

MODEL

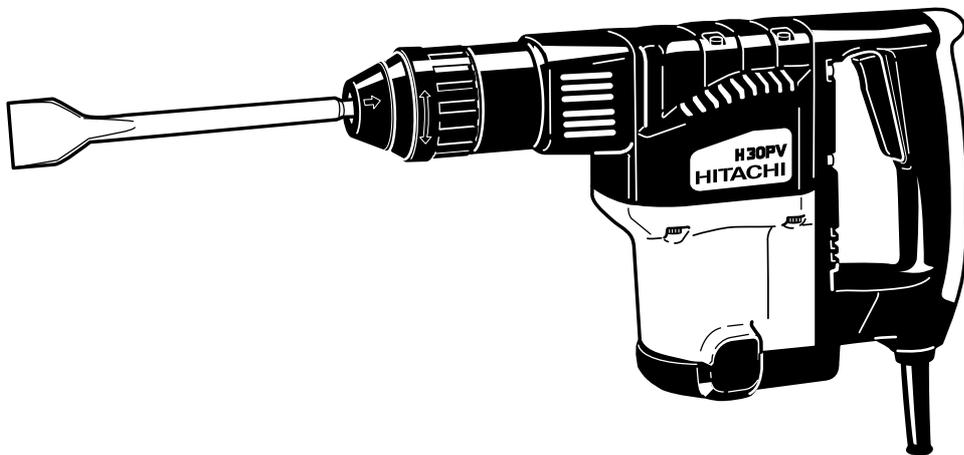
**H 30PV**

**HITACHI**  
**POWER TOOLS**

**HAMMER**  
**H 30PV**

**TECHNICAL DATA**  
**AND**  
**SERVICE MANUAL**

**H**



LIST No. E460

Jan. 2001

**Notice for use**

Specifications and parts are subject to change for improvement.

Refer to Hitachi Power Tool Technical News for further information.

## CONTENTS



Page

<b>1. PRODUCT NAME</b> .....	<b>1</b>
<b>2. MARKETING OBJECTIVE</b> .....	<b>1</b>
<b>3. APPLICATIONS</b> .....	<b>1</b>
<b>4. SELLING POINTS</b> .....	<b>1</b>
4-1. Selling Point Descriptions .....	2
<b>5. SPECIFICATIONS</b> .....	<b>3</b>
5-1. Optional Accessories .....	4
<b>6. COMPARISONS WITH SIMILAR PRODUCTS</b> .....	<b>5</b>
6-1. Specification Comparisons .....	5
6-2. Demolishing Performance Comparisons .....	6
<b>7. PRECAUTIONS IN SALES PROMOTION</b> .....	<b>6</b>
7-1. Handling Instructions .....	6
7-2. Caution Plate .....	6
7-3. Grease Replacement .....	7
7-4. O-Ring Replacement .....	7
<b>8. REFERENCE INFORMATION</b> .....	<b>8</b>
8-1. Striking Operation .....	8
8-2. Idling-proof Mechanism .....	8
8-3. Sealed and Dustproof Construction .....	9
8-4. Tool Retainer .....	10
8-5. Adjusting Mechanism for Tool Swivel Angle .....	10
<b>9. REPAIR GUIDE</b> .....	<b>11</b>
9-1. Precautions and Suggestions for Disassembly and Reassembly of Main Body .....	11
<b>10. STANDARD REPAIR TIME (UNIT) SCHEDULES</b> .....	<b>17</b>
Assembly Diagram for H 30PV	

## 1. PRODUCT NAME

Hitachi Electric Hammer, Model H 30PV

## 2. MARKETING OBJECTIVE

The Hitachi hammer Model H 30PV has been developed intended for faster and easier completion of light-duty jobs such as stripping mortar and tiles and allows use of SDS-plus shank tools. Main specifications are as follows:

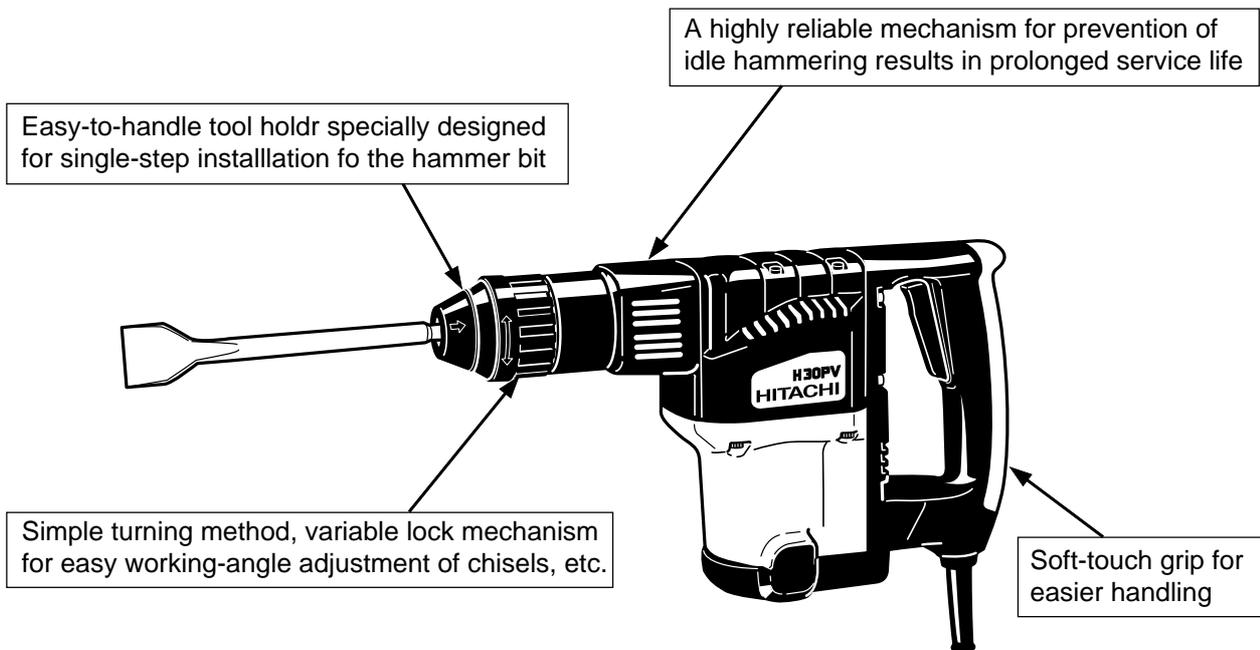
- (1) Easy-to-handle tool holder specially designed for single-step installation of the hammer bit
- (2) Simple turning method, variable lock mechanism for easy working-angle adjustment of chisels, etc.
- (3) A highly reliable mechanism for prevention of idle hammering results in prolonged service life.

## 3. APPLICATIONS

- Stripping mortar and tiles.
- Demolishing and chiseling of concrete.
- Grooving and cutting of bricks

## 4. SELLING POINTS

Maker • Model	Weight	Overall length
Hitachi H 30PV	4.2 kg (9.2 lbs.)	395 mm (15-9/16")
D	3.5 kg (7.7 lbs.)	350 mm (13-25/32")
C	3.5 kg (7.1 lbs.)	315 mm (18-3/8")



(Shown with optional cutter)

## **4-1. Selling Point Descriptions**

### **4-1-1. A highly reliable mechanism for prevention of idle hammering results in prolonged service life**

Conventional mechanism for prevention of idle hammering is to open and close the air holes according to the movement of the striker. The Model H 30PV has air holes located at the position unaffected by the rebound of the striker at no load. The air holes are opened and closed by the movement of the sleeve provided around the cylinder that interlocks with the tool and the second hammer to prevent idle hammering. This mechanism securely prevents idle hammering even in wall hammering works or even if a tool that can cause great rebound on the striker such as a cutter is used. Thanks to the highly reliable mechanism for prevention of idle hammering, the service life of the Model H 30PV is prolonged and hammering works requiring much attention not to break the surroundings can be efficiently performed with the Model H 30PV.

