

BREAKOUT BENCH 3-10"



**Black Diamond
Drilling Services Australia**

Operation Manual



Content

Please read this instruction manual
carefully before operation.

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Introduction

Please read this manual carefully to understand how to correctly operate and maintain your impactor demolition stand, or personnel may be hurt, or the instrument may be damaged. If you are in doubt about the introduction in this manual or need other information, please consult our salesmen.

This manual shall be properly kept so as to be adopted as the basis for operating the instrument.

Parameters in this manual are provided in forms of both English unit and metric unit and used for providing the world's general introduction. The metric unit is the part in “ () ”.

Introduction and description in this manual are based on the latest information available when released. Your impactor demolition stand may have improvement or items unmentioned in this manual.

Abbreviations used in this manual.

Acfm	Actual cubic feet per minute	gpm	Gallon per minute
API	American Petroleum Institute	in.	Inch
C	Centimeter	kg	Kilogram
dia.	Diameter	l	Litre
deg.	Degree	lbs.	Pound
F	Fahrenheit	lpm	Litre per minute
ft.	Feet	m	Meter
ft.-lb	Feet * pound	mm	Millimeter
m ³ /min	Cubic meter per minute	mm Hg	Millimetre of mercury
psi	pound per square inch	rpm	Revolutions per minute
psig	Pounds per square inch-gauge pressure	scfm	Standard cubic feet per minute
			Safety warning sign

Section I Safety Rules

Pay attention to safety information Understand marking words

Danger

If you don't follow the warning, significant or critical damage may be produced by something that happens instantly.

Warning

If you ignore this warning, extreme injury or death may be produced.



Caution

There is the possibility to cause personnel injury or property loss



Safety rules

Please operate according to rules.

Carefully read all safety information in this manual and safety labels on the machine.

Keep the safety labels complete and clear.

Periodically re-install or replace the lost or damaged safety labels.

The safety labels can be obtained from local offices or agents after user contacts manufacturer.

Protection measures for eyes, ear caps, steel toe boots, hard hats and gloves must be equipped for all personnel participating in operating the demolition stand.

Carefully learn how to operate and control a drill bit demolition stand. Any person without related knowledge is not allowed to operate this machine. If you are in doubt about the introduction in this manual or need more help, please consult after-sales department.

Please guarantee that your machine is in the normal working state;

Guarantee that all safety devices (including protection articles) are installed and run perfectly.

Please observe the machine before use. Inspect whether the pin shafts of the joint parts are loose, the pin shafts are installed in places and opening protection pins are completely installed in places. Do not use the fatigue or damaged machine.

Please keep focused when using the machine.

Please keep hands away from the chain, the oil cylinder and the operating platform when the machine runs.

Do not stand in the front of the chain, the gas cylinder and the spanner when using the demolition stand. Faults will cause serious injury even death.

The impactor demolition stand is designed in a way of applying pressure by a bearable supported hydraulic system, and has passed the test. Any modification, replacement and test of the platform, the part or the hydraulic system must be carried out according to the regulations of International Drilling Tool Association or our company.

Please do not weld any chain structure. Welding fluid cannot be contacted with the chain or its parts in any case.

Please keep the good running state of the equipment.

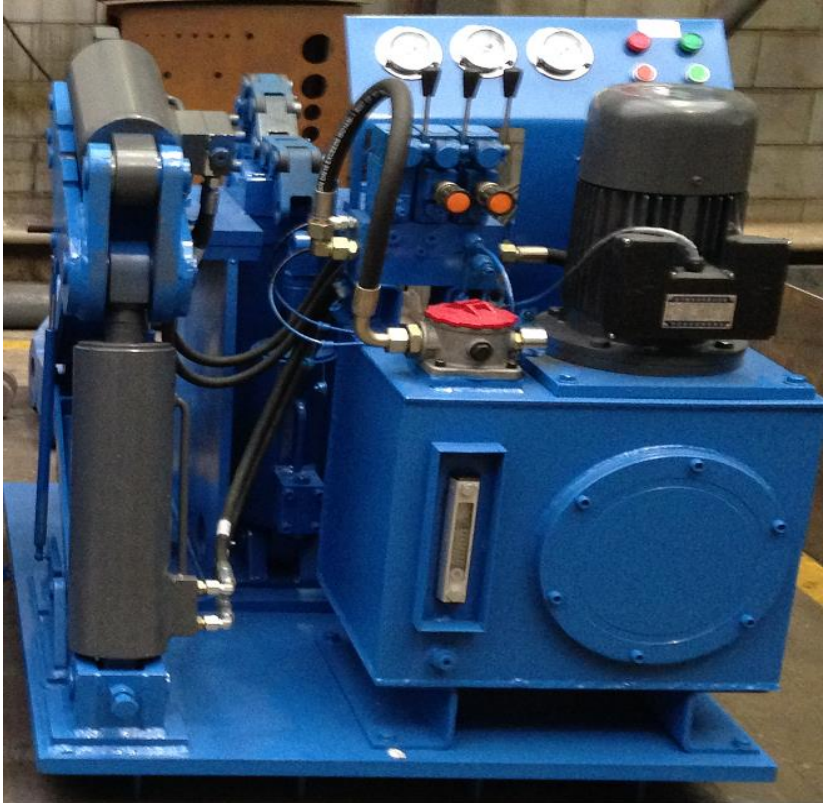
This equipment cannot be used for any purpose beyond the manual.

