Method For Adjusting New Style Ram Guides

Adjusting and keeping new style ram guides in adjustment has been a problem for many that have this style of Little Giant. Identifying new style means any 25 and 50 lb serial number 6000 and above and 100 lb 1000 and above. We finally arrived at a method that works well for us. It may seem a little unorthodox but it works. How precise of adjustment you can achieve is dependent on the condition of the guide surfaces. This includes the ram, frame and the guides. If they are worn and not truly straight it effects how well they can be adjusted. These surfaces can be trued up to a certain degree. Most hammers will require new ram guides to be used. The ram and frame can be corrected by hand with grinder if not too bad. Sometimes it may have to be machined. This can be difficult due to the size and angles involved. We have machinery and fixtures here that allow us to accomplish the operations properly.

I am going to go over the pieces in involved and name them so you will understand which item I am referring to. The ram is the main casting that holds the die and does the hammering. The guides are the left and right vertical casting that holds the ram against the frame. There are three large holes running horizontally through the casting and two smaller threaded holes on each guide with set screw with a locking nut in them. These set screws come in from the rear of the guide. Three long rods which are threaded on each end go through the guides and frame, I will refer to them as through bolts. There is a large washer on each end of the through bolt that goes between the nut and guide. These washers are hardened.. Do not attempt to use a standard thin washer. Also, the set screw are of a cup point design and are hardened, do not use regular bolts.

Getting ready to assemble and adjust I clean everything up thoroughly and do not oil at this time. I clean all threads to make sure they can be assembled by hand. Having to use a wrench hinders getting things in proper position. I do this with the arms disconnected. It is much easier to get a "feel" of the sliding action we are after.

I set the ram on a block that puts it in the center of the area on the frame that it runs against. It needs to be centered and straight vertically. There should be approx. 1/16 to 1/8 inch on each side of the ram, the frame is slightly wider than the ram. It can be difficult to get it straight. I use small shims of paper or other material to achieve the proper position. This is very important. If you have drawing dies it may be hard to get the ram to set in place. Use whatever blocking system needed to get it set up.

Assemble the guides and the three through bolts loosely on the frame with the hardened washers and nuts. Make sure the set screws are backed off so as not to interfere with the through bolts. Push the ram guides back against the ram tightly, we are not concerned with clearance at this time. Tighten the center through bolt, the one without a set screw, to approx. 20 ft lbs. Check to make sure the ram guides are tight against the ram both at the top and bottom. If they are not, tap them with a hammer to set them back. You will note that the holes in the frame are larger than the

diameter of the through bolts. The holes in the ram guide are considerably larger and oval shaped. What we have to accomplish is to make sure the through bolts are positioned in the forward part of the oversize hole in the frame. Pull the through bolt forward in the hole and tighten the set screw against it to hold it there. This should all be done with only hand tightening. Do this with both top and bottom through bolts. If the through bolt is not in the forward position, being held there by the set screw, there is room for the guide to slide forward when using the hammer. This will result in excess clearance. Tighten the set screws up against the through bolts with a wrench approx. ¼ turn after contact. Tighten the lock nut to hold it in place. Tighten the through bolts to approx. 30 to 40 ft lbs.

At this time you will not be able to move the ram up and down, we do not have clearance yet. This is where the unorthodox action takes place. Take a hammer, preferably brass, and tap the head of the set screws [4] not real hard but don't baby it. This should drive the set screws a little deeper into the through bolt and the ram guide will move slightly forward giving you some clearance. You should be able to move the ram up and down at this time. If not, tap on the set screw a little harder. Don't overdue it, you don't want to break something. If it slides up and down freely without excessive clearance we move on the next step.

Tighten the through bolts to 60 to 70 ft lbs for 25 lb and 80 to 90 ft lbs for 50 lb hammer. At this time you will probably not be able to move the ram. This is because cast iron actually has some give to it. You have literally squeezed the frame enough to tighten the guides up on the ram. We now go back to the hammer. Strike the set screws to again move the guides forward giving you clearance again. If they will not move enough to obtain clearance, loosen the set screw very slightly [1/8th] turn and hit it again. Tighten all the lock nuts on the set screws to hold them in place. DO NOT RETIGHTEN THE NUTS ON THE THROUGH BOLTS. If you do you can lock the ram up again. Once you have the desired clearance, leave them alone. You may have a little clearance at this time. You want the ram to move up and down freely. If you have any binding at all, it can upset the rhythm of the hammer causing double strike and irregular beats. Oil it at his time which can surprisingly take up some of the clearance.

It is not the tightness of the through bolts that hold the guides in place, it is the mechanical action of the set screw against the through bolt that keeps it from moving forward.

I have found that if the procedure does not seem to go right, start completely over. This seems to be the best way.