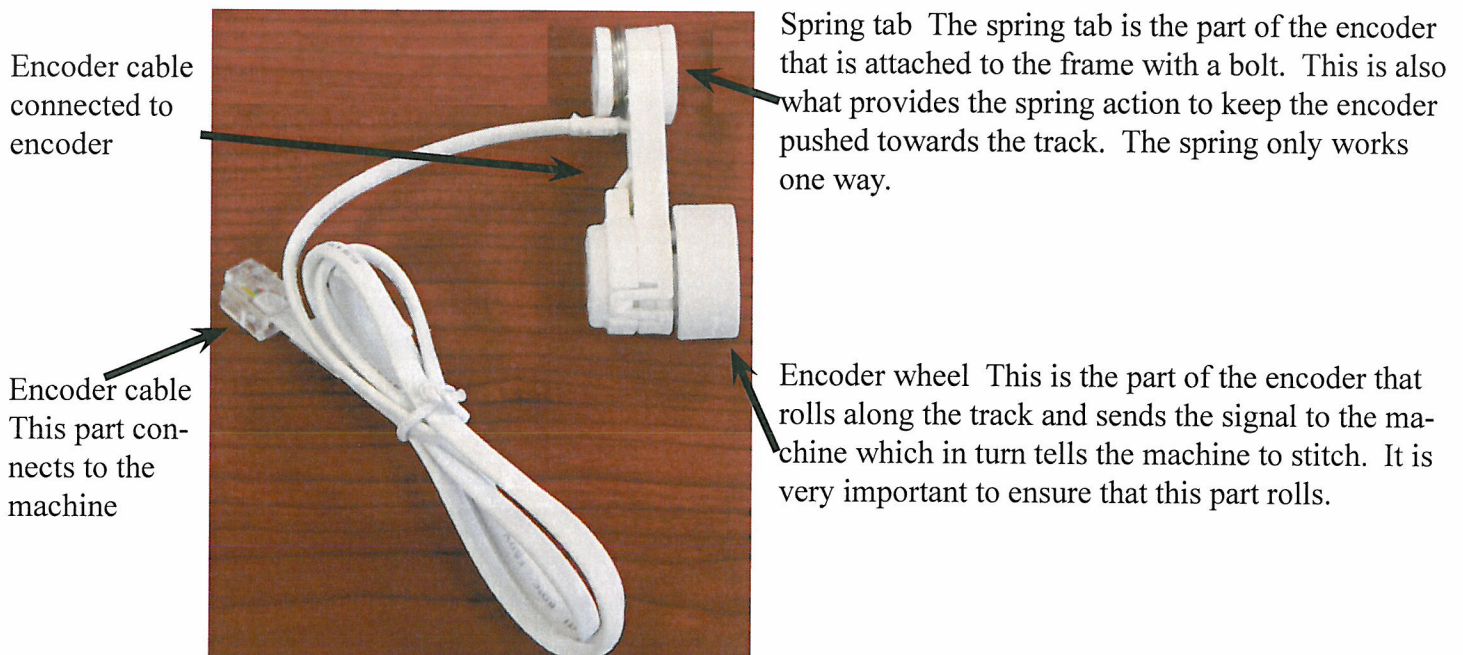


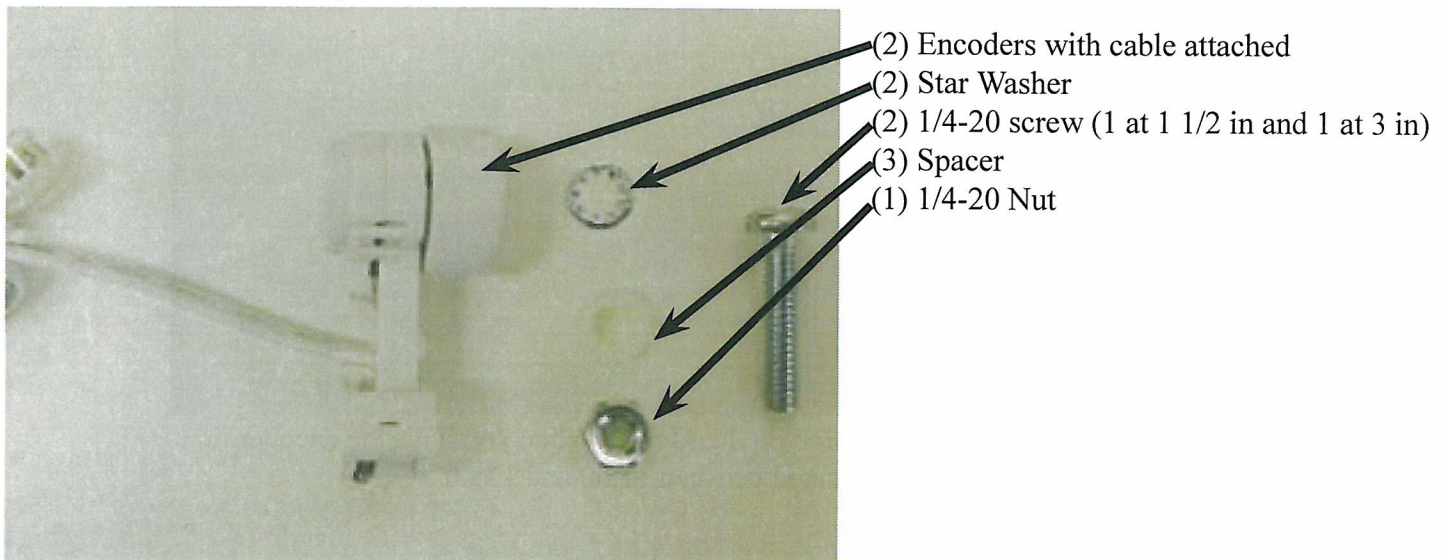
# Attaching your Encoders

## General Anatomy of the Encoder

Pick up an encoder so that you can look it over while looking at the diagram below so that you will know the parts of the encoder

