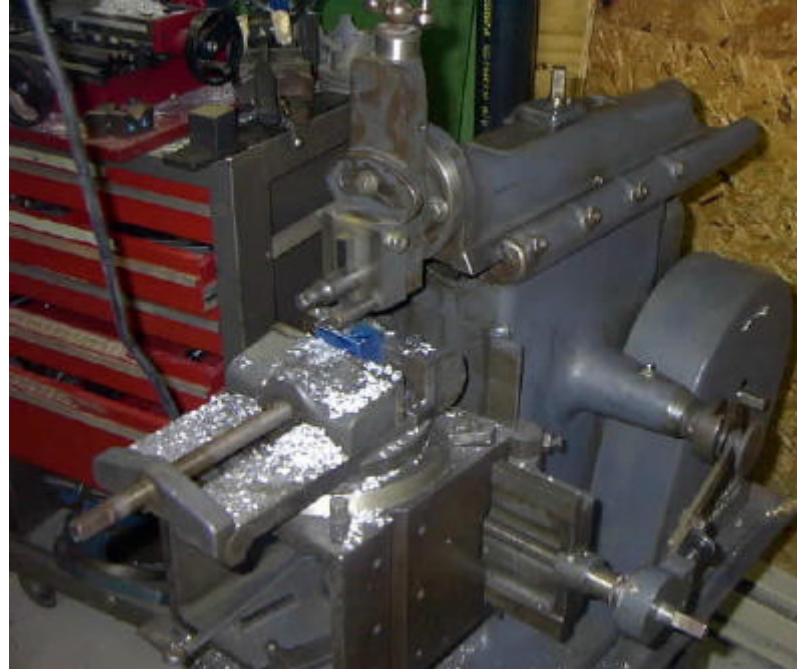


## Logan 7" shaper

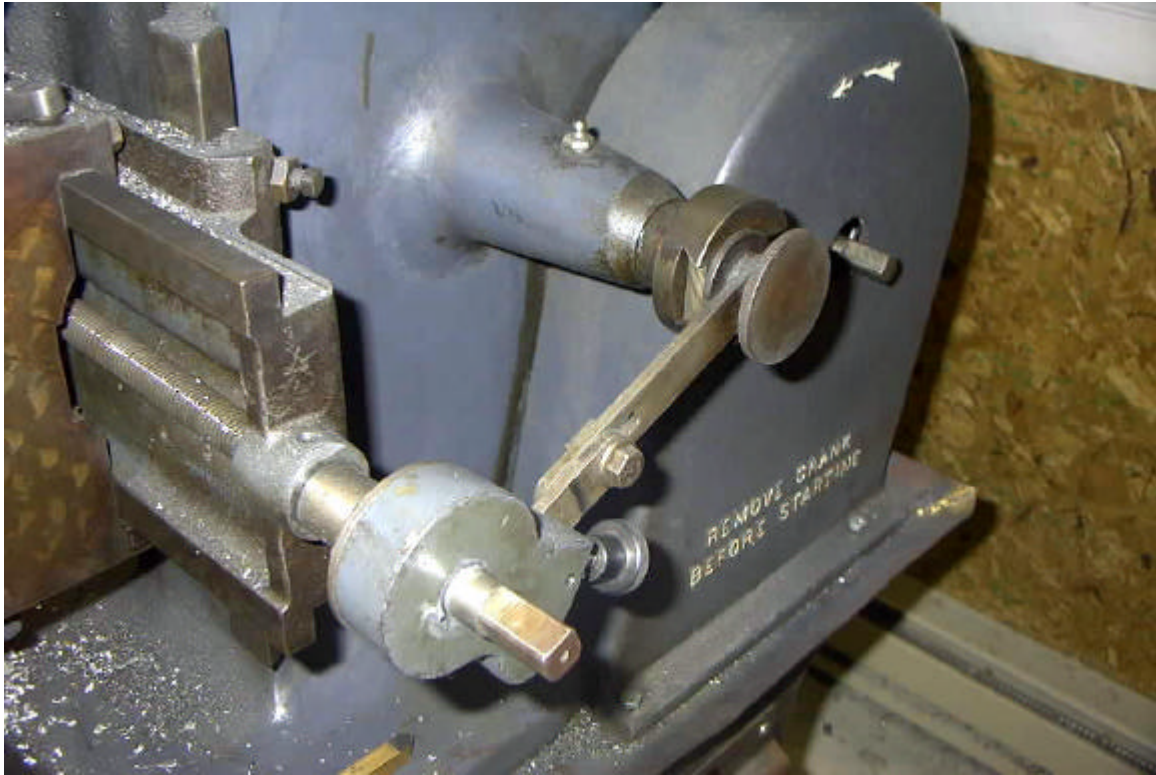
After starting off with my first metal shaper, a 7" Rhodes, I was hooked. I loved the finish that a shaper gave me and the fact that it was using two dollar lathe bits that I can resharpen many times instead of fifteen dollars endmills that were dull after a half-dozen uses didn't hurt. I learned how shapers work and what they can do while I had my Rhodes, but I was always keeping my eyes open for something a little bit larger and maybe a chance to upgrade. Sure enough, after a several weeks of looking I ran across a very nice Logan 7" shaper that was being sold locally. I rounded up a friend and a trailer and soon had it home.

