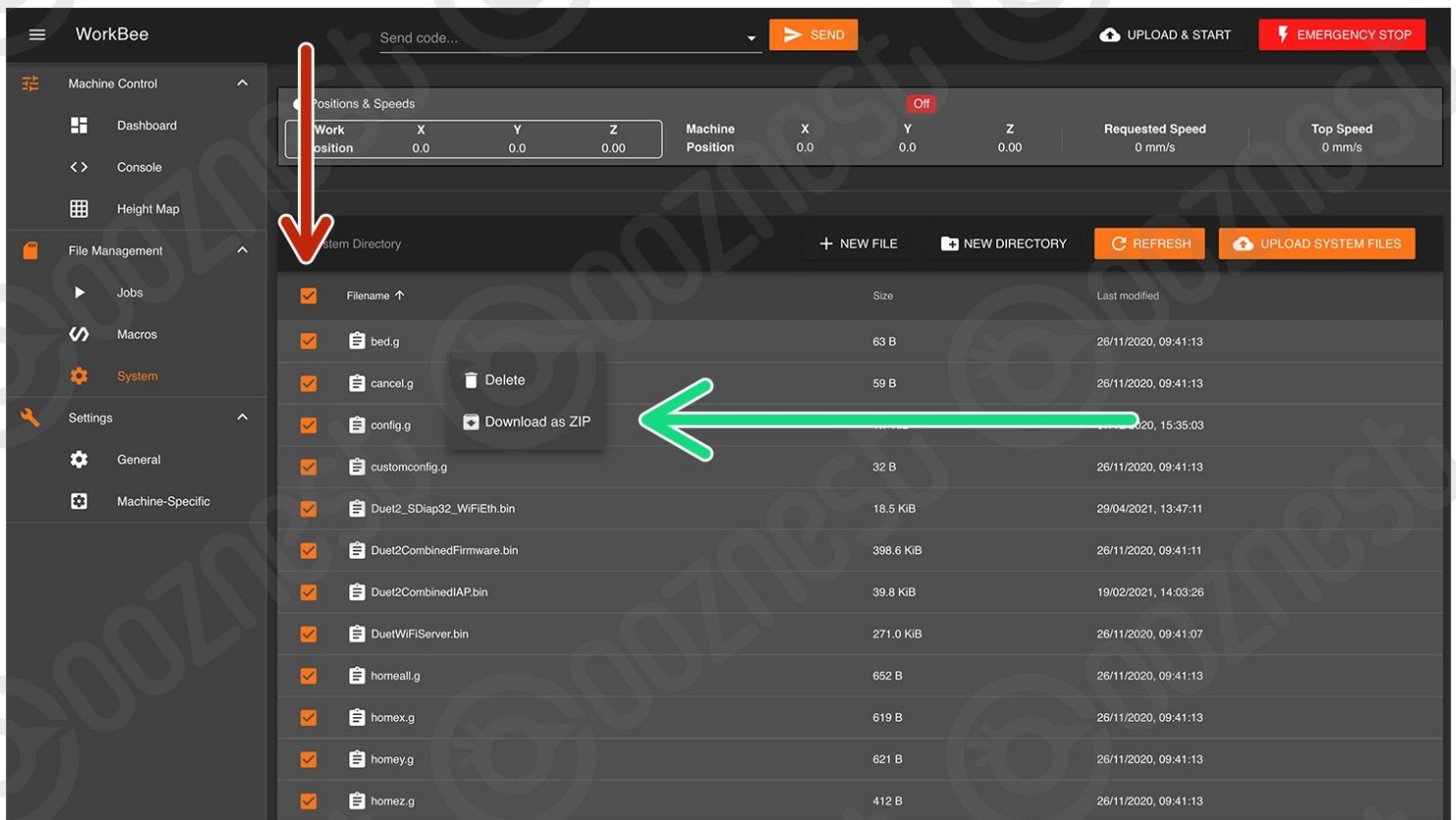


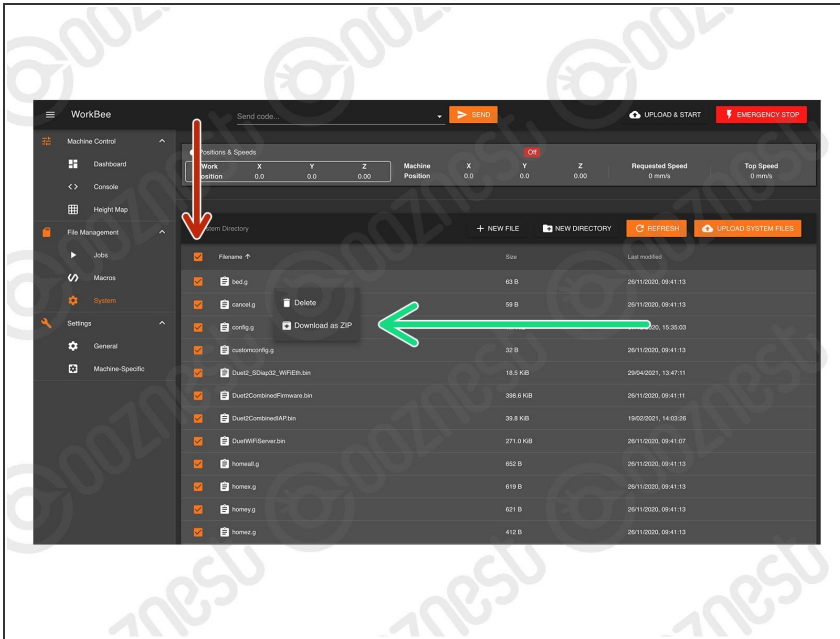


# How To Update WorkBee Firmware V1.0.7 > V3.3.0-1.2

Written By: Robert



## Step 1 — Backup & Preparation



⚠ **Do not follow this guide if you have a Z1+ WorkBee. You are already on the latest version.**

