

Hitachi Power Tools

SERVICE MANUAL

LIST No.
DH 28PC: F408
Dec. 2009

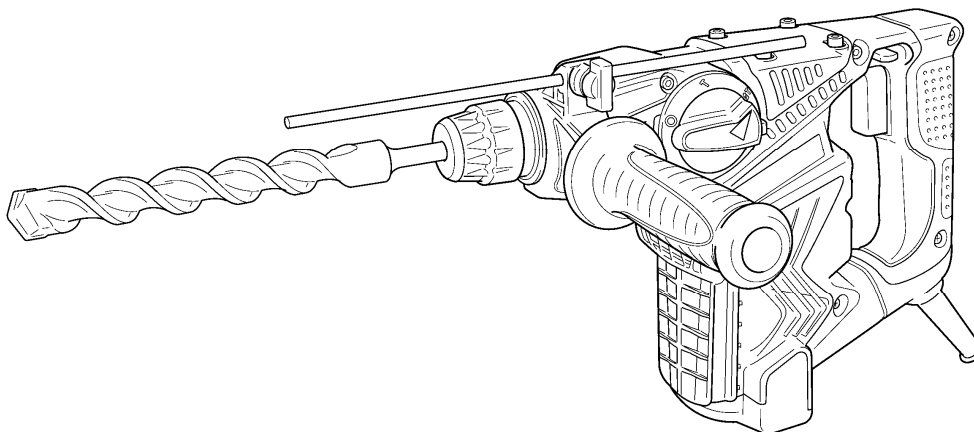
PRODUCT NAME

Hitachi Rotary Hammer

Model DH 28PC

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HITACHI

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

REPAIR GUIDE

Be sure to disconnect the power cord plug from the wall outlet before conducting repair. Otherwise, the motor may suddenly run, posing a very dangerous situation.

1. Precautions on Disassembly and Reassembly

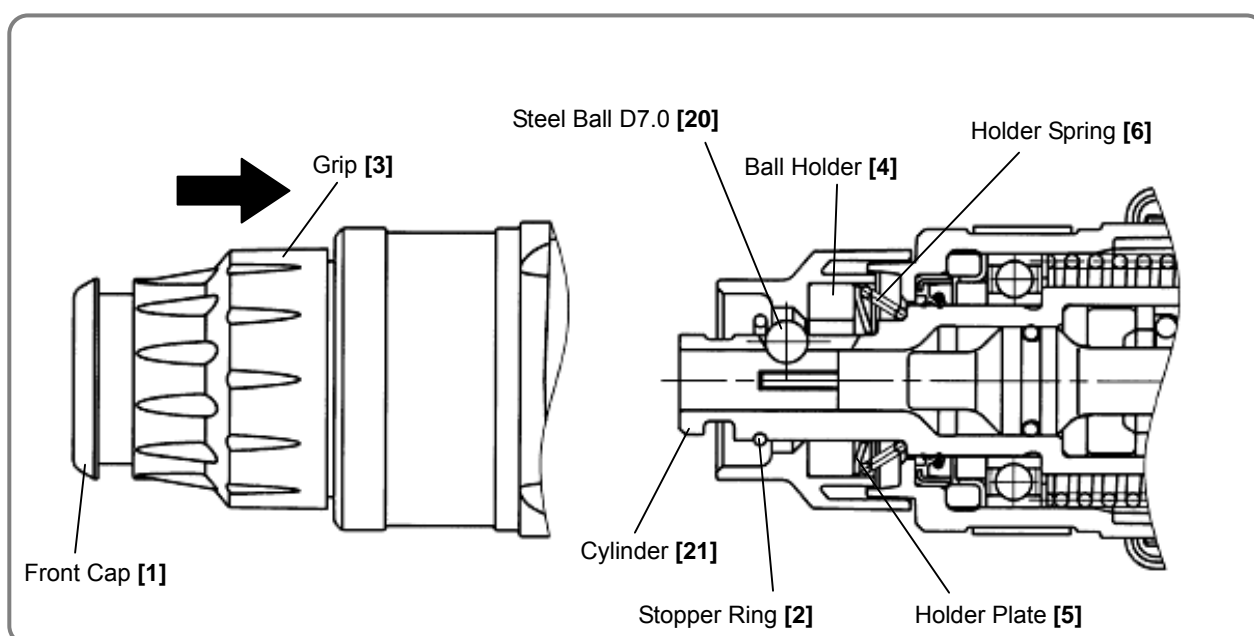
The **[Bold]** numbers in the descriptions below correspond to item numbers in the parts list and exploded view assembly diagram for the Model DH 28PC.

Disassembly

1. Disassembly of the tool retainer

Fully pull Grip **[3]** in the arrow direction and remove Front Cap **[1]**. Forcefully pull Front Cap **[1]** to remove it from Cylinder **[21]**.

Then remove Stopper Ring **[2]** by using the stopper ring puller while pulling Grip **[3]**. You can then remove Grip **[3]**, Ball Holder **[4]**, Steel Ball D7.0 **[20]**, Holder Plate **[5]**, and Holder Spring **[6]** from Cylinder **[21]**.



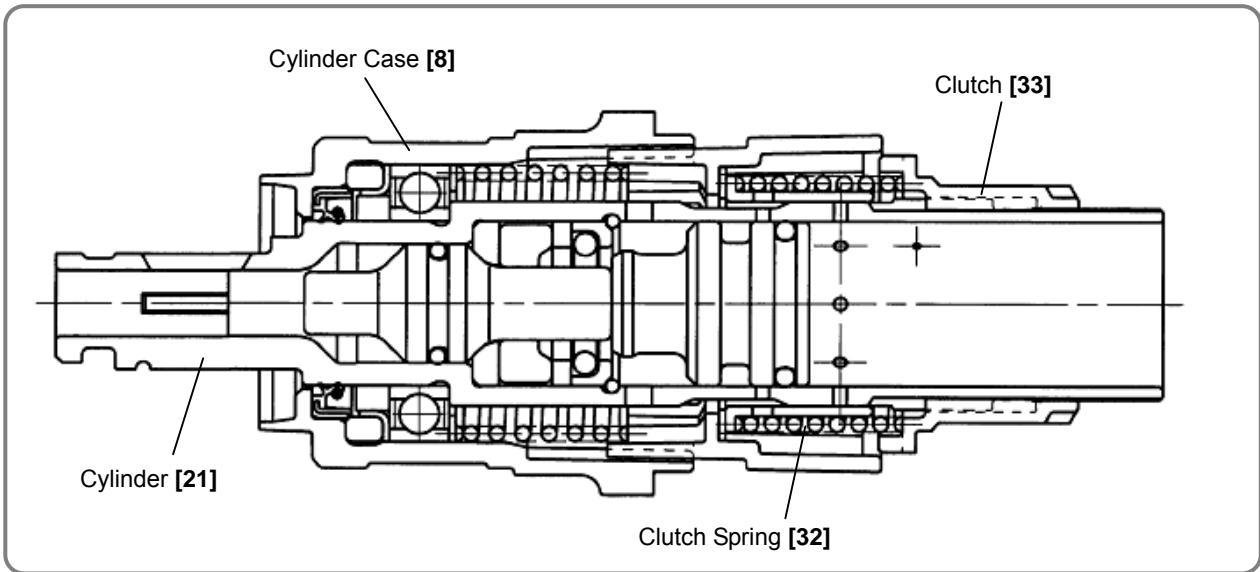
2. Disassembly of the hammering mechanism

(a) Cylinder Case and Cylinder

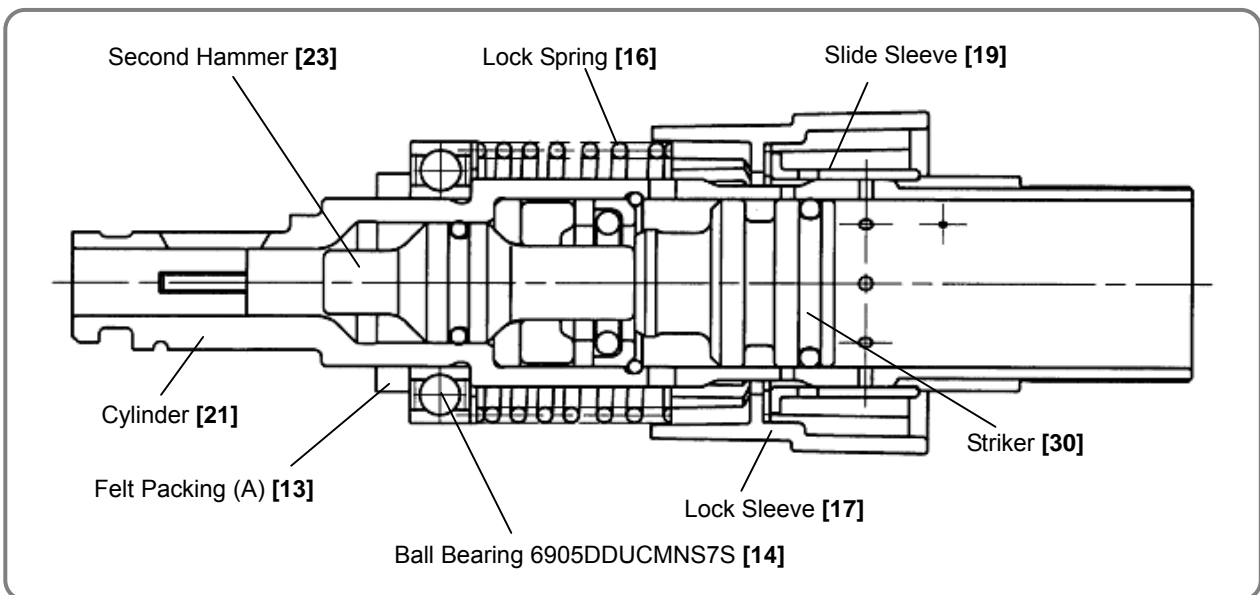
First, remove Seal Lock Hex. Socket Hd. Bolt M4 x 12 **[57]** from Change Lever **[58]**, and then demount Change Lever **[58]** and Lever Holder **[59]**. Remove Hex. Socket Hd. Bolt (W/Flange) M4 x 10 **[43]**, Hex. Socket Hd. Bolt (W/Flange) M5 x 16 **[98]**, Tapping Screw (W/Flange) D5 X 20 (Black) **[78]**, and Tapping Screw (W/Flange) D4 X 25 (Black) **[44]**. Remove Handle (A). (B) Set **[40]** from Crank Case **[104]** and Housing Ass'y **[74]**.

