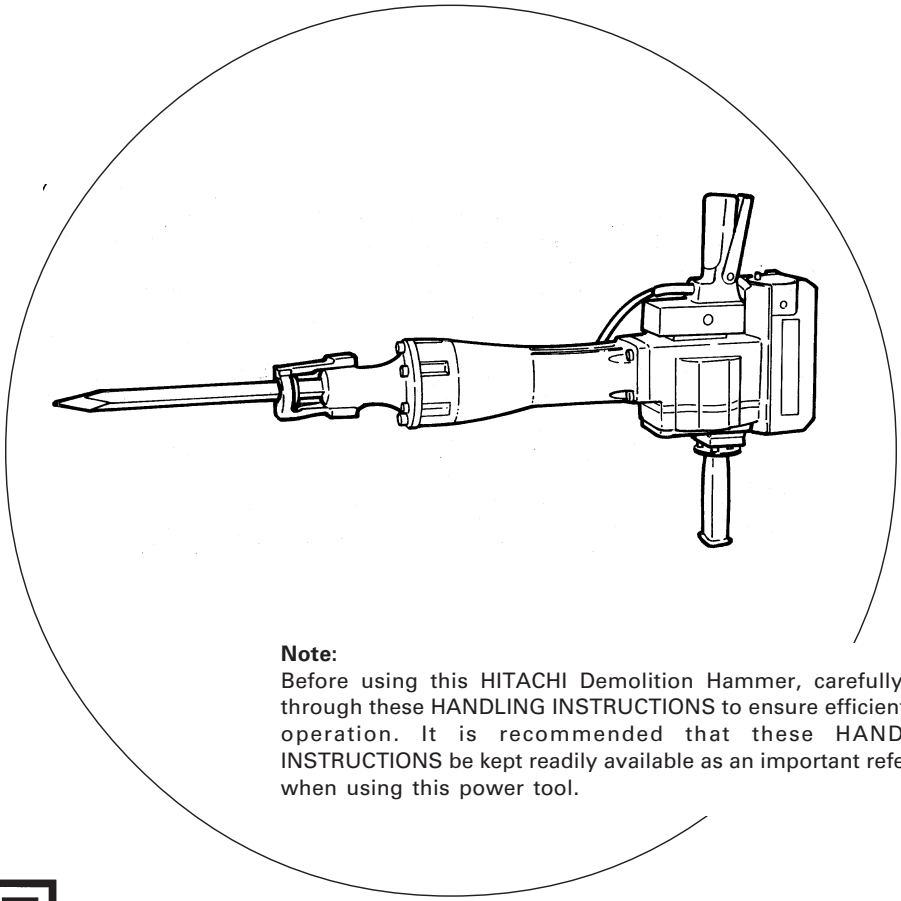
HITACHI

Demolition Hammer
Model H 90SB

Handling instructions



Note:
Before using this HITACHI Demolition Hammer, carefully read through these HANDLING INSTRUCTIONS to ensure efficient, safe operation. It is recommended that these HANDLING INSTRUCTIONS be kept readily available as an important reference when using this power tool.

Double insulation

We sincerely thank you for selecting a HITACHI POWER TOOL. To operate this power tool safely and efficiently, please read this INSTRUCTION MANUAL carefully to get a good understanding of the precautions in operation, capacity of the power tool, use and the like.

