Single Stage Press
Ram V-Packing

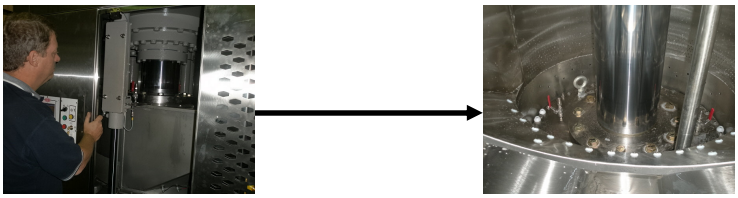
Preparation:

1. Assemble your necessary parts and tools. You will need a new V-Packing assembly for your ram. Contact Milnor Parts with the model and serial number of your Single Stage Press so you can get the correct kit for your model's piston size. You will need some wrenches of various sizes. An impact wrench can also aid in loosening and tightening the bolts. Construct an air fitting that will be used to blow the old v-packing down around the rod. The all-thread rods will be used to lower the tension collar and to draw it back into place aligning the remaining bolts. The nuts should turn freely on the rod threads.

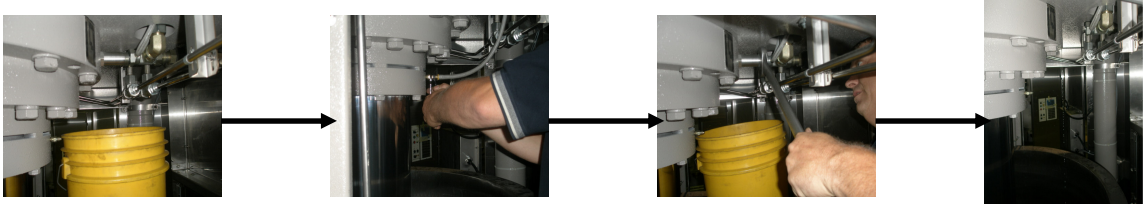
PRECAUTION—A NICK OR DENT IN THE RAM SHAFT WILL LIKELY ABRADE SEALS AND CAUSE THE RAM TO LEAK OIL. IN WORSE CASES THE SHAFT MAY BECOME SCORED LEADING TO RAM REPLACEMENT. **USE CARE NOT TO HIT THE SHAFT WITH TOOLS WHEN WORKING CLOSE BY.**

Procedure:

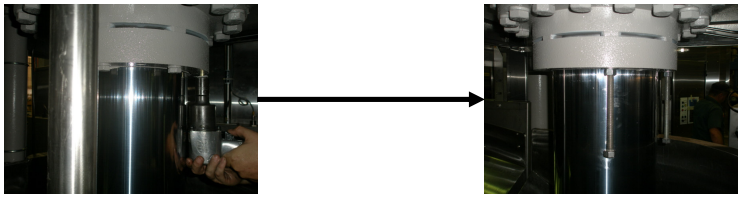
1. Take manual control of the Press and lower the ram to the bed of the press. Lockout and tagout all power and sources of energy to the press.



2. Place an oil collection bucket underneath the 1/4" hose and remove the hose from the gland. Tie wrap the hose away from the work area. Place plastic cap over the end of the hose to maintain hydraulic system cleanliness. Disconnect the long straight thread connector for tube fittings Part Number 52ZC1AS002 from the Tension Collar. Again cap the end of the pipes to maintain hydraulic system cleanliness. Collect any oil leak off in the bucket.

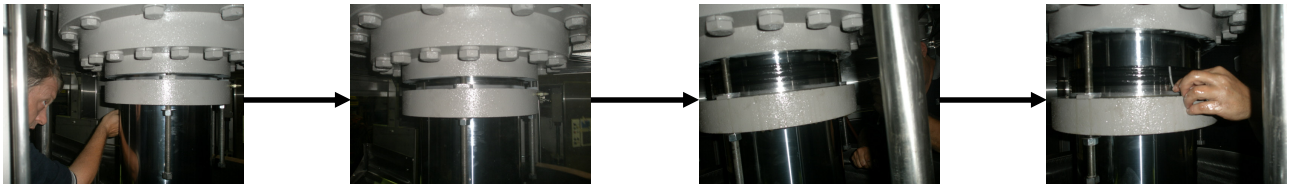


3. Remove 3 of the bolts holding the piston rod packing gland. Insert the three all-thread rods in place. Then remove the remaining bolts holding the rod packing gland in place. Remove the shim stacks and set aside.

