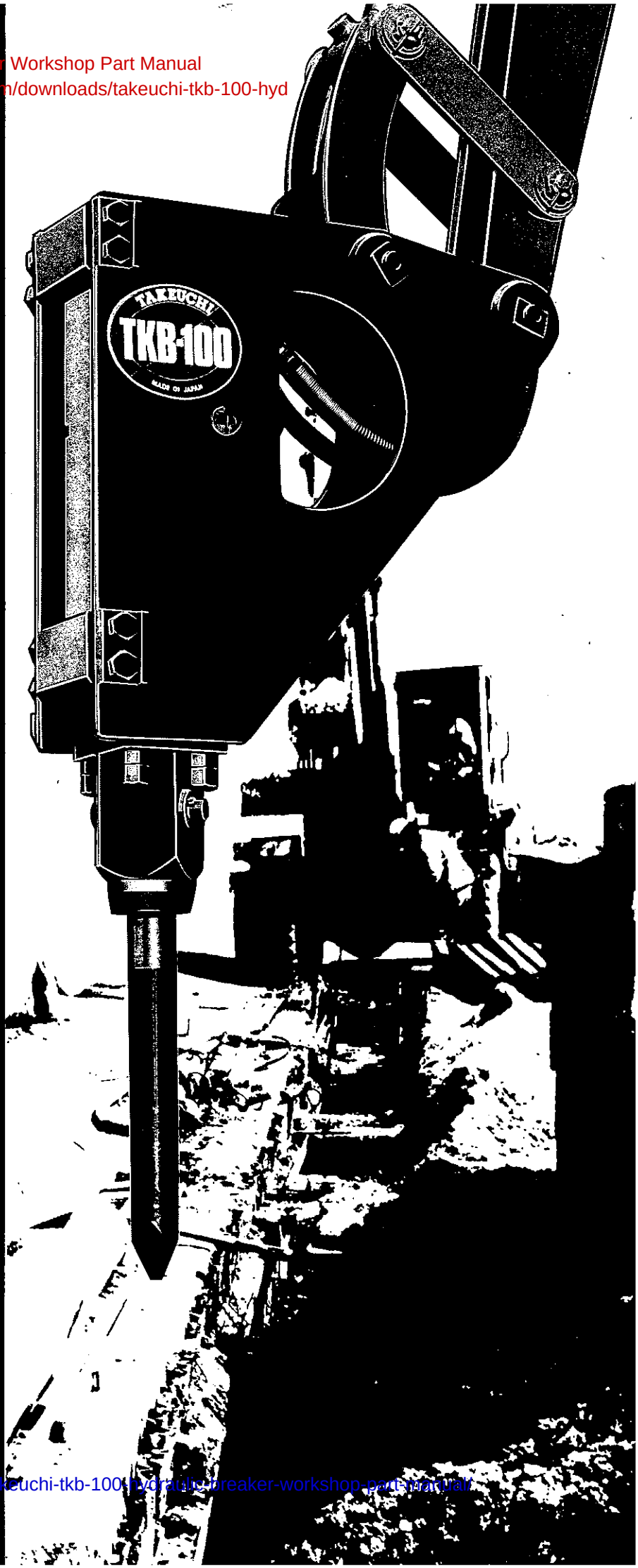
TKB-100



INTRODUCTION

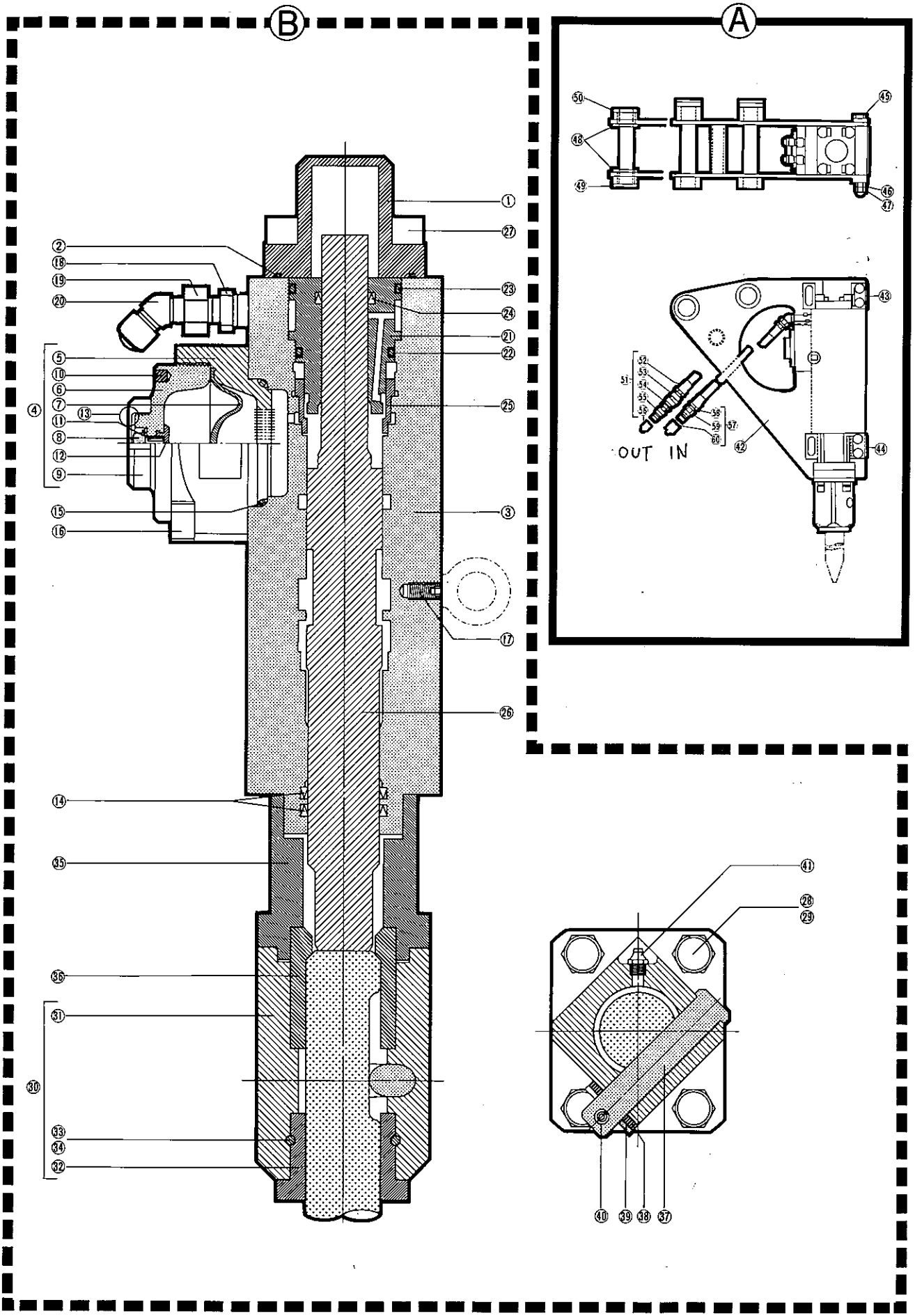
This time you have purchased our TAKEUCHI Hydraulic Breaker for which we are very grateful.
This is a highly efficient hydraulic breaker of purely fluid operating type developed under strict quality control, based on accumulated experience and high technical skill in the manufacturing of Excavator.
Since the equipment has the maximum Power of blow, outstanding durability and economical advantages for this class, it ensures increase in working capacity.
No matter how good the unit may be, however, if 'proper handling' and 'proper maintenance' are not performed, working capacity will surely fall, with marked drop in life of hydraulic breaker, and result in great loss from exonomic point of view, too.
This manual has been prepared to exhibit fully the efficiency of TAKEUCHI Hydraulic Breaker, in which basic methods are described simply enough for those who actually handle the machine.
When handling this product, we trust that the above will be carried out after reading over carefully what is contained in this manual.
Moreover, we shall not be held responsible in any way whatever for the loss and damage incurred by method of use, storage, etc. not in accordance with this manual.

