HYDRAULIC BREAKER

OPERATOR'S MANUAL

⚠ DANGER

For the safe and correct use of this product, please read the safety directions and operating instructions in this manual. Don't operate this product before full acquaintance with its contents.

For the convenience of operation, please put this manual beside the corresponding breakers.

TYPE	
NUMBER	
TIME	

⚠ DANGER!!

DO NOT OPERATE THIS BREAKER UNLESS THE FOLLOWING SAFETY INSTRUCTIONS HAVE BEEN THROUGHLY READ AND UNDERSTOOD! READ THIS MANUAL BEFORE INSTALLING,OPERATING OR MAINTAINING THIS EQUIPMENT!

Flying debris from the breaker, breaker rod, rock or other material may cause serious or fatal injury to the operator. Personal protection equipment must be used.

Flying debris from the breaker, breaker rod, rock or other material may cause serious or fatal injury to bystanders. Never operate the breaker when bystanders are in the work area.

On some machines / carriers, the breaker can enter the operator's compartment if it breaks loose and swings toward the operator. Make sure that suitable impact shields are used when operating the breaker with this type of equipment.

Do not operate the breaker unless all safety decals described in this manual are in place. The decals must be inspected periodically to ensure that all wording is legible. The decals must be replaced if illegible. Replacement decals can be obtained from Factory .

When operating the breaker ear, eye and breathing protection must be used at all times.

The breaker will become very hot during operation. Allow time for breaker to cool down before touching breaker parts.

CONTENTS

Specification

Form 1

	Model	HRB020	HRB030	HRB040	HRB050	HRB060
Body Weight	**kg**	53	71	89	156	215
Total Weight (Side/Top/Silence)	**kg**	70/ 72/ 102	95/ 95/ 129	158/ 158/ 180	263/ 343/ 361	335/ 410/ 451
Length (Side/Top/Silence)	**mm**	931/ 1116/ 1213	1091/ 1225/ 1329	1182/ 1347/ 1412	1363/ 1681/ 1664	1484/ 1742/ 1755
Width (Side/Top/ Silence)	**mm**	216/ 216/ 255	255/ 216/ 255	275/ 275/ 255	350/ 350/ 350	350/ 380/ 350
Height (Side/Top/ Silence)	**mm**	354/ 208/ 260	431/ 200/ 260	498/ 286/ 260	681/ 474/ 475	755/ 475/ 475
Operating Pressure	**kg/cm² psi bar**	90-120 1280-1704 88-117	90-120 1280-1704 88-117	90-120 1280-1704 88-117	110-140 1562-1988 108-137	120-150 1704-2130 118-147
Hydraulic Flow Range	**l/min gal/min**	15-25 4-7	20-30 5-8	25-50 6.6-13.2	40-70 10.5-18.5	50-90 13.1-23.6
Impact Frequency	**bpm**	800-1400	700-1200	600-1100	500-900	400-800
Diameter of Hose	**mm inch**	12.7 1/2	12.7 1/2	12.7 1/2	12.7 1/2	12.7 1/2
Diameter of Tool	**mm**	40	45	53	68	75/80
Weight of Tool	**kg**	4	8	9	18	24/26
Suitable Carrier	**m³**	0.07	0.03-0.1	0.06-0.2	0.15-0.3	0.2-0.35
Suitable Carrier	**ton**	0.8-2.5	1.2-3.0	2.5-4.5	4.0-7.0	6.0-9.0
Valve Type		Inward	Inward	Inward	Inward	Inward
Accumulator Exists		No	No	No	No	No

Specification

Form 1

	Model	HRB110	HRB140	HRB160	HRB180	HRB220
Body Weight	**kg**	282	479	590	620	846
Total Weight (Side/Top/Silence)	**kg**	559/ 637/ 733	761/ 866/ 1007	1280/ 1300/ 1415	1277/ 1308/ 1371	1680/ 1880/ 1930
Length (Side/Top/Silence)	**mm**	1676/ 2027/ 1993	1989/ 2347/ 2350	2050/ 2470/ 2450	2286/ 2723/ 2750	2259/ 2691/ 2750
Width (Side/Top/ Silence)	**mm**	440/ 440/ 440	440/ 455/ 440	558/ 558/ 558	545/ 545/ 565	565/ 565/ 565
Height (Side/Top/ Silence)	**mm**	885/ 547/ 562	967/ 551/ 562	1075/ 710/ 710	1114/ 619/ 666	1237/ 707/ 560
Operating Pressure	**kg/cm² psi bar**	130-160 1846-2272 128-157	150-170 2130-2414 147-166	160-180 2272-2556 157-177	150-170 2130-2414 147-166	160-180 2272-2556 157-177
Hydraulic Flow Range	**l/min gal/min**	60-100 15.8-26.3	80-110 21.1-29.1	90-120 23.7-31.7	90-120 23.7-31.7	145-180 38.3-47.6
Impact Frequency	**bpm**	400-800	350-700	400-900	350-650	350-500
Diameter of Hose	**mm inch**	19.05 3/4	19.05 3/4	19.05 3/4	25.4 1	25.4 1
Diameter of Tool	**mm**	85	100	120	125	135
Weight of Tool	**kg**	29	57	85	94	115
Suitable Carrier	**m³**	0.25-0.5	0.4-0.6	0.4-0.6	0.4-0.6	0.6-0.8
Suitable Carrier	**ton**	7.0-14.0	10.0-15.0	13.0-18.0	15.0-18.0	20.0-26.0
Valve Type		Inward	Inward	Outward	Inward	Outward
Accumulator Exists		No	No	Yes	No	Yes

Specification

Form 1

	Model	HRB250	HRB310	HRB320	HRB350
Body Weight	**kg**	956	1092	1313	1590
Total Weight (Side/Top/Silence)	**kg**	1809/ 2094/ 2046	2218/ 2380/ 2457	2577/ 2745/ 2968	3277/ 3447/ 2975
Length (Side/Top/Silence)	**mm**	2479/ 2900/ 2860	2575/ 3027/ 3020	2767/ 3219/ 3088	3000/ 3262/ 2889
Width (Side/Top/ Silence)	**mm**	565/ 565/ 565	665/ 665/ 665	665/ 665/ 665	665/ 665/ 665
Height (Side/Top/ Silence)	**mm**	1316/ 707/ 560	1353/ 760/ 760	1390/ 760/ 799	1526/ 760/ 840
Operating Pressure	**kg/cm² psi bar**	160-180 2272-2556 157-177	160-180 2272-2556 157-177	160-180 2272-2556 157-177	170-200 2414-2840 167-196
Hydraulic Flow Range	**l/min gal/min**	120-180 31.7-47.6	150-190 39.6-50.2	180-240 47.6-63.4	200-250 52.8-65.6
Impact Frequency	**bpm**	350-500	350-700	300-450	250-380
Diameter of Hose	**mm inch**	25.4 1	25.4 1	31.75 1-1/4	31.75 1-1/4
Diameter of Tool	**mm**	140	150	155	165
Weight of Tool	**kg**	126	157	190	215
Suitable Carrier	**m³**	0.7-0.9	0.9-1.2	1.1-1.4	1.2-1.6
Suitable Carrier	**ton**	18.0-26.0	27.0-35.0	28.0-35.0	30.0-40.0
Valve Type		Inward	Outward	Inward	Inward
Accumulator Exists		Yes	Yes	Yes	Yes

Specification

Form 1

	Model	HRB370	HRB400	HRB520	HRB550	HRB600
Body Weight	**kg**	1400	1960	2375	2823	3077
Total Weight (Side/Top/Silence)	**kg**	-/ 3010/ 2993	3905/ 4057/ 3902	4365/ 4844/ 4800	4841/ 5374/ 5330	5617/ 6547/ 5966
Length (Side/Top/Silence)	**mm**	-/ 3262/ 3145	3128/ 3732/ 3729	3284/ 3875/ 3882	3596/ 4030/ 4043	3479/ 4060/ 4189
Width (Side/Top/ Silence)	**mm**	-/ 655/ 655	755/ 755/ 755	755/ 755/ 755	755/ 755/ 755	755/ 755/ 755
Height (Side/Top/ Silence)	**mm**	-/ 760/ 837	1600/ 908/ 908	1642/ 908/ 940	1680/ 908/ 940	1707/ 950/ 1000
Operating Pressure	**kg/cm² psi bar**	160-180 2272-2556 157-177	180-210 2556-2982 176-206	200-250 2840-3550 196-245	200-250 2840-3550 196-245	200-260 2840-3692 196-255
Hydraulic Flow Range	**l/min gal/min**	190-240 50.3-63.5	200-260 52.8-68.42	220-270 58.08-71.28	270-320 76.7-90.9	285-335 75.4-88.6
Impact Frequency	**bpm**	250-380	200-350	150-200	150-200	150-200
Diameter of Hose	**mm inch**	31.75 1-1/4	31.75 1-1/4	31.75 1-1/4	31.75 1-1/4	31.75 1-1/4
Diameter of Tool	**mm**	160	175	185	195	200
Weight of Tool	**kg**	175	255	287	315	315
Suitable Carrier	**m³**	1.2-1.6	1.4-1.8	1.4-2.0	1.6-2.2	1.6-2.2
Suitable Carrier	**ton**	35.0-40.0	35.0-40.0	40.0-55.0	50.0-65.0	55.0-75.0
Valve Type		Outward	Inward	Outward	Outward	Outward
Accumulator Exists		Yes	Yes	Yes	Yes	Yes

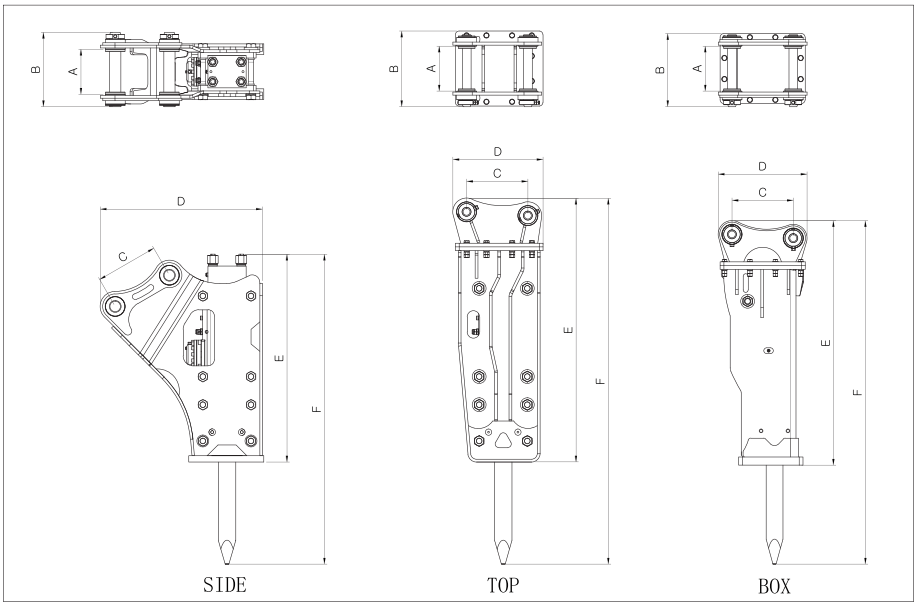
Specification

Form 1

	Model	HRB700	HRB800	HRB900	HRBA00	HRBA20
Body Weight	**kg**	3400	3577	3939	4153	5994
Total Weight (Side/Top/Silence)	**kg**	6600/ 7225/ 7000	7100/ 7513/ -	7700/ 8147/ -	8503/ 10000/ -	10891/ 11420/ -
Length (Side/Top/Silence)	**mm**	3613/ 4360/ 4400	3687/ 4360/ 4408	3841/ 4470/ -	3797/ 4690/ -	4215/ 4750/ -
Width (Side/Top/ Silence)	**mm**	805/ 805/ 805	864/ 864/ 864	865/ 865/ -	865/ 865/ -	955/ 955/ -
Height (Side/Top/ Silence)	**mm**	1811/ 1017/ 1030	1911/ 1030/ 1050	1908/ 1030/ -	1976/ 1030/ -	2099/ 1080/ -
Operating Pressure	**kg/cm² psi bar**	200-260 2840-3692 196-255	200-260 2840-3692 196-255	200-260 2840-3692 196-255	200-260 2840-3692 196-255	200-260 2840-3692 196-255
Hydraulic Flow Range	**l/min gal/min**	300-380 79.4-100.5	340-400 90-105.8	385-440 101.8-116.4	390-460 103.2-121.7	390-470 1.3.2-124.3
Impact Frequency	**bpm**	140-180	140-180	140-180	130-170	120-160
Diameter of Hose	**mm inch**	38.1 1-1/2	38.1 1-1/2	38.1 1-1/2	38.1 1-1/2	38.1 1-1/2
Diameter of Tool	**mm**	210	215	220	230	258
Weight of Tool	**kg**	365	384	427	479	662
Suitable Carrier	**m³**	2.4-3.2	2.6-3.5	2.8-3.7	3.0-4.4	3.4-5.3
Suitable Carrier	**ton**	65.5-90.0	70.0-95.0	75.0-100.0	80.0-120.0	90.0-140.0
Valve Type		Outward	Outward	Outward	Outward	Outward
Accumulator Exists		Yes	Yes	Yes	Yes	Yes

