



## **OPERATING & SERVICE INSTRUCTIONS**

### **Model PD-110 Air Operated Post Driver**

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Your Rhino Air Operated Post Driver has only one moving part, the piston, which strikes directly on the post to be driven. Your post driver is very efficient and with reasonable care and maintenance will give you trouble-free service.

It is **VERY IMPORTANT** to understand that your driver is a very powerful machine; it has to be to drive posts into the ground.

You must read and understand your post driver operating instructions before using your unit. It is also very important that you make sure all operators are trained to operate your post driver safely. If you or any operator doesn't understand any of the instructions, call Rhino collect, at (309) 853-5555 and we will be happy to answer any questions.

#### **⚠ WARNING – AVOID SERIOUS INJURY OR DEATH, READ BEFORE USING YOUR POST DRIVER!**

- ⚠ WARNING UNDERGROUND UTILITIES:** Be absolutely sure you know where all underground utilities are before driving so you can avoid hitting them while driving a post into the ground. Utilities include but are not limited to Electric, Gas, Telephone, Water, Sewer, TV Cable, Lawn Sprinklers, Etc. Hitting an underground utility could be **EXTREMELY DANGEROUS** for the operator and others.
- ⚠ WARNING AIR PRESSURE:** You must use a Filter-Regulator-Lubricator combination with your Rhino Air Operated Post Driver. The use of the pressure regulator is required for safety. Set the pressure regulator at 100 PSI (7 kg/cm<sup>2</sup>). Higher air pressures will not make your driver perform better. High air pressure could cause your post driver to lift off and fall from the post causing serious injury or death. Do not tie down the throttle valve so it will not shut off when released. If the throttle valve does not stop the unit immediately when released, repair or replace it. Slowly squeeze the air throttle valve lever to start the driver. Opening the throttle valve slowly will prevent a violent start of the driver. Never use anything to keep the throttle valve lever in the open position other than the operator's hand. For safety, the valve must close, stopping the drive, when the operator releases the valve lever.
- ⚠ WARNING CHUCK SIZING:** A chuck or chuck adapter that is too large for the post being driven may contribute to a condition which would allow the post driver to fall from the post causing serious injury or death. Do not use a chuck or chuck adapter that is too large for the post being driven. The post should be loose in the chuck or chuck adapter with a minimum of 1/8" (3 mm) clearance and not over 5/8" (15.9 mm) clearance. The post driver piston should hit the post as square as possible. If the fit is too loose, damage may be caused to the driver, its chuck or chuck adapter causing your driver, its chuck or chuck adapter to fail. Chucks and chuck adapters wear out and should be replaced as needed. Inspect your driver's chuck and chuck adapters frequently. If you are in doubt, return your chuck, chuck adapter, or any other part to the factory, freight prepaid, for a free inspection.
- ⚠ WARNING SAFETY EQUIPMENT:** Do not operate the post driver unless the operator and any others near the post driver are wearing hard hats, safety glasses, safety shoes, ear protection, back supports, anti-vibration gloves, and any other safety equipment advised by, ANSI, NIOSH, OSHA, or any other safety regulatory agency, or the employer or the owner of this post driver.
- ⚠ WARNING SAFETY CHECKS:** Check your driver daily for loose bolts, cracks, bulges or abnormalities in welds, castings, chuck or chuck adapters, top cover plate, piston, air line, or any other part. Do not repair any parts. Immediately replace worn or defective parts with new parts. Do not run the unit with worn or defective parts. If you are in doubt, return your driver, chuck, chuck adapter, or any other part to the factory, freight prepaid, for a free inspection.



**▲ WARNING** **REMEMBER ALWAYS PUT SAFETY FIRST!** Do not operate the post driver if any unsafe conditions are present.

**▲ CAUTION** Do not put anything but a post into the chuck on your driver.

**▲ CAUTION** Do not operate your post driver unless it is on a post to be driven. Operation of the driver without it driving on a post could damage it.

**WARNING LABELS:** If your post driver's warning label is marred or destroyed, replace it immediately. Simply call Rhino Tool Company and we will send you a new warning label at no charge.

**LUBRICATION:** **YOU MUST OIL YOUR POST DRIVER WHILE IT IS OPERATING.** Set the lubricator on your Filter-Regulator-Lubricator in the air line to the post driver so it will deliver approximately 10 drops of oil per minute. Preferably the Filter-Regulator-Lubricator should not be separated from the driver by more than 25 ft. of hose. Make certain that any new air hose between the Filter-Regulator-Lubricator and the post driver has been thoroughly lubricated. The procedure for lubricating the hose is as follows - Remove the air hose from your post driver and **(CAUTION!) AFTER SECURING THE AIR LINE SO IT CAN'T WHIP AROUND TO INJURE SOMEONE**, open the lubricator wide open so that a steady stream of oil runs into the air stream after the throttle valve has been activated.

Actuate the air throttle valve and run the air through your hose until an oil film is felt coming out of the air hose where it connects to the driver. Periodically check to make sure your driver is receiving oil. Air and oil will be exhausted through the chuck. If in doubt, remove the air line from the driver and using the same procedures stated above check to see if an oil film is being exhausted from the hose end that connects to the driver. If oil is coming out of the hose, reconnect the air hose to the driver.

Use SAE 5 wt. oil in cold weather (in very cold conditions you may want to dilute your SAE 5 wt. oil to provide proper lubrication), SAE 10 wt. oil for mild weather to 80 degrees and SAE 20 wt. oil for hot weather.

