

LAGUNA TOOLS

SMARTSHOP SUV MANUAL 2021

Basic Operations-Main Screen Set-up, Set-up Menus, Machine Settings, CNC Tool Data, Delivery Protocols, Warranties, Packaging/RMA Procedures.



LAGUNA TOOLS

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Direct Phone #: (800) 234-1976

Warranty Repair Information: (800) 332-4094

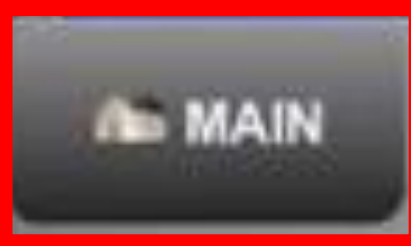


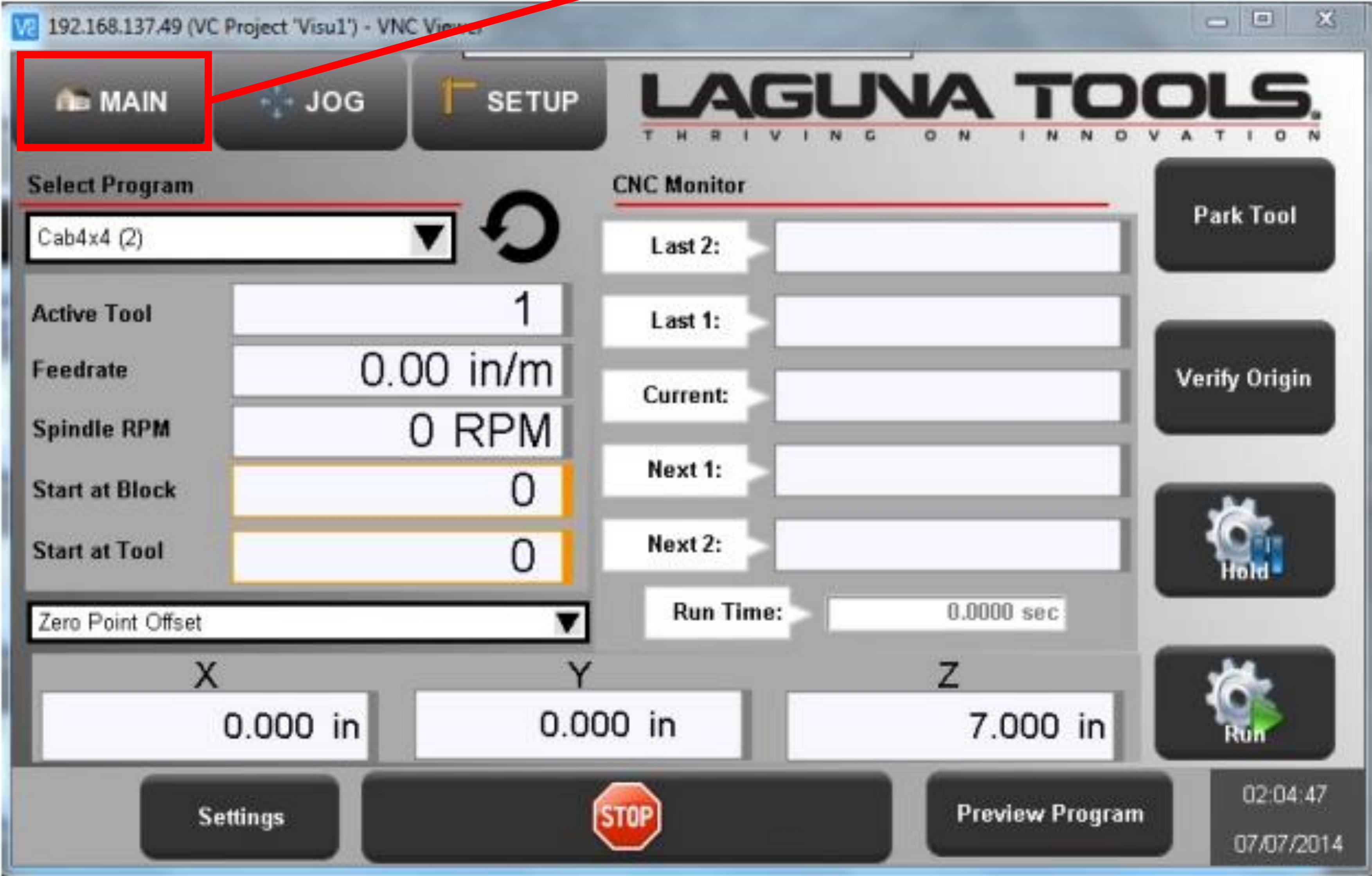
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Main Screen Button(s) & Flow-

Main / Home screen defined:  “Main” Screen



The screenshot shows the Laguna Tools CNC control interface. The top navigation bar contains buttons for 'MAIN', 'JOG', and 'SETUP'. The 'MAIN' button is highlighted with a red box. Below the navigation bar, there are sections for 'Select Program' (with a dropdown menu showing 'Cab4x4 (2)'), 'Active Tool' (1), 'Feedrate' (0.00 in/m), 'Spindle RPM' (0 RPM), 'Start at Block' (0), and 'Start at Tool' (0). A 'CNC Monitor' section displays 'Last 2:', 'Last 1:', 'Current:', 'Next 1:', and 'Next 2:' fields. A 'Run Time' field shows '0.0000 sec'. At the bottom, there are 'X' (0.000 in), 'Y' (0.000 in), and 'Z' (7.000 in) position displays. A 'Settings' button, a red 'STOP' button, a 'Preview Program' button, and a digital readout showing '02:04:47' and '07/07/2014' are also visible. On the right side, there are buttons for 'Park Tool', 'Verify Origin', 'Hold', and 'Run'.



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.

Preventive Maintenance Note-

*******One 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 (Z-Point Origin) Coordinates is selected on the Jog screen. G54-G59.

*******ZPO (Z-Point Origin) coordinates – These are based on the G54-G59 set and selected from the Jog Screen.**



Main / Home Screen Defined-

Main / Home screen defined:

192.168.137.49 (VC Project 'Visu1') - VNC Viewer

LAGUNA TOOLS
THRIVING ON INNOVATION

MAIN JOG SETUP

Select Program: Cab4x4 (2)

Active Tool: 1

Feedrate: 0.00 in/m

Spindle RPM: 0 RPM

Start at Block: 0

Start at Tool: 0

Zero Point Offset

CNC Monitor

Last 2: []

Last 1: []

Current: []

Next 1: []

Next 2: []

Run Time: 0.0000 sec

X: 0.000 in

Y: 0.000 in

Z: 7.000 in

Park Tool

Verify Origin

Hold

Run

Settings

STOP

Preview Program

Hold

Run

Settings

Preview Program

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 Override / MDI screen. This is also accessible from the set-up menu screen under CNC Settings.



Main / Home Screen Defined (Cont'd.)-

Right Side Fields defined:

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

Active Tool = This references the current tool in spindle.

Feed rate = 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 it's 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.





Main / Home Screen Defined (Cont'd.)-

CNC Monitor = These 5 lines are displaying the CNC "G"-Code as it is running.

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.

FROM DRP DOWN MENU-

1. **ZPO Coordinates** – These are based on the G54-G59 set and selected from the Jog screen.
2. **Machine Coordinates** – These are the actual distances from machine "Zero".
3. **Relative Coordinates** – These are resettable to zero from current position and equate to a digital tape measure function.

Main / Home screen defined:

192.168.137.49 (VC Project 'Visu1') - VNC Viewer

MAIN JOG SETUP LAGUNA TOOLS TH R I V I N G O N I N N O V A T I O N

Select Program
Cab4x4 (2)

Active Tool 1
Feedrate 0.00 in/m
Spindle RPM 0 RPM
Start at Block 0
Start at Tool 0

Zero Point Offset **DROP DOWN MENU**

Run Time: 0.0000 sec

X 0.000 in Y 0.000 in Z 7.000 in

Settings STOP Preview Program 02:04:47 07/07/2014

Park Tool
Verify Origin
Hold
Run



Main Screen Buttons & Flow to proceed to CNC Positions-

1. Make sure one is in **“Machine Coordinates”**.



2. From the “Main Screen” select the **“SET UP”** Button, then it will proceed to **“Set-Up”** Screen.



“Set-Up” Screen Appears-





CNC Positions-

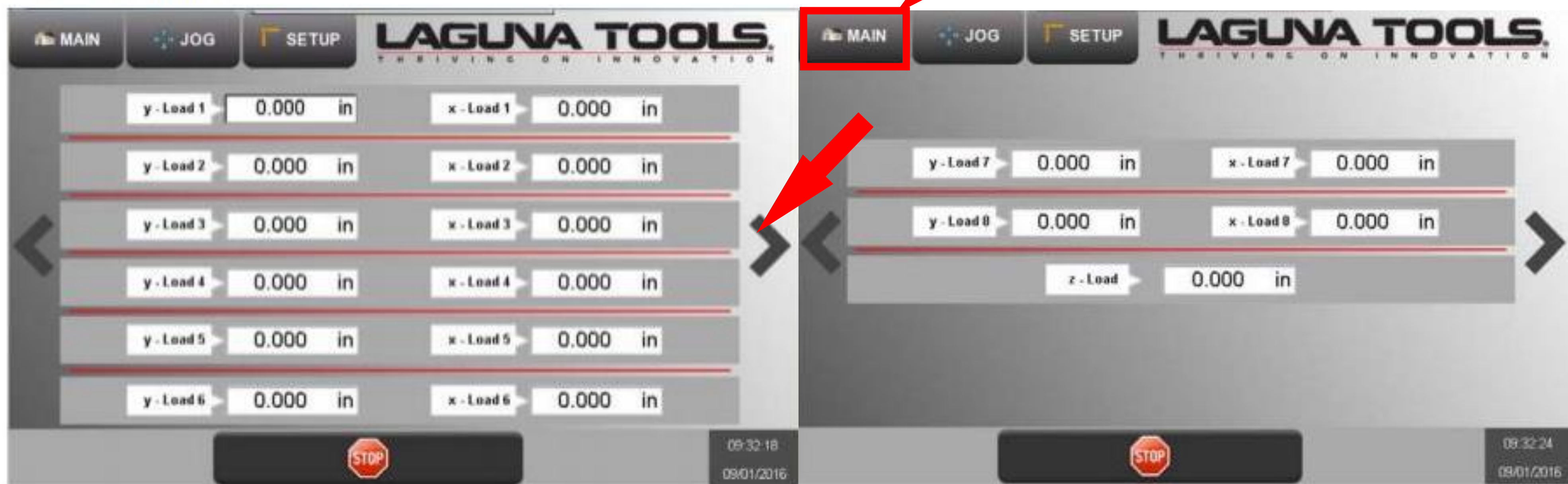
2a. Select **"CNC Positions"** Button.