Specification

■ External Dimensions



Form 2 Unit:mm

Model	A			B			C			D			E			F		
	SIDE	TOP	BOX	SIDE	TOP	BOX	SIDE	TOP	BOX	SIDE	TOP	BOX	SIDE	TOP	BOX	SIDE	TOP	BOX
HRB020	126	126	145	216	216	255	106	106	165	354	208	260	533	700	945	931	1116	1213
HRB030	145	126	145	255	216	255	165	106	165	431	200	260	609	747	1013	1091	1225	1329
HRB040	165	165	145	275	275	255	185	185	165	498	286	260	688	867	1082	1182	1347	1412
HRB050	210	210	210	350	350	350	285	340	340	681	474	475	775	1073	1277	1363	1681	1664
HRB060	210	240	210	350	380	350	340	340	340	755	475	475	846	1129	1328	1484	1742	1755
HRB110	275	275	275	440	440	440	300	375	375	885	547	562	1052	1622	1603	1676	2027	1993
HRB140	275	290	275	440	455	440	390	390	375	967	551	562	1137	1480	1744	1989	2347	2350
HRB160	360	360	360	558	558	558	420	490	490	1075	710	710	1420	2475	1810	2050	2470	2450
HRB180	340	340	360	545	545	565	420	420	410	1114	619	666	1539	1980	202	2286	2723	2750
HRB220	360	360	360	565	565	565	465	490	465	1237	707	560	1601	2041	1943	2259	2691	2750
HRB250	360	360	360	565	565	565	465	490	490	1316	707	560	1672	2093	2083	2479	2900	2860
HRB310	430	430	430	665	655	655	520	520	520	1353	760	760	1777	2218	2211	2575	3027	3020
HRB320	430	430	430	665	655	655	520	520	520	1390	760	799	1863	2334	2366	2767	3219	3088
HRB350	430	430	430	665	655	655	560	520	560	1526	760	840	2077	2399	2011	3000	3122	2889
HRB370	/	430	430	/	655	655	/	520	520	/	760	837	/	2419	2477	/	3262	3145
HRB400	500	500	500	755	755	755	520	620	620	1600	908	908	2211	2815	2885	3128	3732	3729
HRB520	500	500	500	755	755	755	600	620	600	1642	908	940	2409	3018	3125	3384	3875	3882
HRB550	500	500	500	755	755	755	620	620	590	1680	908	940	2588	3064	3239	3596	4030	4043
HRB600	500	500	500	755	755	755	620	620	620	1707	950	1000	2627	3208	3272	3479	4060	4189
HRB700	550	550	500	805	805	805	660	700	700	1811	1017	1030	2737	3484	3500	3613	4360	4400
HRB800	600	600	600	864	864	864	700	700	700	1911	1030	1050	2787	3531	3608	3687	4360	4408
HRB900	600	600	/	865	865	/	700	700	/	1908	1030	/	2950	3580	/	3841	4470	/
HRBA00	600	600	/	865	865	/	700	700	/	1976	1030	/	2900	3590	/	3797	4690	/
HRBA20	700	700	/	955	955	/	750	750	/	2099	1080	/	3186	3630	/	4215	4750	/

To Replace Parts at Regular Intervals

1）The below wear parts must be replaced timely, in case they are worn or broken:

Part Name	regular interval for replacement or reparation
Chisel	refer to page 20
Rod Pin	refer to page 23
Stop Pin	4 months
Rubber Plug	worn or lost
Oil Seal	3 months
Through Bolt	6 months
Through Bolt Washer	6 months
Side Bolt	6 months
Hydraulic Hose	6 months
Front Cover	refer to page 24
Ring Bush	refer to page 25

2）Hydraulic oil,first replacement is at 250 hours; afterwards to replace every 800 hours. To replace oil filter at first 50 hours, afterwards to replace every 100 hours.

3）To ensure normal use, customers shall purchase these wear parts together with hydraulic breakers for preparation in stock. Such as chisel, rod pin, stop pin, rubber plug, bolt, hydraulic hose, etc.

4）Oil seal shall be replaced every 500 hours or 3 months.

5）The above mentioned interval is subject to excavator's working time.

※The above mentioned wear parts are not covered under warranty.

Security Information

Most of accidents happen due to overlooking security while operating, checking and repairing.
It is very important to operate hydraulic breaker in correct way while working, because it can directly cause accident and machine breakdown due to wrong operation.

Please follow this manual's requirements to operate while hydraulic breaker working. We will not take responsibility for any accident or machine breakdown which is caused by incorrect operation or incorrect maintenance. Please note these areas marked with Danger, Warning, Attention, Indication, which shall be paid much more attention during working.

* If you have any inquiry on this manual, please contact the local distributor.

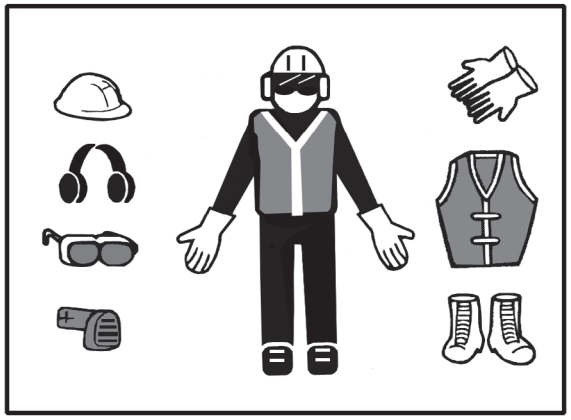
Our company can't foresee all the potential dangers during the whole process of hydraulic breaker's operation, inspection and reparation, so if you adopt different ways and methods during the process of operating the hydraulic breaker, you must ensure security and no mistake so as to avoid machine breakdown.

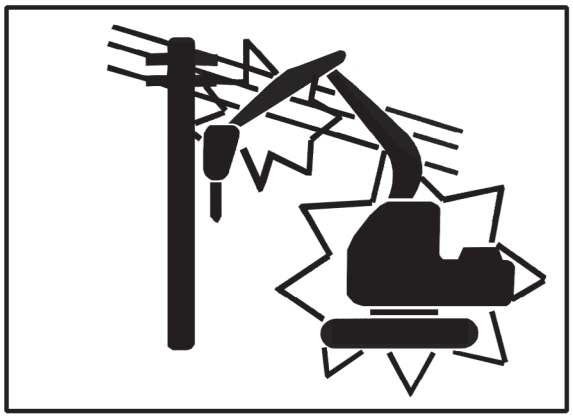
Safety Clothing

Please put on safety cap, shoes, clothing and other safety devices (glasses, gloves, earplugs, etc.) when operating or repairing the machine.

Attention to Obstacles

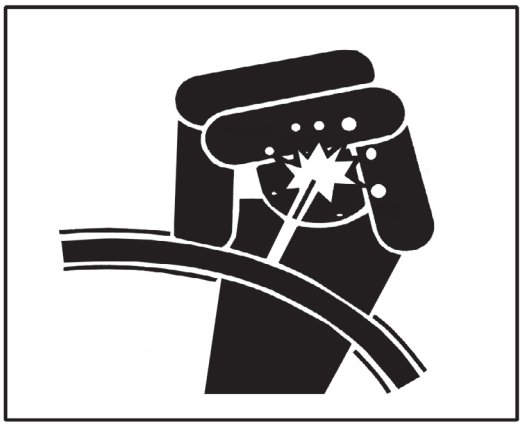
Attention to obstacles when working close to power line.
Keep the shortest safety distance to power line.
To contact the power company in advance when you have to work close to power line.





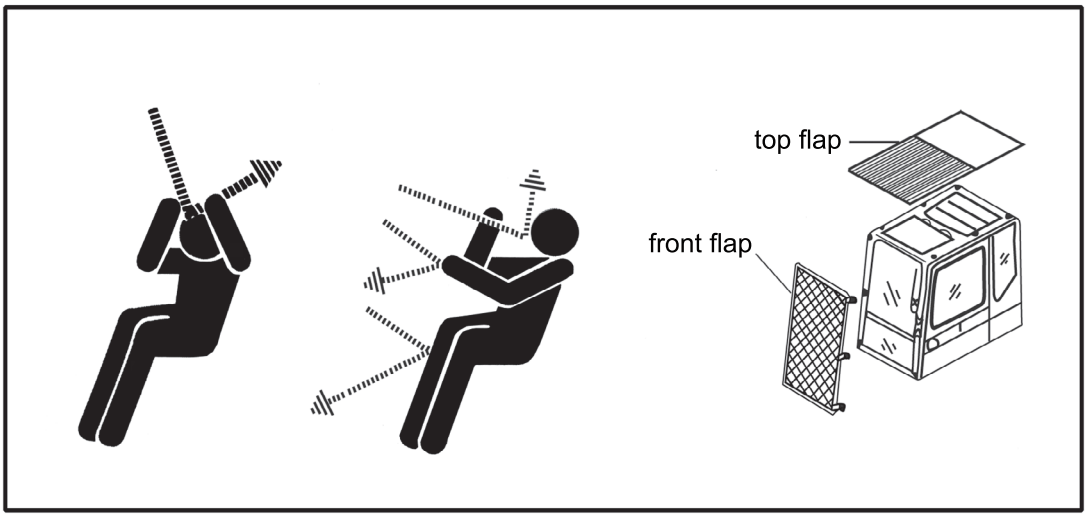
Notice for Removal Hydraulic Breaker

The hydraulic oil after operation is in high temperature and high pressure condition,If you disassemble nut,hose pipe,piping kit and other parts at this moment, it will cause the hydraulic oil to squirt out.So when you disassemble those parts,you must reduce the pressure and temperature of the hydraulic oil in the tank first.



Pay Attention to Falling Broken Objects

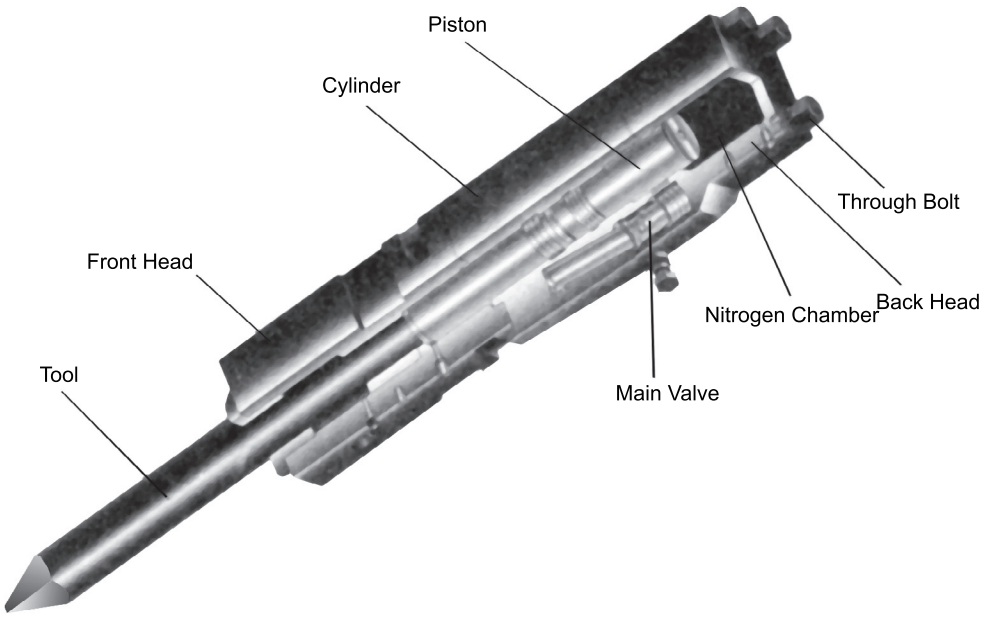
The staff should pay attention to the scattered dangerous objects after striking during the work, and select the suitable location according to the on-site operation.Prepare necessary protective measures.