GENERAL OPERATONAL PRECAUTIONS

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.**
   Don't expose power tools to rain.
   Don't use power tools in damp or wet locations.
   Keep work area well lit.
   Don't use the power tool in presence of flammable liquids or gases.
   Power tools produce sparks during operation. They also spark when switching ON/OFF. Never use power tools in dangerous sites containing lacquer, paint, benzine, thinner, gasoline, gases, adhesive agents, and other materials which are combustible or explosive.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges refrigerator enclosures.
4. **KEEP VISITORS OR CHILDREN AWAY.** Do not let visitors or children contact the power tool or extension cord. All visitors or children should be kept away from work area.
5. **STORE IDLE POWER TOOLS.** When not in use, power tools should be stored in dry, and high or locked-up place-out of reach of children.
6. **DON'T FORCE THE POWER TOOL.** It will do the job better and safer at the rate for which it was intended.
7. **USE RIGHT POWER TOOLS.** Don't force a small power tool or attachment to do the job of a heavy-duty tool. Don't use the power tool for purpose not intended - for example - don't use circular saw for cutting tree limbs or logs.
8. **DRESS PROPERLY.** Do not wear loose clothes or accessories. They can be caught in moving parts.
   Rubber gloves and non-skid footwear are recommended when working outdoors.
   Wear protective hair covering to contain long hair.
9. **USE SAFETY GLASSES.** All persons in the area where power tools are being operated should also wear safety eye protectors, and face or dust masks if cutting operation is dusty.
10. **DON'T ABUSE CORD.** Never carry power tools by cord or yank the cord to disconnect the power tool from receptacle. Keep the cord from heat, oil and sharp edges.
11. **DON'T OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN POWER TOOLS WITH CARE.** Keep power tools sharp and clean for better and safer performance.
    Follow instructions for lubricating and changing accessories.
    Inspect tool cords periodically and if damaged, have repaired by the authorized service center.
    Inspect extension cords periodically and replace them if damaged.
    Keep handles dry, clean, and free from oil and grease.
13. **DISCONNECT POWER TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
14. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the power tool before turning it on.

15. **AVOID UNINTENTIONAL STARTING.** Don't carry a plugged-in the power tool with finger on switch. Be sure switch is off when plugging in.
16. **OUTDOOR USE EXTENSION CORDS.** When the power tool is used outdoors, use only extension cords intended for use outdoors and so marked.
17. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate the power tool when you are tired.
18. **CHECK DAMAGED PARTS.** Before use of the power tool, a guard or other part should be carefully checked to determine that it will operate properly and perform its intended function. Check the alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual.
    Have defective switches replaced by an authorized service center.
    Do not use the power tool if switch does not turn it on and off.
19. Do not use the power tool for applications other than those specified in the Handling Instructions.
20. To ensure the designed operational integrity of the power tool, do not remove installed covers or screws.
21. Do not touch movable parts or accessories unless the power source has been disconnected.
22. Use your power tool at lower input than specified on the nameplate; otherwise, the finish may be spoiled and working efficiency reduced due to motor overload.
23. **DO NOT WIPE PLASTIC PARTS WITH SOLVENT**. Solvent such as gasolin, thinner, benzine, carbon tetrachloride, alcohol, ammonia and oil containing chloric annex damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water.
24. Consult an authorized service center in the event of the power tool failure.
25. Use only original HITACHI replacement parts.
26. This power tool should only be disassembled for replacement of carbon brushes.

SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations should ONLY be performed by an authorized service center.

DOUBLE INSULATION SYSTEM ENHANCES SAFE OPERATION

To enhance safe operation of this electric power tool, HITACHI has adopted a double insulation system. The term "double insulation" used here denotes an insulation system with two insulations physically separated and arranged between the electrically conductive material connected to the power supply and the outer frame subject to contact by the operator.

Thus, the power tool is termed double insulated and both the "⧈" mark and "Double insulation", or either one is indicated on the name plate.

While no external grounding is required with this system, normal safety precautions as outlined in this manual must still be followed.

DOUBLE INSULATION

To maintain the effectiveness of the double insulation system, follow the precautions described below:

1. Always contact your dealer or an authorized service center when assembling, disassembling or replacing parts other than accessories or carbon brushes. Improper assembly and/or replacement with wrong parts may result in eliminating the double insulation-feature.
2. Clean the exterior of the power tool with a soft cloth moistened with soapy water, and dry thoroughly. Chloric solvent, gasoline, and thinner will cause plastic components to dissolve.

