TCF-S Firmware Upgrade

Instructions for Updating your TCF-S Firmware.

These instructions apply to the Revision 5 boards, but can also be used to upgrade the firmware in earlier boards as well. Check the Optec website for the most current firmware version for each board type.

Note: The optional remote IN/OUT keypad requires at least version 2.34 firmware for the TCF-S focuser. The current version is displayed on the TCF-S controller display during startup. If your focuser uses a version earlier than 2.34 you will need to swap out the firmware PIC chip in the hand control box before using the remote IN/OUT keypad (stock no. 17680).

Be sure to use static safety principles before starting your work by grounding yourself and work surface. If you are not comfortable making the swap, contact Optec technical support. We will perform the installation at no charge.
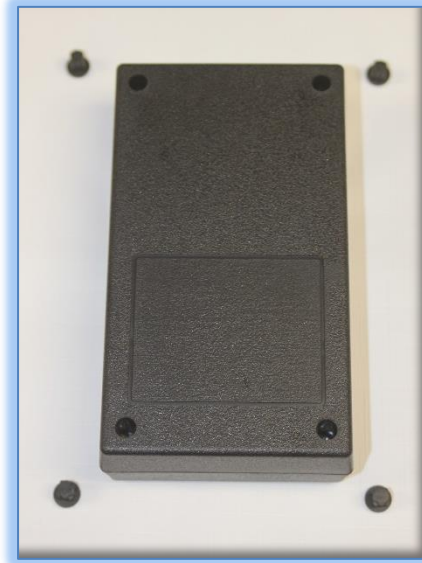
Follow these steps to upgrade the PIC firmware.

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Step 1

Make sure TCF-S Control box is turned OFF and all cabling is disconnected. Flip box over so the DRO and buttons are face down. Note the rubber feet (4) and remove them by pulling straight out.
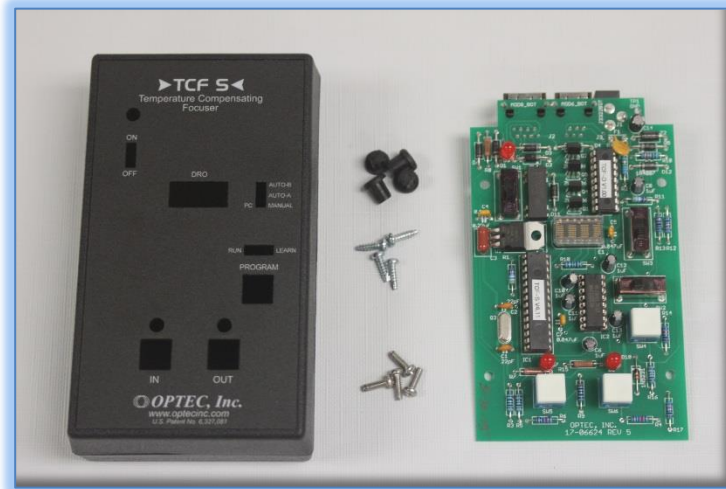

Step 2

A Phillips-head screw inside each foot hole needs to be removed. Use a small Phillips-head screw driver to remove the back cover. Next, unscrew the four slotted or Phillips head screws holding the board in place. Flip the board over and keep the screws in a safe place.
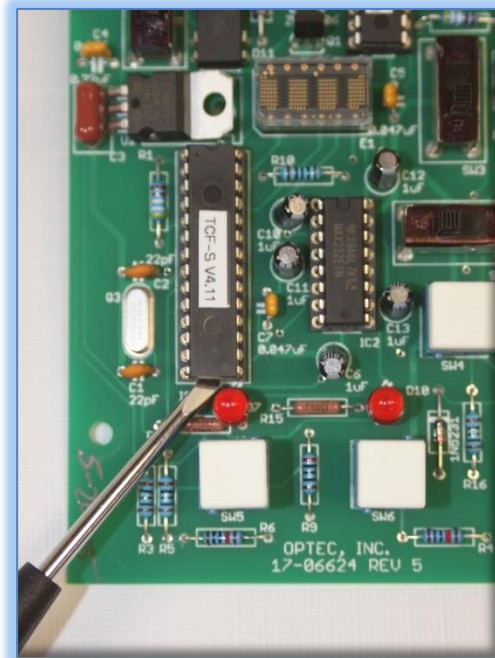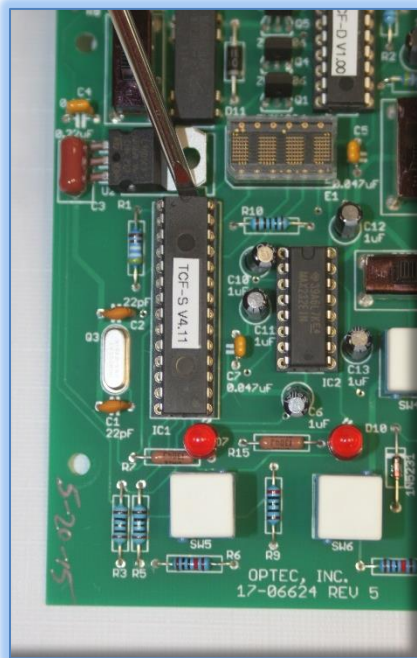

