Introduction to Morbidelli N100

If you are unsure of anything, please don't hesitate to ask UQ Innovate Staff

If something is untidy, wrong or broken <u>Report IT!</u>

Start Up Procedure

Starting at back of machine. Identify Wall Isolation for Air and Power and how they function.

Also note extraction control panel this needs to be green light "fan" on for all material milling and drilling operations.

Identify Air shutoff valve on the machine it needs to be shut off at end of use so that compressed air doesn't bleed through an un-energised solenoid when machine is off. Push down on the aluminium plunger to open the valve.
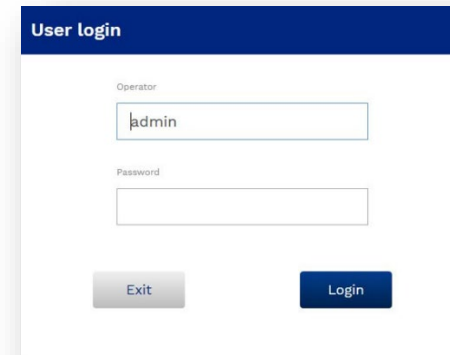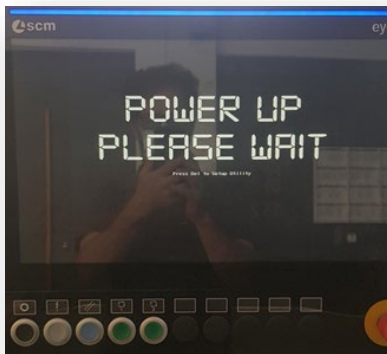

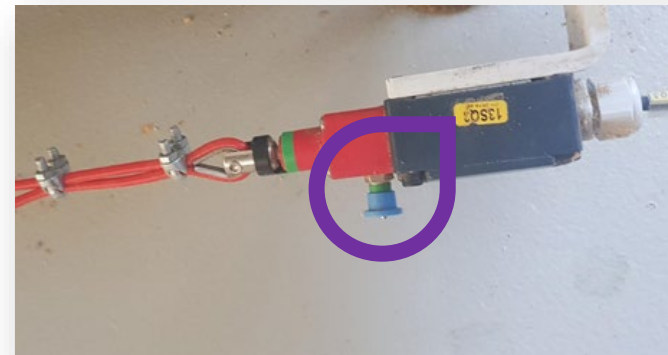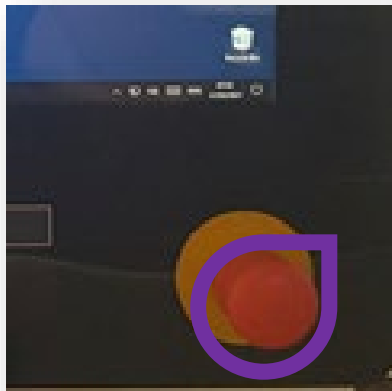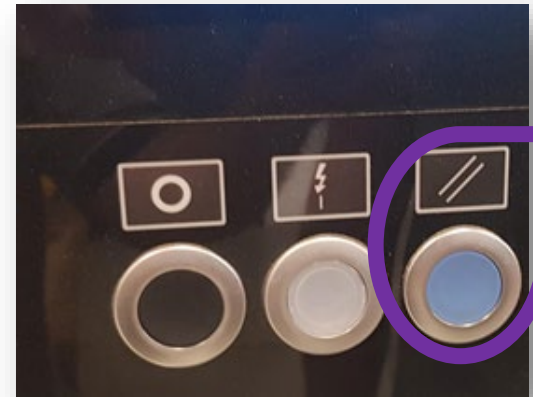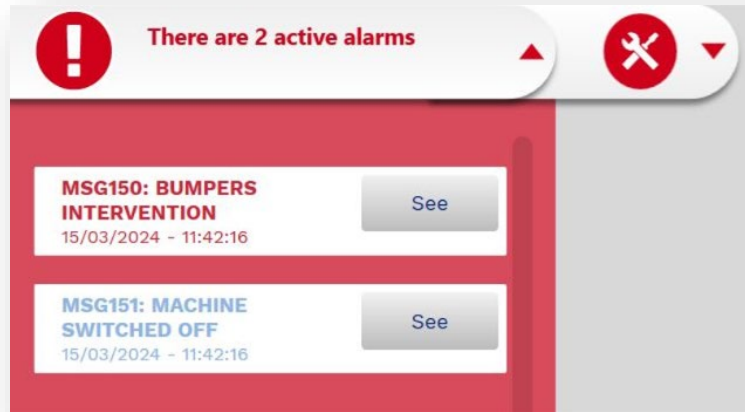Identify machine isolator and switch on by rotating clockwise

CREATE CHANGE

Once machine has switched on open "Maestro Active" and log in, details are.

Username: Admin   Password: "nil"
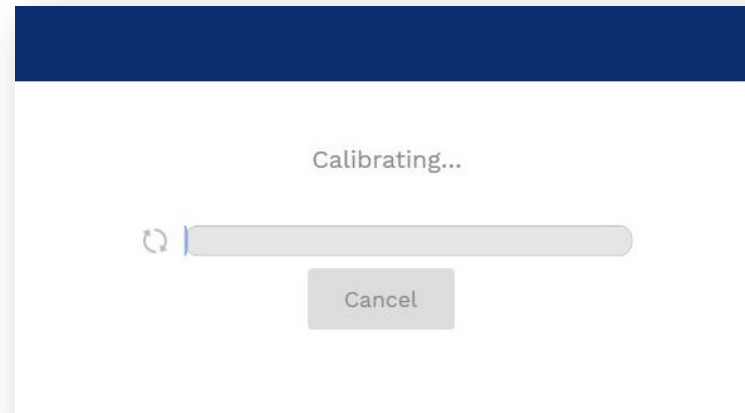
CREATE CHANGE

Once Maestro opens the "alarms" will need to be cleared using the control panel reset button and the various "emergency stops".

Homing / Axis Calibration, Click the calibration Icon

Press Manual "Cycle Start" Button. At this stage it is good to understand how the "bumpers" work and how the machine needs a clear and uninterrupted path from collisions.

