

# Hitachi Power Tools

SERVICE MANUAL

LIST No.  
WR 25SE: E730  
Jan. 2015

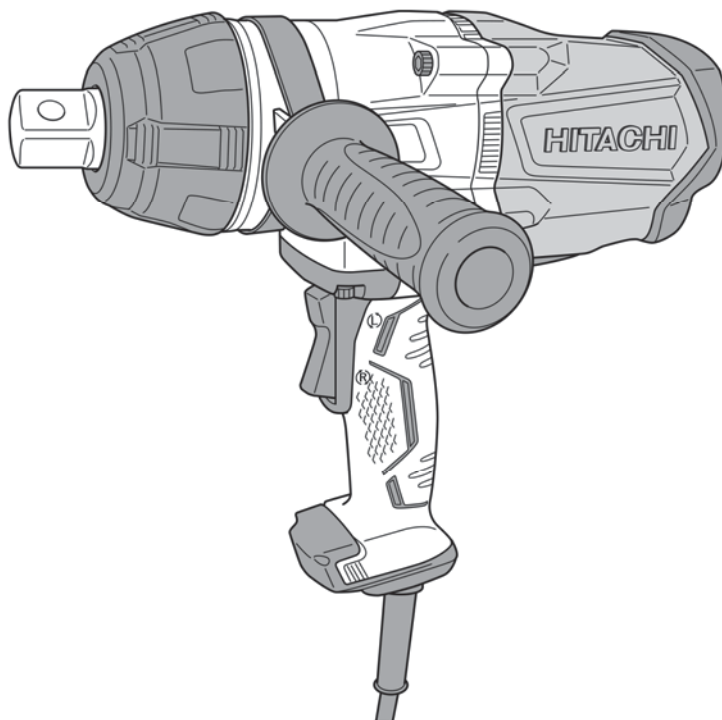
PRODUCT NAME .....

## Hitachi Impact Wrench

Model **WR 25SE**

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**HITACHI**

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

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# REPAIR GUIDE

**WARNING:** Be sure to turn off the power switch and disconnect the power cord plug from the power supply before conducting repair.

## 1. Precautions on disassembly and reassembly

**[Bold]** numbers in the description below correspond to the item numbers in the Parts List and exploded assembly diagram for the Model WR 25SE.

### Disassembly

#### 1. Disassembly of handle (A).(B) set and its vicinity

(1) Removal of handle (A).(B) set

Remove the four Screws D4 x 20 **[45]**, two Bolts M5 x 20 **[44]** on handle (B) and two Screws D4 x 16 **[41]** to remove handle (B). Remove the remaining two Bolts M5 x 20 **[44]** to remove handle (A).

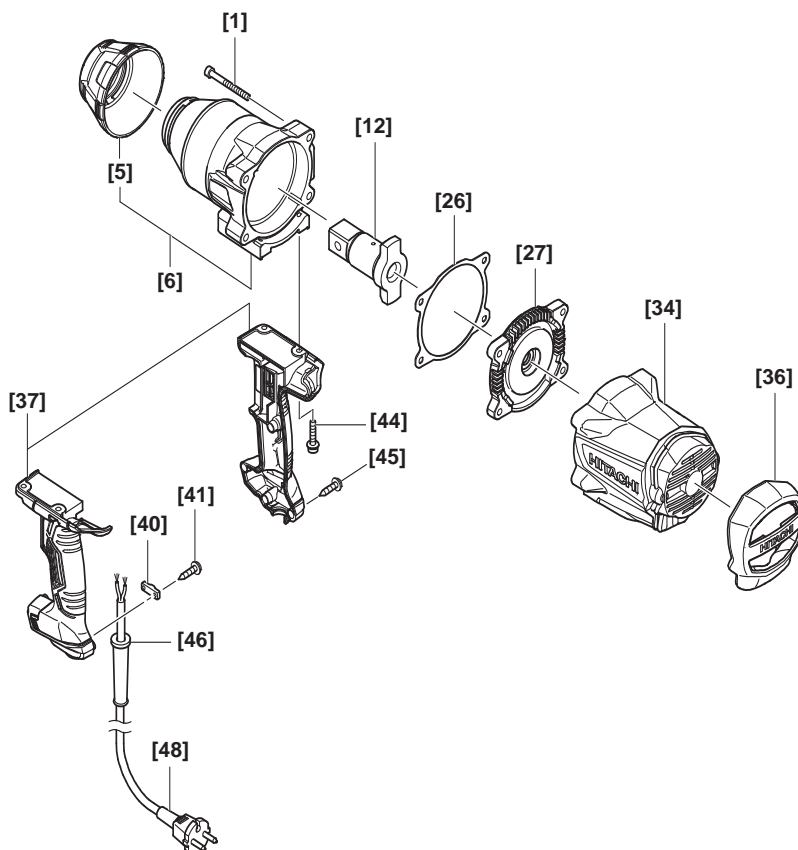
(2) Removal of hammer case (C) ass'y

Remove the four Bolts M6 x 50 **[1]**. Supporting Hammer Case (C) Ass'y **[6]**, tap the tip of Anvil (C) **[12]** with a wooden hammer to remove Hammer Case (C) Ass'y **[6]**.

(3) Removal of the other parts

Remove Packing (C) **[26]** from between Hammer Case (C) Ass'y **[6]** and Inner Cover (C) **[27]**.  
Remove Anvil (C) **[12]** from the bearing portion of Hammer Case (C) Ass'y **[6]**.

