



# Setting the Gib & Backlash on Sherline Ball Screw Machines

# SHERLINE PRODUCTS

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Because the gib fitting in the Z-axis is set by the customer and we say to “push the gib in until it is snug,” we decided to offer better instructions for adjusting the gib and checking the amount of backlash. We are using the Z-axis as an example because it is the axis with the most weight on it. Use the same process to check the other axes.

If the gib is too loose, you will have side movement in your column saddle.

If it is too tight, it will act as a brake and you will have excessive backlash because the saddle is sticking when you try to move it.

In the picture below:

1. The bearing preload (“P” in the picture below) is set at the factory and it should not need to be adjusted.
2. The “Press” arrow shows the direction of force you need to apply on the gib when you install it to assure that it is in the proper position when you slide it into place.
3. The “T” and “L” arrow show which direction to push the gib to make it Tighter or Looser.

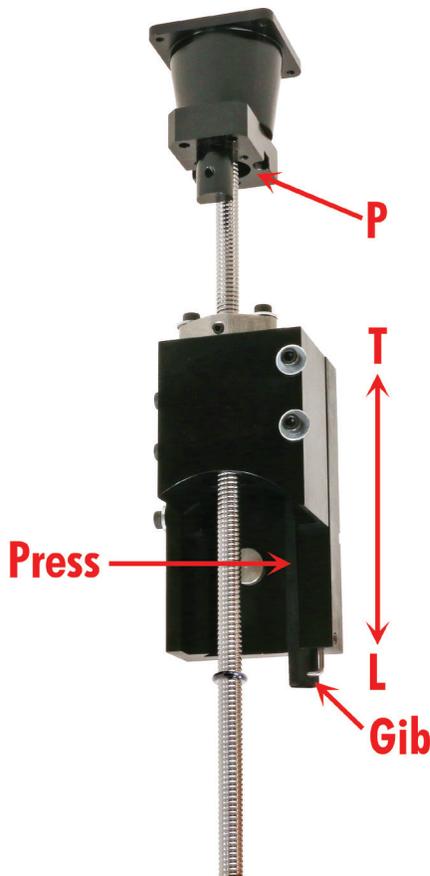


FIGURE 1

1. Pull the gib down to make the gib fit loose (no drag at all).
2. Put a test indicator in the spindle and bring the head down until the indicator touches the top of the table. Be sure that the tip of the indicator is close to 90 degrees to the indicator body, or your reading will be off.
3. Use the jog mode and move the indicator down until the indicator reads (0).
4. With the jog button set to increment and (.001”) or (.01mm), start moving the head up.
5. With the gib loose, the reading that you are getting is the actual backlash of the ball screw, which should be less than (.0002”) or (.0051mm).
6. Now push the gib up into the dovetail until it is just fits snug.
7. Now check the backlash again.
8. When the gib fit is good, but not too tight, you should have less than (.001”) or (.0254mm) of backlash.

**NOTE:** be sure to put a few drops of 3-in-1 oil (or light sewing machine oil) on the bed dovetail surface to keep the saddle and the gib lubricated.

### Using an Indicator

1. Make sure the tip of the indicator is at an angle close to 90 degrees in order to get an accurate reading.



FIGURE 2

2. Load the indicator to (0).



FIGURE 3

3. With the increment at (.001") (.0524mm), I move up one step and the indicator move (.0006") (.01524mm). Therefore, the backlash in the Z-axis is  $.001" - .0006" = .0004"$  (.0102mm). It should be less than .001" (.0254mm).



FIGURE 4

**METRIC NOTES:** If you are using the metric control page, use the increment setting (.10) when you move the head up. The actual indicator movement should be between .074mm and .10mm.

Thank you,  
Sherline Products Inc.