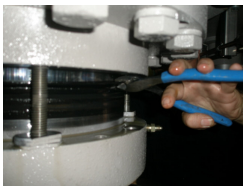


4. Install the previously constructed air fitting into the hole in the ram where the tube fitting was. This will be used to blow V-Packing seals down around the rod shaft. Placing an isolation valve near the fitting to control the air pressure is helpful.

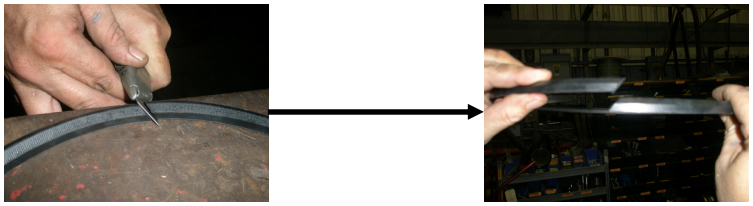
5. Loosen the holding bolts on the (3) all thread rods in 1/2" increments so the tension collar will begin to drop down. Generally pulling on the tension collar will allow the collar to move under the force of gravity and slide down the ram shaft. Initially you may need to drive a wooden wedge into the gap to break the tension collar free. As the tension collar is being loosened, periodically apply pressure to blow the v-packing seals down around the collar. You will be pressurizing the cavity on the underside of the ram piston. Note: There is a brass bushing above the V-Packing Seals. In some cases, the air pressure being used to blow the V-Packing down will also move the brass bushing down. If this happens, you will have to move the brass bushing back into place. This is best accomplished after you cut the old V-Packing away. Cut some small wood blocks and place between the tension collar and the brass bushing. Drawing the tension collar upward using the all thread rods and bolts will push the tension collar and the wooden blocks upward against the brass bushing and push it back into place. When you feel an increased tension on the bolts, you will know the bushing is back in place. Carefully clean any wood splinters from the around the Ram Piston Rod.



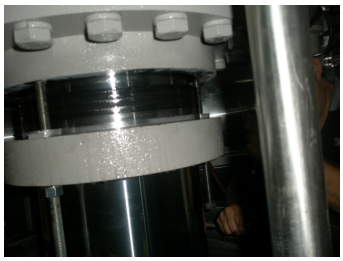
6. Cut the old V-Packing away. Be careful not to damage the ram piston shaft.



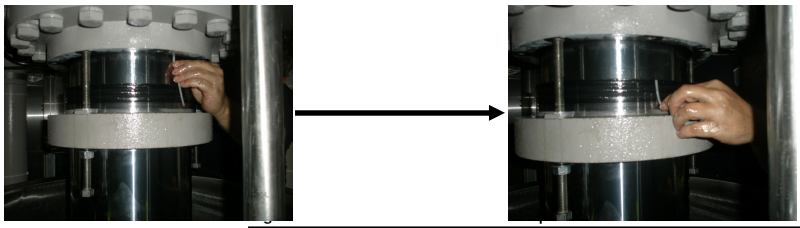
7. Cut the new V-Packing rings on a 45 degree angle.



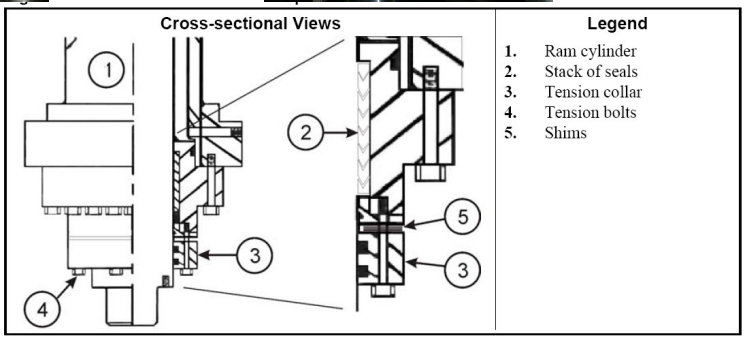
8. Thread the newly cut V-Packing rings around the Ram Piston Shaft. Align the cuts on the rings so that the cuts are offset one from another. This will ensure that there is no straight path for oil to leak through the V-Packing Seals. Generally offsetting the cuts at 120^{o} intervals is sufficient. Note that the Seals alternate between a softer and a harder seal. The top and bottom of the seal pack will be flat.



