Changing Filaments

Updated November 7th, 2017

Changing CCD and TCD Filaments

To change the CCD and TCD filaments:

1. Turn the Zero Air knob clockwise so that it is pointed to Zero Air.

Pointed to Zero Air

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2. Turn the CCD and TCD potentiometer knobs counterclockwise until they stop.

CCD and TCD Knobs

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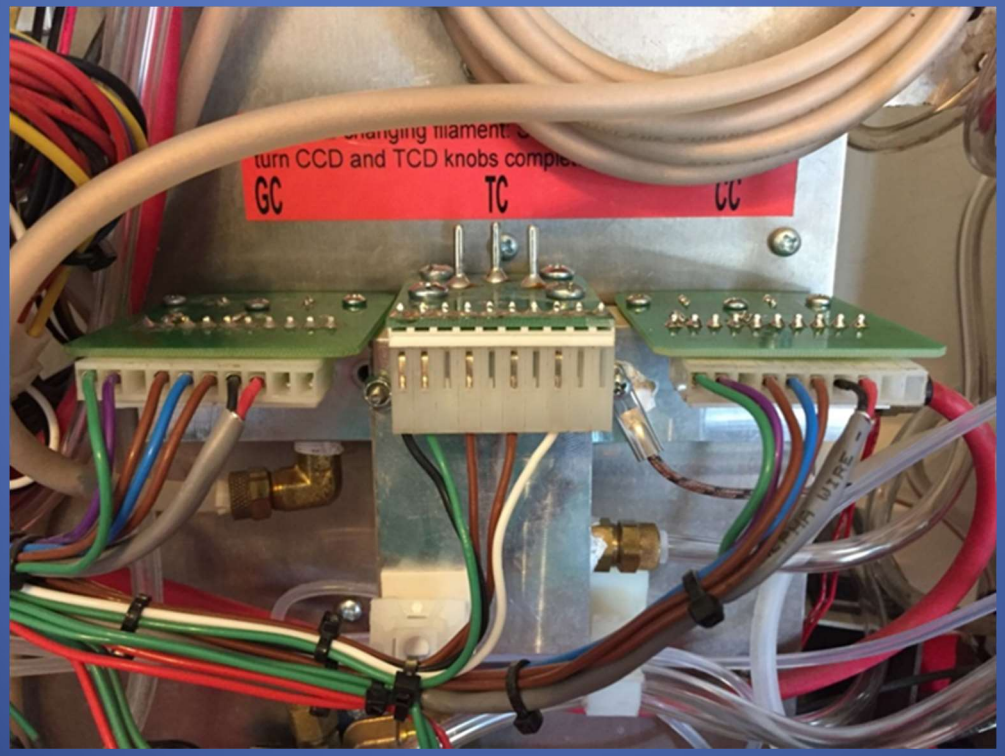
3. Loosen the two thumb screws on the front panel of the MLogger and slide the carriage out. If the carriage only slides out about half way, read the *MLogger Wont Open All The Way* troubleshooting guide.
4. Look at the left side of the MLogger and the 3 filaments can be seen with the identifying label above them