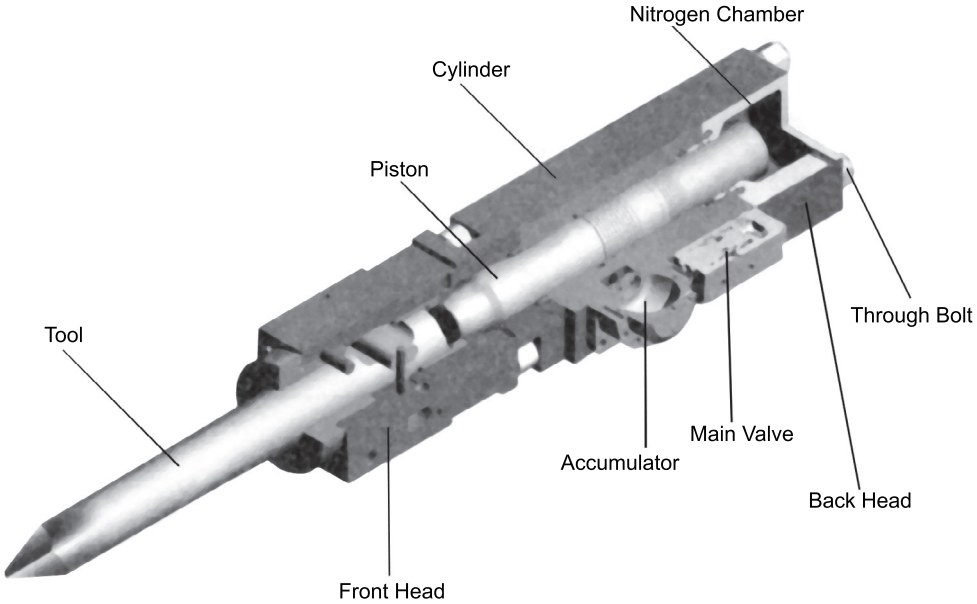
Name of Part and Its Function

■ Structure

HRB020、HRB030、HRB040、HRB050、HRB060、HRB110、HRB140、HRB160



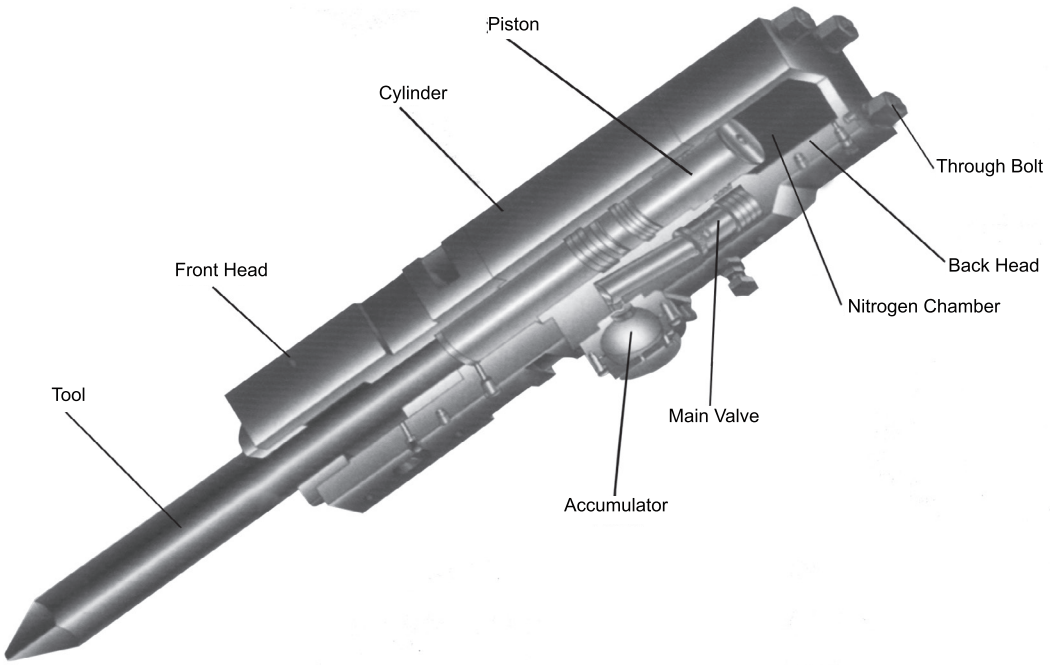
HRB160、HRB220、HRB310、HRB370、HRB520、HRB550、
HRB600、HRB700、HRB800、HRB900、HRBA00、HRBA20



Name of Part and Its Function

■ Structure

HRB250、HRB320、HRB350、HRB400



■ Main Valve

The Main Valve controls reciprocates piston action with hydraulic oil distribution.

■ Accumulator

Ensure the gas energy of the impact power
Absorb the vibration pressure caused by the piston rebound
Ensure the stability of hydraulic pressure

■ Nitrogen Chamber

Nitrogen charging
Inject pressure
See Form 4 at Page 30

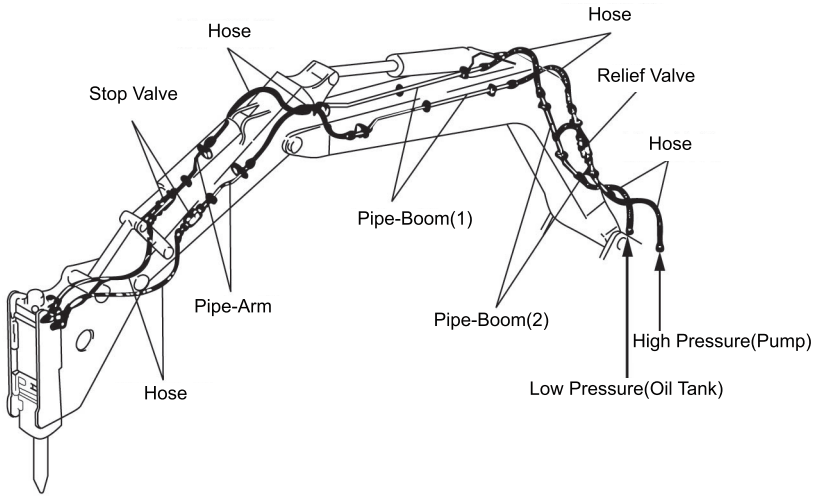
■ Tool

There are five types of tool,such as moil type,blunt type and so on.See page 19 for more details.(Tool Management)
Please select according to the use.

Name of Part and Its Function

■ Hydraulic Piping Kit

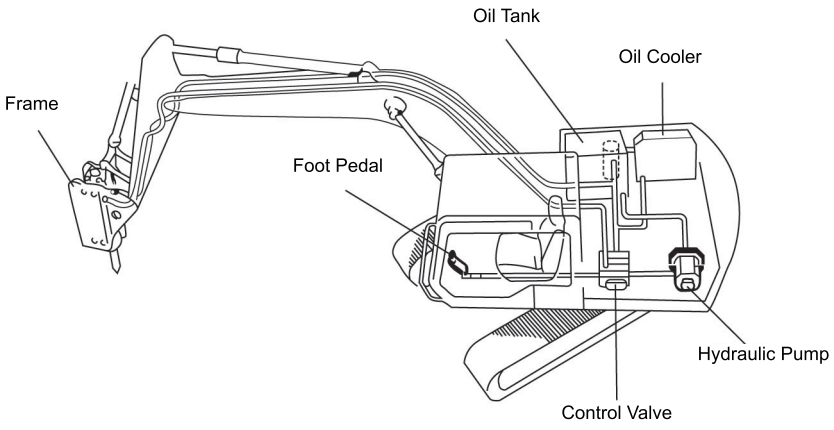
1. When you install hydraulic breaker on hydraulic excavator, be sure to use professional hydraulic pipe.Different excavators need to be equipped with different hydraulic pipelines.(Please contact local dealer.)



2. As the pump energy and control valve form of hydraulic excavator are different, the connection way of pipeline is completely different.There are two main methods:

1) Prepare valve connection

2) Connect pump directly

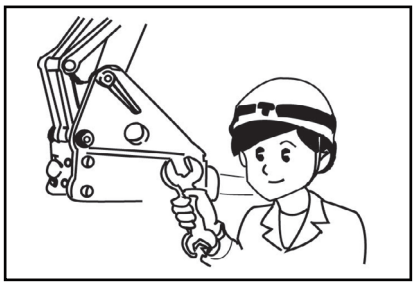


Correct Operation

Safety Inspection before Working

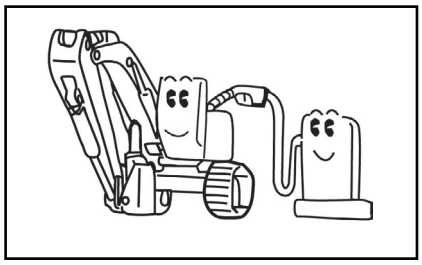
■ Bolts and Nuts

Please check whether all the bolts and nuts are tightened well. If any of them loosens, please tighten it immediately. (tighten torque please see Page 32)



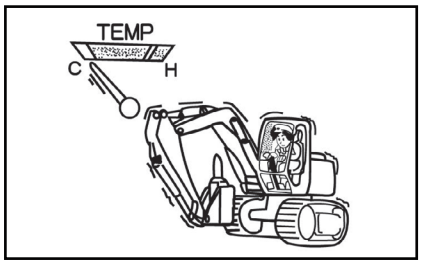
■ Hydraulic Oil

Please check whether the hydraulic oil is enough. If it is very inferior, please change the oil immediately.



■ Warming up the Wachine Blank Operation

Please do not leave the excavator during the warming up of the machine. It will be normal if the needle of the water thermometer is moving.

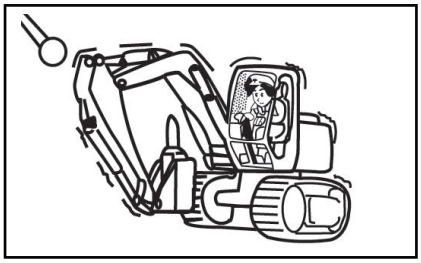


Correct Operation

Safety Inspection before Working

■ Running-in Operation

Before the first time using the new hydraulic breaker, the Running-in operation should be done for an hour. Everyday before working this operation should be done for 10 minutes, during the running-in operation, the hydraulic oil is 70% of normal working flow. During this operation the impact of the breaker should be perpendicularly, slant impact is forbidden. Full-load working immediately after just starting the machine may cause the damage of the seal kits or other important parts.



■ Greasing

Please inject the grease into the front head of the breaker.
(For more details please see Page 36)

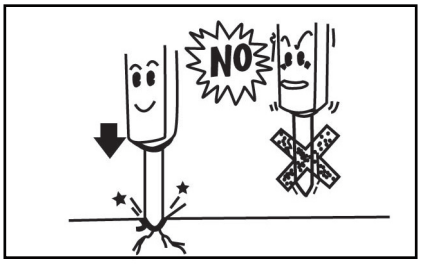
Correct Operation

Safety Inspection before Working

Below operation is forbidden

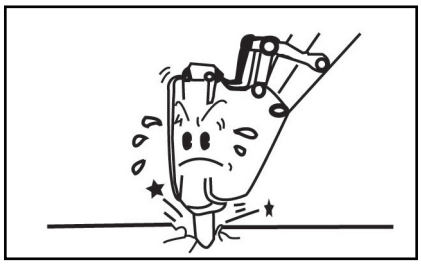
■ Blank-fire is Forbidden

The operation while the chisel has not got touch with the breaking object or they are not contacting tightly is called "Blank fire".Blank fire will cause the damage of the parts, or the broken or loosen of the bolts and nuts.



