



# First Project

Written By: Robert



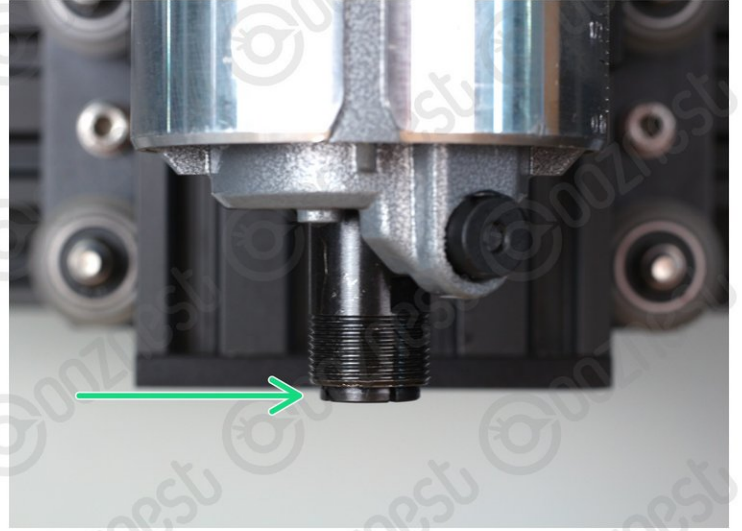
## Step 1 — Preparing the Material



**i** To complete this guide you will need a 250x250x18mm piece of MDF.

- Use 4 x Wood Screws to secure the MDF to the Spoilerboard.
- Make sure it is square with the machine.
- Make sure the Wood Screws are flush with the surface of the MDF.

## Step 2 — Using Collets



**⚠ Always use the correct collet size for the cutter.**

- Mafell

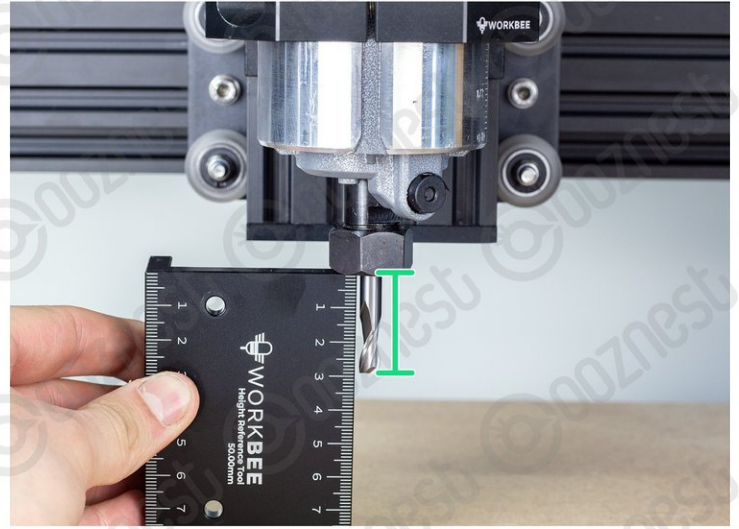
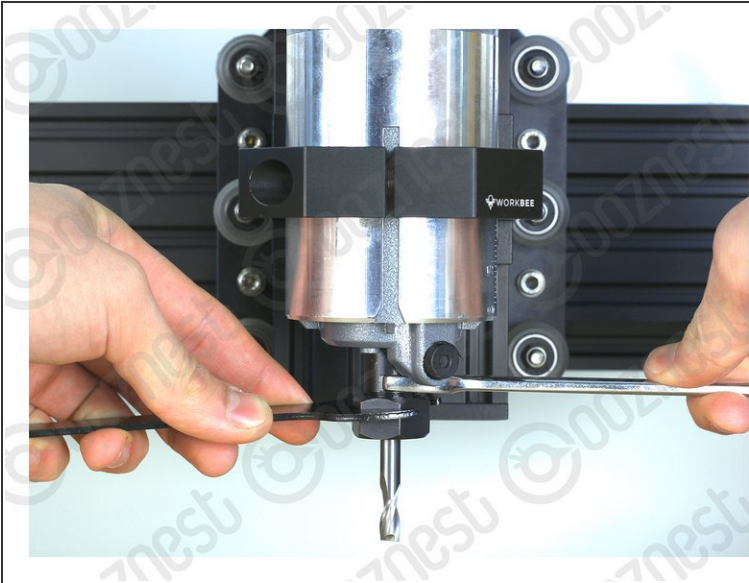
- Click the collet into the nut first, then insert the end mill fully.
- Fix the collet with a maximum torque of 10-11Nm. Tighten the collet by hand, then a 1/8 turn with a spanner, this should be about right.
- Keep the collet lubricated with a solid lubricant (e.g. Molykote P-40) or by lightly greasing.