CONTENTS

1. Parts List. Section drawing

Description			TB35	TB36	TB45
			Part number	Part number	Part number
TKB-100 Hydraulic Breaker & Bracket Cp Ⓐ			TS20-00-2000	TS20-00-2010	TS20-00-2020
TKB-100 Hydraulic Breaker Cp Ⓑ			TS20-00-0200	TS20-00-0030	TS20-00-0020
Drawing No.	Name	Q'ty	Part number	Part number	Part number
	Back Head Gr.				
1.	Back Head	1	TS20-01-0010	←	←
2.	O Ring	1	VV542-10001	←	←
	Cylinder Gr.				
3.	Cylinder	1	TS20-20-050A	←	←
4.	Accumulator Assy	1	TS20-20-0200	←	←
5.	Accumulator Body	(1)	TS20-20-0210	←	←
6.	Accumulator Cap	(1)	TS20-20-0220	←	←
7.	Diaphragm	(1)	TS20-20-0230	←	←
8.	Accumulator Plug	(1)	TS50-01-0240	←	←
9.	Blind Cap	(1)	TS50-01-025A	←	←
10.	Blind Rubber	(2)	TS50-01-0260	←	←
11.	Seal Washer	(1)	TS50-01-0270	←	←
12.	Protector	(1)	TS20-20-0280	←	←
13.	O Ring	(1)	VV542-03001	←	←
14.	Lip Seal	2	TS20-20-1590	←	←
15.	O Ring	(1)	VV541-08501	←	←
16.	Socket Bolt	4	VV818-18550	←	←
17.	Set Screw	1	VV885-12250	←	←
18.	Nipple or Bush	2	TV67-19-0060	TV67-23-6040	←
19.	Socket or Extension Piece	2	TV67-22-6040	TV67-14-0040	←
20.	45° Adaptor or 90° Adaptor	2	VU558-40000	VU559-40000	←
	Valve Gr.				
21.	Valve Retainer	1	TS20-30-5700	←	TS20-30-4700
22.	O Ring	1	VV541-06501	←	←
23.	O Ring	1	VV541-07501	←	←
24.	Lip Seal	1	TS50-30-076B	←	←
25.	Valve	1	TS20-30-0730	←	←
	Piston Gr.				
26.	Piston	1	TS20-50-403A	←	←
	Through Bolt Gr.				
27.	Through Bolt	4	TS20-70-4230	←	←
28.	Cap Nut F	4	TS20-70-1220	←	←
29.	Nut	4	VV921-20000	←	←
	Front Gr.				
30.	Front Head Assy	1	TS20-80-130B	←	←
31.	Front Head	(1)	TS20-80-1310	←	←
32.	Front Head Bushing	(1)	TS20-80-141B	←	←
33.	Blind Rubber	(2)	TU83-01-0560	←	←
34.	Steel Ball	(38)	VV611-20000	←	←
35.	Front Washer	1	TS20-80-1510	←	←
36.	Front Washer Bushing	1	TS20-80-1520	←	←
37.	Chisel Set Pin	1	TS20-80-453A	←	←
38.	Cushion Sheet	1	TS20-80-1540	←	←
39.	Plain Washer	1	VV952-24000	←	←
40.	Spring Pin	1	TS20-80-1600	←	←
41.	Grease Nipple	(1)	TS26-11-0000	←	←
	Bracket Gr.				
42.	Bracket Ass	1	TS20-90-0010	←	TS20-90-3100
43.	Support Plate A	1	TS20-90-0020	←	←
44.	Support Plate B	1	TS20-90-0030	←	←
45.	Bolt	4	VV807-20230	←	←
46.	Nut	4	VV906-20000	←	←
47.	Cap Nut	4	VU156-20000	←	←
48.	Bracket Bushing	4	TS20-94-1130	TS20-94-1120	—
49.	Washer	4 or 2	TS20-94-0040	TS20-90-4010	—
50.	Washer	4	—	VV957-39000	—
51.	Hydraulic Hose Ass	1	TS20-99-8100	←	←
52.	Hydraulic Hose	(1)	TV39-54-0125	←	←
53.	Socket	(1)	TV67-21-0040	←	←
54.	Reducing Nipple	(1)	TV67-20-4030	←	←
55.	Coupling S2 Half	(1)	TS17-91-0120	←	←
56.	Dust Cap	(1)	TS17-91-0130	←	←
57.	Hydraulic Hose Ass	1	TS20-99-8200	←	←
58.	Hydraulic Hose	(1)	TV39-54-0125	←	←
59.	Coupling S2 Half	(1)	TS17-91-0220	←	←
60.	Dust Cap	(1)	TS17-91-0230	←	←
	Following items are optional:				
	Chisel (Moil Point Type)	1	TS20-99-0010	←	←
	Chisel (Straight Type)	1	TS20-99-0020	←	←
	Chisel (Flat Type X)	1	TS20-99-0030	←	←
	Chisel (Flat Type Y)	1	TS20-99-0040	←	←

"Chisels" and "Steels" mean the same thing.
The arrow (←) means the part number is the same as the one at left


B
A
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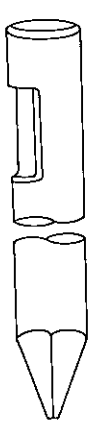
2.Specifications

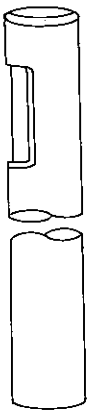
BREAKER

Overall weight (without chisel)	100kg
Overall length (breaker only)	785mm
Overall length (with chisel)	1,150mm
Operation	Completely hydraulic system
Working pressure	100-120kg/cm^2
Oil flow	25~50ℓ/min
Power of blow	38-45kg-m
Number of blows	370-490b.p.m
Hydraulic hose (in)	1/2"
Hydraulic hose (out)	1/2"
Chisel diameter	57mm

