N·m (20 ± 5 kgf·cm)
Tapping screw D5 x 50	2.9 ± 0.5 N·m (30 ± 5 kgf·cm)
Hex. hd. tapping screws D5 x 70	2.9 ± 0.5 N·m (30 ± 5 kgf·cm)
Machine screw M4 x 8	1.8 ± 0.4 N·m (18 ± 4 kgf·cm)
Machine screw M4 x 12	1.8 ± 0.4 N·m (18 ± 4 kgf·cm)
Machine screw M5 x 6	3.4 ± 0.7 N·m (35 ± 7 kgf·cm)
Machine screw M6 x 10	4.9 ± 1.0 N·m (50 ± 10 kgf·cm)
Machine screw M6 x 30	4.9 ± 1.0 N·m (50 ± 10 kgf·cm)
Flat screw M5 x 14	3.4 ± 0.7 N·m (35 ± 7 kgf·cm)
Hex. socket set screw M5 x 8	0.75 ± 0.25 N·m (7 ± 2.5 kgf·cm)
Hex. socket set screw M6 x 6	5.9 ± 1.5 N·m (60 ± 15 kgf·cm)
Bolt M5 x 14	3.4 ± 0.7 N·m (35 ± 7 kgf·cm)
Nut M5	3.4 ± 0.7 N·m (35 ± 7 kgf·cm)
Nut M8	9.8 ± 2.0 N·m (100 ± 20 kgf·cm)
Stopper bolt	4.9 ± 1.0 N·m (50 ± 10 kgf·cm)

%3. Insulation Tests

On completion of disassembly and repair, measure the insulation resistance and conduct the insulation tests (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 100 V — 127 V (except U.K. products)

%4. Cleaning the Cover

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

%5. No-load Current Value

After no-load operation for 30 minutes, the no-load current value should be as specified below at a frequency of 50/60 Hz.

Voltage (V)	110	120	230	240
Current (A) max. (Model M 12V2)	7.5	7.0	4.5	4.5
Current (A) max. (Model M 12SA2)	5.5	6.0	3.8	3.6

Note: For the Model M 12V2, check the no-load current value by setting the dial to "6".

%6. Product Accuracy

Bit run out: With a 12 mm or 1/2" test bar applied, run out should be less than 0.4 mm at a 100 mm distance from the top of chuck.

& STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
M 12V2 M 12SA2		Work Flow						
				Switch Controller Circuit (A) Dial Set Cord Cord Armor Cord Holder Cord (A)				
	General Assembly							
		Head Cover		Armature Ass'y		Housing Ass'y		
		Collet Chuck		Rubber Ring		Stator Ass'y		
		Front Cover (B)		Bearing Bushing				
		Marker		Ball Bearing 6200VV				
		Pole Holder		Ball Bearing 6004VV				
				Bearing Cover				
				Magnet				
		Handle (L) A		End Bracket				
		Handle (R) A						
		Handle (L) B						
		Handle (R) B						
		Sub Base (A)						
		Template						
		Guide Adapter						
		Stopper Block		Base				
		Dust Guide						
		Lever (B)						
		Lever (A)						