3. Page displays (8) X-Loads, (8) Y-Loads, and (1) Z-Load

4. Each load # corresponds to # tool location. (X-Load #1, Y-Load #1 and Z-Load correspond to the X, Y, and Z location for tool #1.) Grab X-Load, Y-Load, and Z-Load number(s) for each tool requiring modification.

4a. Press **"Main"** Button to return to main/Home Screen.





CNC Positions (Cont'd.)-

5. Press "Main" tab



6. Then press the "Settings" Button.





CNC Positions (Cont'd.)-

7. Press white blank box to input an MDI command (Skip to step 10 in unfamiliar)



8. Input X##.###Y##.### with the ## symbols being replace by a numerical value for X-Load and Y-Load (ex. X12.063Y114.035) this will tell the machine to move to the location for a specific tool, and make changes quicker.
9. Press "Execute command". Machine will move to the X and Y location for which is specified



CNC Positions (Cont'd.)-

10. Press **"Jog"** Button to return to manual page to allow for manual jogging of the machine.



Or you can use your handheld Controller.

Grab one of your tool holders, and remove the pull stud on the top using a wrench.



CNC Positions (Cont'd.)-



11. Or you can use your handheld Controller.
12. Grab one of your tool holders, and remove the pull stud on the top using a wrench.



CNC Positions (Cont'd.)-



13. Using the tool holder with the pull stud removed place into tool clip for tool location being changed.
14. Lower spindle down to ½"-1" above tool holder in clip. (May have to remove the dust hood to gain visibility.)

-Recommended to use 2 people to finish locating process-

15. Having one person at the tool holder guiding the location, and the other at the controller moving the gantry by jogging, roughly center spindle hole above tool holder (making slight adjustments on X and Y axis at 1%)
16. Once roughly centered, slowly lower the Z axis. Stop every 1/2" to make adjustments on the X & Y (Make sure at 1%)



CNC Positions (Cont'd.)-

17. Lower until flush with the ridge on the tool holder.



18. On that same page, write down X, Y, and Z number. This will be the X&Y location of that specific tool. And Z location for **ALL** tools

19. Press "Setup"





CNC Positions (Cont'd.)-

20. Press **"CNC Positions"**.



21. Press on Y-Load, X-Load, and Z-Load number(s) needing to be changed





CNC Positions (Cont'd.)-

21. Press on Y-Load, X-Load, and Z-Load number(s) needing to be changed



22. Input new number specific for X and Y and write down Z value to compare across all tools

23. Press Check mark to confirm new number entered

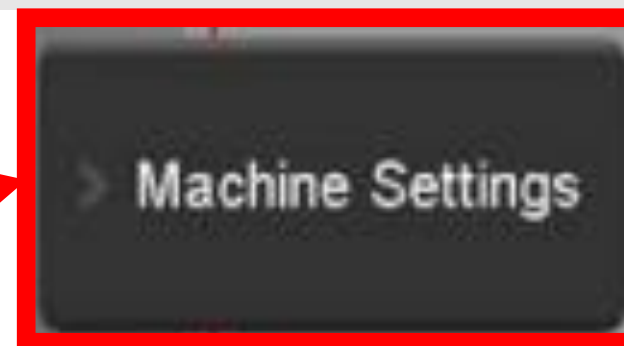
Repeat above process for all tool locations needing to be changed and that Z value matches across all tool locations before proceeding to next step

24. Confirm ALL numbers and settings you want changed have been changed

25. Press power button, and turn machine off for 3-5 seconds. Then turn machine back on.



Machine Settings-



Machine settings screen:

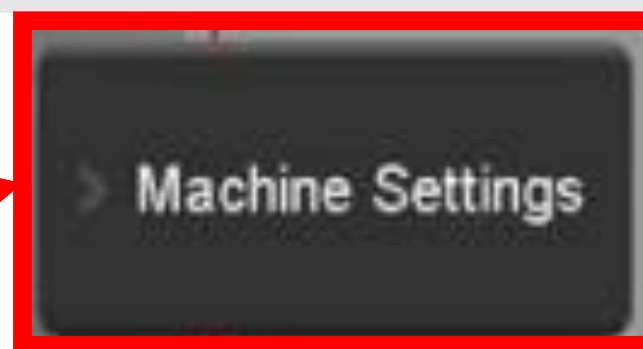


This screen is to manage the machine settings. These settings consist of the Calibration, Tool Changer Locations, and Machines Limits. Pressing the **“Save to CF Button”** will write a copy of the machine settings to the controller’s memory.

Pressing **“Save Settings to USB”** is recommended so a hard copy of machine settings is available if service requires them to reinitialize the system. This is also very handy for or service people so your machine can be exactly replicated in our shop for troubleshooting.



Machine Settings (Cont'd.)-



Machine settings screen:



“Import Settings from USB”

= This is used for recovery purposes if the controller was to be replaced.

“Units Field”

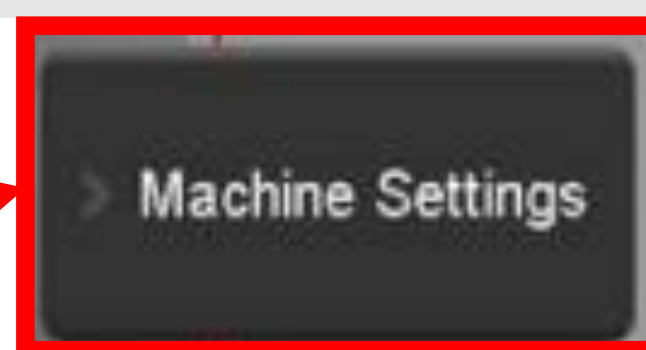
= This is used to toggle the machine between Standard and Metric Units of Measure

“Password Field”

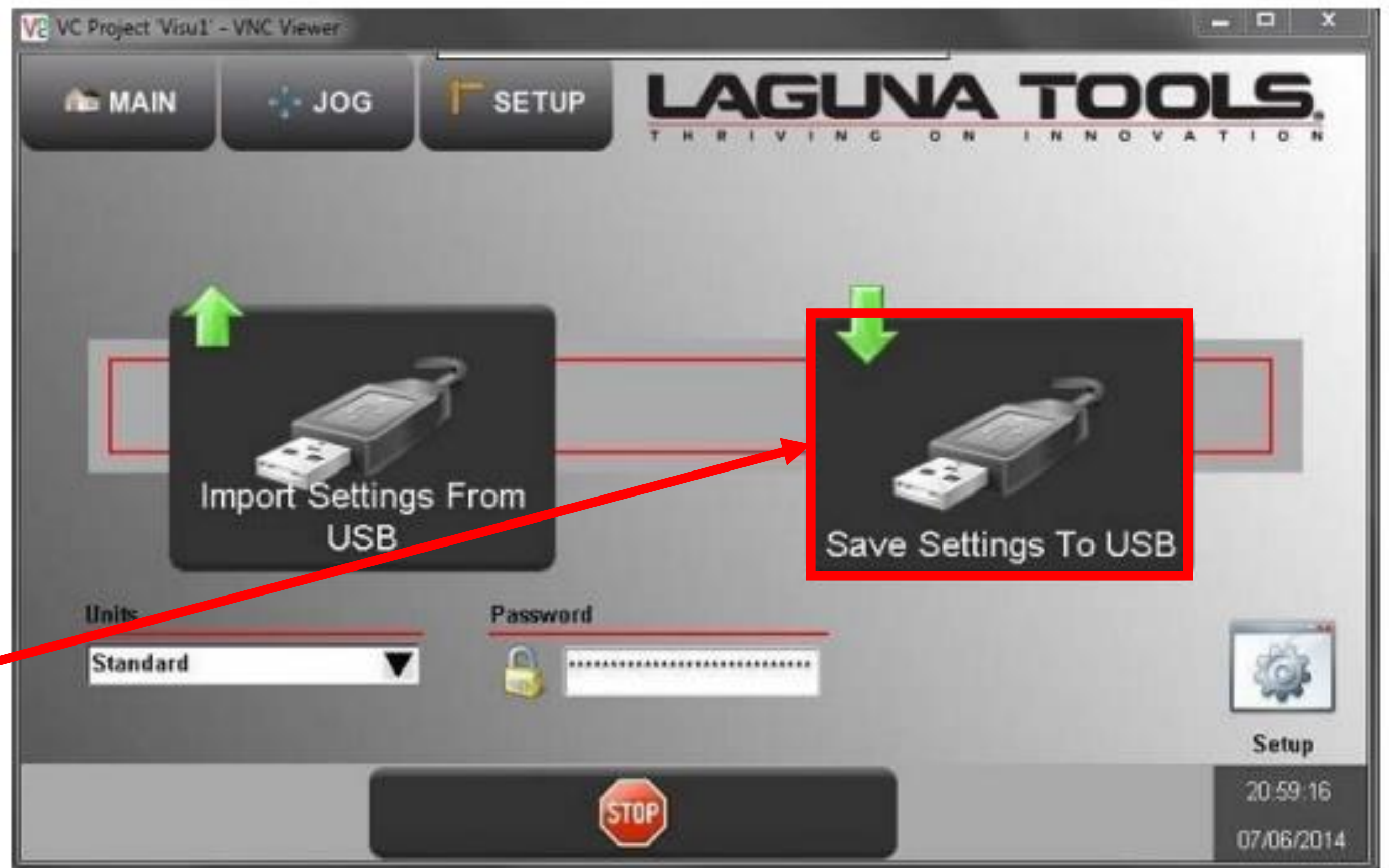
= This is used to access the much deeper settings that only a Laguna technician would need to access. Servo tuning and motion settings can be done on the controller. This eliminates the need for a technician to be on site for tuning issues if they arise.