Then remove Tapping Screw (W/Flange) D4 X 16 (Black) **[82]**. Remove Tail Cover **[81]** from Housing Ass'y **[74]**. Remove Hex. Socket Hd. Bolt (W/Flange) M5 x 16 **[98]** from Crank Cover **[99]**, and then demount Crank Cover **[99]** and Rubber Seal **[102]** from Crank Case **[104]**. Remove Retaining Ring For D35 Hole **[60]** by using stopper ring puller and demount Lever Shaft **[61]**.

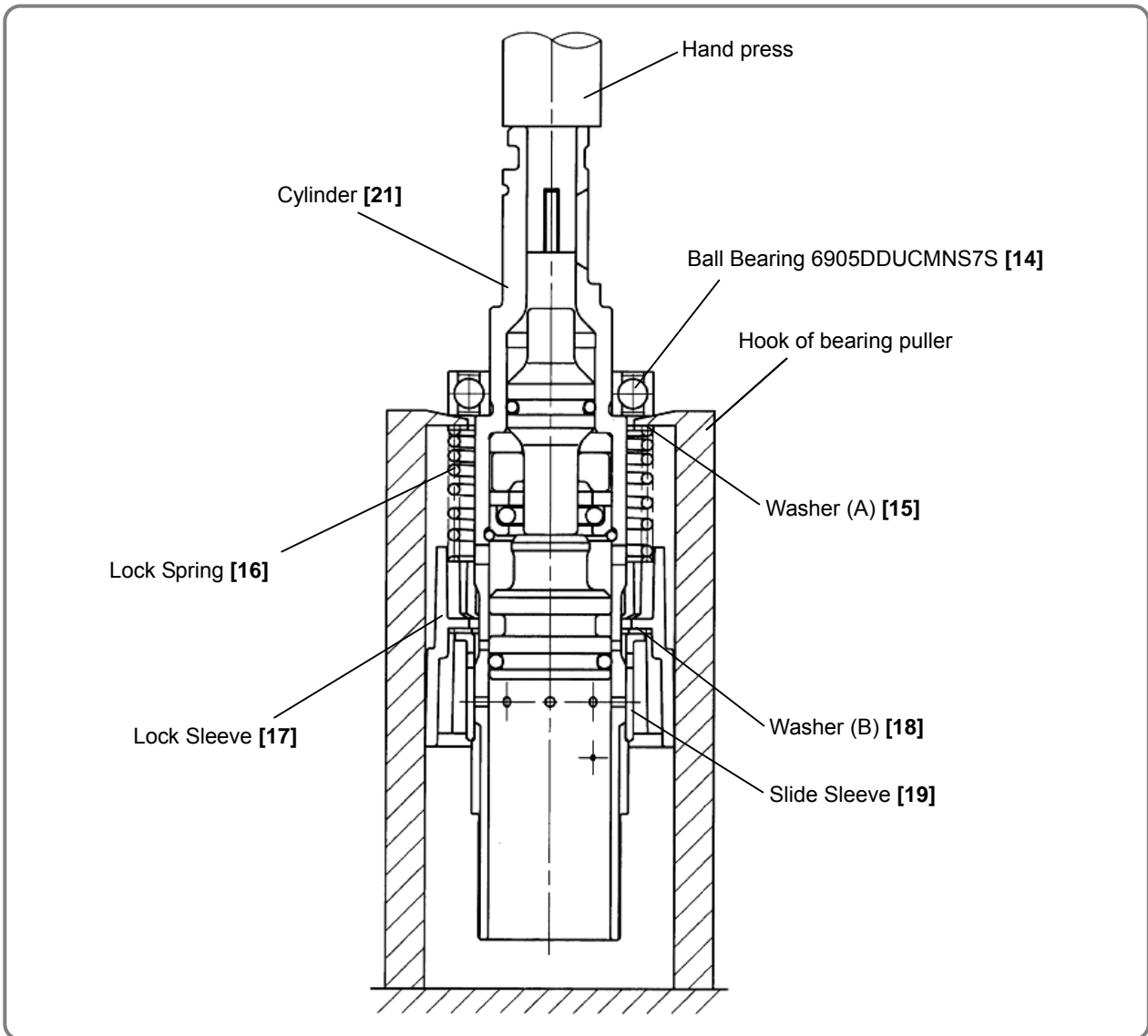
Remove Seal Lock Hex. Socket Hd. Bolt M6 x 20 [7] from Cylinder Case [8] and then separate Cylinder Case [8], Cylinder [21], and other assembly parts from Crank Case [104]. Demount Clutch [33] and Clutch Spring [32] from the assembly parts.



Push out Cylinder [21] from the front end. You can then separate the assembly parts (Cylinder [21], Second Hammer [23], Striker [30], Slide Sleeve [19], Lock Sleeve [17], Lock Spring [16], Ball Bearing 6905DDUCMNS7S [14], etc.) from Cylinder Case [8].

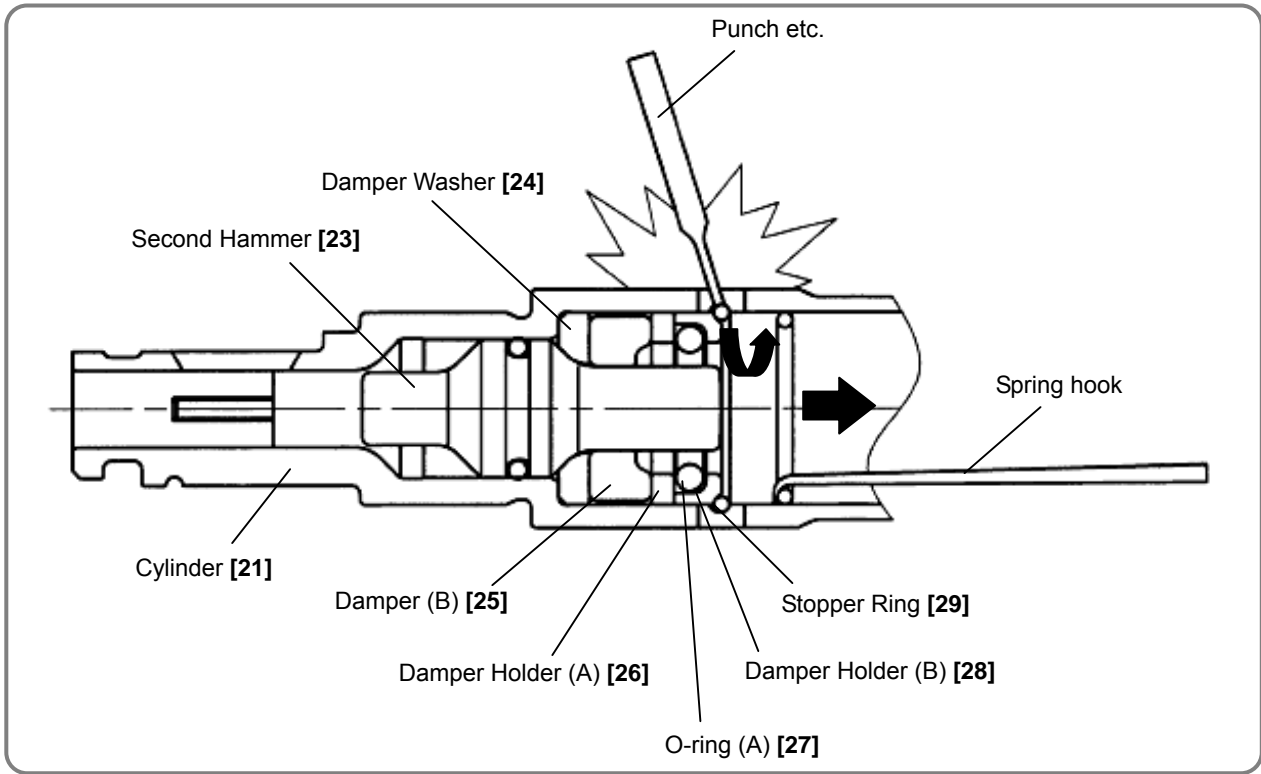


Remove Felt Packing (A) [13] from the assembly parts and insert the tip of the bearing puller's hook into the space between Ball Bearing 6905DDUCMNS7S [14] and Washer (A) [15]. In this state, stand Cylinder [21] upright, then use a hand press to push the end face of Cylinder [21] and then demount Ball Bearing 6905DDUCMNS7S [14]. You can then separate Washer (A) [15], Lock Spring [16], Lock Sleeve [17], Washer (B) [18], and Slide Sleeve [19]. Cylinder [21] and other parts may pop up under spring pressure when you demount Ball Bearing 6905DDUCMNS7S [14]. Therefore, be very careful.



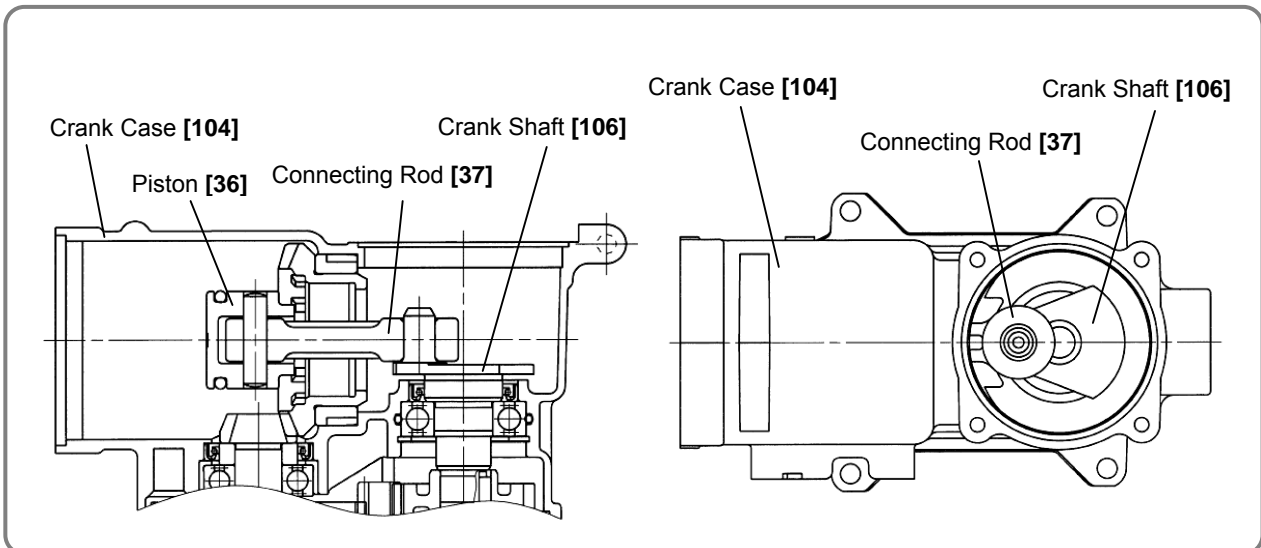
(b) Components in the Cylinder

Remove Striker [30] from inside of separated Cylinder [21]. Then insert a punch (or thin but rigid material) into the inspection hole of Cylinder [21], hammer Stopper Ring [29] to move it from the groove in Cylinder [21] in the arrow direction. Use a spring hook (J201, No.970977) to pull out Stopper Ring [29] from the groove in the arrow direction. You can then remove Damper Holder (B) [28], Damper Holder (A) [26], O-ring (A) [27], Damper (B) [25], Damper Washer [24], and Second Hammer [23] from Cylinder [21].