Filaments: GC, TC, and CC



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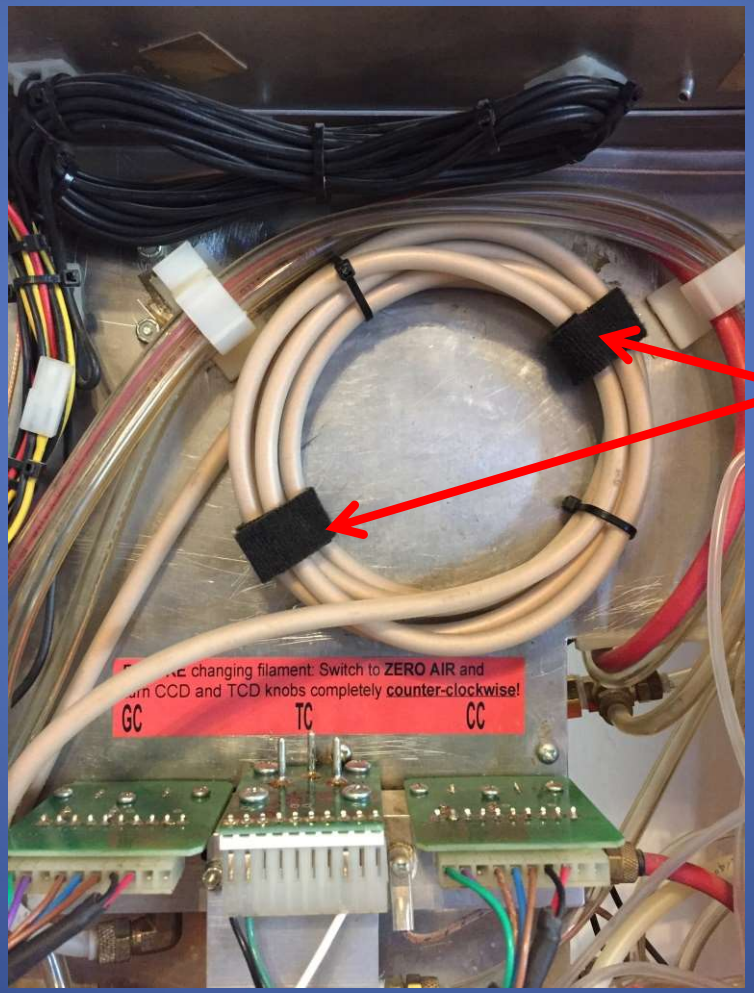
3. For convenience, move the Chromat Column out of the way by unfastening the two Velcro straps and then push the column to the side.

Chromat Column



Velcro Straps

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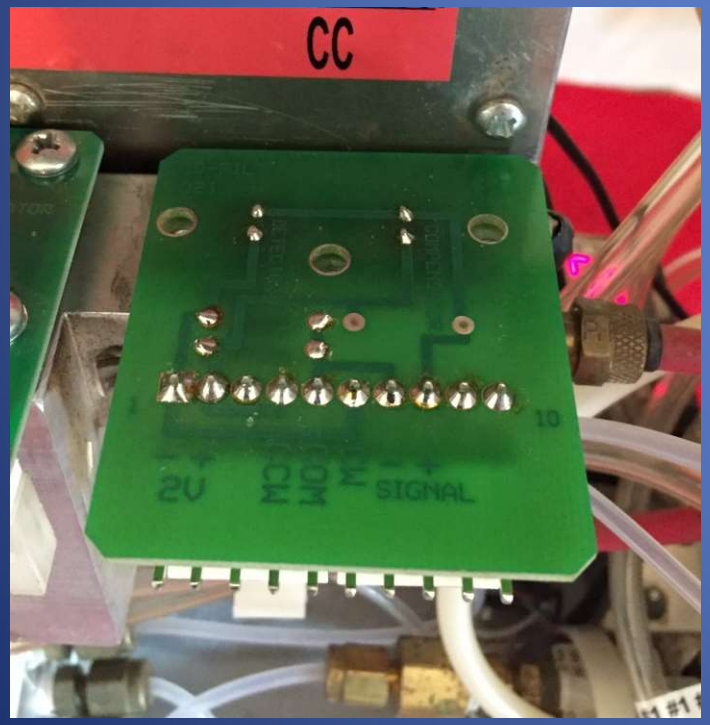
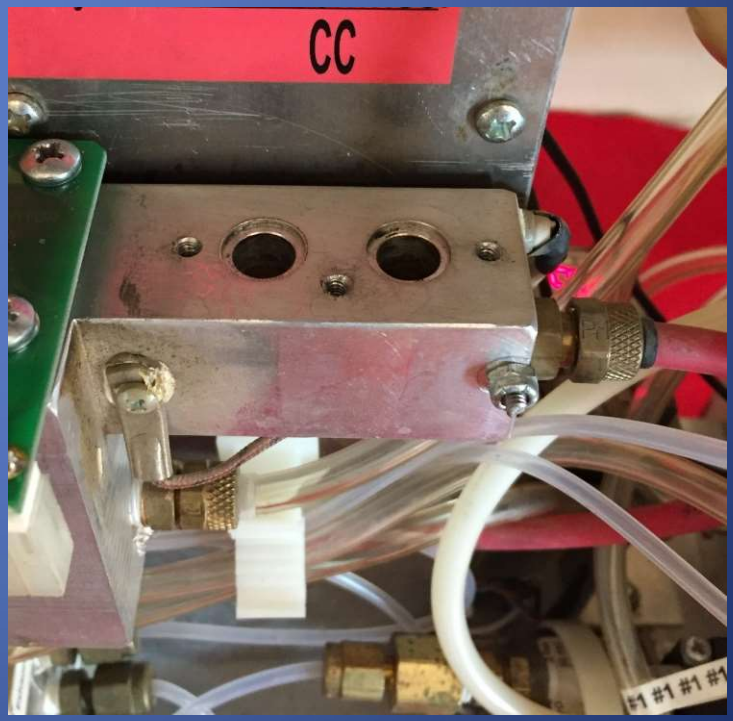
4. Disconnect the plug from the filament in question by simply pulling the plug straight back (CC) or straight down (TC).
5. Remove the mounting screws.
6. Remove the bad filament from the aluminum block.