Machine Settings (Cont'd.)-



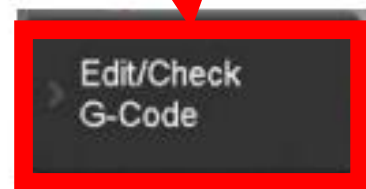
Machine settings screen:



Pressing **“Save Settings to USB”** is recommended so a hard copy of machine settings is available if service requires them to reinitialize the system. This is also very handy for or service people so your machine can be exactly replicated in our shop for troubleshooting.



“G-Code” Edit & Check-



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”= “Zero Point Origin”**.



“Code Editing” = Use the arrow keys and associated buttons to perform quick code edits on the machine.

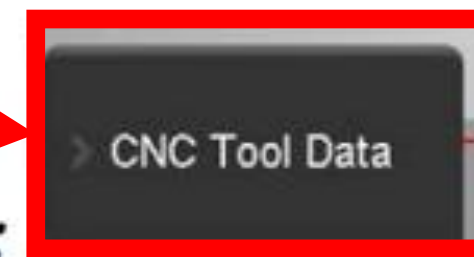


From "Set-Up" Screen to CNC Tool Data-

"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"**.



"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.

"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.



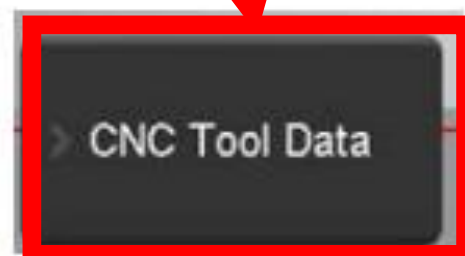
CNC Tool Data (Cont'd.)-

“Tools Screen”: This page is used for all data regarding **Tooling Dimensions and Offsets**.



“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.

Access button:

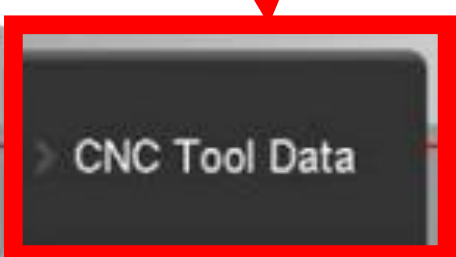


“Tool Length Field” = This represents the distance from “Z” home to the end of the cutter. This can be propagated by the automatic touch off routine, manually set with data entry or taught By **“Teach Tool Button”** followed by **“Set Tool Data Button”**.



From "Set-Up" Screen to CNC Tool Data (Cont'd.)-

"Tools Screen": This page is used for all data regarding Tooling Dimensions and Offsets.



Access 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.

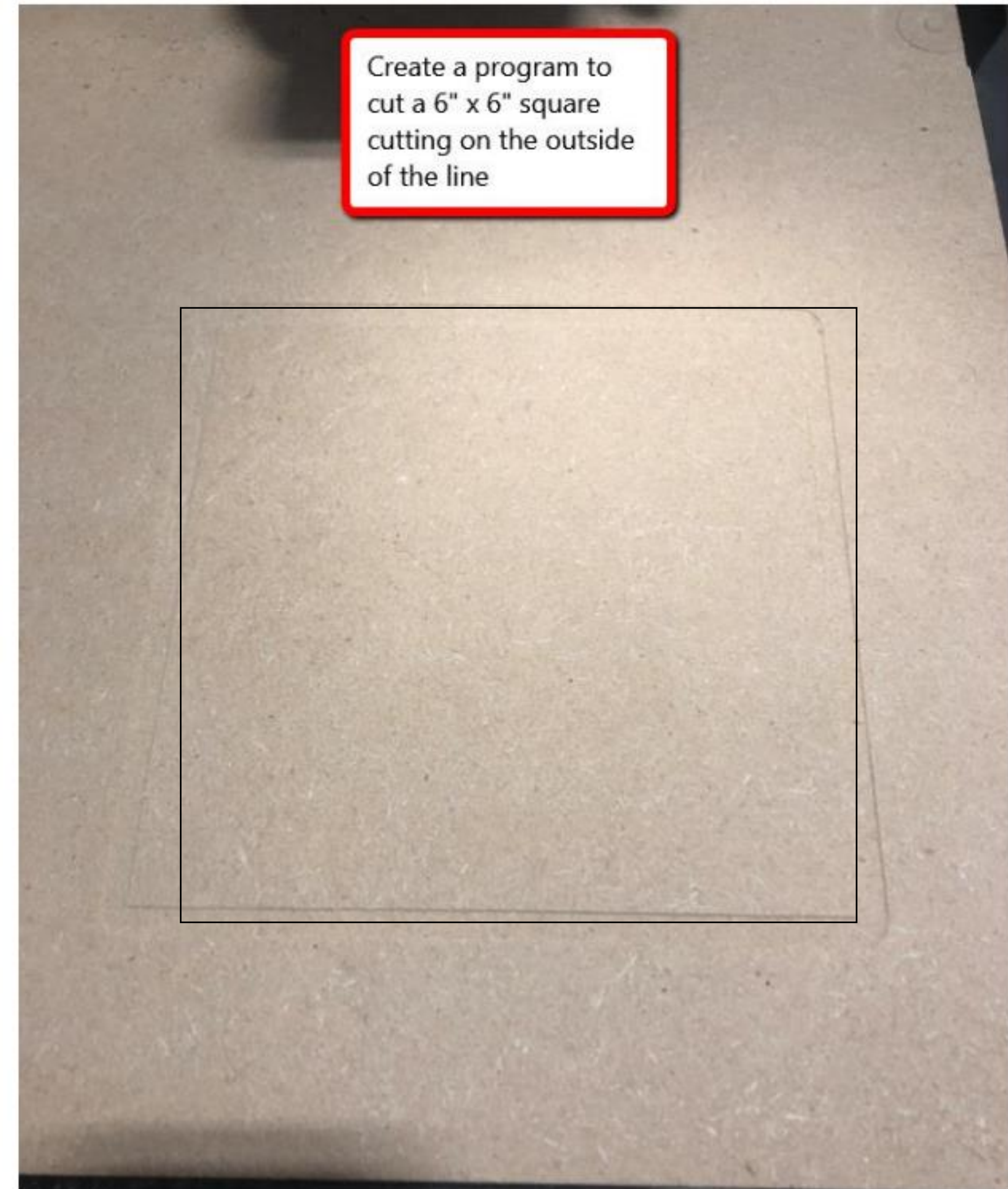
"Tool Touch Sensor Input" = This is an indicator to verify the Tool Touch Off (TTO) switch is working properly.