- Katsu

- Push the collet into the shaft and then the nut over it. The end mill can then be inserted fully.
- Only use the button on the side to hand tighten the collet. To fully tighten, use two spanners, a 13 spanner on the flat portion of the shaft, the included 22mm spanner on the collet nut.



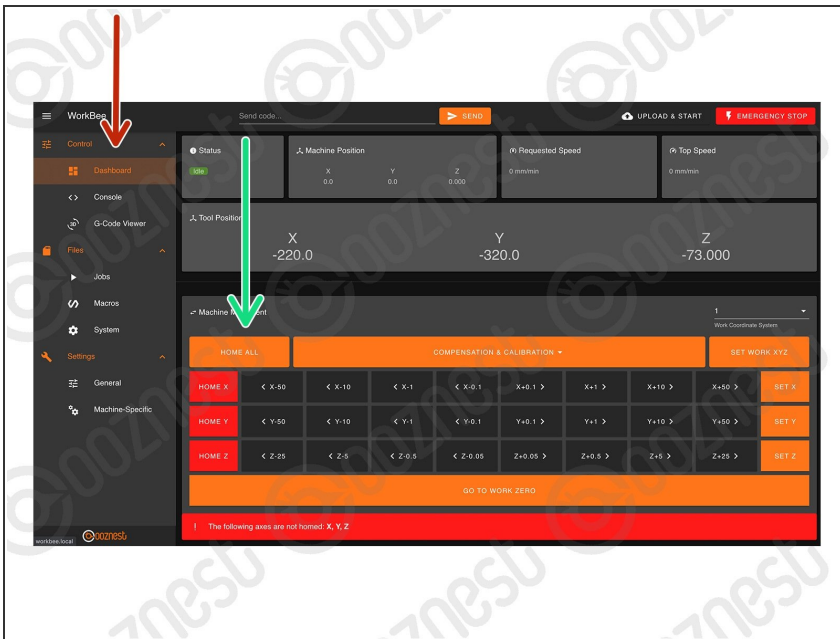
### Step 3 — End Mill



**⚠ Turn off and unplug the Router Head from the mains.**

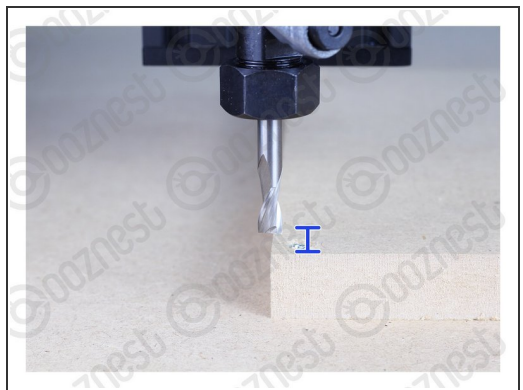
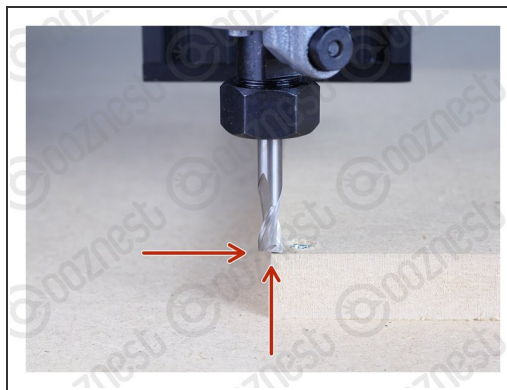
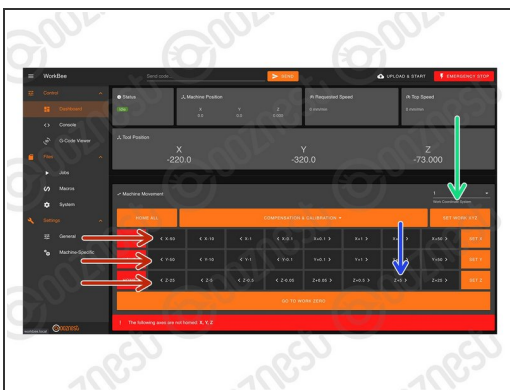
- Inside the Extras Box find the 1/4" Square Cut End mill.
- Using a 1/4" collet secure the end mill to the Router Head.
  - The Mafell has a locking button on the side.
  - The Katsu requires a 13mm Spanner and the included 22mm Spanner.
- While tightening, set the end mill stick out to 30mm using the Height-Reference-Tool.

