

Hitachi Power Tools

SERVICE MANUAL

LIST Nos.
DV 13SS: F403
DV 13VSS: F404
DV 16SS: F405
DV 16VSS: F406
Mar. 2009

PRODUCT NAMES.....

Hitachi 13 mm Impact Drill
Models DV 13SS, DV 13VSS
Hitachi 16 mm Impact Drill
Models DV 16SS, DV 16VSS

D

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DV16SS/DV16VSS

HITACHI

Hitachi Koki Co., Ltd.
International Sales Division

REPAIR GUIDE

1. Precautions on Disassembly and Reassembly

The **[Bold]** numbers in the descriptions below correspond to item numbers in the Parts List and exploded view assembly diagram for the Models DV 13SS and DV 16SS, and the **<Bold>** numbers to those in the Parts List and exploded view assembly diagram for Models DV 13VSS and DV 16VSS.

Disassembly

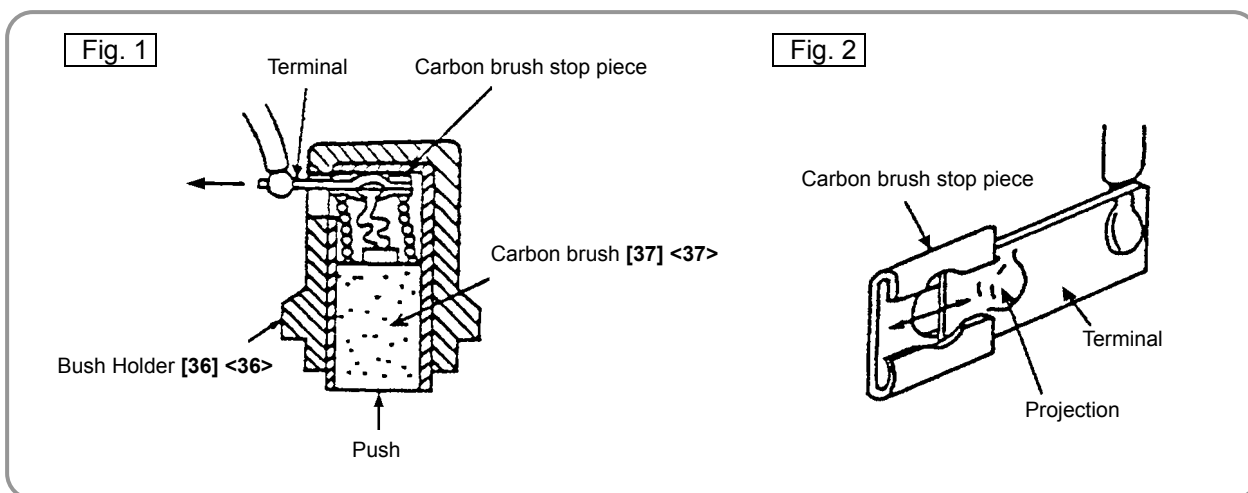
Note on disassembly: Before starting disassembly, be sure to disconnect the power plug from the power supply.

1. Removal of the handle cover

Loosen the Tapping Screw (W/Flange) D4 X 20 (Black) **[32] <32>** and remove the Handle Cover **[31] <31>**.

2. Removal of the carbon brush

Use a small flat-blade screwdriver to slightly lift the Brush Holders **[36] <36>**. Then, while pushing the Carbon Brush **[37] <37>** to the bottom of the Brush Holders **[36] <36>**, gently pull out and disconnect the internal wire terminals. (Figs. 1 and 2)

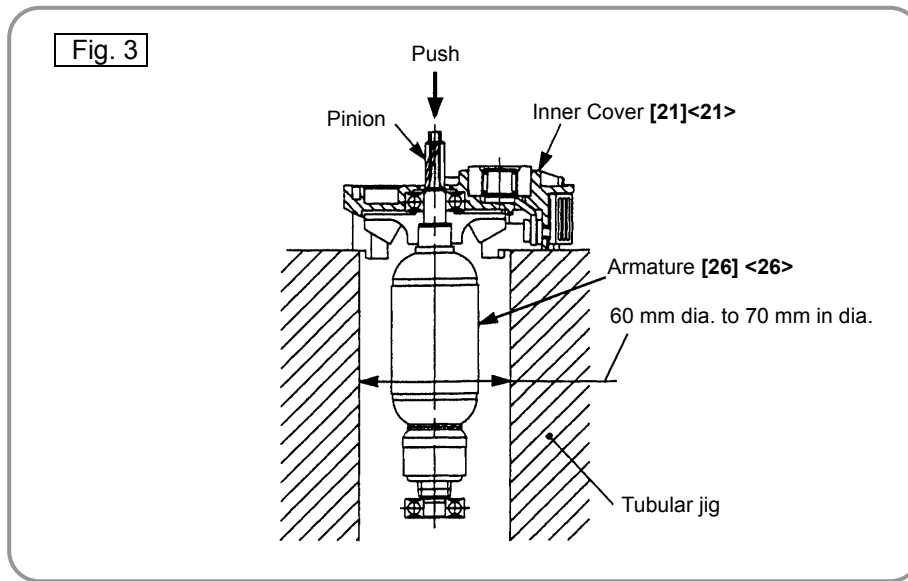


3. Removal of the gear cover from the housing

Loosen the Tapping Screw (W/Flange) D4 x 60 (Black) **[11] <11>** and Tapping Screw (W/Flange) D4 x 45 **[15] <15>**, and then separate the Gear Cover **[12] <12>** from the Housing **[34] <34>**. Then remove the Inner Cover **[21] <21>** together with the Armature **[26] <26>** from the Housing **[34] <34>**.

4. Removal of the armature ass'y from the inner cover

As illustrated in Fig. 3, support the Inner Cover [21] <21> with a tubular jig, and then push down on the top of the pinion of the Armature [26] <26>.



5. Removal of the stator from the housing

[For DV 13SS, DV 16SS]

First insert a flat-blade screwdriver into the longitudinal cut of a sponge at the rear end of the switch, loosen both of the upper two setscrews, and then remove the internal wires. Remove the Tapping Screws D4 x 45 [28], and then slightly tap the end surface of the Housing [34] with a wooden hammer. The stator [29] can then be removed from the Housing.

[For DV 13VSS, DV 16VSS]

First, disconnect the internal wires from the upper side of the Switch <41> by pulling the faston terminal. To disconnect the internal wires from the switch, insert a small flat-blade screwdriver into the windows near the terminals and pull out the internal wires. Remove the Tapping Screws D4 x 45 <28> and slightly tap the end surface of the Housing <34> with a wooden hammer. The stator <29> can then be removed from the Housing <34>.

6. Removal of the drill chuck

[For DV 13SS, DV 16SS]

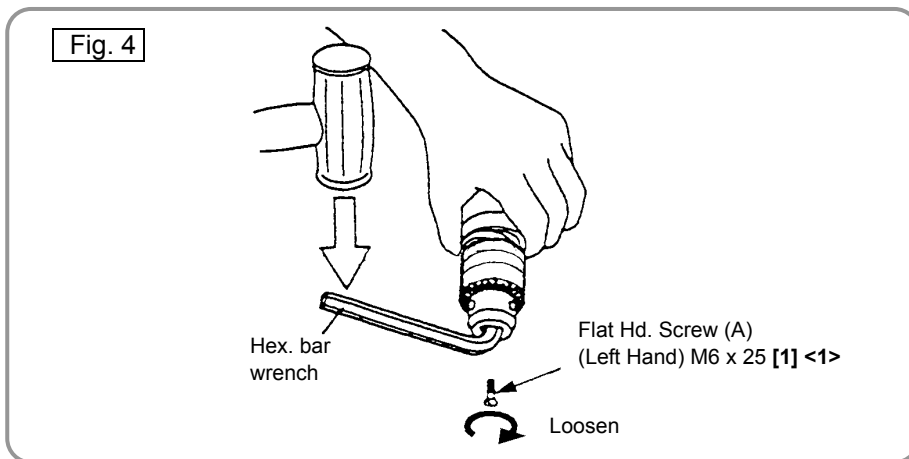
The Drill Chuck 13VLRC-D [3] is secured to the Spindle [6] with 1/2"-20 UNF (right hand) and Flat Hd. Screw (A) (Left Hand) M6 x 25 [1]. At first, open the chuck jaw as far as possible and loosen Flat Hd. Screw (A) (Left Hand) M6 x 25 [1] by turning it clockwise.

- (a) Hold the drill so that only the Drill Chuck 13VLRC-D [3] rests firmly and squarely on the edge of a solid bench. Insert the hex. bar wrench into the drill chuck. Turn the drill chuck until the wrench is at about a 30° angle to the bench top, and then sharply strike the wrench with a hammer so the drill chuck turns in the counterclockwise direction. (Fig. 4)

[For DV 13VSS, DV 16VSS]

The Drill Chuck 13VLRC-D (or The Drill Chuck 13VLRJ-N (W/O Chuck Wrench)) <3> is secured to the Spindle <6> with 1/2"-20 UNF (right hand) and Flat Hd. Screw (A) (Left Hand) M6 x 25 <1>. First, open the chuck jaw as far as possible and loosen Flat Hd. Screw (A) (Left Hand) M6 x 25 <1> by turning it clockwise.