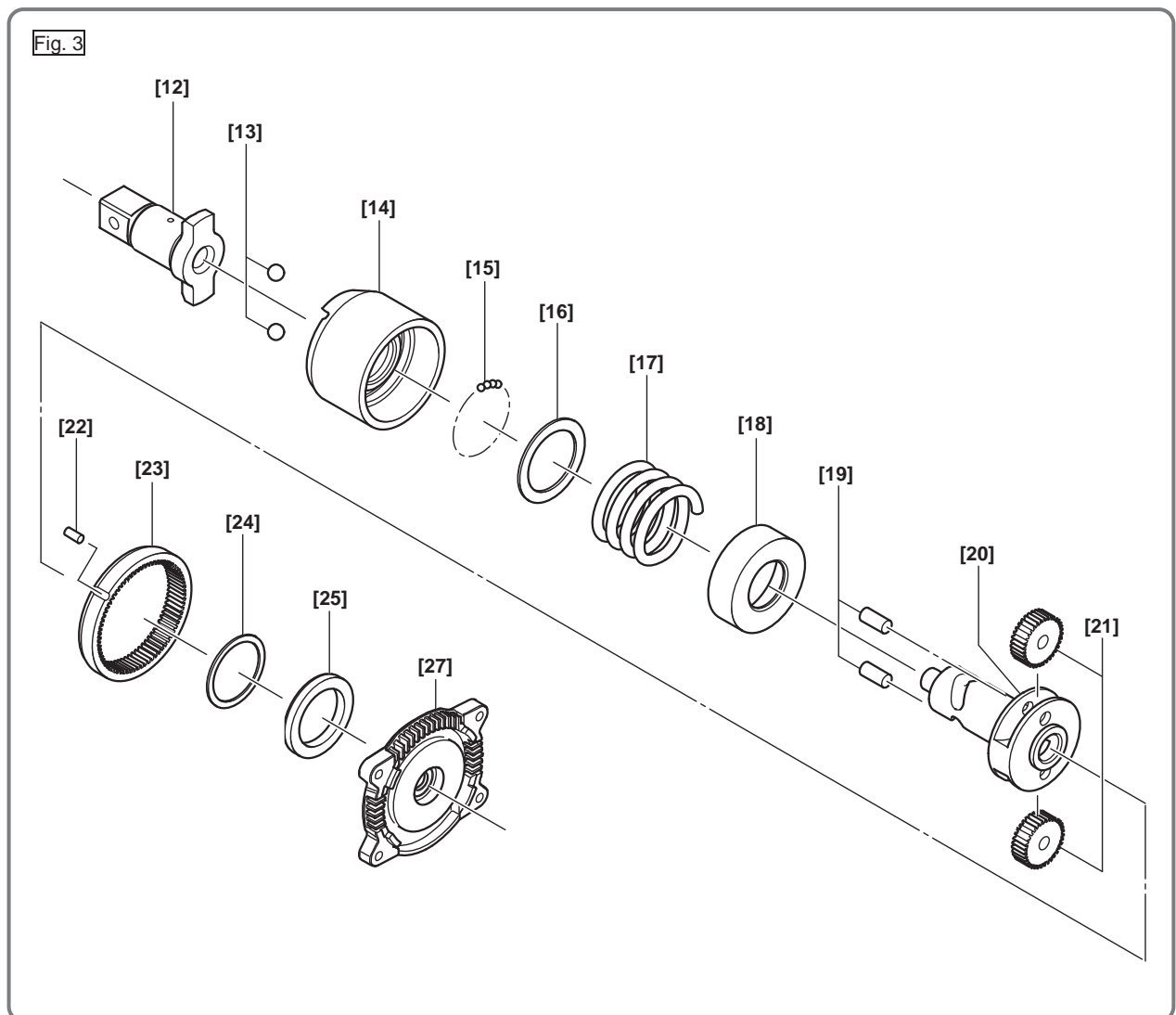
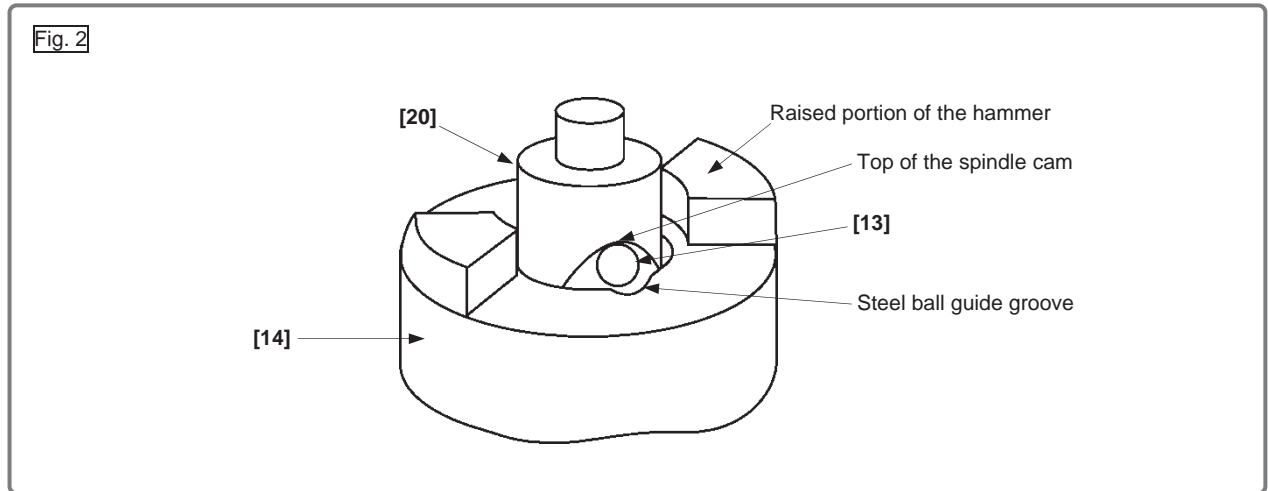
Fig. 1 • Disassembly of handle (A).(B) set and its vicinity



## 2. Removal of hammer spring (C)

Using a hand press, push down the raised portions of Hammer (D) [11] to compress Hammer Spring (C) [17] fully. In this position, use a small flat-blade screwdriver to extract the two Steel Balls D10.3 [13] from the cam grooves of Spindle (C) [20] and Hammer (C) [14]. Then slowly release the hand press and remove Hammer (C) [14] from Spindle (C) [20] to remove Hammer Spring (C) [17].