## Step 4 — Home The Machine



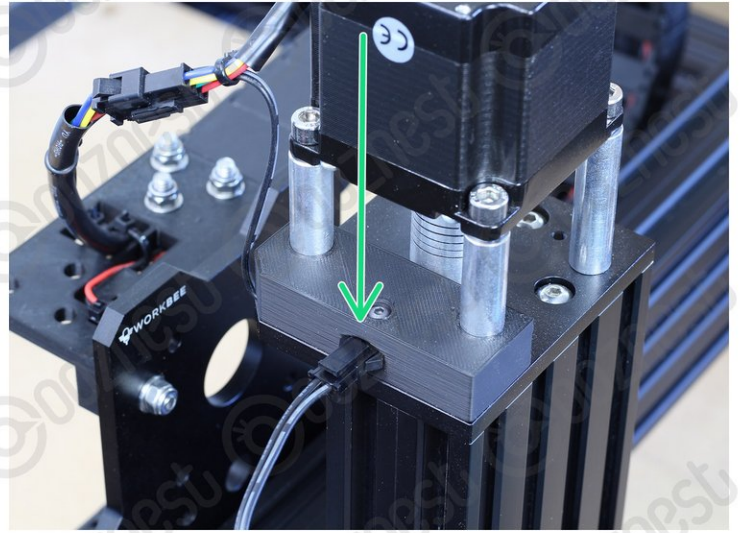
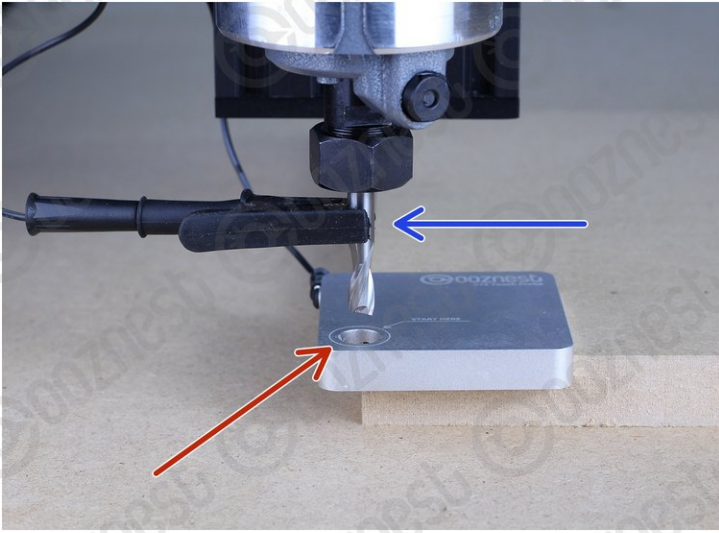
- Turn on the machine and open WorkBee Control.
- Go to Control > Dashboard
- Press 'Home All'
- ❗ The Machine should now be at the back-right corner of the work area.

