

OWNER MANUAL FOR PC-15 SAW

Please read the following information carefully before attempting to operate this equipment.

The machine will come complete and ready for operation. It will be necessary to uncrate the machine and move it to its operational site. The machine will be wired for 460 Volt, 3 phase power, unless otherwise specified. The machine should be leveled up and power hooked up. The machine also requires a compressed air supply of 60 to 75 psi. After hookup, it is necessary to check that the wheel is running in the right direction, The wheel should rotate in a clockwise direction when viewed from the wheel side. The coolant pump has a arrow on top to see that is rotating properly. The drain for the coolant must be installed. Common PVC pipe can be used for this.

After installation, the following checks should be made:

- (1) With the air supply shut off and the wheel cover removed, push the table forward until you feel the table meet resistance. This is the start of the feed portion of the stroke. By unscrewing the knurled knob on the back of the table, the point of the feed portion of the stroke can be established. This should be set so that the leading edge of the wheel is just entered into the carbide part of the V-block, but not so it will come into the V portion of the block and crash into the blank. The other thing that needs to be checked here is that the wheel is centered in the slot through the V-block and not rubbing against one side. If this is a problem, it can be corrected by loosening the clamp screws in the spindle block and moving the spindle forward or back. Be sure to retighten the clamp bolts in the spindle block. Do not overtighten these bolts.

- (2) Just to the left of and behind the main spindle block, there is a long lever with a black knob on top. This is the speed control for the feed portion of the machine. Pulling the lever back toward you will slow down the feed rate and pushing it forward will increase the rate of feed. This can be changed for various size blanks.
- (3) Now that this has been done, the air can be turned back on. There are 6 switches on the top of the control box. Their functions are clearly marked and can be used as required. In front of the switches, there are 2 flow control valves that are used to control the speed of the table when it is in its rapid move. They should be adjusted so that the table doesn't slam back or forward. Inside the control box there is a pressure regulator that can be used to adjust the pressure on the clamps. On small rods that are not very straight, it sometimes is necessary to reduce the pressure setting to avoid chipping on the edges of the cuts. There is one more adjustment that is necessary. This one is a small red knob that is also located on the back of the table. This knob controls when the cut is finished and the point where the table returns to home position. Turning this knob in will shorten the stroke and turning it out will lengthen the stroke.

Now we are familiar with the machine and its control functions, we can proceed with a set up. The stop can be set for the desired length of piece one wishes to cut. The physical location of the clamps must be set for the desired sized rod that needs to be cut. To adjust the clamps; Turn off the air supply, then loosen the (2) 3/8 clamp bolts that lock down the sliding clamp supports, push the clamps down to their closed position, and slide the plates up against the blank. Now you can move them forward a small amount until the carbide pins on the ends of the clamps are slightly above the centerline of the rod that you have placed into the V-Block. Lock the clamp screws back down and turn the air back on. Set the "Clamp Selector Switch" to "BOTH" and turn on the clamp control switch. Check to see that the rod is firmly gripping the rod. Release the clamps and remove the rod now.

Pull the feed lever back toward you, then press the cycle start. The table should go forward to the feed portion of the stroke and stop. Observe where the outer edge of the wheel is. It should not be advanced into the V-Block. If it is, push the stop button, this will return the table home. Turn the Knurled knob at the back of the table in some more and repeat the procedure. **Warning Do not turn the knurled knob when the table is forward. This will cause serious damage and will probably break a wheel on the next cycle.** When you have adjusted the fast forward portion of the stroke and returned the table home, you can then reclamp the rod in the V-Block. Now start the wheel head up and turn on the coolant on. Observe the coolant flow, it should be boiling around the wheel, but not so much as it will get out of its containment guards. There are 2 adjustment valves on the back of the machine for regulating the coolant flow. Turn the coolant selector to automatic so it will cycle with the table. Press the “Cycle Start” again and the table will move forward to the feed position and stop. Slowly advance the feed control lever until you hear the wheel engage the blank. Make sure that you have turned the coolant on at this point. Let the machine cut thru the blank, and after it has cut thru, adjust the small red knob forward until the machine table goes home. If it goes home before it cuts thru, then turn the red knob out to let it cut further. This is all of the information that is necessary to set up the machine.

OPERATING TIPS

Keep the machine and coolant clean

Do not attempt to cut rod too fast, it just wastes diamond

Chipping problems Determine if the chip is caused by heat or fracture.

The heat generated chip will be cratered and shiny, whereas the chip caused by fracture will look like broken concrete. In the first case, this is usually caused by use of the wrong wheel or inadequate coolant supply. In the second case, it is usually caused by too much clamp pressure or crooked rods. The other cause is that the V-Blocks are not properly aligned.

Maintenance and Lubrication

The machine is equipped with a central lubrication system that oils all of the internal moving parts that are necessary. It should be filled with a good grade of lubricating oil. No. 10-W-30 motor oil will work fine. The lubricator handle should be pushed down about once per shift during normal operation. If it is used too much, the excess oil will get into the coolant. This is not desirable as it gets sticky, and will foul up the lines and internal ports in the system. The Spindle is sealed and requires no maintenance. The drive belts should be checked periodically. The coolant lines and ports need to be kept cleaned as required to keep a coolant flowing freely. On the front and back of the V-Block assembly, there are 8 screws, that when taken out, allow one to clean out the coolant ports with a small rod or wire. If the saw starts cutting crooked, this is generally what causes it to happen. Clean out these ports before checking further.

This machine can be used for a variety of applications, including nipping off the ends of rod, cutting the ends off of finished tools for reconditioning, general sawing of rod, and the bundling of small diameter rod to be able to make it more efficient. To enable the machine to do these various operations, we have provided a clamp selector switch so that front, rear, or both clamps will work. We have also provided another tapped hole in front of the main plate so that the stop assembly can be moved to the front side.