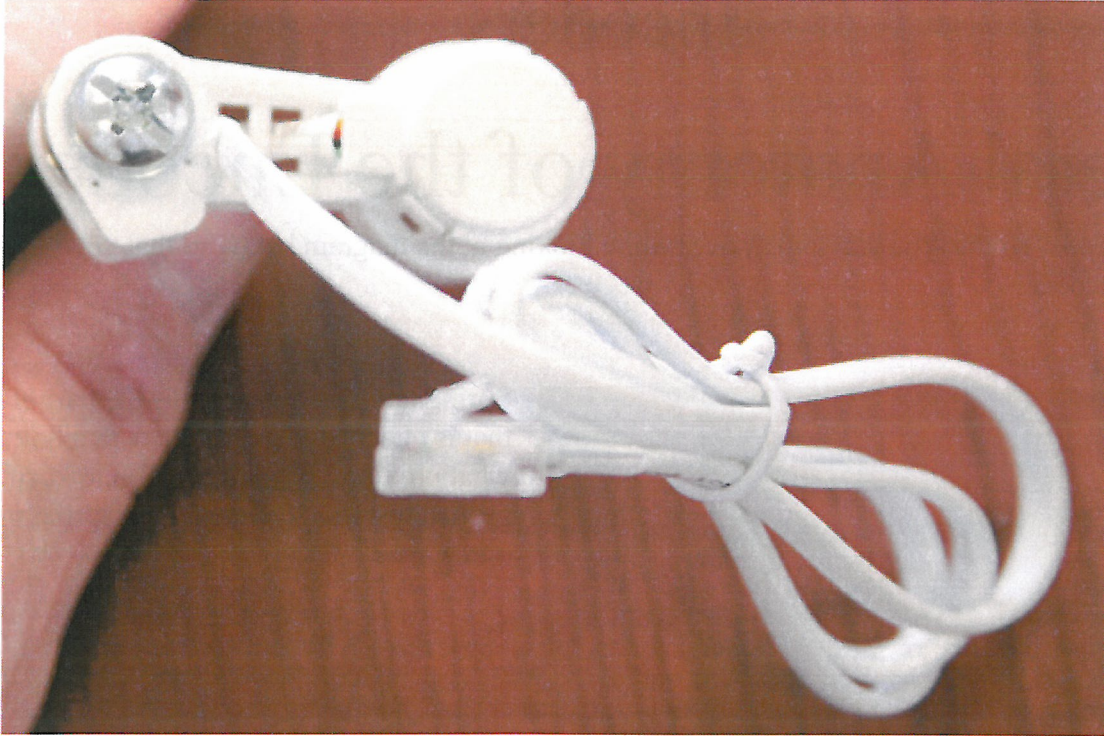


## Parts you will get for attaching your encoders to the Phoenix Frame.

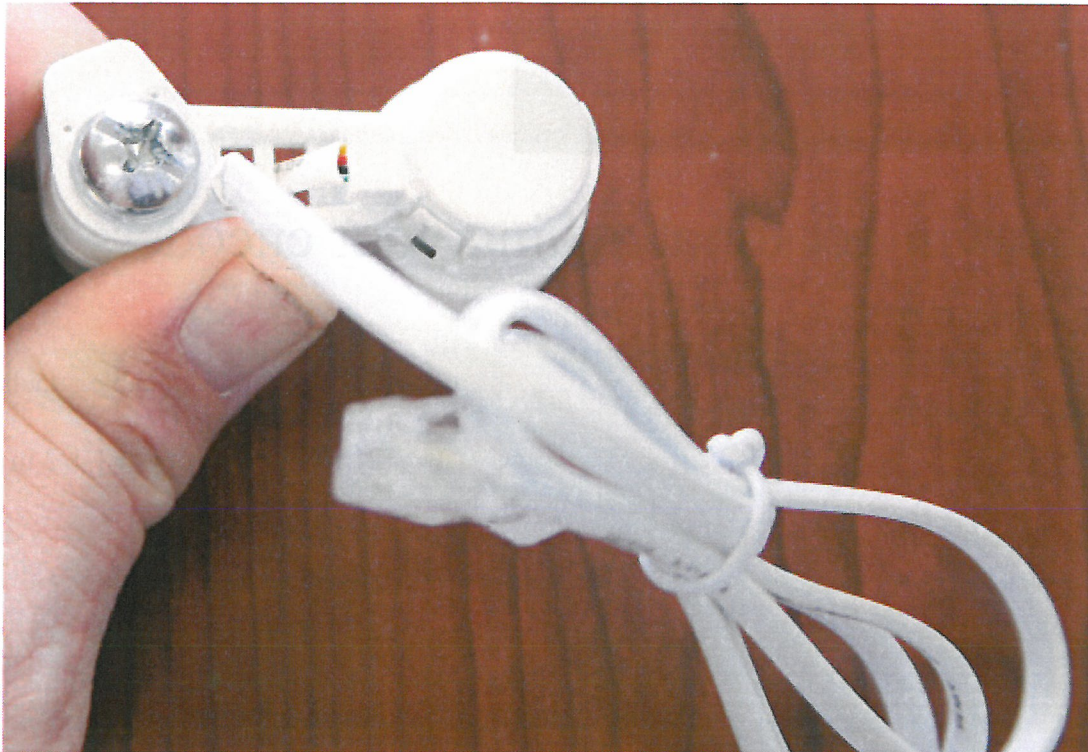




# How do I know when it is tight



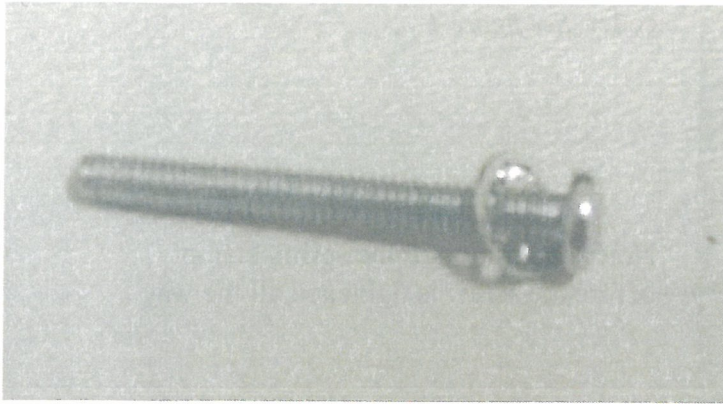
This shows the encoder without tension on the spring. Spring tab down between 5:00 and 6:00