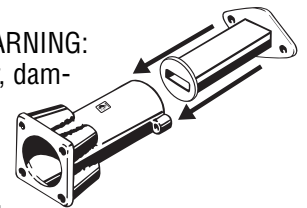
**AIR SUPPLY:** You must have an adequate supply of clean air at the proper pressure. Air supplied to your post driver must be filtered. Drain water from the air compressor air tank prior to use. Use a Filter-Regulator-Lubricator to help remove water, rust and other particulate from the air supply. It will greatly increase the life of your post driver and decrease maintenance costs.

**PD-100 AIR REQUIREMENTS: 64 CFM (1.81 m<sup>3</sup>/min.) @ 100 PSI (7 kg/cm<sup>2</sup>)**

**AIR HOSE:** It is recommended that you use a 3/4" double braid air hose with an oil resistant lining to supply air to your post driver.

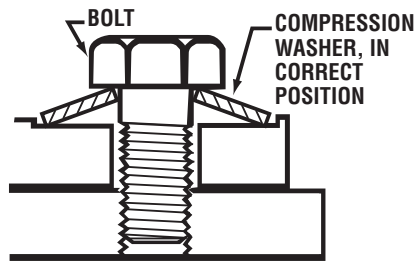
## GENERAL INSTRUCTIONS

1. Blow out air lines before coupling them to your post driver. This precaution will help remove any dirt that may have entered an open hose. **CAUTION:** Do not turn on pressurized air through an unsecured air line; the air line could whip around causing serious injury.
2. Check your Filter-Regulator-Lubricator. Make sure the regulator is set at no more than 100 PSI (7 kg/cm<sup>2</sup>). See (WARNING: AIR PRESSURE), for instructions. Make sure the filter has been drained and the lubricator filled with the proper weight oil. See (LUBRICATION), for instructions.
3. Do not use a chuck or chuck adapter that is too large for the post being driven. See (WARNING: CHUCK SIZING), for instructions. If the fit is too loose it is not safe to operate the driver, damage may occur to the driver and the driver may batter the end of the post.



4. Place the driver on the post to be driven. Slowly squeeze the air throttle valve lever to start the driver. Opening the throttle valve slowly will prevent a violent start of the driver. Never tape, wire, etc., the throttle valve lever open. **PD-100 AIR REQUIREMENTS: 64 CFM (1.81 m<sup>3</sup>/min.) @ 100 PSI (7 kg/cm<sup>2</sup>)**

- Keep dirt out of the chuck. It could enter the unit causing damage. If dirt gets into the chuck, disconnect the driver from the air supply, remove the chuck and clean the dirt out. Be careful to keep dirt out of the driver during re-assembly and be sure the bolts holding the chuck are tight and properly torqued. See the bolt torque chart and drawing below for proper bolt torque and lock washer assembly.



BOLT TORQUE CHART		
Thread Size	Maximum Torque Ft. Lbs.	
(Grade 5)	Dry	Lubed
7/16 - 14 UNC	49	37
1/2 - 13 UNC	75	57

Make certain the surfaces are free of dirt, oil and grease. It is important to install compression washers properly or they will not lock the bolt or nut securely. Place the compression washer with the center of the cone next to the bolt head or nut being tightened (See DRAWING). Then tighten the bolt or nut with a torque wrench until the proper torque for the size of bolt being tightened is reached (See BOLT TORQUE CHART). Check bolt and nut tightness daily.

**If you are driving the same temporary posts time after time, the posts will tend to fill with dirt after a few drives. The dirt may be pumped out the top of the post into your driver. Rhino Tool Company suggests you pinch the lower end of the post together, which will keep the dirt out.**

There are several benefits to doing this. It will decrease the weight of your temporary post stock by hundreds of pounds making it easier to handle the posts, it eliminates the mess of dried dirt falling out of the posts and eliminates hundreds of pounds of extra weight being hauled time and again by your trucks and trailers which saves you fuel.

### SERVICE INSTRUCTIONS

- Check air pressure setting regularly.
- Check oil supply regularly; fill when needed.
- Drain and clean air filter regularly, especially in winter.
- Check to see that the water is drained from the air compressor reservoir regularly.
- Check the bolts on your post driver daily to make sure they are tight. See the (BOLT TORQUE CHART). Do not over torque the bolts. If you disassemble the driver, during reassembly, after tightening the bolts on the top cover of the PD-110 with the proper torque, make sure the unit isn't connected to the air supply, then with the throttle valve open to allow air movement in and out of the driver, cycle the driver's piston up and down by hand to make sure it is not binding. This can be done through the bottom of the chuck. If the piston binds at any place during the cycle, loosen the top cover and re-torque with an alternating sequence like you would the head on an automobile engine. Do not run the driver if the piston binds. Feel free to call the factory with any questions.
- When you store your post driver between jobs put extra oil in the air line and blow it into the unit. Slowly roll the driver over to allow the oil to coat all inside surfaces, then stand the driver upright, to allow any condensation to drain. If you store the driver for a prolonged period, it should be oiled every month or so depending on the humidity.
- Immediately replace any damaged or worn parts with new ones. If you think your driver, or any other Rhino product or part is not performing properly, let Rhino or your Rhino dealer, distributor, or representative know. If you don't know what is wrong with your Rhino unit or any Rhino part or accessory, you can send it, freight prepaid, to Rhino and we will examine it free and let you know what is wrong, if it can be fixed and how much, if anything it will cost to repair it. This inspection is a Rhino service at no charge to you. Remember, freight must be prepaid and please call first so we are looking for your unit. If there is nothing wrong with your unit or if your unit is repaired Rhino always replaces all bolts, compression washers, and gaskets and there is a charge for those parts along with reassembly. Replace damaged warning labels immediately. Call Rhino and we will send you a new label, no charge.

You have purchased a quality, rugged post driver and if you give your Rhino Air Operated Post Driver reasonable care, it will give you efficient, trouble-free post driving.

If you have any questions, please let us know - we will be happy to help.



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