**NOTE: Be careful not to lose the thirty-five Steel Balls D4.76 [15] and Hammer Washer (C) [16] mounted between Hammer (C) [14] and Hammer Spring (C) [17].**



### 3. Disassembly of the motor unit

#### (1) Removal of rotor ass'y (C)

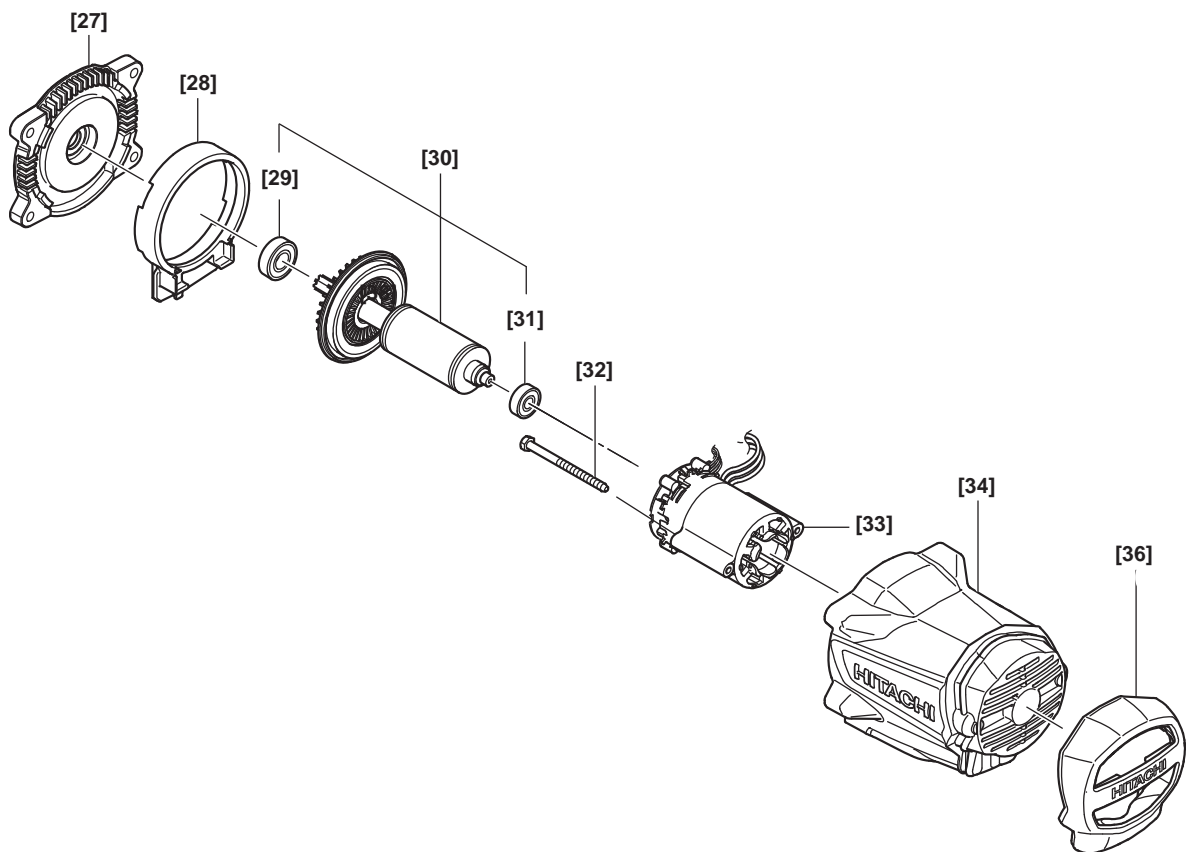
Remove Rotor Ass'y (C) [30] together with Inner Cover (C) [27] from Housing (C) [34].

**NOTE: Keep the removed Rotor Ass'y (C) [30] away from iron or other metal because Rotor Ass'y (C) [30] has a magnetic force.**

#### (2) Removal of the power supply unit

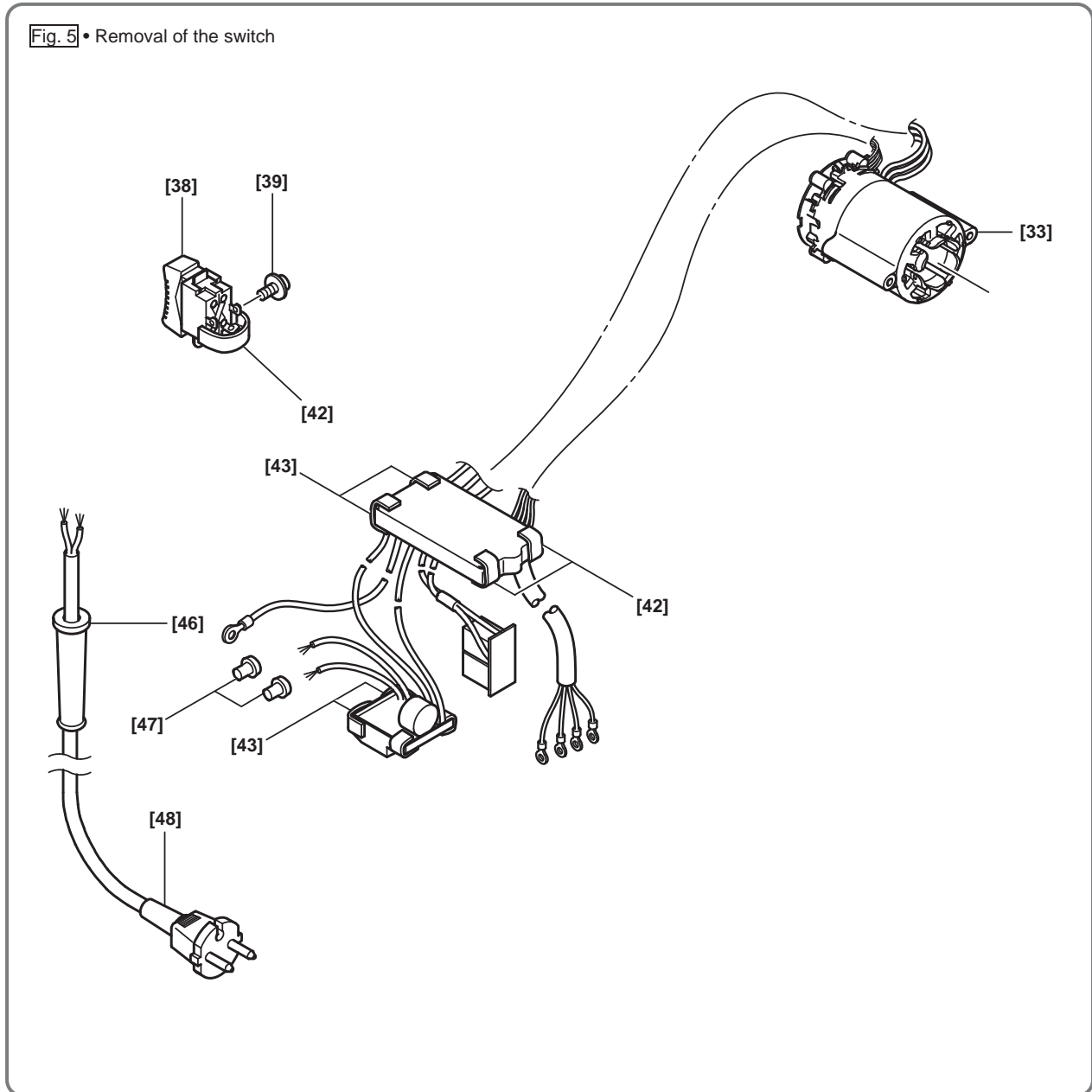
Remove the two Screws D5 x 70 [32]. Supporting Housing (C) [34], tap the end surface of Housing (C) [34] with a wooden hammer to remove the power supply unit.

