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.

Written By: SeeMeCNC

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

F Tools / 4 He	eaters / + Extra				E Control All -	Temperature Chart			
Tool	Heater	Current	Current Activ		Standby				
Tool 0 +	Heater 1 active	23.7 °C	0	•	0 💌	200			
Bed	Heater 0	21.1 °C	0	-		150			
Machine Con	trol	Ger	neral Us System Direc	er Interfac	ce List Items	System Editor Machine Properties To	ols		
			File Name 1	2			Size		
G-Code Con		E bed.g							
G-Code Files			a cancel.g						
			Config-override.g						
Macros	4	0	Config-ov	verride.g			523 B		
Macros	1		config-ovconfig.g	verride.g			523 B 2.7 KiB		
Macros	1	0	config.ovconfig.gconfig.g.	verride.g bak		4	523 B 2.7 KIB 2.7 KIB		
Macros Filaments Settings	1		 config.ov config.g config.g. DuetWiF 	verride.g bak iServer.bi		4	523 B 2.7 KiB 2.7 KiB 289.9 KiB		
Macros Filaments Settings	1		 config-ov config.g. config.g. DuetWiF heightmat 	bak iServer.bi		4	523 B 2.7 KIB 2.7 KIB 289.9 KIB 855 B		
Macros Filaments Settings	1		 config.ov config.g. config.g. DuetWiF heightmatic homedel 	bak iServer.bi ap.csv ta.g		4	523 B 2.7 KiB 2.7 KiB 289.9 KiB 855 B 380 B		
 Macros Filaments Settings 	1		 config-ov config-g config-g config-g DuetWiF heightmatic homedel iap.bin 	bak iServer.bi ap.csv ta.g		4	523 B 2.7 KIB 2.7 KIB 289.9 KIE 855 B 380 B 59.5 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

C• Disconnect	Send G-Code	•	A Send 🔷 Up	load & Print									
F Tools / 49 He	eaters / 🕇 Extra			E Control All →	Temperature Chart	Temperature Chart							
Tool	Heater	Current	Active	Standby	200		M550 PArtemis	; Printer name					
Tool 0 -	Heater 1 active	23.7 °C	0 -	0 -	200	M555 P2 M552 S1 M572 D1 P57600 S1		; <u>Repetier</u> Output ; Enable <u>Wifi</u>					
Bed	Heater 0 off	21.1 °C	0 •		150		M575 P1 B57600 S1 G21 G90	; <u>Faneius</u> commiserup ; Work in <u>millimetres</u> . Sand absolute concinates					
♠ Machine Con ♣ Print Status	trol	Gen S	neral User Interf	ace List Items	0 System Editor Machine Properties Tools		<u>N569</u> <u>P0</u> <u>58</u> <u>N569</u> <u>P1</u> <u>59</u> <u>N569</u> <u>P2</u> <u>59</u> <u>N569</u> <u>P3</u> <u>51</u> <u>N569</u> <u>P4</u> <u>51</u>	<pre>; Drive 0 goes forwards (X) ; Drive 1 goes forwards (Y) ; Drive 2 goes forwards (Z) ; Drive 3 goes forwards (<u>E0</u>) ; Drive 4 goes forwards (<u>E1</u>)</pre>					
File Name 12						Size	M574 X2 Y2 Z2 51	; set endstop configuration (all endstops at high end, active high)					
C-Code Console					285 B	M665 R150 L340.5 B155 H530 X0 Y0 Z0	; delta radius, diagonal rod length, printable radius and homed height ; Y X Z are tower angle offsets ; <u>endstop</u> offsets in mm						
G-Code Files	j G-Code Files					45 B							M666 X0 Y0 Z0
& Macros	Macros 🗧 🖥 config-override.g					523 B	M350 X16 Y16 Z16 E16:16 I1	: Set 16x microstepping w/ Interpolation					
Cilamente						2.7 KIB		, see and the second of an experience					
Contracts	 Filaments Config g bak 						M92 X200 Y200 Z200 M92 E182.0:182.0	; Set axis steps/mm ; Set <u>extruder</u> steps/mm					
₩ Settings		DuetWiFiServer.	bin		289.9 KIB	M986 X1288 Y1288 Z1288 E1288:1288 I58	; Set motor currents (mA) and idle current $\%$						
	i heightmap.csv					855 B	M201 X5000 Y5000 Z5000 E5000 M203 X18000 Y18000 Z18000 E18000	; Accelerations (mm/s^2) ; Maximum speeds (mm/min)					
			homedelta.g			380 B	M566 X2000 Y2000 Z2000 E2000	; Maximum instant speed changes mm/minute					
			iap.bin			59.5 KIB							
			iap4e.bin			60.0 KIB							

- 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

C• Disconnect	Send G-Code	- 4	Send 🗘 Upk	ad & Print			F	vrtemis 🔺					•	Emergency ST
≁ Tools / 8 He	salers / 🕂 Extra			E Control All +	Temperature Chart						Machine Status			
Tool 9 -	Heater 1	Current	Active	Standby	250						Head Position	X 0/2	Y nia	Z
10	active	24.0 °C 0	•		150						Extruder	Drive 0		
Bed	Heater 0	21.5 °C 0			100						Drives	0.0		
		-	-		50						Sensors	Vin		Z-Probe
												12.3 V		U
Machine Cont	troi	Home A				Head Moverne	et.		14	do Delta Calibration	-	Use	-Defined Macro	a
Print Status		Home 2	< x-	(00	<-10 《 X-1		X+0.1 >	X+1 >	X+10 >	X+100 >			Bed Mapping	
		Home 1	< y	100 4 1	r-10 4 Y-1	Y-0.1	Y+0.1 >	Y+1 >	Y+10 >	Y+100 >			Nament Load	
G-Code Cons	sole	Home 2	< Z	100 43	Z-10 K Z-1	₹ Z-0.1	Z+0.1 >	Z+1 >	Z*10 >	Z+100 >			Einst Doobe	
G-Code Files												_	NETWORK	
Macros		A 100 0	anowing score are	not normed. A, 1, 2					-			Pr	cheat Bed ABS	
Filamonte						Extruder Contr	ol					PI	eheat Bed PLA	
P Prioriterito		Feed and	outt in mm:			Feedrate in mm/see			_	† Retract		P	robe Autorevel	
r senings		100	50	50 0	5 1	60	30 15	5	1	4 Extude		0	nock Shibbits	
													Ascellaneous	

- 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.