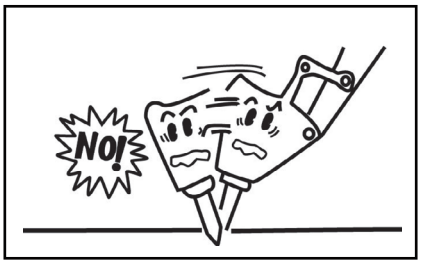
■ Continuous impact is Forbidden

Please do not impact the same point of the breaking object continuously. It will cause the abnormal abrasion of the chisel or the damage of the other parts. Please move the chisel to the other impact point of the object if the current point can not be broken within 1 minute.



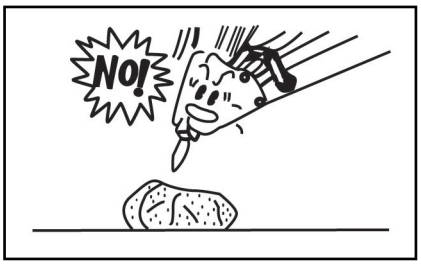
■ Shaking the Chisel is Forbidden

Please do not shake the chisel, it will cause the damage of the through bolts, chisel and the seal retainer.



■ The Sudden Severe Impact to the Breaking Object is Forbidden

Comparing with the bucket, hydraulic breaker is much heavier, so please operate the excavator slowly. Please do not contact the breaking object fiercely. Otherwise it may cause the damage of the front area of the excavator and the swing parts.

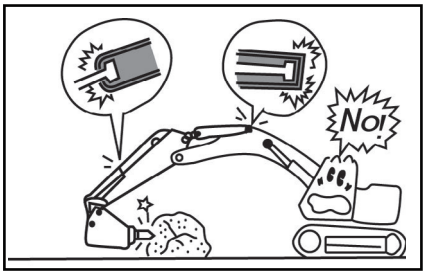


Correct Operation

Safety Inspection before Working *Below operation is forbidden!*

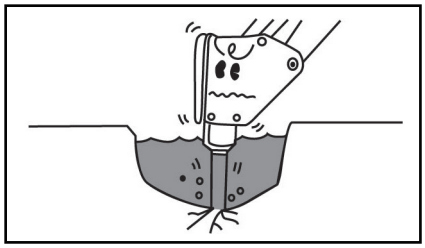
■ Please do not operate hydraulic breaker with boom or arm cylinders fully extended

Please do not operate hydraulic breaker with boom or arm cylinders fully extended, Please keep 100 mm cylinder stroke of base machine at least, otherwise, it may cause the damage of the cylinder and the front part area.



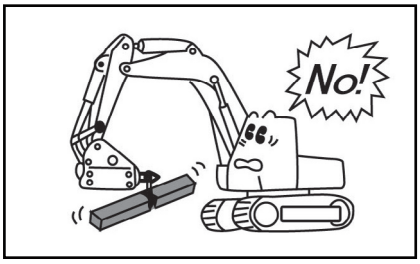
■ Operation under water is forbidden

Please do not use the hydraulic breaker under the water, otherwise, it will damage it.
Please install our under-water kit for breaker in case it needs to work under water.



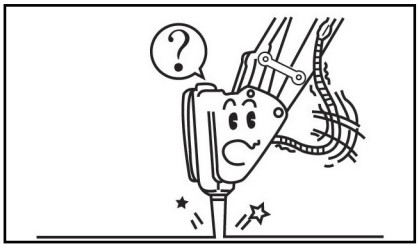
■ Hoisting is forbidden

Please do not hoist weights by using the hydraulic breaker or its tool, it may damage the breaker and the arm of the excavator.



■ Operation during the hydraulic hoses vibrating excessively is forbidden.

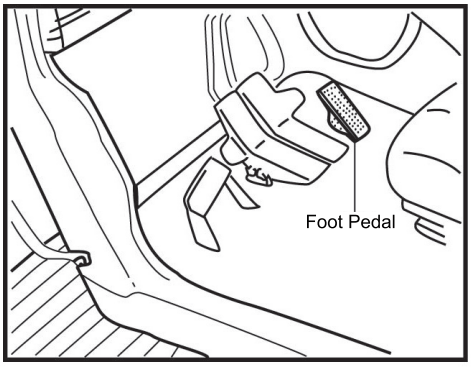
If the hydraulic hoses are vibrating excessively, It indicates gas leaking from the accumulator or back head of the hydraulic breaker. In this case, please check the nitrogen gas pressure, and charge the gas with specified pressure(For more details please see Page 29).



Breaker Operation

■ Operation Method of Breaker

Pedal mode (pump direct connection mode, preparation valve mode): After thread on breaker's pedal, breaker start to work, breaker will stop work after release the pedal.

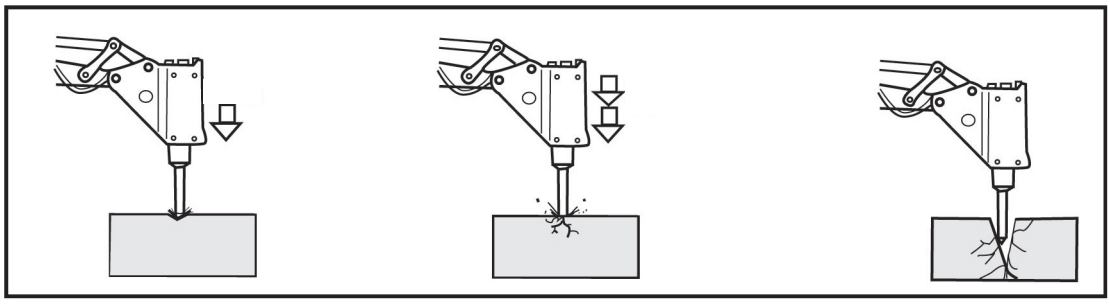


■ Operation of Breaker

Make chisel aim to the working object, then presit.

Make chisel vertical placed, do break working by hand-operate or pedal-operate.

stop work once the working object is broken.



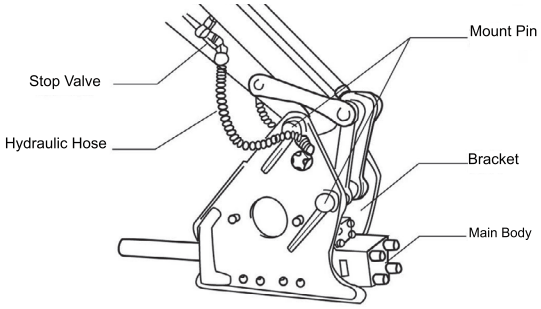
Warning

- 1.First, do mechanical preheating, until the pointer of water thermometer start to move.
- 2.The revolving speed of engine must be below of setting value.
- 3.Don't continuous working in too hot condition in summer, otherwise the temperature of oil will be too high. If the temperature is over 80°C. Stop work until the temperature come down.

Disassembly and Installation of Breaker

■ Breaker Disassembly

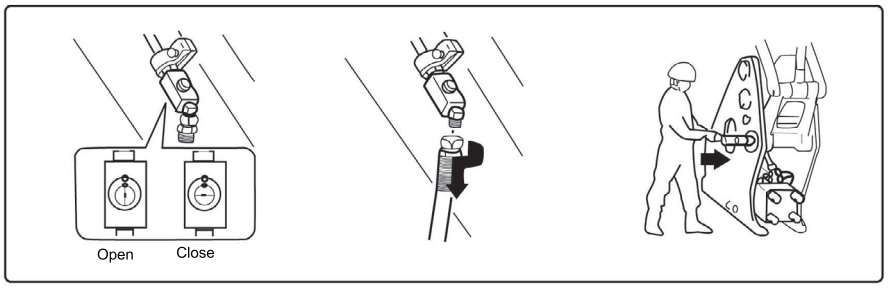
Breaker's status before disassembly



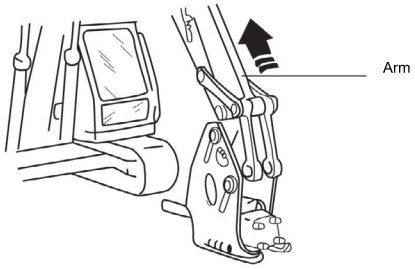
Close the stop valve.

Take hose off from arm pipe, and insert plug to prevent sundries from droping in main body and piping.

Remove two mount pins from breaker bracket.



Lift up the arm slowly, and take off hydraulic breaker.



Warning

To avoid sundries or others drop in main body, please must tighten the plug of hose and pipe.

Disassembly and Installation of Breaker

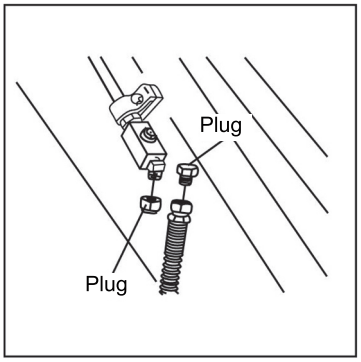
■ Breaker Installation

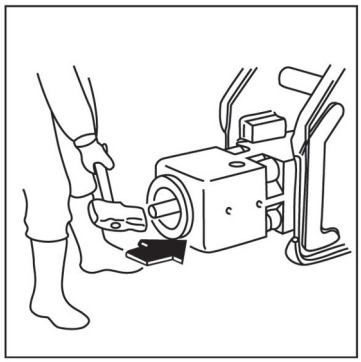
1. Make the center of bracket aim to the center of arm, then put down the arm slowly, and install mount pins.
2. Install mount pin at arm side, and operate bucket cylinder, then install the mount pin at link side.
3. Take off plugs on each pipe and hose, then connect them.
4. Open the stop valve .

Reminder: When make the center of bracket aim to the center of arm, engine's rotating speed should be reduced to make boom's working speed slow down.

■ Breaker Maintenance

If breaker will be unused for more than one week, please follow below method .
1. Hose, pipe must be installed plugs.
2. Release the nitrogen from nitrogen chamber.(refer to P29, *nitrogen chamber pressure adjustment*)
3. Remove chisel from breaker.
4. Make hammer aim to the end of piston, and impact it to make piston go back.
5. Apply grease into front head.(refer to P36 *Greasing*)



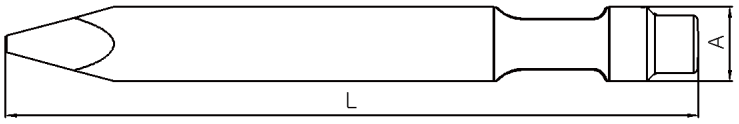


In order to protect breaker, please place it in room, or place it on sleepers, and covered by tarpaulin(to prevent rain)
Reminder:If remove hose plugs, piston will be easily draw back

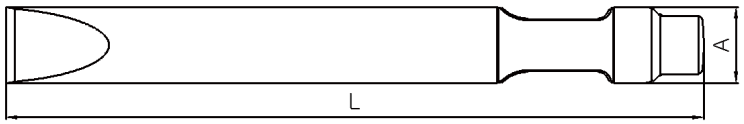
Tool

Please use original tools only.