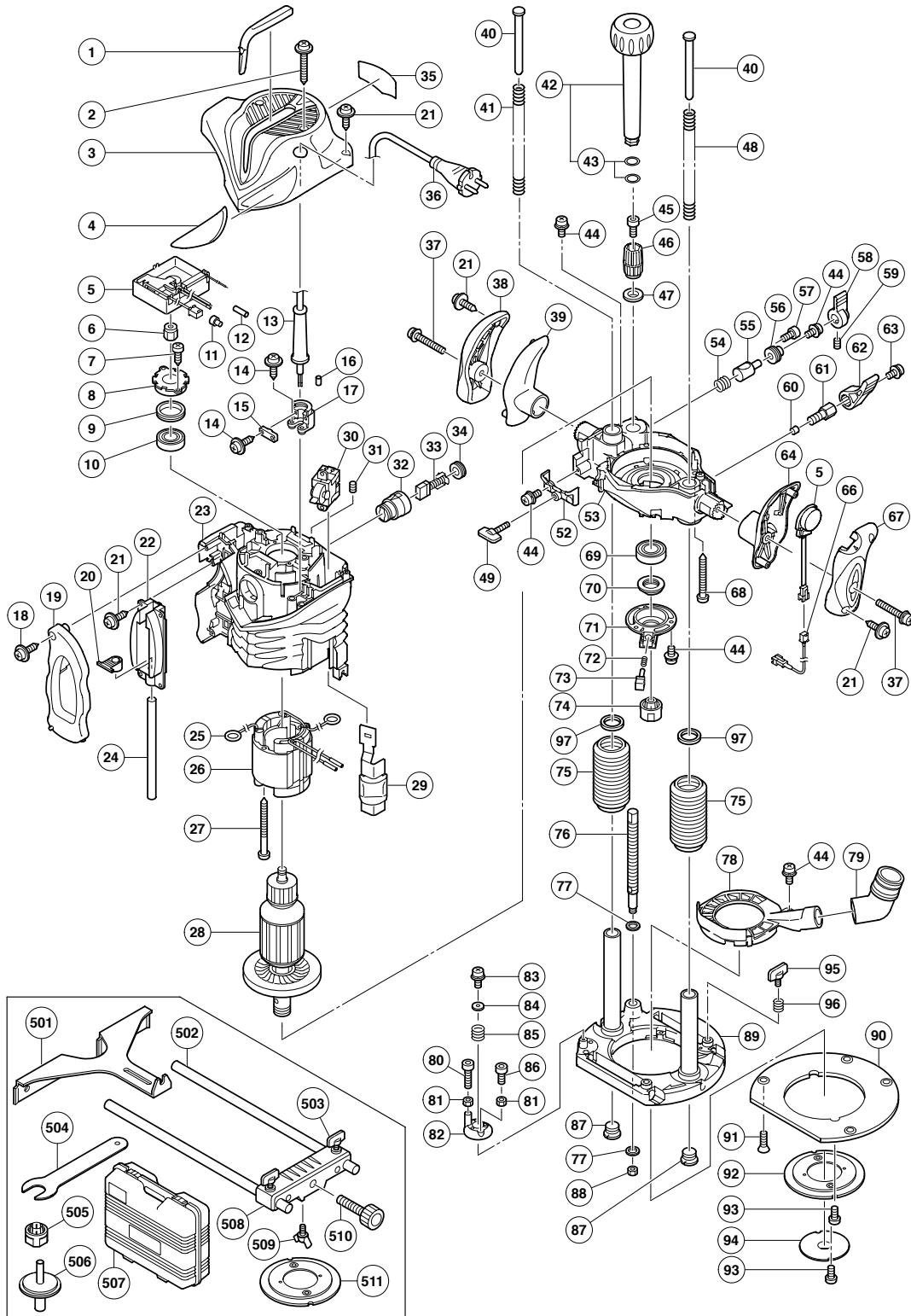
ELECTRIC TOOL PARTS LIST

ROUTER

2006 · 2 · 22

Model M 12V2

(E1)