Fig. 4 • Disassembly of the motor unit



#### 4. Removal of the switch

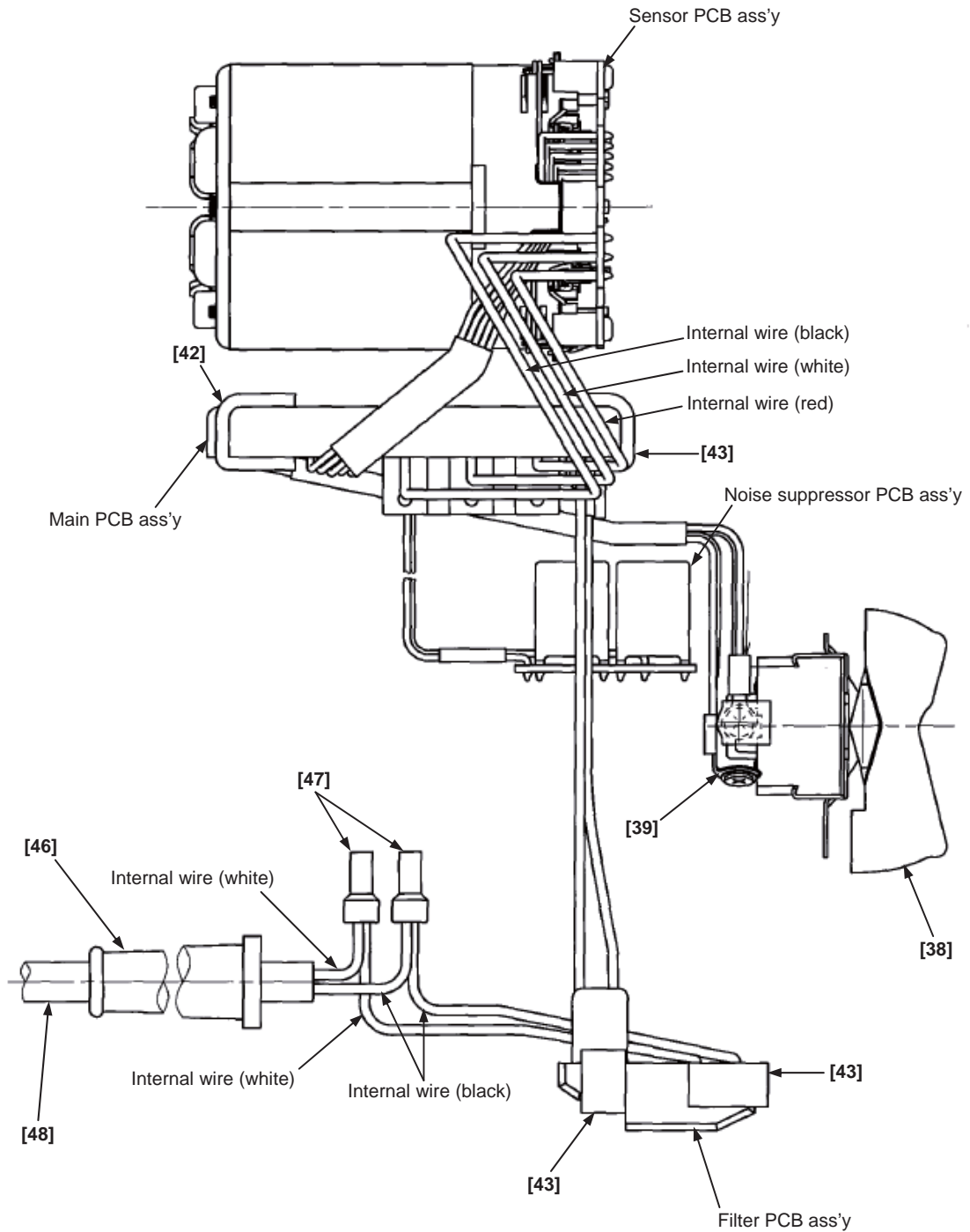
Remove the four Screws M3.5 x 5 [39] and remove the Switch [38].



## 5. Disassembly of the power supply unit

Remove the four Screws M3.5 x 5 [39] from the Switch [39].

Fig. 6 • Disassembly of the power supply unit

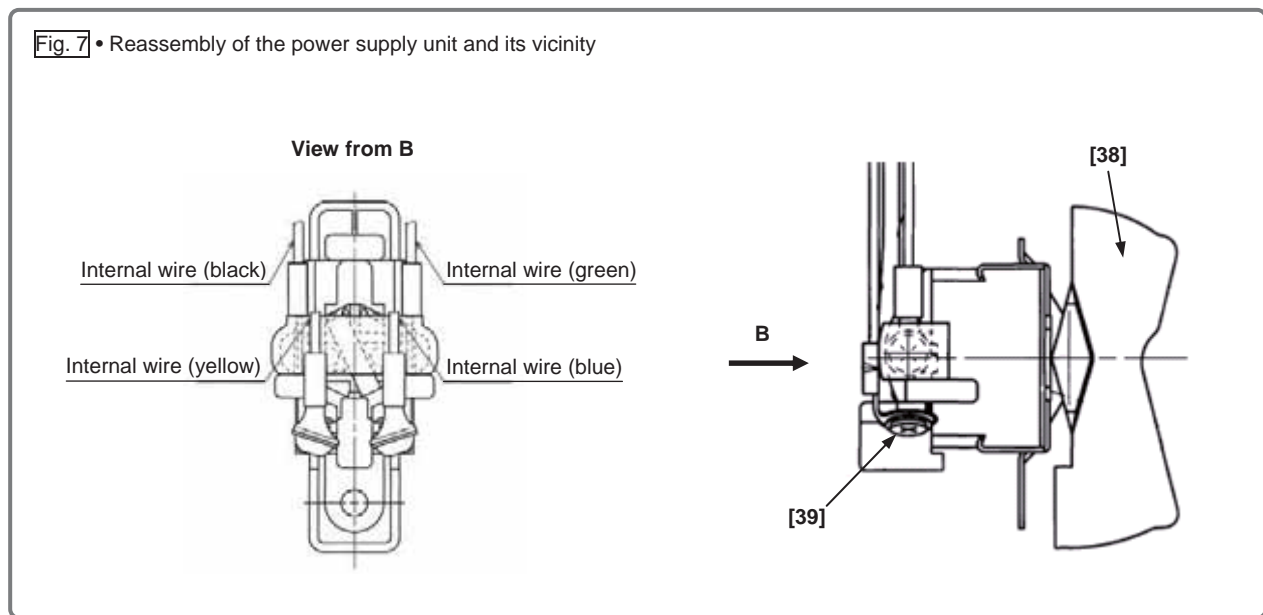


# Reassembly

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

## 1. Reassembly of the power supply unit and its vicinity

- (1) Perform wiring according to the connecting diagram on page 9 when replacing the Switch [38] or Stator Controller (C) Set [33] with new one.
- (2) Connect the internal wires of Stator Controller (C) Set [33] to the Switch [38] paying attention to the colors of the internal wires. Then secure them with the four Screws M3.5 x 5 [39].
- (3) Be careful not to get the internal wires caught in the power supply unit.



## 2. Reassembly of the impact mechanism

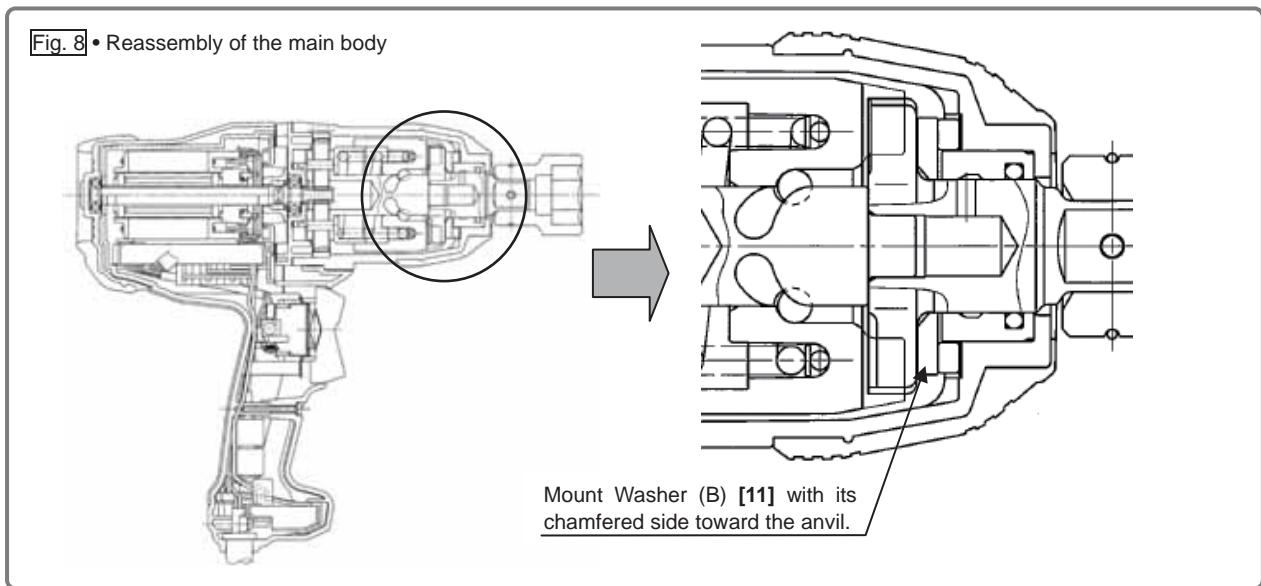
- (1) Mount Hammer Washer (C) [16], Hammer Spring (C) [17], Spring Sheet (C) [18], and Spindle (C) [20] in this order into Hammer (C) [14], which contains the thirty-five Steel Balls D4.76 [15].
- (2) Match the peak of the cam groove of Spindle (C) [20] with the steel ball insertion groove of Hammer (C) [14]. Use a hand press or similar tool to press the raised portion of Hammer (C) [14] so as to compress Hammer Spring (C) [17] until it contacts Spindle (C) [20], and then hold it there.
- (3) Put the two Steel Balls D10.3 [13] in the steel ball insertion groove. Check that the Steel Balls D10.3 [13] are in the cam groove, and then release the hand press.
- (4) Mount the Idle Gear Set (2 pcs.) [21] and the two Needle Rollers [19] on Spindle (C) [20].

## 3. Reassembly of the main body

- (1) Secure the stator to Housing (C) [34] with the two Screws D5 x 70 [32] and insert controller ass'y (A) into the lower portion of the stator.
- (2) Mount Rotor Ass'y (C) [30], Fan Guide (C) [28], and Inner Cover (C) [27] to Housing (C) [34].  
**NOTE: Be careful of the direction of Fan Guide (C) [28].**
- (3) Mount Metal (A) [25] and Packing (C) [26] to Inner Cover (C) [27].  
**NOTE: Be careful of the direction of Packing (C) [26].**
- (4) Mount Washer (A) [24] and Ring Gear (C) [23] to the impact mechanism assembled in the above step 2 and mount it to Inner Cover (C) [27].  
**NOTE: Mount Ring Gear (C) [23] with its protrusion toward the hammer case.**

(5) Mount Washer (B) [11] to Anvil (C) [12]. Apply a small amount of grease to the two Needle Rollers [22] and mount it to Ring Gear (C) [23].

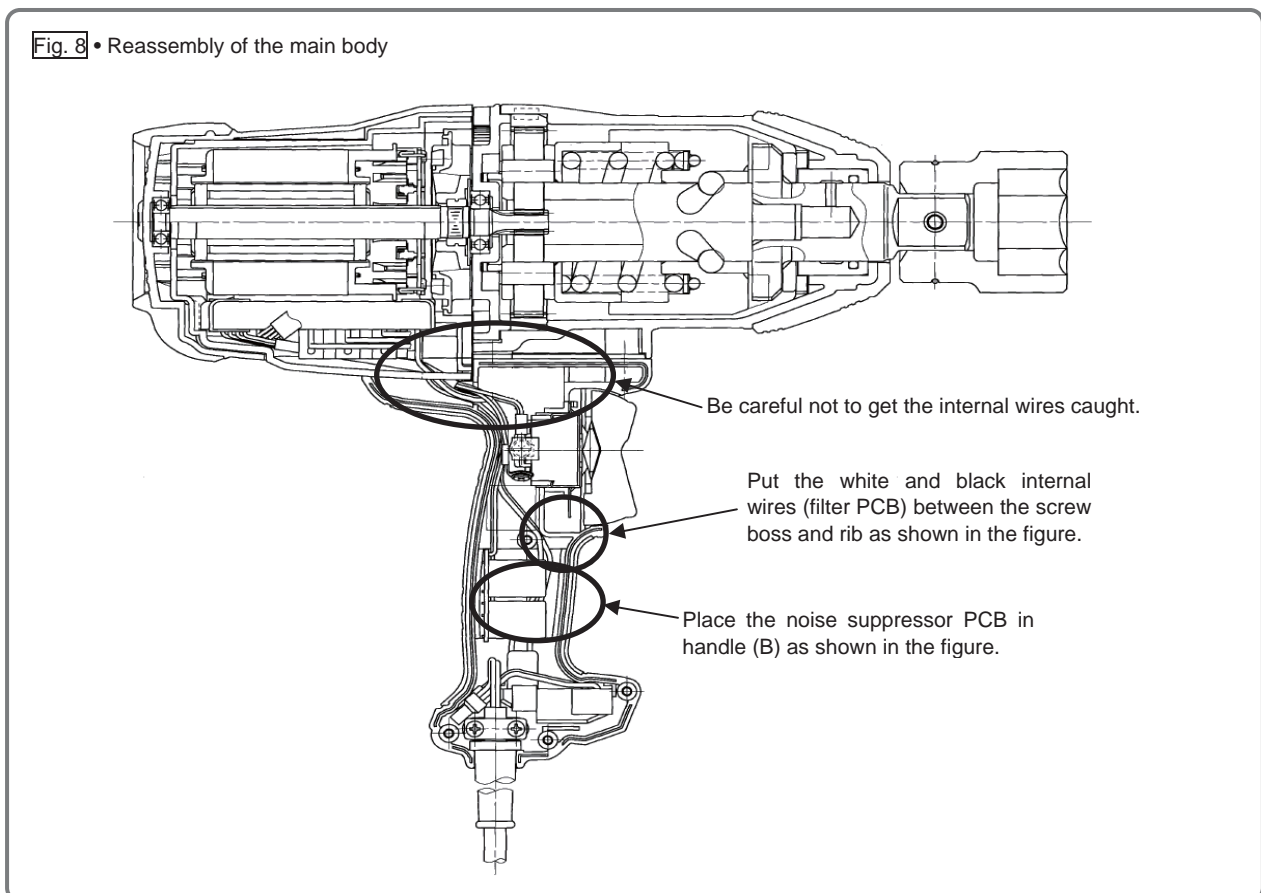
**NOTE: Be careful of the direction of Washer (B) [11].**



(6) Mount Washer (C) [9] and Damper (C) [10] to Hammer Case (C) Ass'y [6].

(7) Secure Hammer Case (C) Ass'y [6] to Housing (C) [34] with the four Bolts M6 x 50 [1]. Then secure Handle (B) [37] with the two Bolts M5 x 20 [44].

(8) Mount power supply unit (C) to Handle (B) [37] as shown in Fig. 9. Mount the Cord Clip [40] with its protrusion upward and secure it with two Screws D4 x 16 [41].



(9) Secure handle (A) to Hammer Case (C) Ass'y [6] with the two Bolts M5 x 20 [44]. Then secure it to handle (B) with four Screws D4 x 20 [45].