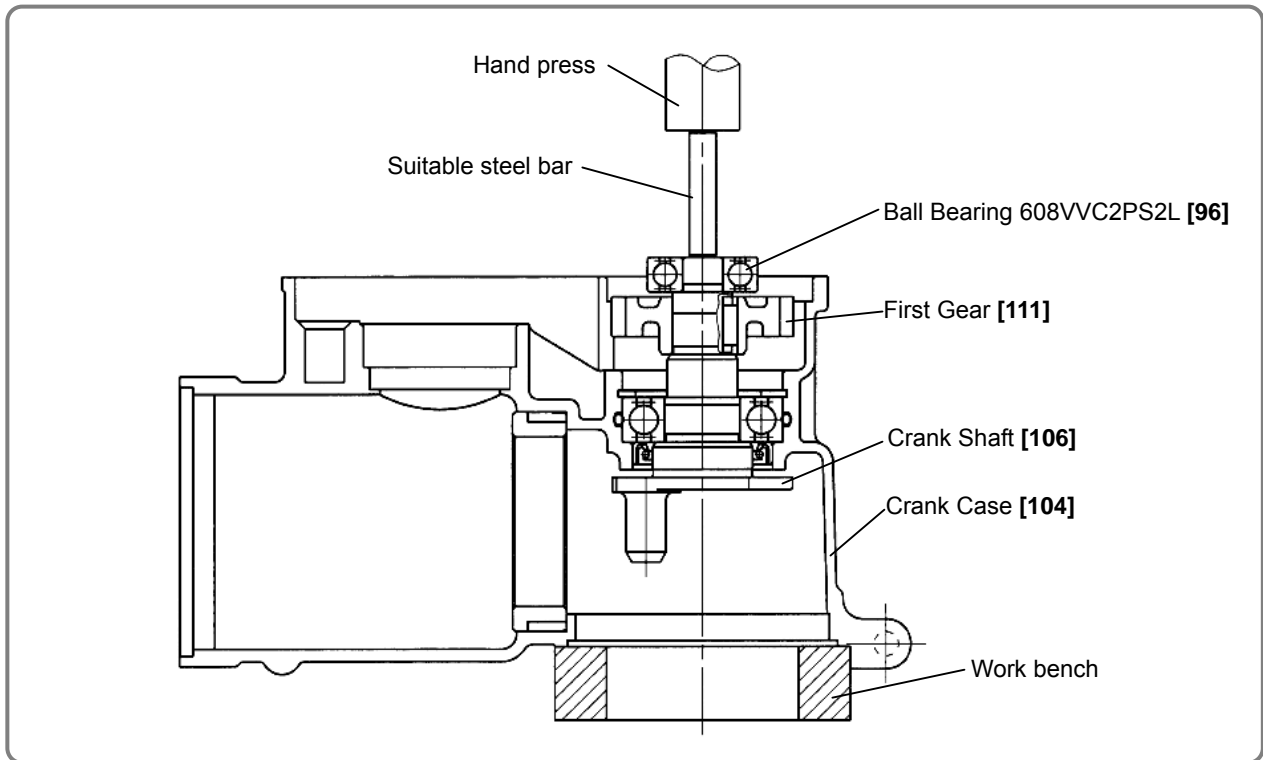
(c) Piston

Piston [36] remains in Crank Case [104]. Turn Crank Shaft [106], move Piston [36] toward the lower dead end, then remove Connecting Rod [37] from Crank Shaft [106] and remove the piston assembly.



(d) First Gear and Crank Shaft

Remove Seal Lock Hex. Socket Hd. Bolt M5 x 40 [103] from Crank Case [104], and then separate Crank Case [104] from Gear Cover [97]. Place Crank Case [104] on an adequate tool rest with its Connecting Rod [37] side facing downward, then use an adequate steel rod and a hand press to push the end of Crank Shaft [106]. Crank Shaft [106], First Gear [111], and Ball Bearing 608VVC2PS2L [96] then come off.



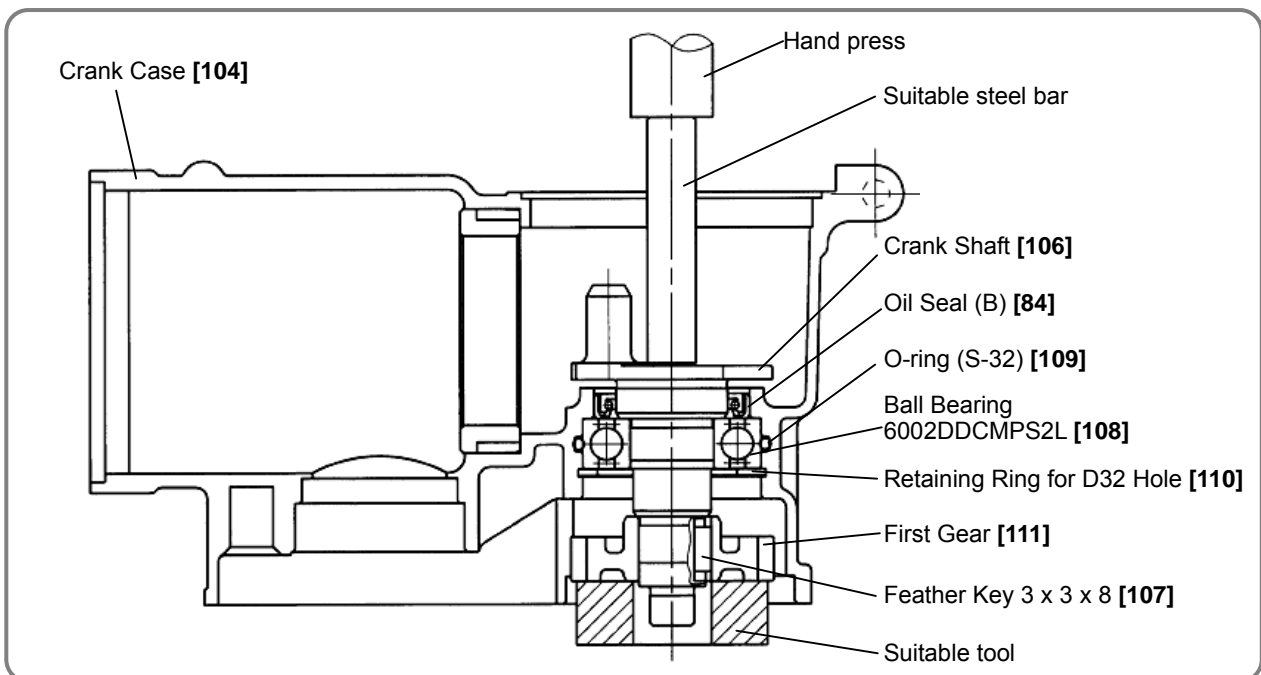
Reassembly

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

1. Reassembly of the hammering mechanism

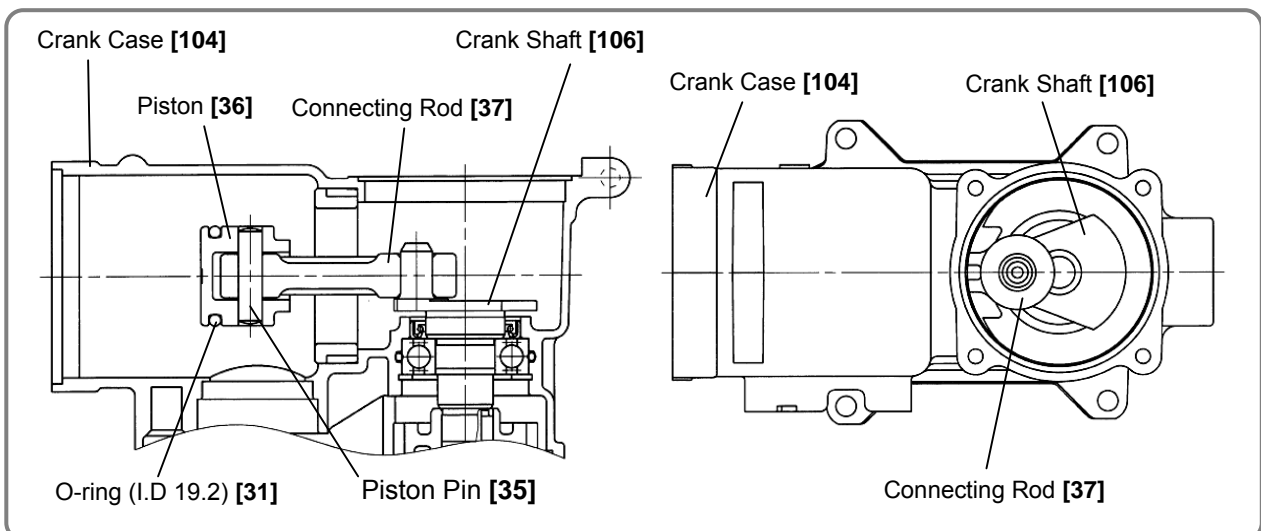
(a) First Gear and Crank Shaft

Press-fit Oil Seal (B) [84] into Crank Case [104], mount O-ring (S-32) [109], fit Ball Bearing 6002DDCMPS2L [108], and mount Retaining Ring for D32 Hole [110] by using the stopper ring puller. Use the hand press to press-fit Crank Shaft [106] into Ball Bearing 6002DDCMPS2L [108]. Then fit Feather Key 3 x 3 x 8 [107] into the groove of Crank Shaft [106], support the flat face of Crank Shaft [106] on an adequate steel rod, and then use an adequate tool to press-fit First Gear [111]. Confirm that Feather Key 3 x 3 x 8 [107] is firmly seated in the key groove of First Gear [111] before press-fitting. Be sure to support the flat surface of Crank Shaft [106] with the steel rod since the abutting surface has steps.