Moil, Conical type



Flat type



■ Tool Dimension

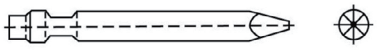
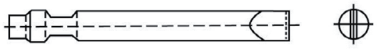
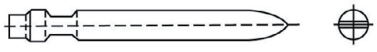
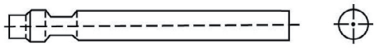
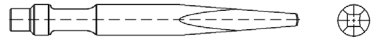
Form 3

Unit: mm

Model	HRB020	HRB030	HRB040	HRB050	HRB060	HRB110	HRB140	HRB160	HRB180	HRB220	HRB250
Diameter(A)	40	45	53	68	75/80	85	100	120	125	135	140
Length(L)	430	500	580	702	755	745	1055	1100	1130	1200	1300
Front Cover(B)	40	45	53	68	75/80	85	100	120	125	135	140

Model	HRB310	HRB320	HRB350	HRB370	HRB400	HRB520	HRB550	HRB600	HRB700	HRB800	HRB900	HRBA00	HRBA20
Diameter(A)	150	155	165	160	175	185	195	200	210	215	220	230	258
Length(L)	1300	1500	1500	1400	1600	1700	1800	1650	1800	1800	1900	1900	2000
Front Cover(B)	150	155	165	160	175	185	195	200	210	215	220	230	258

■ Tool Type and Application

Sketch Map	Type	Application
	Conical Point (C)	Concrete
	Moil Point (M)	Rock
	H-Wedge (H)	Trenching
	V-Wedge (V)	Finshing
	Blunt (B)	Rock
	Conical Slotted (CS)	Rock, Concrete
	Forged Moil Point (MF)	Rock, Concrete

※ We're not responsible for the failures of hydraulic breakers caused by non original tools.

■ Replacement of Tool

1.Set the breaker on clean and level ground, and clean the hole of Stop Pin, and remove the Stop Pin with pin bar in the opposite side of Rubber Plug.
Note: When removing Stop Pin, Rod Pin may fall down. Take care not to get injury.

2. Remove the Rod Pin with pin bar from underneath, and take Tool out of breaker.

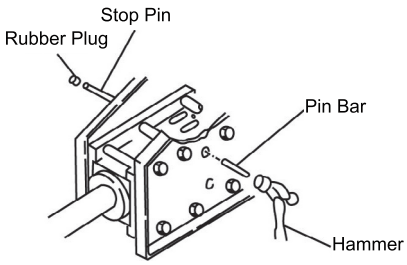
3.Before installing Tool, apply heat-resisting grease onto groove of Tool. And then install the Tool in reverse order of removal.

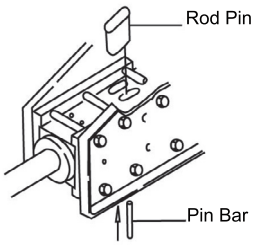
4.Change the face of Rod Pin regularly to avoid excessive deformation.
Note: Check the Rod Pin if there's any broken or wear regularly.

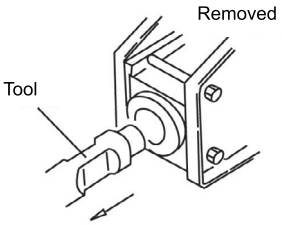
5. The Tool should be replaced after wearing.Please refer to the reject dimensions as per below.

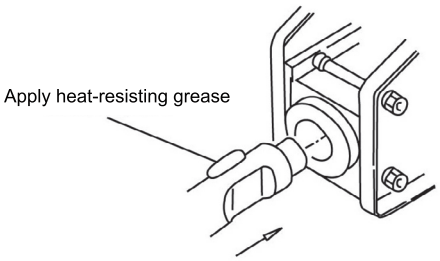
Warning

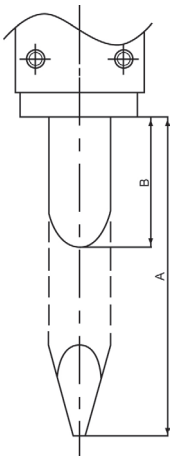
- When remove or install Tool, please pay attention to its weight.
- Knocking the tips of Tool is forbidden.
- Inserting hands into Main Body is forbidden.
- Do not stand near to the Tool when connecting hydraulic hoses or charging gas into Back Head, as the Tool may come out suddenly.
- Do not touch Tool with hands after breaker stops working as the temperature of Tool may be very high.











B is the outer length when the Tool is fully pushed back into Main Body.

Unit: mm

NO.	Model	Original Length (A)	Reject Length (B)
1	HRB020	297	200
2	HRB030	326	200
3	HRB040	330	200
4	HRB050	425	250
5	HRB060	427	250
6	HRB110	564	250
7	HRB140	561	250
8	HRB160	697	300
9	HRB180	650	300
10	HRB220	672	300
11	HRB250	762	400
12	HRB310	777	400
13	HRB320	913	500
14	HRB350	852	450
15	HRB370	829	450
16	HRB400	980	550
17	HRB520	1020	600
18	HRB550	1133	600
19	HRB600	1066	600
20	HRB700	1055	600
21	HRB800	1005	550
22	HRB900	1048	600
23	HRBA00	1033	580
24	HRBA20	1063	640

■ Replacement of Rod Pin

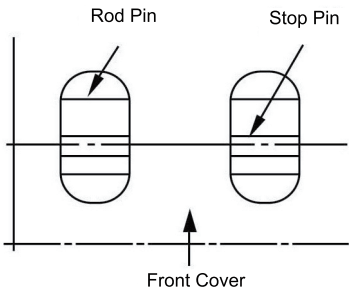
1) If Rod Pin is excessively deformed, it will be difficult to replace Tool. Therefore, after operating the breaker every 100 to 150 hours, change the face of Rod Pin which comes in contact with Tool. (Each face of Rod Pin can be used.

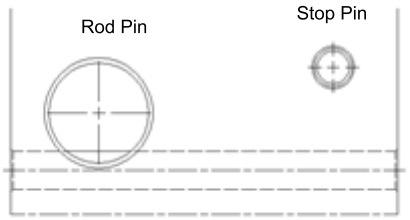
2) When repairing Rod Pin, check if there's any bend or deformation.

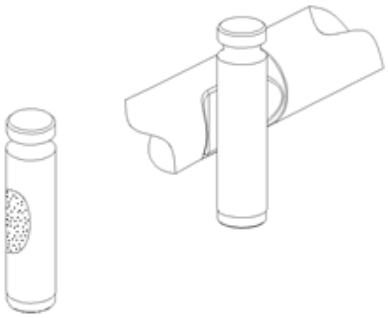
3) After grinding the worn area of Front Cover and Rod Pin, replace Tool.

When changing the face of Rod Pin, put the Rod Pin into the groove of Tool and lock it with Stop Pin.

4) The Rod Pin should be replaced after wearing.Please refer to the reject dimensions as below:

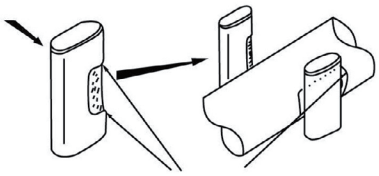




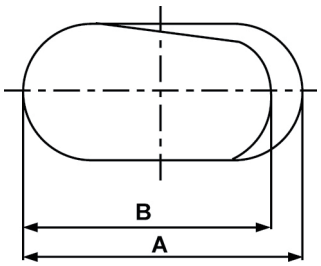


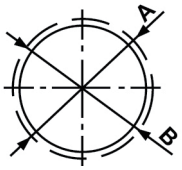
Unit: mm

No.	Model	Original Width(A)	Reject Width(B)
1	HRB020	28	26
2	HRB030	28	26
3	HRB040	32	30
4	HRB050	38	36
5	HRB060	42	40
6	HRB110	54	51
7	HRB140	60	57
8	HRB160	71.5	68.5
9	HRB180	76	73
10	HRB220	80	77
11	HRB250	89.5	85.5
12	HRB310	89.5	85.5
13	HRB320	96	92
14	HRB350	96	92
15	HRB370	100	94
16	HRB400	99	94
17	HRB520	119	104
18	HRB550	129	123
19	HRB600	129.5	123
20	HRB700	139.5	132
21	HRB800	139.5	132
22	HRB900	139.5	132
23	HRBA00	139.5	132
24	HRBA20	164.5	157



If there's any wear or bend, firstly grind it with grinder or the like.

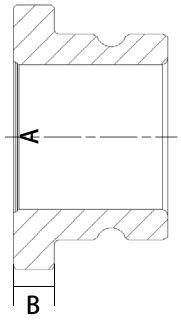




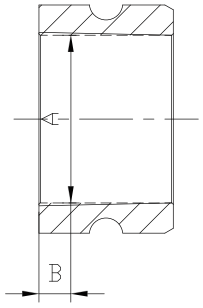
B is the minimum width after worn.

■ Replacement of Front Cover

1) If the clearance between Tool and Front Cover is too big, it could shorten the life of Piston and Tool, even causes the breakage of Tool and Piston.



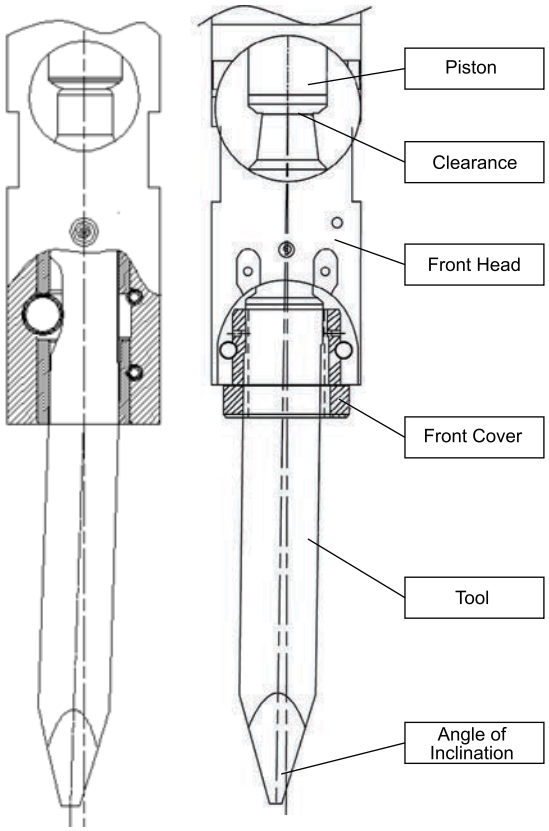
Front Cover(Side/Top)



Front Cover(Box)

Unit: mm

No.	Model	Measure at B	Original Dia. -A	Rejected Dia. -A
1	HRB020	10	40	43
2	HRB030	10	45	48
3	HRB040	10	53	56
4	HRB050	10	68	72
5	HRB060	10	75/80	80/85
6	HRB110	10	85	90
7	HRB140	10	100	105
8	HRB160	10	120	125
9	HRB180	10	125	130
10	HRB220	10	135	140
11	HRB250	10	140	146
12	HRB310	10	150	156
13	HRB320	10	155	161
14	HRB350	10	165	172
15	HRB370	10	160	166
16	HRB400	10	175	182
17	HRB520	10	185	193
18	HRB550	10	195	203
19	HRB600	10	201	210
20	HRB700	10	211	220
21	HRB800	10	216	225
22	HRB900	10	221	230
23	HRBA00	10	231	240
24	HRBA20	10	259	268



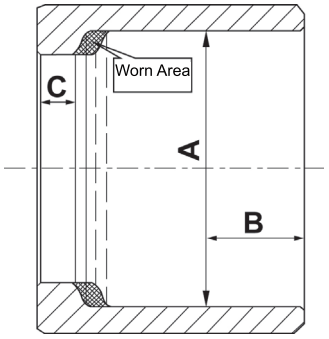
If the clearance between Tool and Front Cover is too big, it could cause following problems,

1. It could cause irregular impact between Piston and Tool, it will shorten the life of Piston.
2. It could cause angle of inclination, and it may lead to breakage of Tool.

The Front Cover should be replaced after wearing.Please refer to the reject dimensions as below:

■ Replacement of Ring Bush

1.If the clearance between Tool and Ring Bush is too big, it could shorten the life of Piston and Tool, even causes the breakage of Tool and Piston.