PARTS

M 12V2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1		HITACHI LABEL (B)	1	
2	305-490	TAPPING SCREW (W/FLANGE) D4X30 (BLACK)	2	
3	325-168	HEAD COVER	1	
4		HITACHI LABEL (A)	1	
* 5	325-200	CONTROLLER CIRCUIT (C) DIAL SET 100-120V	1	
* 5	325-368	CONTROLLER CIRCUIT (A) DIAL SET 230V	1	
* 5	325-218	CONTROLLER CIRCUIT (A) DIAL SET 230-240V	1	FOR SIN, KUW, NZL, AUS, SAF
6	301-797	MAGNET	1	
7	954-017	TAPPING SCREW D4X12	2	
8	325-169	BEARING BUSHING	1	
9	325-184	RUBBER RING	1	
10	620-0VV	BALL BEARING 6200VVCMP2L	1	
11	959-141	CONNECTOR 50092 (10 PCS.)	1	
12	961-820	TUBE (D)	1	
* 13	953-327	CORD ARMOR D8.8	1	
* 13	938-051	CORD ARMOR D10.1	1	
14	984-750	TAPPING SCREW (W/FLANGE) D4X16	4	
15	937-631	CORD CLIP	1	
* 16	981-373	TUBE (D)	2	
* 16	961-820	TUBE (D)	2	FOR USA, CAN
17	325-203	CORD HOLDER	1	
18	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	1	
19	325-170	FRONT COVER (B)	1	
20	325-198	MARKER	1	
21	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	10	
22	325-197	POLE HOLDER	1	
23	325-219	HOUSING ASS'Y	1	INCLUD. 31, 32
24	325-196	STOPPER POLE (A)	1	
25	958-032	BRUSH TERMINAL	2	
* 26	340-659C	STATOR ASS'Y 120V	1	INCLUD. 25
* 26	340-659G	STATOR ASS'Y 230V	1	INCLUD. 25
* 26	340-659E	STATOR ASS'Y 230V	1	INCLUD. 25 FOR SIN, SAF
* 26	340-659F	STATOR ASS'Y 240V	1	INCLUD. 25
* 26	340-659H	STATOR ASS'Y 240V	1	INCLUD. 25 FOR AUS
27	961-400	HEX. HD. TAPPING SCREW D5X70	2	
* 28	360-748U	ARMATURE ASS'Y 110V-120V	1	INCLUD. 10, 69
* 28	360-748E	ARMATURE 230V-240V	1	
29	325-960	LEVER	1	
30	301-821	SWITCH (2P PILLAR TYPE) W/O LOCK	1	
31	938-477	HEX. SOCKET SET SCREW M5X8	2	
32	980-487	BRUSH HOLDER	2	
33	999-044	CARBON BRUSH (1 PAIR)	2	
34	940-540	BRUSH CAP	2	
35		NAME PLATE	1	
* 36	500-234Z	CORD	1	(CORD ARMOR D8.8)
* 36	500-247Z	CORD	1	(CORD ARMOR D10.1) FOR FIN, NOR, SWE, DEN, AUT
* 36	500-423Z	CORD	1	(CORD ARMOR D8.8) FOR SIN, KUW
* 36	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR NZL, AUS
* 36	500-242Z	CORD	1	(CORD ARMOR D10.1) FOR USA, CAN
* 36	500-248Z	CORD	1	(CORD ARMOR D10.1) FOR SUI
* 36	500-435Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (230V)