### **4-1-2. Easy-to-handle tool holder specially designed for single-step installation of the hammer bit**

The commercially available SDS-plus shank bits can be used in the Model H 30PV. Thanks to the single-step tool retainer provided for the Model H 30PV, the SDS-plus shank bits can be installed just by adjusting the groove position and pushing in.

### **4-1-3. Simple turning method, variable lock mechanism for easy working-angle adjustment of chisels, etc.**

The tool swivel angle can be changed in 12 steps by turning the grip 60 degrees. The tool is securely locked at the changed step by turning the grip back to the original position.

### **4-1-4. Soft-touch grip for easier handling**

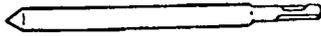
The double-layer molded handle consists of a plastic resin base covered with a soft plastic layer to ensure a soft touch and firm, non-slip grip of the handles.

## 5. SPECIFICATIONS

Item	H 30PV
Power source	Single-phase AC 50/60 Hz
Voltage (V)	110, 120, 220, 230, 240
Motor type	AC single-phase series commutator motor
Insulation structure	Double insulation
Enclosure	Housing Grass-fiber reinforced resin (green) Grip, Handle Crank case cover Glass-fiber reinforced resin (black) Cylinder case cover
Type of switch	Variable speed control switch
Type of handle	D-shaped handle
Full-load current	6.9 A (110 V), 6.3 A (120 V), 3.4 A (220 V), 3.3 A (230 V), 3.2 A (240 V)
Power input	720 W
Striking speed	No-load: 0 to 4,200/min. Full-load: 0 to 3,800/min.
Weight	Product: 4.2 kg (9.2 lbs.); excluding cord Packed: 6.4 kg (14.1 lbs.)
Packaging	Corrugated cardboard box with plastic tool case
Standard accessories	• Plastic tool case ..... 1 pc.

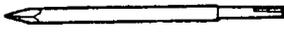
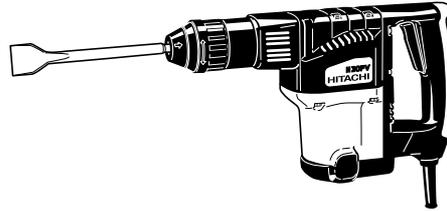
## 5-1. Optional Accessories

### 5-1-1. Demolition work



- (1) Bull point (round type)  
(SDS-plus shank)

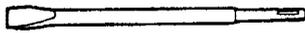
+



- (2) Bull point (square type)  
(SDS-plus shank)

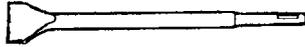
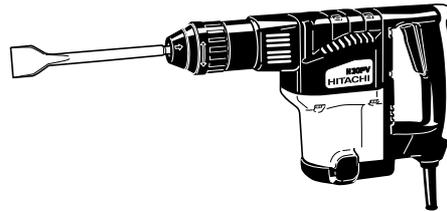
No.	Overall length	Code No.
1	250 mm (10")	303046
2	250 mm (10")	316656

### 5-1-2. Groove digging and edging work



- (1) Cold chisel  
(SDS-plus shank)

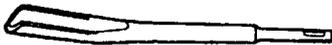
+



- (2) Cutter  
(SDS-plus shank)

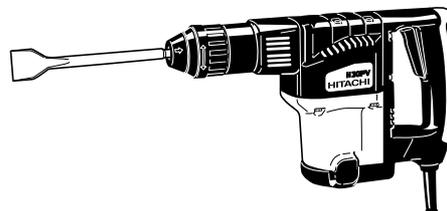
No.	Width	Overall length	Code No.
1	20 mm (3/4")	250 mm (10")	316657
2	40 mm (1-9/16")	250 mm (10")	316658

### 5-1-3. Grooving work



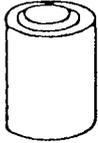
- Grooving chisel  
(SDS-plus shank)

+



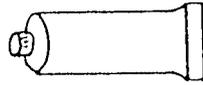
Overall length	Code No.
250 mm (10")	316659

#### 5-1-4. Grease for impact drill



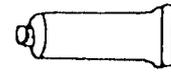
500 g (1.1 lbs.) Can

Code No. 980927



70 g (2.5 oz) Tube

Code No. 308471



30 g (1 oz) Tube

Code No. 981840

(Note)

Code numbers listed above are subject to change. Please refer to periodic Technical News Bulletins.

## 6. COMPARISONS WITH SIMILAR PRODUCTS

### 6-1. Specification Comparisons

Maker			HITACHI	D	C
Model name			H 30PV		
Power input	W		720 (6.3 A)	550	505
Power output	W		940	—	—
Full-load impact rate	/min		0 to 3,800	0 to 3,800	0 to 3,200
Dimensions	Length	mm	395 (15-9/16")	350 (13-25/32")	315 (12-13/32")
	Height	mm	226 (8-7/8")	180 (7-1/8")	196 (7-23/32")
	Width	mm	102 (4")	85 (3-11/32")	85 (3-11/32")
Striking energy per stroke	J		5.2	2.2	3.9
Demolition performance	kg/min (index)		1.23 (100)	0.58 (47.0)	0.71 (57.3)
Insulation structure	—		Double insulation	Double insulation	Double insulation
Full-load vibration level	m/s <sup>2</sup>		8.6	8.0*	6.5*
No-load noise level	dB(A)		85	83	86
Weight (without cord)	kg		4.2 (9.2 lbs.)	3.5 (7.7 lbs.)	3.2 (7.1 lbs.)

\*: These values are listed on the catalog.

## 6-2. Demolishing Performance Comparisons

The data shown in Fig. 1 are obtained in actual factory tests, and are for reference only. Demolished amount may vary in accordance with operating conditions, operator skill, etc.

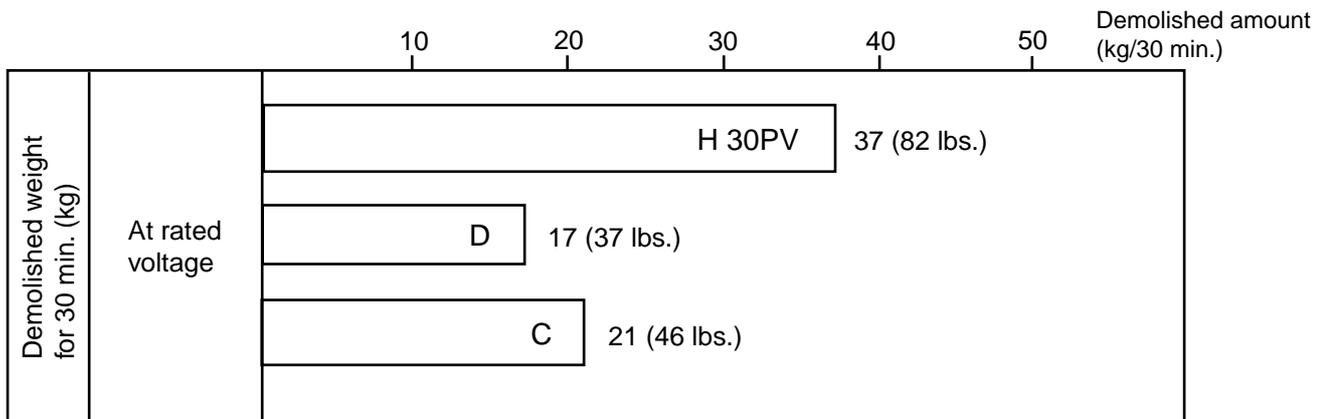


Fig. 1

## 7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model H 30PV Hammer 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 Caution Plate attached to each tool.

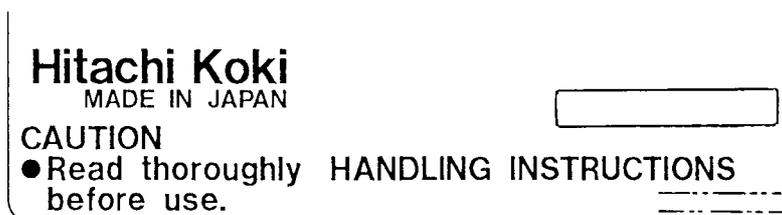
### 7-1. Handling Instructions

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 Hammer 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.