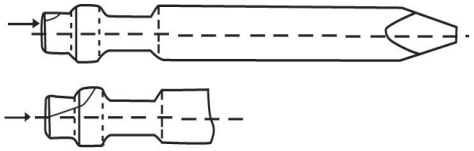
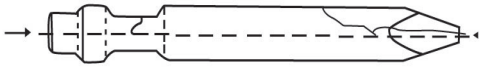
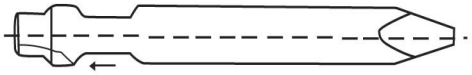
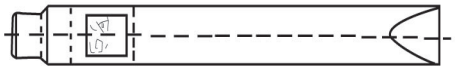
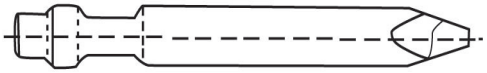
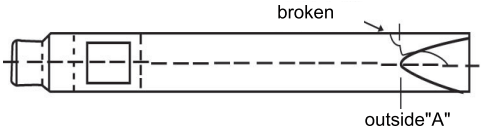
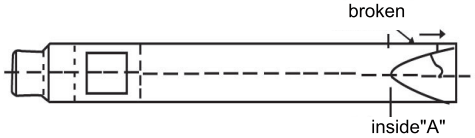
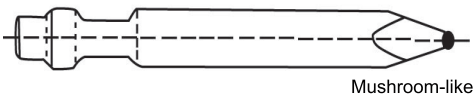
Once A or C meets the Rejected Dimension in below form, the Ring Bush must be replaced immediately.

Unit: mm

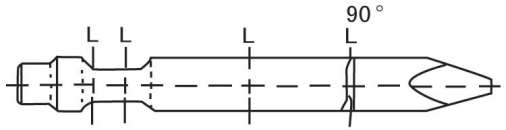
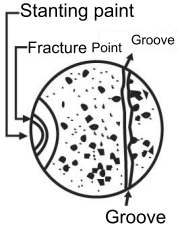
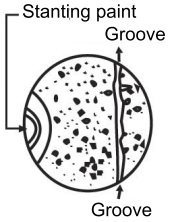
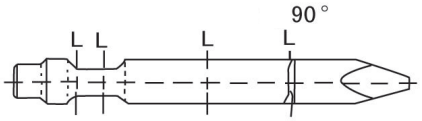
No.	Model	Measure at B	Original Dia. -A	Rejected Dia. -A	Original Height -C	Rejected Height -C
1	HRB020	10	40	42	8.75	6
2	HRB030	10	45	47	10.25	8
3	HRB040	10	53	55	8.5	6
4	HRB050	12	68	71	10.5	8
5	HRB060	12	75/80	78/83	18	15
6	HRB110	12	85	88	22	19
7	HRB140	15	100	104	17	14
8	HRB160	18	120	130	22	25
9	HRB180	15	125	129	31	28
10	HRB220	18	135	140	25	22
11	HRB250	15	140	145	40	36
12	HRB310	20	150	155	32.5	29.5
13	HRB320	15	155	160	46	42
14	HRB350	15	166	172	29.8	25.8
15	HRB370	15	160	166	34	30
16	HRB400	20	176	182	41	36
17	HRB520	20	185.5	192	53	48
18	HRB550	20	195.5	202	31	25
19	HRB600	20	201	210	30.5	25
20	HRB700	20	210.5	219	35	29
21	HRB800	20	215.5	224	45	39
22	HRB900	20	220.5	230	35	29
23	HRBA00	20	230.5	240	31	25
24	HRBA20	20	258.5	268	35	29

■ Warranty of Tool

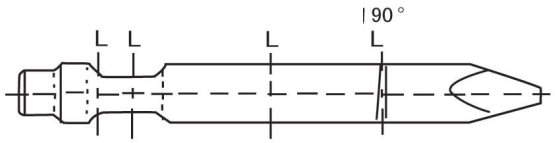
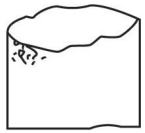
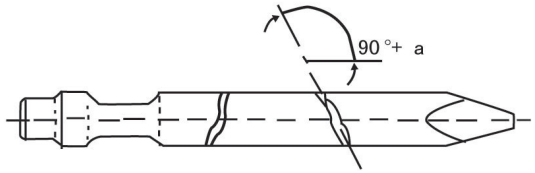
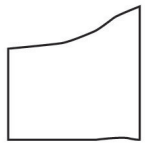
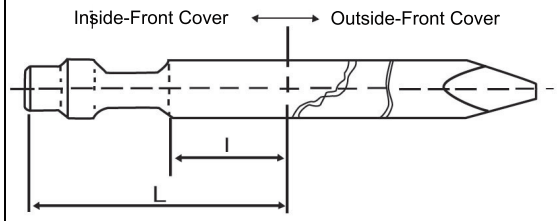
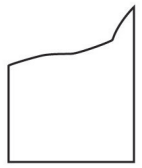
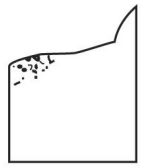
(1) Warranty Standard of Tool

NO.	Damage State	Warranty	Damage Reason & Contents
a		Free for compensation	● bad heat treatment: fracture from outside of tool centerline
b		Free for compensation	● bad material: fracture from tool centerline.
c		Chargeable (not compensable)	● damage and wear caused by blank firing
d		Chargeable (not compensable)	● inner parts wear off for continuous blank firing (eg. rod pin) ● wear occurrs when strike force reaches rod pin during blank firing
e		Chargeable (not compensable)	● wrong operating method: waging from side to side when plugged into object, leveraged operating or not vertical tool operating
f		Free for compensation	● bad material or heat treatment ● damage reach into line A
g		Chargeable (not compensable)	● bad choice of tool and operating method ● damage reach into line A
h		Chargeable (not compensable)	● wrong operating method ● heat produced from prolonged strike(more than one minute) of unbreakable ground makes tool material soft and tool mushroom-like

(2) Warranty Assurance Standard Based on Fracture Face

NO.	Damage State	Fracture Face of Tool		Warranty	Reason of Fracture
a				Chargeable (not compensable)	● wrong operating method: waging from side to side when plugged into object or leveraged operating method ● overbending of tool etc.
				Chargeable (not compensable)	● improper maintenance and operating method ● insufficient lubrication ● trace of deep scratch occurrs where fracture begins
				Chargeable (not compensable)	● wrong operating method: waging from side to side when plugged into object or leveraged operating methodconcave ● occurrs at the fracture part and round mark occurrs where fracture begins
b				Free for compensation	● bad material ● fracture occurrs from the centre of tool
				Free for compensation	● bad material ● bad heat treatment

(3) Warranty Standard Based on Fracture Face

NO.	Damage State	Fracture Face of Tool		Warranty	Reason of Fracture
c				Chargeable (not compensable)	● tool wags from side to side when plugged into object or leveraged operating method or foreign matter sinks in or insufficient oil injection ● defect or scratch from tool surface develops into inner fracture of tool
d				Chargeable (not compensable)	● improper operating method: waging from side to side when plugged into object or leveraged operating ● fracture occurrs by way of tilting from centerline(90+a)
e				Chargeable (not compensable)	● improper operating method: waging from side to side when plugged into object or leveraged operating
				Free for compensation	● bad material and bad heat treatment
				Chargeable (not compensable)	● improper maintenance and operating ● method ● surface defect develops into deep of tool fracture caused by serious surface defect of tool (eg. Scratch)

Gas Charging & Adjustment

■ Adjustment of the Pressure of Nitrogen Chamber

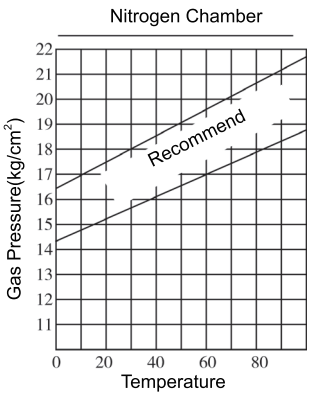
1) Under the nomal tempeture,the nomal pressure range of the nitrogen is as showing in form .
2) The proper pressure of the breaker is already been adjusted when delivered from the factory, but still have to check the pressure before use.
3) The gas pressure should be checked once every two weeks.

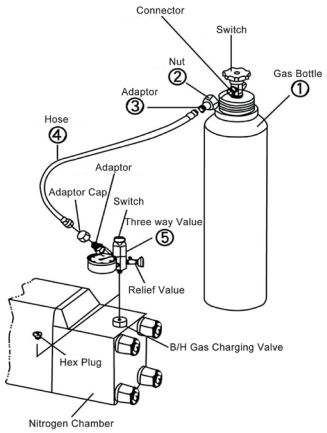
■ The Method of Checking the Gas Pressure

1) Take off the plug counter clock wise,Tighten the three-way valve clockwise,Tighten the nitrogen gauge nut,close the relief valve .
2) Press down the switch on the three-way valve with your hand and read the nitrogen meter.
3) If the nitrogen is excessice,release the nitrogen from the overflow valve of the three-way valve to make the nitrogen be standard.

■ The Method of Charging the Nitrogen Gas

1) Repeat the method of checking the gas paressure 1) and 2).
2) If the nitrogen is less, connect the high pressure hose of nitrogen to the high pressure hose interface of the nitrogen meter and the interface of the nitrogen bottle.
3) Press the switch of the three-way valve down, turn on the switch of the nitrogen bottle slowly counterclockwise until the pressure of the nitrogen gauge to be normal.
4) Three times of charging and three times of release to ensure the purity of nitrogen.





Warning

- Do not remove the through bolts before release Nitrogen of back head.
- Only use the pure nitrogen, other air could cause the breaker work abnomally.
- The pressure of the nitrogen gas refer to the instruction manual.
- The gas pressure should be checked once every two weeks,change it if necessary.

Gas Charging & Adjustment

■ Set the Pressure Range of Nitrogen Chamber Accumulator Relief Valve

Form 4: Unit: kg/cm²

Item	HRB020 HRB030	HRB040 HRB050	HRB060 HRB110	HRB140 HRB160	HRB180	HRB220
The pressure of the nitrogen chamber	16.5	16.5	16.5	16.5	6	10
The pressure of the accumulator					55-60	55-60
The pressure of the relief valve	130-140	150-160	160-180	180-200	220	220

Item	HRB250	HRB310 HRB370	HRB320	HRB350	HRB400	HRB520	HRB550 HRB600
The pressure of the nitrogen chamber	16.5	6	16.5	16.5-18	16.5-18	16.5-18	23
The pressure of the accumulator	55-60	55-60	55-60	55-60	55-60	55-60	65-75
The pressure of the relief valve	220	220	220	220-240	220-240	260	310

Item	HRB700	HRB800	HRB900	HRBA00	HRBA20
The pressure of the nitrogen chamber	23	25	23	26	19
The pressure of the accumulator	70-75	70-75	70-75	70-75	70-75
The pressure of the relief valve	310	310	310	310	310

■ The Adjustment of Accumulator Pressure

The normal range of accumulator pressure at the normal temperature is as the form .

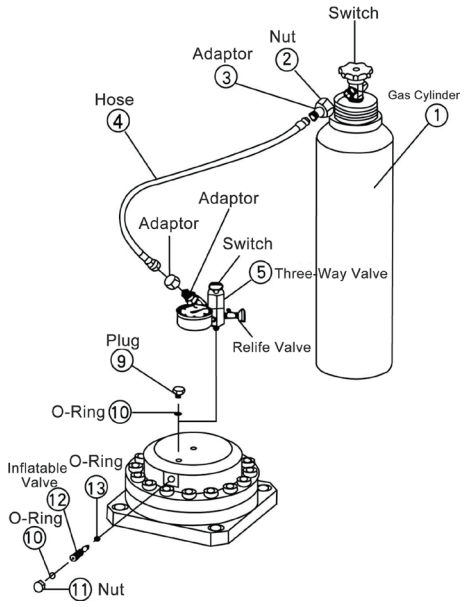
Warning

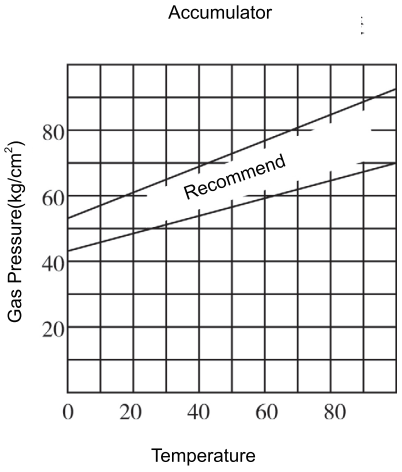
- Do not remove the accumulator cover before the accumulator is deflated.
- Only use the pure nitrogen, other air could cause the breaker work abnomally.
- The charging pressure:55-60bar.
- The gas pressure should be checked once a week, contact the dealer if necessary.

