

# SeeMeCNC Guides

## Carbon Fiber Arm Installation for DUET Printers

This guide will show you how to install the carbon fiber arms and modify your DUET3D printer config.g file and re-run the first probe.

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## Step 1 — Remove Springs



- Remove the white plastic springs. Stretching one side at a time to release the ball on the spring. Set aside.

## Step 2 — Remove Arms



- Pull each ball joint, unsnapping the arm from the ball studs.
- Save arms just in case you need to return to a stock configuration.

## Step 3 — Install Carbon Fiber Arms



- Snap all six new carbon fiber arms.
- Install the six white plastic ball springs.

## Step 4 — Duet - Delete Old Files

The screenshot shows the Duet printer control interface. The 'Settings' menu item is highlighted with a red arrow and the number 1. The 'System Editor' tab is selected, and the 'System Directory' is displayed. A red arrow and the number 2 point to the 'System Editor' tab. A red arrow and the number 3 point to the 'config-override.g' file in the list. A red arrow and the number 4 point to the 'heightmap.csv' file in the list.

| File Name          | Size      |
|--------------------|-----------|
| bed.g              | 285 B     |
| cancel.g           | 45 B      |
| config-override.g  | 523 B     |
| config.g           | 2.7 KIB   |
| config.g.bak       | 2.7 KIB   |
| DuetWiFiServer.bin | 289.9 KIB |
| heightmap.csv      | 855 B     |
| homedelta.g        | 380 B     |
| iap.bin            | 59.5 KIB  |
| iap4e.bin          | 60.0 KIB  |

- Connect to the printer and navigate to Settings>System Editor
- Delete the following files:
  - config-override.g
  - heightmap.csv

## Step 5 — Update the config.g

The screenshot shows the Duet software interface. On the left, the 'Settings' menu is highlighted with a red arrow. In the center, the 'System Editor' tab is active, showing a file directory with 'config.g' selected, also indicated by a red arrow. On the right, the G-code editor shows the 'M665' line highlighted in blue, with a red arrow pointing to it. The G-code editor contains the following code:

```

M550 PArtemis ; Printer name
M555 P2 ; Repetier Output
M552 S1 ; Enable Wifi
M575 P1 B57600 S1 ; PanelDue Comm Setup
G21 ; Work in millimetres
G90 ; Send absolute coordinates

M569 P0 S0 ; Drive 0 goes forwards (X)
M569 P1 S0 ; Drive 1 goes forwards (Y)
M569 P2 S0 ; Drive 2 goes forwards (Z)
M569 P3 S1 ; Drive 3 goes forwards (E0)
M569 P4 S1 ; Drive 4 goes forwards (E1)

M574 X2 Y2 Z2 S1 ; set endstop configuration (all endstops at high end, active high)

M665 R150 L340.5 B155 M530 X0 Y0 Z0 ; delta radius, diagonal rod length, printable radius and homed height
; Y X Z are tower angle offsets
M666 X0 Y0 Z0 ; endstop offsets in mm

M350 X16 Y16 Z16 E16:16 I1 ; Set 16x microstepping w/ Interpolation

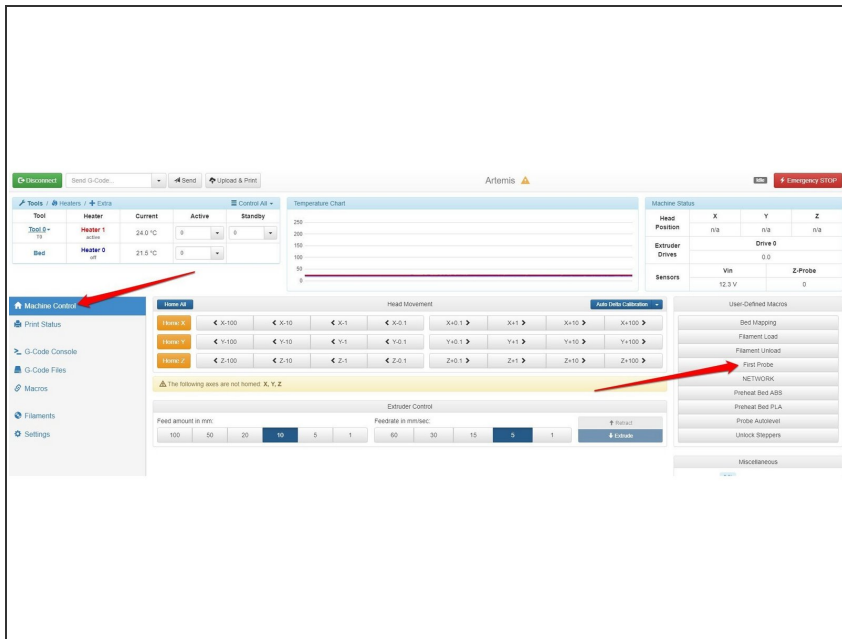
M92 X200 Y200 Z200 ; Set axis steps/mm
M92 E182.0:182.0 ; Set extruder steps/mm

M906 X1200 Y1200 Z1200 E1200:1200 I50 ; Set motor currents (mA) and idle current %
M201 X5000 Y5000 Z5000 E5000 ; Accelerations (mm/s^2)
M203 X18000 Y18000 Z18000 E18000 ; Maximum speeds (mm/min)
M566 X2000 Y2000 Z2000 E2000 ; Maximum instant speed changes mm/minute

```

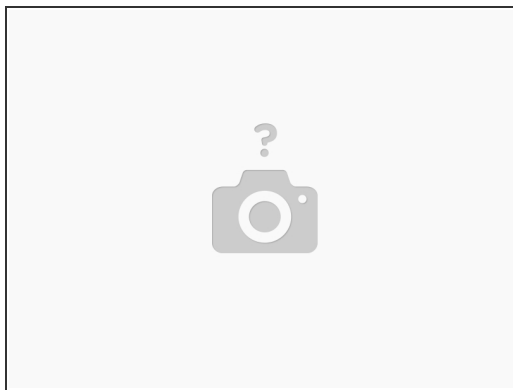
- Settings>System Editor
- Edit config.g - locate line M665, usually about 10 or 12 lines down.
  - Artemis 300 set L to 340.5 (L340.5)
  - RostockMAX v3.2 AND v4 machines set L to 340.5 and H to 350.
    - ⚠ If you do not change the H value, the machine will crash into the glass before being able to probe. The carbon fiber arms are longer than stock arms, shortening the max Z length.
- ⓘ The arm length value is a starting point. Although the arms are made in a precision jig, there may be variances and this value may need to be slightly adjusted if you are looking to print parts with specific size values. Adjusting and re-calibrating may be needed to tweak the final print size output.

## Step 6 — Duet First Probe



- Save and reset, reboot, or power cycle the printer
- Prepare for probing by clearing the nozzle and print bed as usual
- Click the macro 'First Probe'
- Wait for completion.

## Step 7 — Complete & Calibrated



⚠ Remember DO NOT use the button labeled "Auto Delta Calibration" Instead we use the macros we wrote.

⚠ Remember NEVER use software auto leveling in any slicing software. Auto leveling and calibration is performed by the firmware on ALL SeeMeCNC 3D printers.

- Remember when cleaning glass or changing a nozzle to use "Probe Autolevel" calibration macro.
- The "Probe Autolevel" macro calibrate your printer using SeeMeCNC developed g-code.