CCD Screws and Plug Removed



CCD Filament Removed



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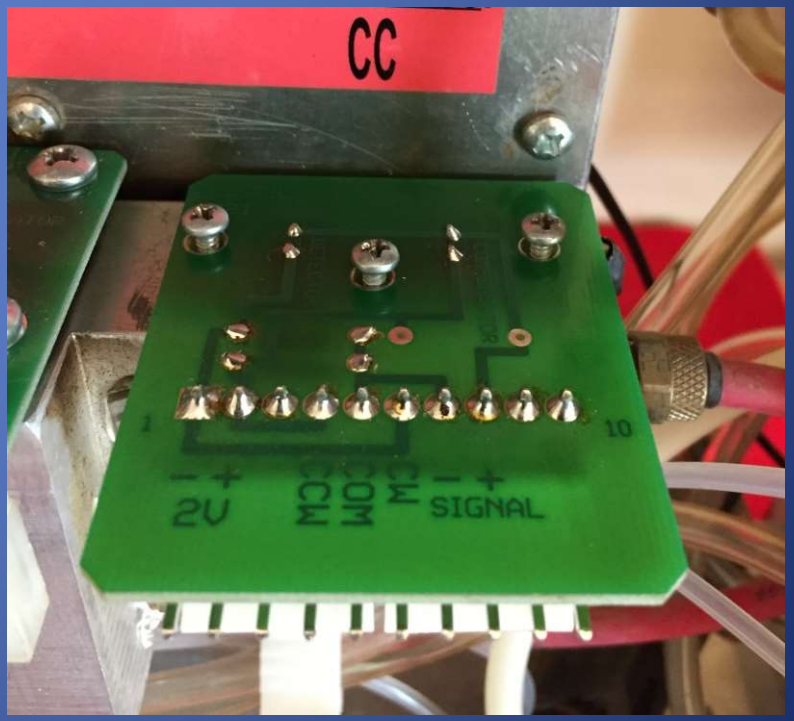
7. Place the new filament into position on the aluminum block. If the CCD filament is being replaced, be sure to remove the red cap from the new filament.
8. Insert the mounting screws into each of the holes. Get each of the screws started with fingers first and then tighten them down. Be sure to get the screws snug but not too tight. Overtightening the screws can crack the circuit board and it will have to be replaced again. Also, be sure to not cross-thread the screws.

CCD w/ Red Cap

Mounting Screws Started



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9. Connect the plug back to the filament. Be sure to center the plug on the pins and not offset the plug.
10. Fasten the Chromat Column back in place using the two Velcro straps.
11. Close the MLogger by sliding the carriage back in and tightening the thumb screws on the front panel. If the carriage will not slide back in, read the *MLogger Will Not Close* troubleshooting guide.
12. Zero the filament voltages to 0.05v.
13. Keep the MLogger on Zero Air and wait 10-15 minutes for the filament to warm up.
14. Re-zero the filament voltages one more time to 0.05v.
15. The MLogger can now be switched from Zero Air back to Rig.
16. It is recommended to recalibrate the MLogger now that it has a new filament.