Gas Charging & Adjustment

■ The method of checking the gas pressure(As showing of the drawing)

1) Turn the plug ⑨ on the accumulator counterclockwise,tighten the nitrogen meter clockwise. Tighten the nut of nitrogen meter. Close the relief valve.
2) Turn the accumulator nut ☒ counterclockwise. Turn the inflatable valve counterclockwise until the pointer of the nitrogen meter move. Check the nitrogen meter.
3) If the nitogren is excessiue, release the nitrogen from the relife value of the nitrogen meter to make the nitrogen be standard.
4) Turn the inflatable valve clockwise and tighten the nut ☒.





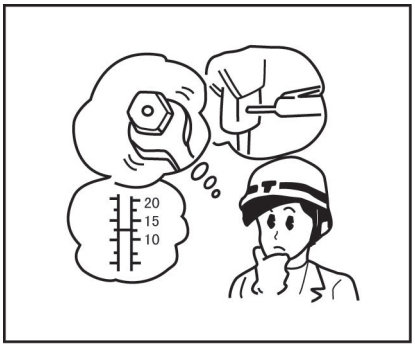
■ The method of charging the nitrogen gas(as showing of the drawing)

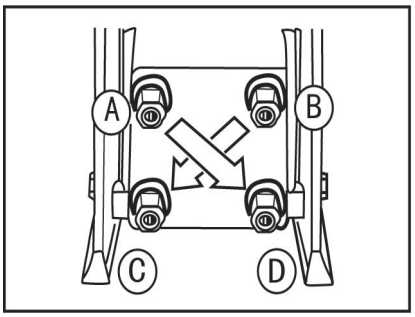
1) Repeat the method of checking the gas pressure 1) and 2).
2) If nitrogen is less, connect the hose of nitrogen to the connector of the nitrogen meter and the gas cylinder(As showing of the drawing)
3) Turn on the switch of the gas cylinder slowly counterclockwise until the pressure of the nitrogen gauge to be normal.
4) Turn off the inflatable valve clockwise,tighten the nut.


Warning

When you replace two or more through bolts or disassemble the breaker, you should release the nitrogen of the nitrogen chamber.

Maintenance





(A-D/B-C)

■ Inspection Items

Checking	Checking before Operation	Regular Checking	Remarks
Whether the nuts are loose	0	0	
Whether the hydraulic oil is dirty, and enough	0	0	
Whether the oil is leaked	0	0	
Whether the hydraulic hoses are damaged	0	0	
Injecting lubricating grease	0	0	
Whether the chisel and rod pins are damaged	0		
The pressure of Nitrogen chamber	once every two weeks	0	Form 4
The pressure of Accumulator	once a month	0	

■ All Bolts and Nuts

Before working, please check whether the nuts are loose. If the nuts are loose, it will influence the normal work of bolts, so that it will cause abnormal operation of hydraulic breaker. Besides, please tighten them according to specified torque regularly.

From 5

Breaker Main Body: bolts, nuts and plug tightening torque standards								
Bolts and Nuts Size	**Tool Size (mm)**	**First Torque (N•m)**	**Torque Wrench Value**	**Second Torque (N•m)**	**Torque Wrench Value**	**Third Torque (N•m)**	**Part1**	**Part2**
M20XP1.5	27	262.5		350			HRB020	Through Bolt (HRB320 and above models need to be coated with anti-seize agent)
M22XP1.5	30	262.5		350			HRB030	
M24XP2.0	36	300		400			HRB040	
M27XP2.0	41	375		500			HRB050	
M30XP2.0	46	637.5		850			HRB060	
M33X3.0	50	825		1100			HRB110	
RD36XP3.175	55	1125		1500			HRB140	
M39X3.0	55	1500		2000			HRB160	
RD42XP3.175	65	1875	420	2500	560		HRB180	
RD42XP4.233	65	1875	420	2500	560		HRB220	
RD48XP4.233	70	2100	470	2800	620		HRB310	
RD52XP3.175	75	2250	500	3000	670		HRB250	
RD52XP4.233	75	2250	500	3000	670		HRB370	
RD56XP3.175	75	3225	720	4500	960		HRB320	
RD58XP3.175	85	3225	720	4500	960		HRB350/HRB400	
RD62XP3.175/4.233	90	3450	770	7000	1020		HRB520	
RD65XP3.175/4.233	95	Tighten with a pneumatic wrench.		6000		7000	HRB550	
M65X5.0	80	Tighten with a pneumatic wrench.		6000		7000	HRB550	
RD70XP3.175/4.233	105	Tighten with a pneumatic wrench.		6000		7000	HRB700	
RD78XP4.233	115	Tighten with a pneumatic wrench.		6000		7000	HRBA00	
RD85XP4.233	115	Tighten with a pneumatic wrench.		6000		7000	HRBA20	

Bolts and Nuts Size	**Tool Size (mm)**	**First Torque (N•m)**		**Second Torque (N•m)**			**Part1**	**Part2**
M16XP1.5	24			270				Valve Regulator Nut
M18XP1.5	27			300				
M20XP1.5	30			300				
M22XP1.5	34			300				
M24XP2.0	36			350				
M27XP1.5	46			600				
M33XP2.0	55			700				
M36XP2.0	65			700				
PF 1	41			350			Add thread fastening glue.	Valve Base Hex.
PF 1 1/4	50			1000			Add thread fastening glue.	
PF1/2-PF1/2	27			200				Screved Adapter
PT3/4-PF3/4	36			280				
PF3/4-PF3/4	36			280				
PT1-PF1	40			350				
PF1-PF1	40			350				
PF 1 1/4-PF1	50			350				
PF 1 1/2-PF1	55			350				
PT 1 1/4-PF1 1/4	55			350				
PF 1 1/2-PF1 1/4	55			350				
PT1/4	14			55			Add thread fastening glue.	PT1/4Grease Fitting
PF1/2	27			200			PF1/2 Air Check Valve B/H Charging Valve	Check Valve B/H Charging Valve Accumulator Valve Plug and Nuts
PF7/8	41			300			PF7/8 Air Check Valve (Use Threadlocker)	
M10XP1.0	19			65			Accumulator Hex. Plug	
M12XP1.25	22			105			Accumulator Charging Valve Cover	
M16XP1.5	30			170				
M20XP2.0	41			400				

From 5

Spec.	Hex. Head Cap Screw Size（mm）	First Torque (N•m)	Torque Wrench Value	Second Torque (N•m)	Torque Wrench Value		Part1	Part2
PT1/4	6L			50				Socket Plug
PT3/8	8L			100				
PT1/2	10L			200				
PT1	17L			600				
PF1/8	5L			30				
PF1/4	6L			50				
PF3/8	8L			100				
PF1/2	10L			200			For HRB320 and above models, thread fastening glue is required at the end of the cylinder body.	
PF3/4	12L			320				
PF1	17L			600			Add thread fastening glue.	
PF 1 1/4	17L			1000			Add thread fastening glue.	
PF 1 1/2	22L			1200			Add thread fastening glue.	
PF 1 3/4	22L			1500			Add thread fastening glue.	
PF 2 1/4	27L			1500			Add thread fastening glue.	
M27XP2.0	12L			400			Add thread fastening glue.	
M36XP3.0	14L			600			Add thread fastening glue.	
M39XP3.0	17L			800			Add thread fastening glue.	
M12	10L	90		110				Oil inlet and outlet flanges, main valve and accumulator (HRB350 and above models, need to apply hydraulic oil)
M14XP1.5	12L	150		200				
M14	12L	150		200				
M16XP1.5	14L	220		300				
M18XP1.5	14L	300		400				
M20	17L	500		700				
M24	19L	700		950			Suitable for accumulator cover bolts	
M24	19L	700		950			Suitable for valve housing and accumulator body bolts	
M27	19L	750		1000			Suitable for accumulator cover bolts	
M30XP2.0	22L	980		1300			Suitable for accumulator body bolt	
M30	22L	750		1000			Suitable for accumulator cover bolts	
M30	22L	1120		1500			Suitable for accumulator body and valve cover bolts	
M36	27L	1500		2000			Suitable for valve housing and accumulator body bolts	
M39	27L	1500		2000			Suitable for accumulator body bolt	
M48	36L	2250		3000				

Note：1. When a single bolt is tightened, it needs to be tightened once. When the bolt group is tightened, it needs to be tightened twice.

2. For models of HRB350 and above, the through bolt group needs to be tightened in three times.

3. The bolt torque error must be less than ±10% of the standard torque value.

From 5

Breaker Frame: bolt and nut tightening torque standards					
Bolts and Nuts Size	**Tool Size (mm)**	**First Torque (N•m)**	**Second Torque (N•m)**	**Part1**	**Part2**
M16*P2.0	24	180	270	HRB020	Side Bolt
M20*P2.5	30	345	520	HRB030/HRB040	
M27*P2.0	41	750	1000	HRB050/HRB060	
M30*P2.0	46	1000	1500	HRB110	
M36*P3.0	55	1000	1500	HRB140/HRB160	
RD42*P3.175	65	1500	2000	HRB160/HRB180	
RD48*P3.175	75	2250	3000	HRB220/HRB250/HRB310	
RD56*P3.175	85	3375	4500	HRB320/HRB350/HRB370	
RD60*P3.175/4.233	85	4125	5500	HRB400/HRB520	
RD65*P3.175/4.233	95	5250	7000	HRB520/HRB550	
RD70*P3.175/4.233	105	6000	8000	HRB600/HRB700/HRB800	
RD78XP4.2333	115	6000	8000	HRBA00/HRBA20	
Bolts and Nuts Size	**Tool Size (mm)**	**First Torque (N•m)**	**Second Torque (N•m)**	**Part1**	**Part2**
M14	21	150	200	HRB020/HRB030/HRB040	Switcher Bolt
M20	30	390	520	HRB050/HRB060/ HRB110/HRB140	
M24	36	600	900	HRB160/HRB180/ HRB220/HRB250	
M30	46	1000	1500	HRB310/HRB320/HRB370	
M36	55	1000	1500	HRB400/HRB520/HRB550/ HRB600/HRB700/HRB800	
M48	75	2250	3000	HRBA00/HRBA20	
Bolts and Nuts Size	**Tool Size (mm)**	**First Torque (N•m)**	**Second Torque (N•m)**	**Part1**	**Part2**
M10	16	42	60	HRB020~HRB060	Cover Plate Bolt
Bolts and Nuts Size	**Hex. Head Cap Screw Size (mm)**	**First Torque (N•m)**	**Second Torque (N•m)**	**Part1**	**Part2**
M14	12L	75	100	HRB110/HRB140/ HRB160/HRB180/	Cover Plate Bolt
M20	17L	350	400	HRB220 and Above	

Note: 1. Tighten a single bolt, which needs to be tightened once. When the bolt group is tightened, it needs to be tightened twice.

2.The error of the torque value is less than ±10% of the standard value.

3. For HRB320 and above models, the frame bolts must be coated with anti-seize agent and lubricating oil.

4. For the frame bolts of HRB140 to HRB310, and the mounting head bolts of all models, application of thread glue is required.

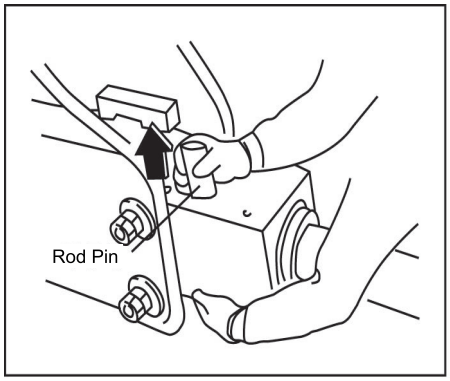
Maintenance

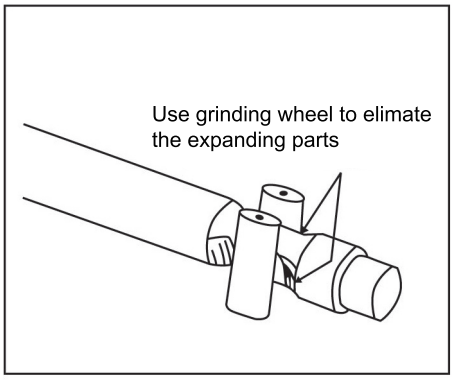
■ Checking Wether the Rod pins are Damaged

If the rod pins are damaged, the chips will be stuck in the surface of piston or cylinder when the hydraulic breaker is working. Make sure to check it before operation.

