## **Owners Manual and Safety Instructions**

## READ ALL SAFETY, ASSSEMBLY AND OPERATING INSTRUCTIONS BEFORE ASSEMBLING OR OPERATING THE PRESS. FAILURE TO DO SO CAN RESULT IN SERIOUS or LIFE-THREATENING INJURIES.

Save this manual: Keep this manual for the safety warnings and precautions, assembly, operating, inspection, cleaning and maintenance procedures. Keep this manual safe and dry for future reference.

Shipping Crate: Please save the shipping box and plywood blocks with flange for future shipping

SAFETY WARNINGS & CAUTION								
WARNING SYMBOLS AND DEFINITIONS								
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible serious or Life-Threatening injuries.							
	Indicates a hazardous situation which, if not avoided, could result in serious or Life-Threatening injuries.							
	Indicates a hazardous situation which, if not avoided, could result in serious or Life-Threatening injuries							
NOTICE CAUTION	Addresses practices not related to personal injury.							

### A DANGER AWARNING

1. KEEP WORK AREA CLEAN. Cluttered areas invite injuries.

2. KEEP CHILDREN AWAY. All children should be kept away from work area.

**3. DO NOT ASSEMBLE OR OPERATE THE PRESS IF UNDER THE INFLUENCE OF ALCOHOL, OR DRUGS**. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to assemble or operate.

4. AVOID MOVING PARTS DURING OPERATION. Keep fingers and hands away from all moving parts.

5. USE EYE and FACE PROTECTION. Wear ANSI approved impact safety face and eye protection.

**6. DRESS SAFELY.** Protective, gloves and non-skid footwear or safety shoes are recommended when working with and operating the Press. Don't wear loose clothing or jewelry. They can get caught in moving parts. Also, wear a protective hair covering to prevent long hair from getting caught in the Press.

**7. ALWAYS CENTER YOUR WORK,** do not press anything off-center. Look at your setup from multiple angles to insure that everything is centered within the press.

**8. CONTAIN THE DIE AND OBJECTS WHENEVER POSSIBLE,** Use form-boxes or silhouette die containers to contain the urethane and dies.

# 9. ALWAYS STAND BEHIND THE UPRIGHT COLUMNS OF THE PRESS WHENEVER USING THE PRESS. INSURE THAT ALL PERSONS ARE LOCATED BEHIND THE COLUMNS WHEN PRESSING.

**10. DO NOT COMPRESS SPRINGS, do not press cast iron, rocks, or any fragile or brittle objects.** Do not press items that could disengage and cause a potential hazard

11. STAY ALERT. Watch what you are doing. Use common sense. Do not operate any tool when you are tired.

12. 20 TON LIMIT. Do not operate the hydraulic jack beyond rated capacity.

#### 13. BOLT PRESS SECURELY TO BENCH.

14. DON'T OVERREACH. Keep proper footing and balance at all times.

**15. REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use Approved accessories intended for use with this Press.

The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.



### Install Gauge



Lie the ram on it's side with the plug at the bottom facing up. Have some oil rags ready.



Use the supplied hex key and unscrew the plug located on the side of the ram near the bottom as shown. Oil may flow out of the hole, this is normal.



Hand thread the gauge elbow into the gauge port at least two complete turns before using a wrench to prevent stripping of the threads.



Tighten the gauge elbow with a wrench leaving the elbow opening in the "Up" position as shown.



Hand thread the gauge into the threaded hole carefully, assuring perfect engagement of the threads Be very careful to avoid crossthreading or stripping of the threads in the ram, this will void all warranties.



After the gauge has been hand threaded, use a 9/16" open end wrench and tighten the gauge firmly. Orient the gauge as shown.



Unscrew the two wood screws that hold the flange to the plywood shipping plate. Replace the screws into the wood and save.



Place the flange over the top of the ram as shown.



Note the two threaded holes in the bottom of the lower platen, check the threads to make sure they are clear of debris.



Place the ram into the press frame. Slide the ram with flange into place on the frame.



If needed, use a screwdriver to pry up the platen bolt located inside the hole on one of the upright posts as you slide the ram into position. Close up of platen bolt, **<u>DO NOT</u> <u>UNSCREW BOLT</u>**.

Place screwdriver under the head of the bolt and pry bolt upwards to make room for the ram. Gently lower the platen onto the ram head.