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Summary

To change the CCD and TCD filaments:

1. Turn the Zero Air knob from Rig to Zero Air.
2. Turn the CCD and TCD knobs all the way counterclockwise.
3. Open the MLogger.
4. Move the Chromat Column out of the way for convenience.
5. Take the old filament out and put the new filament in.
6. Put the Chromat Column back in place and shut the MLogger.
7. Zero the filament voltages to 0.05v.
8. Wait 10-15 minutes to allow the filament to warm up.
9. Re-zero the filament voltages to 0.05v.
10. Turn the Zero Air knob back to Rig.
11. It is recommended to recalibrate after replacing a filament.

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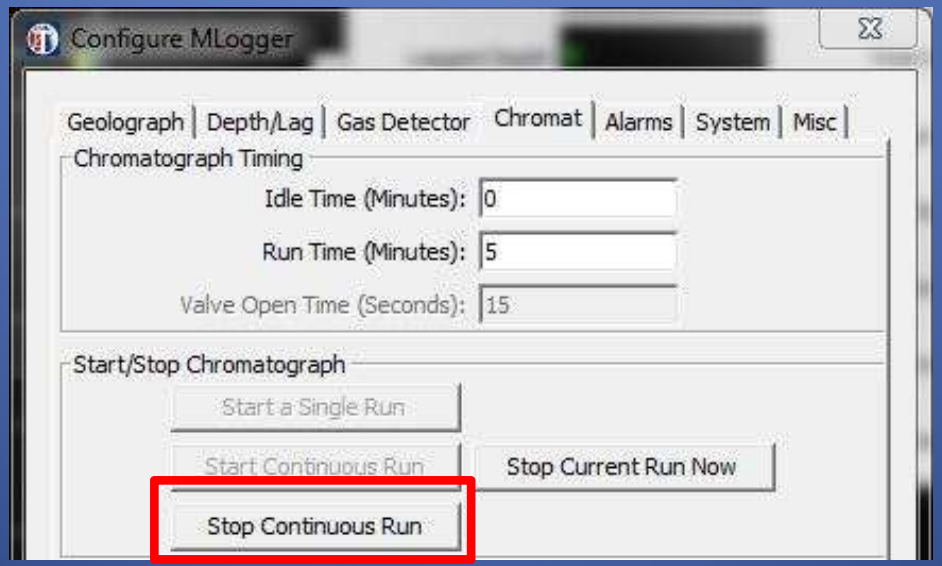
Changing the GC Filament

To change the GC filament:

1. Stop Continuous Runs.
   a. Go to the Setup menu in TControl.
   b. Select the Chromat tab.
   c. Click the Stop Continuous Run button. This will prevent another chromat run from starting after the current run finishes it's cycle. If this button is already grayed out, move to step 3 because the chromats are already stopped.



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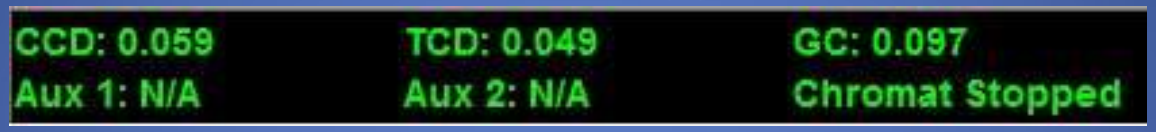
2. Let the current run finish. The run time in the Status Bar will display “Chromat Stopped” when the run is complete.

Chromat Stopped



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3. Turn the GC potentiometer knob counterclockwise until it stops.

