



DIAMOND
PRODUCTS
OPERATOR'S MANUAL
HYDRAULIC
POWER UNITS

MODELS:

CB30E-XL

CB40E-XL

PN 1802098

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GENERAL SAFETY PRECAUTIONS

WARNING: Do not operate power unit without reading this entire manual first. Keep manual with power unit at all times for reference.

This manual describes the operating procedures, care, maintenance, adjustments, and safety precautions for proper use of this machine. This equipment is intended for industrial applications by experienced operators. It is to be operated in conformance with applicable federal, state, and local codes or regulations.

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations.

- Establish a training program for all operators to ensure safe operation.
- Do not operate the power unit unless thoroughly trained or under the supervision of an instructor.
- Do not inspect or clean the power unit while it is running.
- Hoses and fittings in the pressure side of the circuit must be rated at a minimum 2500 psi (173 bar) operating pressure.
- Be sure all hose connections are tight.
- Make sure all hoses are connected for correct flow direction to and from the tool being used.
- Do not inspect hoses and fittings for leaks by using bare hands. "Pin-hole" pressure leaks can penetrate the skin.
- Do not operate a damaged or improperly adjusted power unit.
- Never wear loose clothing that can get entangled in the working parts of the power unit.
- Keep all parts of your body away from the working parts of the power unit.
- Always wear appropriate safety equipment such as goggles, ear protection, head protection and safety shoes. Certain tools used in conjunction with the power unit may require other safety equipment such as breathing filters.
- Do not use flammable solvents around the power unit motor.

- Allow the motor to cool before storing the unit in an enclosed area.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

IMPORTANT: The red stop button on the starter box will immediately stop the motor. Hydraulic pressure and flow will go to zero. This button must be in the out position to start the unit.

DANGER: Improper use or alteration of this equipment may be extremely hazardous.

SAFETY SYMBOLS

Safety symbols are used to emphasize actions which could result in a life-threatening situation, bodily injury, or damage to equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

! DANGER !

This safety symbol may appear on the tool. It is used to alert the operator of an action that could place him/her or others in a life threatening situation.

!WARNING: !

This safety symbol appears in these instructions to identify an action that could cause bodily injury to the operator or to other threatening situation.

! IMPORTANT !

This safety symbol appears in these instructions to identify an action or condition that could result in damage to the tool or other equipment.

DESCRIPTION AND SPECIFICATIONS

Pump: Variable displacement piston pump, 40HP rotation is counterclockwise (motor is CW), 30HP rotation is clockwise (motor is CCW).

Hydraulic Fluid Tank Capacity: 23 gallons (87Liters)

Hose Couplings: Parker No Spill quick disconnects, 3/4" main lines, 3/8" compensator line.

Electric Motor: 30HP, C Face, 208-460V, 575 Volts (Canada only), 40HP, 460V only.

Weight: 30HP, 1250 lbs (569kg); 40HP, 1300 lbs (591kg).

This unit is compatible with most hydraulically driven sawing and drilling components. The system may not be compatible with components of some manufacturers.

Hydraulic Fluid: The reservoir of the hydraulic power unit must be full prior to start-up. The use of high quality petroleum based hydraulic oil with the following properties is recommended:

- Anti-wear
- Low foaming
- Rust and oxidation inhibitors
- Wide temperature range
- Fluid viscosity: 8-1000 Centistokes (52-4600 SUS). The unit is shipped with an ISO 46 Viscosity grade (8Cs/52SUS @ 212F/100C and 46Cs/210SUS @ 104F/40C).

The oil must be kept free of contamination to avoid damage to system components. The strainer in the fill cap must always be in place when adding oil. Quick disconnects must be cleaned before connections are made.

Flow Control Valve: The flow control valve is mounted on the front panel. It can be adjusted to limit the maximum flow to the tool. Clockwise will decrease flow and counterclockwise will increase flow. Monitor the flow meter at the front of the hydraulic tank until desired flow level is reached.

System Relief Valve: This valve is mounted on the pump side of the hydraulic tank. The relief is factory set and should rarely or never need adjustment.

Working Pressure Control Valve (40HP only): This valve is mounted on the front panel. It can be adjusted to limit the maximum pressure to the tool. Clockwise will increase the pressure, counter clockwise will decrease the pressure.

Bleeder Valve: A normally closed 1/4" restrictor type valve is in the compensator line. It is used as required to bleed air from the system or to release residual pressure that may be trapped in the system at shutdown.

Hydraulic Oil Cooler: The power unit is equipped with an oil to water heat exchanger. Water should be passed through the cooler before being used for dust control or blade & bit cooling. Some tools will automatically shut off water flow when not actively cutting, drilling, etc. This may result in higher oil temperatures if the power unit continues to run for long periods without cooling water.

IMPORTANT: If there is a risk of freezing, the water must be drained from the cooler and hoses to prevent damage.

Hoses: 3/4" or 1" hoses are preferred for long hose runs and offer the highest system efficiency. If one is operating 50 ft (15.2M) from the power source, there is also a 50 ft (15.2M) return for a 100 ft (35.5M) total hose length. With 20 GPM and oil at 100 deg. F (37.8C), this could

result in a 600 psi (41 Bar) pressure loss with ½” hose and a 200 psi (14 Bar) loss with 5/8” hose. Pressure loss will change dramatically with oil temperature.

Lift Points: Four lift points are provided at the top of the unit. Be certain to use chain or straps rated to safely support the unit.

DANGER: Stand clear of raised unit. Never move a unit over people.

