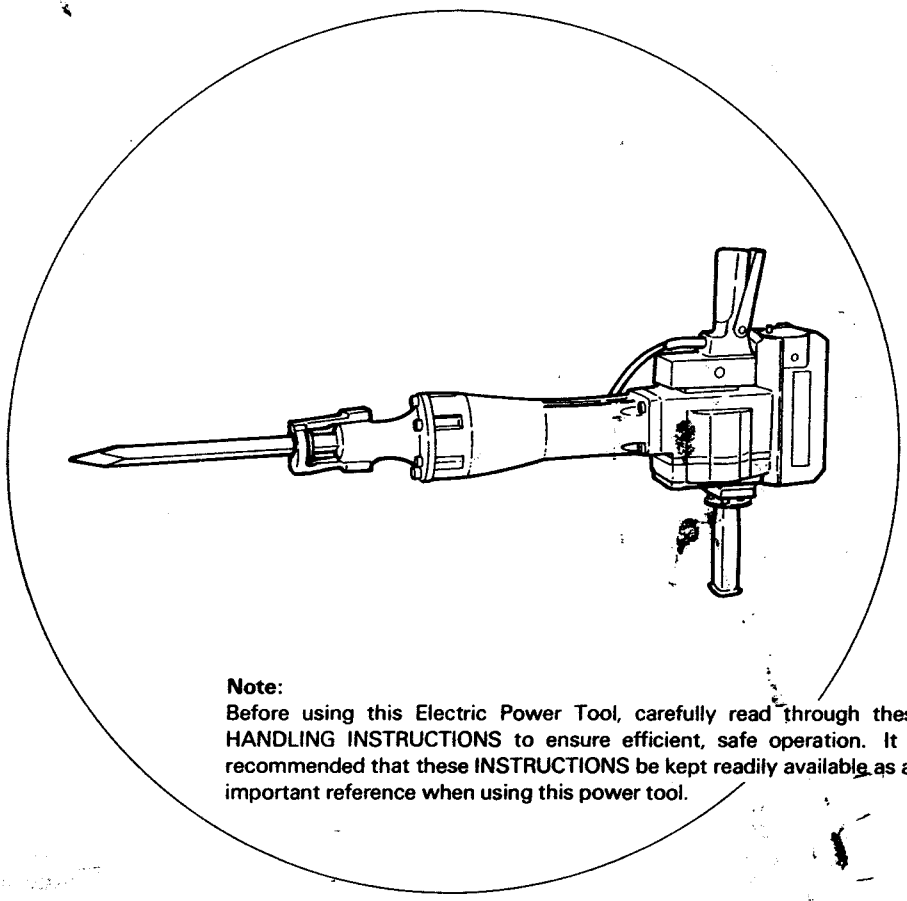
HITACHI

HAMMER
MODEL H 90SB
HANDLING INSTRUCTIONS



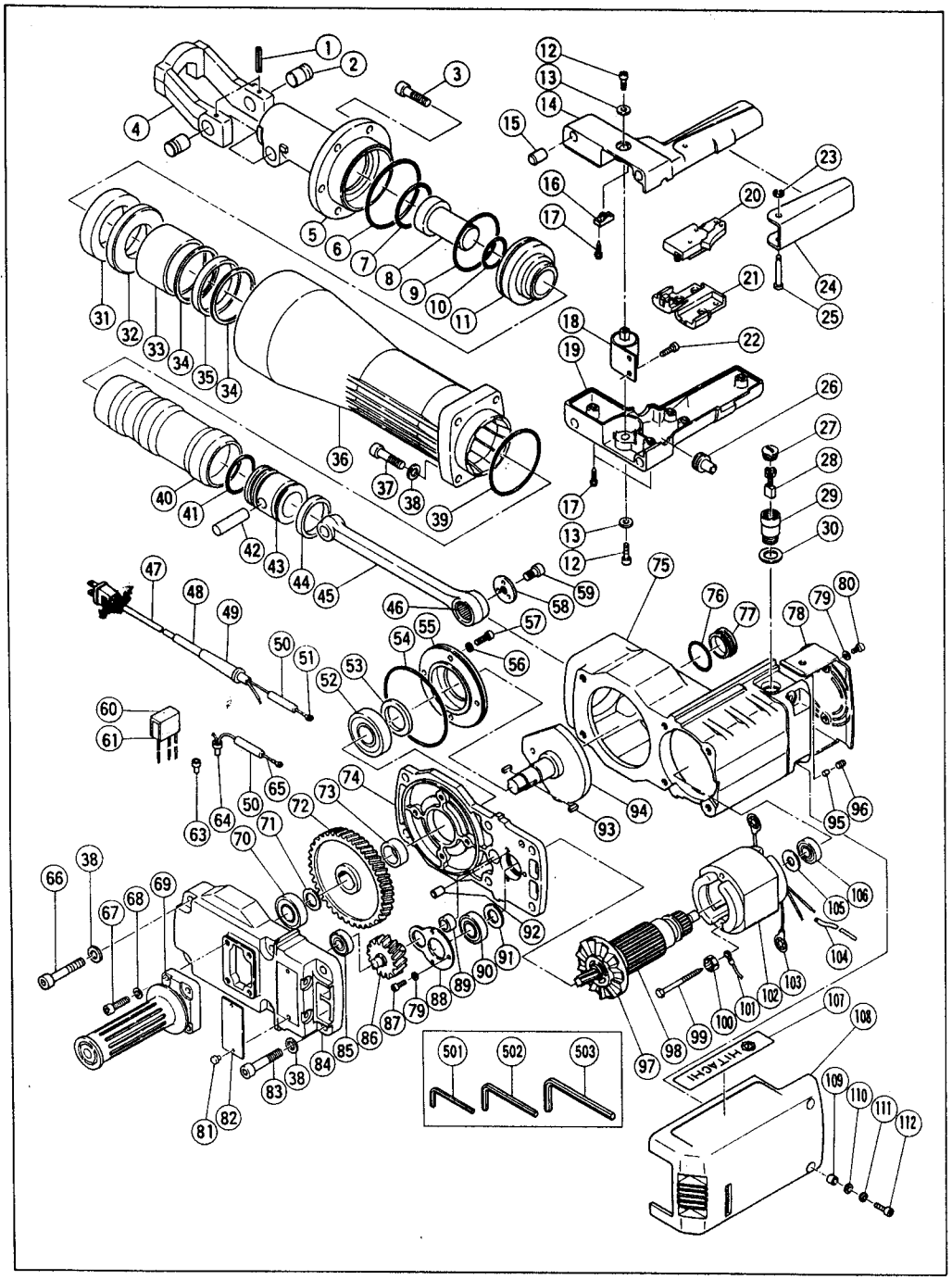
Note:
Before using this Electric Power Tool, carefully read through these HANDLING INSTRUCTIONS to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this power tool.

DOUBLE INSULATION

Item No.	Part Name	
84	Gear Cover	
85	Ball Bearing (6201VVCM)	
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	D8 × 14
93	Feather Key	4 × 4 × 15
94	Crank Shaft	
95	Friction Piece	
96	Hexagon Socket Hd. Set 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	4mm
502	Hexagon Bar Wrench	6mm
503	Hexagon Bar Wrench	10mm

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

H90SB



H90SB

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)	

Item No.	Part Name	
42	Piston Pin	
43	Piston	
44	Oil Seal (A)	
45	Connecting Rod Ass'y	
46	Needle Bearing	
47	Cord	
48	Tube (D)	
49	Cord Armor	
50	Vinyl Tube (A) (I.D.7 × T 0.5 × 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

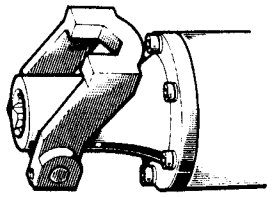


Fig. 2

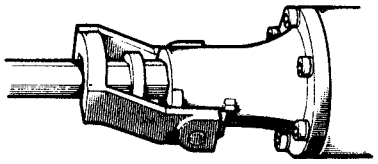


Fig. 3

NOTE:
When removing the tool, 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 tool. It means that the safe guard mechanism against no-load striking is working.
2. Operate the tool by utilizing its own weight. The performance will not be better even if the tool is pressed or thrust forcibly against the work surface.
   Hold the tool with a force just sufficient to counteract the reaction.
   CAUTION:
   Sometimes the tool does not begin the striking stroke even when the motor rotates because the oil has become thick.
   If the tool is used at low temperatures or if it is used after a long time idle, the tool should be used running in for five minutes in order to warm it up.