## Step 5 — Set Work Zero - No Touch Probe



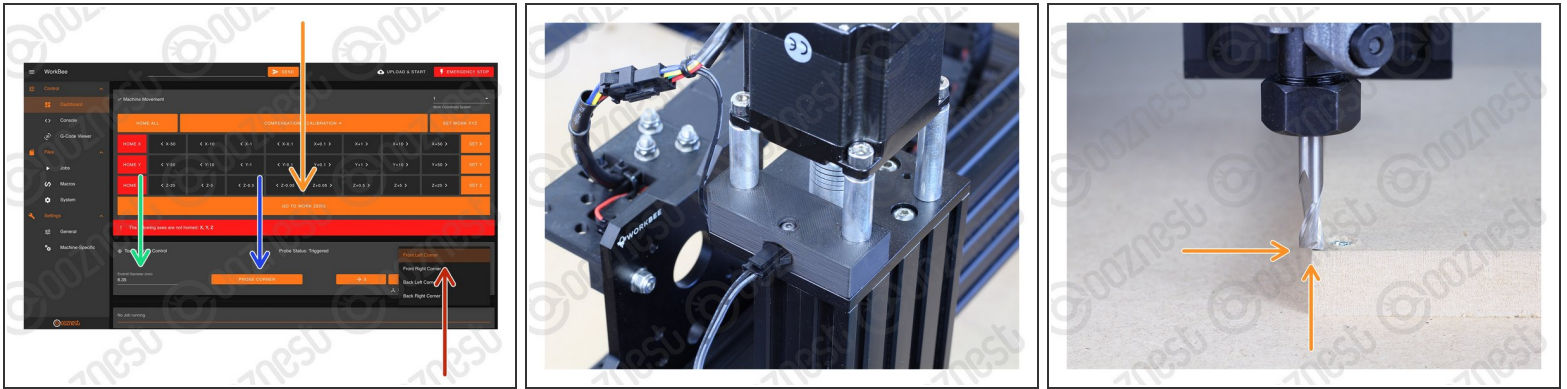
- Use the job buttons to centre the end mill over the front left corner of the MDF.
- The tip of the end mill should be flush with the top of the MDF.
- Press 'Set Work XYZ' to set the work zero position.
- Jog the Z-Axis up +5mm.

## Step 6 — Set Work Zero - Touch Probe - Part 1



- Locate your Touch Probe over the corner of the MDF.
- Use the job buttons to centre the end mill in the 'Start Here' Hole.
  - With the tip of the endmill roughly level with the surface of the Touch Probe.
- Plug your Touch Probe into the Touch Probe Mount Connector.
- Clip the Crocodile Clip to the End mill.

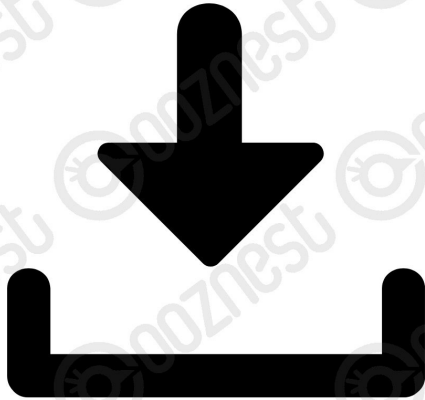
## Step 7 — Set Work Zero - Touch Probe - Part 2



- In the 'Touch Probe Panel' Select the Front Left Corner as the Probe Location.
- Define the Endmill Diameter as 6.35mm
- Press Probe Corner to begin probing.
- Wait until the 'Probe Successful' confirmation.
- Unclip the Touch Probe from the End mill and unplug it from Touch Probe Mount. Remove the Touch Probe.
- Press 'Go to Work Zero'. Your machine should be perfectly aligned with the corner of the material.
- Jog the Z-Axis up +5mm.

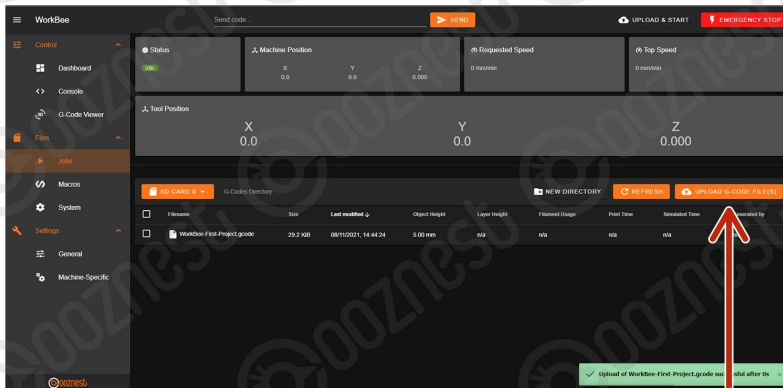


## Step 8 — Download



- Download the [WorkBee-First-Project](#) file and extract the contents.