I felt the Logan was an improvement over the Rhodes in a few areas. The Logan was a heavier machine. It had more mass to it and was therefore a better and more stable platform for cutting metal. The Rhodes that I had was limited to a single speed ( could have been changed with some cone pulleys but that would have been another project in a long line of projects ) and the Logan has an infinitely variable speed ( within the high & low limits imposed by the motor & pulleys ). The Logan also had the distinct advantage of having a square four-sided table with a support underneath it. The Rhodes had an open, three-sided table with no upwards support on the table for heavy cuts. The Logan was also about 50 years newer than the Rhodes and therefore had some better refinements. Don't get me wrong, I love old machines and the 100 year old Rhodes was one of my favorites, it's just that I had an opportunity to get a machine that would do heavier work and didn't have the room for two of them.



When I found the machine it was in pretty good shape, having been store indoors. It took an hour or so with a damp rag to clean all the dust off of it and then a light coat of oil and everything was ready to go. The shaper worked well enough but the ratchet mechanism that causes the table to auto-feed wasn't working. After a bit of head scratching and a good inspection I discovered a couple of sheared taper pins in the feed-shaft. Not being patient enough to measure them and order replacements I dug up a couple of taper pins scavenged from the apron of an old Southbend lathe. With the pins cut to length and fit to the holes I was finally in business and had a fully functional shaper.

An item worth noting for anyone with a Logan or Porter Cable shaper, the feed mechanism requires a certain degree of resistance or "preload" in order to work right. The pawl just doesn't grab without some pressure on it. I had initially adjusted the entire linkage so that it actuated very smoothly but then the auto-feed didn't work. The double nut arrangement on the left end of the table is there to allow you to preload the tension in the linkage. Think of it as a clutch, by tightening down on it you're allowing the pawl to grab and the feed to engage.



Make sure that the two-piece feed linkage remains straight. Initially mine was flexing like an elbow and only allowing for a partial advance of the table on each stroke because of the lost motion. When I adjusted it to the correct length and tightened it down the feed improved immediately.

I read about shapers and studied them for awhile before I took the plunge and finally bought one. My first was the 7" Rhodes which I liked and learned quite a bit on. I liked it so much that I started looking for another, what I really wanted was a 10" machine. While looking around I came across the Logan 7" machine that I decided to buy. The capacity wasn't any greater but it was a later model and a bit more refined. The Rhodes was built around 1903 and while it still worked beautifully the Logan was built in the 1960's and it shows. The only disadvantage to the Logan was the fact that it's table doesn't have T-slots. That was a real disappointment and it really made me want to hang onto the Rhodes but I couldn't justify it for the T-slots alone. I have a T-slot table from a small milling machine that I plan to install on the table-top

