SmartShop® II SUV

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Main / Home screen defined:

Above is the Start-up Home screen.

**Park Tool** = Pressing this button will put the active tool in spindle into its tool holder and leave the spindle empty. You should never leave a tool in spindle when machine is Idle. Leaving a tool in spindle will cause rust and damage to tool holder and or spindle.

**Verify Origin** = Pressing this button will move the machine to whatever ZPO is selected on the Jog screen, G54-G59.
**Hold** = The Hold button is used to Pause a program run. Press the Run button to continue. NOTE: The spindle stays running during hold. Press stop button to stop the spindle and program.

**Run** = The Run button is used to start a CNC Program.

**Preview Program** = This button will open a visual representation of the active program in X and Y axis and provide a estimated run time.

**Settings** = The settings button enters the Over ride / MDI screen. This is also accessible from the set-up menu screen under CNC Settings.

**Right side fields defined:**

**Select Program** drop down window = This field allows you to quickly select a program from the files copied to the controllers memory.

**Active Tool** = This references the current tool in spindle.

**Feedrate** = This shows the current federate as dictated by the active program.

**Spindle RPM** = This shows the current spindle speed.

**Start at Block** = This is the run from line number function. With the machine in a Stopped state input the line in which you would like to start from and press the Run button.
Start at Tool = This field allows the program to jump to a specific tool for its starting point. Input the tool number desired then press run. There will be a slight delay while the code is scanned to the requested starting point.

Coord’s selector/Lower right drop down = This is the selector for the X,Y, and Z coordinates displayed at the bottom of the Main page.

Machine coordinates – These are the actual distances from machine Zero.

Relative coordinates – These are resettable to zero from current position and equate to a digital tape measure function.

ZPO coordinates – These are based on the G54-G59 set and selected from the Jog screen.

CNC Monitor = These 5 lines are displaying the CNC G-code as it is running.
Jog screen defined:

**Jog past Y safe** = This button is used for maintenance and repair issues only. There is no operator function for this.

**Dust hood Up/Down** = This button is used to manually retract or extend the dust hood.

**Teach Tool Length** = This button is used to manually set tool length for the active tool. This is handy on the jog page so you don’t have to toggle to the tools page while manually jogging to a Z reference.
**Teach ZPO** = This button will write the current X and Y locations to the Zero Point Offset selected from the upper right field G54-G59.

**Reset Relative Coord’s Display** = This button resets the Relative position of X and Y to Zero. Use would be a digital tape measure.

**Disable Switch Limits** = This button is used for maintenance and repair issues only. There is no operator function for this.

**Jogging Functions** = There are 3 settings for Jogging.

1st – Select the Jog type, Either Continuous Jog or a Step jog at a specified increment.

2nd – For continuous Jog, select the percentage of the max speed set in the controller. If max speed is 1000 ipm then 50% Jog speed will move the Axis at 500 ipm.

3rd – For step jog select the step size you wish to increment jog at for each push of the jog + or – button.

Use the + and or – button to move the axis forward or back.

**Tool Touch Sensor Input** = This is an indicator to verify the Tool Touch Off (TTO) switch is working properly.
**Settings / Over Ride Screen defined:**

Enter the Settings page from the Settings button in the lower left of the Main screen or from the CNC settings button on the Set-up menu screen.

**Over rides** = This screen allows for the adjustment of the Rapid Feed rate, Cutting feed rate and the spindle RPM. You can adjust all three with a percentage above or below the set parameters while the program is running.
**MDI field** = Manual Data Input is for executing a single line of code at a time or a M code. Simply input the desired function and press Execute Command to activate.

**Feed Rate Field** = This field displays the programmed feed rate in the G code.

**Spindle On/Off Delay** = This is used to force an On and Off delay in the control of the spindle. This is in lieu of a programmed delay or used as an additional delay to the programmed ramp up and down.

**Max Spindle Speed** = This field must match the maximum speed you speed can rotate. This is only used if your factory spindle is replaced with a different top speed.

**Enable Control Blocks** = This is function for higher end users that want to use control blocks such as shown below:

![Control Blocks](image-url)
Enable Optional Stop = This Button enables a M0 to cause a program pause for additional operations or jigging during a program run. Pressing Run Button on the Main screen restarts the program from the pause. With this Button off the M0 is ignored.

DRO display = The Digital Read Out’s at the bottom of this screen reference the current machine coordinates for X, Y, and Z.

Stop = This button cancels the program currently running.

Advanced = This can only be accessed by use of a password and is used by technicians to perform Servo tuning adjustments. There are no user functions here.
**Program Preview screen:** This screen will pre-run the selected G-code and give a X and Y graphical representation of the program as shown below.
The following screens are accessible from the Setup Screen Menu. See page 3 for screen flow chart.
Program Manager: This screen is used for the managing the programs within your controller.

User Tab – This is used to display the various folders within the controller.

Programs Tab – This displays the programs within a specified folder.

USB Tab – This displays the programs from a USB stick when inserted into the control cabinet.
**Copying programs to the controller** = A program must be selectable from the Programs Tab in order to be made active.

Use the **User** Tab to select a folder containing programs transferred over a network with FileZilla or use the **USB** tab to select from a flash drive. Highlight a program and press the copy button. Then open the Programs tab and select an empty field. Press the paste button to insert the G-code into the program folder for active selection.

The following buttons are standard file manager functions just like those used in P.C.’s.

**Rename**, **Create directory**, **Copy**, **Cut**, **Paste**, and **Delete** do exactly what they say.

**Refresh** = This button polls the program storage area and brings the list up to a real time reference.

**Multiselect** = This button allows the selection of multiple programs for pasting into another location or deleting.
Tools screen: This page is used for all data regarding Tooling dimensions and offsets.

Access button:

Tool selection Drop down field = Use this to select the tool in which you wish to manipulate. The tool number displayed propagates the fields below with its current data and allows for full manual adjustments if needed.

Tool Length field = This represents the distance from Z home to the end of the cutter. This can be propagated by the automatic touch off routine, manually set with data entry or taught By Teach tool button followed by Set tool Data Button.
**Execute Automatic Touch Off (TTO)** = Select the tool in which needs to be measured and press The Execute button. The machine will gather the correct tool holder and proceed to the TTO switch. Z will rapid to the Z pre dimension in the machine settings then slow until it finds the switch.

**Manual Setting of Tool length** = Use the Jog function to move the cutter to the table or work surface. Press the *Teach Tool Length* button to measure the Z axis distance. Press *Set Tool Data* to write the measurement to the machine settings. Failure to press the *Set Tool Data* will lose the measured value.

**Set Tool in Spindle** = This field allows for the manual adjustment of the active tool physically in the spindle. If you manually swap tool cones around you must update the machine so the active tool is properly represented.

**Tool Touch Sensor Input** = This is an indicator to verify the Tool Touch Off (TTO) switch is working properly.
This screen has the tools to check a G-code program and give the ability to manually edit said G-code on the machine.

**Check Code** = This button will a program test by pre-running the code. This will check that the code can be run within the machine limits and ZPO.

**Code Editing** = Use the arrow keys and associated buttons to perform quick code edits on the machine.
This screen is to manage the machine settings. These settings consist of the calibration, Tool changer locations, and machines limits. Pressing the Save to CF button will write a copy of the machine settings to the controller’s memory.

Pressing Save Settings to USB is recommended so a hard copy of machine settings is available if service requires them to re-initialize the system. This is also very handy for or service people so your machine can be exactly replicated in our shop for troubleshooting.
**Units field** = This is used to toggle the machine between Standard and Metric units of measure.

**Password field** = This is used to access the much deeper settings that only a Laguna technician would need to access. Servo tuning and motion settings can be done on the controller. This eliminates the need for a technician to be on site for tuning issues if they arise.

**Import Settings from USB** = This is used for recovery purposes if the controller was to be replaced.
This setup button opens the Network settings screen.

The information contained in this screen is used for networking directly to the controller. This is needed for file transfers and remote diagnostic functions Via a P.C. network.

See chapter on making a network connection.
This enters the alarm screens:

This screen will display the 3 types of alarms that can be generated in the controller.

The check mark is used to acknowledge and clear a single alarm at a time to see all that occurred.

The Next button will open the Axis specific alarms page.
The alarms displayed on this screen are Axis specific.