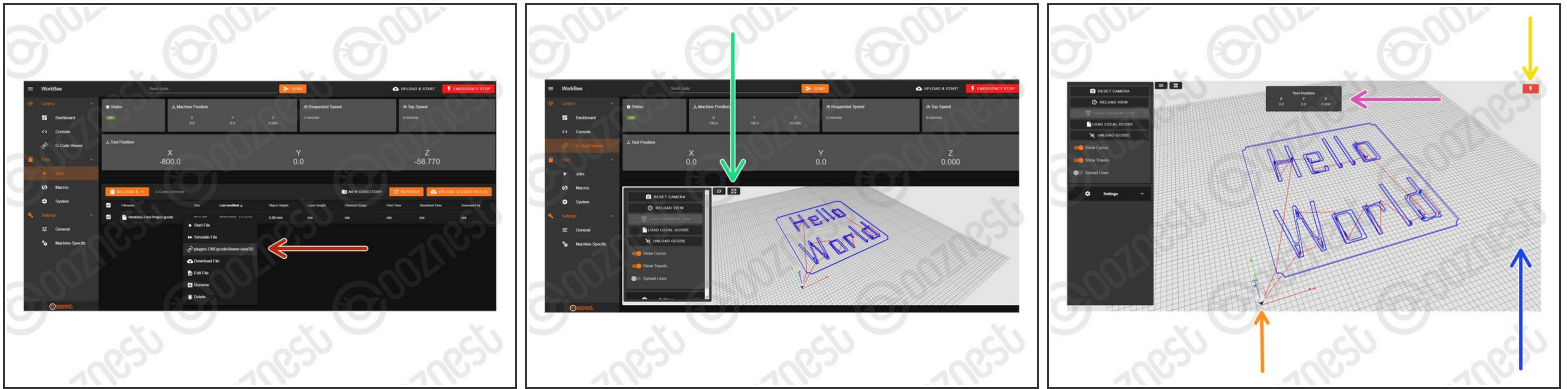
## Step 9 — Upload



- Go to File Management > Jobs and press 'Upload G-Code Files'
- Navigate to where you extracted the download.
- Select 'WorkBee-First-Project.gcode'

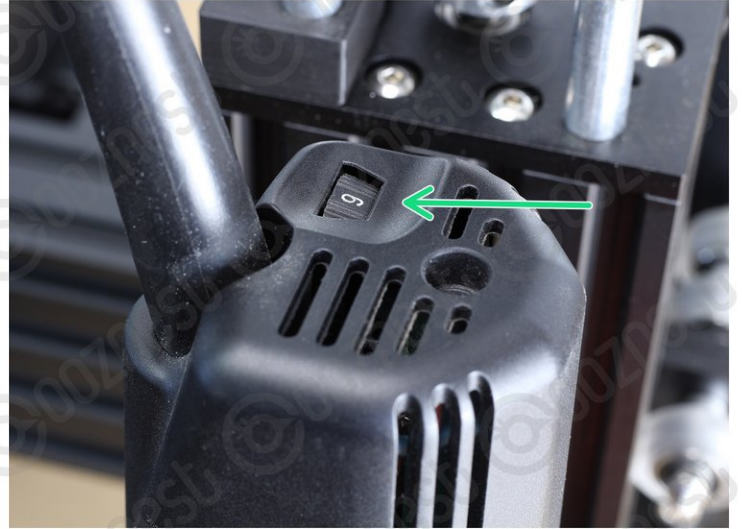
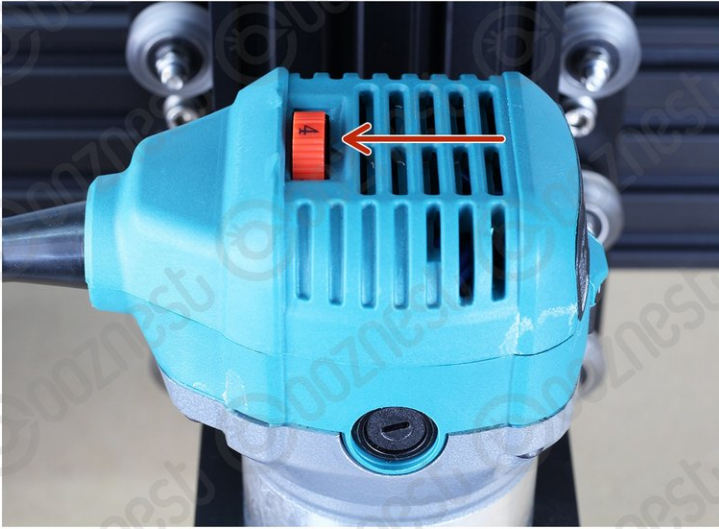


## Step 10 — G-Code Viewer



- Right click the file under File Management > Jobs and press 'plugins.CNCgcodeViewer.view3D'
- Go to Control > G-Code Viewer and view it fullscreen.
- The grid shows the machines working area.
  - The X, Y, and Z-Axis markers show where the selected Work Zero is located in the machines working area.
- Current position in Work Coordinates.
- Software emergency stop.
- ⓘ If you press 'Unload G-Code' and reload it as above once the job is running, it will show the current progress in green.