Depending on the machines location when it was shut down this time can vary between 2-5 minutes. Once the machine is calibrated it should have the Thumbs up.
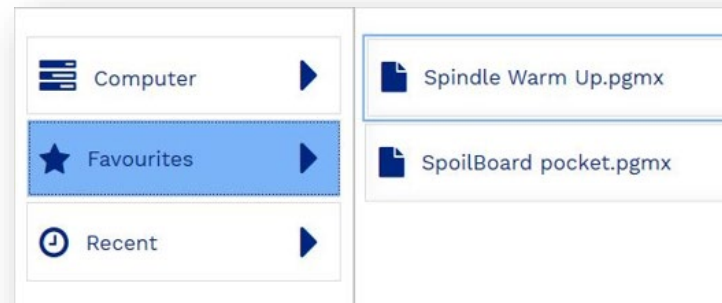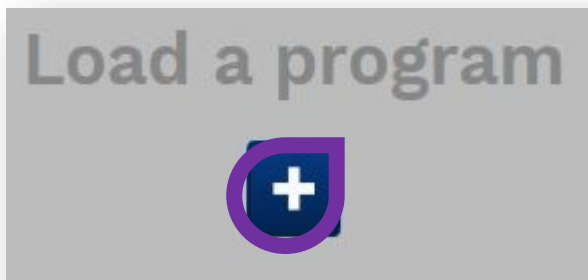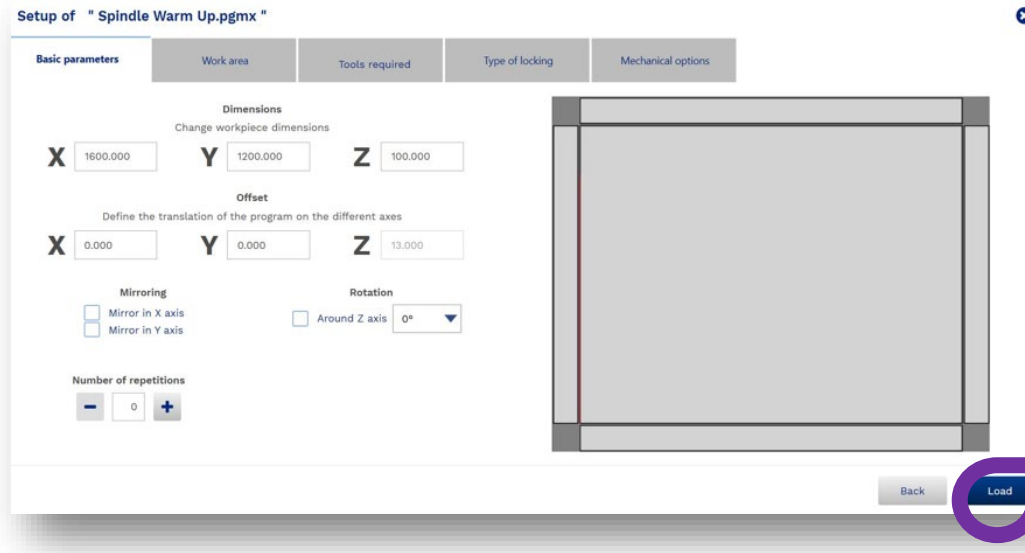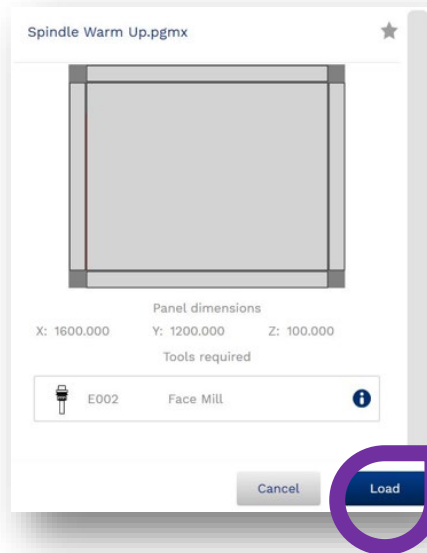
Spindle Warm Up

It is important that the Spindle warm up is run every time the machine is started. On the toolbar locate the "playlist" button for loading programs.
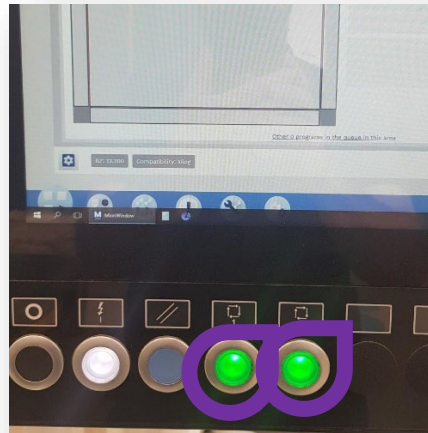

Now click on "load a program" and select "Spindle Warm Up.pgmx" from the favourites list.

Now Click the "Load" button on the next 2 pages.

The automatic cycle buttons should now be flashing green press either one to commence the warm up process.