Please wear suitable gloves to protect your hands.



Section II Product Introduction

2.1 This demolition stand can be used for demolishing the 3.5-10 impactor.



2.2 Parameters:

Size range of impactor: 3.5"-10"

Size of operating platform (length*width*height): 1060*930*1050mm

Weight: 800kg

The maximum make-up torque: 67 kN*m(50ftlb)

The maximum shackle torque: 81 kN*m(60ftlb)

Operating height: 800mm

Hydraulic range: 0-20Mpa

Power: 3Kw,220V,50Hz

Rotating speed of the chain is less than 10rpm

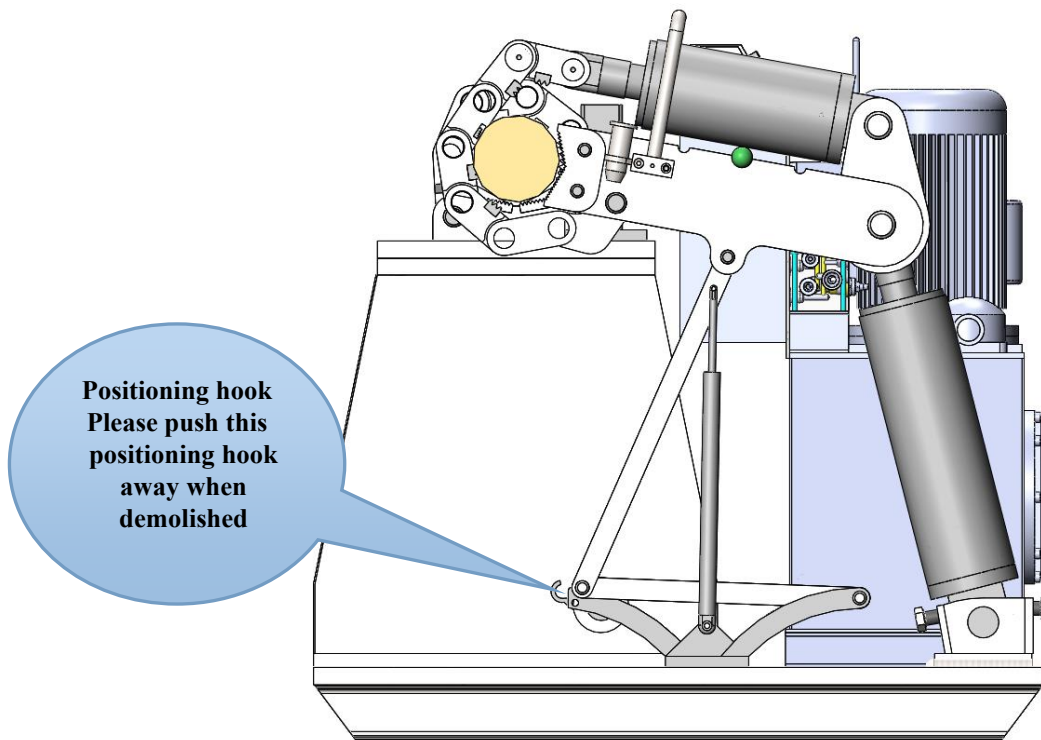
The speed of the piston rod is 1.8 meters per minute

Impactor demolition stand (3.5-10)	
Outline (length*width*height):	1060*1050mm
Weight: 800kg	Demolition range: 3.5" -10"
The maximum opening torque:	81kN*m (60ftlb)
The maximum fastening torque:	67kN*m (50ftlb)
Hydraulic range: 0-20Mpa	Power: 3Kw, 220V, 50Hz