## Step 11 — Setting up the Router



- Mafell
  - Set the thumbwheel on the Router Head to Number 6 (25000 RPM)
- Katsu
  - Set the thumbwheel on the Router Head to Number 4 (25000 RPM)

## Step 12 — Setting the Dust Shoe



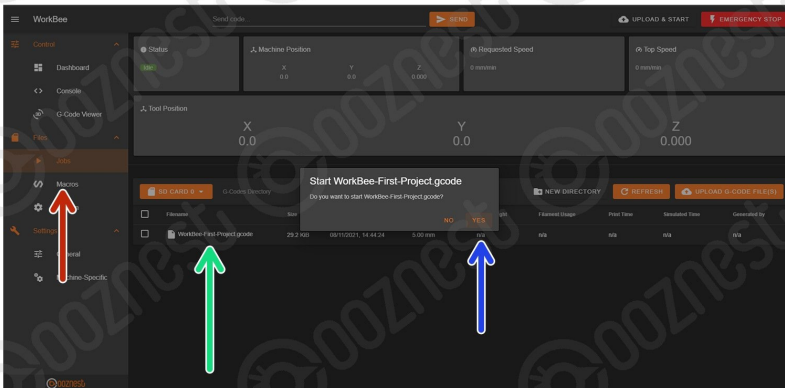
- Adjust the height of the Dust Shoe so the tip of the brushes are just touching the MDF piece we are cutting.
- Fix into position using the clamping bolt on the side of the Dust Shoe.

## Step 13 — Pre-Flight Checks



- The MDF is secure.
- The Work Zero is Set.
- The Work Area is clear.
- The End Mill is secure.
- [Safety Instructions](#) Read.
- Switch on the Router Head.
- Switch on your Extractor (If applicable).

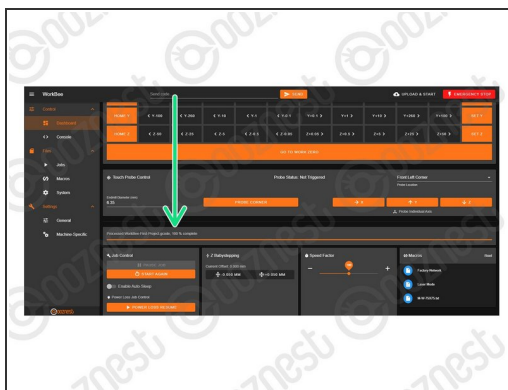
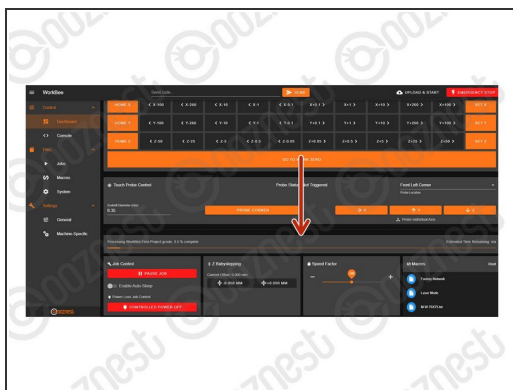
## Step 14 — Starting the Job



- Go to Files > Jobs
- Press on the WorkBee-First-Project.gcode File.
- Press 'Yes' to start.



## Step 15 — Finishing the Project



- When running a job, the progress of the job will be displayed here along with the percentage complete and estimated time remaining.
- Wait for the Job to be 100% Complete and the machine has stopped moving.
- Switch off the Router Head.
- Switch off your Extractor (If applicable).
- Press 'Home All'

## Step 16 — Removing the Project



- Unscrew the Project.



## Step 17 — First Project Complete



- ❗ Congratulations you have finished your First Project on the Original WorkBee Z1+ CNC Machine.
- ★ Share your project on Instagram tag @Ooznest and use #WorkBee

## Step 18 — Guide Complete



- ❗ Completing your First Project was rewarding right?
- Now you can learn how to create projects using CAM Software.
  - Vectric - [The Basics](#)
  - Carveco - [Tutorial Projects](#)
- Learn more about [WorkBee Control](#)

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