

General Information for PCA 300 Series Hydraulic Drills

Introduction

PCA 300 Series Hydraulic Drills are designed for general excavation, road construction and quarry drilling. Utilizing either 1" or 7/8" hexagonal chucks, they are available in two models:

PCA304, with single supply and exhaust hose for balanced rotation and percussion performance. Ideal for multiple single-pass drill systems (e.g. dowel drilling), 1" to 2" dia. holes.

PCA305, with independent rotation control. Ideal for excavator mounted drilling applications or when using threaded steels, 1.25" to 2.25" dia holes.

Please refer to Page 3 for Specifications.

Safety First

Drill operators must thoroughly understand the safety precautions required for safe operation and maintenance of the drill. Good working practices and common sense are fundamental to safe operation. The following precautions are of a general nature as every situation cannot be addressed:

1. Do not attempt to operate the hydraulic drill unless you are thoroughly familiar with all controls and functions. Failure to comply could result in bodily injury.
2. Always wear approved hard hat, safety glasses, ear protection, and safety shoes when near a drill in operation.
3. Keep hands, arms, legs and clothing away from all moving parts. Failure to comply could result in bodily injury.
4. The drill and drill steel are hot during the drilling operation. Gloves must be worn when handling these components, and do not touch them until the drill is turned off.
5. Keep all hoses in good condition and hose connections tight. Failure to comply could result in bodily injury.

Receiving and Recording the Drill

Upon receipt inspect your drill for damage during shipment. If damaged the carrier should be notified immediately. **Shipping damage is not covered by PCA warranty.**

Record the drill model number and serial number to ensure correct parts list match.

PCA Model #:	Serial #:	Date Rec'd:
Distributor contact:	Distributor Phone #:	

System Requirements

Hydraulic

PCA304: Hammer & Rotation: 10-13 GPM @ 2200 PSI max (38-49 lpm @ 152 bar)

PCA305: Hammer: 10 - 13 GPM @ 2300 PSI max. (38 - 49 lpm @ 158 bar)
Rotation: 2 - 5 GPM @ 1800 PSI max. (8 - 19 lpm @ 124 bar)

Hole Flushing Air: 12 - 70 CFM depending on hole diameter and depth
Water: 5 - 7 GPM, *front flushing only*.

Drill Controls **PCA304** requires **two** valve controls:
Hammer/rotation on/off; air or water on/off.
PCA305 requires **three** valve controls:
hammer on/off; rotation forward/off/reverse; air or water on/off.

Lubrication

PCA300 Series Hydraulic Drills use hydraulic oil for operation and lubrication of internal components. Hydraulic oil should be clean and of good quality, conforming to the following:

Ambient Temperature °F [°C]	Viscosity
0-32 [(-)17-0]	AW32
32-80 [0-27]	AW46
60-104 [16-40]	AW68

The front-head is grease lubricated using a good quality lithium-based grease. Grease at least once a day, more frequently if necessary. There should always be a film of grease on the surface of the drill steel hex where it fits into the chuck.

Maintenance

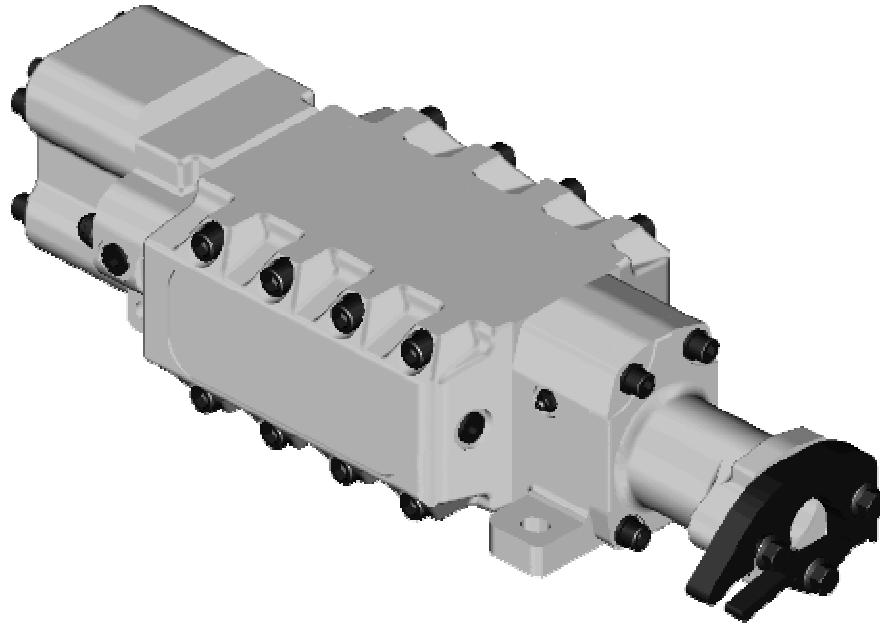
PCA 300 Series Hydraulic Drills should be disassembled at 1000 hr. intervals and inspected:

- replace all seals
- valve and piston surfaces should not be scored or pitted
- bronze in front-head bushings should not be worn through to the steel liner

Drilling Tips

To ensure optimum performance the following should be observed:

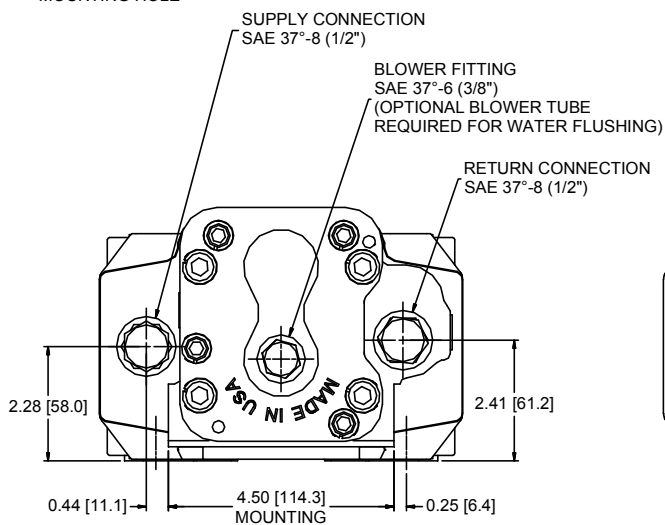
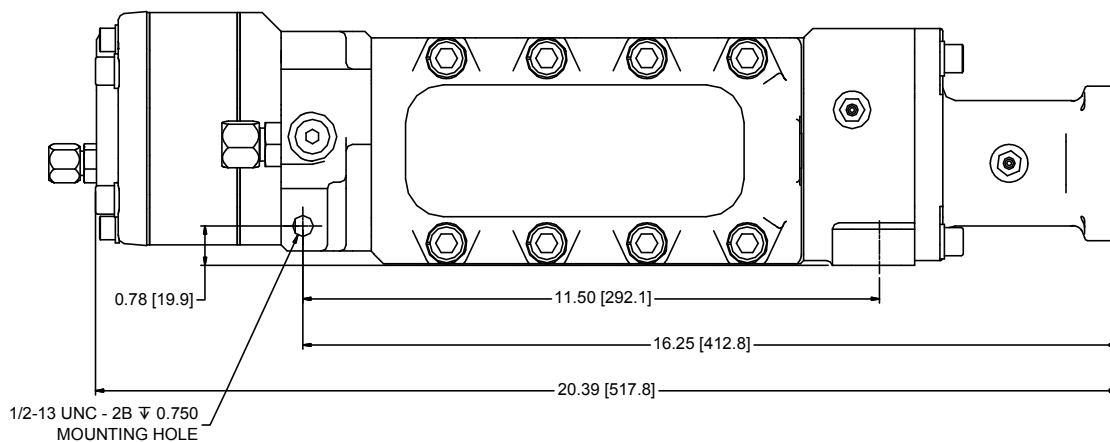
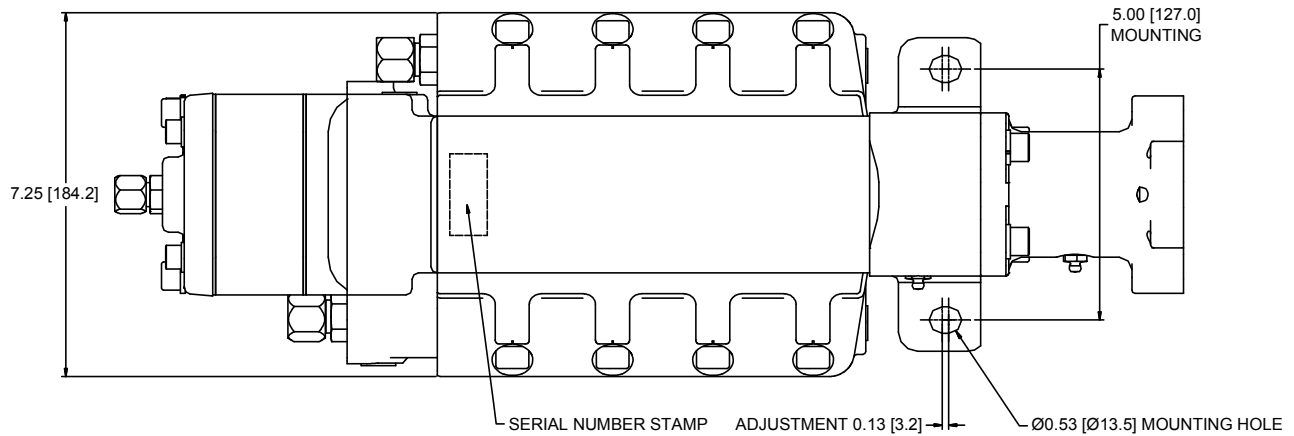
- Hexagonal chuck should always be lightly greased
- Maintain alignment between drill steel and hole
- Feed force must be balanced to drilling conditions. Over-feeding will reduce accessory life and may bend drill steel, under-feeding will increase noise and vibration, and will damage parts.
- Rotation speed must be balanced to drilling conditions. Larger diameter bits generally require slower rotation speed.