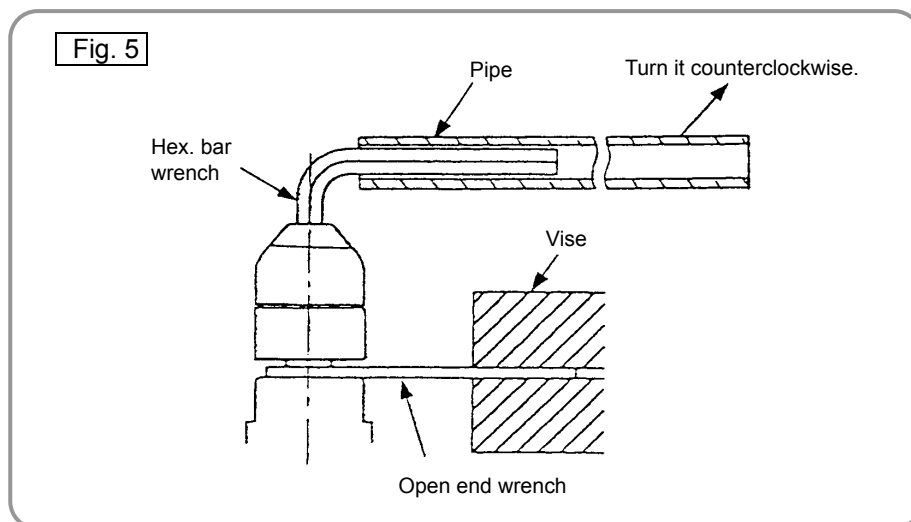
- (a) Hold the drill so that only the Drill Chuck 13VLRC-D (or The Drill Chuck 13VLRJ-N (W/O Chuck Wrench)) <3> rests firmly and squarely on the edge of a solid bench. Insert the hex. bar wrench into the drill chuck. Turn the drill chuck until the wrench is at about a 30° angle to the bench top, and then sharply strike the wrench with a hammer so the drill chuck turns in the counterclockwise direction. (Fig. 4)



If the drill chuck cannot be removed by striking the wrench, do not forcibly strike the wrench forcibly and try another way as follows.

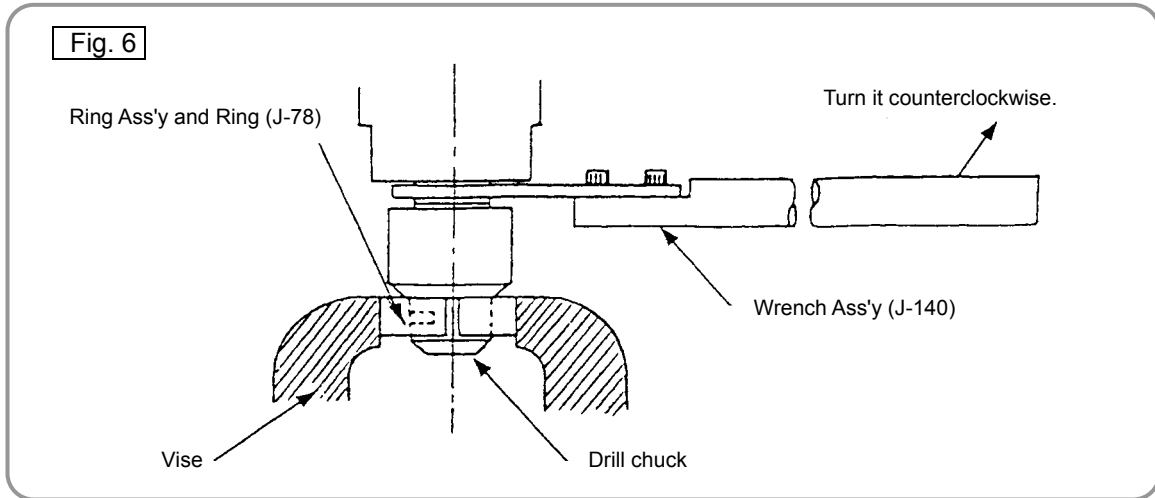
- (b) Hold the Spindle [6] <6> with an open end wrench secured to the vise as shown in Fig. 5.

Mount the pipe onto the hex. bar wrench. Turn the hex. bar wrench counterclockwise to loosen the drill chuck. (Fig. 5)



(c) (For keyed chuck only)

Secure the drill chuck with a disassembly tool: Ring (J-78) to the drill chuck, which in proper sequence should be secured with a vise. Then fit a disassembly tool: Wrench Ass'y (J-140) to the spindle, and turn it counterclockwise to loosen the drill chuck. (Fig. 6)

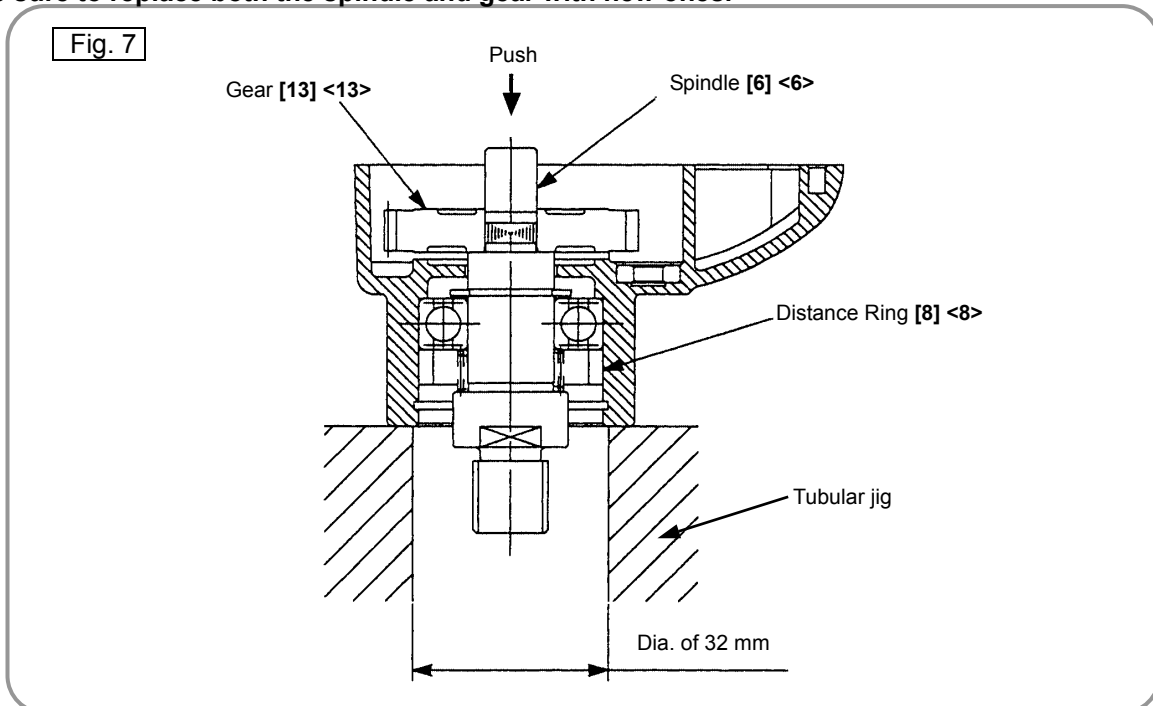


7. Removal of the spindle

Remove the Retaining Ring for D32 Hole [4] <4> and Dust Seal [5] <5>. Place the end surface of the Gear Cover [12] <12> on the tubular jig and press down on the Spindle [6] <6> with a hand press. The spindle can then be removed together with the Ball Bearing 6002VVCMP52L [9] <9>, Distance Ring [8] <8>, Spring [7] <7> and the Retaining Ring for D15 Shaft [10] <10>. The Gear [13] <13> can then be removed from the spindle. (Fig. 7)

CAUTION:

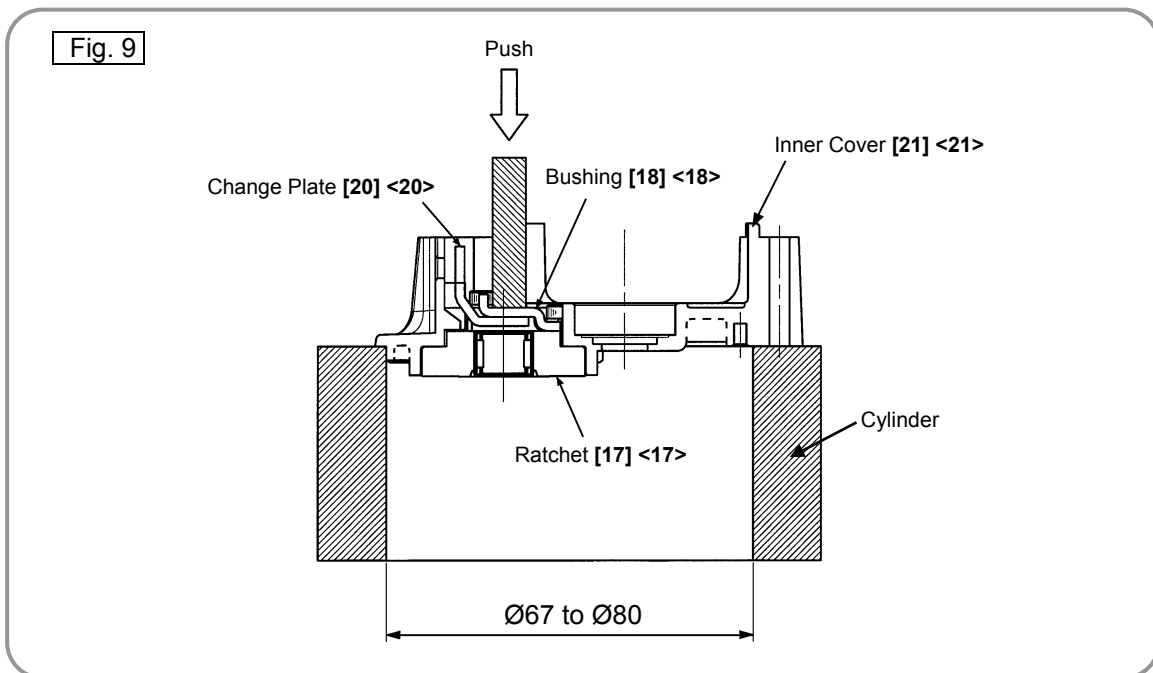
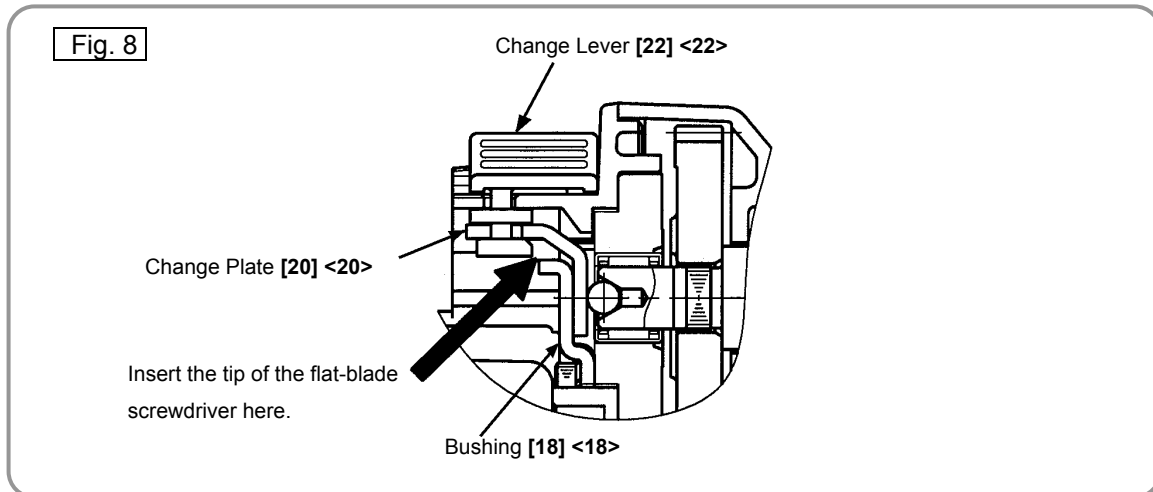
- Be sure to replace both the spindle and gear with new ones.



8. Removal of the ratchet

Insert the tip of a flat-blade screwdriver between the Ratchet [17] <17> and Change Lever [22] <22>, and then pry out the Change Lever [22] <22> to remove it. (Fig. 8) Remove the Tapping Screw (w/SP Washer) D4 X 20 [16] <16> that mounts the Ratchet [17] <17> on the Inner Cover [21] <21>.

Place the end of the Inner Cover [21] <21> on the cylinder and push the end of the Bushing [18] <18> on the rear of the ratchet with a hand press. The Ratchet [17] <17> then comes out together with the Change Plate [20] <20>. (Fig. 9)



Reassembly

Perform reassembly by reversing the order of the disassembly procedure. However, special attention should be given to the following items.

1. Internal wire arrangement

- (1) Arrange the internal wires according to "7. Internal Wire Arrangement and Wiring Work."
- (2) Be careful not to catch the internal wires when mounting the handle cover.

2. Lubrication

(1) Apply ATTOLUB MS No. 2 Grease (Code No. 309922) to the following parts:

- Teeth of the Armature [25] <25> and the Gear [13] <13> (with a brush)
- On the Spindle [6] <6>
Ground portion for fitting the Ball Bearing 6002VVCMP2L [9] <9>, splined portion and hole on the rear side
- Surface of Steel Ball D6.35 [14] <14>
- Lip portion of the Dust Seal [5] <5>
- On the Ratchet [17] <17>
Inside the Needle Bearing, teeth of ratchet
- Inside the Gear Cover [12] <12>: 5 g

3. Tightening torque

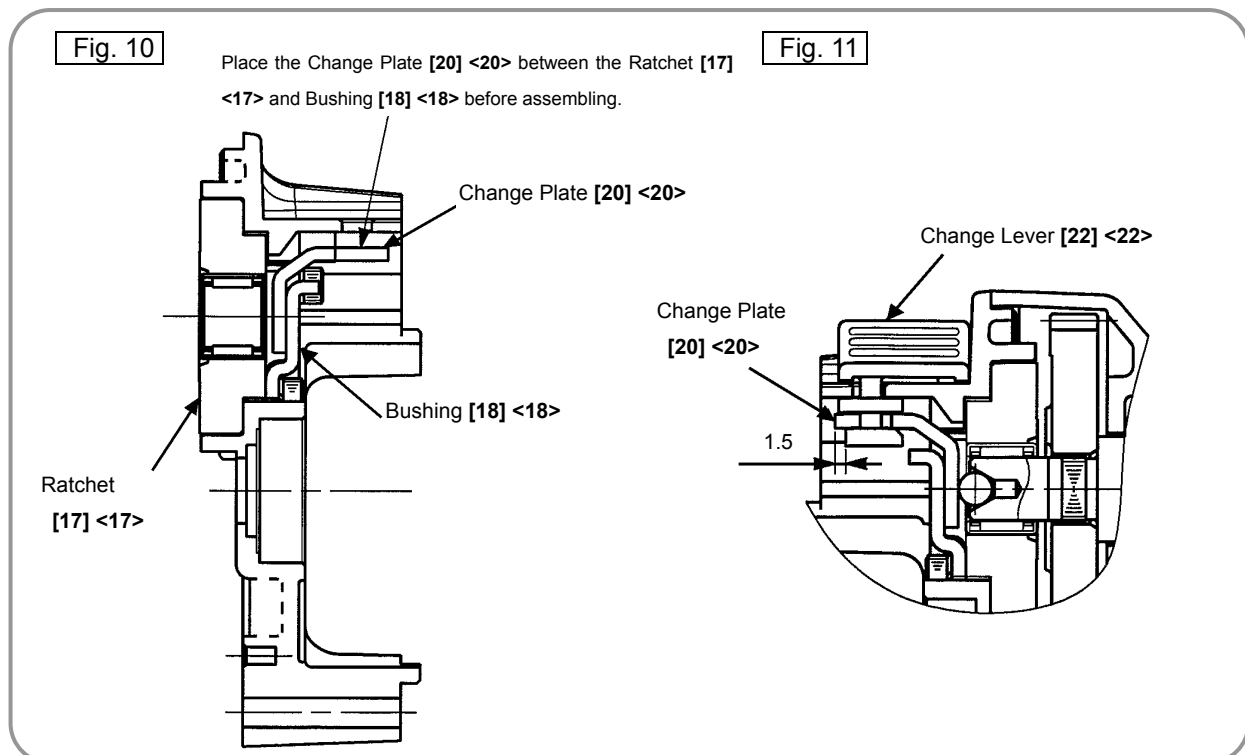
- | | |
|--|---------------------------------------|
| (1) Tapping Screw D4 ----- | 1.5 to 2.5 N•m (13.3 to 22.1 in-lbs.) |
| (2) Drill Chuck ----- | 30 to 50 N•m (266 to 443 in-lbs.) |
| (3) Machine Screw M3 (Switch [41] <40>) ----- | 0.4 to 0.8 N•m (3.5 to 7.1 in-lbs.) |
| (4) Flat HD. Screw (A) (Left Hand) M6 X 25 [1] <1> ----- | 4.4 to 5.4 N•m (38.9 to 47.8 in-lbs.) |
| (5) Bolt M3 [19] <19> ----- | 1.2 to 1.8 N•m (10.6 to 15.9 in-lbs.) |

4. Change Plate

Place the Change Plate [20] <20> between the Ratchet [17] <17> and Bushing [18] <18> before assembling in the Inner Cover [21] <21>. (Fig. 10)

5. Change Lever

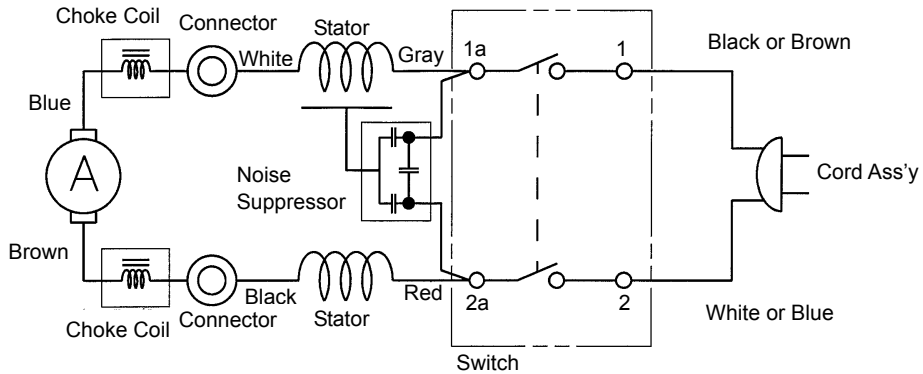
Push the Change Lever [22] <22> forward until the front end of the Change Plate [20] <20> protrudes about 1.5 mm. (Fig. 11)



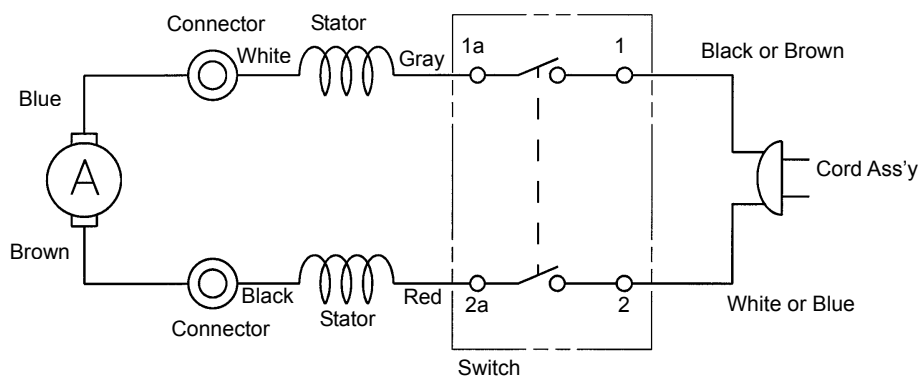
6. Wiring Diagrams

[For DV 13SS, DV 16SS]

(1) For products with noise suppressor

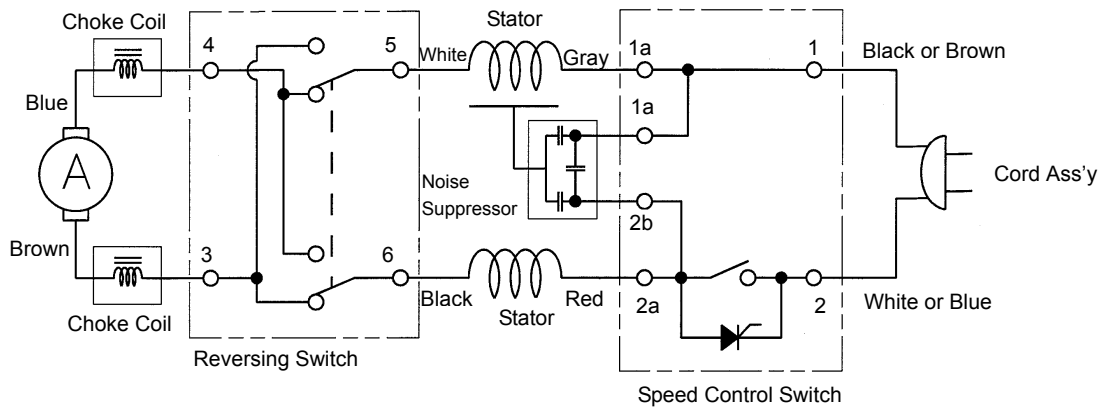


(2) For products without noise suppressor

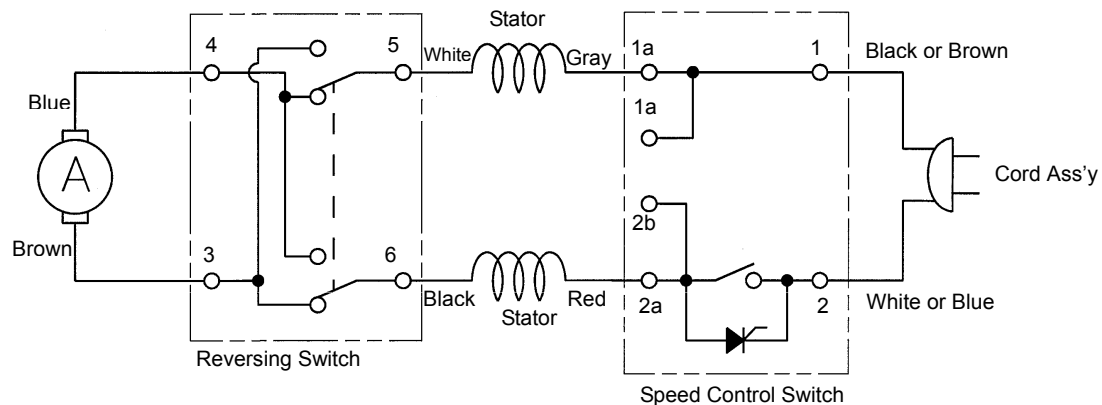


[For DV 13VSS, DV 16VSS]

(1) For products with noise suppressor



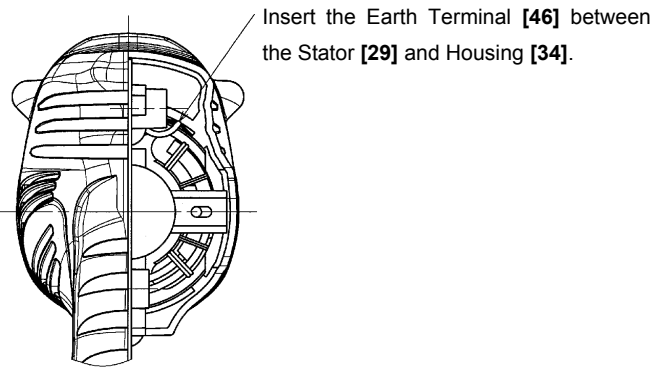
(2) For products without noise suppressor



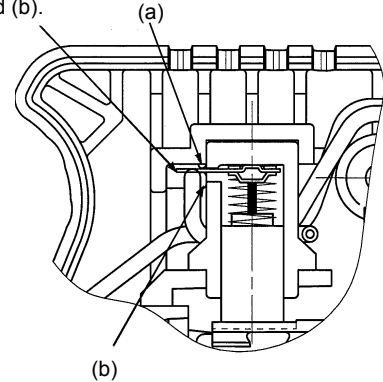
7. Internal Wire Arrangement and Wiring Work

A. Internal wire arrangement

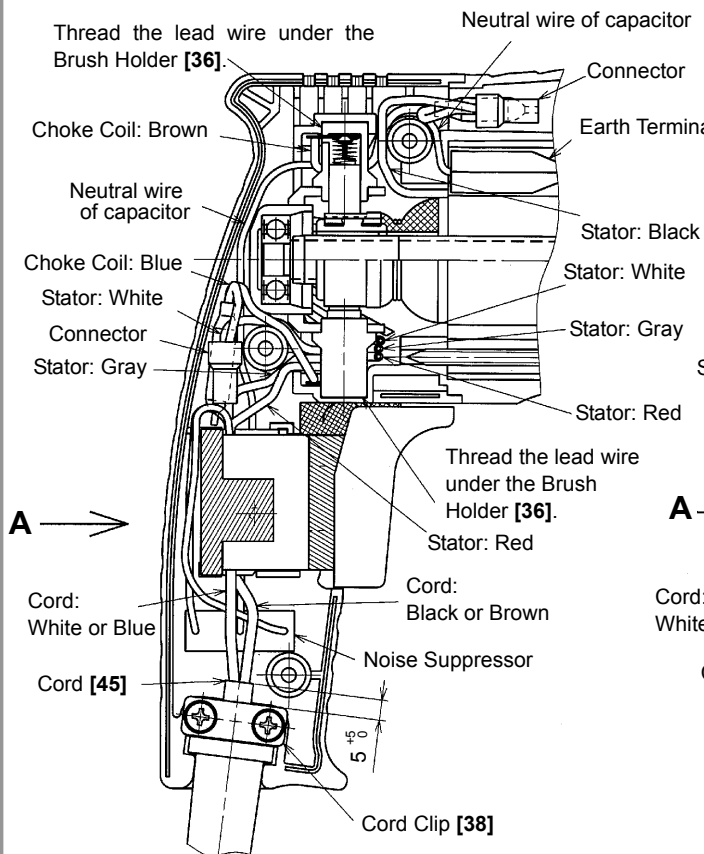
[For DV 13SS, DV 16SS]



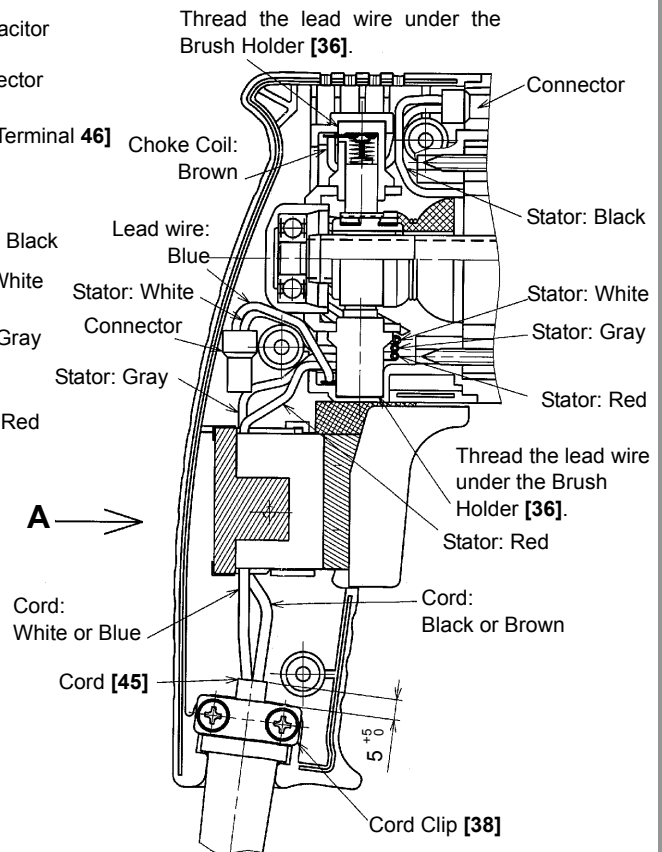
Put the carbon terminal between (a) and (b).



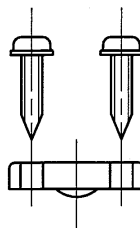
(1) For products with noise suppressor



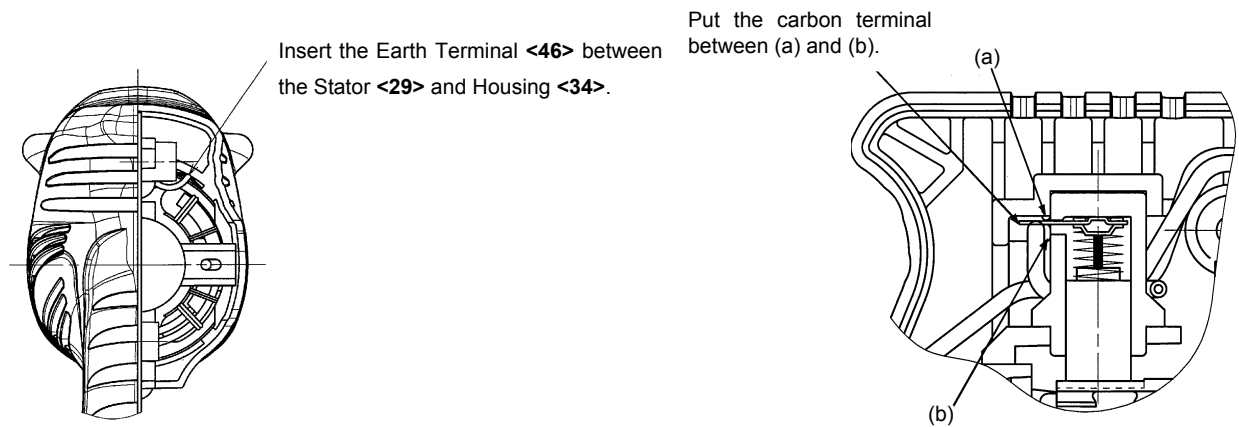
(2) For products without noise suppressor



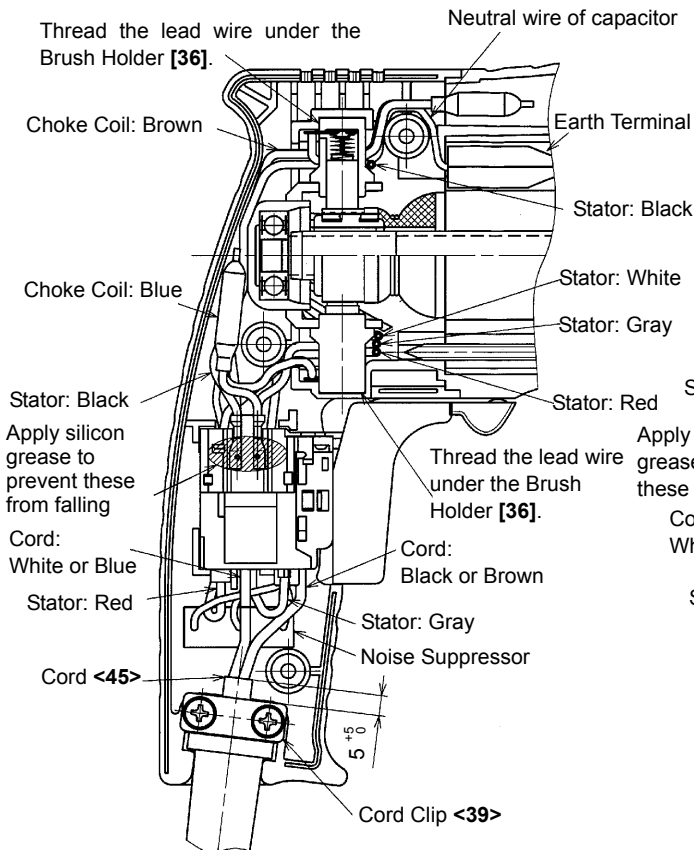
Mounting the cord clip



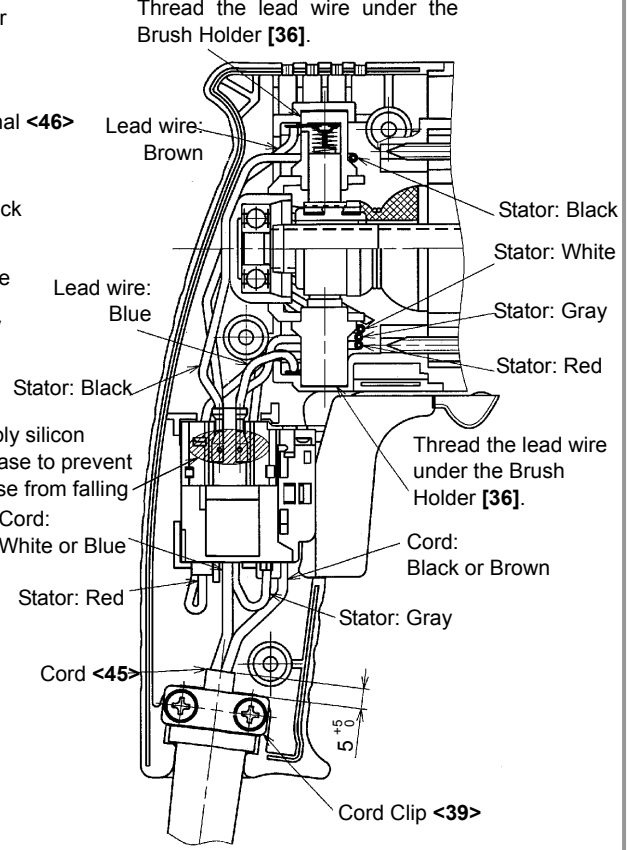
[For DV 13VSS, DV 16VSS]



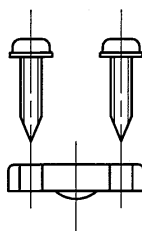
(1) For products with noise suppressor



(2) For products without noise suppressor



Mounting the cord clip



B. Switch Connection

[For DV 13SS, DV 16SS]

View from B

Lead wire of capacitor for
noise suppression
(for destination customer only)

Stator: Gray

Lead wire of capacitor for
noise suppression
(for destination customer only)

Stator: Red

Apply silicon grease to prevent the entry of dust.
(Shinetsu Silicon KE-45W or Three Bond 1215)

View from A

Lead wire of capacitor for
noise suppression

Stator: Gray

Stator: Red

Lead wire of capacitor for
noise suppression



Insert the flat-blade
screwdriver into the
longitudinal cut of the sponge
to tighten or loosen the four

Cord:
Black or Brown

Cord:
White or Blue

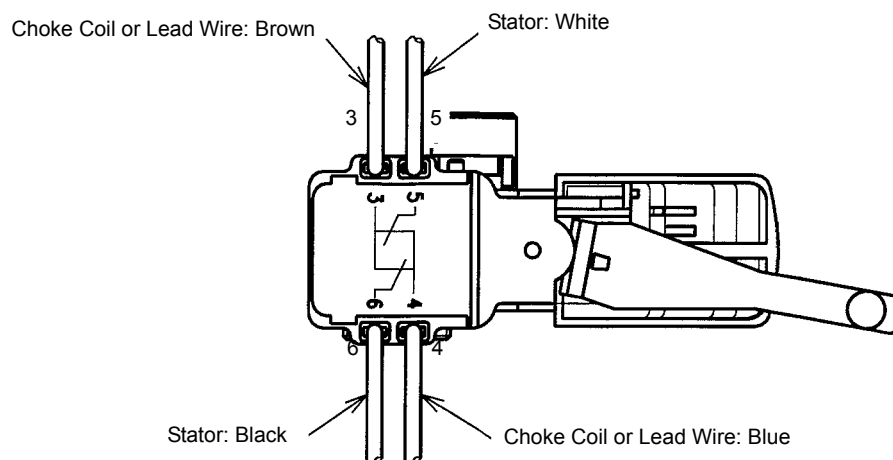
View from C

Cord:
Black or Brown

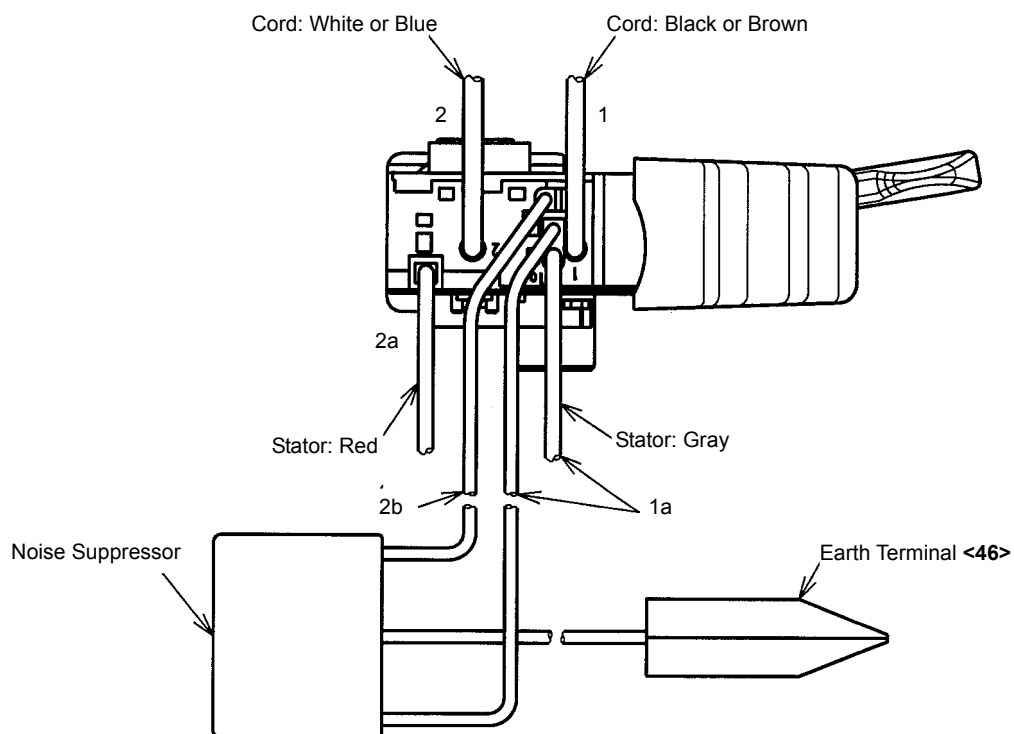
Cord:
White or Blue

Apply silicon grease to prevent the entry of dust.
(Shinetsu Silicon KE-45W or Three Bond 1215)

[For DV 13VSS, DV 16VSS]
 (1) Wiring of reversing switch



(2) Wiring of speed control switch



8. Insulation Tests

Upon completing reassembly after repair, measure the insulation resistance and conduct a dielectric strength test.

Insulation resistance: 7 M Ω or more using a 500 VAC megohm tester

Dielectric strength: AC 4,000 VAC/minute, with no abnormalities 220 V to 240 V (110 V for UK products)

AC 2,500 VAC/minute, with no abnormalities 110 V to 127 V (except UK products)

9. No-Load Current Value

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

[DV 13SS, DV 13VSS]

Voltage (V)	110	120	220	230	240
Current (A) Max.	2.9	2.7	1.5	1.4	1.3

[DV 16SS, DV 16VSS]

Voltage (V)	110	120	220	230	240
Current (A) Max.	3.0	2.8	1.5	1.4	1.3

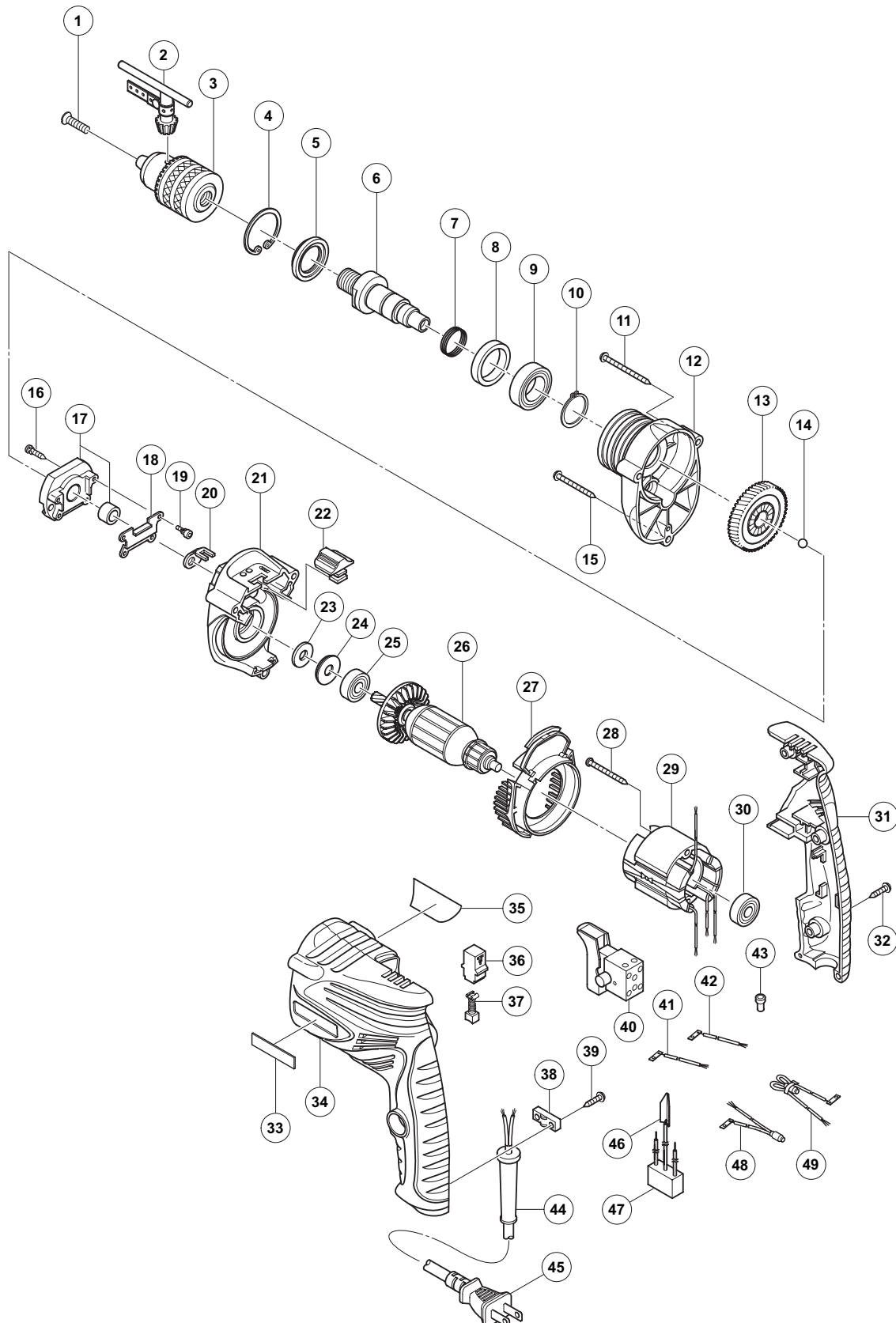
STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Fixed \ Variable	10	20	30	40	50	60 min
DV 13SS DV 13VSS DV 16SS DV 16VSS	General Assembly	Work Flow					
		Switch Handle Cover Cord Cord Armor		Housing Stator			
			Armature Inner Cover Ratchet Ball Bearing (608DD) Change Lever Ball Bearing (608VV)				
		Drill Chuck	Spindle Dust Seal Ball Bearing (6002VV) Gear Cover Gear				

ELECTRIC TOOL PARTS LIST

IMPACT DRILL Model DV 13SS

2009・5・29
(E1)



PARTS

DV 13SS

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	995-344	FLAT HD. SCREW (A) (LEFT HAND) M6 X 25	1		
2	987-576	CHUCK WRENCH FOR 13VLB-D, 13VLR-D	1		
3		DRILL CHUCK 13VLRC-D	1	INCLUD.2 SUPPLIED WITH ITEM NO.601	
4	948-001	RETAINING RING FOR D32 HOLE	1		
5	971-654	DUST SEAL	1		
6	331-522	SPINDLE	1		
7	322-514	SPRING	1		
8	330-682	DISTANCE RING	1		
9	600-2VV	BALL BEARING 6002VVCMP2L	1		
10	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
11	322-657	TAPPING SCREW (W/FLANGE) D4 X 60 (BLACK)	2		
12	330-681	GEAR COVER	1		
13	330-683	GEAR	1		
14	959-150	STEEL BALL D6.35 (10 PCS.)	1		
15	301-815	TAPPING SCREW (W/FLANGE) D4 X 45	1		
16	330-680	TAPPING SCREW (W/SP. WASHER) D4 X 20	2		
17	330-677	RATCHET	1		
18	330-678	BUSHING	1		
19	330-679	BOLT M3	4		
20	330-676	CHANGE PLATE	1		
21	330-675	INNER COVER	1		
22	322-510	CHANGE LEVER	1		
23	323-096	FELT PACKING	1		
24	330-674	WASHER (A)	1		
25	608-DDM	BALL BEARING 608DDC2PS2L	1		
*	26	360-864C	ARMATURE 110V	1	
*	26	360-864U	ARMATURE ASS'Y 120V	1	INCLUD. 25, 30
*	26	360-864E	ARMATURE 220V	1	
*	26	360-864G	ARMATURE 230V-240V	1	
	27	330-673	FAN GUIDE	1	
	28	991-031	TAPPING SCREW D4 X 45	2	
*	29	340-745C	STATOR 110V	1	
*	29	340-745D	STATOR 120V	1	
*	29	340-745E	STATOR 220V	1	
*	29	340-745G	STATOR 230V-240V	1	
	30	608-VVM	BALL BEARING 608VVC2PS2L	1	
	31	330-721	HANDLE COVER	1	
	32	301-653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	3	
	33	330-719	HITACHI LABEL	1	
	34	330-720	HOUSING	1	
	35		NAME PLATE	1	
	36	955-203	BRUSH HOLDER	2	
	37	999-041	CARBON BRUSH (1 PAIR)	2	
	38	937-631	CORD CLIP	1	
	39	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	2	
	40	330-727	SWITCH	1	
*	41	330-724	INTERNAL WIRE (BROWN)	1	FOR USA, CAN, VEN, SYR, INA, HKG, IND, THA, SIN
*	42	330-725	INTERNAL WIRE (BLUE)	1	FOR USA, CAN, VEN, SYR, INA, HKG, IND, THA, SIN
	43	959-140	CONNECTOR 50091 (10 PCS.)	2	
	44	938-051	CORD ARMOR D10.1	1	

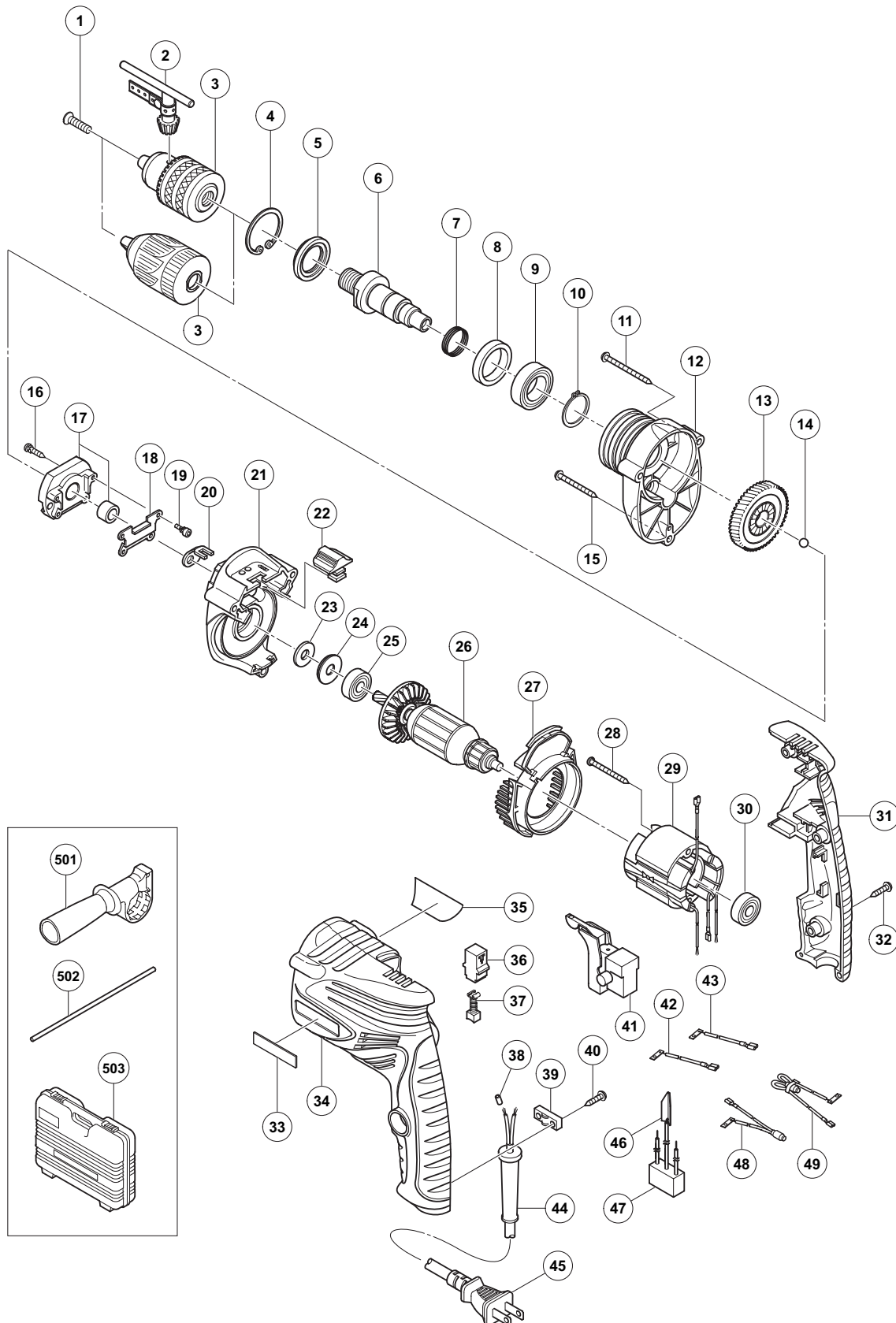
DV 13SS

- 4 - ***ALTERNATIVE PARTS** Printed in Japan 05 - 09
(090529N)

ELECTRIC TOOL PARTS LIST

IMPACT DRILL Model DV 13VSS

2009・5・29
(E1)



PARTS

DV 13VSS

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	995-344	FLAT HD. SCREW (A) (LEFT HAND) M6 X 25	1		
* 2	987-576	CHUCK WRENCH FOR 13VLB-D, 13VLR-D	1		
* 3		DRILL CHUCK 13VLRC-D	1	INCLUD. 2 SUPPLIED WITH ITEM NO.601	
* 3	322-625	DRILL CHUCK 13VLRJ-N (W/O CHUCK WRENCH)	1		
4	948-001	RETAINING RING FOR D32 HOLE	1		
5	971-654	DUST SEAL	1		
6	331-522	SPINDLE	1		
7	322-514	SPRING	1		
8	330-682	DISTANCE RING	1		
9	600-2VV	BALL BEARING 6002VVCMP2L	1		
10	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
11	322-657	TAPPING SCREW (W/FLANGE) D4 X 60 (BLACK)	2		
12	330-681	GEAR COVER	1		
13	330-683	GEAR	1		
14	959-150	STEEL BALL D6.35 (10 PCS.)	1		
15	301-815	TAPPING SCREW (W/FLANGE) D4 X 45	1		
16	330-680	TAPPING SCREW (W/SP. WASHER) D4 X 20	2		
17	330-677	RATCHET	1		
18	330-678	BUSHING	1		
19	330-679	BOLT M3	4		
20	330-676	CHANGE PLATE	1		
21	330-675	INNER COVER	1		
22	322-510	CHANGE LEVER	1		
23	323-096	FELT PACKING	1		
24	330-674	WASHER (A)	1		
25	608-DDM	BALL BEARING 608DDC2PS2L	1		
* 26	360-864C	ARMATURE 110V	1		
* 26	360-864U	ARMATURE ASS'Y 120V	1	INCLUD. 25, 30	
* 26	360-864E	ARMATURE 220V	1		
* 26	360-864G	ARMATURE 230V-240V	1		
27	330-673	FAN GUIDE	1		
28	991-031	TAPPING SCREW D4 X 45	2		
* 29	340-743C	STATOR 110V	1		
* 29	340-743D	STATOR 120V	1		
* 29	340-743E	STATOR 220V	1		
* 29	340-743G	STATOR 230V-240V	1		
30	608-VVM	BALL BEARING 608VVC2PS2L	1		
31	330-715	HANDLE COVER	1		
32	301-653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	3		
33	330-719	HITACHI LABEL	1		
34	330-714	HOUSING	1		
35		NAME PLATE	1		
36	955-203	BRUSH HOLDER	2		
37	999-041	CARBON BRUSH (1 PAIR)	2		
* 38	981-373	TUBE (D)	2	FOR CORD	
39	937-631	CORD CLIP	1		
40	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	2		
* 41	330-716	SWITCH	1		
* 41	330-684	SWITCH	1	FOR GBR (110V), USA, CAN, MEX, VEN, TPE	
* 42	330-717	INTERNAL WIRE (BROWN)	1	FOR USA, CAN, VEN, TPE, SYR, INA, HKW, KUW, IND, THA, SIN	

DV 13VSS

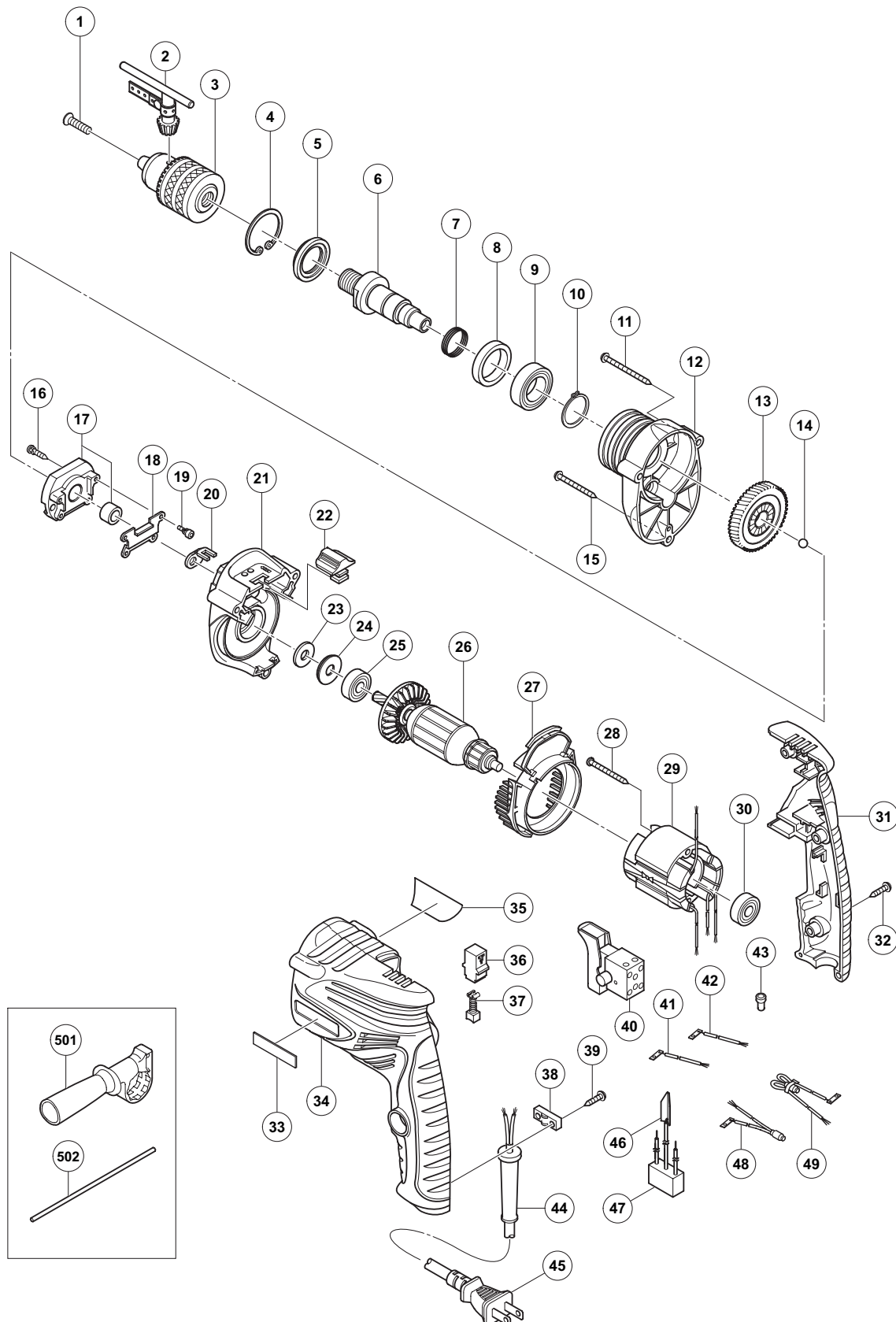
OPTIONAL ACCESSORIES

Printed in Japan 05 - 09
(090529N)

ELECTRIC TOOL PARTS LIST

■ IMPACT DRILL Model DV 16SS

2009・5・29
(E1)



PARTS

DV 16SS

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	995-344	FLAT HD. SCREW (A) (LEFT HAND) M6 X 25	1		
2	987-576	CHUCK WRENCH FOR 13VLB-D, 13VLR-D	1		
3		DRILL CHUCK 13VLRC-D	1	INCLUD. 2 SUPPLIED WITH ITEM NO. 601	
4	948-001	RETAINING RING FOR D32 HOLE	1		
5	971-654	DUST SEAL	1		
6	331-522	SPINDLE	1		
7	322-514	SPRING	1		
8	330-682	DISTANCE RING	1		
9	600-2VV	BALL BEARING 6002VVCMP2L	1		
10	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
11	322-657	TAPPING SCREW (W/FLANGE) D4 X 60 (BLACK)	2		
12	330-726	GEAR COVER	1		
13	330-683	GEAR	1		
14	959-150	STEEL BALL D6.35 (10 PCS.)	1		
15	301-815	TAPPING SCREW (W/FLANGE) D4 X 45	1		
16	330-680	TAPPING SCREW (W/SP. WASHER) D4 X 20	2		
17	330-677	RATCHET	1		
18	330-678	BUSHING	1		
19	330-679	BOLT M3	4		
20	330-676	CHANGE PLATE	1		
21	330-675	INNER COVER	1		
22	322-510	CHANGE LEVER	1		
23	323-096	FELT PACKING	1		
24	330-674	WASHER (A)	1		
25	608-DDM	BALL BEARING 608DDC2PS2L	1		
*	26	360-863C	ARMATURE 110V	1	
*	26	360-863U	ARMATURE ASS'Y 120V	1	INCLUD. 25, 30
*	26	360-863E	ARMATURE 220V	1	
*	26	360-863F	ARMATURE 230V-240V	1	
	27	330-673	FAN GUIDE	1	
	28	950-515	TAPPING SCREW D4 X 50	2	
*	29	340-744C	STATOR 110V	1	
*	29	340-744D	STATOR 120V	1	
*	29	340-744F	STATOR 220V-240V	1	
	30	608-VVM	BALL BEARING 608VVC2PS2L	1	
	31	330-721	HANDLE COVER	1	
	32	301-653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	3	
	33	330-719	HITACHI LABEL	1	
	34	330-720	HOUSING	1	
	35		NAME PLATE	1	
	36	955-203	BRUSH HOLDER	2	
	37	999-041	CARBON BRUSH (1 PAIR)	2	
	38	937-631	CORD CLIP	1	
	39	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	2	
	40	330-727	SWITCH	1	
*	41	330-724	INTERNAL WIRE (BROWN)	1	FOR USA, CAN, VEN, SYR, INA, HKG, IND, THA, SIN
*	42	330-725	INTERNAL WIRE (BLUE)	1	FOR USA, CAN, VEN, SYR, INA, HKG, IND, THA, SIN
	43	959-140	CONNECTOR 50091 (10 PCS.)	2	
	44	938-051	CORD ARMOR D10.1	1	
*	45	500-409Z	CORD	1	(CORD ARMOR D10.1)

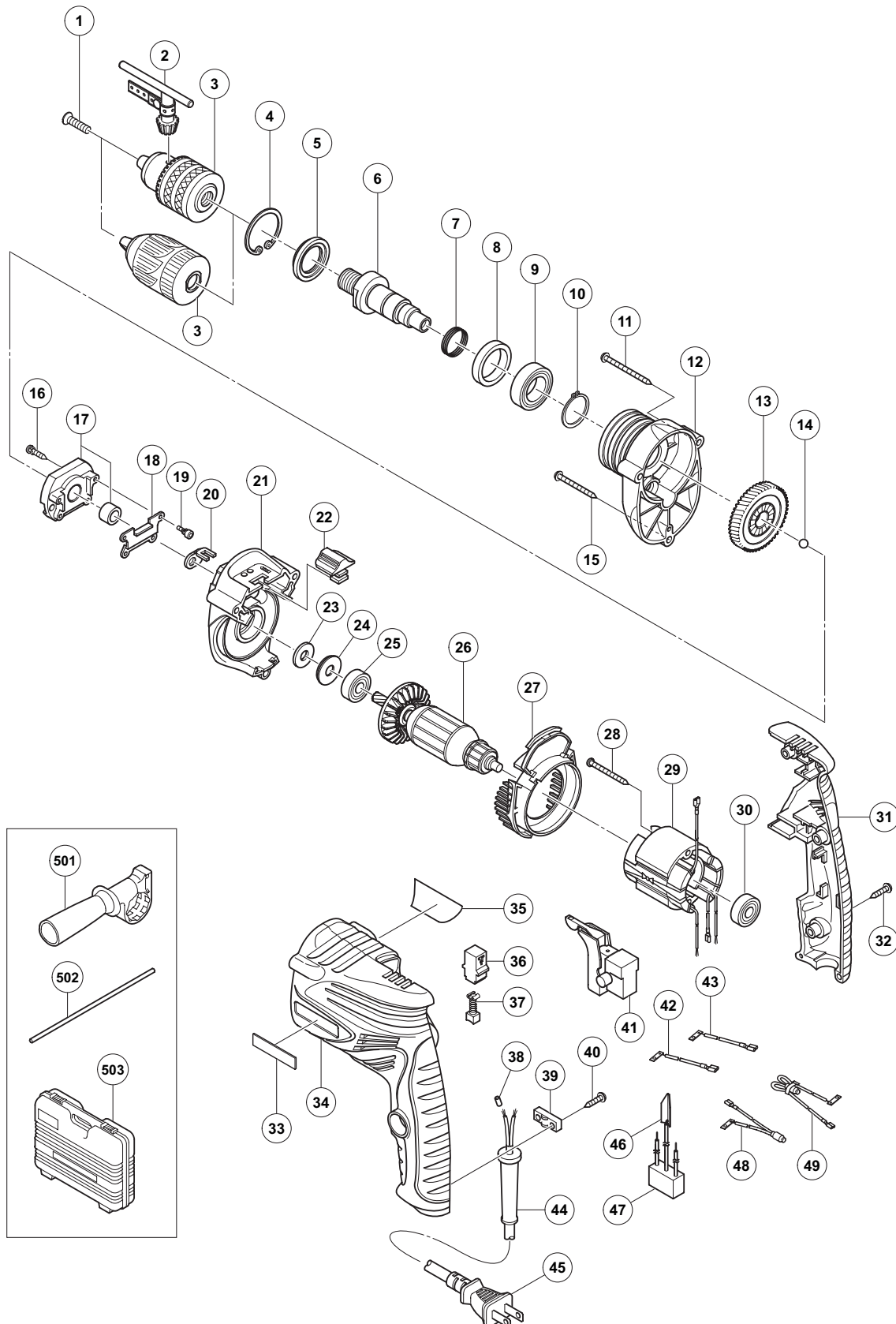
DV 16SS

[illegible]

ELECTRIC TOOL PARTS LIST

IMPACT DRILL Model DV 16VSS

2009・5・29
(E1)



PARTS

DV 16VSS

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	995-344	FLAT HD. SCREW (A) (LEFT HAND) M6 X 25	1		
* 2	987-576	CHUCK WRENCH FOR 13VLB-D,13VLR-D	1		
* 3		DRILL CHUCK 13VLR-D	1	INCLUD. 2 SUPPLIED WITH ITEM NO. 601	
* 3	322-625	DRILL CHUCK 13VLRJ-N (W/O CHUCK WRENCH)	1		
4	948-001	RETAINING RING FOR D32 HOLE	1		
5	971-654	DUST SEAL	1		
6	331-522	SPINDLE	1		
7	322-514	SPRING	1		
8	330-682	DISTANCE RING	1		
9	600-2VV	BALL BEARING 6002VVCMP2L	1		
10	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
11	322-657	TAPPING SCREW (W/FLANGE) D4 X 60 (BLACK)	2		
12	330-726	GEAR COVER	1		
13	330-683	GEAR	1		
14	959-150	STEEL BALL D6.35 (10 PCS.)	1		
15	301-815	TAPPING SCREW (W/FLANGE) D4 X 45	1		
16	330-680	TAPPING SCREW (W/SP. WASHER) D4 X 20	2		
17	330-677	RATCHET	1		
18	330-678	BUSHING	1		
19	330-679	BOLT M3	4		
20	330-676	CHANGE PLATE	1		
21	330-675	INNER COVER	1		
22	322-510	CHANGE LEVER	1		
23	323-096	FELT PACKING	1		
24	330-674	WASHER (A)	1		
25	608-DDM	BALL BEARING 608DDC2PS2L	1		
* 26	360-863C	ARMATURE 110V	1		
* 26	360-863U	ARMATURE ASS'Y 120V	1	INCLUD. 25, 30	
* 26	360-863E	ARMATURE 220V	1		
* 26	360-863F	ARMATURE 230V-240V	1		
27	330-673	FAN GUIDE	1		
28	950-515	TAPPING SCREW D4 X 50	2		
* 29	340-742C	STATOR 110V	1		
* 29	340-742D	STATOR 120V	1		
* 29	340-742F	STATOR 220V-240V	1		
30	608-VVM	BALL BEARING 608VVC2PS2L	1		
31	330-715	HANDLE COVER	1		
32	301-653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	3		
33	330-719	HITACHI LABEL	1		
34	330-714	HOUSING	1		
35		NAME PLATE	1		
36	955-203	BRUSH HOLDER	2		
37	999-041	CARBON BRUSH (1 PAIR)	2		
* 38	981-373	TUBE (D)	2	FOR CORD	
39	937-631	CORD CLIP	1		
40	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	2		
* 41	330-716	SWITCH	1		
* 41	330-684	SWITCH	1	FOR GBR (110V), USA, CAN, MEX, VEN, TPE	
* 42	330-717	INTERNAL WIRE (BROWN)	1	FOR USA, CAN, VEN, TPE, SYR, INA, HKG, KUW, IND, THA, SIN	

DV 16VSS[illegible]