PARTS

M 12V2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
*	36	500-396Z	CORD	1 (CORD ARMOR D10.1) FOR GBR (110V)
	37	307-443	MACHINE SCREW (W/WASHERS) M6X30 (BLACK)	2
	38	325-220	HANDLE (L) B	1
	39	325-171	HANDLE (L) A	1
	40	325-180	SPRING GUIDE	2
	41	325-177	PLUNGE SPRING (R)	1
	42	325-214	KNOB (B) ASS'Y	1 INCLUD. 43
	43	872-654	O-RING (1AP-10)	2
	44	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	8
	45	984-509	SEAL LOCK HEX. SOCKET HD. BOLT M5X14	1
	46	325-194	KNOB (C)	1
	47	325-195	GUIDE SLEEVE	1
	48	325-176	PLUNGE SPRING (L)	1
	49	301-801	WING BOLT M6X27	1
	52	325-173	FRONT COVER (C)	1
*	53	325-205	END BRACKET	1
*	53	326-043	END BRACKET	1 FOR USA, CAN
	54	325-193	SPRING	1
	55	325-192	SPECIAL NUT TR12	1
	56	325-191	SPECIAL BOLT M20	1
	57	949-811	HEX. SOCKET HD. BOLT M4X8 (10 PCS.)	1
	58	325-190	LEVER (B)	1
	59	985-033	HEX. SOCKET SET SCREW M6X6	1
	60	971-848	LOCK PIECE	1
	61	325-187	LOCK SCREW M10	1
*	62	326-042	LEVER (A)	1
*	62	322-601	LEVER (A) W/O STOPPER	1 FOR SIN, KUW, SAF, USA, CAN
	63	997-314	MACHINE SCREW (W/WASHERS) M6X10	1
	64	325-172	HANDLE (R) A	1
	66	325-202	CORD (A)	1
	67	325-962	HANDLE (R) B	1
	68	307-100	TAPPING SCREW D5X50	4
	69	600-4VV	BALL BEARING 6004VVCMP2L	1
	70	325-186	THRUST NUT	1
	71	325-185	BEARING COVER	1
	72	325-183	LOCK SPRING (A)	1
	73	325-182	PUSHING BUTTON	1
*	74	325-199	COLLET CHUCK 12MM	1
*	74	323-421	COLLET CHUCK 1/2"	1 FOR NZL, AUS, GBR, SAF, USA, CAN
	75	325-207	BELLOWS (A)	2
	76	325-189	SPECIAL BOLT TR12	1
	77	325-188	WASHER	2
	78	325-210	DUST GUIDE	1
	79	325-215	DUST GUIDE ADAPTER	1
	80	949-662	HEX. SOCKET HD. BOLT M5X25 (10 PCS.)	1
	81	302-012	NUT M5 (BLACK)	2
	82	325-181	STOPPER BLOCK	1
	83	317-200	MACHINE SCREW (W/WASHERS) M4X8 (BLACK)	1
	84	962-569	WASHER (B)	1
	85	971-858	SPRING (A)	1
	86	949-765	HEX. SOCKET HD. BOLT M5X12 (10 PCS.)	1

STANDARD ACCESSORIES

M 12V2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
501	956-797	STRAIGHT GUIDE	1	
502	325-216	GUIDE BAR (A)	2	
503	301-806	WING BOLT M6X15	2	
504	323-295	WRENCH 23MM	1	
* 505	325-212	COLLET CHUCK 8MM	1	
* 505	323-293	COLLET CHUCK 1/4"	1	FOR NZL, AUS, GBR, SAF, USA, CAN
* 506	325-213	CENTERING GAUGE	1	
* 506	325-223	CENTERING GAUGE	1	FOR NZL, AUS, GBR, SAF, USA, CAN
* 507	325-222	CASE	1	EXCEPT FOR USA, CAN, RUS
508	325-217	BAR HOLDER	1	
509	949-394	WING BOLT M6X10 (10 PCS.)	1	
510	956-793	FEED SCREW	1	
* 511	325-224	TEMPLATE GUIDE ADAPTER	1	FOR USA, CAN