“Axis Calibration” Procedure-



1. Create a square program for calibration

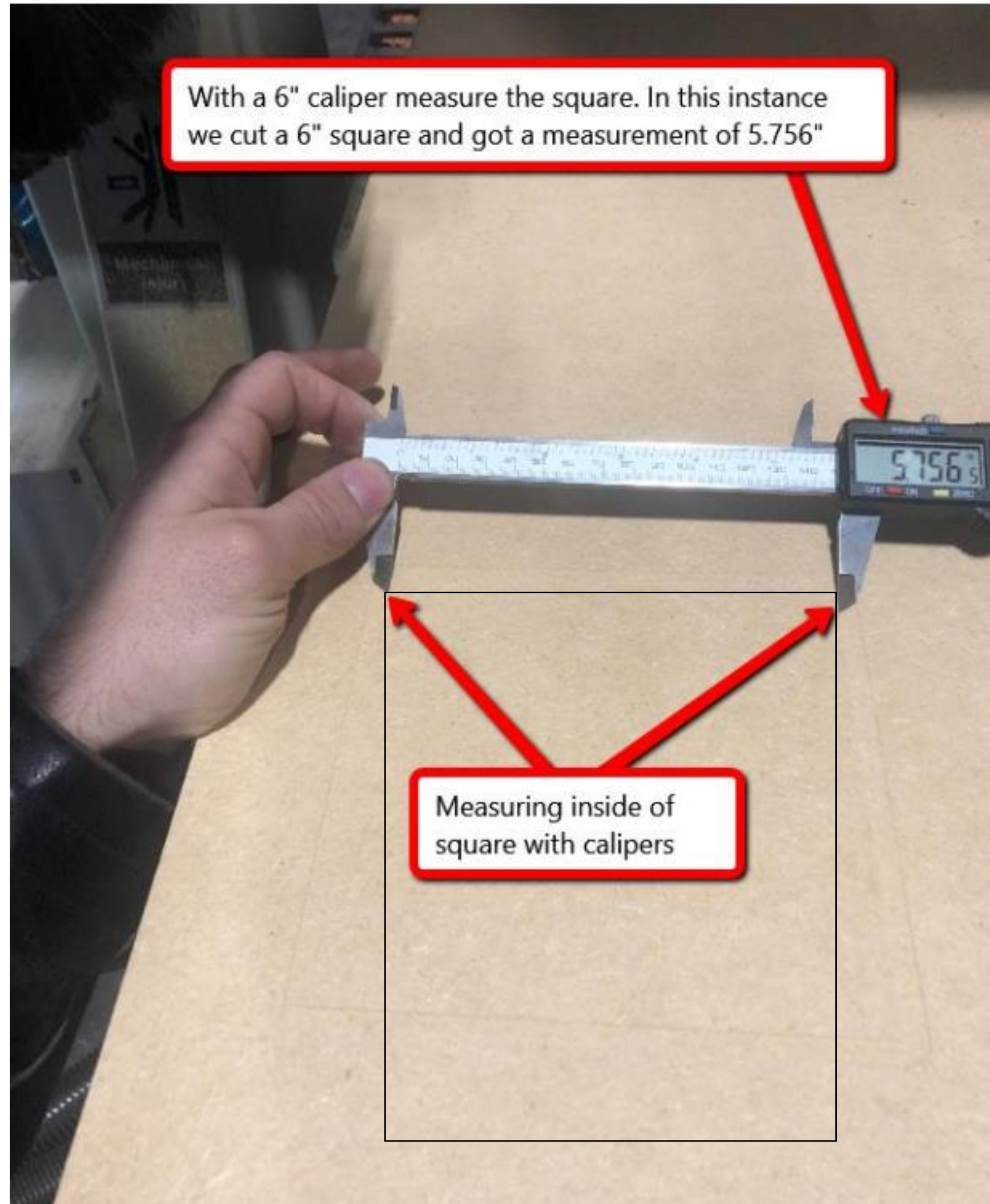




“Axis Calibration” Procedure-



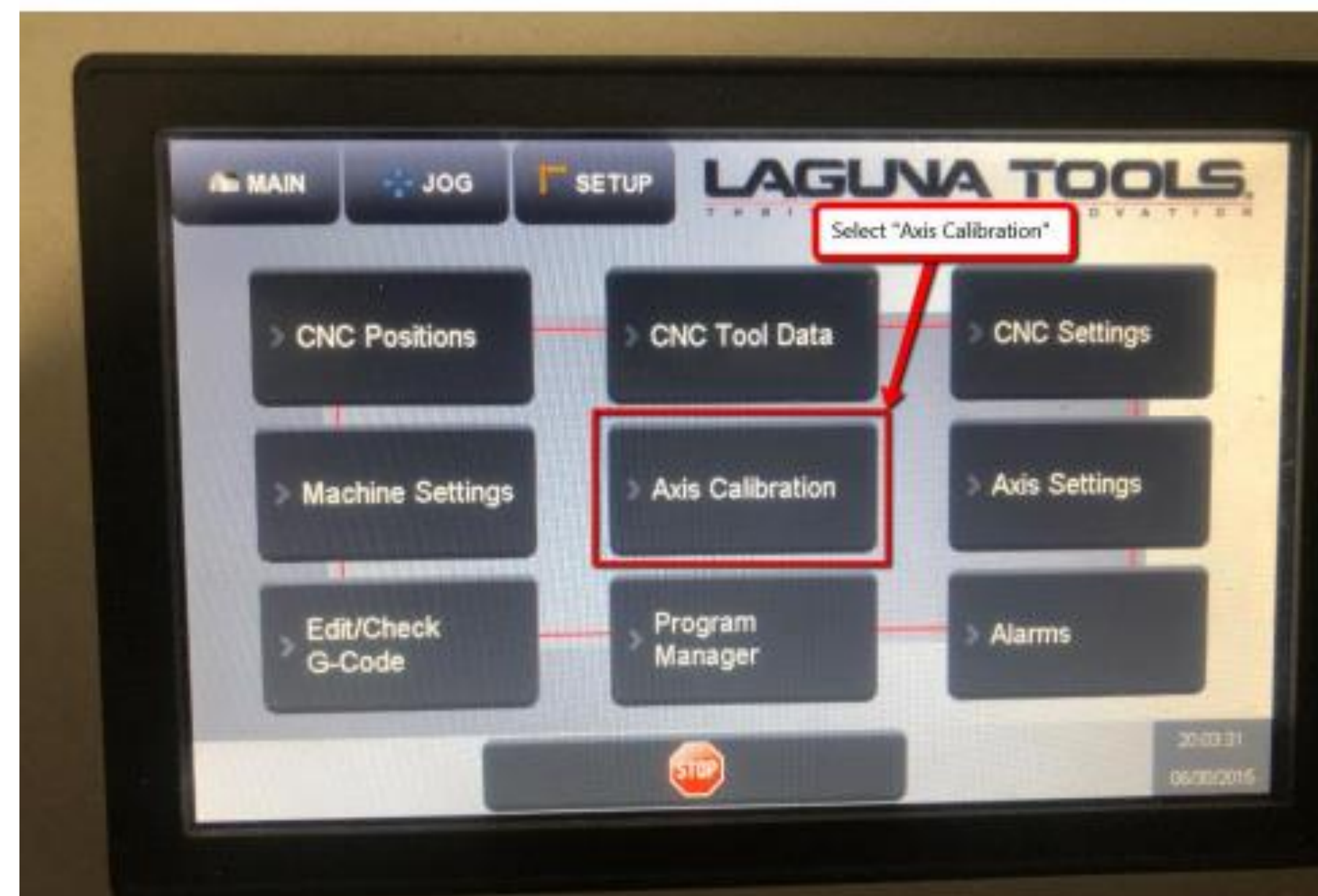
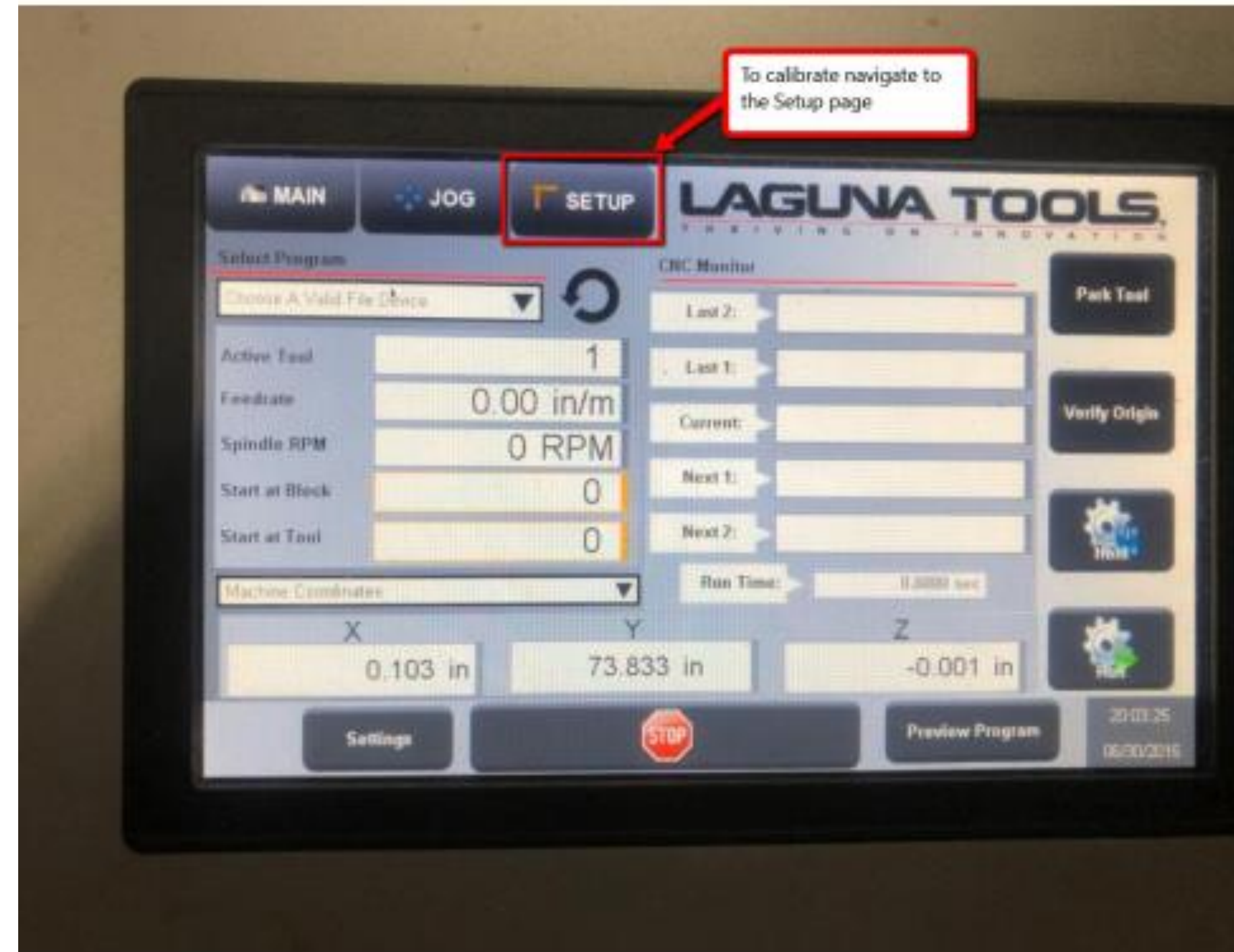
2. Once cut, measure the square to get value needed