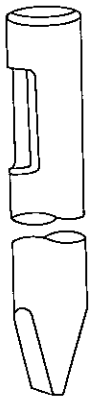
Chisel shape



Moil point type



Straight type



Flat type

3. Instruction Manual

3-1. First examination

Make a test run with correct posture (vertical shots) with the engine throttle lever at low revolution for at least 30 minutes.
To lubricate the machine lubricous, do not drive with full throttle at first.
Continuous operation should be avoided at first. Do vertical hammering only.
(N.B) Do the same way as above after overhauling breaker

3-2. Preliminary Check

Inspect the following points before operation.
(N.B) Refer to 6. Maintenance and Inspection.

(1) Check the fastened bolts.
Tighten loose bolts.

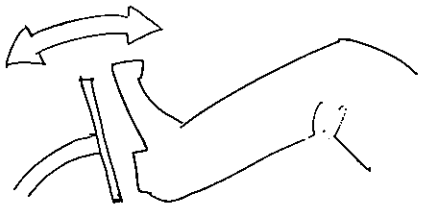
(2) Grease up to a grease nipple on the Front Head five to six times with a grease gun.

(3) Check oil amount in the hydraulic oil tank.
Replenish when the amount is insufficient.

3-3. Operation

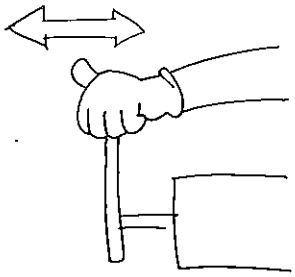
Two kinds of operation methods are available according to your undercarrige.

(1) Pedal system



Depress the breaker pedal and the breaker starts striking.
The breaker stops striking when the pedal is off.
*REMARKS: TB35S (For Europe), TB45
TB36, TB68S.

(2) Lever system



A shift lever on the side of the seat is shifted to breaker striking. When the drive lever is operated forward, the breaker starts striking.
(N.B) When the shift lever is shifted to a trvelling and the drive lever is operated, the undercarriage normally travels.
*REMARKS: TB35S For U.S.A./U.K./etc.
(Possible to change the operation by adding a breaker pedal.)

3-4. Correct Operation

(1) Idle the engine at low speed to warm it up, especially on cold days.
(2) Fix the chisel on the rock so that the breaker pressure is transmitted to it vertically.
(3) Continue the striking with the chisel contacting the rock.
(4) Stop hammering immediately after the rock is broken.

3-5. Caution

(1) Do not do no-load hammering.
The chisel must contact the rock constantly during the breaker operation. No-load hammering causes wear and tear of inner parts, loosens or damages bolts and nuts.

(2) Do not break the rock by prizing. This results in the trouble to the chisel as well as mechanical damage of breaker body and the bracket due to the unreasonable force applied.
Use a chisel for breaking rocks only. Do not prize.

(3) Continuous hammering at one point of rock must be done no longer than one minute.
Long-time hammering raises the oil temperature and reduces the life of chisel and main components. Change the striking point frequently instead of long-time striking of the same section.

(4) Hammering must be made with the bolts tightened efficently.
In case the breaker is operated with the bolts and nuts loosened, bolts may be broken. Stop hammering promptly to tighten the bolts when they are found loose.

(5) Unusual vibration of the hydraulic hose for the breaker results in the trouble to the accumulator. Examine the accumulator once again after stopping operation.

(6) Remove water or mud from the breaker before operation, as it results in trouble to the breaker.

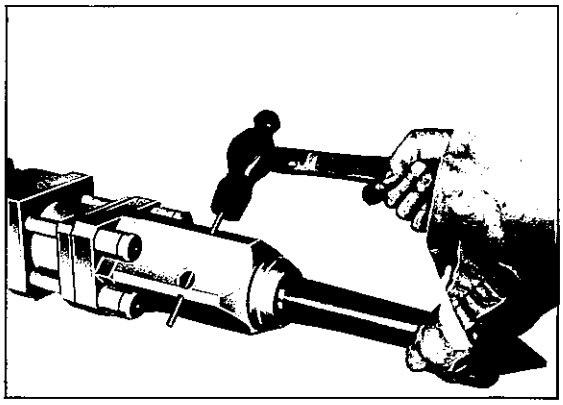
(7) When the temperature rises above 80°C, stop operation and continue use only after the temperature has dropped. The seals come off when the temperature rises above 80°C.