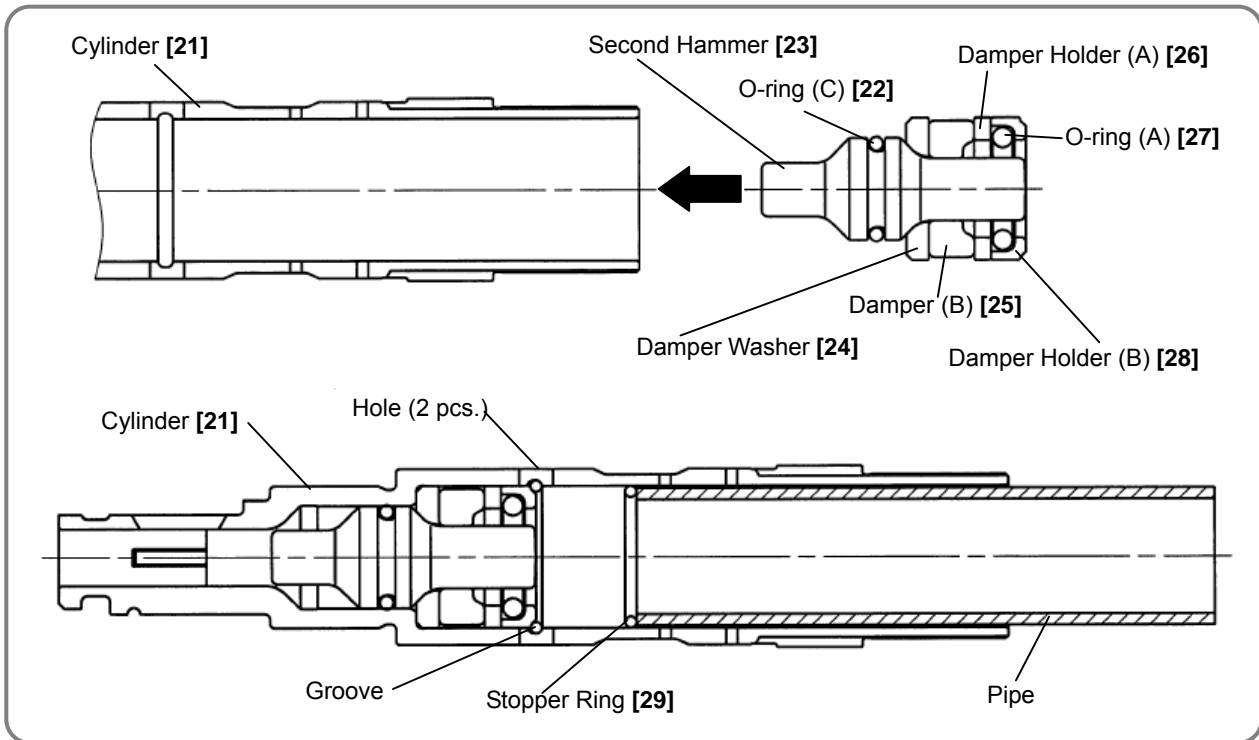
(b) Piston

Remount O-ring (I.D 19.2) [31] on Piston [36], apply a small amount of power tool grease No.29 to Piston Pin [35], and then insert Piston Pin [35] into Piston [36] and Connecting Rod [37]. Then move Crank Shaft [106] toward the lower dead end, insert the piston assembly from the cylinder case side of Crank Case [104], and mount it on Crank Shaft [106].



(C) Components in the Cylinder

Mount O-ring (C) [22] on Second Hammer [23], bundle Second Hammer [23], Damper Washer [24], Damper (B) [25], Damper Holder (A) [26], O-ring (A) [27], and Damper Holder (B) [28] as one unit, and then insert the unit into Cylinder [21] that is laid flat. Then push it further until it stops. Reassemble Damper Washer [24] with the round inner diameter surface aligned with the round surface of Second Hammer [23]. Do not reverse the assembling direction of Damper (B) [25]. Insert Stopper Ring [29] into Cylinder [21] and use an adequate pipe to push it into the cylinder groove. Confirm that Stopper Ring [29] is firmly seated in the groove by looking through the two inspection holes on Cylinder [21]. Then insert Striker [30] with O-ring (I.D 19.2) [31] into Cylinder [21].



(d) Cylinder, Cylinder Case and Crank Case

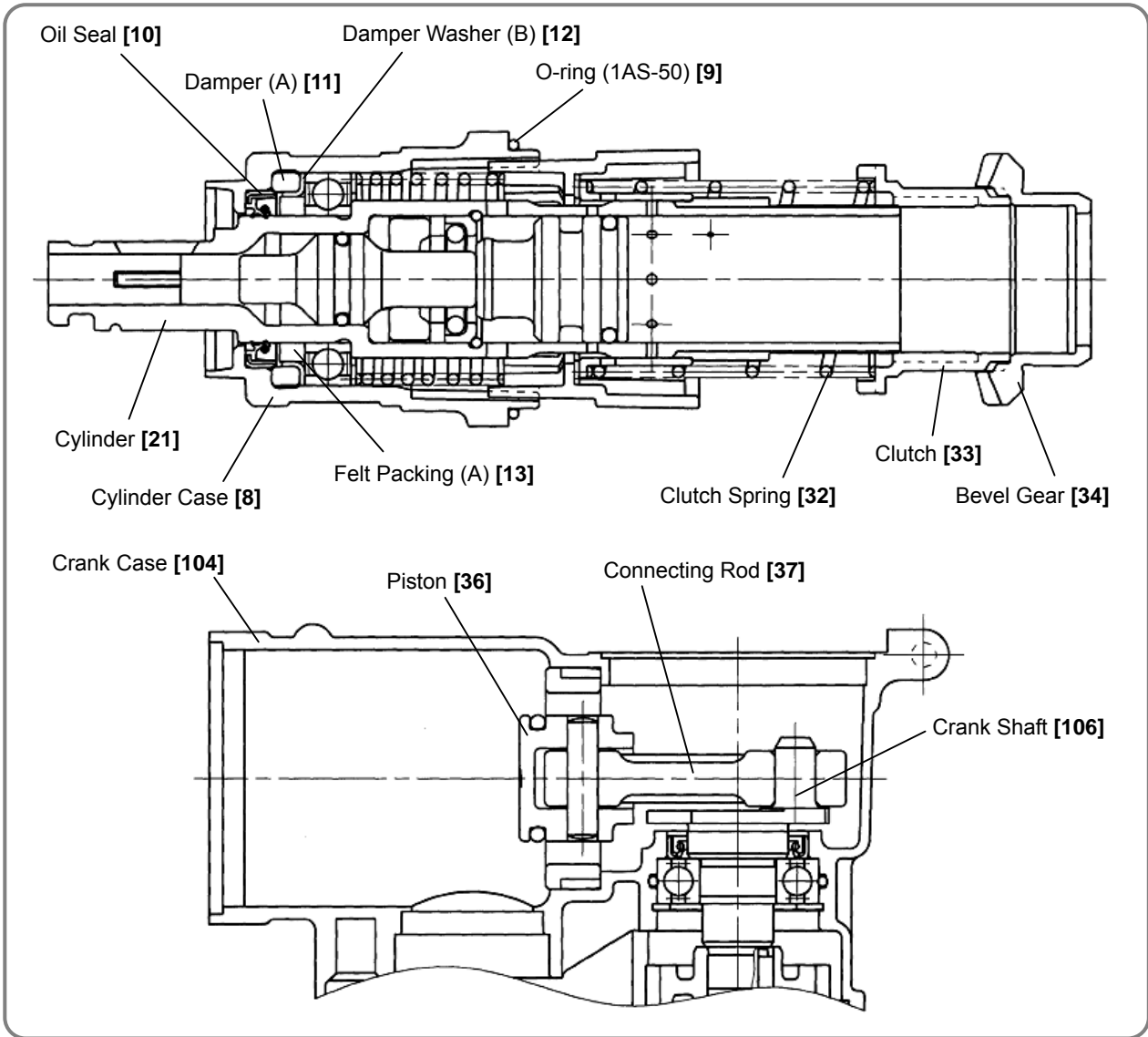
Fit Slide Sleeve [19], Washer (B) [18], Lock Sleeve [17], Lock Spring [16], and Washer (A) [15] to the periphery of Cylinder [21]. Fit these parts to Cylinder [21] so that Ball Bearing 6905DDUCMNS7S [14] does not come off, and then fully press-fit Ball Bearing 6905DDUCMNS7S [14] to Cylinder [21] until it stops.

If Ball Bearing 6905DDUCMNS7S [14] is not firmly fitted to Cylinder [21], Ball Bearing 6905DDUCMNS7S [14] may pop up under the spring pressure of Lock Spring [16]. Therefore, be sure to firmly push Ball Bearing 6905DDUCMNS7S [14]. Then fit Felt Packing (A) [13] to the periphery of Cylinder [21].

Reassemble Oil Seal [10], Damper (A) [11], Damper Washer (B) [12], O-ring (1AS-50) [9] in Cylinder Case [8], and then insert the cylinder assembly into Cylinder Case [8]. In this case, align the depressed portion in the inner periphery of Cylinder Case [8] with the projected portion in the periphery of Lock Sleeve [17] when inserting the cylinder assembly.

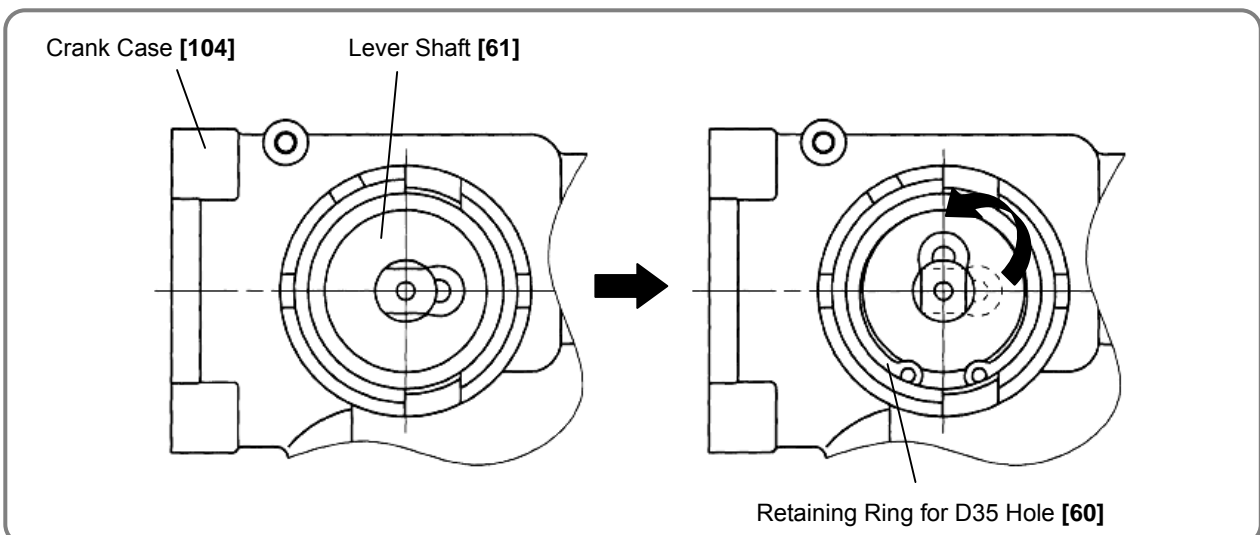
Reassemble Clutch Spring [32], Clutch [33], and Bevel Gear [34] from the rear end of Cylinder [21], and then couple Cylinder Case [8] with Crank Case [104]. Align the projected portion in the inner periphery of Clutch [33] with the groove in the periphery of Cylinder [21] during assembly.