“Axis Calibration” Settings-

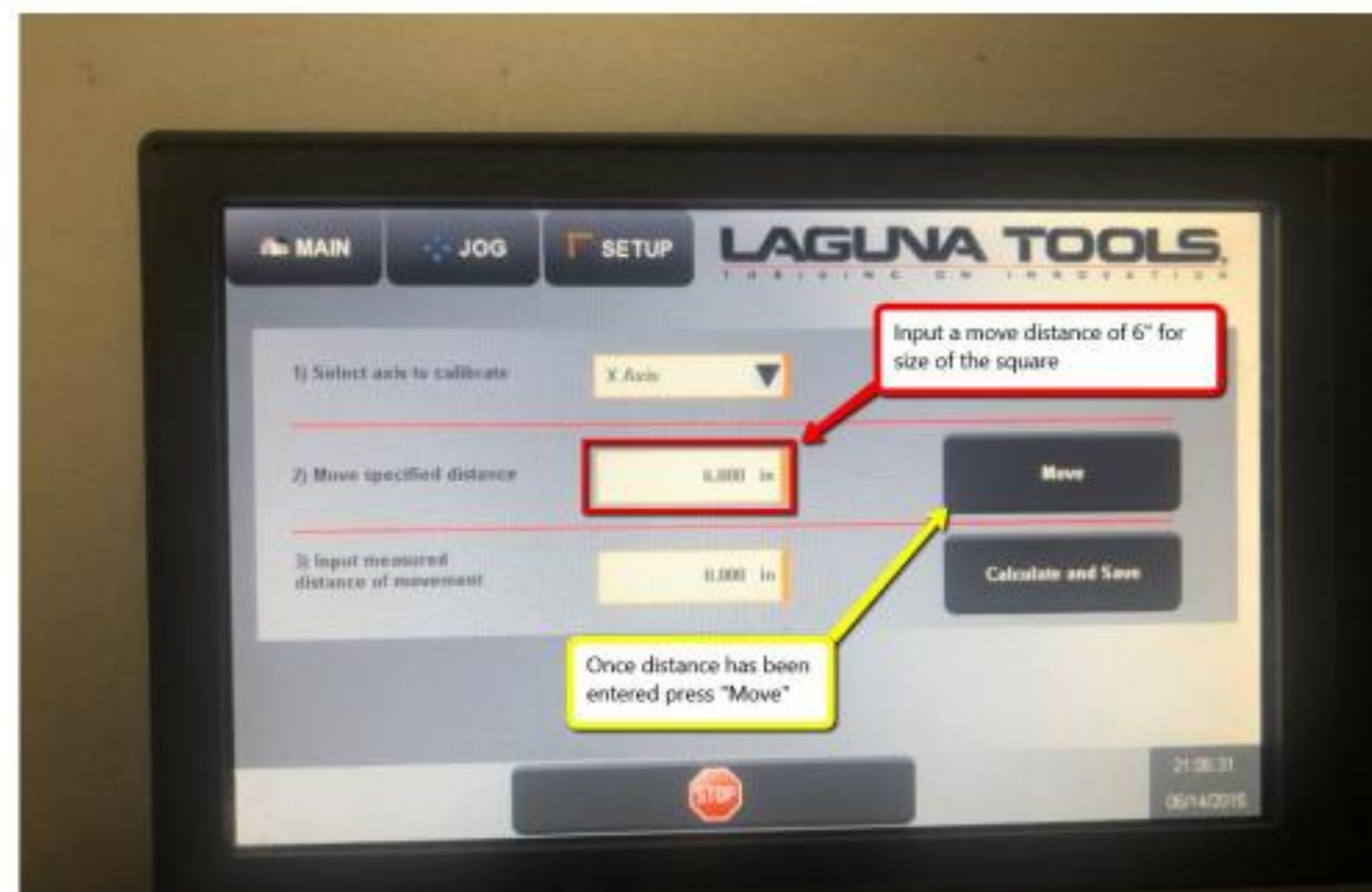
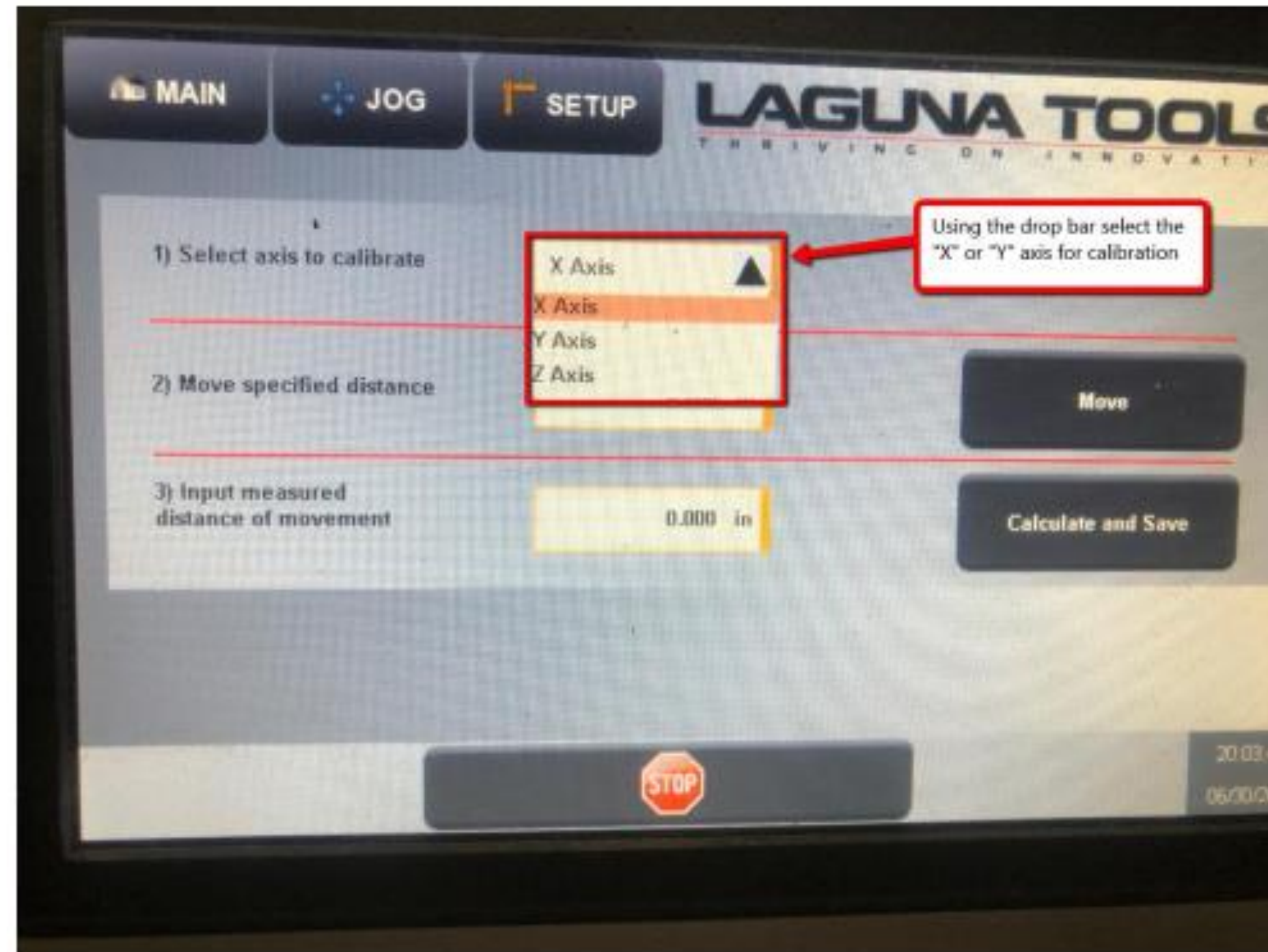
3. Once measured value is obtained go to the calibration page to begin calibration