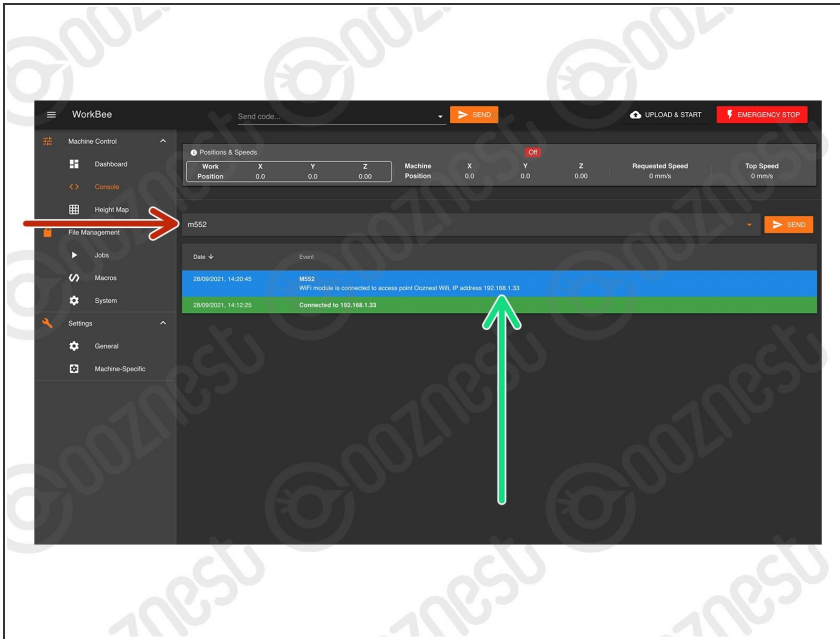
⚠ Before proceeding you **must** backup your system settings.

- Go to File Management > System.
- Select All.
- Right Click on any file, and press 'Download as ZIP'
- ⓘ You must unselect any folders (Sub-directories) for 'Download as ZIP' to appear.

⚠ Inside File Management > System, Right Click and Delete the file named 'DuetWiFiServer.bin'

⚠ You may not have the file 'DuetWiFiServer.bin' in your System folder. If not that is ok, nothing to delete.

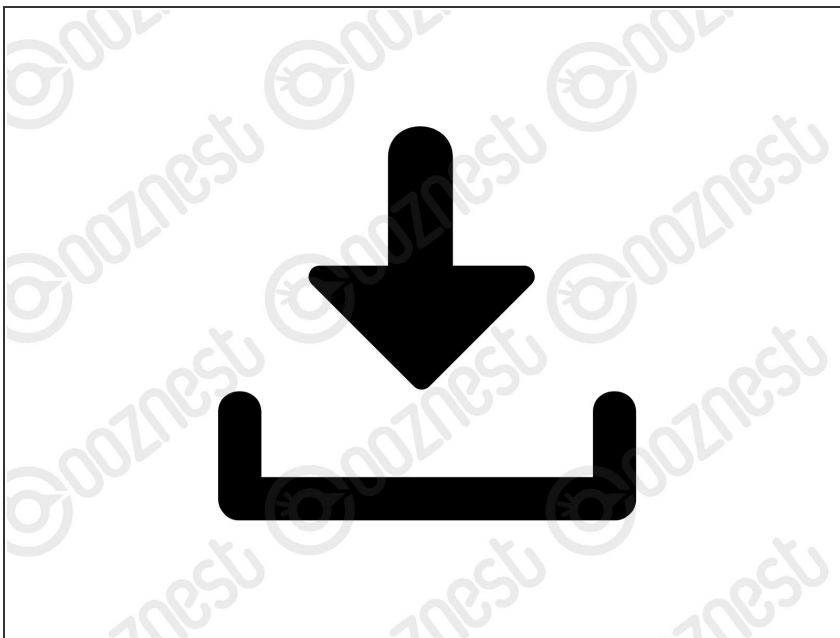
## Step 2 — IP Address



⚠ We must make sure we know the IP Address the WorkBee is connected under.

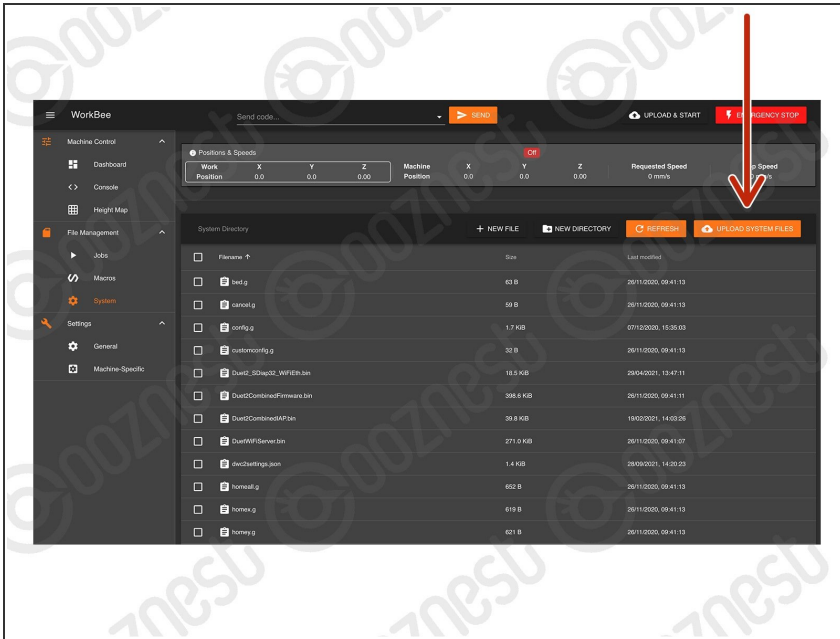
- Go to Machine Control > Console.
- Input the command: M552 then press 'Send';
- It will return the IP Address. Note it down.

## Step 3 — Download



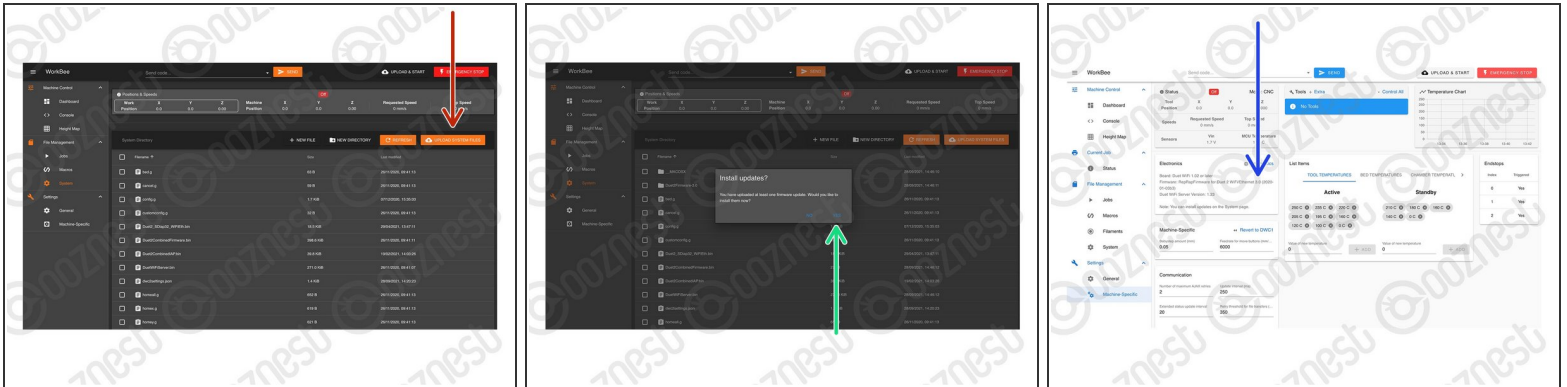
- Download the [Upgrade Files](#) and extract the contents.

## Step 4 — Upload IAPS



- Go to File Management > System and press 'Upload System Files'
- Navigate to where you extracted the download.
  - Select Step4.zip
  - Wait until the upload is complete and then press 'Close'

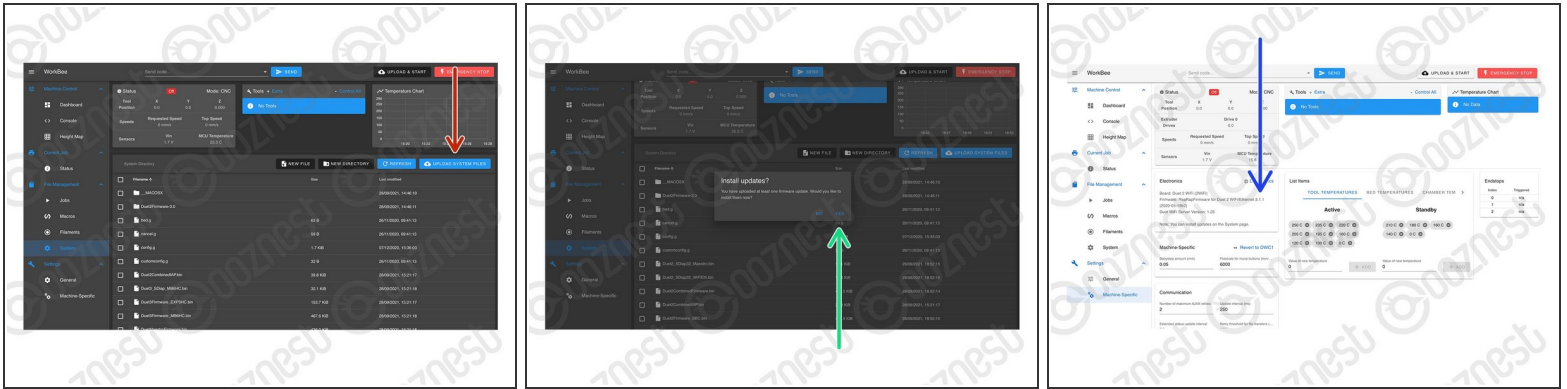
## Step 5 — Update to 3.0



- Go to File Management > System and press 'Upload System Files'
- Navigate to where you extracted the download.
  - Select Step5.zip
- Confirm the installation.
- The WorkBee will disconnect, be patient and wait until it reconnects.
- Go To System > Machine-Specific. It should now say 3.0.

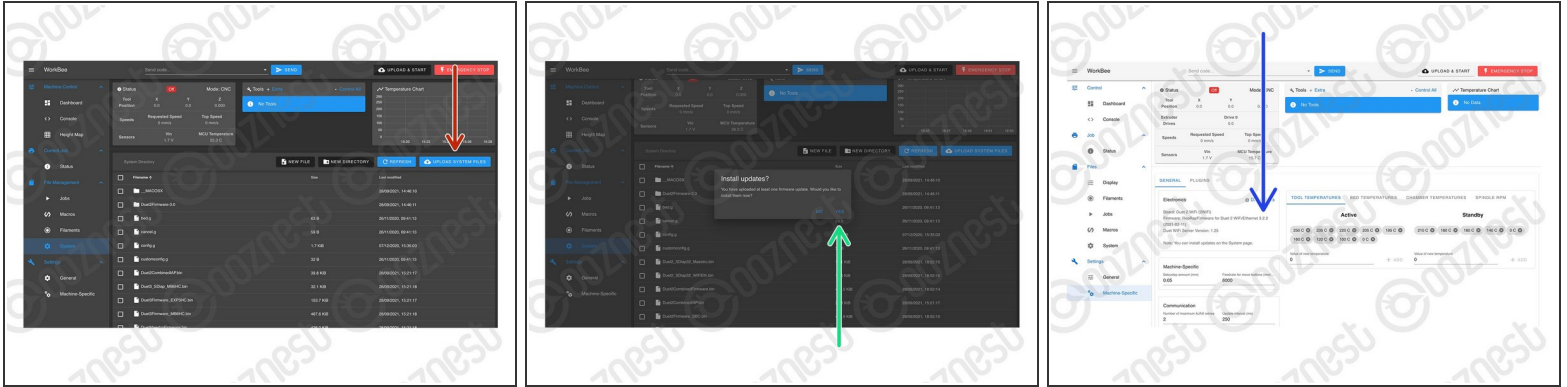
⚠ If it does not say 3.0. Repeat this Step. If it still does not change to 3.0 [Contact Us](#)

## Step 6 — Update to 3.1.1



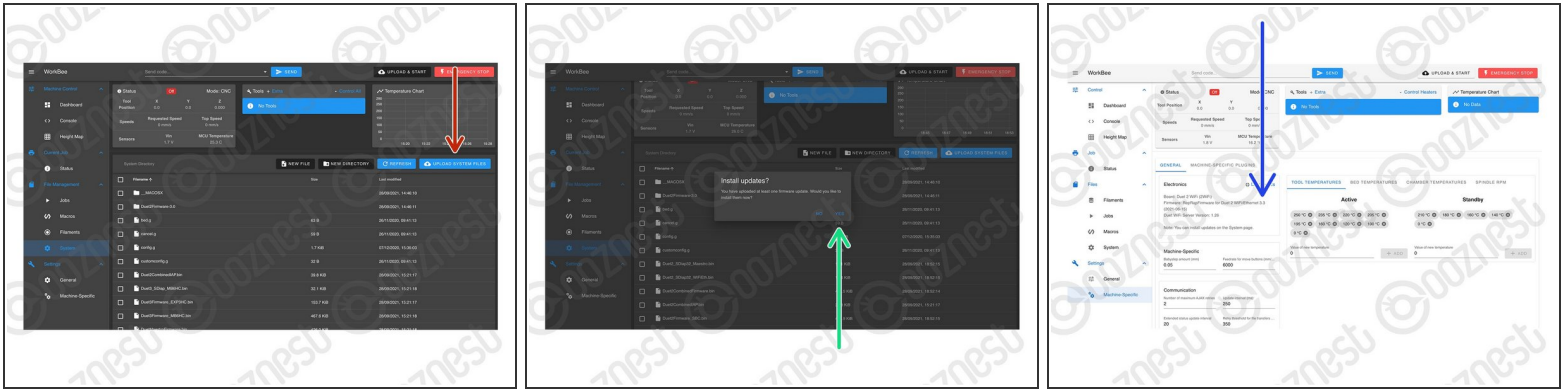
- Go to File Management > System and press 'Upload System Files'
  - Navigate to where you extracted the download.
    - Select Step6.zip
  - Confirm the installation. Wait until it reconnects.
  - Go To System > Machine-Specific. It should now say 3.1.1.
- ⚠ If it does not say 3.1.1. Repeat this Step. If it still does not change to 3.1.1 [Contact Us](#)

## Step 7 — Update to 3.2.2



- Go to File Management > System and press 'Upload System Files'
  - Navigate to where you extracted the download.
    - Select Step7.zip
  - Confirm the installation. Wait until it reconnects.
  - Go To System > Machine-Specific. It should now say 3.2.2.
- ⚠ If it does not say 3.2.2. Repeat this Step. If it still does not change to 3.2.2 [Contact Us](#)

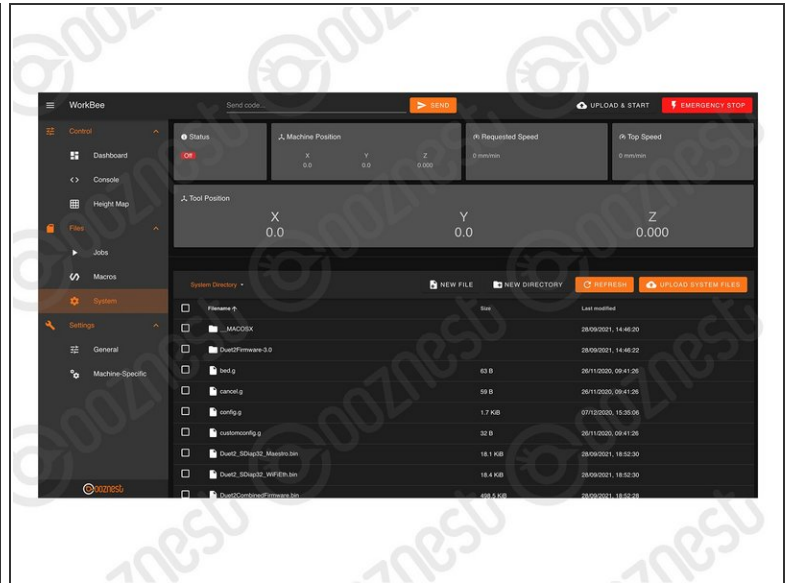
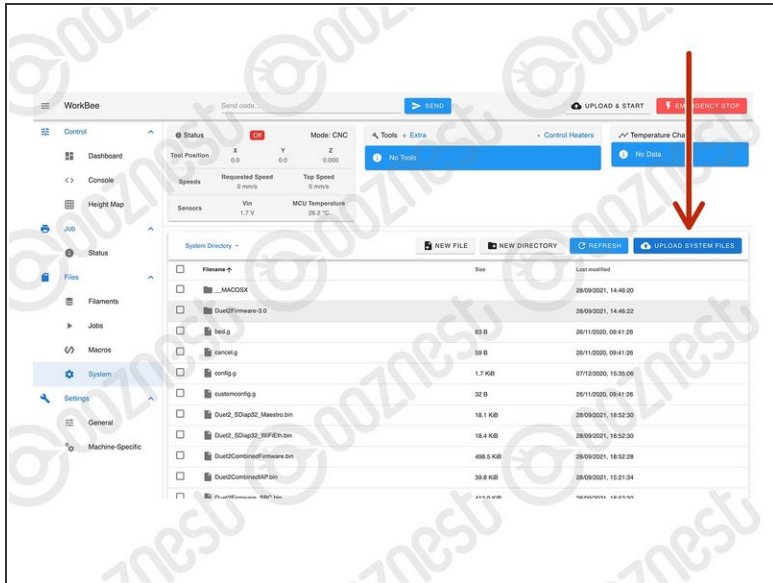
## Step 8 — Update to 3.3



- Go to File Management > System and press 'Upload System Files'
  - Navigate to where you extracted the download.
    - Select Step8.zip
  - Confirm the installation. Wait until it reconnects.
  - Go To System > Machine-Specific. It should now say 3.3.
- ⚠ If it does not say 3.3. Repeat this Step. If it still does not change to 3.3 [Contact Us](#)

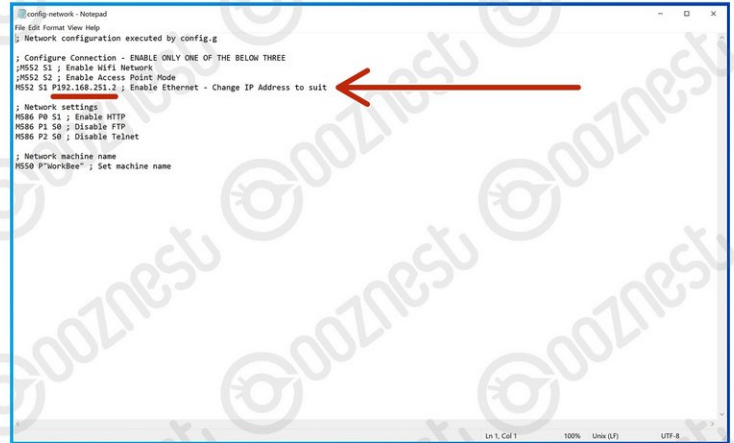
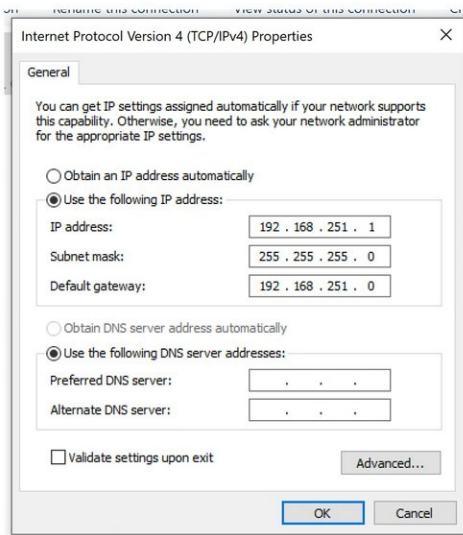


## Step 9 — Install WorkBee Control



- We can now install WorkBee Control
- Go to File Management > System.
- Press 'Upload System Files'
- Navigate to where you extracted the download.
- Select Step9.zip and Confirm the installation.
- It should now look like Image 2. If it does not, refresh your Browser.

## Step 10 — Ethernet Users

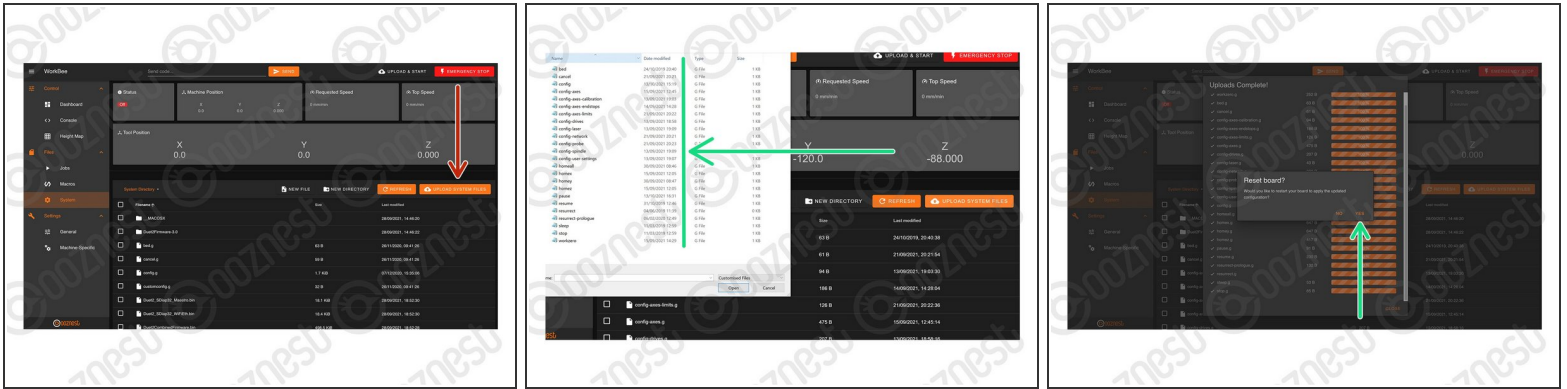


⚠ If you have the Wifi version, skip this step.

⚠ If the IP Address found in Step 2 is 192.168.251.2 skip this step.

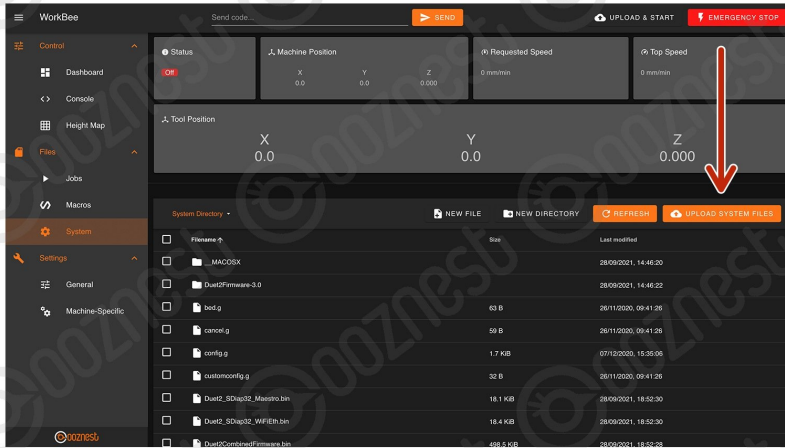
- If the IP Address found in Step 2 is different from 192.168.251.2 then complete this step.
- You can either configure your Ethernet Port as per Image 1. If not follow the points below.
- On your computer, navigate to the extracted files, then to Step 11 > Ethernet.
  - Open config-network.g with notepad.
  - Change the IP Address to that found in Step 2.
  - Save and close.

## Step 11 — System Settings



- Go to Files > System and press 'Upload System Files'
- Navigate to where you extracted the download.
  - ⚠ Make sure you follow the steps below **exactly**. Upload the files inside the folder matching your connection method. **Do not upload the folders**
- Double-click on the 'Step 11' folder.
- Double-click on the folder matching your connection method.
- Select & upload all the files inside.
- Confirm the board restart.
  - ⚠ If it does not restart press the software emergency stop in the top right corner.

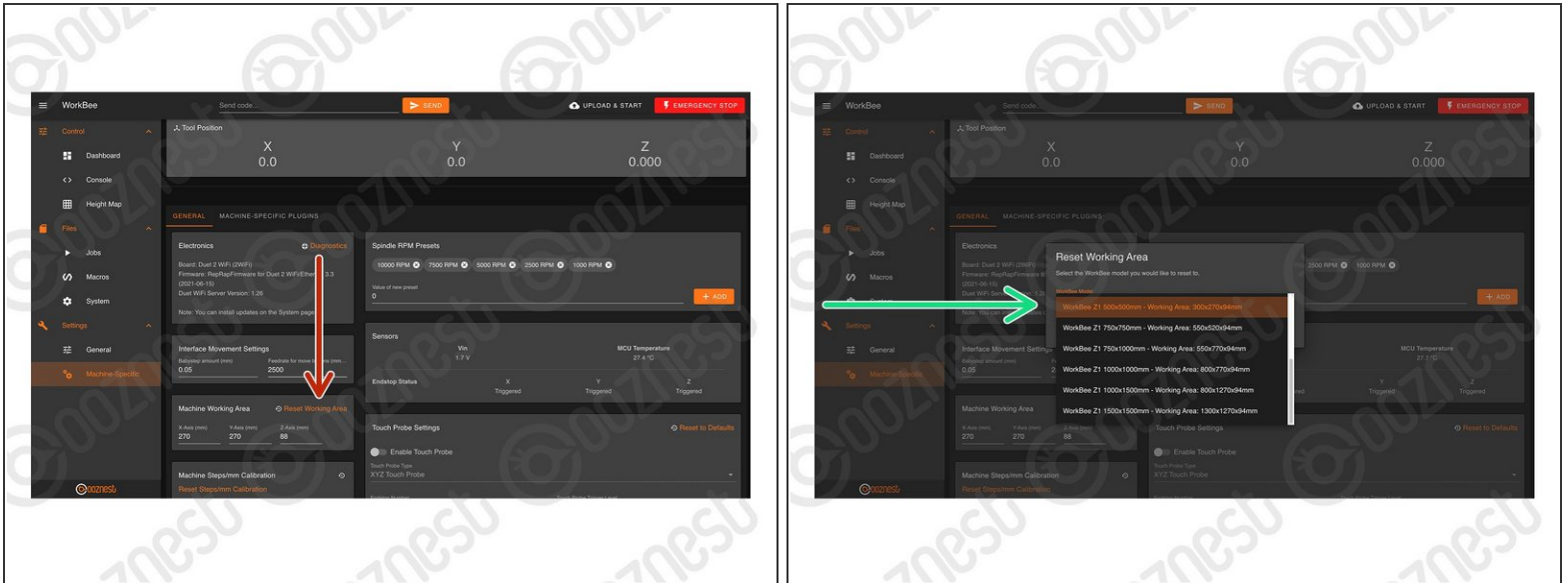
## Step 12 — Belt / Belt & Screw Drive Users



⚠ If your machine is all Screw Drive skip this step.

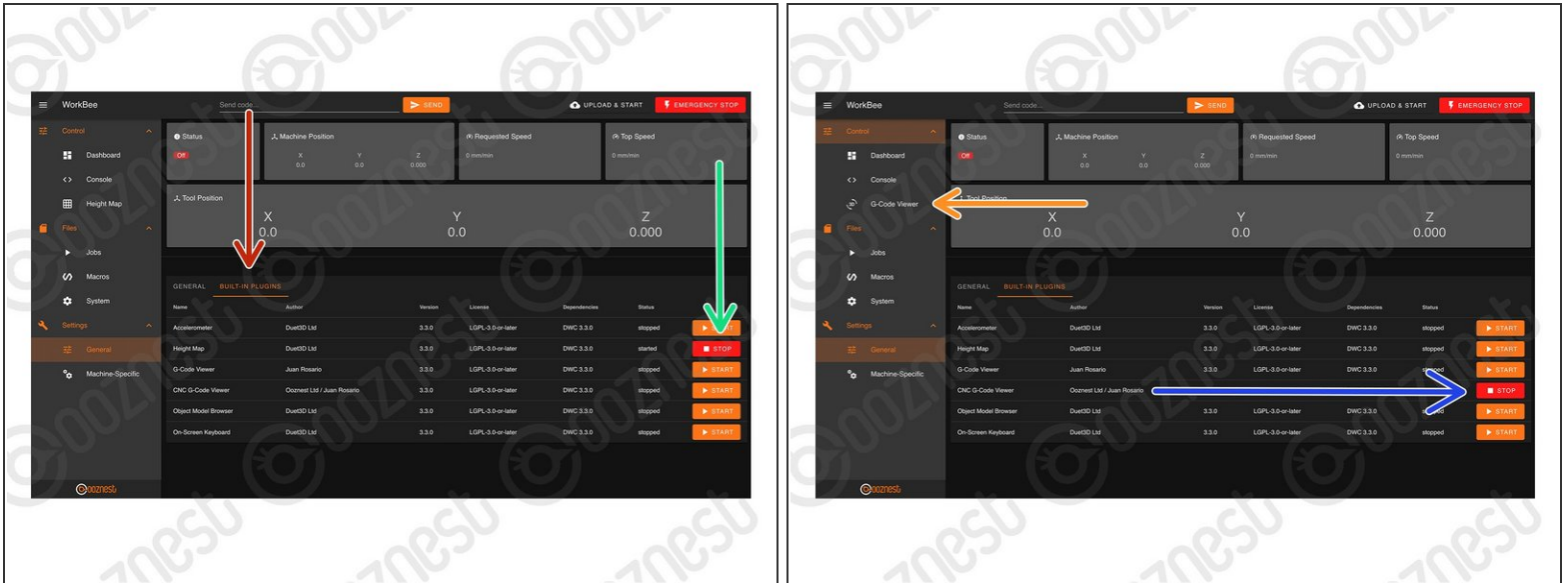
- If your machine is all Belt Drive complete the point below.
- Upload all the files inside 'Step12' > 'Belt-Drive'. **Do Not Upload the folder itself, just what is inside.**
- If your machine is all Belt & Screw Drive complete the point below.
- Upload all the files inside 'Step12' > 'Belt-&-Screw-Drive'. **Do Not Upload the folder itself, just what is inside.**

## Step 13 — Configure Machine Size



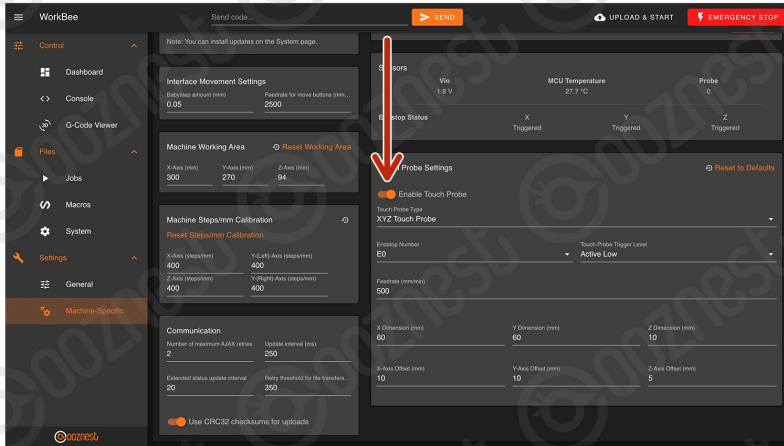
- Go to Settings > Machine Specific
- Under the Panel called 'Machine Working Area' press 'Reset Working Area'
  - Under the 'WorkBee Model' dropdown select your model and machine size.
    - ① If your WorkBee was received before 27/09/2021, then it is a Z1.
- Confirm by pressing 'Yes'
- ① The machine size is now configured. No restart required.

## Step 14 — Configure Plugins



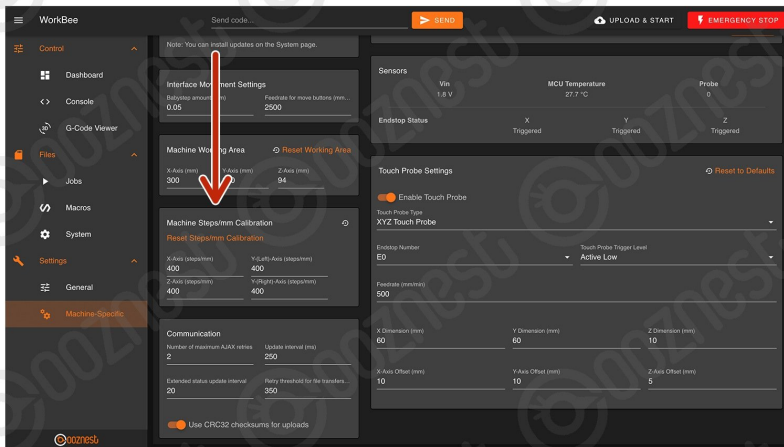
- Go to Settings > General > Built-In Plugins
  - If you don't use the 'Height Map' plugin, press 'Stop'
  - Refresh your browser.
- Go back to Settings > General > Built-In Plugins
  - Start 'CNC G-Code Viewer' plugin.
  - A G-Code Viewer will now show in the Navigation Menu.
- ⚠ If you have used previous versions of the Duet G-Code Viewer, you will need to clear your browser cache for it to look correct.

## Step 15 — Touch Probe



- If you have our WorkBee Touch Probe, go to Settings > Machine Specific
- Under the Panel called 'Touch Probe Settings' press 'Enable Touch Probe'

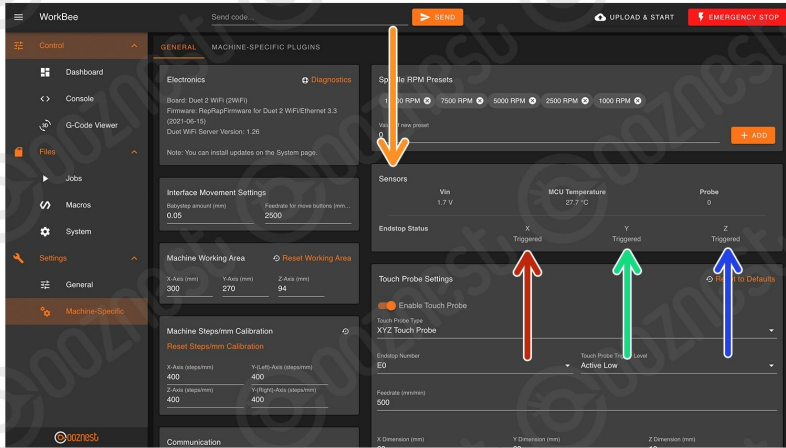
## Step 16 — Steps/mm Calibration



- Custom Steps/mm Calibration can be entered inside Settings > Machine Specific
- Under the Panel called 'Machine Steps/mm Calibration'
- ① The two Y-Axis Lead Screws can now be calibrated individually.



## Step 17 — Test Limit Switches



- In Settings > Machine Specific, under the Panel called 'Sensors' we can test the Limit Switches.
  - Activate the X-Axis limit switch with your finger and hold.
  - The Endstop Status should change to 'Triggered'
- ⚠ It is normal for there to be a delay between pressing the limit switch and the status being updated. Please do not be concerned, the board will stop the motor instantaneously.
- Repeat this procedure for the Y-Axis Limit Switch.
  - Repeat this procedure for the Z-Axis Limit Switch.
- ⚠ If any behave the opposite way round, follow this guide to invert them [How To Invert Limit Switches](#)

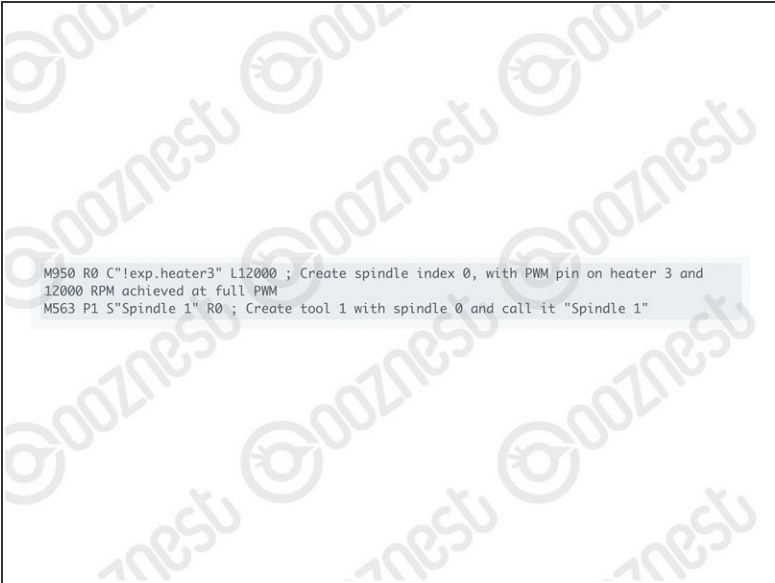


## Step 18 — Custom Settings




- Under File Management > System. Spindle Settings go in 'config-spindle.g'
- Laser Settings go in 'config-laser.g'
- ① Please note by default the machine will boot into CNC Mode.
- ① Upload these two [Macros](#) to switch into Laser Mode and Vice Versa. These will show on the Dashboard and can be used to switch between CNC Mode and Laser Mode.
- Other custom settings go in 'config-user-settings.g'
- ① The old customconfig.g file can be deleted.
- ⚠ Remember after editing any of the files above, press the software emergency stop in the top right corner.

## Step 19 — 3.3.0 Firmware Differences



M950 R0 C"!exp.heater3" L12000 ; Create spindle index 0, with PWM pin on heater 3 and 12000 RPM achieved at full PWM  
M563 P1 S"Spindle 1" R0 ; Create tool 1 with spindle 0 and call it "Spindle 1"



M452 C"!exp.heater3" F100 ; laser uses heater3 pin, PWM frequency 100Hz

- 3.3.0 Firmware uses GPIO Names (General-Purpose Input/Output) rather than pin numbers.
  - Any custom settings that use pin numbers, will need changing to [pin names](#)
  - More info on the changes can be found on [Duet's Dozuki](#)
- For any custom Spindle/Laser or other settings, you will need to convert the commands.
  - For a Spindle you would use [M950](#) with [M563](#). See Image 1 for an example.
  - For a Laser you would use [M452](#), but use the Pin Name, instead of the Pin Number. See Image 2 for an example. For an OptLaser 6W wired as their guide the C Parameter would be: C"!exp.heater3"
- If you are unsure about any of the above please [Contact Us](#).
- ① We have made all the required changes for our standard operation of the machine.

Thanks for following the guide. Any issues, please contact us!