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Step 3

The board should now be oriented as shown. The PIC chip to be replaced is the longer 28-pin DIP (dual in-line package) located above the left button. Using a flat head screwdriver carefully pry one end of the PIC, then the other to remove it from the socket. Use caution when removing the chip, being careful not to damage the socket.
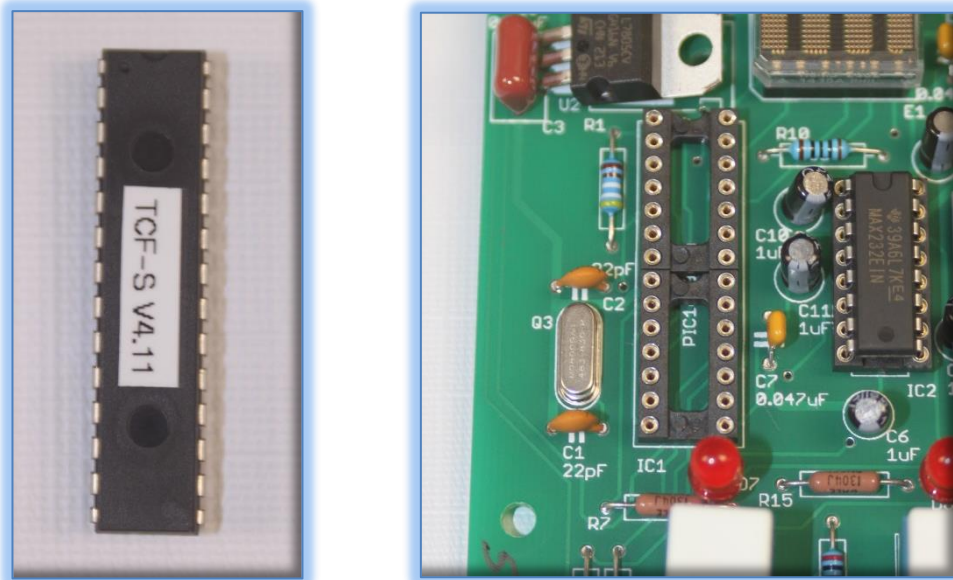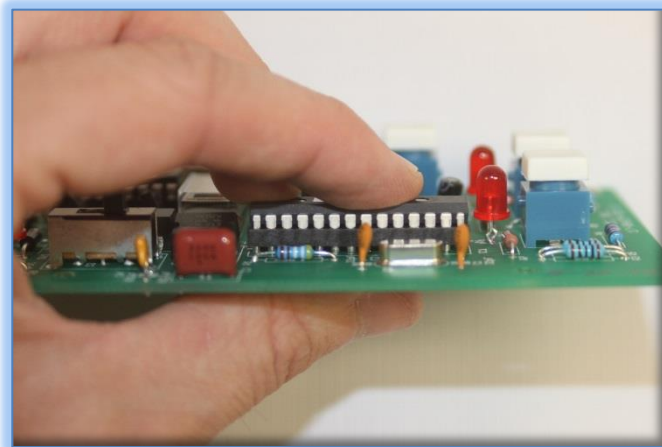
Step 4

Take the replacement PIC chip with the new firmware and notice the curved notch at the top in the picture below. This notch designates Pin 1 on the DIP package. Also note the curved cut out section on the socket towards the top of the picture. This notch identifies pin 1 on the socket.

Step 5

Align both curved cut out sections, both with the chip and the socket. Making sure the pins are aligned with the socket holes (this may require the pins being bent inward slightly), push the chip into place until it is properly seated as shown.

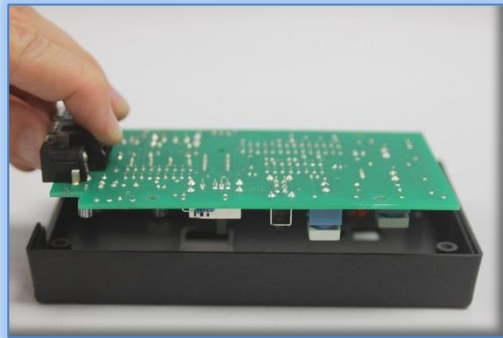## Step 6

Re-install the board into the front cover being certain the LED's and buttons are lined up properly with the holes in the front half of the control box.   When you power up the hand control, the front display should show the new firmware version number.

Contact Optec Support with any problems or questions regarding upgrading your TCF-S firmware.