“Axis Calibration” Settings-

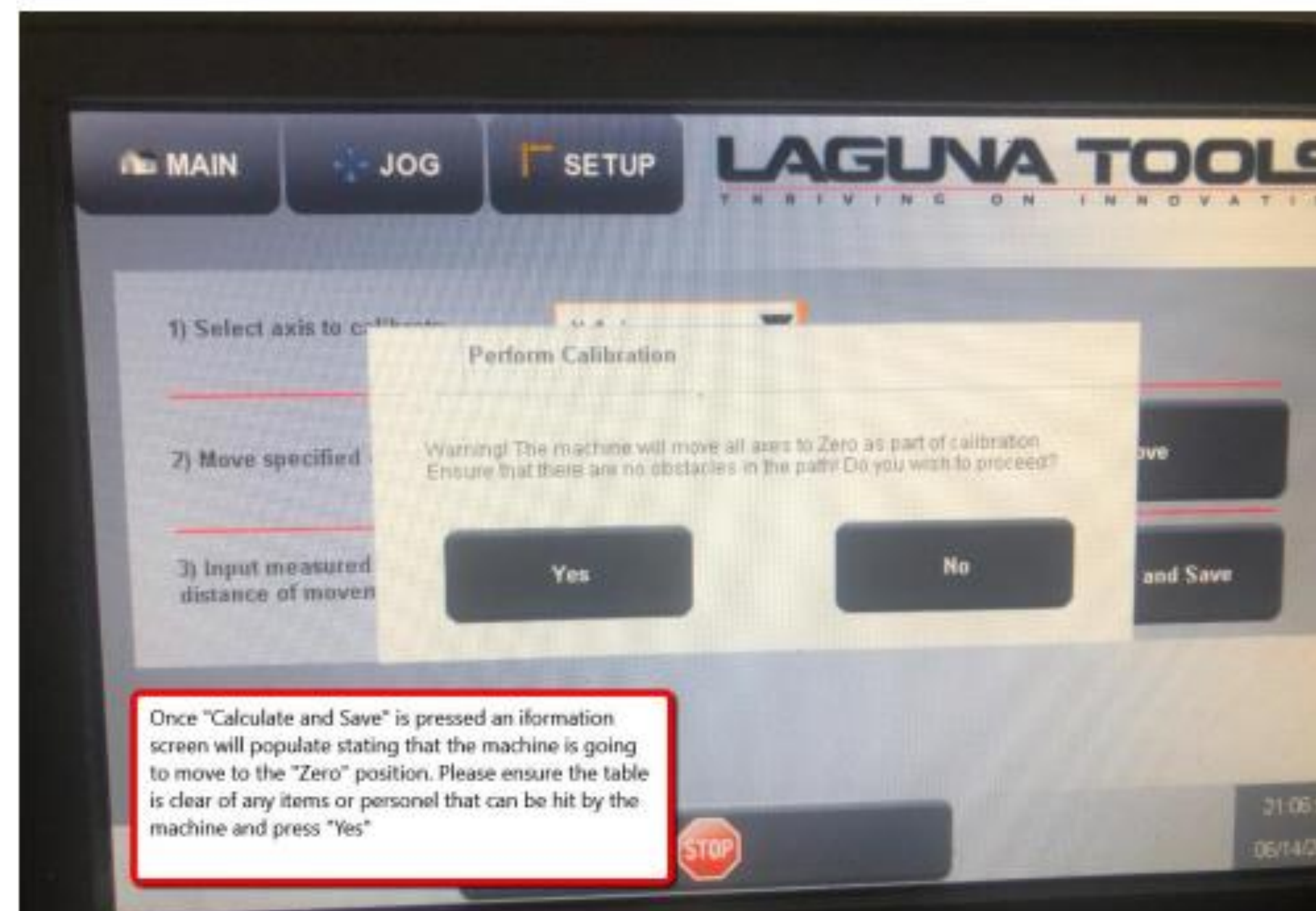
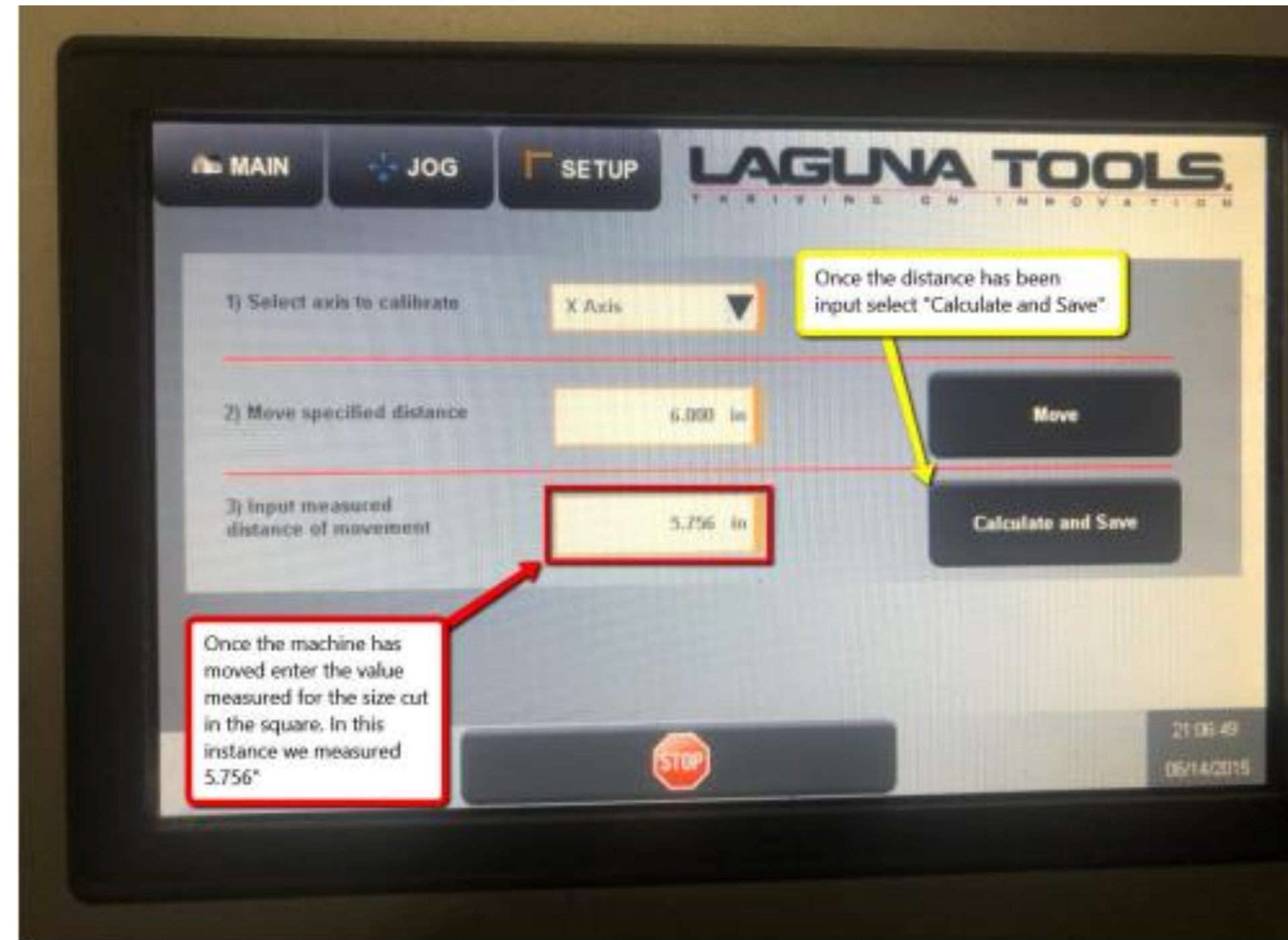
4. Once at the calibration page enter correct information in each field and calibrate





“Axis Calibration” Settings-

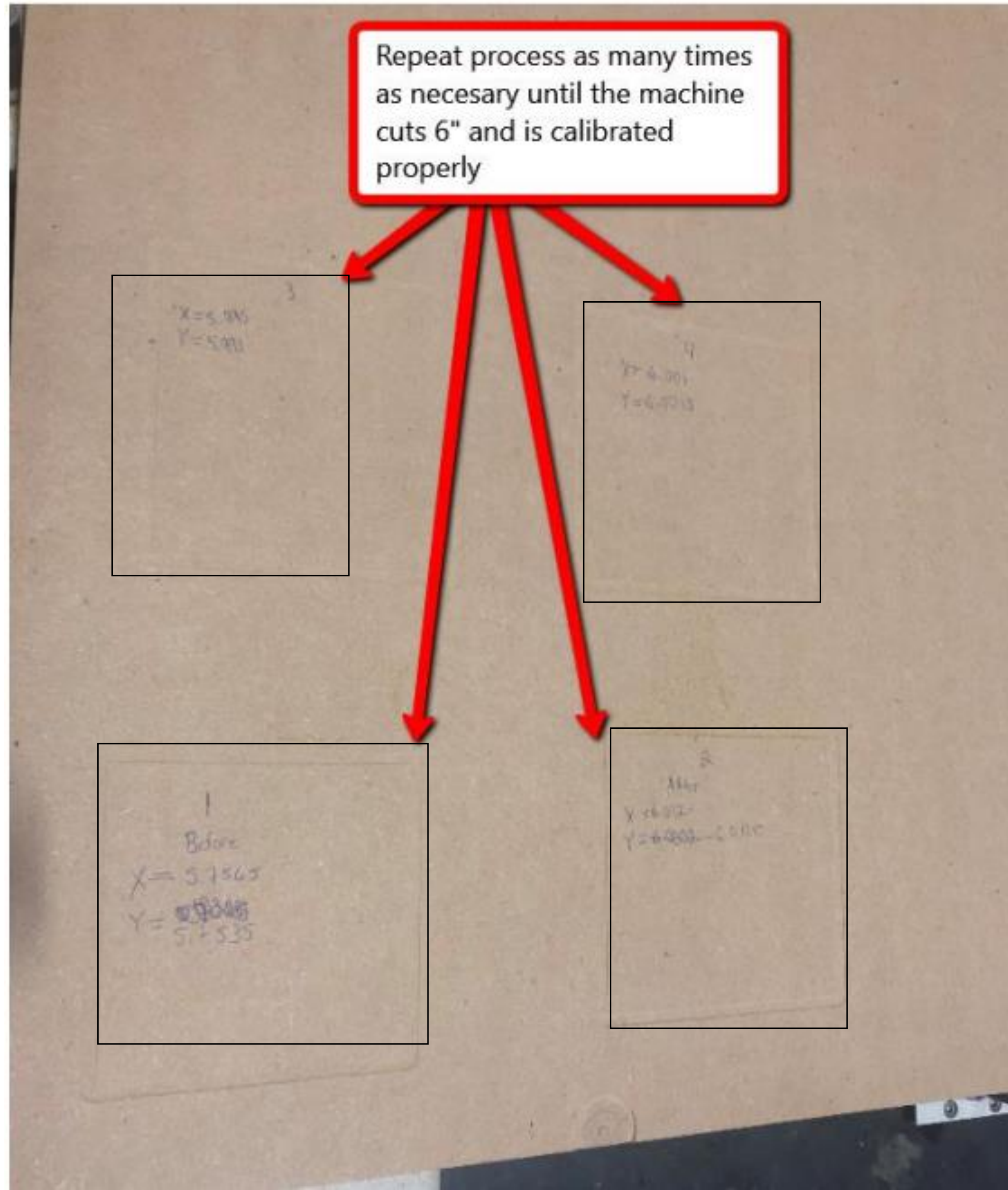
4.) Cont’d.