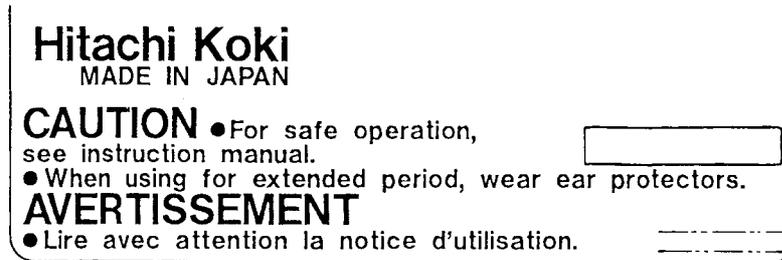
### 7-2. Caution Plate

The Model H 30PV unit is provided with a Nameplate (illustrated below) which lists basic safety precautions in its use. Carefully ensure that the customer fully understands and follows these precautions before using the tool.

For Australia



For the U.S.A. and Canada



For Taiwan



### 7-3. Grease Replacement

The striking portion and the speed reduction portion of the Model H 30PV respectively use different types of grease. Grease replacement is required if the unit is disassembled for maintenance or O-rings become damaged or worn as described in 7-4.

The striking portion uses special grease. If the striking portion (inside the cylinder case and crank case) is disassembled, thoroughly remove all of the old grease from each part. On reassembly, insert 40 g (1.4 oz) of new grease into the crank case (connecting rod side). Do not exceed the designated amount of grease. Excessive grease insertion may cause reduced striking performance.

The speed reduction portion (inside the gear cover) uses Hitachi Motor Grease No. 29 (Code No. 930035).

The proper supply volume is 50 g (1.8 oz). Never use the striking portion special grease in the speed reduction portion. Special grease would leak into the motor portion and cause subsequent trouble.

### 7-4. O-Ring Replacement

The O-rings (mounted on the striker and piston) are extremely important to ensure adequate sealing of the air pressure. Although the O-rings are made of special rubber to give them a long service life, they do nonetheless become worn, and should be replaced by new ones periodically depending on frequency of use of the tool. With average use, it is recommended that the O-rings be replaced at least every six months to ensure maximum effectiveness.

## 8. REFERENCE INFORMATION

Structure:

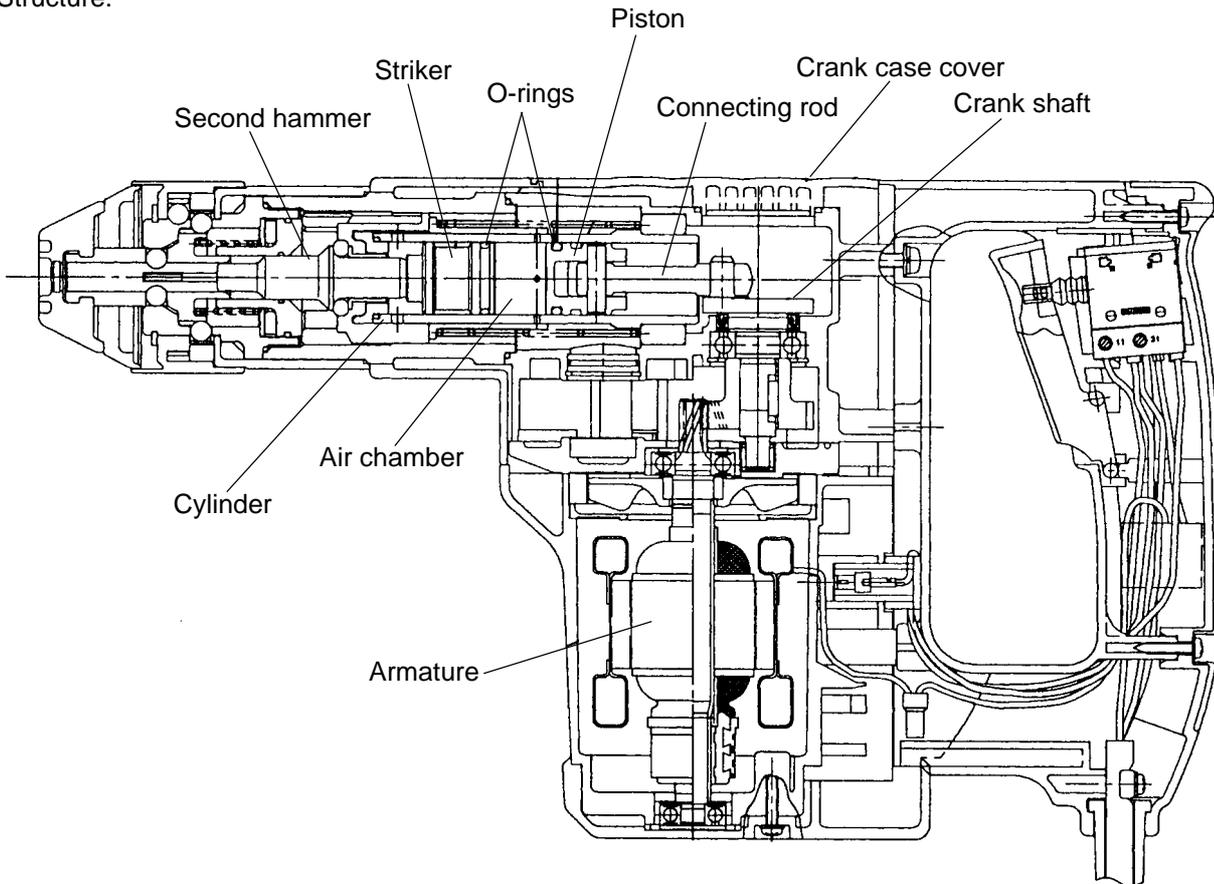


Fig. 2

### 8-1. Striking Operation

The rotation of the armature is transferred to the crank shaft and connecting rod, which in turn cause the piston to reciprocate inside the cylinder. As the piston reciprocates, the changing air pressure inside the air chamber between the piston and the striker causes the striker to continuously strike against the end of the second hammer. At the same time, the air-cushion effect within the air chamber absorbs the impact of the second hammer. Should the air escape from the air chamber, the air-cushion effect would cease, and the impact energy would not be absorbed. Accordingly, the O-rings mounted on the striker and piston play an extremely important role in sealing the air within the air chamber.

### 8-2. Idling-proof Mechanism

When the bull point is released from the concrete surface, the second hammer moves to the position illustrated in Fig. 3, and the sleeve moves out of striking position. When this occurs, the air holes are opened and the pressure within the air chamber remains unchanged even though the piston continues to reciprocate, thereby preventing striking operation.