For easy coupling of Cylinder Case [8] with Crank Case [104], rotate Crank Shaft [106] to move Piston [36] toward the upper dead end, and then insert Piston [36] into Cylinder [21] in this state.



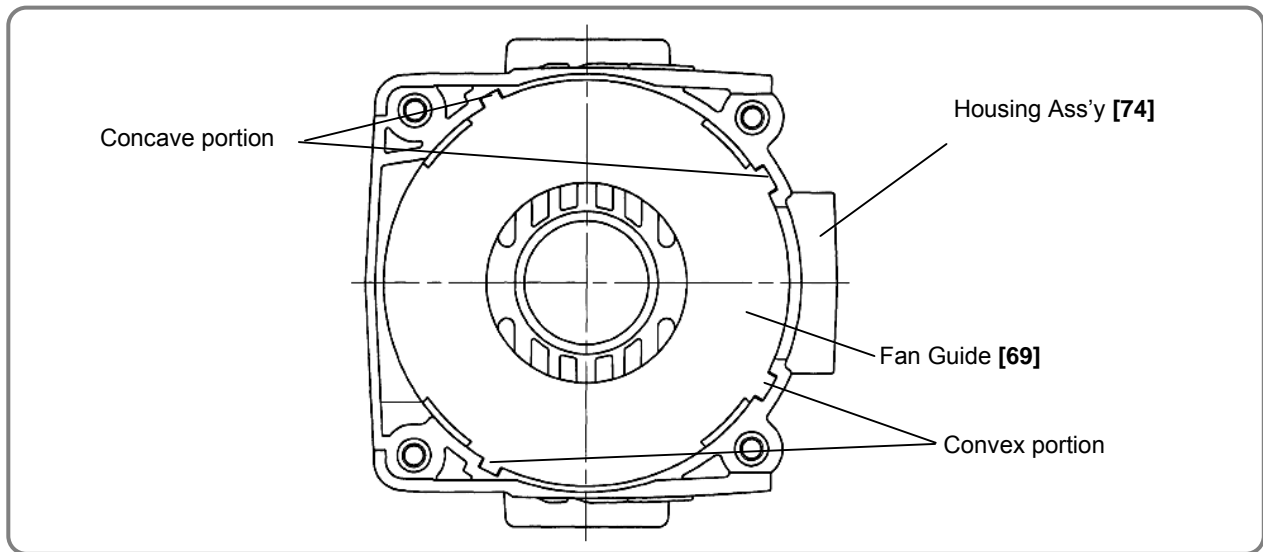
(e) Change Lever

Fit O-ring [62] to Crank Case [104] and insert Lever Shaft [61] as shown in the figure. Use the stopper ring puller to remount Retaining Ring for D35 Hole [60], then rotate Lever Shaft [61] by 90 degrees as shown in the figure ("Rotation + hammering" position). Use Change Lever [58] for easy rotation of Lever Shaft [61]. Reassemble Lever Holder [59] and then insert Change Lever [58] along with Lever Spring [64], Pushing Button [65], and Pin D2 x 10 [63] at the "Rotation + hammering" position. Press Pushing Button [65] of Change Lever [58] and confirm that Pin D2 x 10 [63] of Change Lever [58] is firmly seated in the groove of Lever Holder [59]. Then tighten Seal Lock Hex. Socket Hd. Bolt M4 x 12 [57].



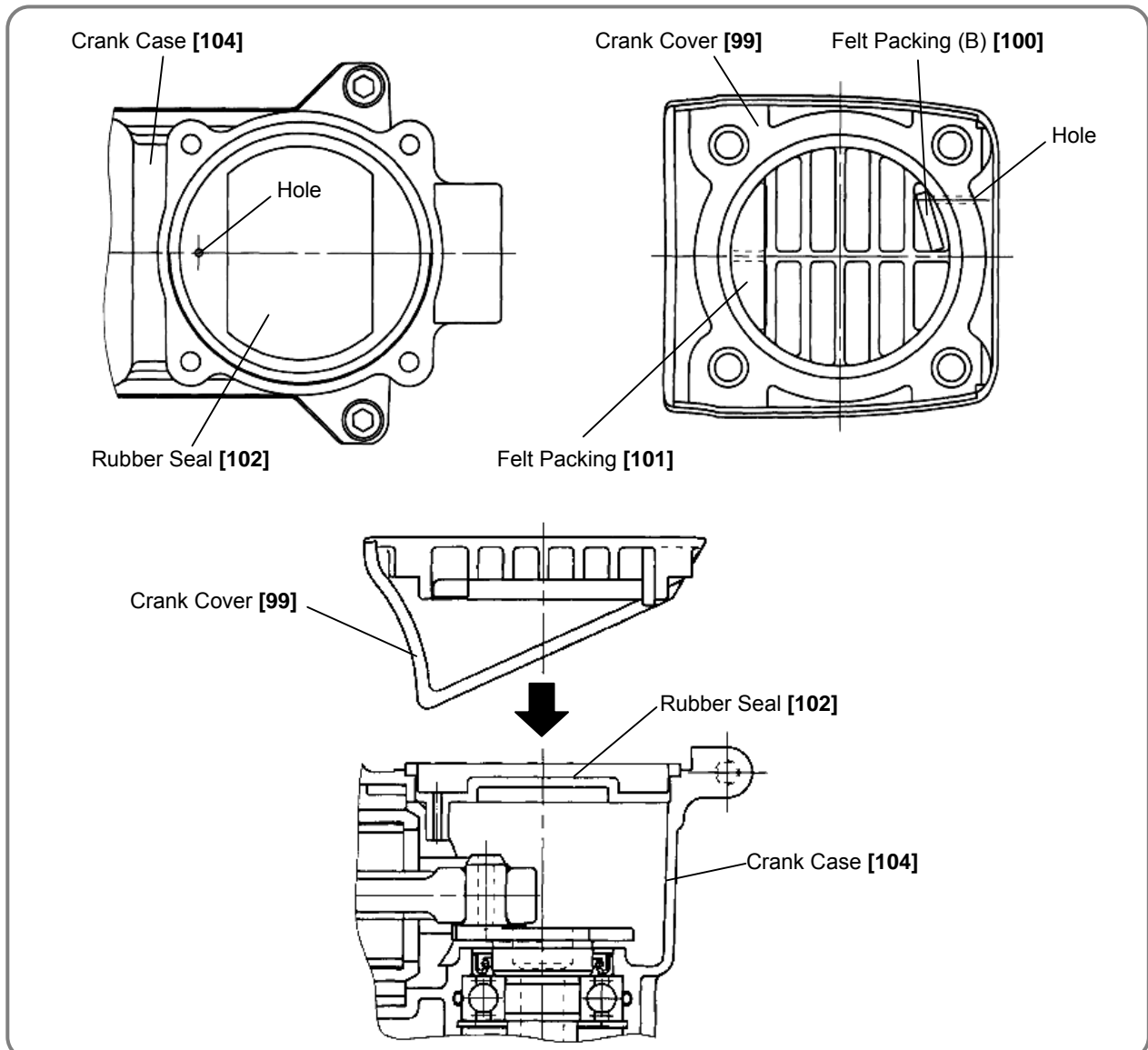
(f) Fan Guide

Assemble Fan Guide [69] into Housing Ass'y [74] with the projected portion of Fan Guide [69] aligned with the depressed portion of Housing Ass'y [74].



(g) Crank Cover

Firmly reassemble Rubber Seal [102] in Crank Case [104] in the direction shown below. Reassemble Crank Cover [99] along with Felt Packing [101] and Felt Packing (B) [100] inside Crank Case [104]. Tighten Hex. Socket Hd. Bolt (W/Flange) M5 x 16 [98].



(h) Oil Seal and O-ring

Carefully handle all oil rings and seals (Cylinder Case [8] Oil Seal [10], O-ring (1AS-50) [9], Oil Seal (B) [84] and O-ring (S-32) [109] of Crank Case [104], Second Hammer [23] O-ring (C) [22], O-rings (I.D 19.2) [31] of Piston [36] and Striker [30], O-ring (A) [27], lever shaft O-ring [62], Rubber Seal [102])) so as not to damage any of these parts.

2. Application of lubricant

- Filling Hitachi Motor Grease No. 29
Apply 15 g of grease to Crank Case [104] and Gear Cover [97] for lubricating the gears.
- Application of Hitachi Motor Grease No. 29
Apply grease to Armature [68] pinion, Steel Ball D7.0 [20], and O-ring [62].
- Filling special grease (for the hammer and hammer drill)
Apply 25 g of grease to the Connecting Rod [37] side of Crank Case [104], and 5 g of grease to the Cylinder [21] side.
- Application of special grease (for the hammer and hammer drill)
Apply special grease to the inner diameter lip portions of Oil Seal (B) [84] and Oil Seal [10], the inner diameter portion of Connecting Rod [37], the outer diameter portions of Piston [36], O-ring [62], Damper (A) [11], O-ring (C) [22], Damper (B) [25], O-ring (A) [27], O-ring [62], the outer diameter portion of Lock Sleeve [17], the slide portions of Second Hammer [23] and Striker [30], the inner diameter portions of Slide Sleeve [19] and Clutch [33], and both the inner and outer diameter portions of Bevel Gear [34].

3. Tightening torque

Apply screw locking agent TB1401 to all hex. socket head bolts M4, M5 and M6.