REPLACEMENT PARTS

When servicing use only identical replacement parts.

PARTICULAR PRECAUTIONS ON USING DEMOLITION HAMMER

In addition to the precautions mentioned above, following particular precautions for this Demolition Hammer should be followed.

1. Wear earplugs to protect your ears during operation.
2. Do not touch the bit during or immediately after operation. The bit becomes very hot during operation and could cause serious burns.
3. Before starting to break, chip or drill into a wall, floor or ceiling, thoroughly confirm that such items as electric cables or conduits are not buried inside.

NAME OF PARTS

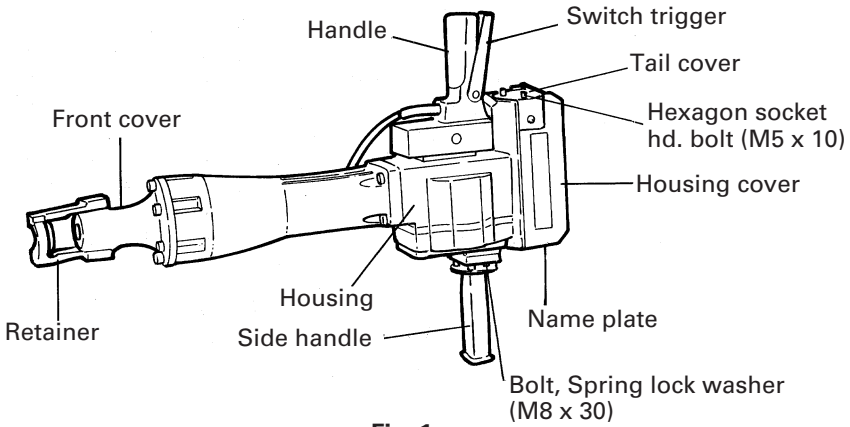


Fig. 1

NOTE:
Install the side handle with the supplied 4 bolts and 4 spring lock washers. Tighten the bolts securely with the supplied wrench.

SPECIFICATIONS

Motor	:	Single-phase, series commutator motor
Power source	:	Single-phase 50/60 Hz
Input	:	1450W*
Full-load impact rate	:	850/min
Weight	:	32 kg (without cord)

*Be sure to check the nameplate on this Demolition Hammer as it is subject to change by areas.

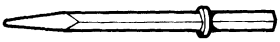
STANDARD ACCESSORIES

1. Hexagon Bar Wrench 10 mm (for M12) 1
2. Hexagon Bar Wrench 6 mm (for M8) 1
3. Hexagon Bar Wrench 4 mm (for M5) 1
4. Side Handle 1
5. Bolt 4
6. Spring Lock Washer 4

Standard accessories are subject to change without notice.

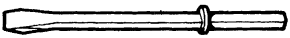
OPTIONAL ACCESSORIES (sold separately)

1. Bull point



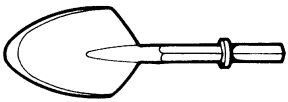
Overall length: 520 mm

2. Cold chisel



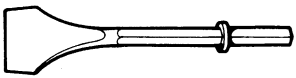
Overall length: 520 mm

3. Scoop



Overall length: 533 mm

4. Cutter



Overall length: 520 mm
Width: 75 mm

Optional accessories are subject to change without notice.

APPLICATION

This demolition hammer should be applied to breaking concrete, chipping off concrete, grooving, bar cutting, and driving piles in installation of piping and wiring, sanitary facility installation, machinery installation, water supply and drainage work, interior jobs, harbor facilities and other civil engineering work, etc.

PRIOR TO OPERATION

1. Power source

Ensure that the power source to be utilized conforms to the power requirements specified on the name plate of this Demolition Hammer.