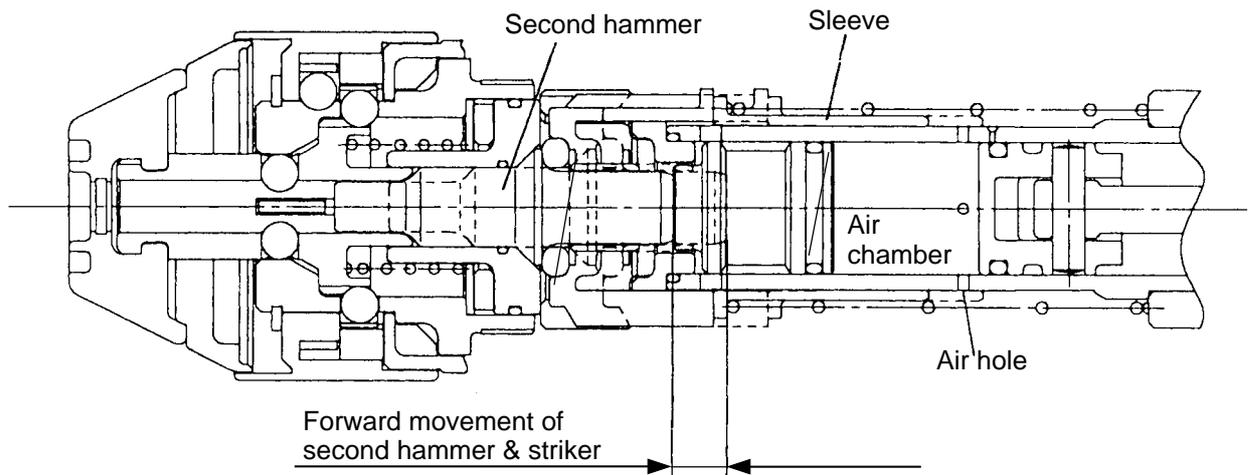


Fig. 3

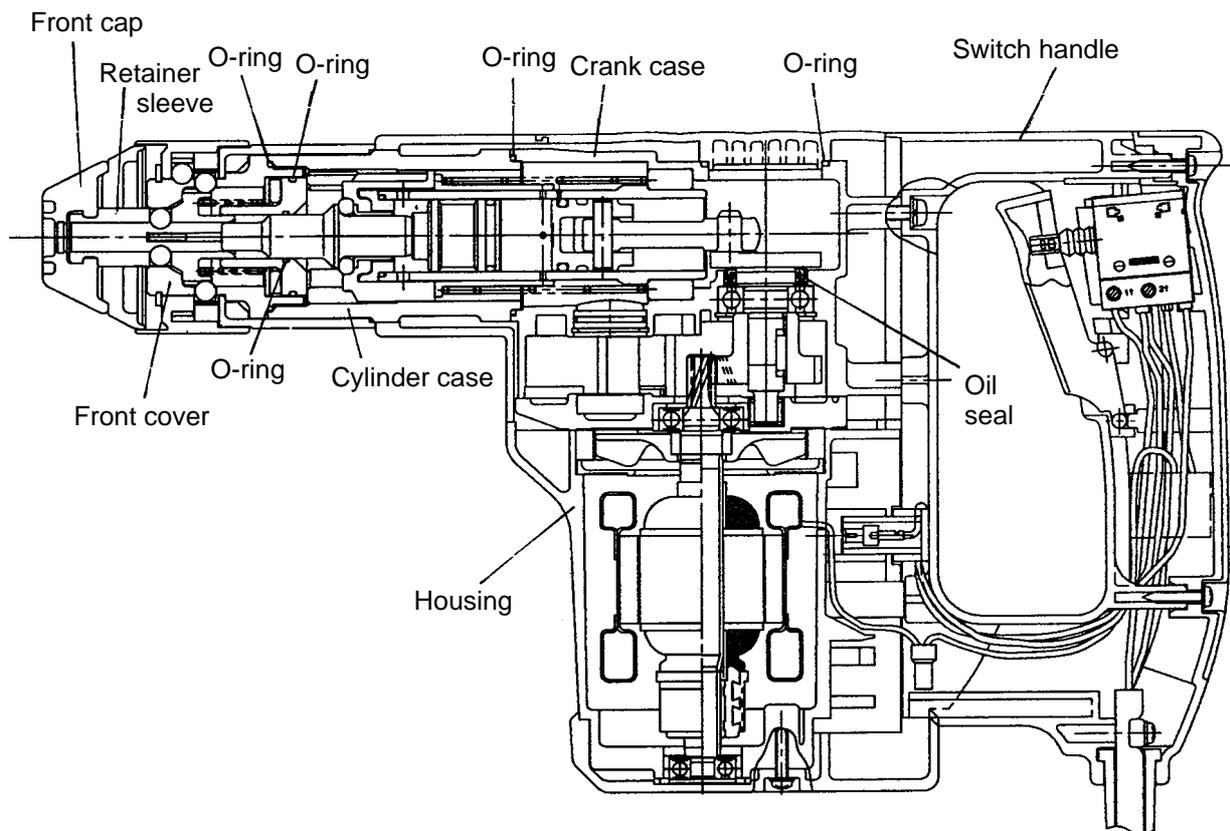


Fig. 4

### 8-3. Sealed and Dustproof Construction

The crank case and cylinder case are sealed by five O-rings, and an oil seal which serve to prevent leakage of the grease, as well as to prevent dust and dirt from entering the mechanism.

#### 8-4. Tool Retainer

The Model H 30PV adopts the single-step tool retainer. Clean the shank portion of tool. (Fig. 5)

Adjust the groove position by turning the tool and push it in (A) direction until it latches itself. (Fig. 6)

Check the latching by pulling on the tool. When removing the tool, pull Front Cap in (B) direction (Fig. 7), and pull out the tool (Fig. 8).

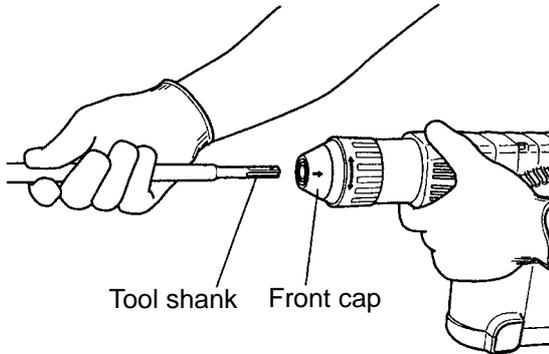


Fig. 5

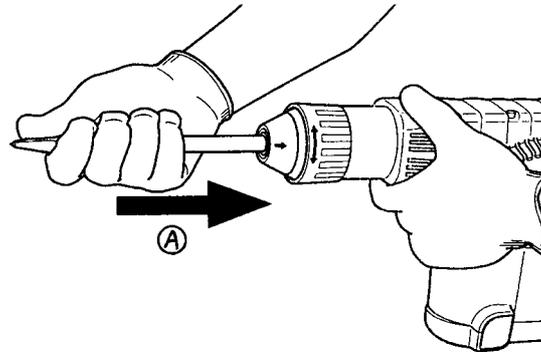


Fig. 6

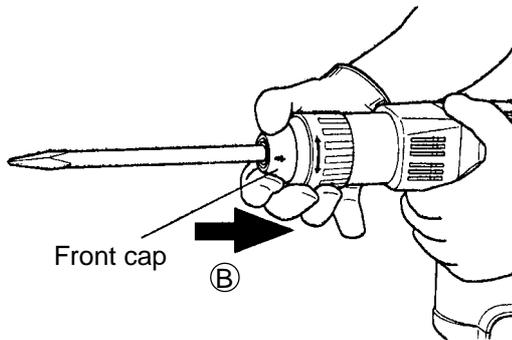


Fig. 7

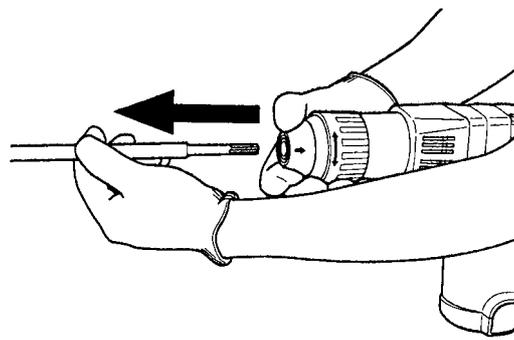


Fig. 8

#### 8-5. Adjusting Mechanism for Tool Swivel Angle

The tool can be turned every 30 degrees and can be fixed at the position of 12 steps. Grip (B) is turned 60 degrees in (A) direction (Fig. 9), the tool swivel angle can be changed freely to any desired position. (Fig. 10)

It is locked completely by returning Grip (B) back to the original position.