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
* 601	313-765	STRAIGHT BIT (TCT) D1/2"X1/2"	1	FOR NZL, AUS, GBR, SAF, USA, CAN
* 602	307-801	COLLET CHUCK 1/2"	1	EXCEPT FOR NZL, AUS, GBR, SAF, USA, CAN
* 603	323-293	COLLET CHUCK 1/4"	1	EXCEPT FOR NZL, AUS, GBR, SAF, USA, CAN
* 604	325-369	TEMPLATE GUIDE ADAPTER	1	FOR NZL, AUS, GBR, SAF
* 605	323-298	TEMPLATE GUIDE D7.9	1	FOR USA,CAN
* 606	323-299	TEMPLATE GUIDE D9.5	1	FOR USA,CAN
* 607	323-300	TEMPLATE GUIDE D11.1	1	FOR USA,CAN
* 608	323-301	TEMPLATE GUIDE D12.7	1	FOR USA,CAN
* 609	323-302	TEMPLATE GUIDE D15.9	1	FOR USA,CAN
* 610	323-303	TEMPLATE GUIDE D19.1	1	FOR USA,CAN
* 611	323-304	TEMPLATE GUIDE D20.2	1	FOR USA,CAN
* 612	323-305	LOCK NUT	1	FOR USA,CAN
613	956-794	TRIMMER GUIDE	1	
614	956-803	DOUBLE FLUSH TRIMMING BIT (TCT) D12X12	1	
615	956-802	DOUBLE FLUSH TRIMMING BIT (TCT) D8X8	1	
616	956-801	DOUBLE FLUSH TRIMMING BIT (TCT) D6X6	1	
617	956-806	FLUSH TRIMMING BIT (TCT) D12X12	1	
618	956-805	FLUSH TRIMMING BIT (TCT) D8X8	1	
619	956-804	FLUSH TRIMMING BIT (TCT) D6X6	1	
620	956-810	STRAIGHT BIT (TCT) D12X12	1	
621	956-809	STRAIGHT BIT (TCT) D12X10	1	
622	312-273	STRAIGHT BIT (TCT) D6X6	1	
623	956-813	ROUND OVER BIT (TCT) D12XR8X24	1	
624	956-812	ROUND OVER BIT (TCT) D12XR6X20	1	
625	956-811	ROUND OVER BIT (TCT) D12XR4.5X19	1	
626	956-814	CHAMFERING BIT (TCT) 45° D6X20	1	
627	956-816	DOVETAIL BIT (TCT) D8X15	1	
628	956-815	DOVETAIL BIT (TCT) D6X12	1	
629	956-928Z	CHUCK SLEEVE 1/2"X3/8"	1	
630	956-931Z	CHUCK SLEEVE 1/2"X10"	1	
631	956-759	CHUCK SLEEVE 1/2"X8"	1	