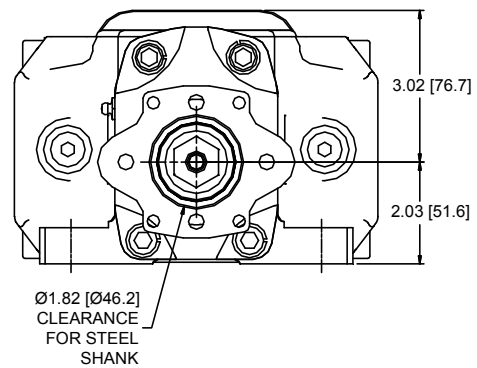
300 Series Specifications

	PCA304	PCA305
Model	PCA304	PCA305
Blows/min [Hz]	4320 [72]	4200 [70]
Rotation, RPM	100-250	0-250
Reversible	No	Yes
Rotary Torque, ft-lbs [N-m]	60 [81] at max pressure	70 [95] at max pressure
Max Impact Power, Hp [kW]	5.6 [4]	8.0 [6]
Flow, gpm [lpm]	10 - 13 [38 - 49]	12 - 18 [45 - 68]
Pressure, psi [bar]	1700-2200 [117-152]	1800-2300 [124-158]
Weight, lbm [kg]	84 [38]	82 [37]
Drill Steel Shank	Hex 7/8" x 4 1/4" [22 x 109] and 1" x 4 1/4" [25 x 109]	Hex 7/8" x 4 1/4" [22 x 109] and 1" x 4 1/4" [25 x 109]
Steel Retainer	Patented Positive Quick Release	Patented Positive Quick Release
Hole Size, in [mm]	1.0 - 2.0 [25 - 50]	1.25 - 2.25 [32 - 57]
Typical Applications	Dowelling rig	Small excavator