The Logan has several nice features that set it apart from most of the other shapers in the crowd. The stroke on this machine is almost 8" when you take the time to measure it. I don't know if the 8" Logan machines measure close

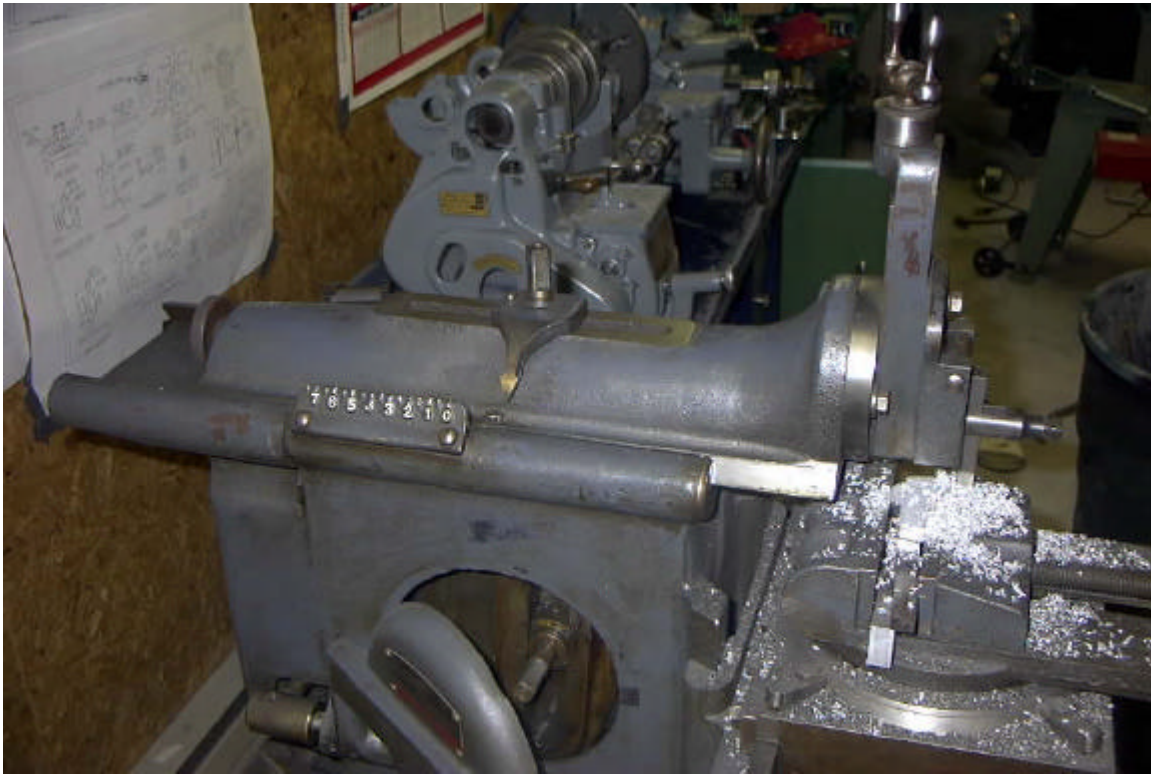
to 9" of stroke but it's a nice bonus on the 7" machines. The Logan also uses a handwheel on the base to control the number of strokes per minute. Compared to other machines that have a fixed number of speeds and require belt changes to achieve those changes the handwheel adjustment is very convenient. Another feature of this shaper that I appreciated was the fact that the table is closed on the bottom and incorporates a pillar support. Some shapers have a 3-sided table that is open at the bottom, and while they are still very functional machines the tables aren't as rigid as a closed box and the work will have a tendency to deflect under heavy cuts as the table is forced downward with no support to keep it in place.

There are also a few things that I don't like about it. The first thing that comes to mind is the noise. This machine is a chain drive instead of the more traditional gear drives that most shapers have. I don't think it's any less reliable than the geared machines but it sure does make more noise. The two Rhodes shapers I had were almost silent when compared to this one.