This shows the encoder with tension on the spring. When you have the encoder in place the Spring tab should be located between 11:00 and 12:00

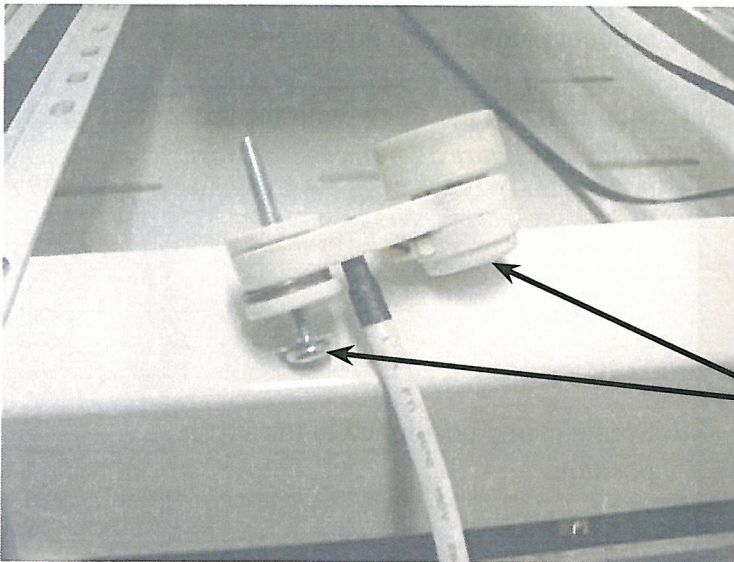


# Installing bottom carriage encoder



*Figure 1*

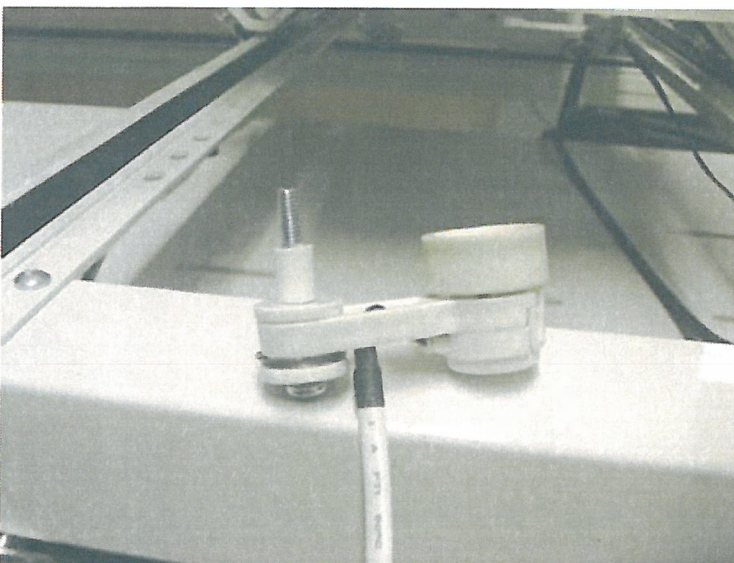
**Step 1** Place the star washer on the 1 1/2 in screw so it is flush with the head. *See figure 1*