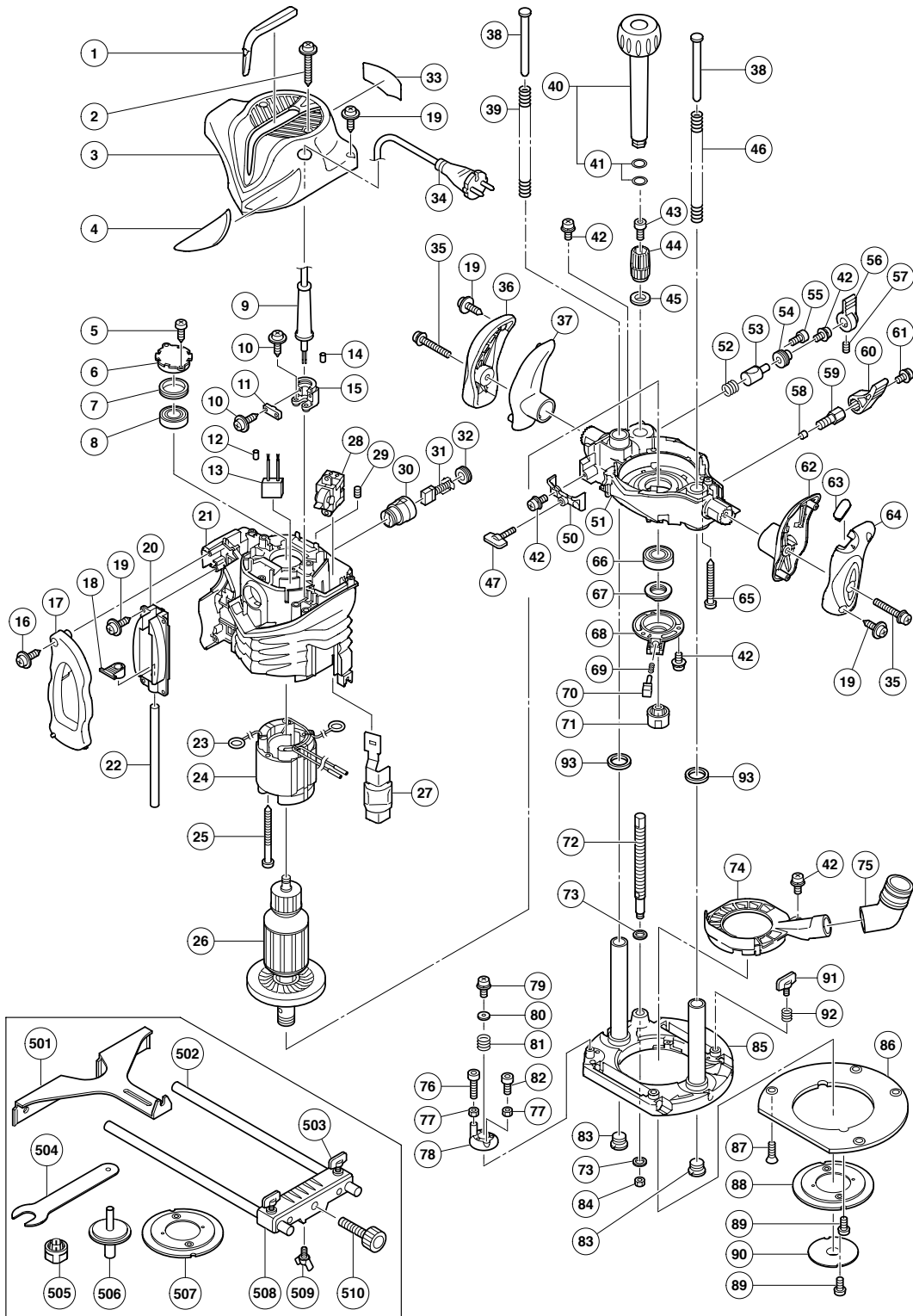
ELECTRIC TOOL PARTS LIST

ROUTER

2006 · 2 · 22

Model M 12SA2

(E1)



PARTS

M 12SA2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1		HITACHI LABEL (B)	1	
2	305-490	TAPPING SCREW (W/FLANGE) D4X30 (BLACK)	2	
3	325-168	HEAD COVER	1	
4		HITACHI LABEL (A)	1	
5	954-017	TAPPING SCREW D4X12	2	
6	325-226	BEARING BUSHING	1	
7	325-184	RUBBER RING	1	
8	620-0VV	BALL BEARING 6200VVCMP2L	1	
* 9	953-327	CORD ARMOR D8.8	1	
* 9	938-051	CORD ARMOR D10.1	1	
10	984-750	TAPPING SCREW (W/FLANGE) D4X16	4	
11	937-631	CORD CLIP	1	
* 12	961-820	TUBE (D)	2	EXCEPT FOR USA, CAN, KUW, SIN, INA, THA, KOR
* 13	930-039	NOISE SUPPRESSOR	1	EXCEPT FOR USA, CAN, KUW, SIN, INA, THA, KOR
* 14	981-373	TUBE (D)	2	
* 14	961-820	TUBE (D)	2	FOR USA, CAN
15	325-203	CORD HOLDER	1	
16	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	1	
17	325-170	FRONT COVER (B)	1	
18	325-198	MARKER	1	
19	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	10	
20	325-197	POLE HOLDER	1	
21	325-219	HOUSING ASS'Y	1	INCLUD. 29, 30
22	325-196	STOPPER POLE (A)	1	
23	958-032	BRUSH TERMINAL	2	
* 24	340-668C	STATOR ASS'Y 110V-120V	1	INCLUD. 23
* 24	340-668E	STATOR ASS'Y 220V-230V	1	INCLUD. 23 FOR THA, INA, SIN, KOR
* 24	340-668G	STATOR ASS'Y 230V	1	INCLUD. 23
* 24	340-668H	STATOR ASS'Y 240V	1	INCLUD. 23
* 24	340-668F	STATOR ASS'Y 240V	1	INCLUD. 23 FOR KUW
25	961-400	HEX. HD. TAPPING SCREW D5X70	2	
* 26	360-750U	ARMATURE ASS'Y 110V-120V	1	INCLUD. 8, 66
* 26	360-750E	ARMATURE 220V-230V	1	
* 26	360-750F	ARMATURE 240V	1	
27	325-960	LEVER	1	
28	301-821	SWITCH (2P PILLAR TYPE) W/O LOCK	1	
29	938-477	HEX. SOCKET SET SCREW M5X8	2	
30	980-487	BRUSH HOLDER	2	
31	999-044	CARBON BRUSH (1 PAIR)	2	
32	940-540	BRUSH CAP	2	
33		NAME PLATE	1	
* 34	500-234Z	CORD	1	(CORD ARMOR D8.8)
* 34	500-247Z	CORD	1	(CORD ARMOR D10.1) FOR AUT, FIN, DEN, SWE, NOR
* 34	500-461Z	CORD	1	(CORD ARMOR D10.1) FOR GBR (110V)
* 34	500-435Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (230V)
* 34	500-248Z	CORD	1	(CORD ARMOR D10.1) FOR SUI
* 34	500-242Z	CORD	1	(CORD ARMOR D10.1) FOR USA, CAN
* 34	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR AUS, NZL
* 34	500-423Z	CORD	1	(CORD ARMOR D8.8) FOR KUW, SIN
* 34	500-455Z	CORD	1	(CORD ARMOR D10.1) FOR THA
* 34	500-234Z	CORD	1	(CORD ARMOR D8.8) FOR KOR