2. **Power switch**
   Ensure that the power switch is in the OFF position. If the plug is connected to a power receptacle while the power switch is in the ON position, this Demolition hammer will start operating immediately, inviting serious accident.
3. **Extension cord**
   When the work area is remote from the power source, use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.
4. **Mounting an accessory, such as a bull point, a cutter, etc..**
   (1) With the retainer directed backward, insert the accessory shank portion into the hole on the front cover. (Fig. 2)
   (2) Swing the retainer back into place so that it engages the accessory shank portion and prevents accessories from coming out of front cover. (Fig. 3)

NOTE:
Use a manual hammer to open/close the retainer as it is too heavy to move by hand.

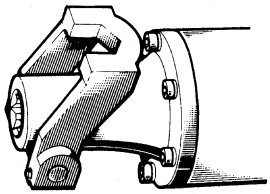


Fig. 2

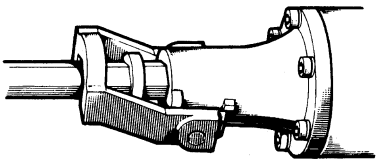


Fig. 3

NOTE:
When removing the accessory, such as a bull point, a cutter etc., follow the above procedure in reverse order.

OPERATION

1. Pull the trigger switch after applying the tip of the bit to the crushing position.
   In some cases, it is necessary to punch the tip of the bit against the crushing position forcibly in order to begin the striking stroke.
   This is not due to malfunction of the power tool. It means that the safe guard mechanism against no-load striking is working.
2. Operate this Demolition Hammer by utilizing its own weight. The performance will not be better even if it is pressed or thrust forcibly against the work surface.
   Hold this Demolition Hammer with a force just sufficient to counteract the reaction.

CAUTION:
Sometimes the power tool does not begin the striking stroke even when the motor rotates because oil has become thick.
If the power tool is used at low temperatures or if it is used after a long idle time, this Demolition Hammer should be kept running for about five minutes in order to warm it up.

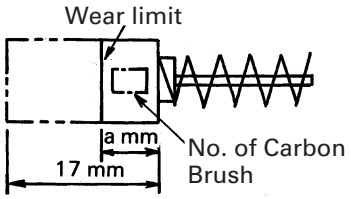
HOW TO REPLACE GREASE

This Demolition Hammer is full air-tight construction to protect against dust and to prevent lubricant leakage. Therefore, this Demolition Hammer can be used without lubrication for long periods. Replace the grease as described below.

Grease Replacement Period:
After purchase, replace grease after every 6 months of usage.
Ask for grease replacement at the nearest authorized service center.

MAINTENANCE AND INSPECTION

1. **Inspecting this Demolition Hammer**
   Use of a dull accessory, such as a bull point, a cutter, etc., will cause motor malfunctioning and efficiency degraded. Replace with a new one without delay when abrasion is noted.
2. **Inspecting the mounting screws**
   Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.
3. **Inspecting the retainer (Fig. 2 and 3)**
   The retainer may become loose due to excessive use. Always, pay attention to its proper functioning to securely hold the accessory shank portion. If any wear and tear is found, bring this Demolition Hammer to an authorized service center for maintenance service.
4. **Maintenance of the motor**
   The motor unit winding is the very "heart" of the power tool. Exercise due care to ensure the winding does not become damaged and/or wet with oil or water.
5. **Inspecting the carbon brushes (Fig. 4)**
   The motor employs carbon brushes which are consumable parts. When they become worn to or near "wear limit", it results in motor trouble. When an auto-stop carbon brush is equipped, the motor will stop automatically. At that time, replace both carbon brushes with new ones which have the same carbon brush Nos. shown in the Fig. 4.
   In addition, always keep carbon brushes clean and ensure that they slide freely within the brush holders.

