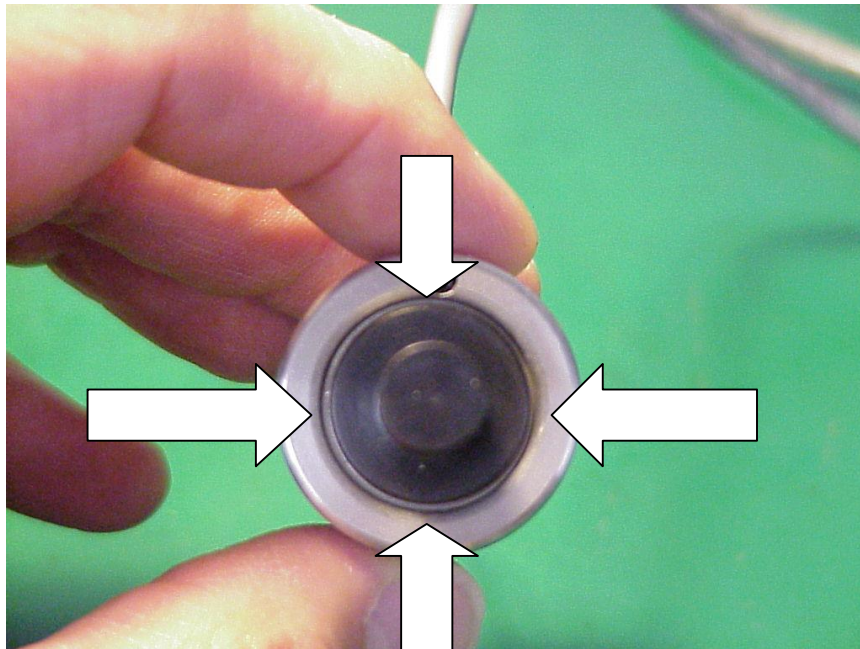


## Deepgroove1 Probe Centering Instruction

Thank you for purchasing our Digitizing Probe. Before you begin, make sure your machine is off and the spindle motor has no way of turning on by itself. Unplugging the machine is a good option.

### Centering the Probe Shank

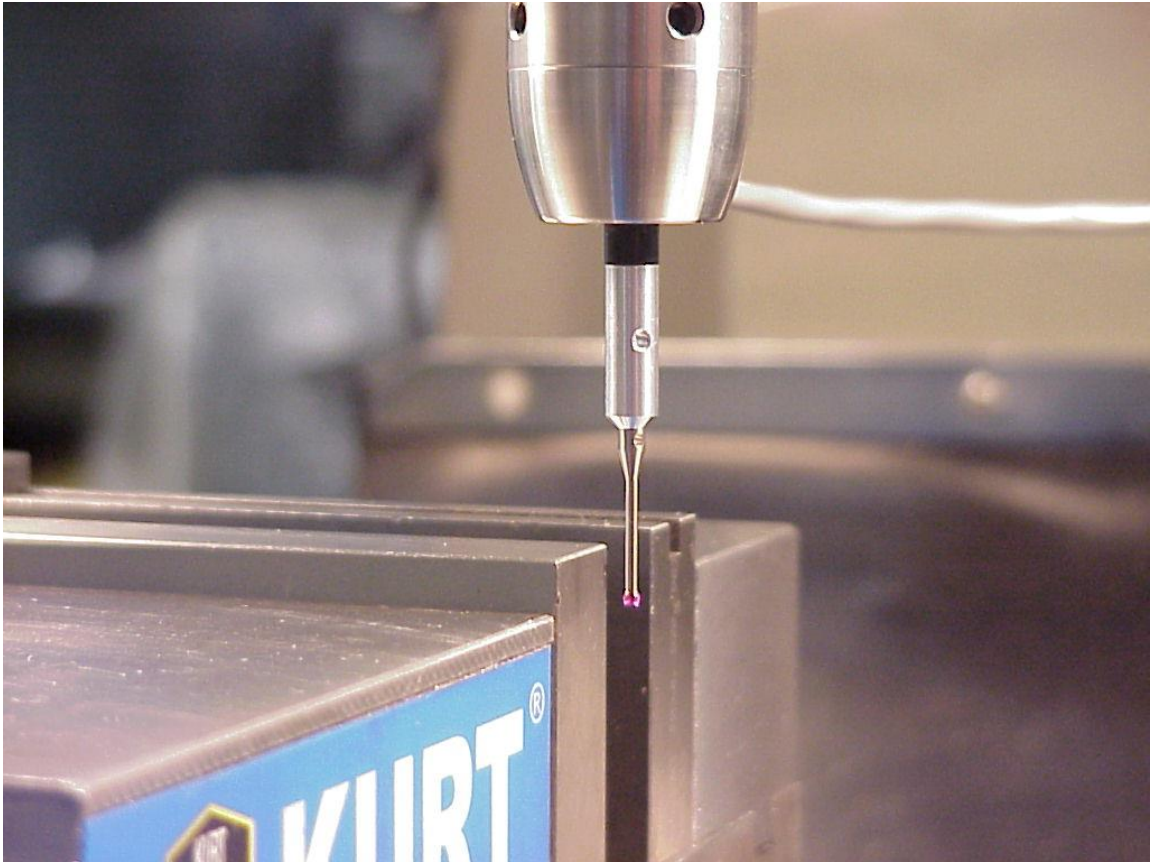
Adjust the shank of the probe so it's centered in the housing as shown (See Image Below). This is done by eye balling it. There are 4 Adjusting Set Screws located around the perimeter of the probe that align the Shank to the Center Line of the Probe Housing. You will need a 3/32 Allen Wrench (included with every probe) to perform the centering. Each full turn of an Adjusting Set Screw will move the Center Line 0.03125 Inches (0.794 mm) in either direction. This should always be the starting point of centering your probe. Loosen an Adjusting Screw on one side of the probe and tighten the opposite Adjusting Screw that is 180 degrees away. Do this with each Adjusting Screw until the shank is eye balled in the center of the housing. It may be necessary to loosen the other 2 Adjusting Screws slightly if movement of the shank becomes difficult.