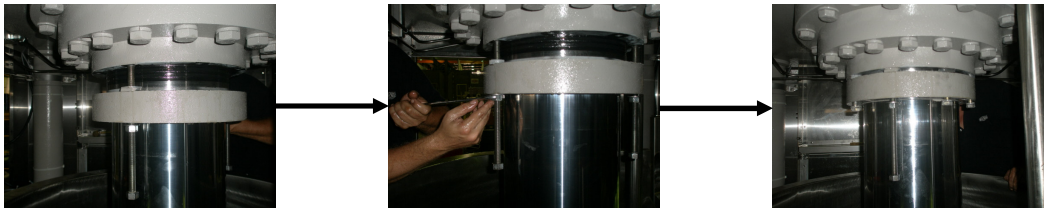
9. With the V-Packing Seal Pack against the Tension Collar, measure the height of the Seal Pack to the base of the Tension Collar. Measure the depth of the cavity that the shim pack fits into. The difference will be the height of the Shim Stack. Shims come in both Thick and Thin pieces. Since the old V-Packing Seal Pack was compressed, you cannot assume that the old Shim Stack height will be usable with a new V-Packing Seal Pack.



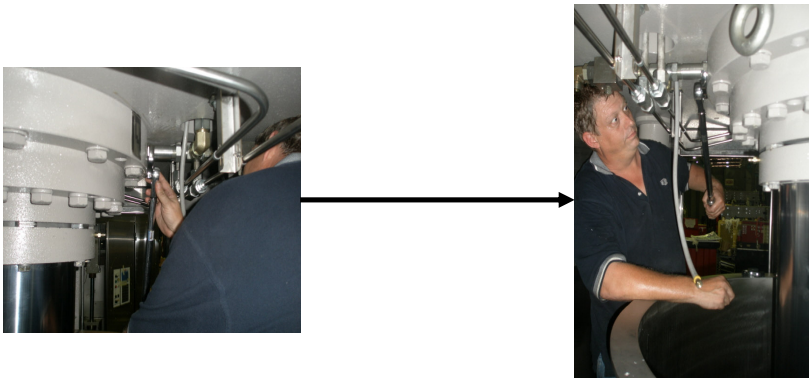
Type	Milnor Part Number	Thickness	
		Inch	Metric
Thick	15U314C	0.073	1.85 mm
Thin	07-10237	0.05	1.27 mm



10. Draw the Collar up in place using a smooth even tightening motion on the nuts on the all thread rods. Be careful that the V-Pack Seals do not roll as they up into cavity. Install the new Tension Bolts and the Shim Packs in the remaining holes. Then tighten the bolts. Remove the (3) all-thread rods and install/tighten the remaining Tension Bolts and Shim Packs.