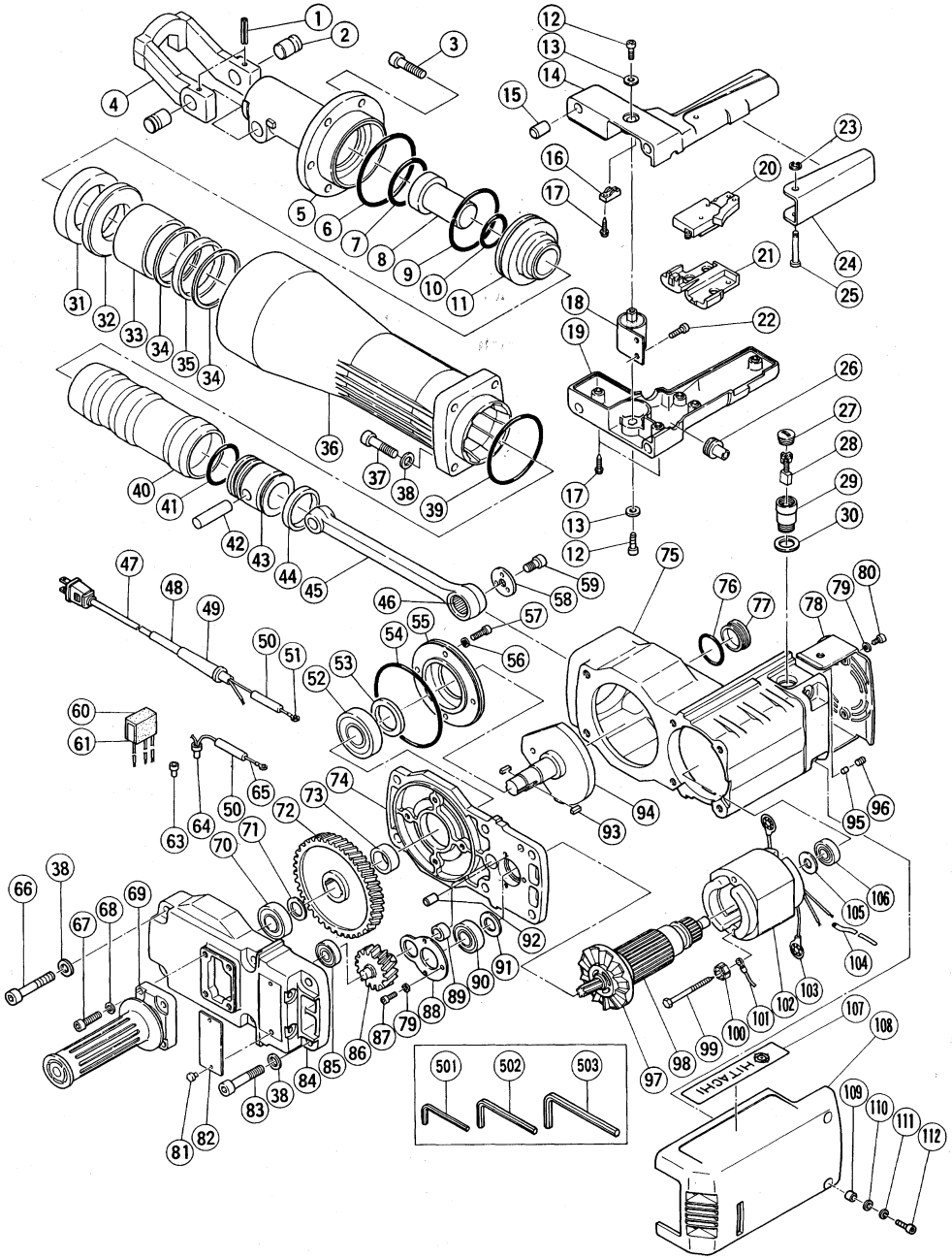


	No. of carbon brush	a
Usual carbon brush	44	6
Auto-stop carbon brush	74	7

Fig. 4

6. **Replacement procedure**
   Loose the screw (Hexagon socket hd. bolt M5 x 10) of the tail cover, then remove the tail cover. (Fig. 1) After removing the brush cap, the carbon brush can be removed. After replacing the carbon brush, tighten the brush cap, then mount the tail cover securely.