PARTS

M 12SA2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
35	307-443	MACHINE SCREW (W/WASHERS) M6X30 (BLACK)	2	
36	325-220	HANDLE (L) B	1	
37	325-171	HANDLE (L) A	1	
38	325-180	SPRING GUIDE	2	
39	325-177	PLUNGE SPRING (R)	1	
40	325-214	KNOB (B) ASS'Y	1	INCLUD. 41
41	872-654	O-RING (1AP-10)	2	
42	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	8	
43	984-509	SEAL LOCK HEX. SOCKET HD. BOLT M5X14	1	
44	325-194	KNOB (C)	1	
45	325-195	GUIDE SLEEVE	1	
46	325-176	PLUNGE SPRING (L)	1	
47	301-801	WING BOLT M6X27	1	
50	325-173	FRONT COVER (C)	1	
51	325-228	END BRACKET	1	
52	325-193	SPRING	1	
53	325-192	SPECIAL NUT TR12	1	
54	325-191	SPECIAL BOLT M20	1	
55	949-811	HEX. SOCKET HD. BOLT M4X8 (10 PCS.)	1	
56	325-190	LEVER (B)	1	
57	985-033	HEX. SOCKET SET SCREW M6X6	1	
58	971-848	LOCK PIECE	1	
59	325-187	LOCK SCREW M10	1	
* 60	326-042	LEVER (A)	1	
* 60	322-601	LEVER (A) W/O STOPPER	1	FOR USA, CAN, THA, KUW, INA, SIN, KOR
61	997-314	MACHINE SCREW (W/WASHERS) M6X10	1	
62	325-172	HANDLE (R) A	1	
63	325-227	DIAL COVER	1	
64	325-221	HANDLE (R) B	1	
65	307-100	TAPPING SCREW D5X50	4	
66	600-4VV	BALL BEARING 6004VVCMP2L	1	
67	325-186	THRUST NUT	1	
68	325-185	BEARING COVER	1	
69	325-183	LOCK SPRING (A)	1	
70	325-182	PUSHING BUTTON	1	
* 71	325-199	COLLET CHUCK 12MM	1	
* 71	323-421	COLLET CHUCK 1/2"	1	FOR GBR, USA, CAN, AUS, NZL
72	325-189	SPECIAL BOLT TR12	1	
73	325-188	WASHER	2	
74	325-210	DUST GUIDE	1	
75	325-215	DUST GUIDE ADAPTER	1	
76	949-662	HEX. SOCKET HD. BOLT M5X25 (10 PCS.)	1	
77	302-012	NUT M5 (BLACK)	2	
78	325-181	STOPPER BLOCK	1	
79	317-200	MACHINE SCREW (W/WASHERS) M4X8 (BLACK)	1	
80	962-569	WASHER (B)	1	
81	971-858	SPRING (A)	1	
82	949-765	HEX. SOCKET HD. BOLT M5X12 (10 PCS.)	1	
83	325-178	STOPPER BOLT	2	
84	949-558	NUT M8 (10 PCS.)	1	
85	325-206	BASE	1	