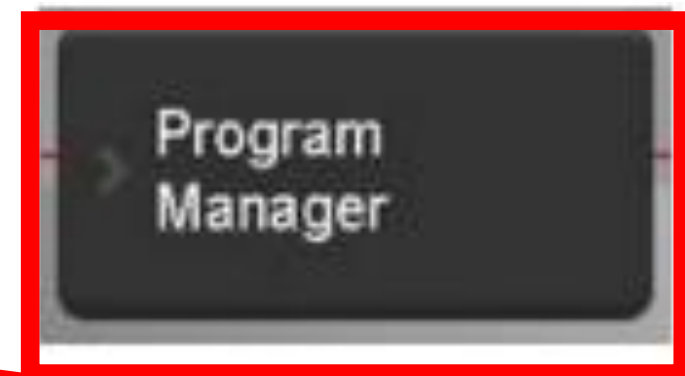
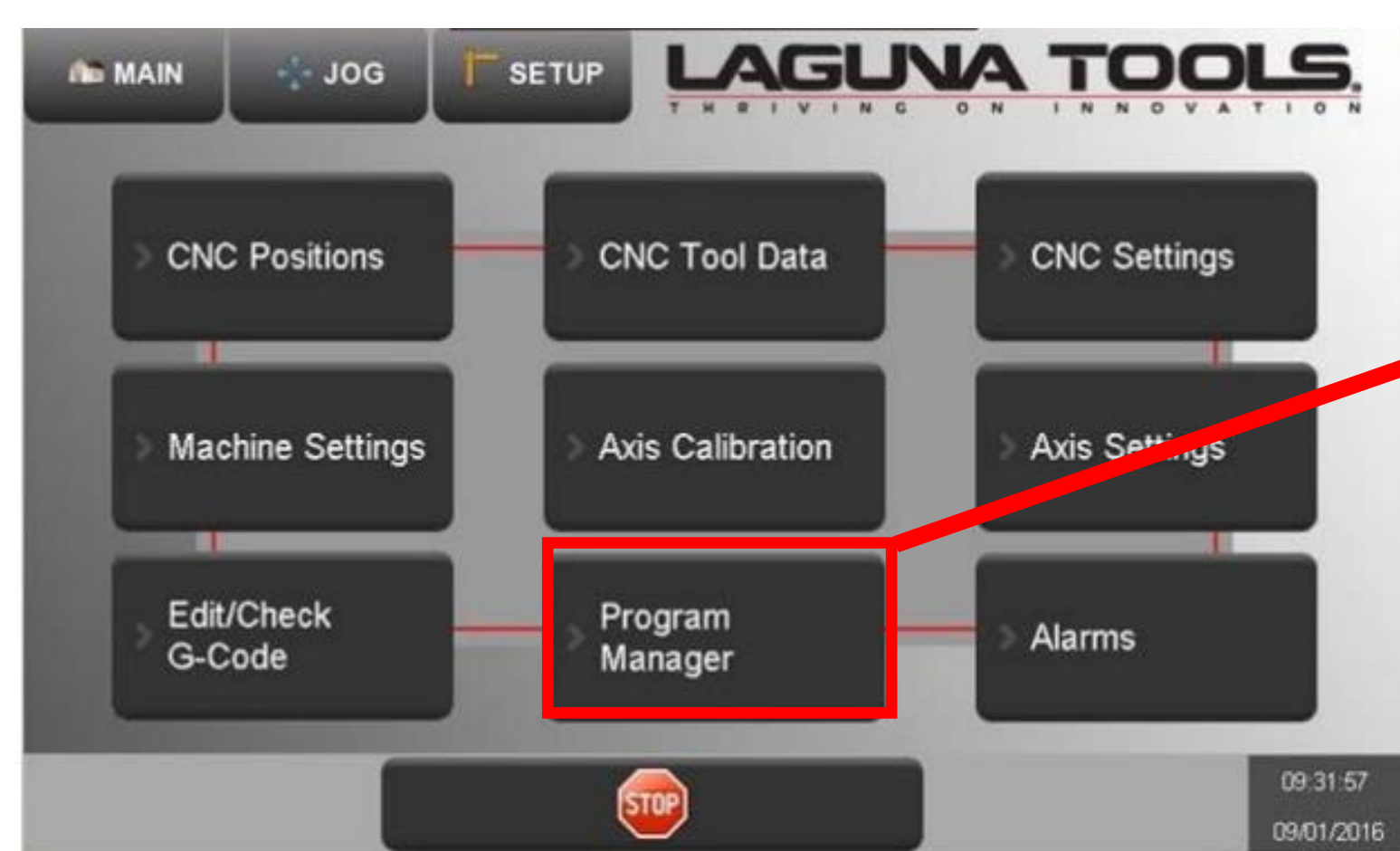
“Axis Calibration” Settings-

5. Continue process until calibrated for both “X” and “Y”





From "Set-Up" Screen to Program Manager-



Program Manager: This screen is used for the managing the programs within your controller.

"USER TAB" – TO THE CUSTOMER:
DO NOT UTILIZE OR USE IN ANY WAY.

"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.



“Program Manager”-



Program Manager
Program Manager: This screen is used for the managing the programs within your controller.

“Refresh Button” = This buttons polls the program storage area and brings the list up to a real time reference.

“Multiselect Button” = This button allows the selection of multiple programs for pasting into another location or deleting.



Use the **“USB Tab”** to select from a flash drive.

d.) Press the **“Paste Button”** to insert the **“G-Code”** into the program folder for active selection.

c.) Highlight a program and press the **“Copy Button”**. Then open the Programs tab and select an empty field.

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 exacting what they say.



From "Set-Up" Screen to Program Manager-



"Refresh Button" = This buttons polls the program storage area and brings the list up to a real time reference.

"Multiselect Button" = This button allows the selection of multiple programs for pasting into another location or deleting.

d.) Press the **"Paste Button"** to insert the **"G-Code"** into the program folder for active selection.

c.) Highlight a program and press the **"Copy Button"**. Then open the Programs tab and select an empty field.

b.) Use the **"USB Tab"** to select from a flash drive.

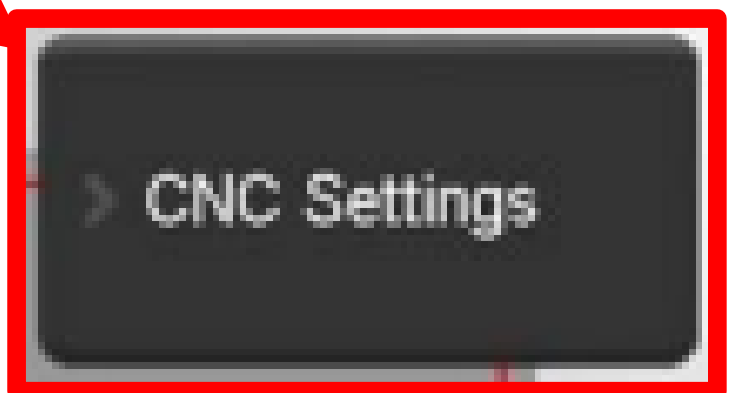
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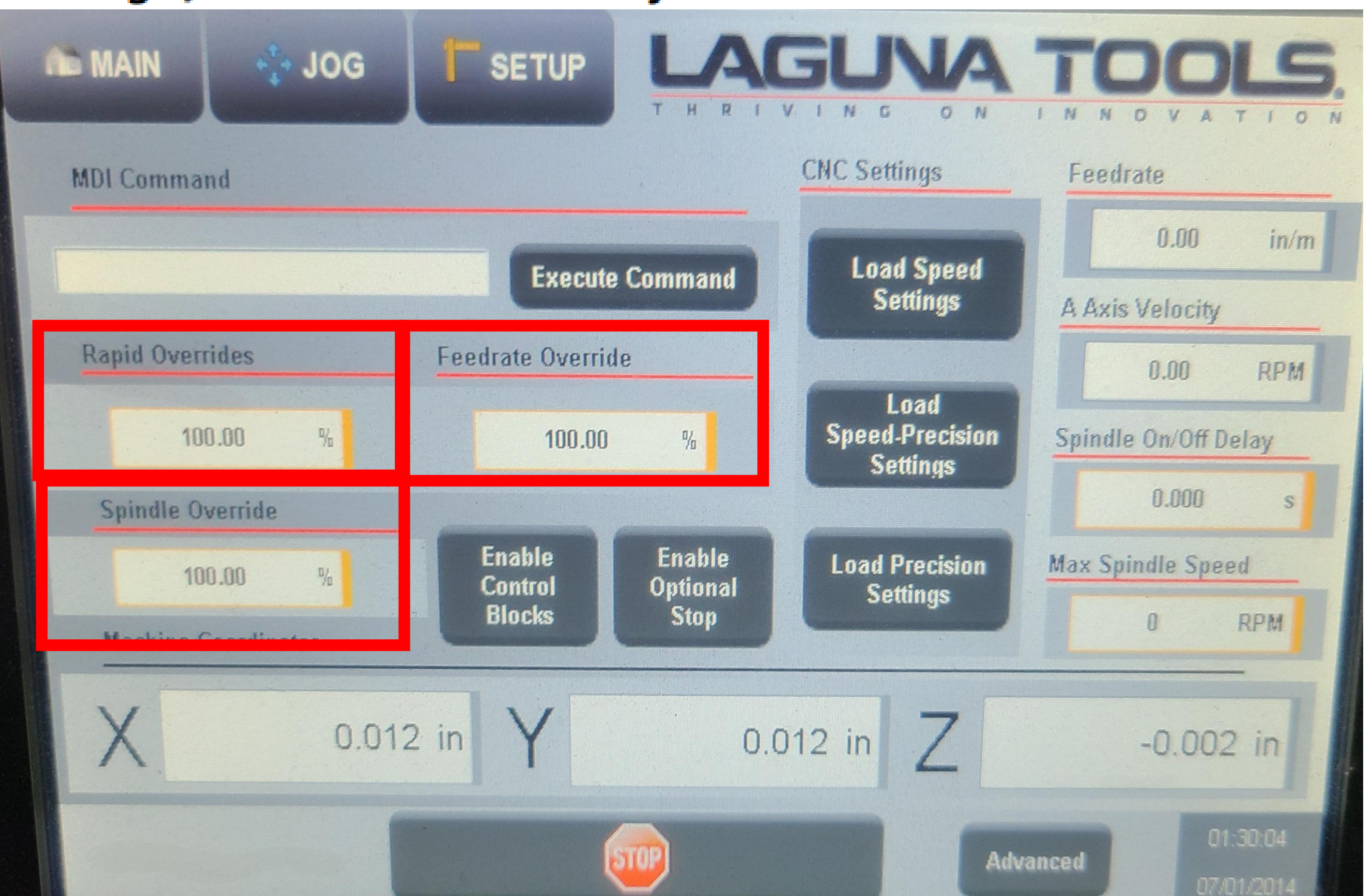
“CNC Settings”/Override Screen Defined-



Enter the **“CNC Settings”** page from the Settings button in the lower left of the Main Screen or from the **“CNC Set Up Button”** on the Set-Up Menu Screen.