GC Knob

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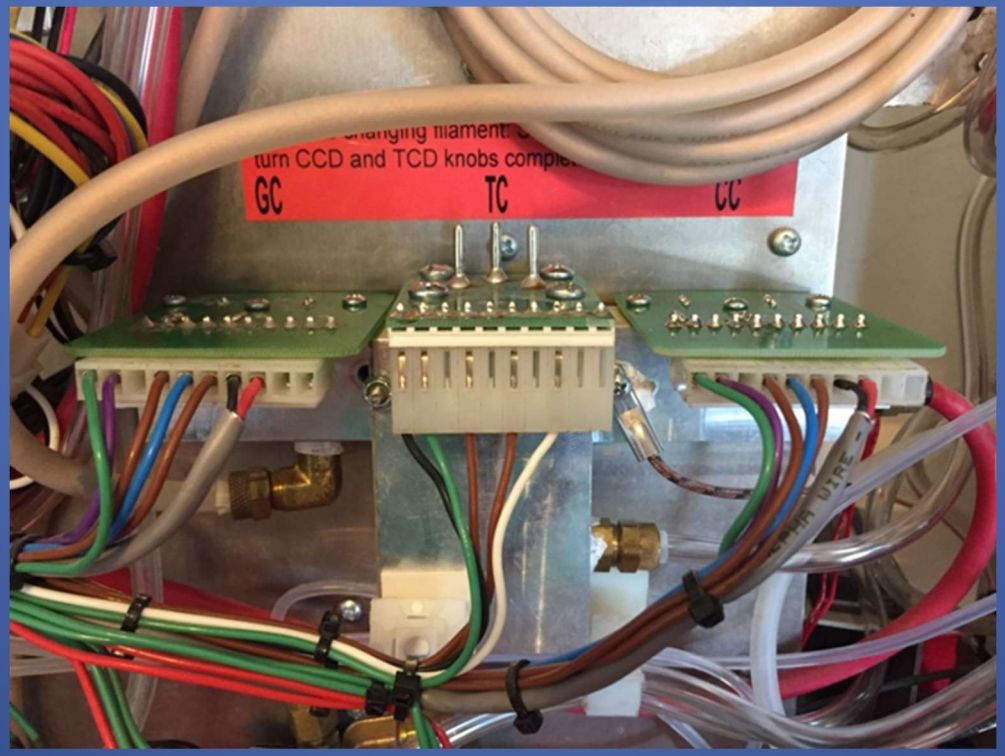
4. Loosen the two thumb screws on the front panel of the MLogger and slide the carriage out. If the carriage only slides out about half way, read the *MLogger Wont Open All The Way* troubleshooting guide.
5. Look at the left side of the MLogger and the 3 filaments can be seen with the identifying label above them

Filaments: GC, TC, and CC



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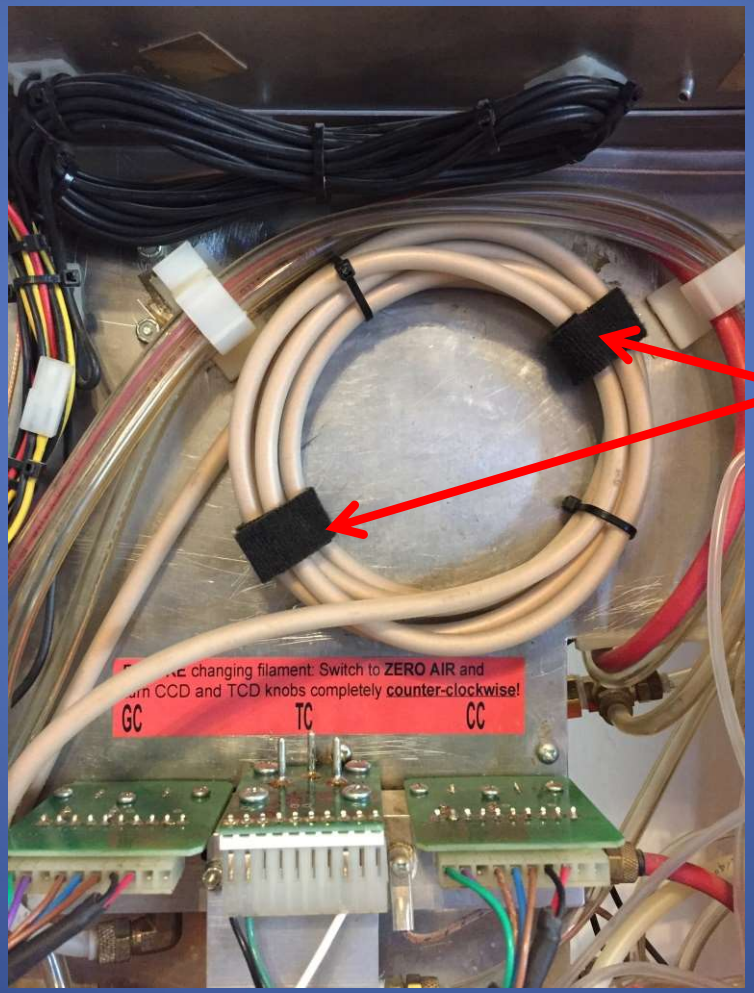
6. For convenience, move the Chromat Column out of the way by unfastening the two Velcro straps and then push the column to the side.