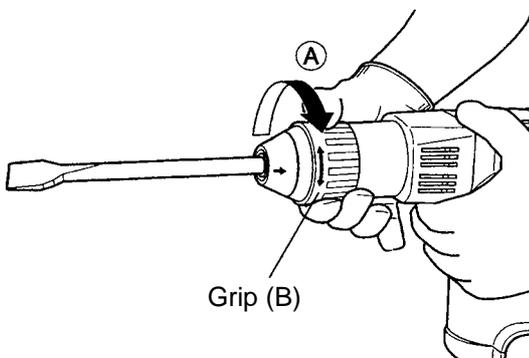


Fig. 9

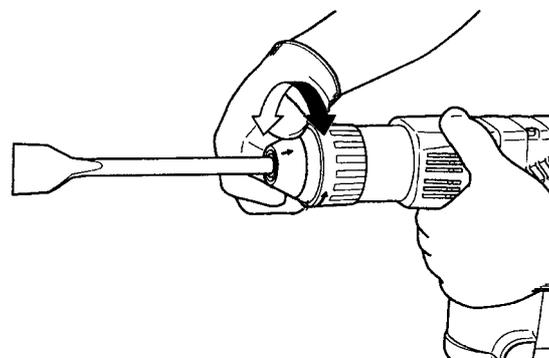


Fig. 10

(Note) Initially, grip (B) may not turn smoothly.

## 9. REPAIR GUIDE

### 9-1. Precautions and Suggestions for Disassembly and Reassembly of Main Body

The numbers in **[Bold]** below correspond to the item numbers in the Parts List and exploded assembly diagrams.

#### 9-1-1. Disassembly

- Retainer disassembly

Remove the Front Cap **[1]** (since the Front Cap is made of rubber, grasp its outer face and strongly pull it to remove). This allows Grip (A) **[2]** to be separated from the Retainer Sleeve **[12]**. (Fig. 11)

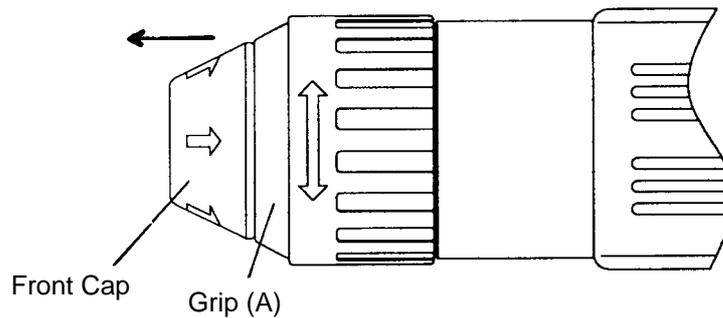


Fig. 11

When the Retaining Ring D40 **[3]** is removed by means of the snap ring remover, Grip (B) **[4]**, Ball Spring (A) **[5]**, Steel Ball D7.0 **[9]** (3 pcs.), Ball Holder **[7]**, Ball Spring (B) **[6]** and Grip (C) **[8]** can be removed from the Front Cover **[10]**. (Fig. 12)

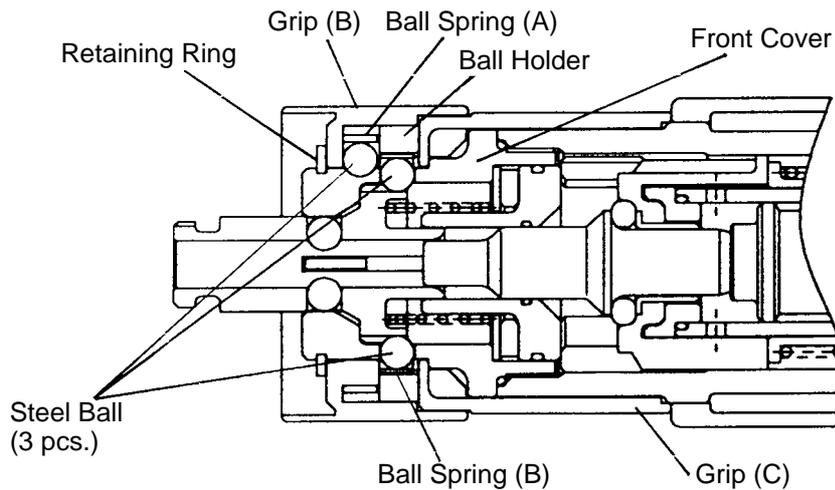


Fig. 12

- Piston and Striker O-rings

After removal of Grip (C) [8], secure the main body. Put the wrench (special repair tool J-123, Code No. 970885) on the width across flat portion of the Front Cover [10] and turn it counterclockwise to remove the Front Cover [10] (Fig. 13).

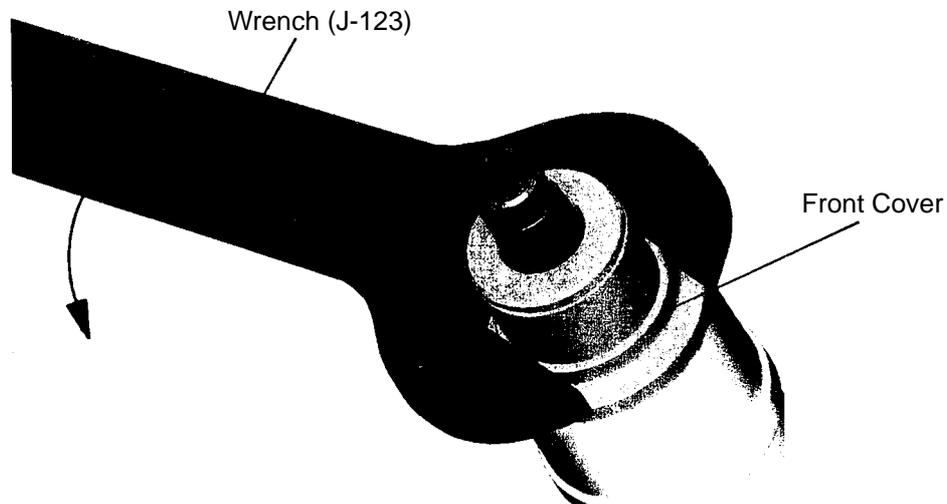


Fig. 13

The Retainer Sleeve [12], Steel Ball D7.0 [9], Spring (A) [13], Washer [14], Damper (A) [15], Hammer Holder (A) [16] and Second Hammer [19] can be removed together with the Front Cover [10]. Remove Damper (B) [20], Hammer Holder (B) [21] and Cylinder Holder [22] from the Cylinder Case [46], and tilt the orifice of the Cylinder Case [46] downward. Then Sleeve (A) [50], Spring (B) [51] and Cylinder [52] come out of the Cylinder Case [46]. If the Cylinder [52] does not come out, slightly tap the orifice of the Cylinder Case [46] with a plastic hammer. Remove the Striker [48] from the Cylinder [52] (Fig. 14).