NOTE:
Due to HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.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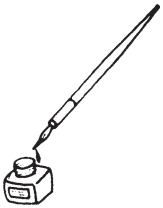
Item No.	Part Name
1	Roll Pin D6 × 36
2	Lever Pin
3	Bolt M12 × 40
4	Retainer
5	Front Cover
6	O-Ring (S-90)
7	O-Ring
8	Second Hammer
9	O-Ring (D)
10	O-Ring (A)
11	Hammer Holder
12	Hexagon Socket Hd. Bolt M6 × 16
13	Stopper Washer
14	Handle (A)
15	Rubber Leg
16	Cord Clip
17	Tapping Screw D4 × 20
18	Handle Rubber
19	Handle (B)
20	Switch
21	Support
22	Hexagon Socket Hd. Bolt M6 × 16
23	E-Type Retaining Ring
24	Switch Lever
25	Pin
26	Internal Wire Holder
27	Brush Cap
28	Carbon Brush
29	Brush Holder
30	Stop Plate
31	Damper
32	Damper Plate
33	Mouth
34	Mouth Washer
35	Urethane Ring
36	Cylinder Case
37	Bolt M10 × 45
38	Washer
39	O-Ring
40	Striker
41	O-Ring (B)
42	Piston Pin

Item No.	Part Name
43	Piston
44	Oil Seal (A)
45	Connecting Rod Ass'y
46	Needle Bearing
47	Cord
48	Tube (D)
49	Cor d Armor
50	Vinyl Tube (A) (I.D.7 x T 0.5 x 50)
51	Terminal
52	Ball Bearing (6305ZZCM)
53	Oil Seal
54	O-Ring
55	Bearing Boss
56	Spring Lock Washer
57	Hexagon Socket Hd. Bolt M6 × 20
58	Crank Washer
59	Hexagon Socket Hd. Bolt M10 × 16
60	Support (B)
61	Noise Suppressor
63	Connector
64	Connector
65	Internal Wire
66	Hexagon Socket Hd. Bolt M10 × 60
67	Hexagon Socket Hd. Bolt M8 × 30
68	Spring Lock Washer
69	Side Handle
70	Ball Bearing (6204VVCM)
71	Distance Washer
72	Final Gear
73	Distance Ring (B)
74	Inner Cover
75	Housing Ass'y
76	O-Ring (S-38)
77	Oil Cap
78	Tail Cover
79	Spring Lock Washer
80	Hexagon Socket Hd. Bolt M5 × 10
81	Rivet D2.5 × 4.8
82	Name Plate
83	Hexagon Socket Hd. Bolt M10 × 55
84	Gear Cover
85	Ball Bearing (6201VVCM)

Item No.	Part Name
86	Counter Gear
87	Hexagon Socket Hd. Bolt M5 × 14
88	Bearing Cover (A)
89	Needle Bearing (BK1312)
90	Ball Bearing (6203VVCM)
91	Bearing Washer
92	Pin B8 × 14
93	Feather Key 4 × 4 × 15
94	Crank Shaft
95	Friction Piece
96	Hexagon Socket Hd. Sect Screw M5 × 8
97	Fan
98	Armature
99	Hexagon Hd. Tapping Screw D5 × 85
100	Special Washer
101	Internal Wire
102	Stator
103	Brush Terminal
104	Vinyl tube (B)(I.D.4 × T0.4 × 80)
105	Bearing Washer
106	Ball Bearing (6201VVCM)
107	HITACHI Label
108	Housing Cover
109	Collar
110	Bolt Washer
111	Spring Lock Washer
112	Hexagon Socket Hd. Bolt M6 × 20
501	Hexagon Bar Wrench 4 mm
502	Hexagon Bar Wrench 6 mm
503	Hexagon Bar Wrench 10 mm

Parts are subject to possible modification without notice due to improvements.



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