Chromat Column



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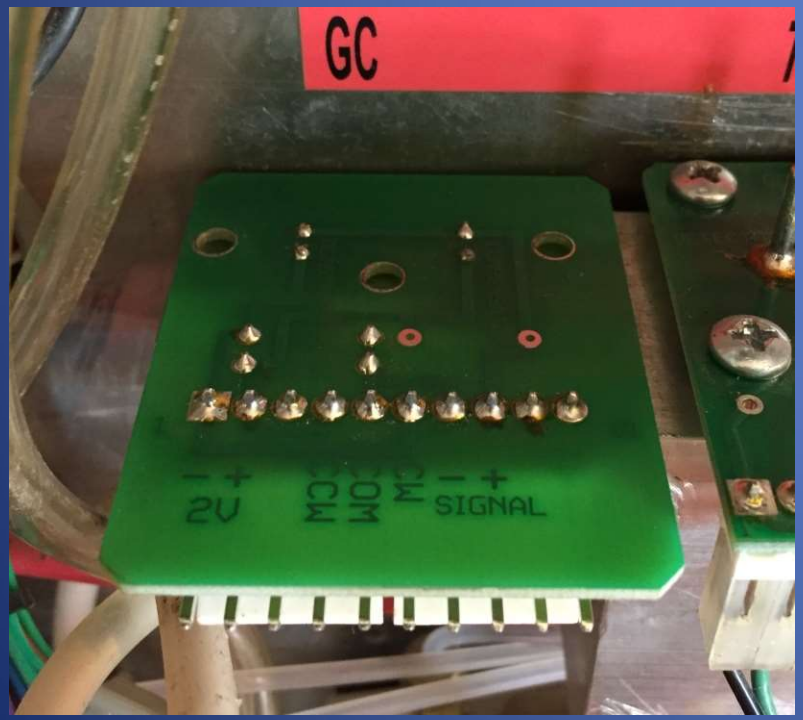
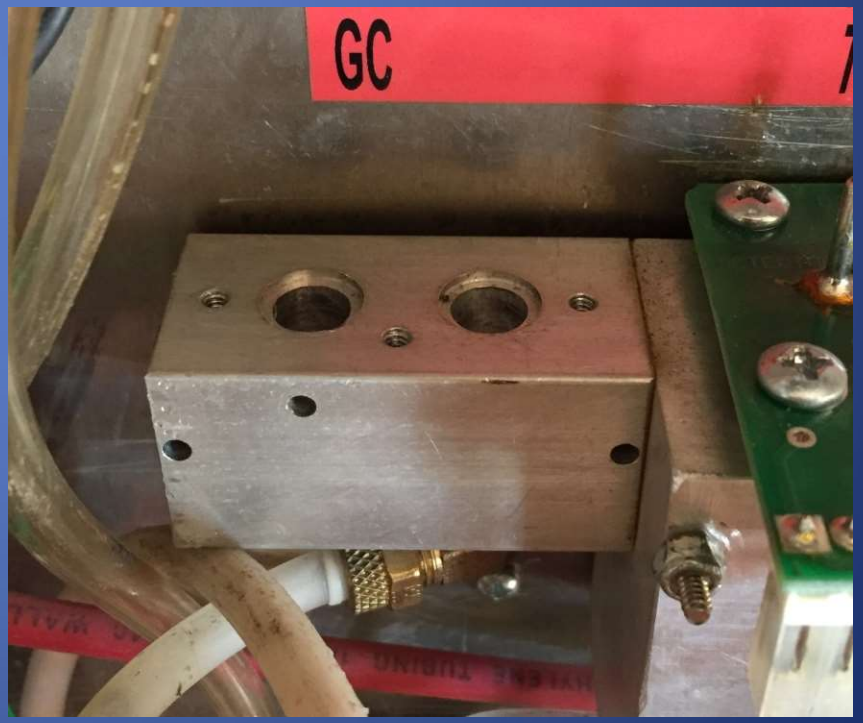
7. Disconnect the plug from the GC filament by simply pulling the plug straight back.
8. Remove the mounting screws.
9. Remove the bad filament from the aluminum block.