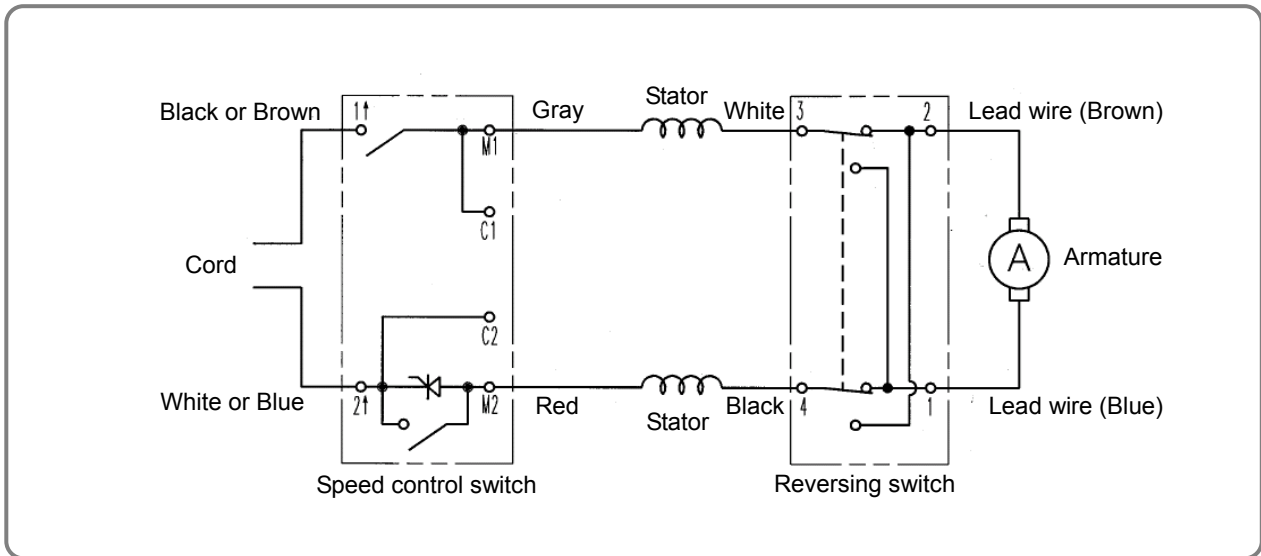
NOTE:

Be sure to apply screw locking agent (Three Bond TB1401) to the threads during reassembly. Otherwise, any bolts becoming loose due to vibration may damage the tool body.

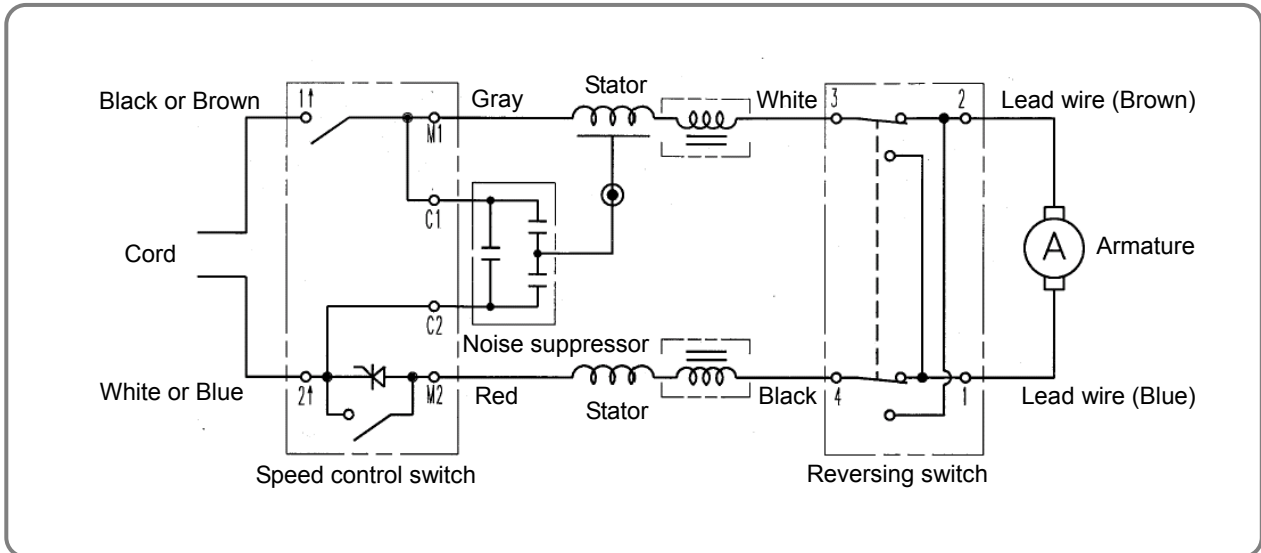
M6	• Seal Lock Hex. Socket Hd. Bolt M6 x 20 [7] (For mounting the cylinder case) -----	$9.80^{+1.96}_0 \text{ N}\cdot\text{m} (100^{+20}_0 \text{ kgf}\cdot\text{cm})$
M5	• Seal Lock Hex. Socket Hd. Bolt M5 x 40 [103] (For mounting the crank case) -----	$7.84^{+1.96}_0 \text{ N}\cdot\text{m} (80^{+20}_0 \text{ kgf}\cdot\text{cm})$
	• Hex. Socket Hd. Bolt (W/Flange) M5 x 16 [98] (For mounting the crank cover) -----	$7.84^{+1.96}_0 \text{ N}\cdot\text{m} (80^{+20}_0 \text{ kgf}\cdot\text{cm})$
	• Hex. Socket Hd. Bolt (W/Flange) M5 x 16 [98] (For mounting the handle) -----	$3.92 \pm 0.49 \text{ N}\cdot\text{m} (40 \pm 5 \text{ kgf}\cdot\text{cm})$
M4	• Hex. Socket Hd. Bolt (W/Flange) M4 x 10 [43] (For mounting the handle) -----	$1.96 \pm 0.49 \text{ N}\cdot\text{m} (20 \pm 5 \text{ kgf}\cdot\text{cm})$
	• Seal Lock Hex. Socket Hd. Bolt M4 x 12 [57] (For mounting the change lever) -----	$1.47 \pm 0.49 \text{ N}\cdot\text{m} (15 \pm 5 \text{ kgf}\cdot\text{cm})$
	• Hex. Hd. Tapping Screw D5 x 40 [72] -----	$2.94 \pm 0.49 \text{ N}\cdot\text{m} (30 \pm 5 \text{ kgf}\cdot\text{cm})$
	• Tapping Screw (W/Flange) D5 x 20 [78] -----	$2.94 \pm 0.49 \text{ N}\cdot\text{m} (30 \pm 5 \text{ kgf}\cdot\text{cm})$
	• Tapping Screw (W/Flange) D4 [44] [47] [82]-----	$1.96 \pm 0.49 \text{ N}\cdot\text{m} (20 \pm 5 \text{ kgf}\cdot\text{cm})$

4. Internal wiring

(1) Wiring diagram for products without a noise suppressor



(2) Wiring diagram for products with a noise suppressor



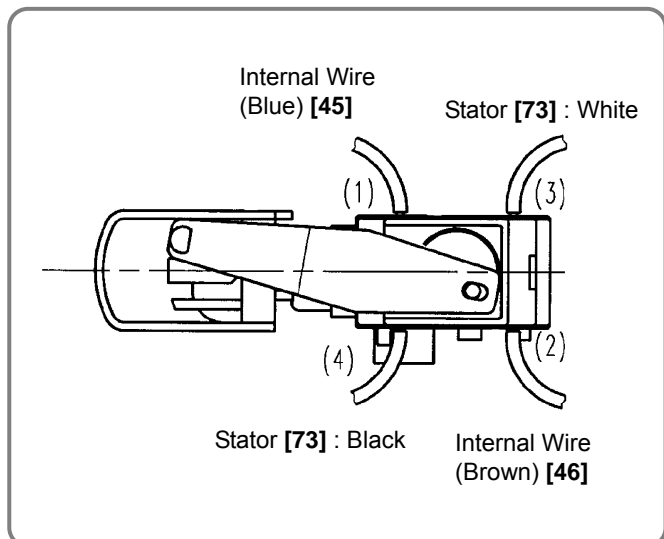
5. Wiring around switches

(1) Wiring of the reversing switch

Insert Internal Wire (Blue) [45] to terminal (1) marked on the reversing switch and Internal Wire (Brown) [46] to terminal (2) as shown in the figure. Insert the lead wire (White) from Stator [73] to terminal (3) and the lead wire (Black) from Stator [73] to terminal (4).

Gently pull on each inserted lead wire to confirm that the wires do not come out.

For wire disconnection, insert the tip of a small slotted screwdriver or needle into the hole on the side of each terminal, and then pull out the wire.

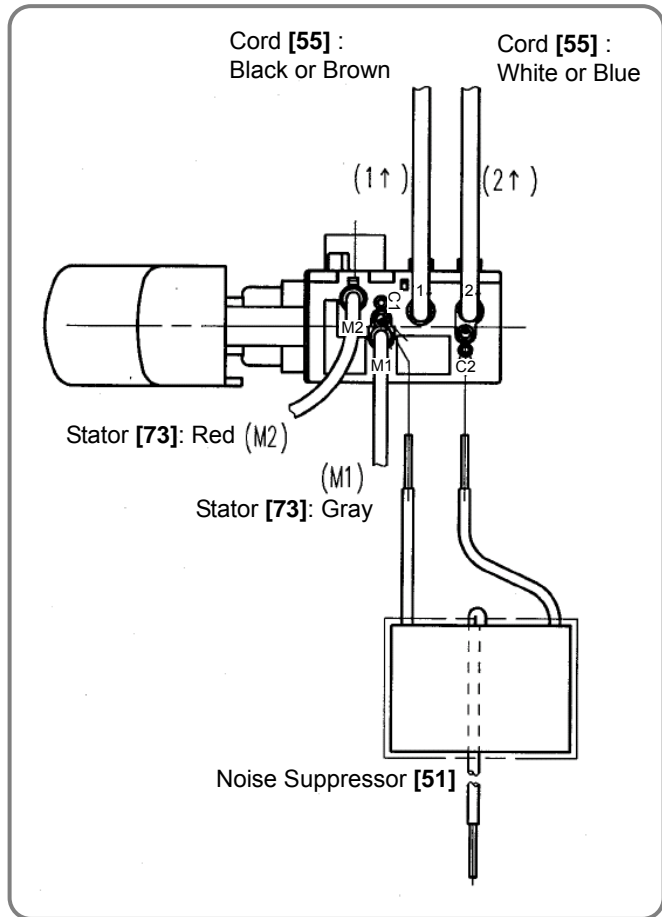


(2) Wiring of the speed control switch

Insert a Black or Brown cord to terminal (1 ↑) marked on the variable trigger switch and a White or Blue cord to terminal (2 ↑) as shown in the figure, then tighten their screws (with tightening torque of $0.6 \pm 0.2 \text{ N}\cdot\text{m}$ ($6 \pm 2 \text{ kgf}\cdot\text{cm}$)). Insert the lead wire (Gray) from Stator [73] to terminal (M1), the other lead wire (Red) from Stator [73] to terminal (M2), and the lead wires from Noise Suppressor [51] to the terminals (C1 and C2).