**Step 2** Insert the screw into the encoder arm on the same side as the encoder cap. *See figure 2*

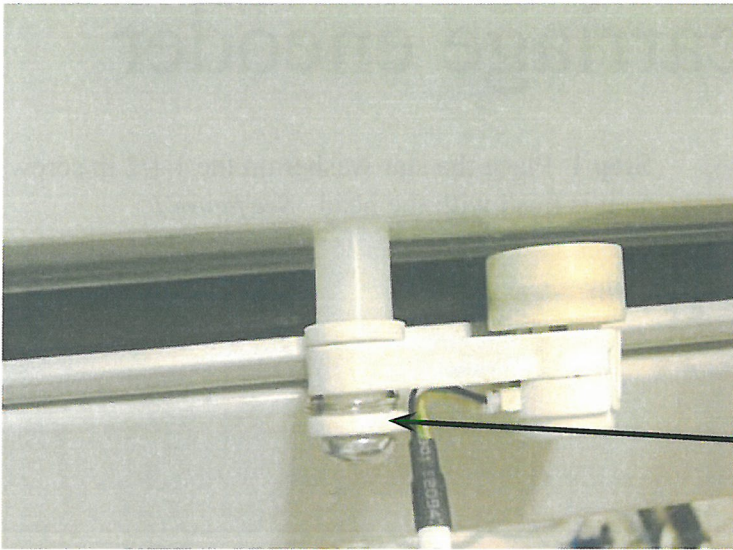
Screw inserted on same side as cap

*Figure 2*



**Step 3** Insert 1 spacer onto the screw *See figure 3*

*Figure 3*

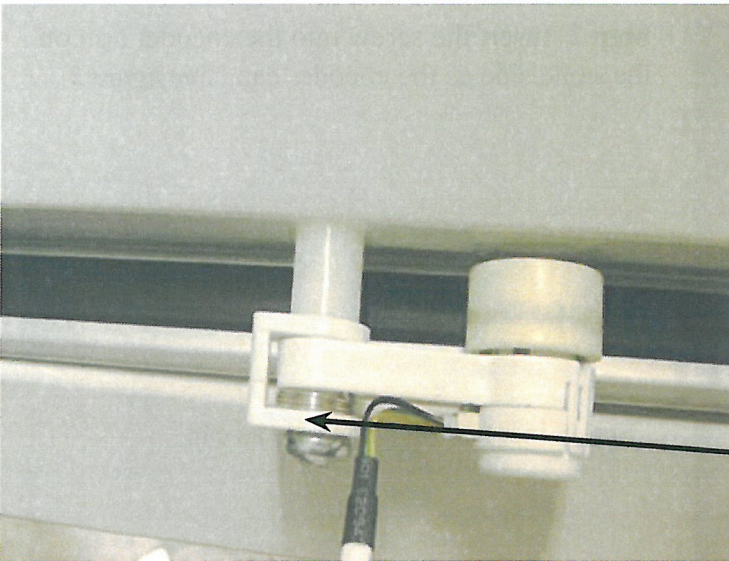


**Step 4** Locate the threaded hole between the two wheels on the lower carriage.

**Step 5** Insert the screw with the spacer and encoder *See figure 4*

Note the position of the spring clamp before the screw is tightened all the way

**Figure 4**

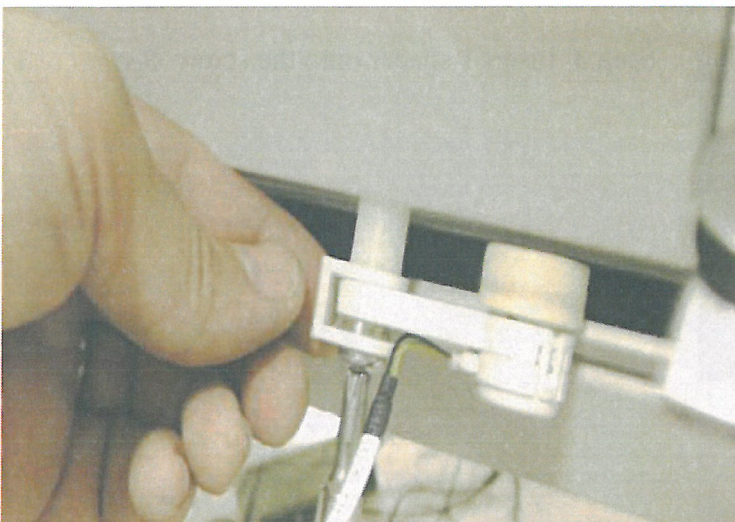


**Step 4** Tighten screw until spring clamp turns and is about parallel with the encoder arm.

**Step 5** Insert the screw with the spacer and encoder *See figure 5*

Spring clamp positioned in the 11:00 position.

