



Calibrating magnetic scales with an EL700 display:

Congratulations on the purchase of your Electronica 700 series kit. This article addresses how to calibrate magnetic scales. Although the EL700 kit works great "out of the box", like any other DRO kit, the best results are obtained by calibrating the scales. Fortunately, calibrating magnetic scales is a much simpler, and faster process, than glass scale kits.

The following assumes that your kit has been properly installed and the readhead / scale gap has been properly set with the included shim. While the "best" calibration results are obtained with a laser, it is possible to achieve satisfactory results with a high grade gauge block combined with a high quality plunge type dial indicator. Best results are usually obtained by the simplest, most robust setup. Be sure to also check / adjust your machines jib play before attempting to calibrate scales.

1. From the "home" screen, **push the right arrow button once**.
2. Select the **"Setup Menu"** icon along the bottom row of function buttons (picture of a hammer and wrench). SETUP MENU should appear and "User Setup" should be highlighted.
3. **Push the "select" button** along the bottom row of function buttons. The display should open up in USER SETUP MODE.
4. **Push the down arrow button** until "SELECT AXIS" is highlighted.
5. **Push either the X, Y or Z axis buttons** along the bottom row of function buttons. (For purposes of this demonstration we'll be selecting the X axis). The display window should now read "X-Axis Setting".
6. **Arrow down to "Calibrate Axis"** on the next menu page.
7. **Select "I. comp"** along the bottom row of function buttons. The "X-Axis LEC" menu should open up.
8. The first line of the display, "Display Value", represents the distance the display "thinks" it has traveled. Ignore this value for the moment.
9. Set up your dial indicator to plunge against a fixed vertical surface (Note: The movement away from the fixed vertical surface must read in the positive direction or the procedure will not work). Move the mill towards the surface so that the dial indicator is now 'plunging' against the surface. Zero the dial indicator.
10. **Push the "reset" button** along the bottom row of function buttons to zero the "Display Value".
11. Move your mill away from your vertical surface surface (again, this movement away from the fixed vertical surface must read in the positive direction or the procedure will not work). Place your gauge block between the vertical surface and the tip of the dial indicator. Move the mill back, so that the dial indicator now plunges against the gauge block. Move the mill until the dial indicator reading "zeroes out".
12. **Arrow down to "Slip Value"**.
13. Input the width of your slip or gauge block via the numeric keypad.
14. **Arrow down to "Cal Factor"**.
15. **Push the "calc" button** along the bottom row of function buttons to compute the calibration factor.

16. **Arrow down to "Save & Exit"**.

17. **Push the "Save & Exit" button** along the bottom row of function buttons. The display should return to the "X-Axis Settings" menu.

18. **Arrow down to "Apply Compensation"**.

19. **Push the "I. comp" button** along the bottom row of function buttons. "I. comp" should now appear to the right of "Apply Compensation".

20. **Arrow down to "Save & Exit"**.

21. **Push the "Save & Exit" button** along the bottom row of function buttons. The display should return to the "USER SETUP MODE" menu.

22. **Arrow down to "Save & Exit"**.

23. **Push the "Save & Exit" button** along the bottom row of function buttons. The display should return to the home screen menu.

Congratulations, you're finished!

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