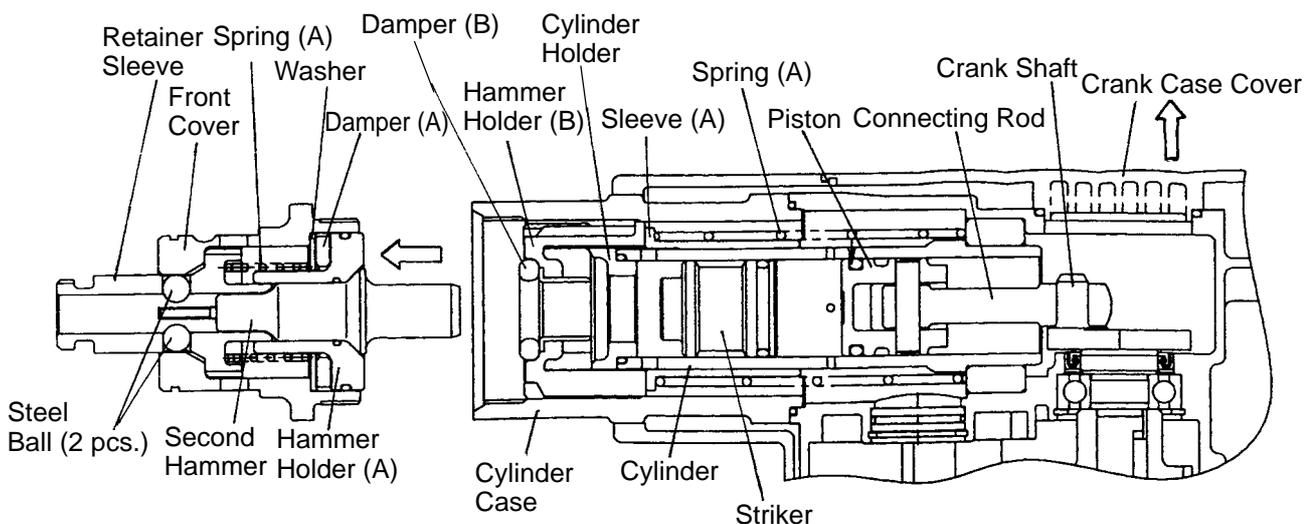
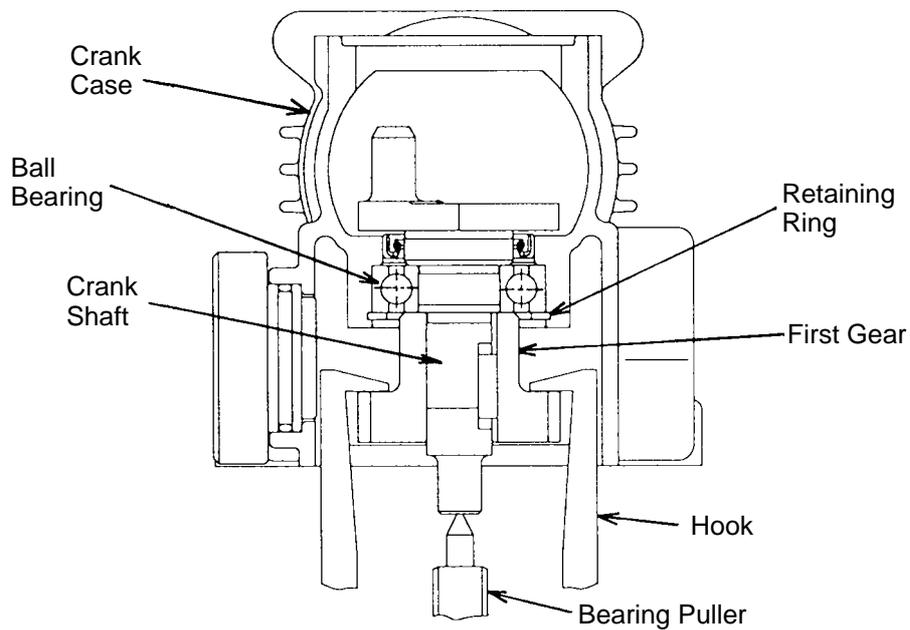


Fig. 14

Remove the four Seal Lock Hex. Socket Hd. Bolts M4 x 10 [30] from the Crank Case Cover [31] and pull the Crank Case Cover [31] upward to remove it. Remove the Connecting Rod [55] from the Crank Shaft [34]. Then the Piston [53] can be removed.

- First gear disassembly

Remove the grease from the First Gear [42] side of the Crank Case Ass'y [35]. Then, use a bearing puller (Special repair tool J-30, Code No. 970804), to remove the First Gear [42]. (Fig. 13)



**Fig. 15**

### 9-1-2. Reassembly

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

- Lubrication

Apply special grease (grease for electric impact drills) to the inner portion of the Connecting Rod [55], the O-Rings [49] of the Striker [48] and the Piston [53], the inside diameter portion of Sleeve (A) [50] and Hammer Holder (A) [16], the sliding portion of the Second Hammer [19], and Oil Seal (B) [39]. Seal 40 g of special grease inside the Crank Case Ass'y [35] (Connecting Rod [55] side). Apply Hitachi Motor Grease No. 29 to the Needle Bearing (HK0810) and the pinion portion of the Armature Ass'y [59]. Insert 50 g of the Hitachi Motor Grease No. 29 into the Crank Case Ass'y [35] (First Gear [42] side).

- Oil seals

Be very careful not to damage the O-Ring [33], O-Rings (I.D 19.2) [49], Oil Seal (B) [39], O-Ring (1AS-50) [47], O-Ring (S-48) [11], O-Ring (S-15) [17] and O-Ring (S-38) [18].

### 9-1-3 Screw locking agent TB1401

Apply screw locking agent TB1401 to all hex. socket hd. bolts M4 and M5, and screw of Front Cover [10] (M48).

Note: If bolts are loosened by vibration, it could cause damage to the hammer. Ensure without fail that screw locking agent is applied to threaded portions prior to assembly.

### 9-1-4. Tightening torque

(1) Hex. socket hd. bolts M4	$4.41^{±0.49}$ N•m ( $45^{±5}$ kgf•cm) ( $39.1^{±4.3}$ in-lbs.)
(2) Hex. socket hd. bolts M5	$4.9^{+1.96}_0$ N•m ( $50^{+20}_0$ kgf•cm) ( $43.4^{+17.4}_0$ in-lbs.)
(3) Tapping screws D4	$1.96^{±0.49}$ N•m ( $20^{±5}$ kgf•cm) ( $17.4^{±4.3}$ in-lbs.)
(4) Tapping screws D5	$2.94^{±0.49}$ N•m ( $30^{±5}$ kgf•cm) ( $26.1^{±4.3}$ in-lbs.)
(5) Housing mounting bolt (M5 x L35)	$3.43^{+1.47}_0$ N•m ( $35^{+15}_0$ kgf•cm) ( $30.5^{+13.1}_0$ in-lbs.)
(6) Screws M5	$2.94^{±0.49}$ N•m ( $30^{±5}$ kgf•cm) ( $26.1^{±4.3}$ in-lbs.)
(7) Screw of front cover (M48 pitch = 1.5)	$147^{±9.8}$ N•m ( $1500^{±100}$ kgf•cm) ( $1305^{±86}$ in-lbs.)