■ Chisel and Rod Pins

If the pressure is not enough, or the working objects are fragile when the breaker is working, the chisel and rod pins will be deformed and expanded. During inspection, please use grinding wheel to polish in order to eliminate the expanding parts, or use the rod pin in return.

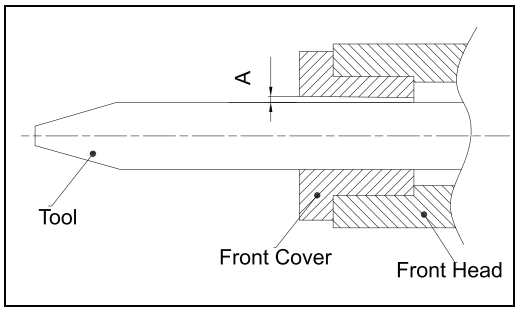




■ Chisel and Front Cover

If the gap between chisel and front cover is oversized, it will cause eccentric wear of piston and chisel, and lead to their unsteady contact, furtherly cause the damage of piston and chisel, and the chisel turn fragile. When the gap is oversized, the front cover must be changed. Detailed standards of replacement are as follows:

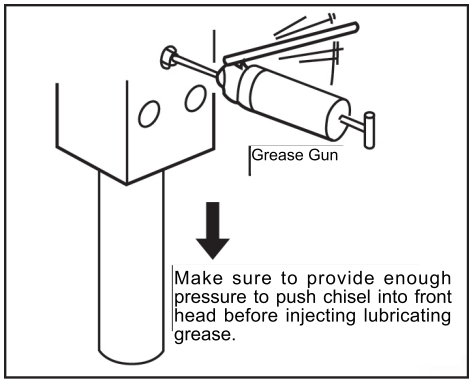
Model	Gap A(mm)
HRB020-HRB040	≥5
HRB050-HRB110	≥6
HRB140-HRBA20	≥8



Maintenance

■ Injecting Lubricating Grease

Before working or every two hours: Push chisel into front head. Inject lubricating grease from the grease nipple. Refered injection is 5-20 times. The bigger model, the more injection.




Warning

Be sure to make hydraulic breaker standing, and push chisel into front head before injecting lubricating grease to prevent the grease to enter the piston impact chamber.

■ Hydraulic oil

Check the hydraulic oil capacity in oil tank timely, Please replenish the oil in time if it is insufficient.
Please keep the hydraulic oil clean.
If the hydraulic oil is polluted, it will cause the impeded working of valve and do harm to the breaker.

Hydraulic oil	
Winter	Summer
46#	68#
Please use well-known brand oil	

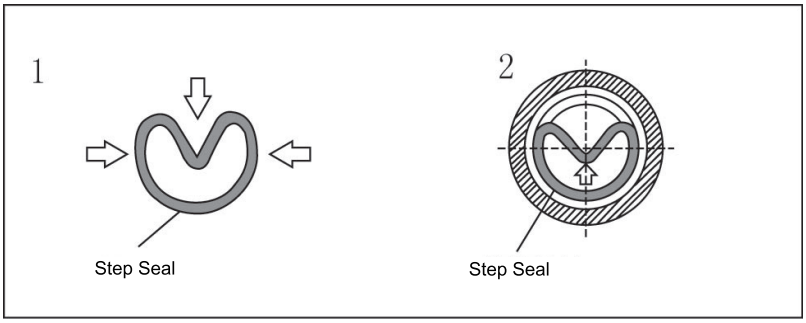

Warning

Please use the same hydraulic oil produced by one company, if different oil is mixed, chemical reaction may be set off.

Maintenance

■ Oil leakage

Check the main body of breaker, accumulator and pipe kits of hydraulic oil to find whether there's any leakage or not.
It is normal that oil leak slightly at the connecting parts between front head and chisel, it lubricates chisel.
If the breaker leak oil, please replace the O-ring and/or oil seal on the leaking parts.
Please replace oil seal(s) by following procedures below:
1.Apply lubricating oil on seal retainer, oil seal and other needed parts.
2.Put O-ring in the groove inside seal retainer.
3.Fold oil seal by hand (as shown in the figure 1), please note not to fold too much to break the oil seal.
4.Put the oil seal in the groove inside the seal retainer. Push the folded part from inside to make it recover (as shown in the figure 2).



Warning

- If oil seals is broken, please check carefully whether there are scratches on surface of cylinder and/or piston.
- Check carefully to make sure no chips of broken oil seal remain inside of cylinder.

Trouble-shooting

■ Please check again before the breaker is sent to be serviced.

⚠ Warning: Nitrogen gas must be released before disassembling the breaker.

Symptom	Cause	Required action
Low impact power	1.Low engine speed. 2.Low nitrogen gas pressure of back head. 3.Low nitrogen gas pressure of accumulator. 4.Wrong pressure setting or adjustment of relief valve. 5.Failure of chisel.	1.Re-adjust engine speed controller. 2.Check nitrogen gas pressure, re-fill gas if it is released. 3.Check nitrogen gas pressure, re-fill gas if it is released. 4.Re-set or re-adjust pressure of relief valve. 5.Smoothen the scored parts of chisel, front cover and ring bush by using abrasive paper or grinder.
No blow out	1.Wrong pressure adjustment of relief valve. 2.Excessive nitrogen gas pressure of back head. 3.Hydraulic oil in back head infection. 4.Scoring of piston, cylinder or valves. 5.Faulty hydraulic hose connection. 6.Stop valve(s) closed. 7.Lack of hydraulic oil.	1.Re-adjust valve adjuster. (see attached form 4) 2.Re-adjust nitrogen gas pressure in back head. (see attached form 4) 3. Replace Gas Seal. 4.In case of a slight scratch, smoothen the scored surface by using abrasive paper or grinder. Replace the damaged part(s) if needed.5.Reconnect hydraulic hose. 6.Open stop valve(s). 7.Fill hydraulic oil.
Irregular impact	1.Excessive nitrogen gas pressure of back head. 2.Low hydraulic oil pressure. 3.Scoring of chisel and/or front cover. 4.Scoring of piston, cylinder or valve(s). 5.Excessive pressure of hydraulic oil returning hose. 6.Excessive temperature of hydraulic oil. 7.Low pressure of relief valve. 8.Lack of hydraulic oil.	1.Release gas till standard pressure. 2.Re-adjust pressure of relief valve. 3. In case of a slight scratch, smoothen the scored parts of chisel and front cover by using abrasive paper or grinder. Replace the damaged part(s) if needed. 4. In case of a slight scratch, smoothen the scored surface by using abrasive paper or grinder. Replace the damaged part(s) if needed. 5.Check filter element and cooler, clean or replace the unit. 6.Clean or replace cooler, or replace hydraulic oil in higher viscosity. 7.Re-adjust pressure of relief valve till standard pressure. 8.Fill hydraulic oil.
Gas leakage (rapidly leaking is abnormal) 1.Gas leaking from gas charging valve. 2.Gas leaking from adjuster valve. 3.Gas leaking from the connecting surface between cylinder and back head. 4.Gas leaking from gas seal.	1.O-ring for charging valve is damaged. 2.O-ring for adjuster valve is damaged. 3.Looseness of through bolt. 4.Gas seal is damaged. (After plucking out oil returning hose, if bubbles can be found in hydraulic oil, it means the gas seal is damaged)	1.Replace. 2.Replace. 3.Tighten. 4.Replace.

WARRANTY POLICY

■ Basic Policy for Standard Warranty

1) The standard warranty period for breakers is as below,
a.12 months from the final delivery date to the end-user for hydraulic breaker(for the models from HRB020 to HRB320);
b.12 months or 1500 hours from the final delivery date to the end-user for hydraulic breaker(for the models from HRB350 to HRBA20), depend on which comes first.

Surely, the distributor has to give proof or establish the fact of final delivery by written or printed evidence (Installation Report) to factory, This final delivery date to the end-user should be within 6 months from B/L date.

In case, the hydraulic breaker(s) in stock wasn't sold for 6 months or more than 6 months, factory can only offer maximum 6 months grace period from B/L date to extend warranty time based on 12 months standard warranty period, it means the maximum warranty time will be 18 months from B/L date under this case subject to get proof from buyer that buyer delivery breaker to end-user who must sign an delivery documents like installation report.

2) If dealer didn't give any proof to factory to verify the fact of delivery to factory should settle the period of warranty have to be 13 months from B/L date.

It is strongly recommended that the genuine spare parts to used at all times.

■ Warranty Claim

Each claim must be reported separately on a standard Warranty Claim Form or by using a product report from within 15 days from the date of repair which includes following,

- Model and Serial No. of the breaker body
(Cylinder Serial No. is considered as breaker Serial No.)
- Serial No. and Part No. of the defected parts
- Date of final delivery and Date of defect
- Operating hours(not evidence of claim, just for reference)
- Clear description of the fault
- List of the replaced parts with Part No.
- Detailed pictures and images concerned defected part
- Any other evidences and reference materials

■ The below-mentioned cause shall be excluded from the warranty service.

- Operation faults, mistake, misuse by users
- Due to the misusing of unauthorized spare parts (not original parts)
- All wearing parts as like tool, seal kit and etc.

■ Warranty Period for Main parts

No.	Part Name	Month	Month	Remarks
		HRB020 to HRB320	HRB350 to HRBA20	
1	Back Head	12	12 months or 1500 hours, which comes first.	
2	Cylinder			
3	Front Head			
4	Piston			Under the circumstance of crack exclude scratch
5	Seal Retainer			
6	Valve Ass'y			
7	Accumulator			
8	Through Bolt Ass'y	3	3	
9	Side Bolt Ass'y			
10	Shell include Frame(Side, Top, BH Type), Housing(Box-Silenced Type), Mount Cap.	6	6	If it is only light crack on welding and plate, user weld it firstly until there is sufficient evidence to indicate the shell has to be replaced
11	Mount Pin & Bush	3	3	
12	Ring Bush	No	No	Unless there are enough evidence to show manufacturer's fault within warranty time
13	Front Cover			
14	Rod Pin			
15	Stop Pin / Front Cover Pin			
16	Tool (Moil,H/V- Wedge, Conical and Blunt)			
17	Seal Kit			
18	Acc. Diaphragm Plate			
19	Dampers			

Installation debug table

Dealer:

●Hydraulic breaker information			
1.Type		2.Set pressure of the overflow valve	
3.Series NO.		4.Turns of regulating valve	
5.Nitrogen gas of Back Head	kgf/cm^2	6.Regulating valve mode	☐H ☐X ☐L
7.Pressure of Accumulator	kgf/cm^2	8.Install address	
9.User's Name		10.Install person	
11.Contact		12.Install date	
13.Working hours per day		14.Working envoirnment	

●Excavator information		
1.Type		
2.Digging time	HR	
3.Pipeline	☐Excavator original ☐Others	
4.Oil return way	☐Main control valve ☐Oil reservoir ☐Radiator	
	☐Have filter element	☐No filter element

Remarks:

①The "Installation debug table" should be signed and pass back our after-sales service department within 7days after installating.Meanwhile,should offer the Series No,Excavator nameplate and working timetable,the photos after installating.

②If the table didn't pass back or incomplete within 7days,the warranty period will be calculated based on the date of delivery.

③After verificating,if the date or information is incorrect,the equipment will not be warranted.

Warning:

1.The breaker have trouble without using the new pipeline,our company has no responsibility.
2.Please refer to the instruction manual for repair and maintenance of special wearing parts.
Please refer to the instruction manual for claim of rod.
3.Privately change the equipment and cause the breakdown,our company has no responsibility.
4.If have trouble after installating,should write on the table,or everything is good.

Dealer(Stamp):	User(Sign):
Date:	Date: