

Lubricant Drip System for the Lap-Sharp™

This paper explains how to build a simple and inexpensive drip system for use with the Lap-Sharp™ sharpening system. The Lap-Sharp™ system can be used either wet or dry. For most wet applications, a few sprays of lubricant (usually water with a few drops of dish washing liquid) is sufficient to provide the quantity of lubrication needed. In some cases such as when using diamond abrasives or using a whetstone wheel mounted on the Lap-Sharp™ a continuous drip of lubricant is desired. The parts used for this design can be purchased from local pet and hardware stores.

Requirements:

1. A top vented water container
2. A water flow control valve
3. A drip tube
4. A mounting stand
5. A drip positioning method

For this project, I purchased the following items:

1. A Lixit Quick Lock – Flip Top pet water bottle - \$9.99
2. A Watts PL-3012 Quick Connect Straight Valve - \$6.50
3. 25' of ¼" Poly tubing - \$1.99

Construct the Lap-Sharp™ drip system as follows:

1. Carefully remove the press fit drip tube from the water bottle with a pair of pliers
2. Tap the plastic where the tube was removed with a ¼" NPT thread tap. Alternately, the valve can be glued into the plastic cap tube.
3. Screw (or glue) in the Quick Connect Straight Valve (pipe tape on the threads is recommended if you are not gluing the valve in place)
4. Make a pole stand with a ½" x ¾" x 27" strip of wood and a ¾" x 3" x 6" block
5. Mount the wood strip/pole vertically (using a mortise joint, screw through the base, dowel, or right angle brackets) in the block of wood with the ½" wide side 7/8" from an edge of the block.
6. Drill a ¼" clearance hole in the pole at 5 7/8" and at 23" from the bottom of the block
7. Cut a 12" length of ¼" tubing and insert it into the end of the valve
8. Bolt the water bottle clamp through the upper hole in the pole
9. Position the block at the rear of the Lap-Sharp with the one inch edge closest to the back of the machine and with the pole between the bracket that is cast into the back of the Lap-Sharp™
10. Use a 1" x ¼" -20 bolt to hold the pole in place while the base rests on the working surface. The hole in the casting is drilled for a 5/16" shoulder bolt, but a standard ¼" bolt and washer can be used. Do not over tighten the bolt. It is only needed to steady the pole.
11. The top opening bottle may easily be filled with water and rotated in its clamp to position the drip tube to the desired location.
12. If the splash guard needs to be extended in height, as is needed with the addition of a waterstone, add a strip of plastic to the splash guard with tape or for a more permanent addition, with adhesive.
13. This drip system is a handy addition to the Lap-Sharp™.



Drip System



Drip system & whetstone wheel on Lap-Sharp™