

# Modifications to a Logan 8" Shaper



After getting a rusty brown Logan 8" shaper the first task was to clean it and paint it. Next was to install a single phase motor. That was a pain. But to wire it inside the cabinet would have been worse, hence the short power cord and inline receptacle. Then when the motor needed a new capacitor, it was unplugged, unbolted, repaired, reinstalled, and plugged in again. It now awaits new bearings and the "quick disconnect" will pay off again in down time due to wiring.



Though it doesn't look like much, and it was just a knob from some other machine, the thread was right, and it was easy to get a grip on the knob. Therefore it replaced a gib screw. Best modification you can do to keep the clapper head from moving up or down due to vibration, etc. To advance the tool, just turn the knob by hand to unlock, no tools needed. Lock it down after advancing the tool head.



The eccentric lock knob on my Logan was missing. Not knowing what it looked like, I machined one that I thought was appropriate. When I finally saw the original, larger diameter, but so narrow as to make it very difficult to get a grip on . . . I'll stick with my redesign. Very easy to grip and lock down tight. Only thing I would have done differently is to make it slightly larger in diameter. But the wide width of knurling makes it easy to grip.



You only leave the manual advance crank on the high-speed small sprocket shaft once and turn on the machine. If you live through the experience, you determine there has to be a better way. I found a very smooth hand wheel with no crank pin. Its bore was  $\frac{1}{4}$ " larger than the Logan's shaft. A bronze bushing of proper size was pressed into the wheel, a hole drilled through the bronze for the set screw, slid onto the square shaft of the Logan, and tightened down. No wobble, great balance . . . and safe! Hand wheel is 6" in diameter.



Next mod was to replace the two bolts holding the table support bar. The levers are the type whose position can be changed, as they are splined and spring loaded. The levers in the flat position stay out of the way and are easy to use. No tools needed, just hold the bar with one hand and lock the two levers with the other.

The elevation is normally done with the crank lever. However, I found a large, 8" diameter, heavy, balanced hand wheel that fit perfectly. The bronze bushing idea worked again and the elevation is made easier by a larger diameter wheel that clears everything, and is easy to turn. No more looking for the hand crank or having it fall off.



The lamp came from another machine and I attached it years ago (before I realized that drilling and tapping into a machine is a "no-no.") The 2 mount screws were drilled in a spot that would not harm the machine and for all practical purposes are out of site. It is a great aid in seeing those tiny numbers on the cross feed dial! The lamp can also swivel to the right and assist with the Alexander (think Deckel F1) mill.



Behind and to the right of the shaper are the shaper wrenches and tooling. Slowly I am replacing the pegboard that covers the interior windows of the 66 passenger, 65 Ford bus (where my machine shop is located). The aluminum plate has slowly been replacing the pegboard as I find it in the scrap yard. Tools left to right are: Clapper bolt wrench, original wrench for the Atlas tool holder (open end tightens the tool holder, closed end tightens the tool post), wrench for the



swivel bolts on the vise and the t-slot bolts, Logan keyway cutter, and an Armstrong, long reach keyway cutter (great for spline cutting.) The B&S dividing head, plates, tailstock, and 6 jaw chuck, and assorted centers and collets are located below. It can be used on the shaper at left or the mill on the right.

Not having any hold down bolts for the t-slots, I decided to make them out of lag bolts. I found the proper head size, shaped or milled them square, reduced the head thickness to fit the slot, then center drilled each end. (The point has to be cut off and then center drilled.) They were then turned between centers down to the proper diameter, and threaded. A complete set of varying heights can thus be made to round out your tooling on the Logan (and done very inexpensively!)

I was able to find a beautifully machined t-slotted table at a used machine tool dealer for \$20. It had the t-slots with keyway underneath. I made the key, had to drill two holes for the through bolts, and make t-nuts to bolt it on. This gave me an extended table, ideal to bolt a super-spacer on the end (or dividing head) in order to make male and female splines. These pictures show



the setup to cut an internal female 6 spline for the pulley drive of a large



20" drill press being restored for a friend. The drill press I might add was solid rust (been underwater in the flood of '93 in Iowa) and minus the drive and motor. It cleaned up beautifully and is near completion. #3 Morse taper, table lift for the t-slotted oil trough table and about 500 lbs. with motor and drive. Paid \$43 for it at .10 /lb. scrap price.