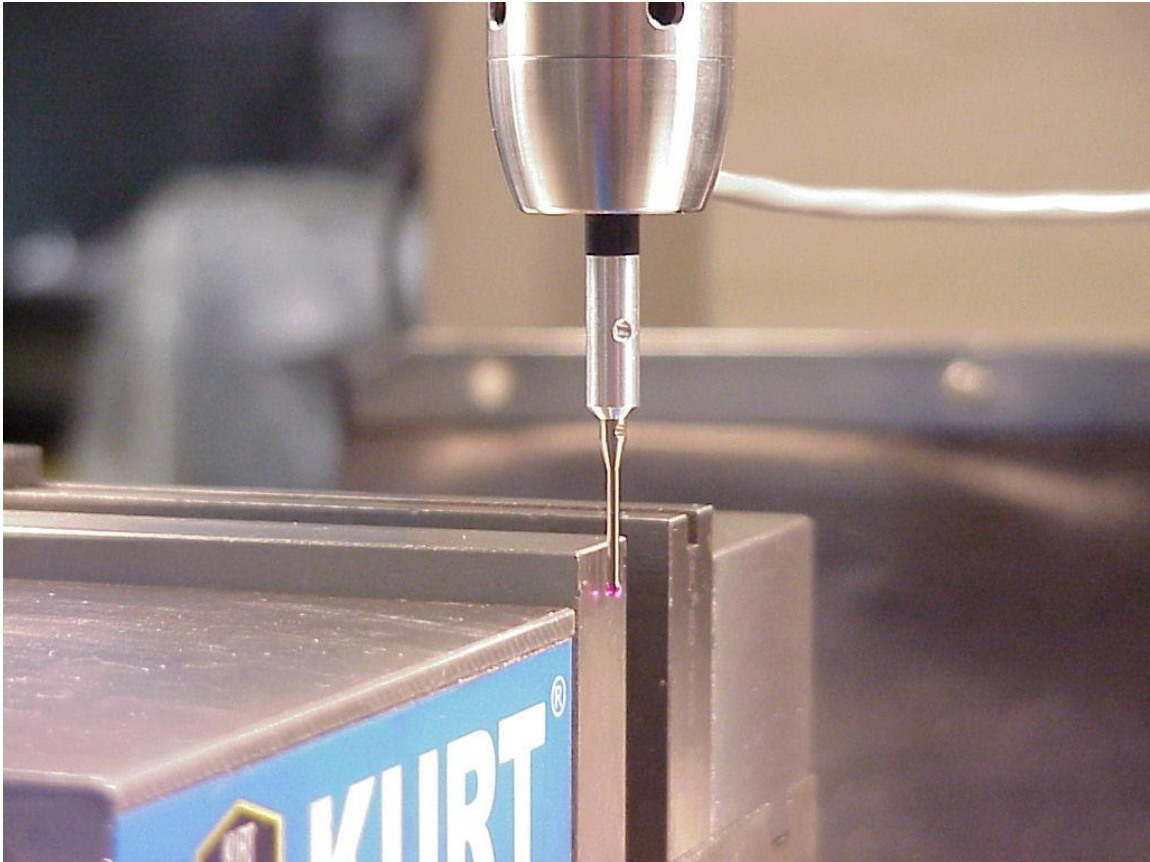
## Course Alignment of Probe Stylus

The following easy steps will yield a Course Alignment of the stock Ruby Tipped stylus.

- Locate the Probe in a lathe or milling machine spindle.
- Hang the connection cable so it is out of the way.
- Position the probe tip about 1/8" away from a Flat Solid object (See Image below). This will be used as your Sight Gauge to eyeball the course alignment of the Ruby Ball.