## Application of lubricant

(1) Apply Nippeco SEP-3A grease (Code No. 930035 (100 g)/930038 (2.5 kg)) to the following:

- Pinion tooth flanks of Rotor Ass'y (C) [30]
- Tooth flanks of the Ring Gear [23]
- Two Needle Rollers [19]
- Tooth flanks and inner circumference of the Idle Gear Set (2 pcs.) [21]

(2) Apply Doubrex 251 grease to the following:

- Between Hammer (C) [14] and Spring Sheet (C) [18]
- Inside of Hammer Case (C) Ass'y [6]
- Spindle (C) [20]: Cam groove, sliding portion, and engaging portions with Anvil (C) [12] and Metal (A) [25]
- Cam groove and raised portions of Hammer (C) [14]
- Anvil (C) [12]: 13 mm dia. hole, sliding portion with Washer (B) [11], claw, and sliding portion with the O-ring
- Two Steel Balls D10.3 [13]
- Thirty-five Steel Balls D4.76 [15]
- Both end surfaces of Washer (C) [9] and Damper (C) [10]

## Screw tightening torque

- Seal Lock Screw (W/Sp. Washer) M5 x 12 [4] ----- 3.4 ± 0.7 N•m (35 ± 7 kgf•cm)
- Hex. Socket Hd. Bolt (W/Washers) M5 x 20 [44] ----- 5.9 ± 1.5 N•m (60 ± 15 kgf•cm)
- Seal Lock Hex. Socket Hd. Bolt M6 x 50 [1] ----- 10.8 ± 1.0 N•m (110 ± 10 kgf•cm)
- Tapping Screw (W/Flange) D4 x 20 (Black) [45] ----- 1.8 ± 0.3 N•m (18 ± 3 kgf•cm)
- Hex. Hd. Tapping Screw D5 x 70 [32] ----- 2.9 ± 0.5 N•m (30 ± 5 kgf•cm)
- Tapping Screw (W/Flange) D4 x 16 [41] ----- 1.8 ± 0.3 N•m (18 ± 3 kgf•cm)

## Checking after reassembly

Check the following after reassembly:

- (1) Operate the Switch [38] and check that the switch moves smoothly and the switch operations (ON, OFF, forward and reverse) are normal.
- (2) Press the Switch [39] in "R" direction and slowly release the switch. Check that the switch returns to the original position. Then press the Switch [38] in "L" direction and slowly release the switch. Check that the switch returns to the original position.
- (3) Check that the rotational direction of Anvil (C) [12] matches the direction of rotation made when you press the Switch [38]. When the Switch [38] is set to the "R" position, Anvil (C) [12] must rotate clockwise as viewed from the rear (opposite to Anvil (C) [12].)

## Insulation test

On completion of reassembly after repair, measure the insulation resistance and conduct the dielectric strength test between the plug pins and the outside metallic parts such as Anvil (C) [12].