### 9-1-5. Wiring diagram

- For products with noise suppressor

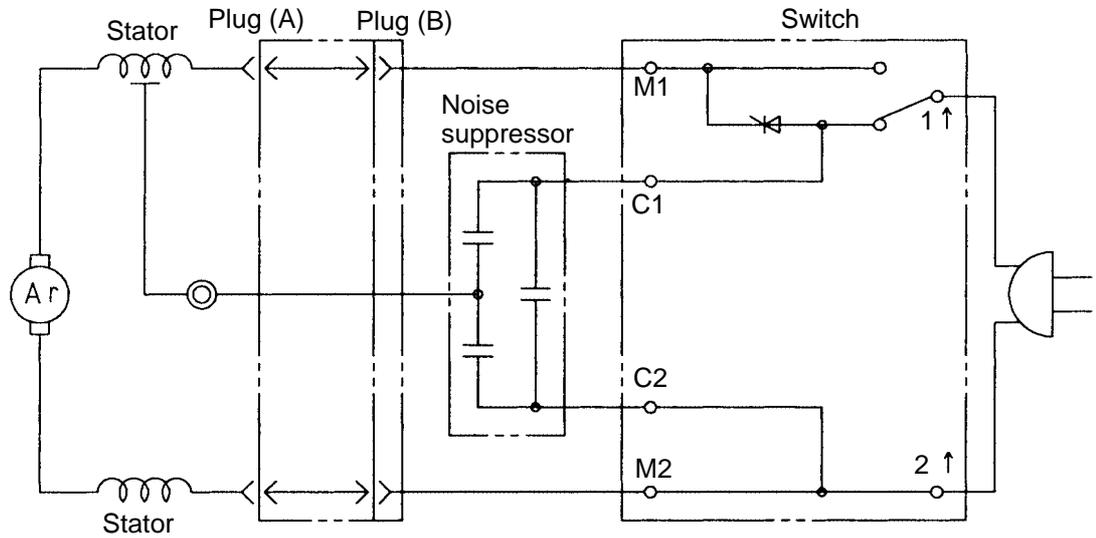


Fig. 16

- For products without noise suppressor

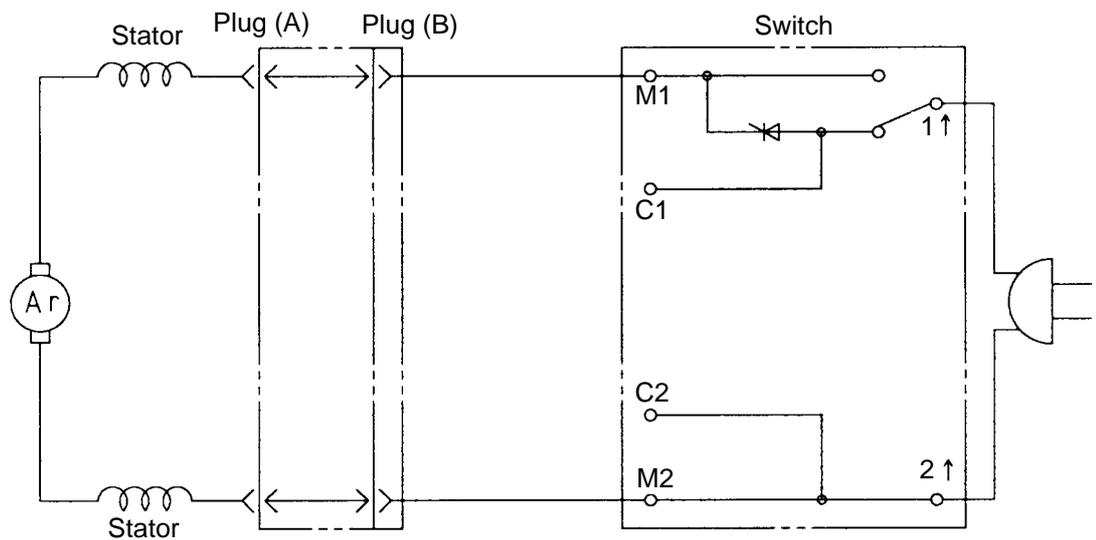
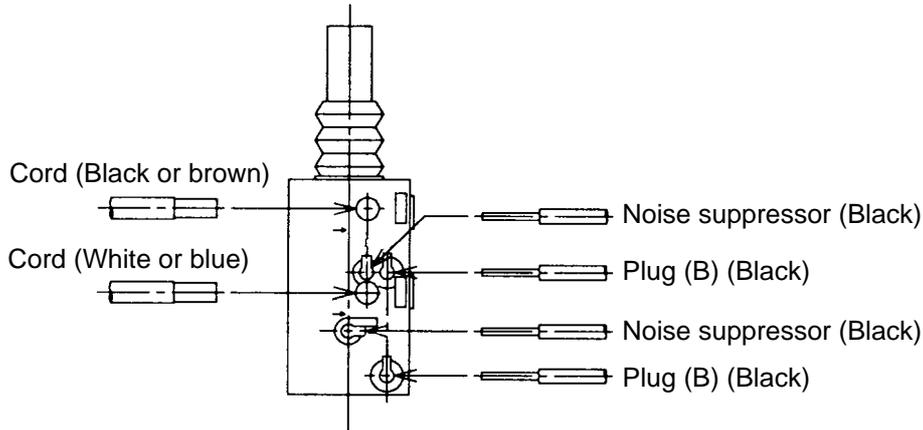


Fig. 17

**9-1-6. Wiring of variable speed control switch**

Insert each cord into the terminal 1† and terminal 2† of the speed control switch as shown in Fig. 18 and tighten the screw [tightening torque:  $0.6 \pm 0.2 \text{ N}\cdot\text{m}$  ( $6 \pm 2 \text{ kg}\cdot\text{cm}$ ,  $5.2 \pm 1.7 \text{ in}\cdot\text{lbs.}$ )]. Insert each lead wire (black) coming from Plug (B) into the terminals M1 and M2. Insert each lead wire (black) coming from the noise suppressor into the terminals C1 and C2. After insertion, pull each lead wire slightly to check the lead wires do not come off. To disconnect the lead wires, insert a small flatblade screwdriver into the slots near the terminals and pull out the lead wires. (Fig. 16)



**Fig. 18**

**9-1-7. Insulation Tests**

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

Insulation resistance:  $7 \text{ M}\Omega$  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 – 127 V (except for U.K. products)

**9-1-8. No-load current values**

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

Voltage (V)	110	120	220	230	240
Current (A) max.	4.2	4.0	2.0	2.0	1.9

### 10. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
H 30PV		Work Flow						
								Housing Ass'y Stator Ass'y
				Switch Cord			Gear Cover Needle Bearing	
			Tail Cover Bearing Bushing (B)				Armature Ass'y Ball Bearing (6001DD) Ball Bearing (608VV) Washer (B) Washer (A)	
			Crank Case Cover O-Ring					
		General Assembly			Handle Plug (A) Plug (B)		Crank Shaft Feather Key (4 x 4 x 12) Ball Bearing (6002DD) Oil Seal (B) First Gear	Crank Case Ass'y
			Front Cap Grip (A) Grip (B) Ball Spring (A) Ball Spring (B) Ball Holder Grip (C)	Front Cover O-Ring (S-48) Retainer Sleeve Spring (A) Washer Damper (A) Hammer Holder O-Ring (S-15) O-Ring (S-38) Second Hammer Damper (B) Hammer Holder (B) Cylinder Holder O-Ring (S-25)				
					Striker O-Ring x 2 Piston Piston Pin Connecting Rod		Cylinder Case Sleeve (A) Spring (B) Cylinder	