.Thread the two supplied cap head screws through the holes in the flange and into the two threaded holes in the lower platen using the supplied hex key.



The Classic press allows for up to 7" of space between the two platens, the MKIII allows for 10" between the two platens. This accommodates many of the large Bonny Doon tools such as the bracelet formers and the deep-draw kits.

Always use a minimum of 2" of tooling in the press. The ram is designed to move no more than 6" and it is best to raise the ram no more than 5  $\frac{1}{2}$ ".

All three of the images below have at least 2" of tooling.

### Always use a minimum of 2" of tooling in the press.



Shown with 2" of spacer blocks



Shown with Master tool holder, Mushroom former, and Contained Urethane.



Shown with Bracelet forming kit.



Please note that there may be missing paint on the handles and heads of the rams. They are painted in the factory in Japan and are bent afterwards to fit into the shipping boxes. This will leave tell tale marks and missing paint. This is normal and should not be judged as used or inferior. No VOC's are emitted at Bonny Doon via the painting of parts. All of our products are either powder coated or left natural to minimize our carbon footprint and maximize sustainability. Only the finest quality parts are used to insure maximum longevity.



#### Cleaning, Maintenance, and Lubrication

**Before each use,** inspect the general condition of the Press and Ram. Check for broken, cracked, or bent parts, loose or missing parts, and any condition that may affect the proper operation of the product. If a problem occurs, have the may affect the proper operation of the product. If a problem corrected before further use.

**Clean:** Clean the press and ram by using a clean cloth with a detergent or mild cleaner. Store and use the press in a well protected area free of corrosive vapors, abrasive dust, and harmful elements. <u>Keep all warning labels clean and legible.</u> **Oil Level:** The oil level is topped off when shipped. It may leak during transport. All hydraulics leak over time and use, if your press is leaking more than a tablespoon per week then it is in need of repair. If it is leaking less than a tablespoon per week it is within the normal limits of use.

**Manual Press**: Check the level through the reservoir fill plug hole with the ram all the way down. The level should be 1/4" below the bottom of the reservoir fill plug hole. You can use a paperclip or toothpick to check the level. Only use "Hydraulic Jack Oil". Change the oil at least once a year. The first oil change should be performed no more than 12 months after purchase, change every 6-12 months thereafter, more frequently with heavy use.

The ram should be lowered all the way down at the end of each day's use. This keeps the ram clean and free of dust and debris which wears on the seals.

Never extend the ram more than 5", (<u>*This is most important with the electric pump models.*) Always use at least (2) 1" thick platen protectors which prevents over extension of the ram.</u>

Tip: Tape a 6" ruler to the uprights with the "0" mark of the ruler adjacent to the top side of the lower platen. See below right. **Note:** Turn the T-handle counter-clockwise <u>only</u> 1/4 turn (one-quarter) to open the valve which lowers the platen, turn T-handle 1/4 turn clockwise <u>only</u> to close the valve for raising the platen. Do not over-tighten or over-loosen the T-handle more than 1/4 turn.

#### Save all warnings and instructions for future reference.



Press shown with two platen protectors in place which keeps the ram from over-extending.

Tape a ruler on an upright column and use it to keep from over-extending the ram.

#### **IMPORTANT!**

Before first use, check for proper hydraulic oil level in the Jack. Then thoroughly test the press for proper operation prior to its actual use. If the Jack appears not to be working properly it may be necessary to bleed its hydraulic system of excess air. To remove excess air from hydraulic system:

**1.** Remove the Oil Filler Plug.

- 2. Turn the pressure release valve counter-clockwise two full turns.
- 3. Pump the pump handle several times quickly.
- 4. Check the oil level and fill if needed.
- 5. Replace the Oil Filler Plug.

6. Test several times by tightening the Pressure Release Valve and raising the lower platen 2-4 inches and releasing.

7. If after purging the press still does not operate properly do not use press until it has been repaired or replaced by a qualified service technician.



#### **Troubleshooting**

### TO PREVENT SERIOUS INJURY: Use caution when troubleshooting a malfunctioning Press. Completely resolve all problems before use.

If the solutions presented in the Troubleshooting guide do not solve the problem, have a qualified technician inspect and repair the Press before use. After the ram is repaired: Test it carefully without a load by raising it and lowering it fully, checking for proper operation, BEFORE RETURNING THE PRESS TO OPERATION. Do not use a damaged or malfunctioning press.