STANDARD ACCESSORIES

M 12SA2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
501	956-797	STRAIGHT GUIDE	1	
502	325-216	GUIDE BAR (A)	2	
503	301-806	WING BOLT M6X15	2	
504	323-295	WRENCH 23MM	1	
* 505	325-212	COLLET CHUCK 8MM	1	
* 505	323-293	COLLET CHUCK 1/4"	1	FOR GBR, USA, CAN, AUS, NZL
* 506	325-213	CENTERING GAUGE	1	
* 506	325-223	CENTERING GAUGE	1	FOR GBR, USA, CAN, AUS, NZL
* 507	325-224	TEMPLATE GUIDE ADAPTER	1	FOR USA, CAN
508	325-217	BAR HOLDER	1	
509	949-394	WING BOLT M6X10 (10 PCS.)	1	
510	956-793	FEED SCREW	1	

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
601	956-803	DOUBLE FLUSH TRIMMING BIT (TCT) D12X12	1	
602	956-802	DOUBLE FLUSH TRIMMING BIT (TCT) D8X8	1	
603	956-801	DOUBLE FLUSH TRIMMING BIT (TCT) D6X6	1	
604	956-806	FLUSH TRIMMING BIT (TCT) D12X12	1	
605	956-805	FLUSH TRIMMING BIT (TCT) D8X8	1	
606	956-804	FLUSH TRIMMING BIT (TCT) D6X6	1	
607	312-273	STRAIGHT BIT (TCT) D6X6	1	
608	956-810	STRAIGHT BIT (TCT) D12X12	1	
609	956-809	STRAIGHT BIT (TCT) D12X10	1	
* 610	313-765	STRAIGHT BIT (TCT) D1/2"X1/2"	1	FOR GBR, USA, CAN, AUS, NZL
611	956-813	ROUND OVER BIT (TCT) D12XR8X24	1	
612	956-812	ROUND OVER BIT (TCT) D12XR6X20	1	
613	956-811	ROUND OVER BIT (TCT) D12XR4.5X19	1	
614	956-814	CHAMFERING BIT (TCT) 45° D6X20	1	
615	956-816	DOVETAIL BIT (TCT) D8X15	1	
616	956-815	DOVETAIL BIT (TCT) D6X12	1	
617	956-928Z	CHUCK SLEEVE 1/2"X3/8"	1	
618	956-931Z	CHUCK SLEEVE 1/2"X10"	1	
619	956-759	CHUCK SLEEVE 1/2"X8"	1	
* 620	323-298	TEMPLATE GUIDE D7.9	1	FOR USA, CAN
* 621	303-347	TEMPLATE GUIDE D9.5	1	
* 621	323-299	TEMPLATE GUIDE D9.5	1	FOR USA, CAN
622	303-348	TEMPLATE GUIDE D10	1	
623	303-349	TEMPLATE GUIDE D11.1	1	
624	303-350	TEMPLATE GUIDE D12	1	
* 625	303-351	TEMPLATE GUIDE D12.7	1	
* 625	323-301	TEMPLATE GUIDE D12.7	1	FOR USA, CAN
626	303-352	TEMPLATE GUIDE D14	1	
* 627	323-302	TEMPLATE GUIDE D15.9	1	FOR USA, CAN
628	303-353	TEMPLATE GUIDE D16	1	
629	956-932	TEMPLATE GUIDE D20	1	

