

5925 and 6126 home switch replace / adjust



The Z axis home switch is a normally closed reed switch that opens when the Z axis is near the top of its travel in the proximity of a magnet attached to the z Axis slide.

When at the home position, the switch is open.

Upon AvCAM opening, a message box appears asking the user if they wish to move to home. A reply will start the homing procedure. If failed open, the result is that the z axis will move about 1/4" down from its current position upon homing.

The user can select NO and individually set x,y, and z homes. To set an axis manual home, simply turn its knob to its mechanical stop when instructed to do so. When complete, all axis will be re-energized.

Before removing anything, run the z axis to the top of travel. Note there is very little clearance between the magnet in the front and the switch at the back. If you have the switch positioned too far in, it will break the magnet, switch or both. If the magnet is positioned too far in, it will break on the ball nut.

Note the nut on the wire side of the switch. There is a matching nut in a slot on the Inside. Disconnect the plug. Loosen the outside nut. It may be necessary to cut the silicon seal around it. Turn the switch out.

Place a finger on the inside to keep the nut from falling out.

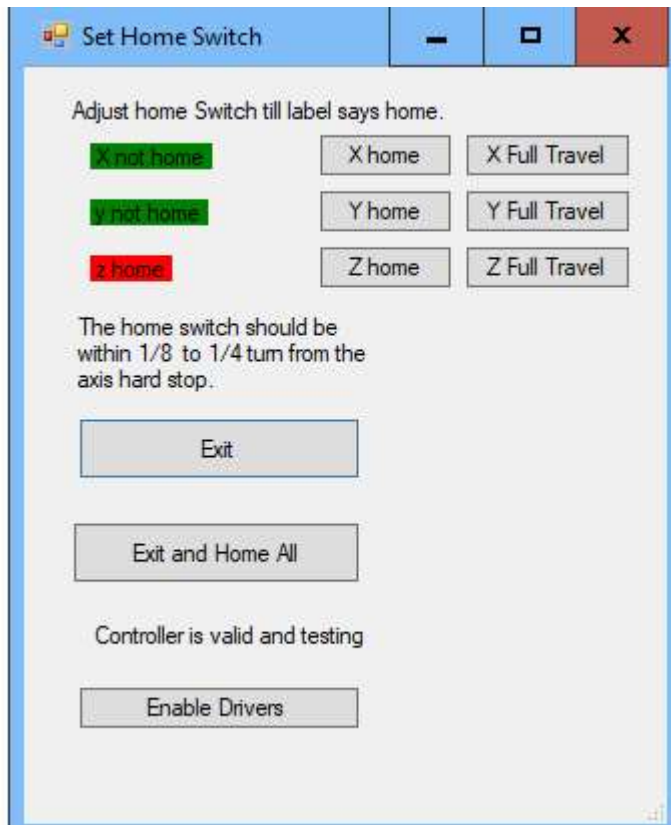
Turn the new switch in so that there is about 1/16" between the magnet and switch. Gently lock the outside nut. Don't over-torque! This is plastic.

To align the switch, open AvCAM and reply NO to automatic homing.

Hit Shift F10 to open the home switch setting dialog.

Note the green and red labels. If an axis is at home, the switch is open and the label is red. When it is not home the label is green.

Move the switch up and down as required so that there is a minimum of 1/8 turn from the point the



switch opens (home) till the axis hits the mechanical stop. Conversely there should not be more than $\frac{1}{4}$ turn from switch opening to hard stop.

When alignment is achieved, hit the “enable drivers button”

Hit the z home button.

If the z axis is already at home, the z axis will move down about $\frac{1}{4}$ ” and then back up till the switch opens. If the switch is set too close to the top, the motor will run up against the hard stop and make a loud unpleasant noise. Stop it by unplugging the switch and repeat the adjustment.

Hit the z full travel button. The z will move to the full down travel. Make sure there is nothing in the way for the z axis to hit. If it hits a hard stop on the way down (loud clunk sound) the home switch must be moved up a little and travels re-checked.

Sometimes a long screw driver can gently nudge the switch up, or tapping on the lock nut can move it down.

Repeat as needed to make sure it can move full travel without hitting a hard stop. When done secure the switch in place with some silicone seal.