

Empower Oarlock

Troubleshooting the Pin Calibration Process



Doing a Pin Calibration with the Empower Oarlock is necessary but can sometimes prove to be a little frustrating. If the customer keeps failing the swing calibration, the SpeedCoach does not provide much feedback about what failed (we hope to improve feedback in the future). *Note: this document does not address the Pin A, B, C and D calibrations as these are less of an issue.*

There are several key techniques to know ahead of time that will greatly improve the success of the swing calibration:

- 1) You must get 8 “good” swings in 1 minute or the calibration will fail.
- 2) You must be able to swing the oarlock past 90 degrees on either side of the magnet on each swing.
- 3) Each swing should take about 2 seconds to traverse both 90 degrees of the magnet
- 4) The swings needs to be continuous and smooth. Any abrupt stops, pauses or “jerking” of the oarlock during the swings can create issues where the calibration fails.

The first resource to view is our demonstration of calibrating the oarlock pin: https://youtu.be/r_1RvAKvSdc

Flip pages to view specific issues we have seen.



Issue 1: Gate getting in the way of oarlock

In some instances this is known, especially for certain C-cup style brackets. For example:

- **Empacher C** brackets may need to be replaced with Dreher C Brackets to accommodate the oarlock. The PN is 0261 and can be ordered here: <http://nksports.com/dreher-c-bracket-set-of-2>
- **Fluid C** brackets may need an additional pin extender to fit the oarlock. The PN is 0260 and can be ordered here: <http://nksports.com/fluid-c-bracket-set-of-2>
- **Pocock xVIII** models will need a pin extender. Contact Pocock for part (NK will stock in the future).
- **Wintech** standard riggers, Cobra C are compatible but Carbon C Brackets prior to 2008 are not compatible. Contact NK for possible options.
- If in doubt, it is helpful to email pictures or videos to techsupport@nkhome.com so we can assess whether additional hardware is needed.

Additional Tips:

- Make sure oarlock is not mounted too high on the pin. We have seen issues where the top of the oarlock will hit the gate if mounted too high on the pin and stop the swing at around 90 degrees (not get past 90). The solution is to lower the oarlock when doing pin calibration and then raise it back after successful calibration.

Issue 2: C Clamps causing issues at the top of Oarlock

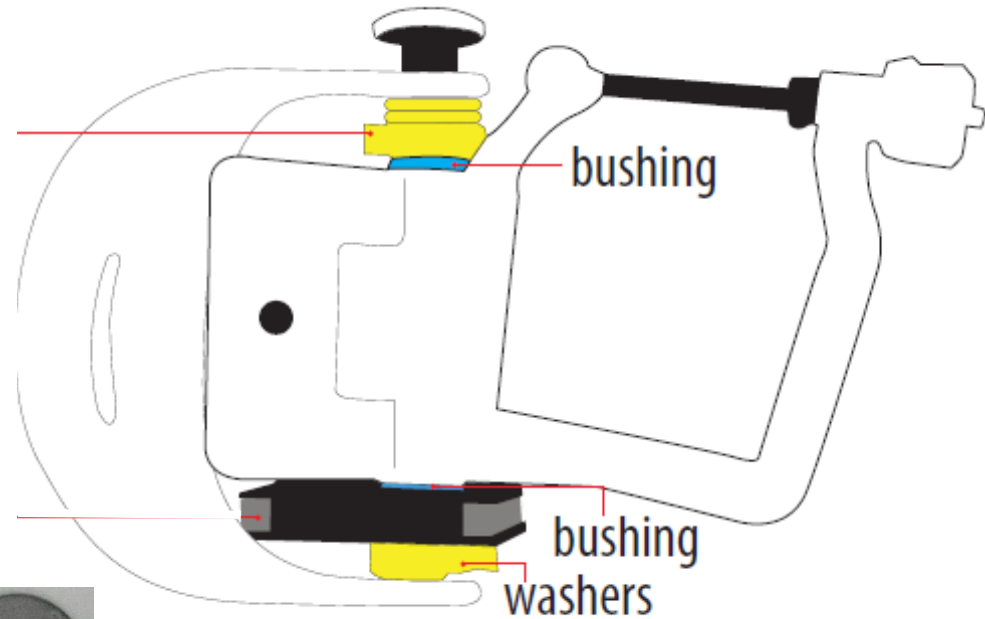
For example this type:



Placing these C Clamps towards the top of the pin could cause it to rub against either oarlock or the gate.

This can especially limit rotation during Pin Calibration so that you aren't able to go past 90° on both sides.

It is highly recommend to replace these C Clamps with several cylindrical washers like this one shown here:



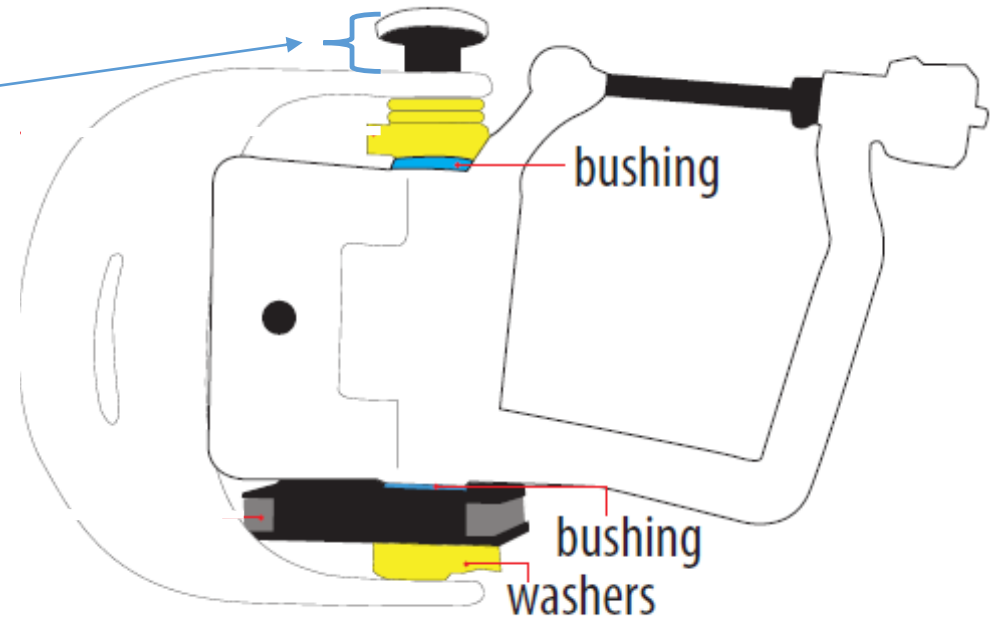
Issue 3: Overtightening the pin to the oarlock.

You do not want to overtighten the screw at the top of the pin so that the screw is pressing down on the washers and essentially squeezing the oarlock.

It is suggested to leave a little room at the top.

Otherwise the oarlock will have some resistance when swinging back and forth and ultimately you will not be able to get a “smooth” swing which will fail calibration.

The oarlock will still remain in place and be accurate without overtightening it on the pin.



Issue 4: Using the proper swing speed and technique for Pin Calibration.

Essentially you will need to perform 8 “valid” swings of the oarlock in 1 minute or the calibration will fail. A valid swing consists of going past 90 degrees on both sides of the magnet, without any pauses or stops in the swing at the proper speed. Proper speed is defined a swing every 2 seconds.

If you find that you are having issues getting it to calibrate, it is suggested to slow down the speed of the swing to 2.5 seconds (possibly 3) to see if that helps. Going faster than 2 seconds typically will not work.

We hope to implement more feedback on why this calibration is failing with a future firmware update.