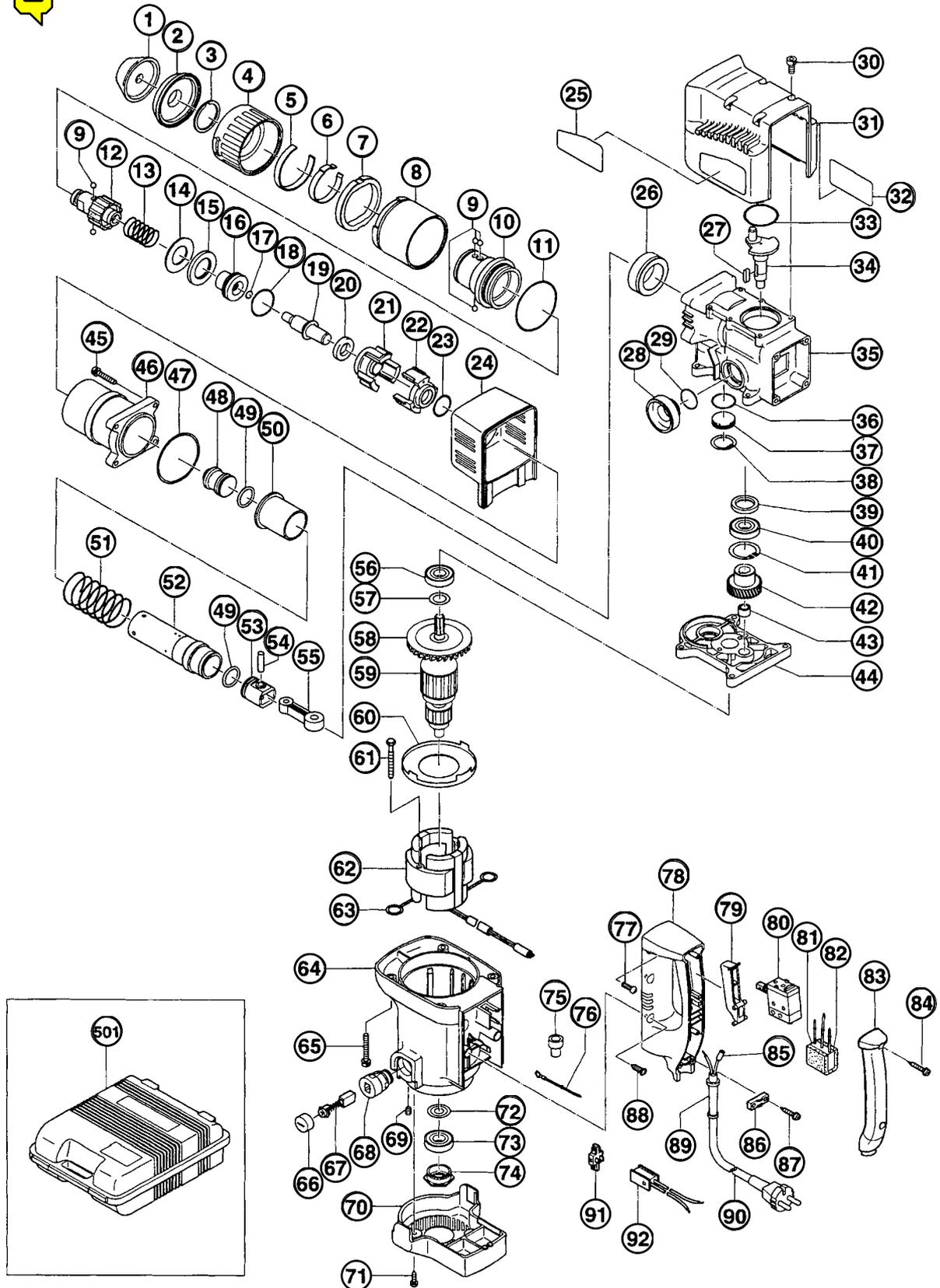
## ELECTRIC TOOL PARTS LIST

### ■ HAMMER

2001 • 1 • 15

Model H 30PV

(E1)



## PARTS

H 30PV

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	319-554	FRONT CAP	1	
2	319-555	GRIP (A)	1	
3	318-582	RETAINING RING D40	1	
4	319-556	GRIP (B)	1	
5	319-560	BALL SPRING (A)	1	
6	319-561	BALL SPRING (B)	1	
7	319-562	BALL HOLDER	1	
8	319-557	GRIP (C)	1	
9	959-156	STEEL BALL D7.0 (10 PCS.)	5	
10	319-559	FRONT COVER	1	
11	980-715	O-RING (S-48)	1	
12	319-558	RETAINER SLEEVE	1	
13	319-563	SPRING (A)	1	
14	319-565	WASHER	1	
15	319-566	DAMPER (A)	1	
16	319-564	HAMMER HOLDER (A)	1	
17	319-567	O-RING (S-15)	1	
18	980-717	O-RING (S-38)	1	
19	319-568	SECOND HAMMER	1	
20	319-569	DAMPER (B)	1	
21	319-571	HAMMER HOLDER (B)	1	
22	319-570	CYLINDER HOLDER	1	
23	319-572	O-RING (S-25)	1	
24	319-574	CYLINDER CASE COVER	1	
25		HITACHI LABEL	1	
26	319-928	SLEEVE (B)	1	
27	931-008	FEATHER KEY 4X4X12	1	
28	319-584	CRANK CASE CAP	1	
29	319-572	O-RING (S-25)	1	
30	878-356	SEAL LOCK HEX. SOCKET HD. BOLT M4X10	4	
31	319-575	CRANK CASE COVER	1	
32		NAME PLATE	1	
33	314-030	O-RING	1	
34	319-586	CRANK SHAFT	1	
35	319-583	CRANK CASE ASS'Y	1	INCLUD.26,28,29,36-38
36	306-353	O-RING (S-22)	1	
37	319-929	BUSHING	1	
38	983-748	RETAINING RING FOR D24 HOLE	1	
39	981-851	OIL SEAL (B)	1	
40	600-2DD	BALL BEARING 6002DDCMPS2L	1	
41	948-001	RETAINING RING FOR D32 HOLE	1	
42	319-588	FIRST GEAR	1	
43	670-714	NEEDLE BEARING (HK0810)	1	
44	319-591	GEAR COVER	1	
45	992-253	HEX. SOCKET HD. BOLT (W/FLANGE) M5X25	4	
46	319-573	CYLINDER CASE	1	
47	990-067	O-RING (1AS-50)	1	
48	319-576	STRIKER	1	
49	319-577	O-RING (I.D 19.2)	2	
50	319-578	SLEEVE (A)	1	
51	319-579	SPRING (B)	1	

\*

\* ALTERNATIVE PARTS

1 - 01

## PARTS

H 30PV

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
52	319-582	CYLINDER	1	
53	319-580	PISTON	1	
54	319-581	PISTON PIN	1	
55	319-585	CONNECTING ROD	1	
56	600-1DD	BALL BEARING 6001DDCMPS2L	1	
57	971-736	WASHER (B)	1	
58	319-930	FAN	1	
* 59	360-550U	ARMATURE ASS'Y 110V-115V	1	INCLUD.56-58,72,73
* 59	360-550E	ARMATURE ASS'Y 220V-230V	1	INCLUD.58
* 59	360-550F	ARMATURE ASS'Y 240V	1	INCLUD.58
60	980-931	FAN GUIDE	1	
61	992-509	HEX. HD. TAPPING SCREW D5X45	2	
* 62	340-498C	STATOR ASS'Y 110V	1	INCLUD.63
* 62	340-498G	STATOR ASS'Y 115V	1	INCLUD.63
* 62	340-498E	STATOR ASS'Y 220V-230V	1	INCLUD.63
* 62	340-498F	STATOR ASS'Y 240V	1	INCLUD.63
63	930-703	BRUSH TERMINAL	2	
64	319-590	HOUSING ASS'Y	1	INCLUD.68,69
65	319-589	HEX. SOCKET HD. BOLT (W/FLANGE) M5X35	4	
66	945-161	BRUSH CAP	2	
* 67	999-073	CARBON BRUSH (AUTO STOP TYPE) (1 PAIR)	2	
* 67	999-043	CARBON BRUSH (1 PAIR)	2	FOR TPE
68	958-900	BRUSH HOLDER	2	
69	938-477	HEX. SOCKET SET SCREW M5X8	2	
70	319-587	TAIL COVER	1	
71	307-811	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	2	
72	982-631	WASHER (A)	1	
73	608-VVM	BALL BEARING 608VVC2PS2L	1	
74	310-111	BEARING BUSHING (B)	1	
75	959-140	CONNECTOR 50091 (10 PCS.)	1	
76	981-500	INTERNAL WIRE	1	
77	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	4	
78	319-597	HANDLE	1	
79	319-594	TRIGGER	1	
* 80	319-592	SWITCH (B) (2P PILLAR TYPE) W/O LOCK	1	
* 80	319-593	SWITCH (A) (2P PILLAR TYPE) W/O LOCK	1	FOR TPE,GBR (110V),USA,CAN
* 81	994-273	NOISE SUPPRESSOR	1	EXCEPT FOR USA,CAN
* 82	317-492	SUPPORT (B)	1	EXCEPT FOR USA,CAN
83	319-598	HANDLE COVER	1	
84	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	2	
* 85	981-373	TUBE (D)	2	FOR CORD
86	937-631	CORD CLIP	1	
87	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	
88	305-558	TAPPING SCREW (W/FLANGE) D5X25 (BLACK)	2	
* 89	953-327	CORD ARMOR D8.8	1	
* 89	938-051	CORD ARMOR D10.1	1	
* 90	500-424Z	CORD	1	(CORD ARMOR D8.8) FOR SIN
* 90	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR AUS
* 90	500-446Z	CORD	1	(CORD ARMOR D10.1) FOR HKG,GBR (230V)
* 90	500-465Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (110V)
* 90	500-390Z	CORD	1	(CORD ARMOR D8.8)