Section III Installation and Commission

3.1 Running and storing conditions of equipment

Operating conditions	
a) Storing temperature range	-15°C-40°C
b) Humidity range	10%-90%
c) Altitude	<1000m
d) Transportation and storage	-15°C-40°C 10%-90% Humidity



3.2 Cautions for lifting equipment

1. Keep the equipment balance when lifting the equipment
2. Use a crane with enough bearing capacity to lift the equipment
3. Equip special personnel to guide the direction when transporting
4. The crane shall be operated by skilled crane operator
5. Install protector articles on the parts contacting steel wire ropes and equipment when transporting
6. Horizontally arrange the equipment on the flat ground

3.3 Transportation of equipment

1. The equipment can be transported with the crane
2. The steel wire ropes must be arranged on the bottom of the equipment

3. Pay attention to balance when transporting



3.4 Preparation before commission

1. Inspect the hydraulic oil level. Please inject the hydraulic oil when oil level is low.
2. Inspect whether the operating platform is damaged (including cracks, damages, hydraulic line, damage of hydraulic valve). If so, please use the operating platform after maintained by professionals.
3. Inspect the rotating direction of engine. The engine shall be rotated clockwise.
4. Inspect the surrounding environment to prevent any existing problem
5. Pay attention to the safety of personnel within all ranges before startup

6. If the machine is used first time or used after stored for a period of time, please run all oil cylinders to guarantee smooth and safe operation.

3.5 Safe earthing protection

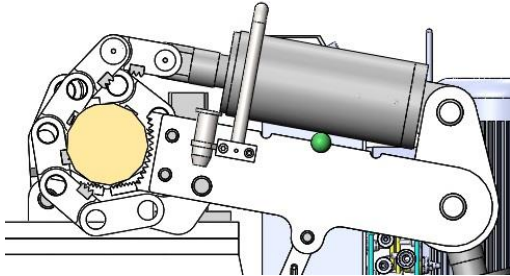
To guarantee your safety, please earthing.



Section IV Operations

4.0 Arrangement position (horizontal ground)

4.1 Position adjustment of strut pin



4.2 Startup of motor of oil pump



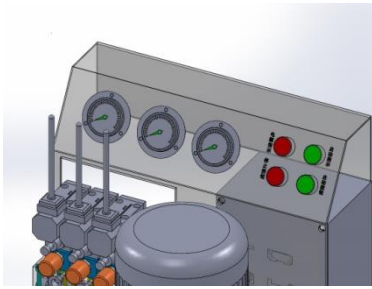
4.3 Pressure adjustment of hydraulic system

Pressure of hydraulic system			
Type of impactor	System pressure	Starting pressure	Clamping pressure
HD 35	10-16Mpa	3-6Mpa	2Mpa
HD 45	10-16Mpa	3-6Mpa	4Mpa
HD 55	12-16Mpa	4-7Mpa	6Mpa
HD 65	14-18Mpa	4-7Mpa	10Mpa
HD 85	16-18Mpa	6-9Mpa	16Mpa
HTD90	17-19Mpa	6-9Mpa	18Mpa
HSD 10	18-20Mpa	6-9Mpa	20Mpa

Note: Please start at the lowest pressure, and increase the pressure if skidding
1. The system pressure and the starting pressure shall be adjusted when starting
2. The clamping pressure shall be adjusted when clamping the impactor

Please vibrate the external sleeve and the joint with a copper bar when dismantling

a. Pull the first valve rod and observe the value of the system pressure dial (representing the pressure of the oil cylinder)



b. Rotate the turn button clockwise to increase the system pressure, and rotate the turn button anticlockwise to reduce the system pressure. (Note: rotate the turn button anticlockwise to the Locking Position before adjusting the pressure)

c. When the impactor is started, adjust the 'starting pressure', push the third valve rod, and observe the value on the second dial (representing the starting pressure of the oil cylinder). Rotate the turn button clockwise to increase the system pressure, and rotate the turn button anticlockwise to reduce the system pressure. (Note: rotate the turn button anticlockwise to the Locking Position before adjusting the pressure)

d. Adjust the fastening pressure, the third valve rod and the third dial when fastening the impactor.