- Turn the Spindle by hand until the Ruby Ball is closest to the Sight Gauge. (See Image below)



- Loosen the Adjusting Set Screw closest to the Sight Gauge one full turn.
- Tighten the Adjusting Set Screw furthest from the Sight Gauge until the Tip of the Stylus appears to be approximately 1/2 the original distance closer to the Sight Gauge. You may need to loosen the opposing Adjusting Set Screw another full turn if needed.
- Gently tighten all 4 Adjusting Set Screws starting with the 2 Closest to the Sight Gauge.
- Rotate the Spindle by Hand and again and stop when the Tip of the Stylus is furthest from the Sight Gauge.

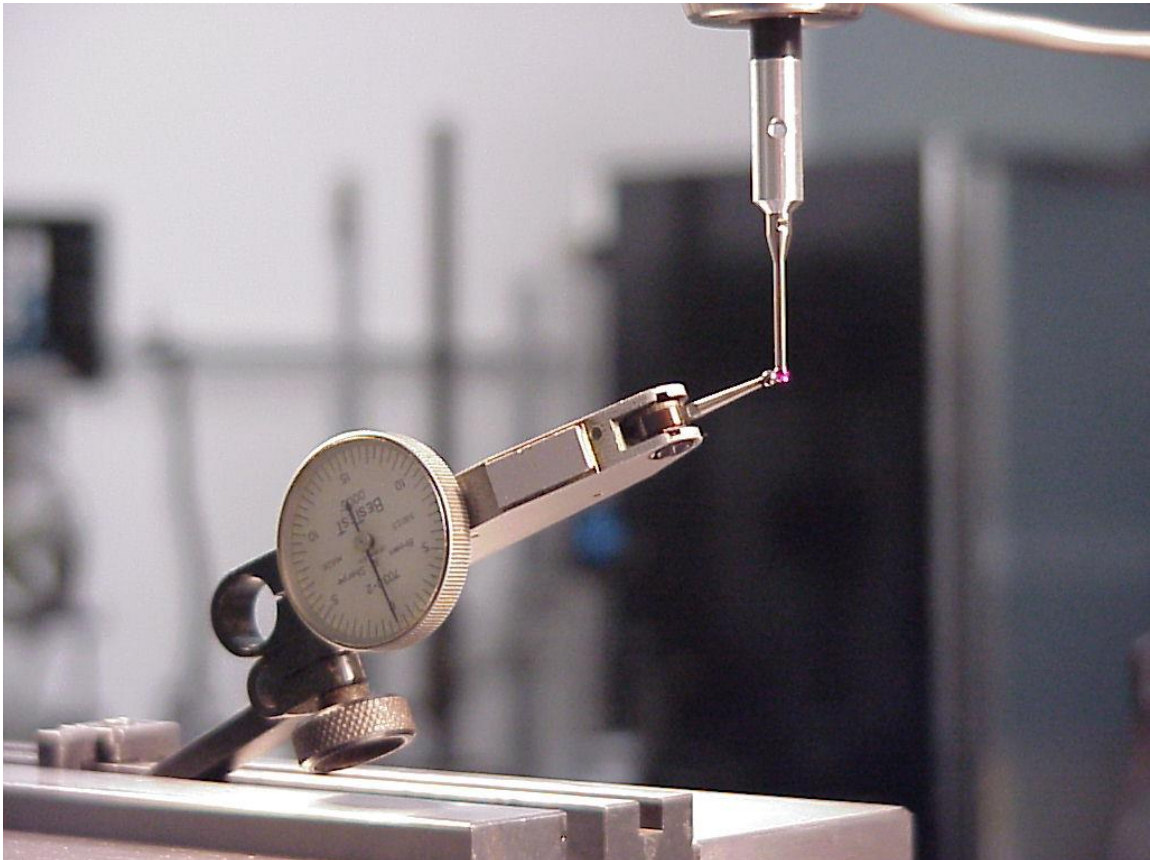
Repeat the steps above until no noticeable wobble is seen at the Tip while rotating the spindle by hand. The Sight Gauge may be re-positioned as needed between adjustments to facilitate this Course Alignment.



## Fine Alignment

For best results when using your Probe, Fine alignment of the Stylus should be performed using a quality Lever type Dial Test Indicator.

- Remove the Sight Gauge used in the Course Alignment and replace it with your Dial Indicator.
- Rest the side of the tip of the Dial Indicator on the side of the tip of the Probe.



- Turn the Spindle by Hand one complete revolution and note the movement of the needle on the Dial Indicator. Rotate the Spindle by Hand until the Dial Indicator moves to the maximum reading you can get on the indicator.
- As before in the Course Alignment procedure turn the Adjusting Set Screw(s) so that you reduce the amount of total indicator reading by half. You will need to repeat this procedure a few times to eliminate the run out of the Probe.
- Once you have the Probe aligned, gently tighten all 4 Adjusting Set Screws. Do this while the indicator is still positioned against the probe. Rotate the probe each time you tighten an Adjusting Set Screw to assure that the probe is still running true. Increase the tightening torque until all 4 Adjusting Set Screws are

firmly tightened.

By repeating the above procedure, you should be able to align the stock Ruby Tipped stylus to less than 0.001" runout.