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Make sure the motion control potentiometers are set to 100% or nothing will happen.The left potentiometer controls rapid movements and the right potentiometer is for milling feed speed.
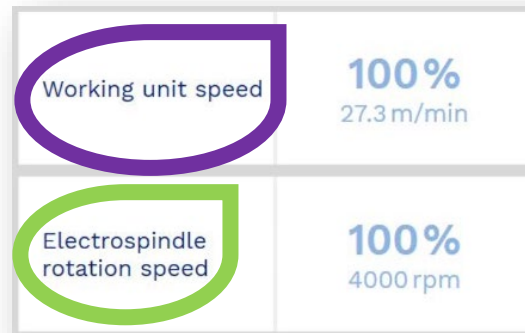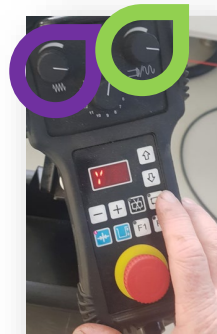
This program takes approximately 10 minutes to complete, now is a good time to check your program and get materials in order.
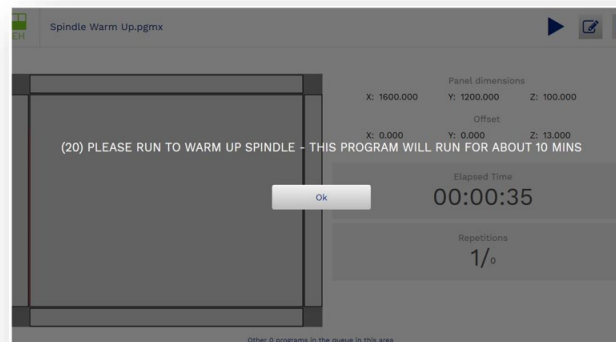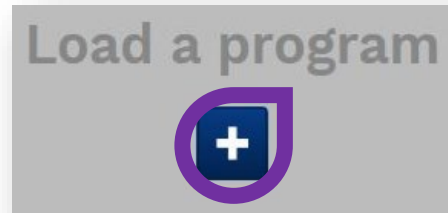
Once the program is finished running you will have a dialog box asking you to give feedback just click "no".
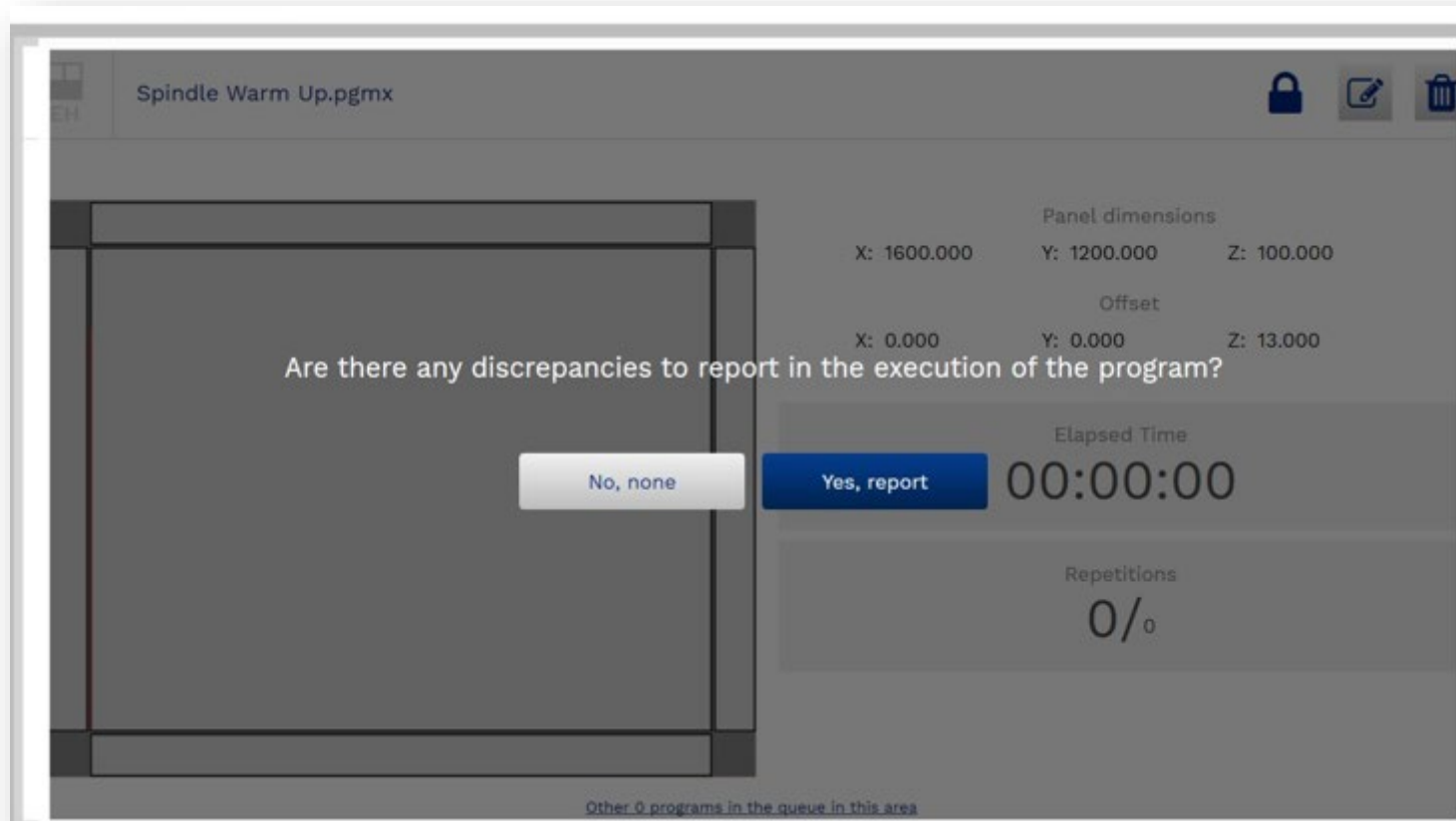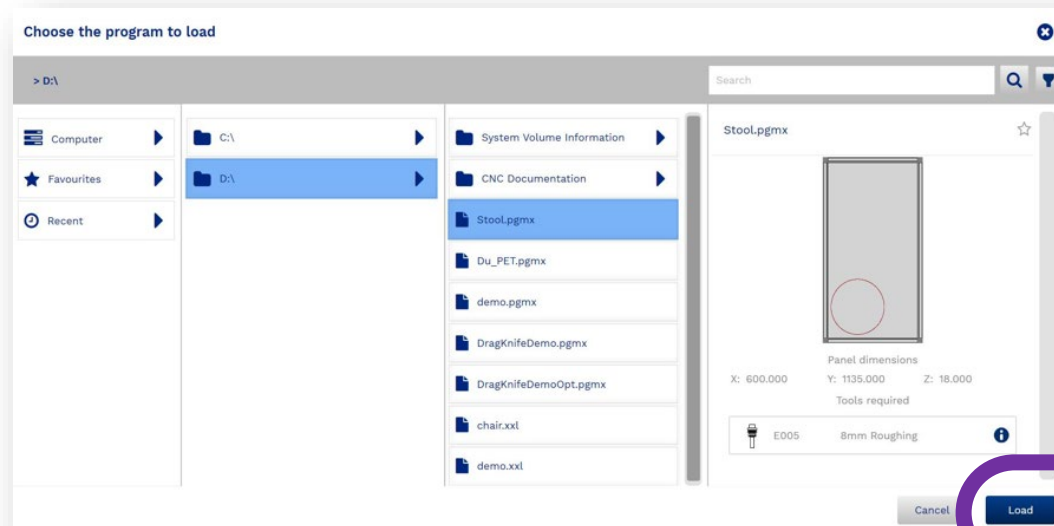
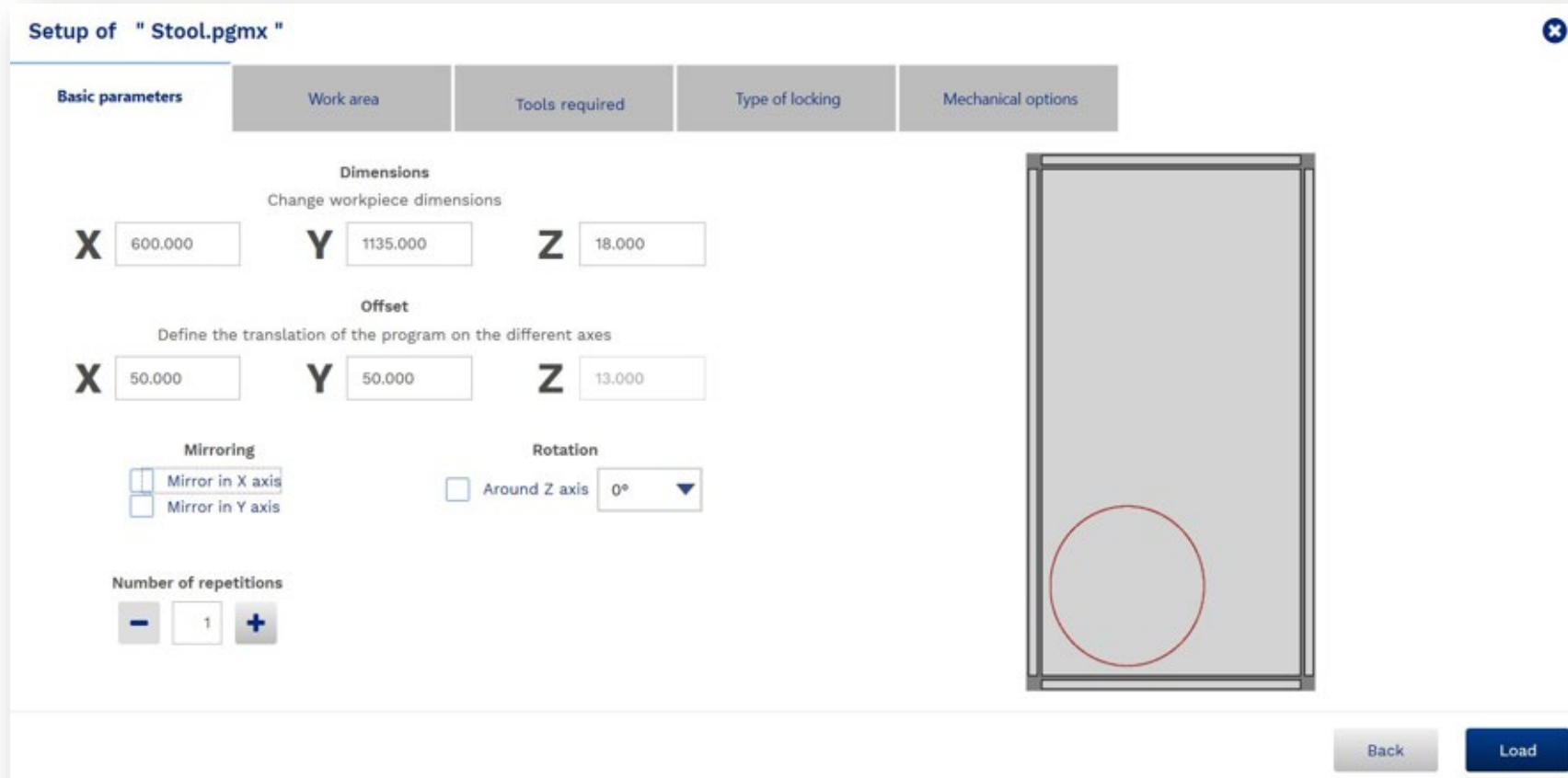# Loading a Program to Run from D:\

