

## Basic Star 4 (Digital) Calibration (11-11-11)

You will need a **spring calibrator** that you trust to be true and accurate. Digital calibrators can give false readings of actual pulled tension and should not be used.

### Basic Steps:

Remove Tension jaws

Remove the racquet turntable (4 cap screws)

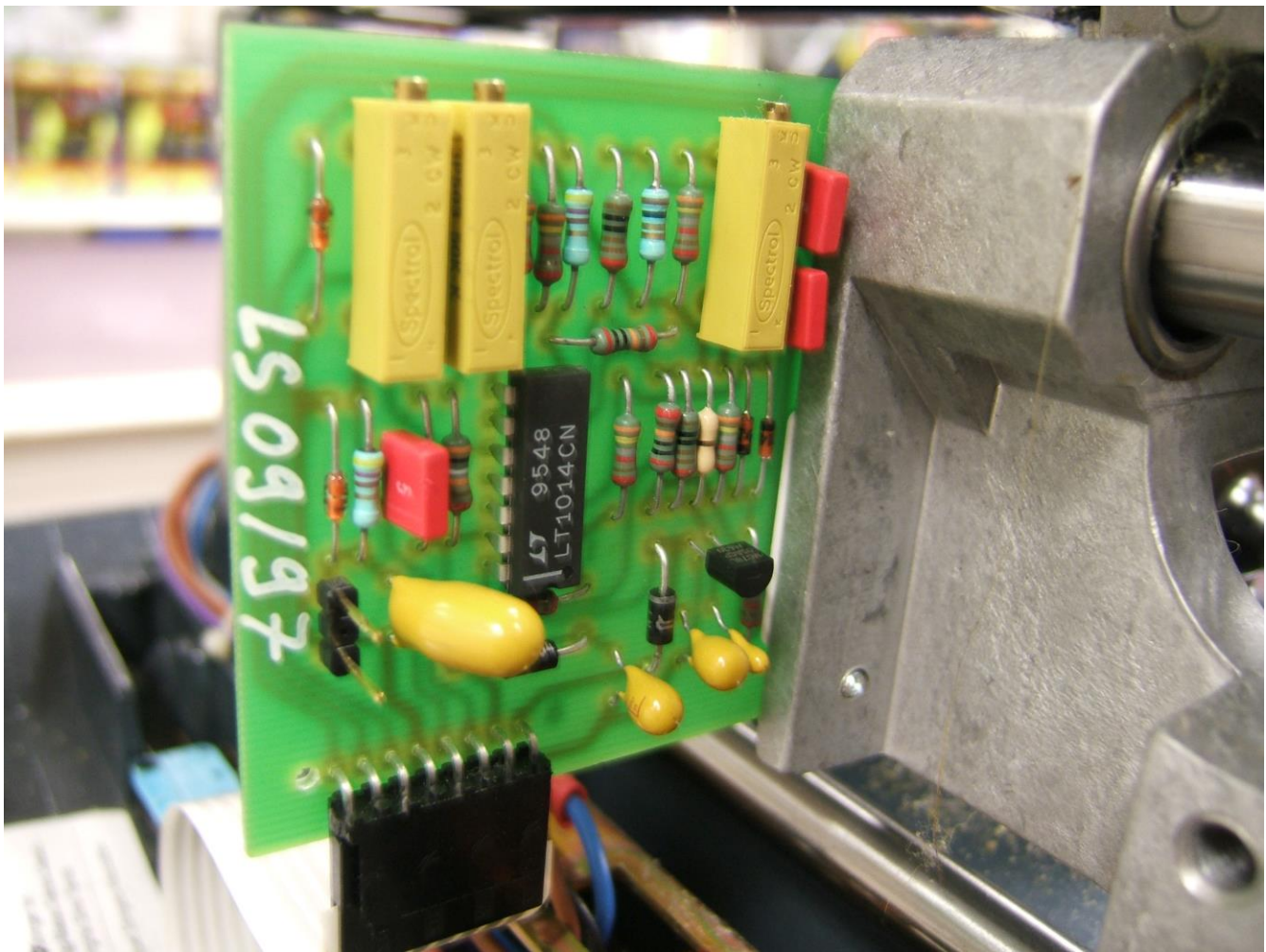
Remove table lock lever.

Remove white shell (4 cap screws). Mind the ribbon cable.

Reattach racquet turntable, tension jaws, and lock lever.

Turn on machine to warm up 1-2 hours.

Look for 3 potentiometers on vertically circuit board mounted on tension head sub-assembly. The potentiometers will be yellow or blue in color about an inch long and each has a small brass colored adjustment screw. (See image below)



The three potentiometers are above and numbered **from left to right as 3, 2, and 1**. 3 is for Gain or calibration, 1 is for Offset. See 2 gold pins above white pc board lettering "97". These pins are for attaching a dc voltmeter to perform the offset adjustment. Lower pin is

negative voltmeter connector, upper pin is positive voltmeter connector.

Note: The adjustment screws are (1) Coarse Offset, (2) Fine Offset, and (3) Gain. Only adjust Gain (3) to set calibration. Gain (3) adjustment screw is located farthest from the normal stringer standing position. Offset adjustment (1) is located closest to stringer.

Set machine reference tension to 60 pounds. Using a spring calibrator, pull tension and note any difference. Remove tension and turn Gain (3) adjustment screw. I believe counter clockwise will increase pull and opposite will reduce machine pull. Re-pull, test, and adjust until you get 60 pounds on the spring calibrator.

You're finished.

Remove the table lock, turntable, and tension jaws. Install cover and remaining parts.

Quick Offset adjustment: See two gold colored pins with black plastic base (see photo). Connect DC Voltmeter (0-1 volt range). Connect negative Voltmeter lead to pin closest to ribbon cable connector, positive Voltmeter lead to other gold pin. Adjust potentiometer 1 until meter reads 0.9 VDC. Note changing calibration screws will change offset and vice versa so you will need to adjust both (calibration and offset screws) until both read correctly. (updated 7-31-15)

I hope this helps,

Albert