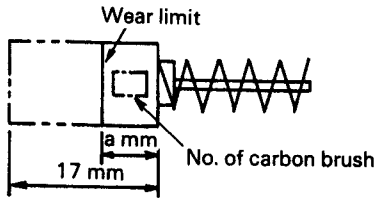
HOW TO REPLACE GREASE

This machine is full air-tight construction to protect against dust and to prevent lubricant leakage. Therefore, the machine 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 HITACHI Service Agent.

MAINTENANCE AND INSPECTION

1. **Inspecting the tool**
   Use of a dull tool will cause motor malfunctioning and degraded efficiently. 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. **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.
4. **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 could result 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 figure.
   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	43Z	7

Fig. 4

5. **Replacement procedure**
   Loose the screw (Hexagon socket hd. bolt M5 × 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.

PRECAUTIONS ON USING HAMMER

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

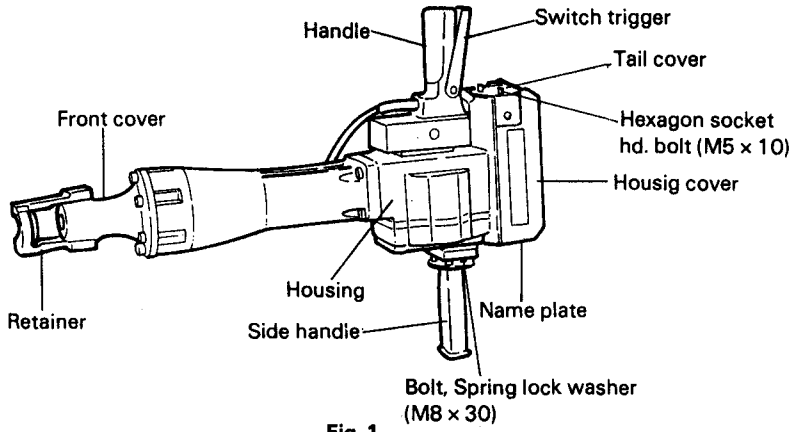


Fig. 1

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 product as it is subject to change by areas.

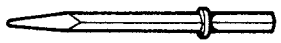
STANDARD ACCESSORIES

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.

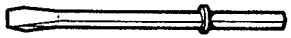
OPTIONAL ACCESSORIES (sold separately)

1. **Bull point**



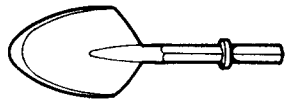
Overall length: 520 mm

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.

APPLICATIONS

○ Breaking concrete, chipping off concrete, grooving, bar cutting, and driving piles.
(Application examples)
Installation of piping and wiring, sanitary facility installation, machinery installation, water supply and drainage work, interior jobs, harbor facilities and other civil engineering work.

PRIOR TO OPERATION

1. **Power source**
Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
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, the power tool will start operating immediately, inviting serious accident.
3. **Extension cord**
When the work area is removed 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 a tool**
(1) With the retainer directed backward, insert the tool shank into the hole on the front cover. (Fig. 2)
(2) Swing the retainer back into place so that it engages the tool shank and prevents tool from coming all the way out of front cover. (Fig. 3)
NOTE:
Use a manual hammer to open/close the retainer.

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

GENERAL OPERATIONAL 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 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 CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
5. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry and high or locked-up place – out of reach of children.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
7. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use 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 clothing or jewelry. 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.** Also use face or dust mask if cutting operation is dusty.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep 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 authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
14. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
16. **AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
18. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for 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 authorized service center. Do not use tool if switch does not turn it on and off.
20. Do not use power tools for applications other than those specified in the Handling Instructions.
21. To ensure the designed operational integrity of power tools, do not remove installed covers or screws.
22. Do not touch movable parts or accessories unless the power source has been disconnected.
23. Use your tool at lower input than specified on the nameplate; otherwise, the finish may be spoiled and working efficiency reduced due to motor overload.
24. **DO NOT WIPE PLASTIC PARTS WITH SOLVENT.** Solvent such as gasolin, thinner, benzine, carbon tetrachloride, alcohol, ammonia and oil containing chloric annex may damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water.
25. Consult an authorized Service Agent in the event of power tool failure.
26. Use only original HITACHI replacement parts.
27. This 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 HITACHI POWER TOOL REPAIR SHOP.

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.

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

1. Always contact your dealer or an authorized HITACHI service agent 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 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.