**Figure 5**



**Step 6** While holding the Spring Clamp with one hand, tighten the screw another 1/2 turn (spring clamp should not turn when tightening for this step.) *See figure 6*

**Figure 6**



# Installing Upper carriage encoder

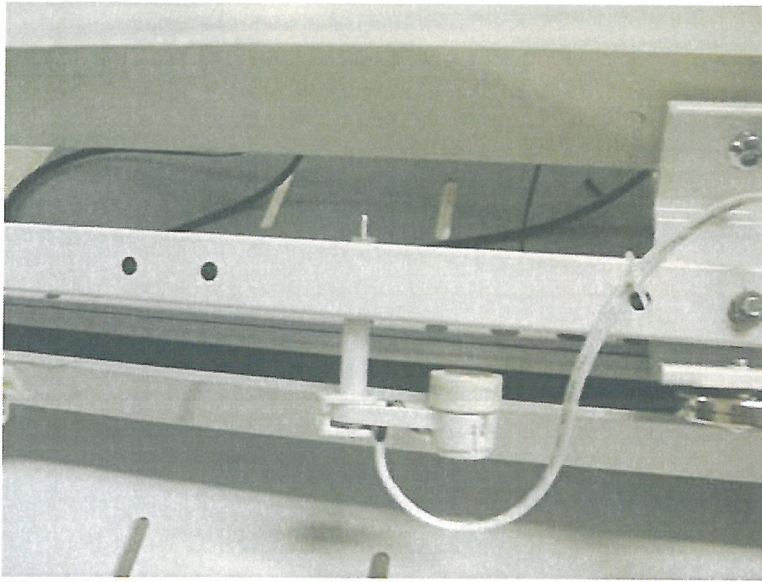


Figure 7

**Step 1** The upper carriage encoder uses a nut on the top side of the rail.

**Step 2** Follow the steps outlined above for the bottom carriage encoder, except you are going to use the 3 in screw with two spacers

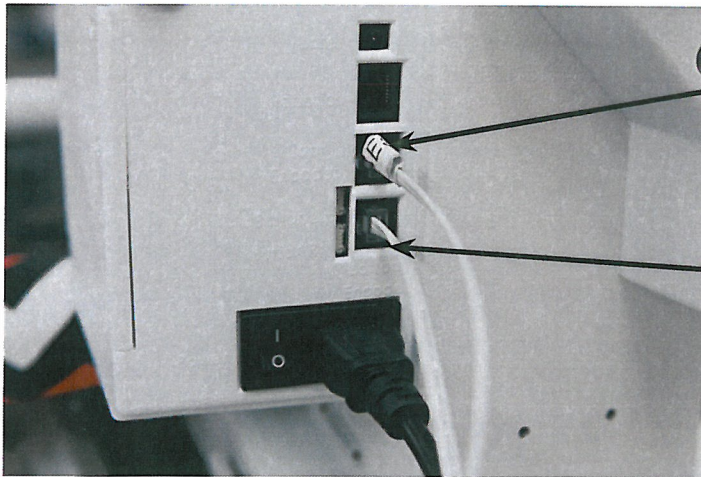
**Step 3** Insert the screw into the second hole from the wheels looking forward. *See figure 7*

**Step 4** Tighten until the spring clamp is at 11:00.

**Step 5** While holding the spring clamp in place give the nut a twist to ensure tight.

## Connecting the encoders to the machine

The wires attached to the encoders have a place to plug into the back of the machine. These locations are labeled.



Top encoder or the encoder attached to the upper carriage. Connect here.

Bottom encoder or the encoder attached to the lower carriage. Connect here

