

Technical Service Bulletin 05T12  
5RP Top Bearing Cap

**Scope**

Replacement of Top Bearing Retainer Cap and Installation of Slinger Ring and Drain Pipe.

**Justification**

This modification to your 5RP is recommended as preventative medicine. If the water rotary union on the top of the spindle (spline) shaft should leak, water could get into the top pulley bearing. The slinger ring and new bearing cap act as a shield to collect any leakage and channel it off. The pulley bearings are very expensive and delicate. Failure to promptly implement this modification will void any guarantee on the pulley bearings.

**Required Tools and Supplies**

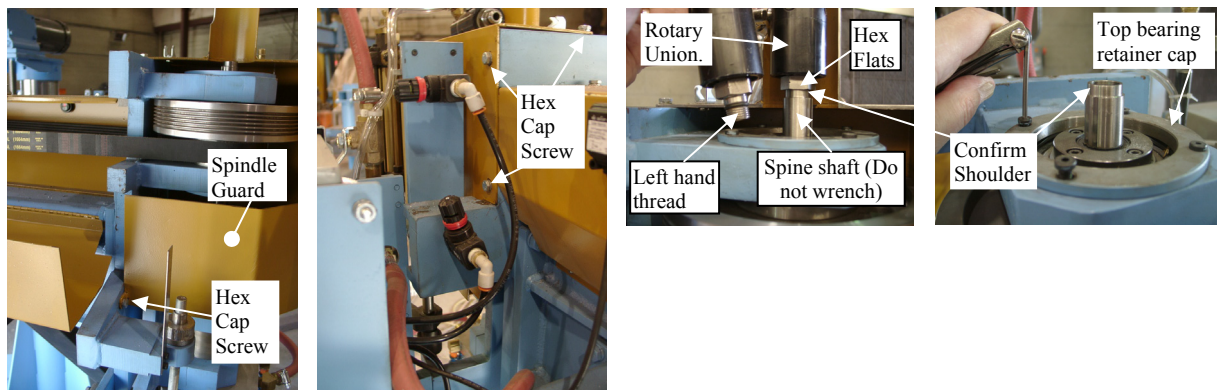
- Wrench, box/open or socket, size: 7/16" (to remove spindle guard)
- Wrenches: 15/16" box/open and 1-1/4" adjustable (to remove rotary union)
- 1-1/16" hole punch or saw (to make hole in 16ga sheetmetal guard).
- 1/8" short hex key (to remove bearing retainer cap)
- Channel locks (adjustable pliers; to tighten pipe nipple)

**Procedure**

Before beginning work, confirm that your spline shaft has a shoulder for installation of the Slinger Ring. (See two pictures of the union and spline shaft below right.) If not, SSI will need to send a different style slinger ring to fit over the union. The entire job should take about 1 hour and minimum mechanical skill.

Open the long belt guard and remove the spindle guard. There are four or five 1/4" cap screws with 7/16" hex head on most machines.

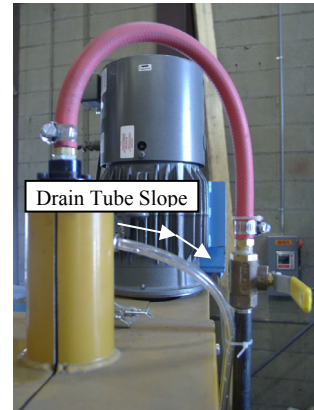
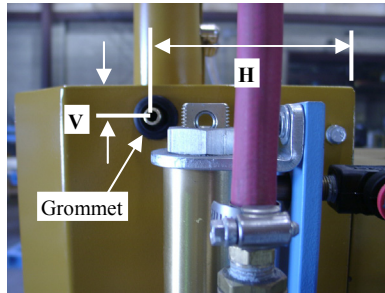
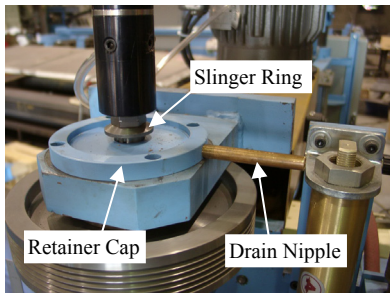
Remove rotary union from spline shaft. This is a left hand thread. Apply wrench to the hex flats below the union. Restrain the shaft from turning by holding a wrench to the wrench flats on the end of the spindle shaft. Do not apply a wrench to the spline shaft below the union.



Remove the four screws that secure the top bearing retainer cap and remove the cap. Install the new cap with the drain hole facing right. Slip the Slinger Ring onto the end of the spline shaft with the wide end down as shown below. Reinstall the rotary union and snug it.

Screw the pipe nipple into the drain hole. Use a straight edge and square to confirm the center of the nipple is located 5-3/16" from the back edge of the back plate (dimension "H") and 11/16" from the top edge of the back plate (3/4" from the top edge of the guard (dimension "V")).

Mark the proper center location on the spindle guard for a clearance hole for the nipple. Punch or drill a 1-1/16" hole in the guard for the grommet. Punch this hole undersized if possible. Put the guard and nipple temporarily in place to confirm the hole is centered. Make any adjustment to the hole location and then enlarge the hole in the proper location.



Install the grommet in the spindle guard. Remove the drain nipple and reinstall the spindle guard. Insert the nipple through the grommet and screw it into the retainer cap. Pipe sealant or Never Seez on the pipe thread is optional.

Note: If you return the guard to Sawing Systems, we will punch the hole for you. Please confirm and mark the correct location. You pay only shipping both ways.

Finally, be sure to slope the clear plastic drain tube from the drain port in the rotary union down the supply pipe as shown above. If you did not recently replace this drain line according to TSB 05T09 it is critical that you do so at this time.

### **Important Operating Note**

The rotary union is a precision dry-running type. It is made to work with either no coolant or a sufficient coolant flow to properly activate its rotary seal faces. When the water flow is started a small amount of water may leak out the drain tube before the seal faces have a chance to close. If the water drains out continuously, increase the flow to the spindle until it stops. Note the flow and valve position and try to open the valve to this setting immediately when starting the water flow. If water is allowed to drain continuously it could result in water getting to the bearings inside the union. This water will wash out the lubrication in the bearings and subsequently cause them to fail. A union with bad bearings and washed out lubrication will not be warranted. A failed union may also leak water through the internal bearings and down the spline shaft. Hence the need for this service bulletin to help prevent this water from getting to the very expensive pulley bearings. If the water union drips water out the bottom of the union just above the hex flats turn off the water immediately and replace the union.