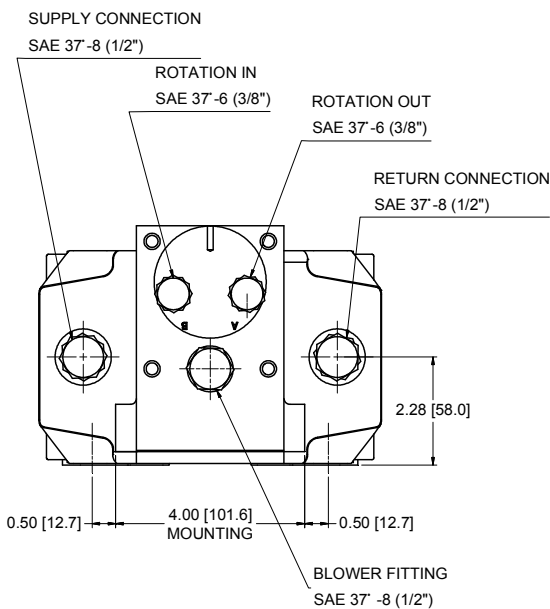
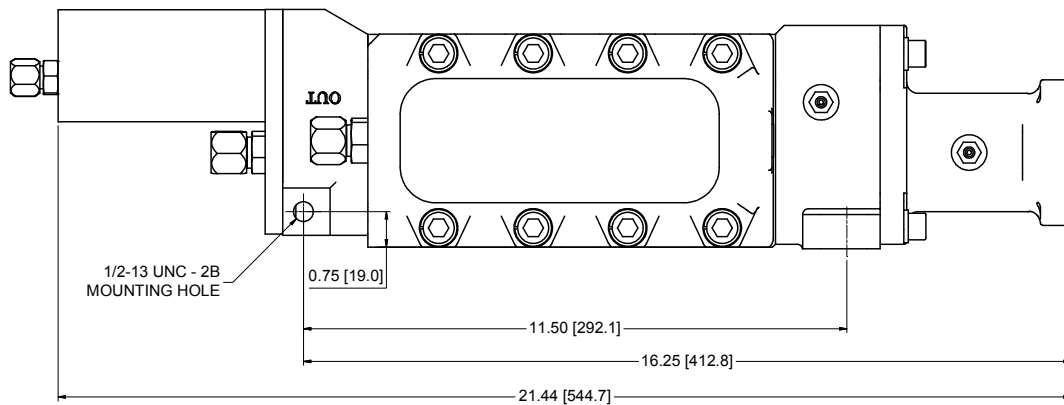
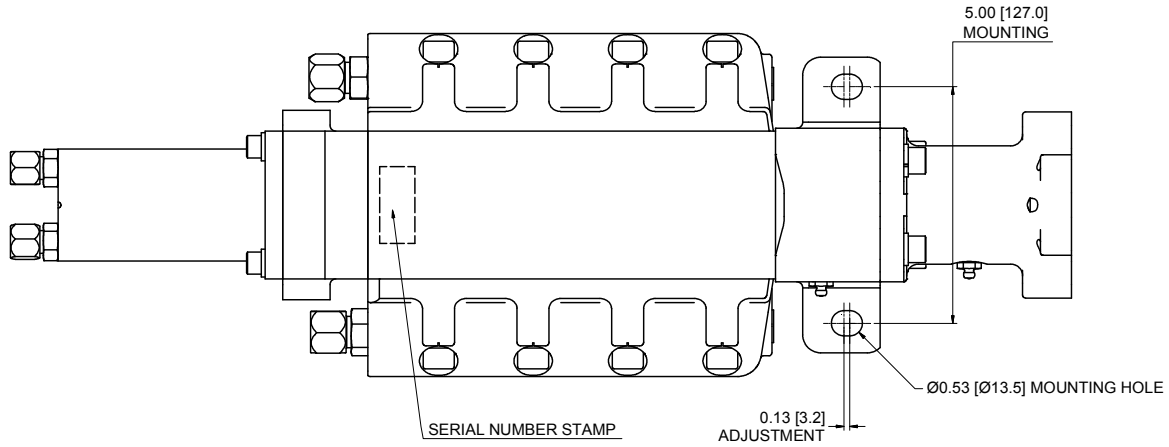
PCA304 Dimensions



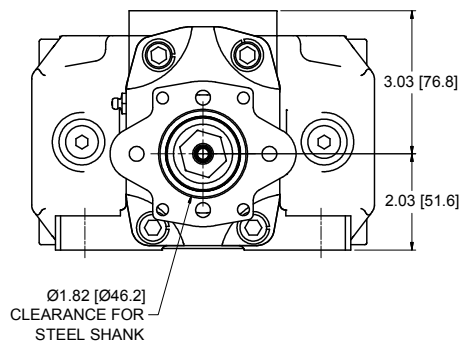
Units are Inch / [mm]



PCA305 Dimensions



Units are Inch / [mm]



WARRANTY

PCA Mechanical Engineering, through its distributor, provides the following warranty for PCA300 Series Hydraulic Rock Drills, manufactured by it and delivered to the initial user:

- all parts shall be free of defects in material and workmanship for a period of six (6) months from the date of shipment to the initial user, or the accumulation of 500 hours of service by the initial user, whichever comes first.
- Spare parts are warranted for three (3) months from date of installation into drills in use.

PCA Mechanical Engineering will provide a new part or repaired part, at its election, in place of any part found by inspection by it, or its distributor, to be defective in material or workmanship during the period described above. Such part will be repaired or replaced without charge to the initial user during normal working hours at the place of business requested by the appointed distributor.

This warranty does not apply to failures occurring as a result of the following:

- abuse or misuse by any user,
- negligent repairs, or failure to follow the recommended operating practices and maintenance procedures as provided in the product manual,
- corrosion, erosion and normal wear and tear,
- alteration or modification made to the product without express written consent of PCA Mechanical Engineering.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

LIMITATION OF LIABILITY

The remedies of the user as outlined in the provisions of warranty above are exclusive and, whether based on contract, warranty, negligence, indemnity, strict liability or otherwise, no claim shall be greater than the purchase price of the unit in respect of which such claim is made.

PCA Mechanical Engineering, its suppliers and its distributors shall in no event be liable for any claims made by the user, customers of the user, any successors in interest or any beneficiary or assignee relating to this sale for:

- any consequential, incidental, indirect, special or punitive damages arising out of this sale or any breach thereof,
 - any defects, failure or malfunction of the equipment under this sale, whether based upon loss of use, lost profits or revenue, interest, lost goodwill, work stoppage, impairment of other goods,
 - service interruption, whether or not such loss or damage is based on contract, warranty, negligence, indemnity, strict liability or otherwise.
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