(8) Before disassembling the breaker(s) or when removing the hose(s), first make sure the oil temperature is low. You could suffer burns if the oil temperature is high when you are performing this task.

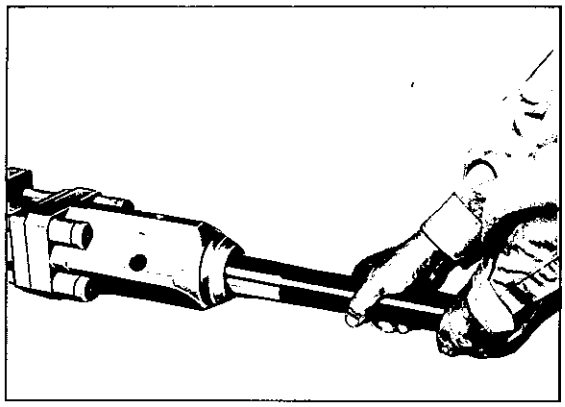
(9) When you are disassembling the accumulator, wait for the pressure of the confined gas to come down to 0kg/cm^2 before releasing the gas. If there is any gas pressure remaining at the time of disassembly, parts could fly out and cause bodily injury, and the machine could be damaged.

4. Exchange of Chisel

4-1. Removing the Chisel



Remove the chisel with a hammer by releasing the spring pin holding the chisel set pin, as shown in the left picture.



Then take out the chisel set pin, plane washer, cushion sheet, and finally the chisel.

4-2. Installing the Chisel

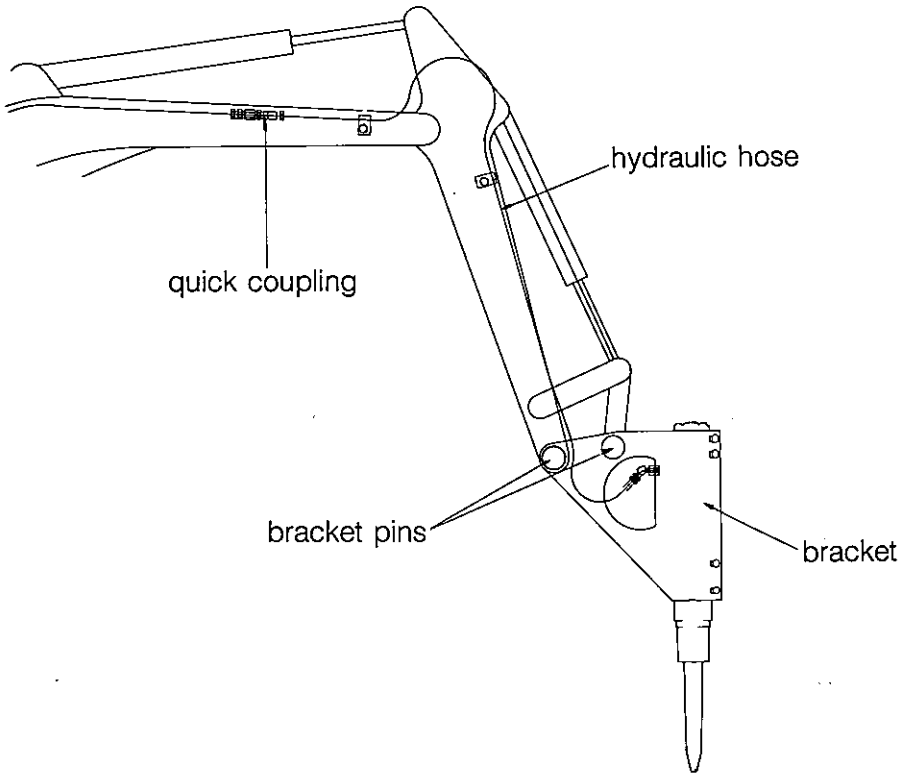
Grease the shank of the chisel fully and install it in the reverse order of above.

(N.B) use a high-lubricant grease containing molybdenum disulfide (MoS_2).

5. Installment and removal of Breaker

5-1. Removing the Breaker

(1) Remove the two hydraulic hoses from the quick coupling connector on the arm.
(2) Connect the breaker hydraulic hoses IN and Out with a quick coupling.
(3) Remove the two fastening pins and a whole bracket in the same manner as when changing the backet.



5-2. Caution for installing the Breaker

(1) Remove any foreign materials or dust when the bracket is connected with a quick coupling of the arm.
(2) Quick coupling is not connected easily if the hydraulic hoses have any remaining pressure inside.
Release the pressure completly by operating the control lever.