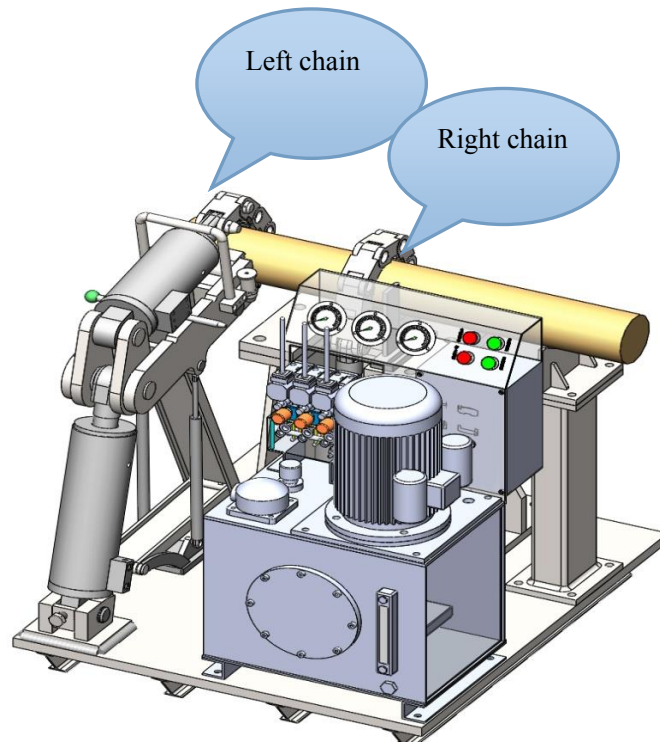
Rotate the turn button clockwise to increase the fastening pressure of the oil cylinder, and rotate the turn button anticlockwise to reduce the fastening pressure of the oil cylinder. (Note: locking the adjusting nut after adjusting the pressure)

4.6 Close the engine, assemble the chain links, and inspect whether the inserted chain links are damaged

Size of impactor	Quantity of chain links
3.5-4	3
5-6	4
8	6
10	9

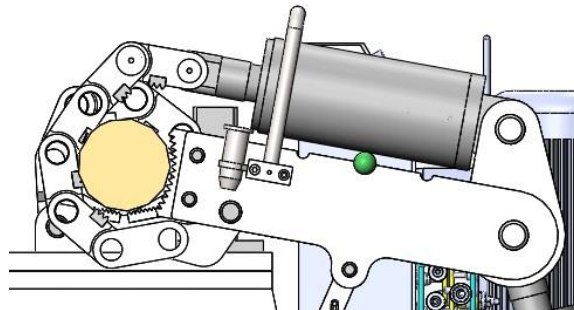
4.7 Lift the impactor with the crane

4.8 Start the engine, assemble the chain to grasp the impactor, and push the first operating rod at the right side to lock the chain.



4.9 After the right chain is grasped, assemble the left chain to hold the impactor.

4.10 Inspect the clamping block and adjust the height of the support rod so as to contact the impactor. Pull the left operating rod and lock the left chain



4.11 Inspect the clamping block again. If contact is not perfect, push the left operating rod to loosen the left chain. Adjust the height of the support rod to contact the chuck. Repeat step 10.

4.12 Push the middle operating rod to dismantle the impactor.

4.13 If the chain is inclined, please inspect the chain links.

Repeat step 11 when necessary, then increase the grasping power according to step 5, and then repeat step 12.

4.14 After the demolition steps are finished, push the left valve rod to loosen the chain. If the impactor still cannot be opened with simple manual tools, please knock the external sleeve on the thread connection part of the impactor, and then repeat the steps 9-12.

4.15 Pull the middle operating rod to fasten the impactor.

4.16 After opening/fastening process is finished, push the left operating rod to loosen the left chain.

4.17 Remove the chain pin, and then push the support rod to the limiting position. Note: before pushing the support rod away from the impactor, do not release the right chain which grasps the impactor

4.18 Pull the right operating rod to loosen the chain

4.19 Move the impactor with the crane

4.20 Close the power supply

Section V Maintenance

5.1 Please clean the oil tank once every 3-6 months and replace all hydraulic oil. If the filter is plugged, please replace with a new filter. Periodically inspect the quality of the oil to timely find out problems.



5.2 Guidance to normal problems

Problems	Causes	Solution
The equipment cannot be started	Wires are loose or damaged	Inspect and guarantee that all wires are completely connected and not damaged
The chain cannot hold the impactor and cannot be inclined	<ol style="list-style-type: none">1. The chain is too short2. The friction block is poorly contacted with the impactor3. The friction block drops or the gears are damaged4. The pressure used is not matched with the size of the impactor	<ol style="list-style-type: none">1. Add the chain links2. Adjust the support rod3. Inspect whether all the friction blocks of the chain are complete4. Adjust the hydraulic valve
The oil cylinder cannot be moved	The hydraulic pressure is not matched with the size of the impactor	Adjust the hydraulic valve