Gently pull on each inserted cord or lead wire to confirm that it does not come out.

For wire disconnection, insert the tip of a small slotted screwdriver or needle into a hole on the side of each terminal, and then pull out the wire.



6. Insulation tests

Upon completing completion of disassembly and repair, measure the insulation resistance and conduct a dielectric strength test as follows:

Insulation resistance: 7 MΩ or more using a DC 500 V megohm tester

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

AC 2,500 VAC for one minute, with no abnormalities---110 to 120 V
(except UK products)

7. No-load current value

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

Voltage (V)	110	120	220	230	240
Current (A) max.	3.6	3.5	2.1	2.1	2.0

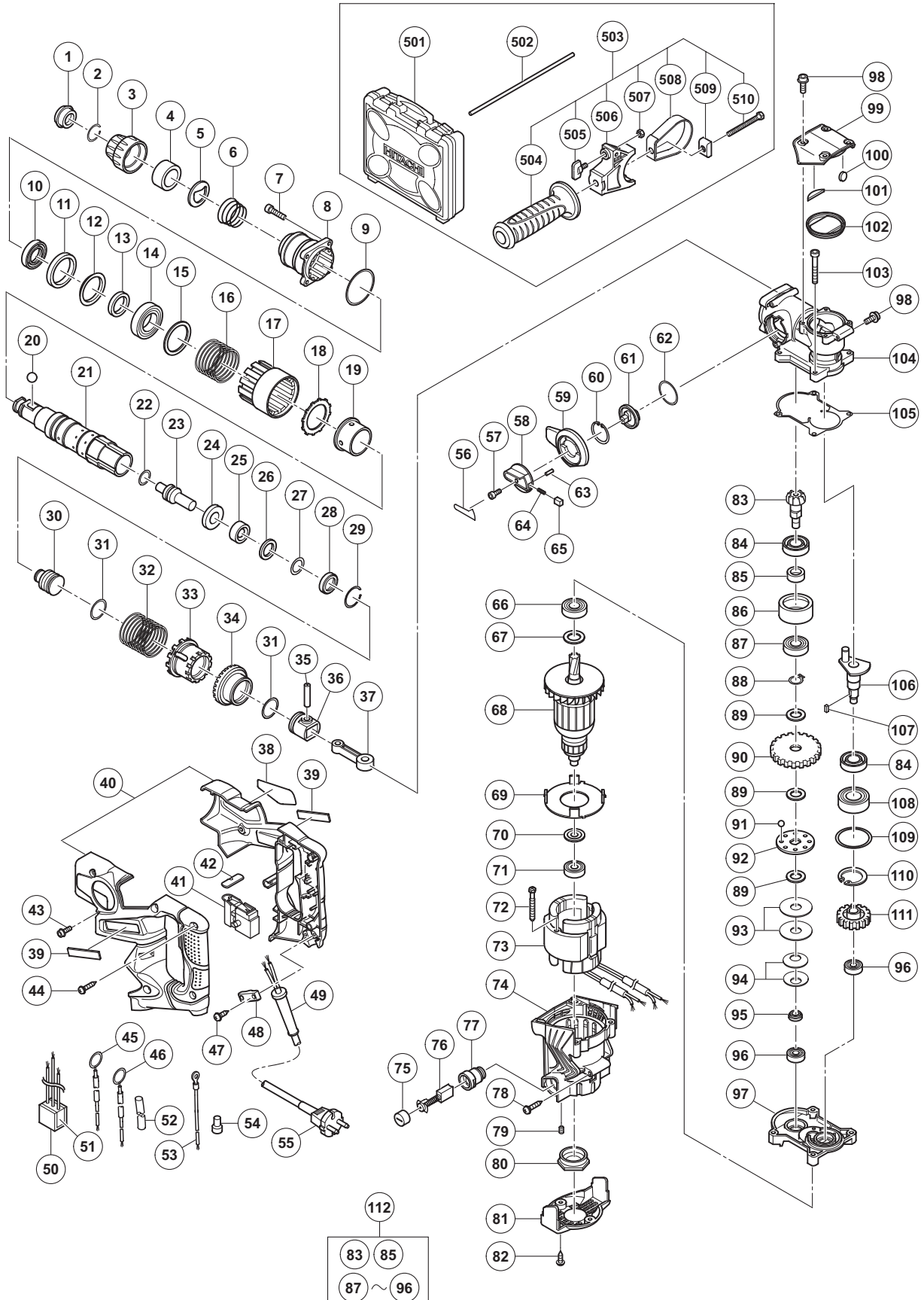
STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.		
	Fixed	Variable								
DH 28PC	General Assembly		Work Flow							
			Tail Cover	Handle (A),(B) Set Switch Cord Cord Armor D8.8				Gear Cover	Housing Ass'y Stator	
			Crank Cover Rubber Seal					Armature Ass'y Ball Bearing 6001DDCMPS2L Ball Bearing 608VVC2PS2L		
			Front Cap Grip Ball Holder Holder Plate Holder Spring	Cylinder Case Oil Seal Damper (A) Ball Bearing 6905DDUCMNS7S				Crank Shaft Oil Seal (B) Ball Bearing 6002DDCMPS2L O-ring (S-32) First Gear Ball Bearing 608VVC2PS2L Piston Connecting Rod Bevel Gear	Crank Case	
			O-ring Lever Shaft Lever Holder Change Lever Lever Spring Pushing Button	Slide Sleeve Washer (A) Washer (B) Lock Spring Lock Sleeve Clutch Clutch Spring				Slip Clutch Ass'y Bevel Pinion Oil Seal (B) Collar Sleeve Ball Bearing 6001DDCMPS2L Second Gear Ball Bearing 608VVC2PS2L		
				Striker O-ring (I.D 19.2) x 2			Second Hammer Damper Washer Damper (B) Damper Holder (A) Damper Holder (B)	Cylinder		

ELECTRIC TOOL PARTS LIST

ROTARY HAMMER Model DH 28PC

2009·9·7
(E1)



PARTS

DH 28PC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	306-345	FRONT CAP	1		
2	306-340	STOPPER RING	1		
3	324-527	GRIP	1		
4	330-192	BALL HOLDER	1		
5	324-526	HOLDER PLATE	1		
6	330-191	HOLDER SPRING	1		
7	992-803	SEAL LOCK HEX. SOCKET HD. BOLT M6 X 20	4		
8	330-174	CYLINDER CASE	1		
9	990-067	O-RING (1AS-50)	1		
10	328-867	OIL SEAL	1		
11	330-175	DAMPER (A)	1		
12	330-184	DAMPER WASHER (B)	1		
13	304-020	FELT PACKING (A)	1		
14	690-5DD	BALL BEARING 6905DDUCMNS7S	1		
15	330-176	WASHER (A)	1		
16	330-177	LOCK SPRING	1		
17	330-178	LOCK SLEEVE	1		
18	330-179	WASHER (B)	1		
19	330-187	SLIDE SLEEVE	1		
20	959-156	STEEL BALL D7.0 (10 PCS.)	1		
21	330-180	CYLINDER	1		
22	323-058	O-RING (C)	1		
23	330-181	SECOND HAMMER	1		
24	330-182	DAMPER WASHER	1		
25	330-183	DAMPER (B)	1		
26	331-672	DAMPER HOLDER (A)	1		
27	330-186	O-RING (A)	1		
28	331-673	DAMPER HOLDER (B)	1		
29	323-062	STOPPER RING	1		
30	330-185	STRIKER	1		
31	319-577	O-RING (I.D 19.2)	2		
32	330-188	CLUTCH SPRING	1		
33	330-189	CLUTCH	1		
34	330-190	BEVEL GEAR	1		
35	330-173	PISTON PIN	1		
36	330-172	PISTON	1		
37	319-585	CONNECTING ROD	1		
38		NAME PLATE	1		
39	886-342	HITACHI PLATE	2		
40	330-256	HANDLE (A). (B) SET	1		
*	41	331-677	SWITCH	1	
*	41	330-214	SWITCH (1P PILLAR TYPE)	1	FOR USA, CAN
	42	322-853	PUSHING BUTTON	1	
	43	316-228	HEX. SOCKET HD. BOLT (W/FLANGE) M4 X 10	4	
	44	307-028	TAPPING SCREW (W/FLANGE) D4 X 25 (BLACK)	3	
*	45	330-254	INTERNAL WIRE 18AWG X 300L (BLUE)	1	
*	45	330-217	INTERNAL WIRE 16AWG X 300L (BLUE)	1	FOR USA, CAN, GBR (110V)
*	46	330-255	INTERNAL WIRE 18AWG X 300L (BROWN)	1	
*	46	330-218	INTERNAL WIRE 16AWG X 300L (BROWN)	1	FOR USA, CAN, GBR (110V)
	47	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	2	

