

back and forth on the way tubes. They should be no more difficult to slide now than before you changed the end castings.

5. Center the Way Tubes in the Pivot Arms. You probably noticed that you will be able to slide the Way Tubes Left-to-right about 3/8". Follow the steps below to center the Way Tubes:
 - Slide each way tube completely into one Pivot Arm.
 - Draw a pencil line where the way tube and the casting meet. (See Figure 17)



Figure 17

- Slide each tube completely into the opposite end Pivot Arm Casting.
- Draw a second pencil line on the same end as the first where the Way Tube meets the Pivot Arm Casting. (See Figure 18)



Figure 18

- Mark a third line half way between these two lines. (See Figure 19)
- Slide each Way Tube into the Pivot Arm Casting until the center line is at the casting.



Figure 19

- Securely lock the setscrews in the top of both Pivot Arms against the Way tubes. Use the long arm of the 5/32" Shopsmith Allen Wrench to tighten these setscrews. Tighten these setscrews ONLY one-quarter revolution past the point where the setscrew touches the Way Tube.



DO NOT tighten these setscrews too tight or you will strip the threads in the Pivot Arm Casting.

6. Check that the Headstock and Carriage slide well. Slide from on end of the machine to the other. If they bind, loosen the setscrews in the top of the Pivot Arm on both ends of the front way tube. Rotate this tube one-quarter revolution and lock it in position. Slide the Headstock and see if this made an improvement. Repeat until the Headstock and Carriage slide easily across the Way Tubes.

Changing the Tie Bar Tubes

1. Remove the Table Assembly from the Carriage. Loosen the Table Height Lock. Turn the Table height Crank until the table disengaged from the Pinion Gear in the Carriage. Remove the table assembly and set it up-side-down on a workbench with