Click Load Program.

Choose File Location and click Load.

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CREATE CHANGE

"Basic Parameters" is where you can set number of repetitions and also control BX and BY offsets. There there is also the ablity to mirror and rotate toolpathing from here. Mostly repetitions is the only thing needed.
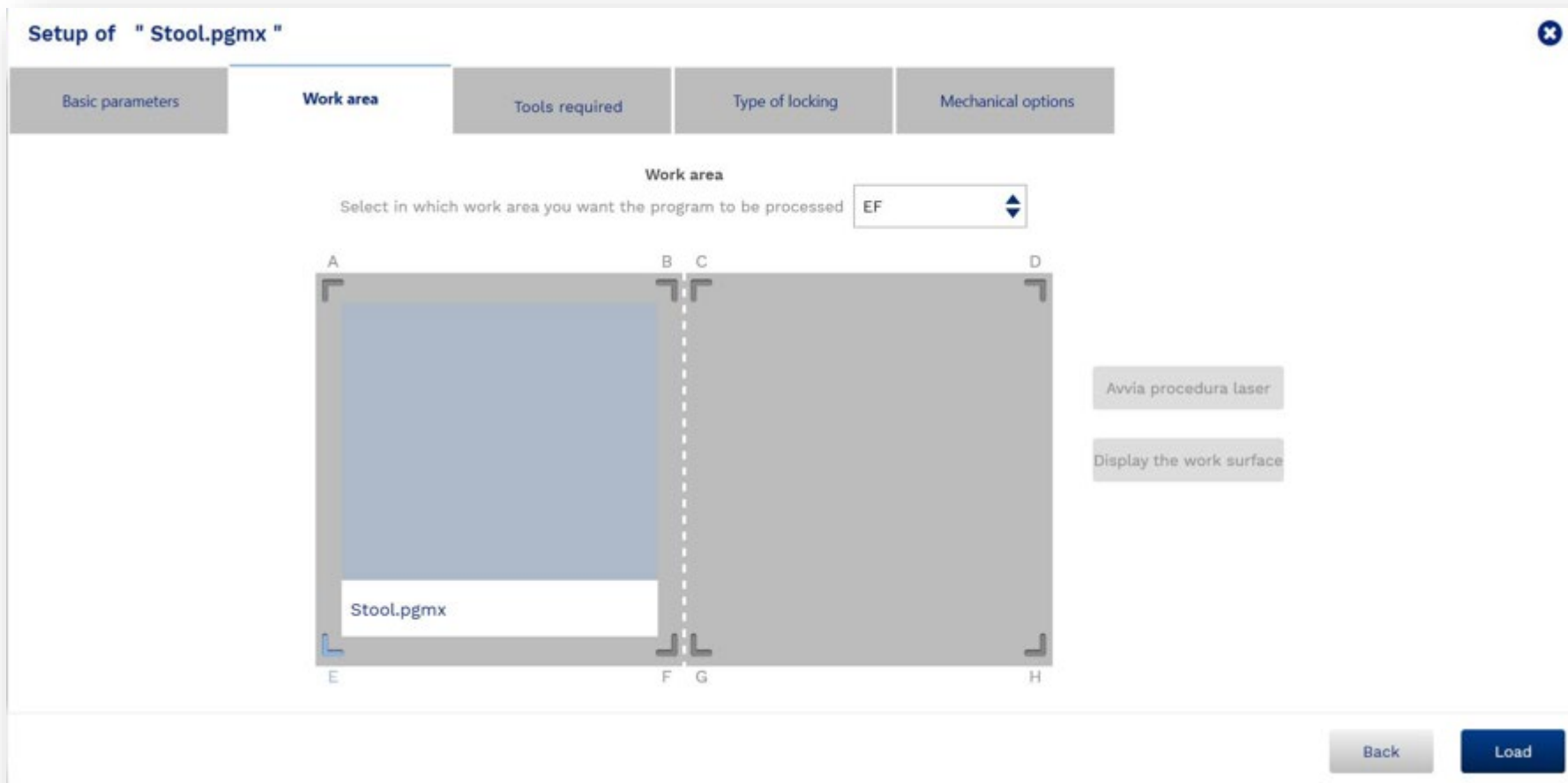
CREATE CHANGE