	PO	PROBABLE SOLUTION				
Ram will not push to its force capacity	Ram lowers under load	Pump stroke feels spongy	Ram will not lift all the way	Handle moves up when Ram is under load	Oil leaking from filler plug	(Make certain that the ram is not supporting a load while attempting a solution.)
X	X					Check that Release Valve is closed fully.
x	x			x		<ul> <li>Valves may be blocked and may not close fully. To flush the valves:</li> <li>1. Lower the Saddle and securely close the Release Valve.</li> <li>2. Manually lift the saddle several inches.</li> <li>3. Open the release valve and force the saddle down as quickly as possible.</li> </ul>
x		x	x			ram may be low on oil. Check the oil level and refill if needed.
						Ram may require bleeding - see instructions above
					x	Unit may have too much hydraulic oil inside, check fluid level and adjust if needed.

#### **Tips for Using your Hydraulic Press**

#### **AWARNING**

**ALWAYS WEAR SAFETY GLASSES OR A FACE SHIELD.** Things can always break under the pressures that you are working with. Plexiglass will withstand incredible pressure if it is fully supported on the back side, but if it is hanging over the edge, and the urethane pad starts to bend the area that is hanging over it is sure to break. Do not use small daps or punches with urethane pads. This does three things; it ruins the pad by cutting it, and the punch can eject out of the press if pressure was excessive, the punches are for use with the contained block of urethane or forming box. See **"Understanding PSI and Surface Area**" below.

**ALWAYS CENTER THE WORK**. Use of the tooling holes will automatically do this for you. If using matrix dies, or blanking dies, place them in the center of the platen because you will get a more even impression, and the platen will not tilt under pressure.

**NEVER TRY TO EMBOSS OR USE BLANKING DIES WITHOUT THE TOP SPACER/S.** The top spacer is to make the tooling holes "go away". These holes can damage your die. **If you are using an electric pump** it is important to never run the ram further than 5". If the ram extends more than 5" you will be pumping hydraulic fluid out of the pump's reservoir and into the rams reservoir. This will keep the fluid from flowing back into the pump's reservoir and you will soon be out of fluid. The hydraulic fluid may flow profusely out of the fill hole.

**DO NOT EXCEED THE PROPER PRESSURE FOR THE JOB**. See chart below for ranges of pressures for various processes. Avoid using small surface-area punches such as small daps and punches.

**UNDERSTAND FORCE and SURFACE AREA**: the smaller the surface area of a punch the more force is applied at the point of contact. The 20 ton rating on this press is in reference to 1 square inch. In other words, if you place 20 tons of force on 1 square inch of work you will get 20 tons per square inch (40,000 pounds per sq inch). If 20 tons of force is applied to a workpiece or a punch with an area of only ½ square inch then the force applied to that workpiece or punch will be equal to 80 tons. This is far beyond the material limits of many metals including steel and may represent a dangerous condition. Understand the material properties of each item you are placing in the press. Consequently if you exert 20 tons of force on a workpiece of 10 square inches then you are exerting only 2 tons of force per square inch of workpiece.

**ALWAYS BOLT TOOLING IN PLACE.** NEVER use a cast spoon stake in the press. The cast stakes are not designed for use in any press. They are cast iron and will shatter and/or eject out of the press. Tooling attachment holes are in the top platen of the press for this reason.

- 1. Never get in a hurry!
- 2. Use the proper tool for the job!
- 3. Exercise thought before pumping the press!

4. Remember the 5 "C's", <u>Cover</u> your face and eyes, <u>Center</u> your work in the press, <u>Contain</u> the work whenever possible, stand behind the <u>Columns</u>, and exercise <u>Common Sense</u>.



ASSEMBLE YOUR WORK ON A PALLET AND SLIDE THE PALLET INTO THE PRESS. This allows you to locate everything without disturbing your assembly. The way I describe this in the workshops is that "it is easier to assemble the pizza on a pan and slide the whole works into the oven, rather than trying to assemble the whole thing in the oven. (The "pallet" is usually a platen protector or keylar sheet)

ALWAYS LOWER THE RAM WHEN FINISHED FOR THE DAY. The ram is slightly oily and an excellent dust and grit magnet. Abrasive grit, corrosive vapors, dust and other harmful substances are to be avoided. When not in use, lower the ram back into its protective sheath.

Always use the least amount of pressure or force to obtain the desired results