GC Screws and Plug Removed



GC Filament Removed



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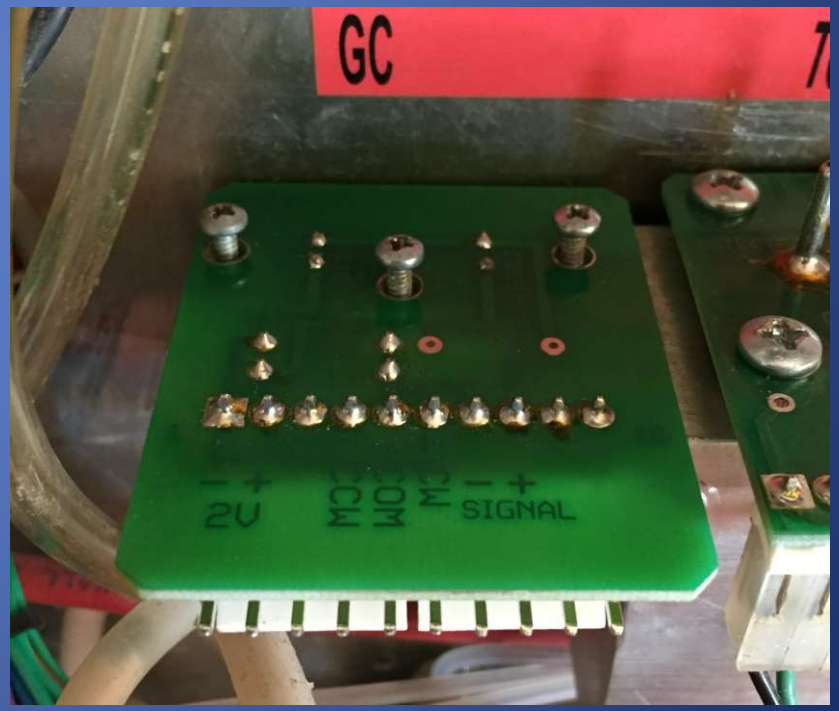
10. Place the new filament into position on the aluminum block. Be sure to remove the red cap from the new filament.
11. Insert the mounting screws into each of the holes. Get each of the screws started with fingers first and then tighten them down. Be sure to get the screws snug but not too tight. Overtightening the screws can crack the circuit board and it will have to be replaced again. Also, be sure to not cross-thread the screws.

GC w/ Red Cap

Mounting Screws Started



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12. Connect the plug back to the filament. Be sure to center the plug on the pins and not offset the plug.
13. Fasten the Chromat Column back in place using the two Velcro straps.
14. Close the MLogger by sliding the carriage back in and tightening the thumb screws on the front panel. If the carriage will not slide back in, read the *MLogger Will Not Close* troubleshooting guide.
15. Zero the filament voltage to 0.05v.
16. Keep the chromat runs stopped and wait 10-15 minutes for the filament to warm up.
17. Re-zero the filament voltage one more time to 0.05v.
18. Continuous Runs can now be started again.
    a. Go to the Setup menu in TControl.
    b. Select the Chromat tab.
    c. Click the Start Continuous Run button.
19. It is recommended to recalibrate the MLogger now that it has a new filament.

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Summary

To change the GC filament:

1. Stop Continuous Runs and let the current run finish.
2. Turn the GC knob all the way counterclockwise.
3. Open the MLogger and move the Chromat Column out of the way for convenience.
4. Take the old filament out and put the new filament in.
5. Put the Chromat Column back in place and shut the MLogger.
6. Zero the filament's voltage to 0.05v.
7. Wait 10-15 minutes to allow the filament to warm up.
8. Re-zero the filament's voltage to 0.05v.
9. Start Continuous Runs.
10. It is recommended to recalibrate after replacing a filament.

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