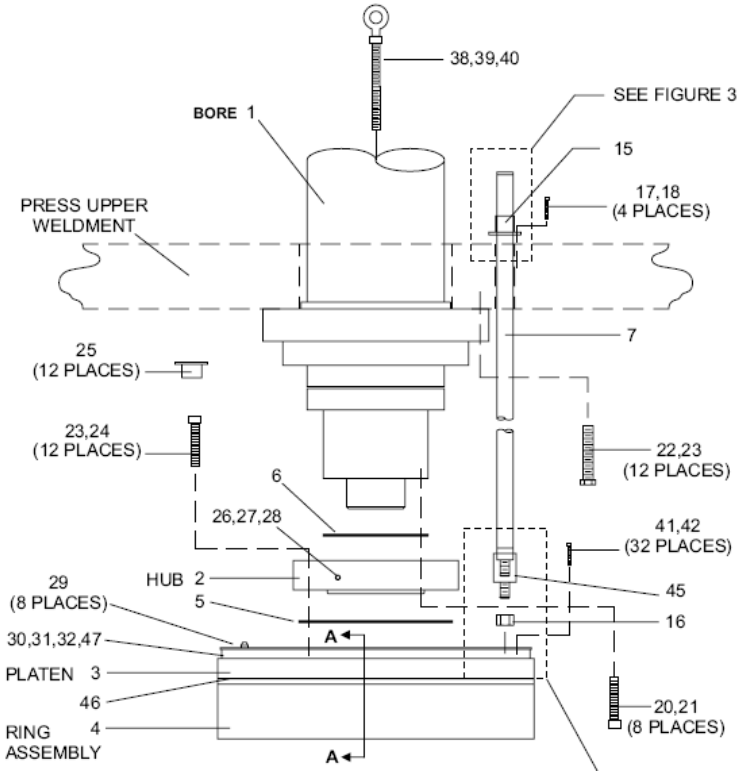


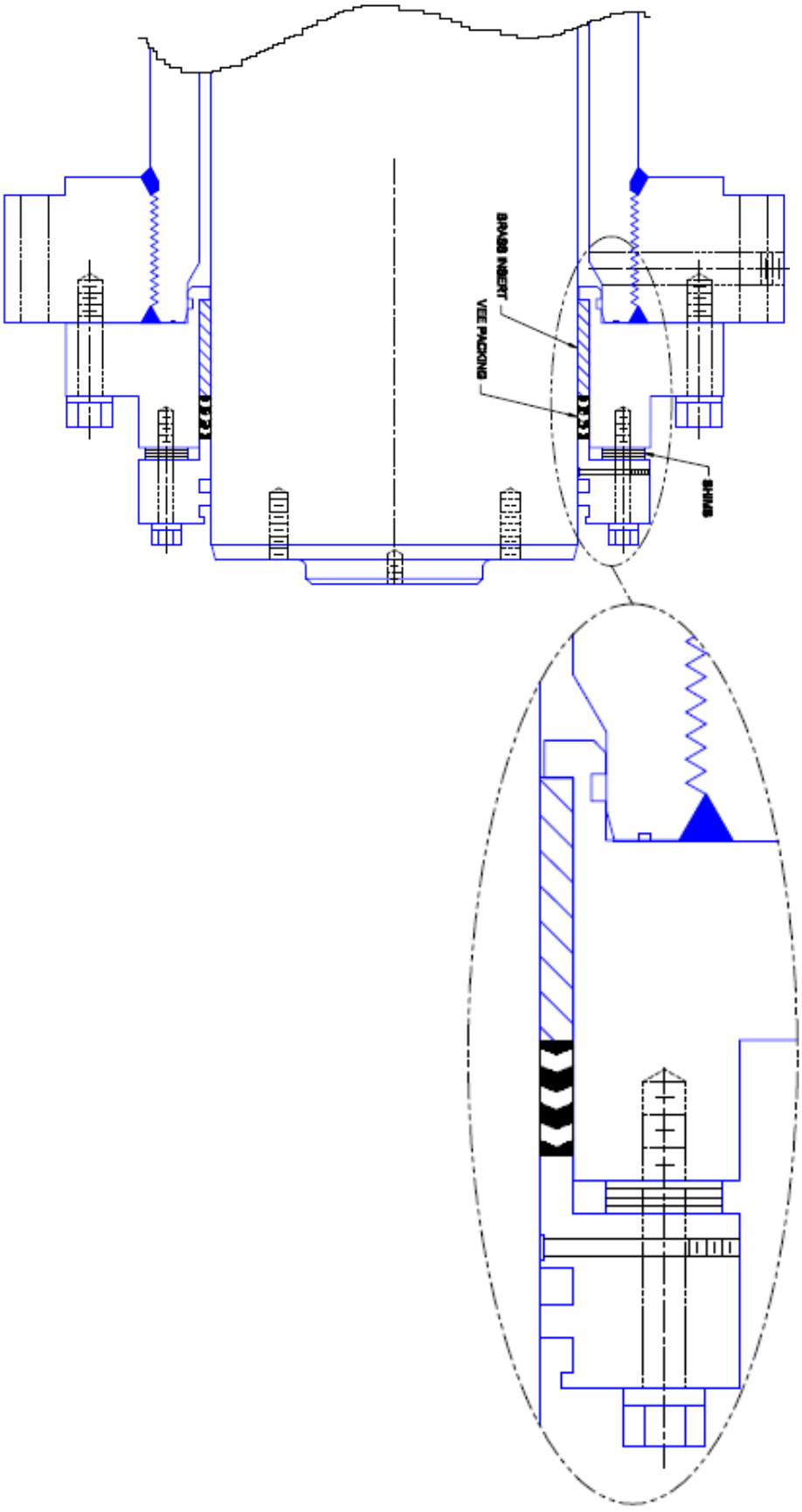
11. Remove the Air Pressurization Fitting from the Ram. Reconnect the 52ZC1AS002 long straight thread connector for tube fittings and torque to the appropriate setting. The torque value is found in the Service Manual for hydraulic hoses and fittings. Reconnect and torque the 1/4" hose to the Ram.



12. Torque all bolts to the appropriate values found in the Fastener Torque Requirements section of the Installation Manual for Single Stage Presses MAIMP16XAE.

If you do not wish to cut the ram v-packing to facilitate easier installation, you will have to unbolt the platen from the hub by removing the (12) 1" bolts holding the platen to the hub. Then unbolt the hub by removing the (8) 3/4" bolts holding the hub to the piston rod. Be advised that these pieces weigh a considerable amount and due care should be exercised. All of this will allow you to remove the piston gland completely. Then you will be able to slide the old packing down around the end of the ram piston, and slide the new packing up around the piston keeping the v-packing structurally intact. Depending on the need for greater accessibility in the work area, the can may even be removed. Since these bolts have been torqued, you will need new bolts when you reassemble the hub to the piston rod and the platen to the hub.




BRASS INSERT
VEE PACKING
SHIMS