Brakes: Each of the two swivel casters has a built in foot operated brake

Case Drain Port: An additional normally plugged ¼” pipe port is at the top of the hydraulic tank. Some tools may require a separate case drain line.

Additional pressure port: A 3/8” quick disconnect is at the upstream side of the ball valve. This port can supply a secondary circuit such as a wall saw travel circuit or other.

OPERATING INSTRUCTIONS

Operator Responsibilities

It is the operator’s responsibility to use this unit and any attached tools under safe working conditions and to follow proper safety procedures for themselves, co-workers, observers, and the public at large. The operator must be aware of the machine’s capabilities and limitations and follow the safety precautions in this manual. Periodic maintenance is required, in accordance with the instructions herein.

WARNING: Keep bystanders out of the immediate work area.

Wear approved:

- Safety glasses
- Ear protection
- Hard hat
- Gloves
- Safety shoes

- Other protective equipment required by federal, state, or local codes and regulations.

Hose Connections: It is best to connect the hoses to the unit and tool before starting as even very low residual pressure can make hose installation more difficult. Push couplings together until you hear a click. Turn locking ring of coupling to the secured position. NOTE: The compensator line must be connected for the unit to operate properly.

IMPORTANT: The quick disconnects must be clean when connecting hoses and devices. Dirty connections may result in contamination and premature failure of system or tool components.

Brakes: Engage brakes to help prevent unwanted movement, particularly on slopes.

Starting Procedure:

- Confirm that the unit is connected to the proper voltage and a proper gage power cord is used.
- Be certain the red stop switch has been pulled out.
- Press the green start button at the starter box.

Shutting Down:

- Shut down the tool to unload the system.
- Press the stop button at the top of the starter box.

OPERATING DRIVEN EQUIPMENT

The operator must know the hydraulic requirements and limitations of the driven equipment and appropriate adjustments must be made on the controls. The introduction of other control devices may cause system heating or may render the system inoperative.

IMPORTANT: All tools should be equipped with an open center control valve that allows flow directly to return ports when not in use. Blocking oil flow or abruptly disconnecting the tool can send flow over relief and potentially overheat the system.

Instructions supplied with the driven equipment must be followed to ensure correct connection and operation of each individual piece of equipment. It is necessary to determine the following:

- Correct direction of flow through the equipment.
- Correct pressure and flow required by the equipment.
- Compatibility of any valves or circuitry and quick disconnects. Some hand-held equipment uses a trigger control, which is operated frequently. These valves must be of the open center type for correct operation.

Operating the tool:

- Turn cooling water on if required.
- Open the ball valve near the tool.
- Open the flow control valve at the front panel to bring the tool up to speed.
- Adjust the working pressure valve (40HP only) to a level adequate to complete the task and remain below the rated tool pressure.

Closing the ball valve will stop the tool and unload the pump, thus reducing oil heating, noise, and conserving energy. It is best to completely shut down the power unit if the tool is not being used for an extended period.

IMPORTANT: Monitor the thermometer at the top of the hydraulic tank. Maximum recommended oil temperature is 180 degrees Fahrenheit (82 deg C).

MAINTENANCE INSTRUCTIONS

- Oil Filter: change the filter when indicated by the gage at the filter.
- Oil Change: establishing an oil analysis program is the preferred method of determining oil condition and when to change it. If the oil is kept clean, dry, and operated at moderate temperatures, it can last for several years. With no analysis program an oil change every 200 hours is recommended. See the section Hydraulic Fluid for specifications. A ½” pipe thread oil drain port is at the bottom of the hydraulic tank.
- Inspect hoses, couplings, and fittings daily for leaks, tighten as required. Clean quick disconnects frequently. Replace any leaking or defective components immediately.
- Check hydraulic oil level daily. Fill tank to full mark in sight tube with unit off.

IMPORTANT: Do not overfill tank. Hot oil will expand and could overflow tank.

TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTIONS
Electric motor will not start.	<ol style="list-style-type: none">1) Pull out stop button on starter box.2) Confirm proper voltage.3) Check fuses in starter box.
Running with no pressure.	<ol style="list-style-type: none">1) The motor may be running backwards, should be clockwise for 40HP and counterclockwise for 30HP. Reverse any two of the 3 power wires coming into the starter box.2) Confirm that the bleeder valve in the compensator line is closed.

Keep this manual and the engine manual readily available at all times for reference.

RECOMMENDED POWER CORD GAUGE

HORSE POWER	PHASE	VOLTS	AMPS	50 Ft. CORD	100 Ft. CORD	150 Ft. CORD	200 Ft. CORD
5hp	1ph	230v	23A	#10	#8	#6	#4
5hp	3ph	230v	12A	#14	#12	#10	#8
5hp	3ph	460v	6A	#14	#14	#12	#10
7.5hp	1ph	230v	33A	#8	#8	#6	#4
10hp	3ph	230v	24A	#10	#8	#6	#4
10hp	3ph	460v	12A	#14	#12	#10	#8
20hp	3ph	230v	52A	#6	#6	#4	#2
20hp	3ph	460v	26A	#10	#8	#6	#4
25hp	3ph	230v	58A	#6	#6	#4	#2
25hp	3ph	460v	29A	#10	#8	#6	#4
30hp	3ph	230v	74A	#6	#4	#2	#1
30hp	3ph	460v	37A	#8	#6	#4	#2
40hp	3ph	460v	48A	#8	#6	#4	#2
50hp	3ph	460v	62A	#4	#4	#2	#0

CAUTION: Use of a wire gauge that is too small will cause loss of power or overheating and will damage the electric motor.



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