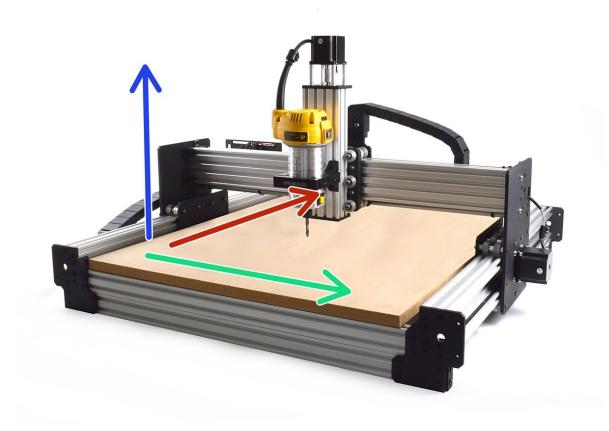


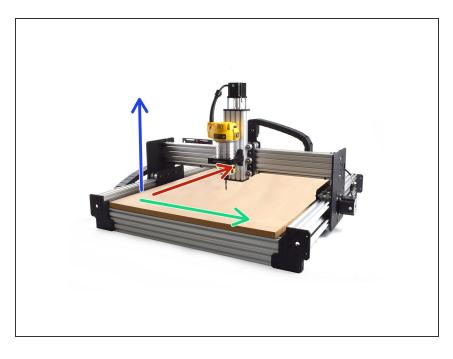
Testing Your WorkBee

This guide goes over testing the WorkBee CNC Machine to make sure everything is functioning correctly.

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Step 1 — Axis Movement Direction



- If looking at the machine from the front the correct axis motion is, X-Axis is positive towards the right.
- The Y-Axis is positive going away.
- The Z-Axis is positive going up.

Step 2 — Enable Jogging Without Homing

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orkBee CNC Machine 🔺 📼						3	Send G-Code	◆ Upload & Start	Editing 0:/sys/config.g		
Machine Status		F Tools / & Heaters / +	Entra		Control All +	Temperature Chart			; Network MSS0 Dispribles CNC Machine	; Set machine name	
Head X Y	z	Tool He	ster Current	Active	Standby	250			2552 51 2552 51	; foable network ; foable Network	
Requested Speed	0.00 Top Speed					290			1550 PaperkBet CBC Machine 1552 53 1586 PD 53 1586 PD 53 1586 PJ 50 1586 PJ 10) Disable FIP	
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vin MCU Temp	Z-Probe					50			m549 PP 58) Dróve 0 gees forwards	
24.1 V 21.9 °C	0					.0			<u>H569 P1 51</u> H569 P2 58	; Drive 1 goes forwards Drive 2 goes forwards	
Machine Control	General User	interface List liems Sys	tem Editor Machine Pro	peties Tools				1	2569 P3 53 2584 X8 Y113 Z2	; Drive 3 goes forwards ; Apply custom drive mapping	
1.00 Status	System Director	ny .						In New File C Refresh	1584 88 Y1.3 22 182 X399.9 Y399.5 2408 1358 X38 Y16 216 13	; Set steps per mm ; Configure <u>microstepping</u> with interpolation	
	File Name 1				Size).	Last modified		#546 X588 Y588 2588 #283 X2588 Y2588 22588	; Set machine instantaneous speed (markin) ; Set machine speed (markin)	
G-Code Console	il & bedg				339.8		06/12/2018, 12:50:24		1556 8580 Y580 2580 1583 82580 Y2580 22580 1581 8150 Y358 2159 1586 82480 Y2480 22480 1180) Set accelerations (mm/s=2) ; Set motor currents (mA)	
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	G b homeyp				641 B		6/12/2018, 12:50:23				el 🖌 Save Cha

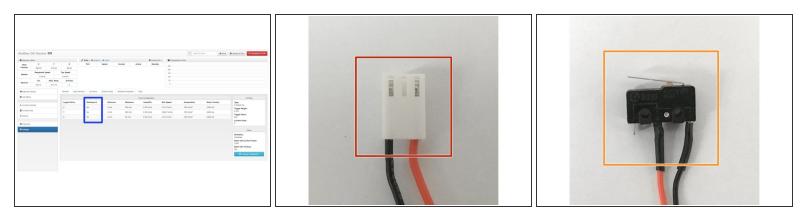
- (i) To test the machine we need to check each axis moves correctly. For safety reasons, the firmware is setup so the machine cannot be jogged before it is homed. We need to disable this to test the machine.
- Go to System > System Editor and click on the file named config.g
 - At the bottom find the line M564 S1 H1
 - Change it to M564 S1 H0
- Once complete, Press 'Save Changes', and reboot the Duet.

Step 3 — Check Axis Movement Direction

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- Please be very careful when carry out the following steps. Check there is enough travel for the machine to carry out these steps. If there isn't enough travel either reduce the jog amount, or move in the other direction.
- With the machine roughly in the middle of travel on all its axis. Connect to your WorkBee in WorkBee Web Control.
- Jog the machine 10mm in the positive X Direction by Press 'X+10'. The machine should move 10mm to the right.
- Jog the machine 10mm in the positive Y Direction by Press 'Y+10'. The machine should move 10mm to the away from the front.
- Jog the machine 5mm in the positive Z Direction by Press 'Z+5'. The machine should move 5mm upwards.
- (i) If any of the axis are travelling in the incorrect direction please refer to this guide to rectify it: <u>How</u> <u>To Change Axis Travel Direction</u>

Step 4 — Test Limit Switches



- In WorkBee Web Control Navigate to Settings > Machine Properties.
- The second column displays the limit switch status.
- Activate the X-Axis limit switch with your finger. The hit status should changed to 'Yes'
 - Repeat this procedure for the Y & Z Limit switches.
- (i) If any do not behave as intended, please check they are wired into the correct inputs.
 - If they are wired correctly. Please check they have been manufactured correctly. The wiring on the connector side should match image 2.
 - The wiring on the limit switch side should match image 3.
 - (i) Please contact us if they have been manufactured incorrectly and we will send out a replacement unit.

Step 5 — Test Homing

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- (i) When the machine homes it should raise the Z-Axis and stop, and then Home the X and Y-Axis to the far right hand corner.
- Press Home Z. The Z-Axis should raise upwards, bounce once on the limit switch, and then stop.
- Press Home X. The Z-Axis should home like the previous step. The X-Axis should then move towards the right, bounce once on the limit switch, and then stop.
- Press Home Y. The Z-Axis should home like previous. The Y-Axis should then move towards the back, bounce once on the limit switch, and then stop.
- Press Home All. The Z-Axis should home like previous. Then the X and Y-Axis should home like previous.

A Once testing is complete, repeat Step 2 but change M564 S1 H0 back to M564 S1 H1

Thanks for following the guide. Testing of the WorkBee is now complete!