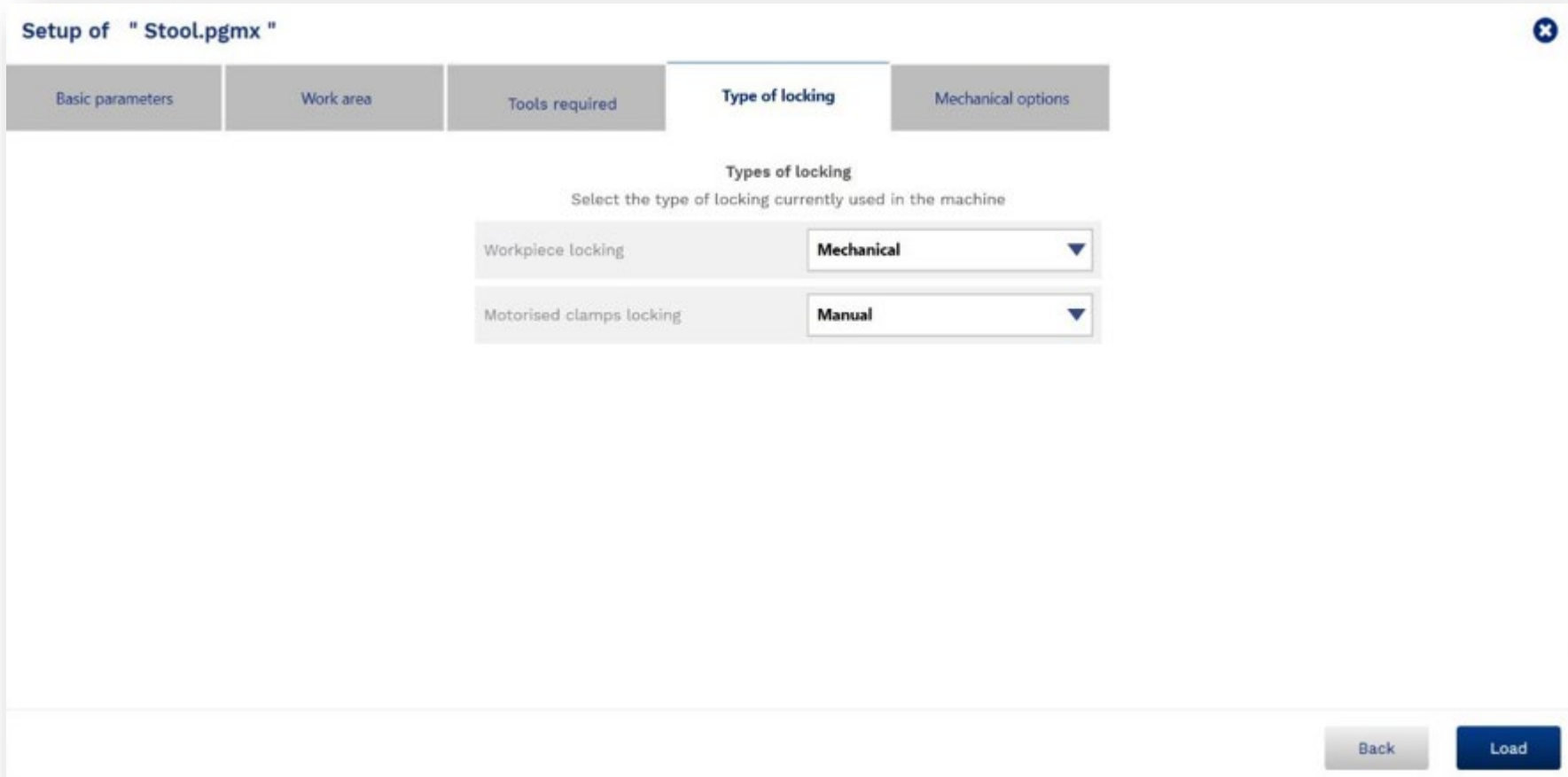"Work Area" is where you select what location you wish to run a job. Use either EF for a half sheet or EH for a full sheet.

"Type of Locking" is where we select workpiece locking and switch it from default Vacuum fixturing to Mechanical fixturing.

We select Mechanical fixturing as the vacuum request needs to be overridden but we need to remember to put on the vacuum pump.
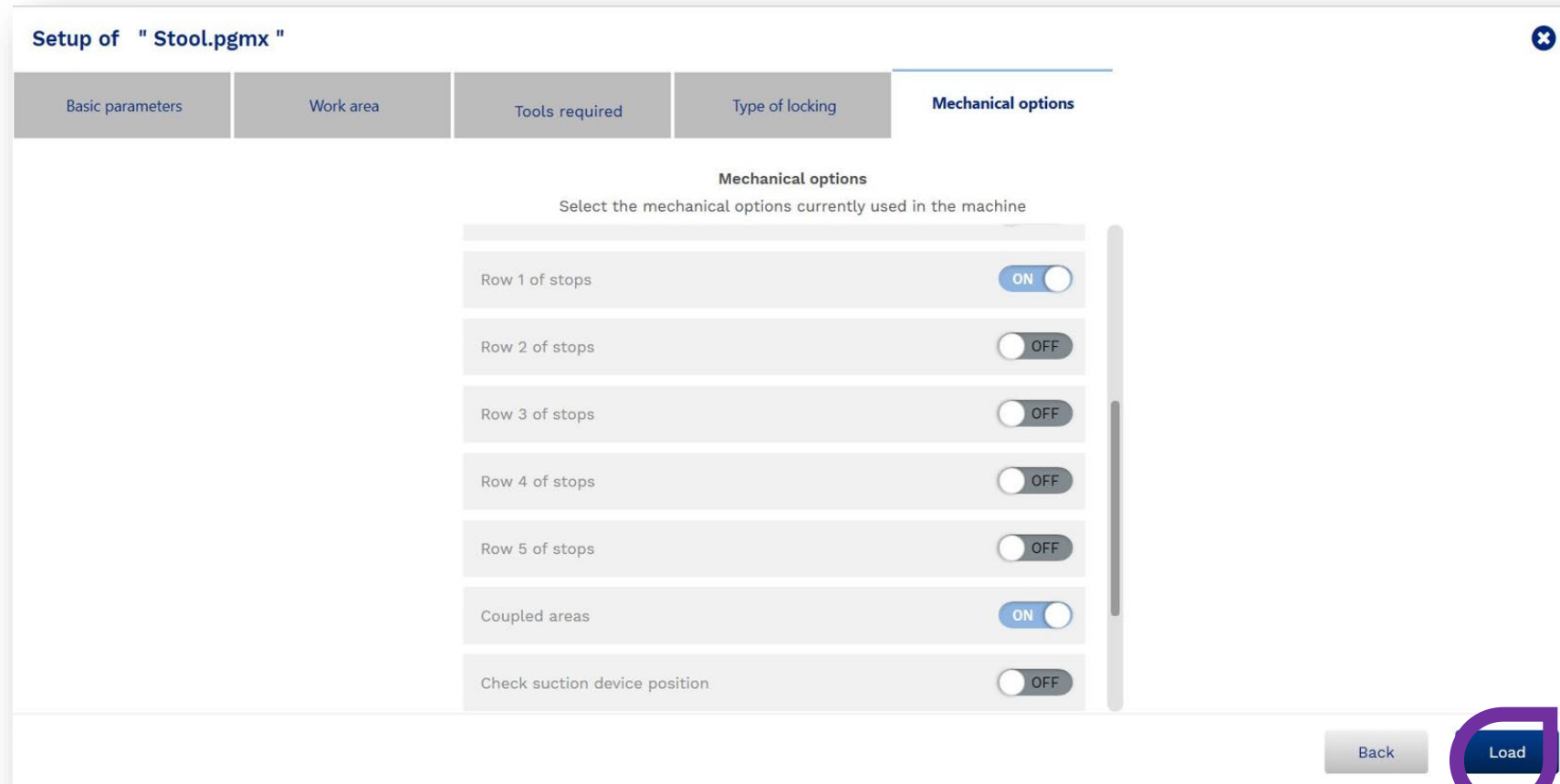
On "Mechanical Options" you should only need to check that "Coupled Areas" is on otherwise you will need to press the table activation button at each end of the machine. You may now press "Load".

You will still need to put the Vacumm pump on to fixture most jobs. The hiden buttons are located with a tab to the right of screen and is called "Paddle".

"Then click on Vacuum Pump 1" you should notice it is on by the unmistakable noise it makes. Now is a good time to put on hearing protection and ensure that the extraction is functioning correctly.
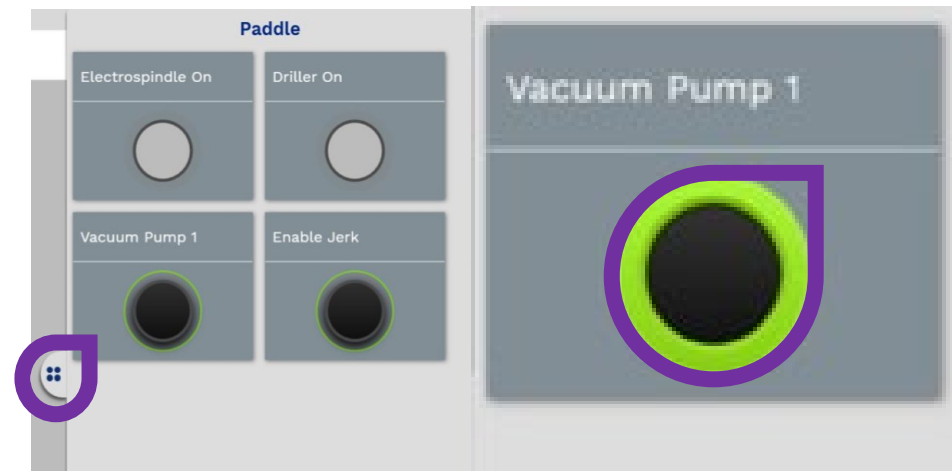
Before placing material on the machine activate alignment pins and disengage table vacuum by pressing the table zone activation button.

Once you are satisfied the material is located against the pins you can press the activation button to vacuum fixture your job.

Ensure material is stable in it's fixturing before pressing cycle start.
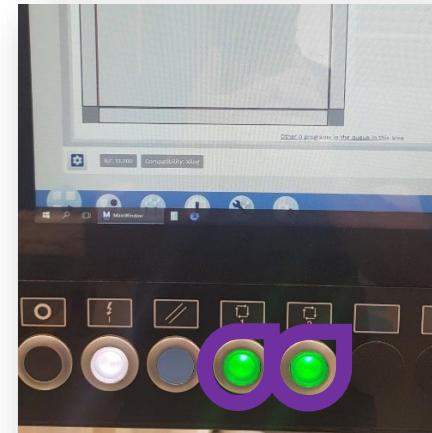
When running programs on the machine you must always be alert and ready to respond.

Know the controls on the hand control and how to use them. Keep it within easy reach.

Never leave the machine running unattended. Watch, look, listen and even smell for trouble.

Never leave the machine running unattended!
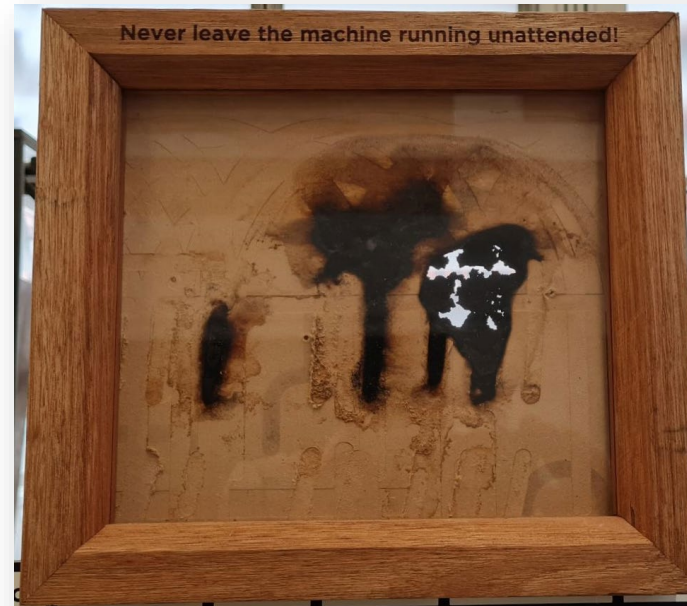
Manual Data Input Procedures

There are several useful functions available from MDI to access click the "MDI" button on the toolbar.
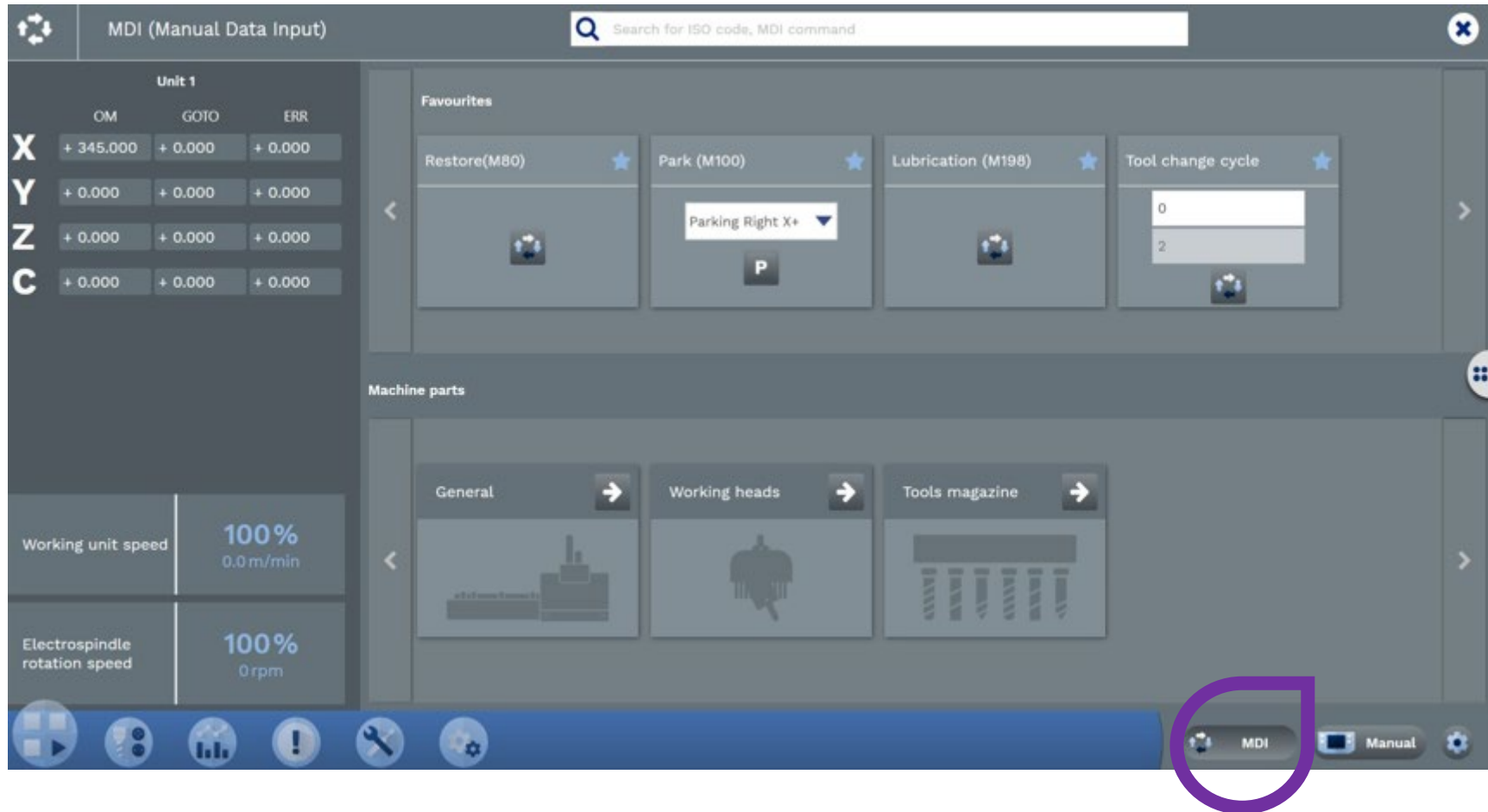
Spindle Retract (M80)

It is important to retract the spindle before restarting a program especially if the tool is in contact with material failure to retract the tool before restart will result in damage.

Click on Restore (M80) then press the cycle start button on the hand control.
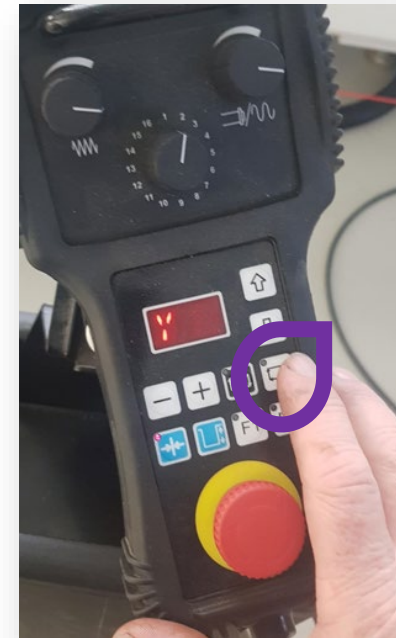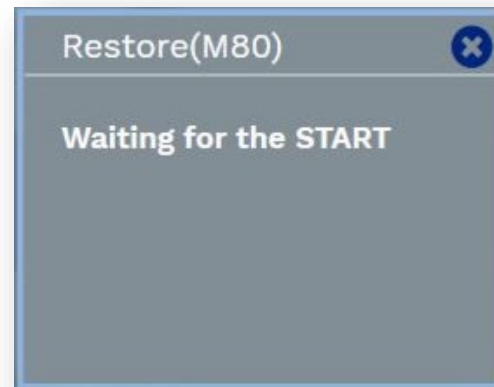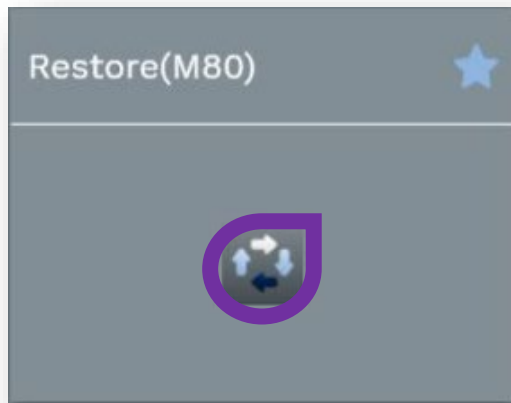
Park (M100)

Sometimes we need to move the machine gantry to either the left or right for loading of materials, cleaning the machine or access to the tool store.

Click Park button & use the drop box to select (Parking Right X+) or (Parking Left X-) then press the cycle start button on the hand control.

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CREATE CHANGE
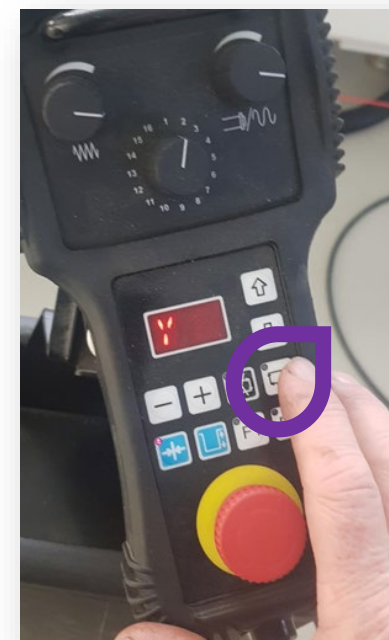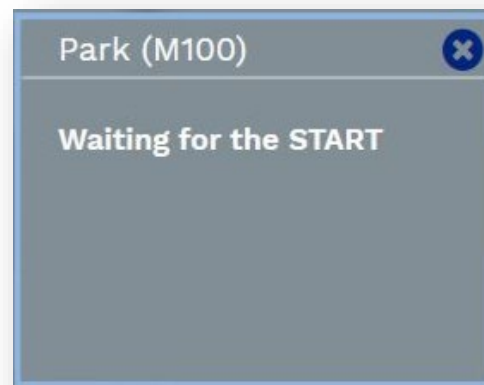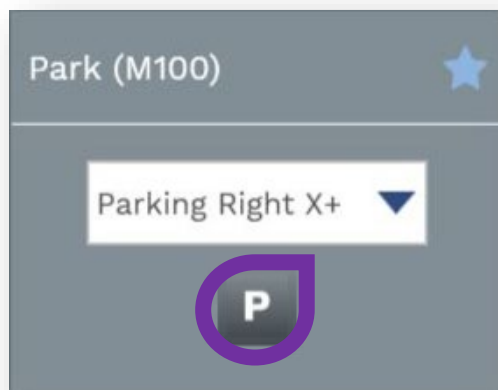
Tool Change Cycle

At Times we need to load and unload tools from the machines spindle this is especially important before machine shut down. If the machine is left for long periods of time with a loaded tool it can become stuck due to corrosion.

Use the top dialogue box to select the tool you want to load (select 0 if you wish to unload) the bottom box shows which tool is loaded
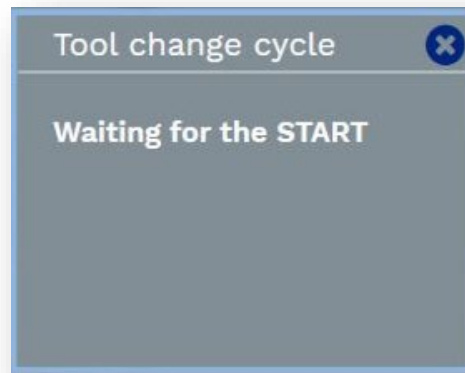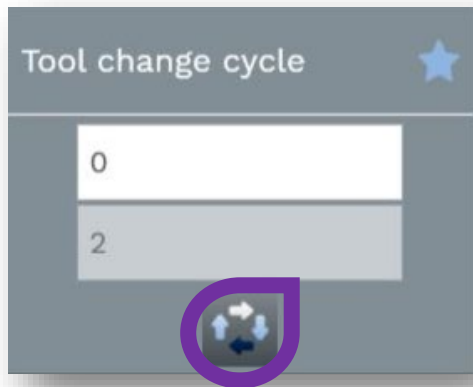
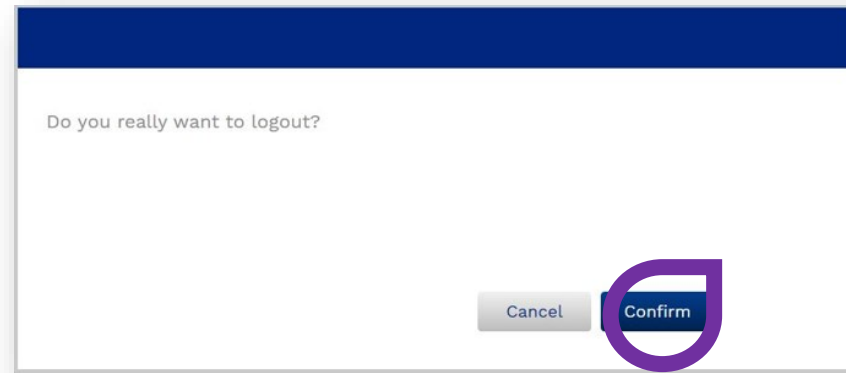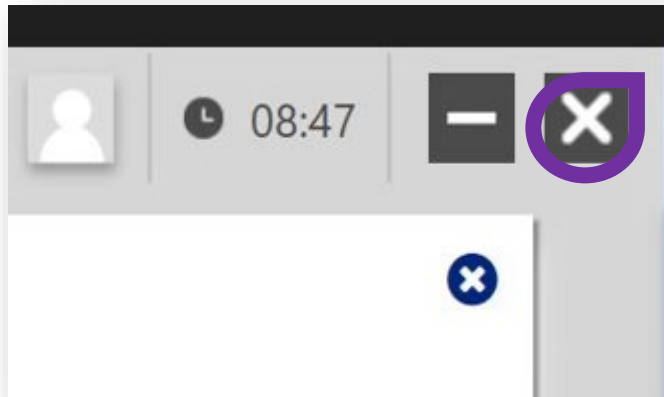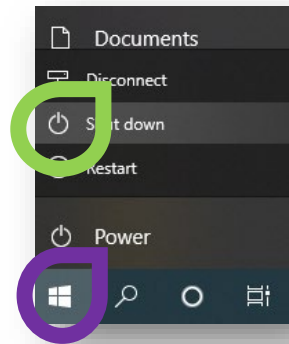## Shutdown Procedure

Before shutting down the machine it is important that we have an empty spindle and all SCM software is closed on the desktop.

Make sure Maestro active and Maestro are closed or there is a risk of file corruption.

Shut down the computer from the windows button as you would with any other PC

Once the screen has gone blank you can switch off the power at the machine isolator. Rotate it counterclockwise

Finally shut the air valve by pulling the plunger up. If you have been using the extraction switch it off at the control panel but leave the wall isolation for air and power in the on position.

Please ensure that the machine is <u>clean</u> and <u>tidy</u> for the next user and that the coversheet is put back on the machine.

If a damage occurs, please, report it immediately.