

Troubleshooting MS200 Autofocus

1. Test Autofocus
 - 1.1. Switch Teletrac autofocus pendant into "manual".
 - 1.2. Focus microscope "manually".
 - 1.3. Using "FOCUS ADJUST" knob only, turn until green focus light is illuminated on laser head.
 - 1.4. Switch Teletrac autofocus pendant into "auto".
 - 1.4.1. If autofocus runs to its limit switch, the focus direction may be incorrect. The switch to reverse the direction the focus travels towards is located on the inside the lower left Microscope focus knob cover. Remove the (4) screws securing this cover and remove. The switch is a slide switch located in the rear, next to the "DIN" connector. Slide this switch to its other position. (Note: this switch simply reverses the polarity on the servo motor driving the friction wheel). Repeat steps 1.1 thru 1.4.
 - 1.4.2. If autofocus stays in place and doesn't track focus, the gain may need to be adjusted.
 - 1.4.2.1. First try adjusting the large potentiometer knob on the Laser Head by turning it clockwise. If it's already at its maximum position, you may need to adjust the Gain trimpot.
 - 1.4.2.2. The trimpot is located under the LED panel on the Laser Head. Remove the (2) screw securing this in place. There are (3) trimpots. The gain trimpot is located to the right most position. CW increases gain and CCW decreases gain. To adjust this trimpot, we need to adjust it for maximum stable gain. This is achieved by turning the gray pendant to manual.
 - 1.4.2.2.1. Using the up and down buttons, fully drive the servo motor to its limit of travel. Once the servo hits its limit of travel, it should stop immediately. If it does, increase the trimpot slightly. Repeat this step until the servo doesn't stop immediately, and drifts slightly when it reaches its limits. Adjust the trimpot slightly CCW until the servo motor stops immediately and doesn't drift. The idea is to find the adjustment until it starts drifting, then just back off slightly to prevent this, thus obtaining maximum gain.
 - 1.4.3. If autofocus behaves erratic and doesn't track focus, the gain may need to be adjusted.
 - 1.4.3.1. First try adjusting the large potentiometer knob on the Laser Head by turning it counter-clockwise.