PARTS

DH 28PC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
48	960-266	CORD CLIP	1	
49	953-327	CORD ARMOR D8.8	1	
* 50	317-492	SUPPORT (B)	1	FOR EUROPE
* 51	325-566	NOISE SUPPRESSOR	1	FOR EUROPE
52	321-322	VINYL TUBE	1	
* 53	981-500	INTERNAL WIRE	1	FOR EUROPE
* 54	959-140	CONNECTOR 50091 (10 PCS.)	1	FOR EUROPE
* 55	500-390Z	CORD	1	(CORD ARMOR D8.8)
* 55	500-465Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (110V)
* 55	500-446Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (230V)
* 55	500-249Z	CORD	1	(CORD ARMOR D8.8) FOR USA, CAN
* 55	500-424Z	CORD	1	(CORD ARMOR D8.8) FOR KUW, SIN
* 55	500-457Z	CORD	1	(CORD ARMOR D8.8) FOR CHN
* 55	500-235Z	CORD	1	(CORD ARMOR D8.8) FOR IND
56	321-867	LEVER LABEL	1	
57	983-162	SEAL LOCK HEX. SOCKET HD. BOLT M4 X 12	1	
58	321-309	CHANGE LEVER	1	
59	330-207	LEVER HOLDER	1	
60	939-556	RETAINING RING FOR D35 HOLE (10 PCS.)	1	
61	330-206	LEVER SHAFT	1	
62	330-205	O-RING	1	
63	321-312	PIN D2 X 10	1	
64	321-310	LEVER SPRING	1	
65	321-311	PUSHING BUTTON	1	
66	600-1DD	BALL BEARING 6001DDCMPS2L	1	
67	971-736	WASHER (B)	1	
* 68	360-857C	ARMATURE 110V-115V	1	
* 68	360-857U	ARMATURE ASS'Y 120V	1	INCLUD. 66, 67, 70, 71
* 68	360-857E	ARMATURE 220V-230V	1	
* 68	360-857F	ARMATURE 240V	1	
69	330-202	FAN GUIDE	1	
70	982-631	WASHER (A)	1	
71	608-VVM	BALL BEARING 608VVC2PS2L	1	
72	980-864	HEX. HD. TAPPING SCREW D5 X 40	2	
* 73	340-739C	STATOR 110V-115V	1	
* 73	340-739G	STATOR 120V	1	
* 73	340-739E	STATOR 220V-230V	1	
* 73	340-739H	STATOR 220V-230V	1	FOR SIN
* 73	340-739J	STATOR 240V	1	
74	330-201	HOUSING ASS'Y	1	INCLUD. 77, 79
75	935-829	BRUSH CAP	2	
76	999-043	CARBON BRUSH (1 PAIR)	2	
77	957-051	BRUSH HOLDER	2	
78	302-089	TAPPING SCREW (W/FLANGE) D5 X 20 (BLACK)	2	
79	938-477	HEX. SOCKET SET SCREW M5 X 8	2	
80	310-111	BEARING BUSHING (B)	1	
81	330-203	TAIL COVER	1	
82	307-811	TAPPING SCREW (W/FLANGE) D4 X 16 (BLACK)	2	
83	330-196	BEVEL PINION	1	
84	981-851	OIL SEAL (B)	2	

STANDARD ACCESSORIES

DH 28PC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
501	330-220	CASE	1		
502	982-671	STOPPER ROD	1		
503	330-208	SIDE HANDLE ASS'Y	1	INCLUD. 504-510	
504	330-209	SIDE HANDLE	1		
505	307-947	WING BOLT M6 X 12	1		
506	330-210	MOUNT	1		
507	949-556	NUT M6 (10 PCS.)	1		
508	330-212	BAND	1		
509	330-211	BOLT HOLDER	1		
510	330-213	BOLT M8 X 45	1		

OPTIONAL ACCESSORIES

DH 28PC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
601	303-046	BULL POINT (SDS+) 250MM (ROUND SHANK TYPE)	1	
602	303-044	CHEMICAL ANCHOR ADAPTER (SDS+) 12.7MM X 90L	1	
603	303-045	CHEMICAL ANCHOR ADAPTER (SDS+) 19.0MM X 100L	1	
604	303-334	CHUCK HANDLE	1	
605	302-976	ANCHOR SETTING ADAPTER A (SDS+) W1/4 X 260L	1	
606	930-515	CHUCK WRENCH 10G	1	
607	302-975	ANCHOR SETTING ADAPTER A (SDS+) W5/16 X 260L	1	
608	303-621	ANCHOR SETTING ADAPTER A (SDS+) W3/8 X 160L	1	
609	302-974	ANCHOR SETTING ADAPTER A (SDS+) W3/8 X 260L	1	
610	302-979	ANCHOR SETTING ADAPTER B (SDS+) W1/4 X 260L	1	
611	302-978	ANCHOR SETTING ADAPTER B(SDS+) W5/16 X 260L	1	
612	303-622	ANCHOR SETTING ADAPTER B (SDS+) W3/8 X 160L	1	
613	302-977	ANCHOR SETTING ADAPTER B (SDS+) W3/8 X 260L	1	
614	303-617	TAPER SHANK ADAPTER (SDS PLUS) NO.1	1	
615	303-618	TAPER SHANK ADAPTER (SDS PLUS) NO.2	1	
616	303-619	A-TAPER SHANK ADAPTER (SDS PLUS)	1	
617	303-620	B-TAPER SHANK ADAPTER (SDS PLUS)	1	
618	981-122	SPECIAL SCREW M6 X 22	1	
619	303-627	CORE BIT SHANK (SDS PLUS) 45-90MM 300L	1	
620	303-625	CORE BIT SHANK (SDS PLUS) 25-38MM 105L	1	
621	303-626	CORE BIT SHANK (SDS PLUS) 25-38MM 300L	1	
622	303-624	CHUCK ADAPTER (D) (SDS PLUS)	1	
623	321-825	DRILL CHUCK AND ADAPTER SET	1	INCLUD. 624, 625
624	303-623	CHUCK ADAPTER (G) (SDS PLUS)	1	
625	321-814	DRILL CHUCK 13VLRB-D	1	INCLUD. 626
626	995-344	FLAT HD. SCREW (A) (LEFT HAND) M6 X 25	1	
627	321-813	DRILL CHUCK 13VLD-D	1	
628	980-927	GREASE FOR HAMMER. HAMMER DRILL (500G)	1	
629	981-840	GREASE (A) FOR HAMMER. HAMMER DRILL (30G)	1	
630	308-471	GREASE FOR HAMMER. HAMMER DRILL (70G)	1	
631	971-511Z	+ DRIVER BIT (A) NO.2 25L	1	
632	971-512Z	+ DRIVER BIT (A) NO.3 25L	1	
633	944-477	COTTER	1	
634	982-684	CENTER PIN (A) 109L FOR CORE BIT D32-38	1	
635	982-685	CENTER PIN (B) 104L FOR CORE BIT D45-90	1	
636	315-921	ADAPTER (A) FOR HAMMER DRILL	1	
637	982-672	CORE BIT (A) 25MM	1	
638	982-673	CORE BIT (A) 29MM	1	
639	982-674	CORE BIT (A) 32MM	1	INCLUD. 640
640	982-686	GUIDE PLATE (FOR CORE BIT 32MM)	1	
641	982-675	CORE BIT (A) 35MM	1	INCLUD. 642
642	982-687	GUIDE PLATE (FOR CORE BIT 35MM)	1	
643	982-676	CORE BIT (A) 38MM	1	INCLUD. 644
644	982-688	GUIDE PLATE (FOR CORE BIT 38MM)	1	
645	982-677	CORE BIT (B) 45MM	1	INCLUD. 646
646	982-689	GUIDE PLATE (FOR CORE BIT 45MM)	1	
647	982-678	CORE BIT (B) 50MM	1	INCLUD. 648
648	982-690	GUIDE PLATE (FOR CORE BIT 50MM)	1	
649	982-679	CORE BIT (B) 65MM	1	INCLUD. 650
650	982-691	GUIDE PLATE (FOR CORE BIT 65MM)	1	

OPTIONAL ACCESSORIES

DH 28PC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
651	982-680	CORE BIT (B) 80MM	1	INCLUD. 652
652	982-692	GUIDE PLATE (FOR CORE BIT 80MM)	1	
653	971-794	ANCHOR SETTING ADAPTER A W1/4" (MANUAL)	1	
654	971-795	ANCHOR SETTING ADAPTER A W5/16" (MANUAL)	1	
655	971-796	ANCHOR SETTING ADAPTER A W3/8" (MANUAL)	1	
656	971-797	ANCHOR SETTING ADAPTER A W1/2" (MANUAL)	1	
657	971-798	ANCHOR SETTING ADAPTER A W5/8" (MANUAL)	1	
658	971-799	ANCHOR SETTING ADAPTER B W1/4" (MANUAL)	1	
659	971-800	ANCHOR SETTING ADAPTER B W5/16" (MANUAL)	1	
660	971-801	ANCHOR SETTING ADAPTER B W3/8" (MANUAL)	1	
661	971-802	ANCHOR SETTING ADAPTER B W1/2" (MANUAL)	1	
662	971-803	ANCHOR SETTING ADAPTER B W5/8" (MANUAL)	1	
663	944-460	TAPER SHANK DRILL BIT D11 X 100	1	
664	944-461	TAPER SHANK DRILL BIT D12.3 X 110	1	
665	993-038	TAPER SHANK DRILL BIT D12.7 X 110	1	
666	944-462	TAPER SHANK DRILL BIT D14.3 X 110	1	
667	944-500	TAPER SHANK DRILL BIT D14.5 X 110	1	
668	944-463	TAPER SHANK DRILL BIT D17.5 X 120	1	
669	944-464	TAPER SHANK DRILL BIT D21.5 X 140	1	
670	320-859	SYRINGE (BLOW-OUT BULB TYPE)	1	
671	303-571	DRILL BIT (SDS PLUS) D4.0 X 110	1	
672	303-575	DRILL BIT (SDS PLUS) D5.0 X 110	1	
673	303-578	DRILL BIT (SDS PLUS) D5.0 X 160	1	
674	303-576	DRILL BIT (SDS PLUS) D5.5 X 110	1	
675	303-581	DRILL BIT (SDS PLUS) D6.5 X 160	1	
676	303-582	DRILL BIT (SDS PLUS) D7.0 X 160	1	
677	303-584	DRILL BIT (SDS PLUS) D8.0 X 160	1	
678	303-585	DRILL BIT (SDS PLUS) D8.5 X 160	1	
679	303-586	DRILL BIT (SDS PLUS) D9.0 X 160	1	
680	303-591	DRILL BIT (SDS PLUS) D12.0 X 160	1	
681	303-606	DRILL BIT (SDS PLUS) D12.0 X 260	1	
682	303-593	DRILL BIT (SDS PLUS) D12.7 X 160	1	
683	303-595	DRILL BIT (SDS PLUS) D14.0 X 160	1	
684	303-598	DRILL BIT (SDS PLUS) D15.0 X 160	1	
685	303-599	DRILL BIT (SDS PLUS) D16.0 X 160	1	
686	303-611	DRILL BIT (SDS PLUS) D16.0 X 260	1	
687	303-601	DRILL BIT (SDS PLUS) D17.0 X 160	1	
688	303-613	DRILL BIT (SDS PLUS) D19.0 X 260	1	
689	303-614	DRILL BIT (SDS PLUS) D20.0 X 250	1	
690	303-615	DRILL BIT (SDS PLUS) D22.0 X 250	1	
691	303-616	DRILL BIT (SDS PLUS) D25.0 X 450	1	
692	971-787	DUST CUP	1	
693	318-085	SYRINGE (BELLOWS TYPE)	1	
694	306-885	DUST COLLECTOR (B) ASS'Y	1	INCLUD. 695, 703
695	986-802	DUST COLLECTOR ASS'Y	1	INCLUD. 696-702
696	986-803	DUST COVER	1	
697	986-804	SEAL COVER	1	
698	948-310	RETAINING RING FOR D30 SHAFT	1	
699	958-063	WASHER	1	
700	959-150	STEEL BALL D6.35 (10 PCS.)	19	