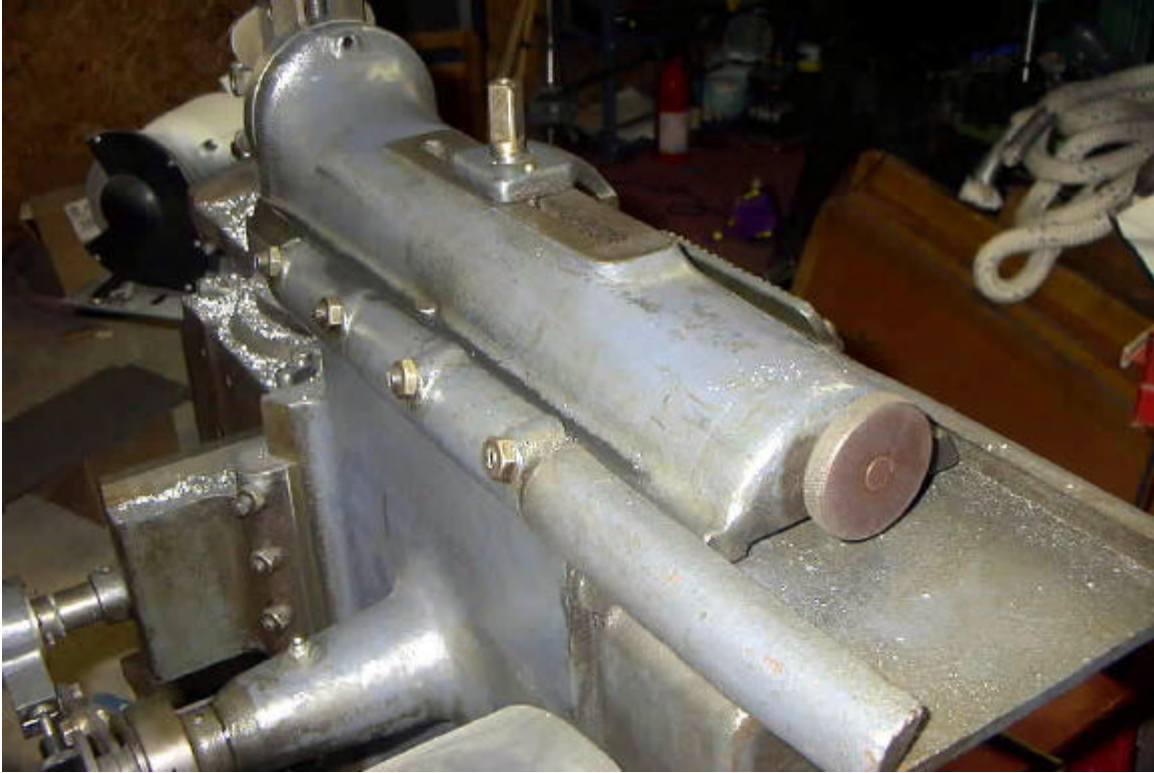


The photo above shows the chain drive and the stroke adjustment. By loosening the central nut and moving the assembly the length of the stroke is changed. Keeping it in towards the center of the yoke gives you a short,

quick stroke while moving it out and away from the center lengthens the stroke.



The ram can also be positioned to move the stroke in or out in relation to the table. This particular shaper had an indicator plate on the shaper housing with a pointer on the ram to show the stroke. To adjust this the nut holding the pointer is loosened and the knob at the rear is used to adjust the position of the ram.



Hopefully this has given you more information about Logan 7" shapers than you had before you started reading. I'm hoping to write up something similar about my Rhodes 7" shaper to illustrate the differences. I've really grown to love these machines and the great work that can easily be done on them. With luck this will not be my last shaper and I'll have more to write about. I've always thought a nice 10" machine would be the perfect size shaper for a small hobby shop like mine. I keep looking and eventually I'll turn one up.