Insulation resistance: 7 MΩ or more

Dielectric strength: 2,500 V for 1 minute ----- 110 V to 120 V

4,000 V for 1 minute ----- 220 V to 240 V

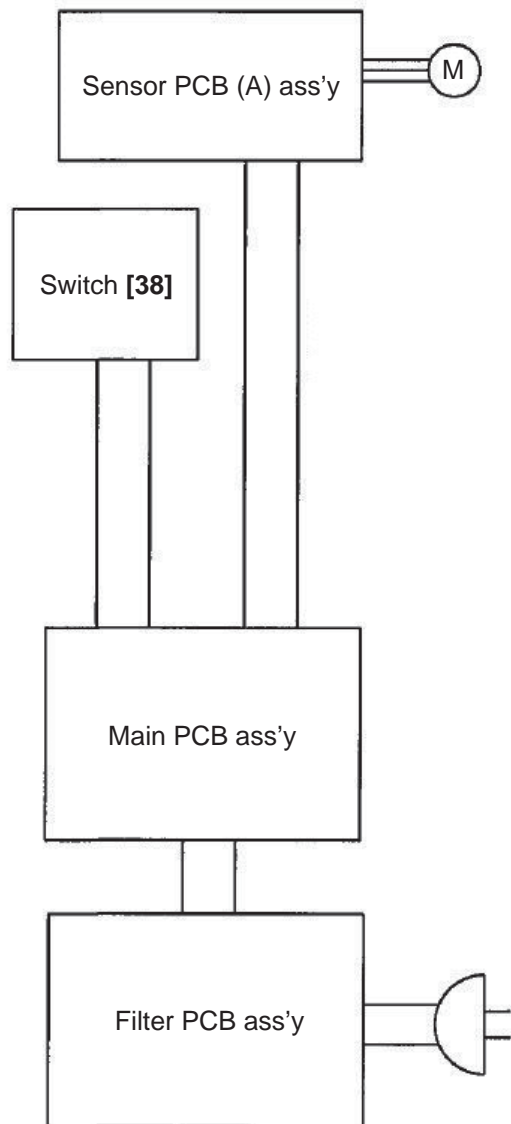
## No-load current

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

Voltage	110 V	120 V	220 V	230 V	240 V
Current max.	3.5 A	3.5 A	1.5 A	1.5 A	1.5 A

## Connecting diagram

Fig. 11 • Connecting diagram



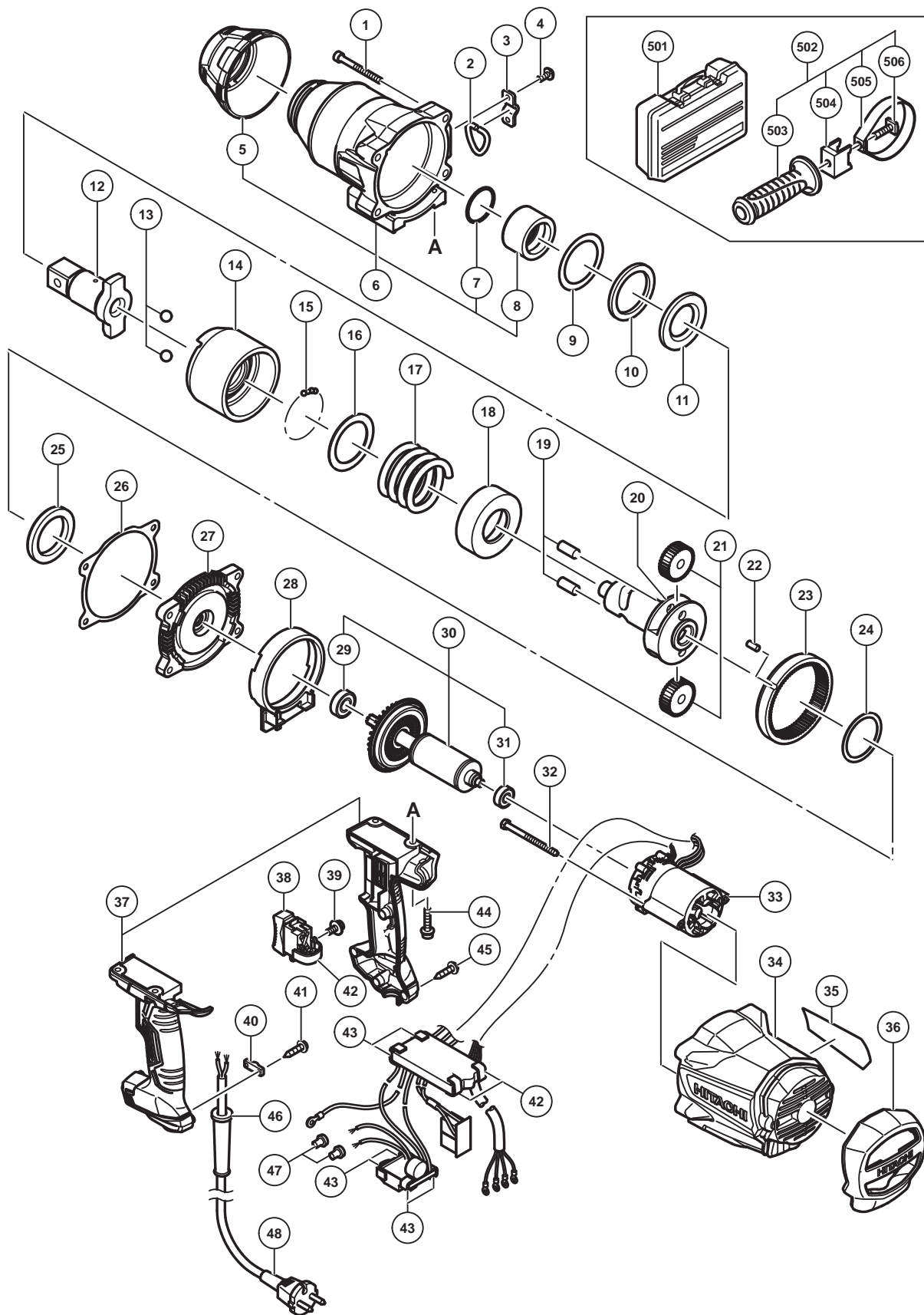
# STANDARD REPAIR TIME (UNIT) SCHEDULE

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
WR 25SE		Work Flow						
			Handle (A).(B) Set Cord Armor	Switch Cord	Rotor Ass'y (C) Ball Bearing (6001DD) Ball Bearing (608VV) Inner Cover (C)	Housing (C) Stator Controller (C) Set		
	General Assembly				Hammer (C) Steel Ball D10.3 x 2 Steel Ball D4.76 x 10 Hammer Spring (C) Spring Sheet (C)	Spindle (C) Idle Gear Set Needle Roller x 2		
		Tail Bumper (D)			Hammer Case (C) Ass'y O-ring Anvil (C) Ring Gear (C)			

## ELECTRIC TOOL PARTS LIST

### IMPACT WRENCH Model WR 25SE

2015-1-20  
(E1)



**PARTS**

WR 25SE

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	986491	SEAL LOCK HEX. SOCKET HD. BOLT M6 X 50	4	
2	932916	HANGER (B)	1	
3	932915	HANGER (A)	1	
4	993126	SEAL LOCK SCREW (W/SP. WASHER) M5 X 12	2	
5	337836	BUMPER (C)	1	
6	337835	HAMMER CASE (C) ASS'Y	1	INLCLUD.5,7,8
7	319732	O-RING (P-35)	1	
8	337837	METAL (B)	1	
9	338351	WASHER (C)	1	
10	338350	DAMPER (C)	1	
11	337834	WASHER (B)	1	
12	337820	ANVIL (C)	1	
13	337838	STEEL BALL D10.3	2	
14	337832	HAMMER (C)	1	
15	959149	STEEL BALL D4.76 (10 PCS.)	35	
16	337831	HAMMER WASHER (C)	1	
17	337829	HAMMER SPRING (C)	1	
18	337828	SPRING SHEET (C)	1	
19	337827	NEEDLE ROLLER	2	
20	337830	SPINDLE (C)	1	
21	338352	IDLE GEAR SET (2 PCS.)	2	
22	991449	NEEDLE ROLLER	2	
23	337839	RING GEAR (C)	1	
24	337833	WASHER (A)	1	
25	337825	METAL (A)	1	
26	337821	PACKING (C)	1	
27	337824	INNER COVER (C)	1	
28	337823	FAN GUIDE (C)	1	
29	6001DD	BALL BEARING 6001DDCMPS2L	1	
30	360989	ROTOR ASS'Y (C)	1	INCLUD.29,31
31	333945	BALL BEARING 608VV	1	
32	961400	HEX. HD. TAPPING SCREW D5 X 70	2	
* 33	340895C	STATOR CONTROLLER (C) SET 110V	1	
* 33	340895D	STATOR CONTROLLER (C) SET 120V-127V	1	
* 33	340895E	STATOR CONTROLLER (C) SET 220V-230V	1	
* 33	340895F	STATOR CONTROLLER (C) SET 240V	1	
34	338349	HOUSING (C)	1	
35		NAME PLATE	1	
36	337822	TAIL BUMPER (C)	1	
37	338505	HANDLE (A).(B) SET	1	
38	337202	SWITCH	1	
39	980060	MACHINE SCREW (W/WASHER) M3.5 X 5	4	
40	937631	CORD CLIP	1	
41	984750	TAPPING SCREW (W/FLANGE) D4 X 16	2	
42	338353	CUSHION RUBBER 30 X 10 X 3	3	
43	338354	CUSHION RUBBER 45 X 10 X 3	6	
44	316107	HEX. SOCKET HD. BOLT (W/WASHERS) M5 X 20	4	
45	301653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	4	
* 46	953327	CORD ARMOR D8.8	1	
* 46	938051	CORD ARMOR D10.1	1	