Settings / Over Ride Screen defined:



“Overrides” = 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.



“CNC Settings” (Cont’d.)-

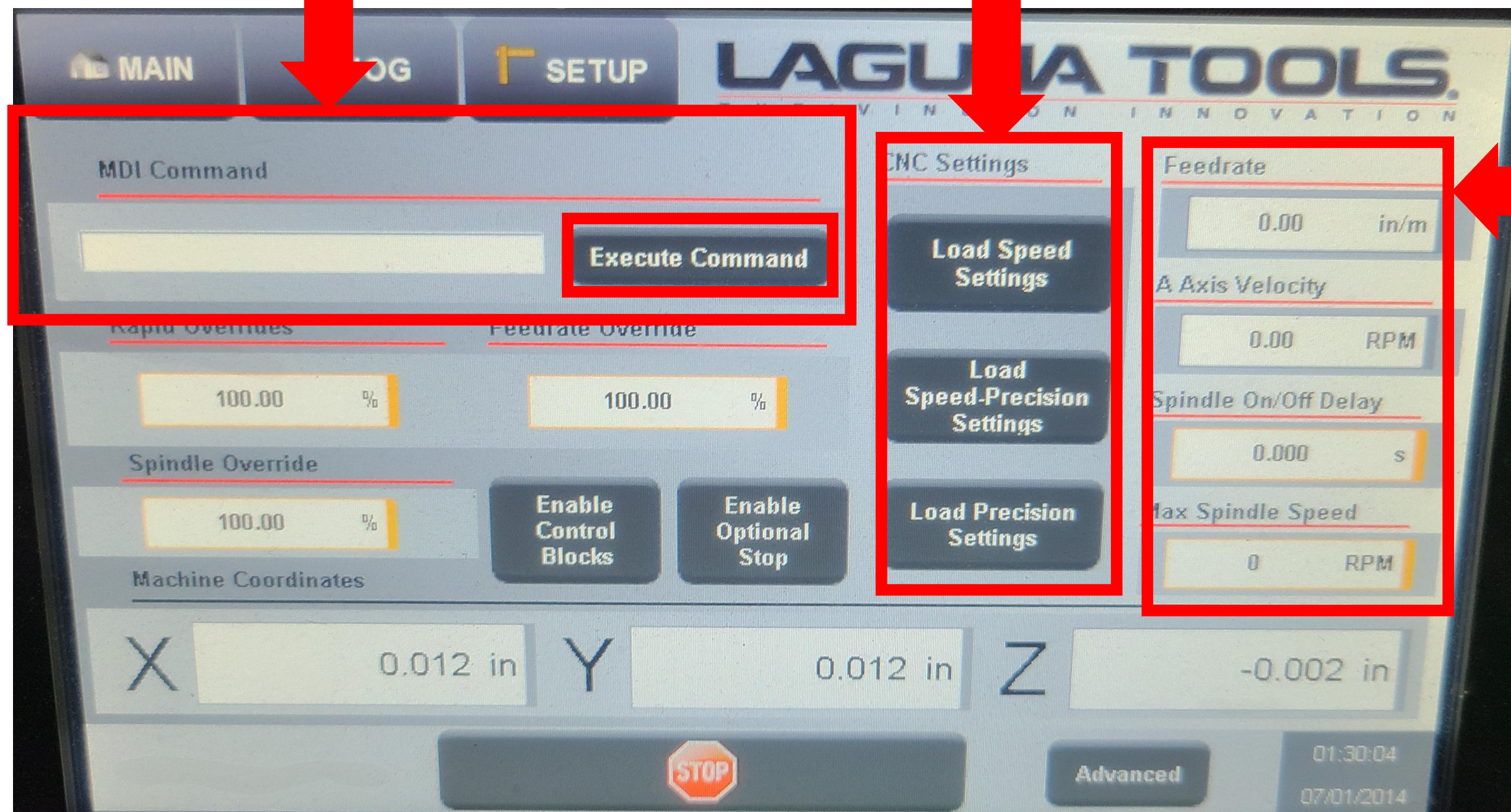
“MDI Field” = Manual Data Input is for executing a single line of code at a time or a **“M Code”**. Simply input the desired function and press **“Execute Command”** to activate.

CNC Settings-

“Load Speed Settings” = ?

“Load Speed Precision Settings” = ?

“Load Precision Settings” = ?



Feed Rates-

“Feed Rate Field” = This field displays the programmed feed rate in the **“G” Code**.

“A Axis Velocity” = This Field displays?

“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.



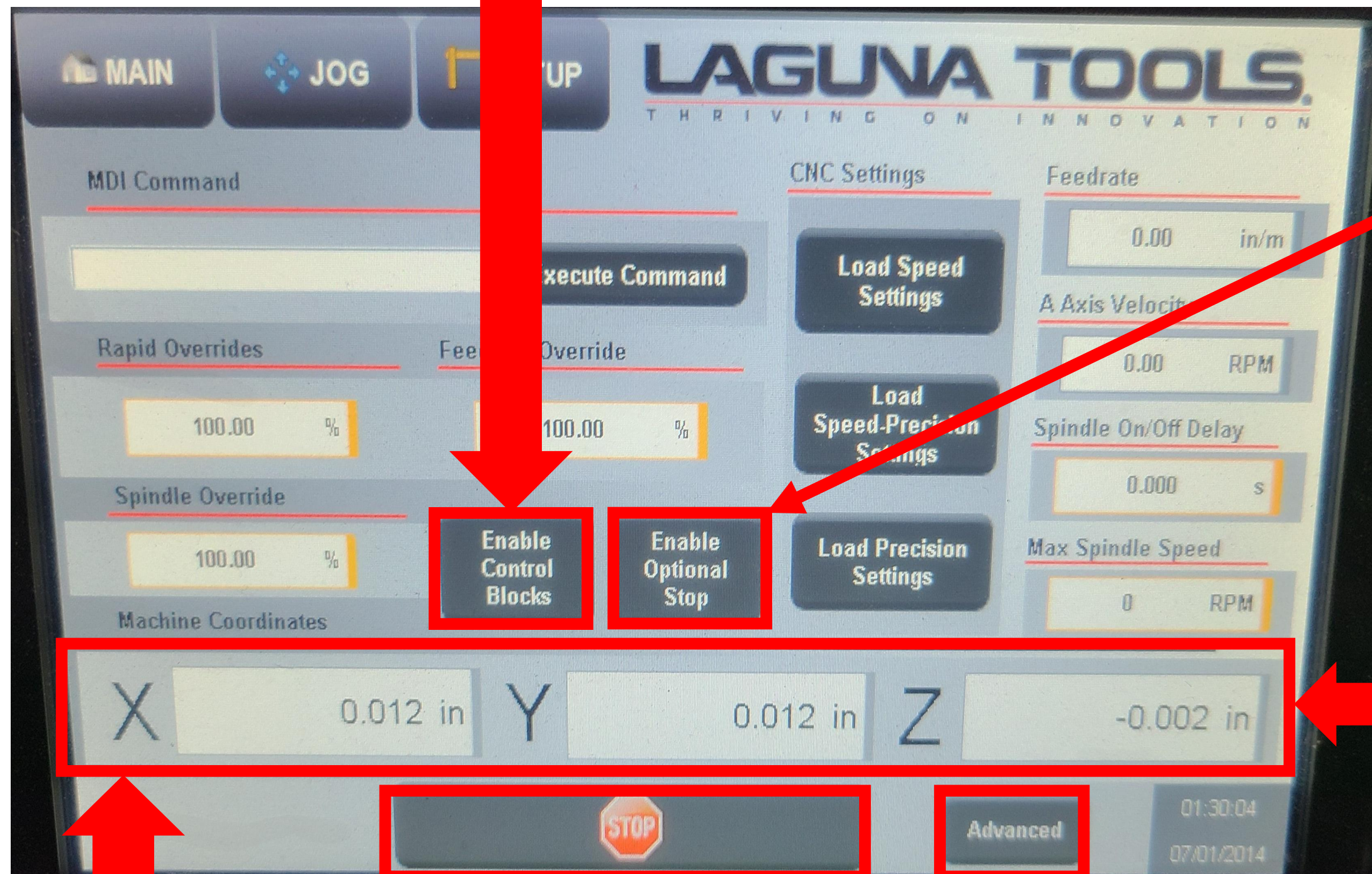
“CNC Settings (Cont’d.)-

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

“Enable Optional Stop” = This Button enables a M0 to cause a program pause for additional operations or jiggling 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.

“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.

- Control Blocks
 - Conditions
 - IF Statement
 - ELSEIF Chain
 - SWITCH Statement
 - FOR Statement
 - WHILE Statement
 - DO Statement

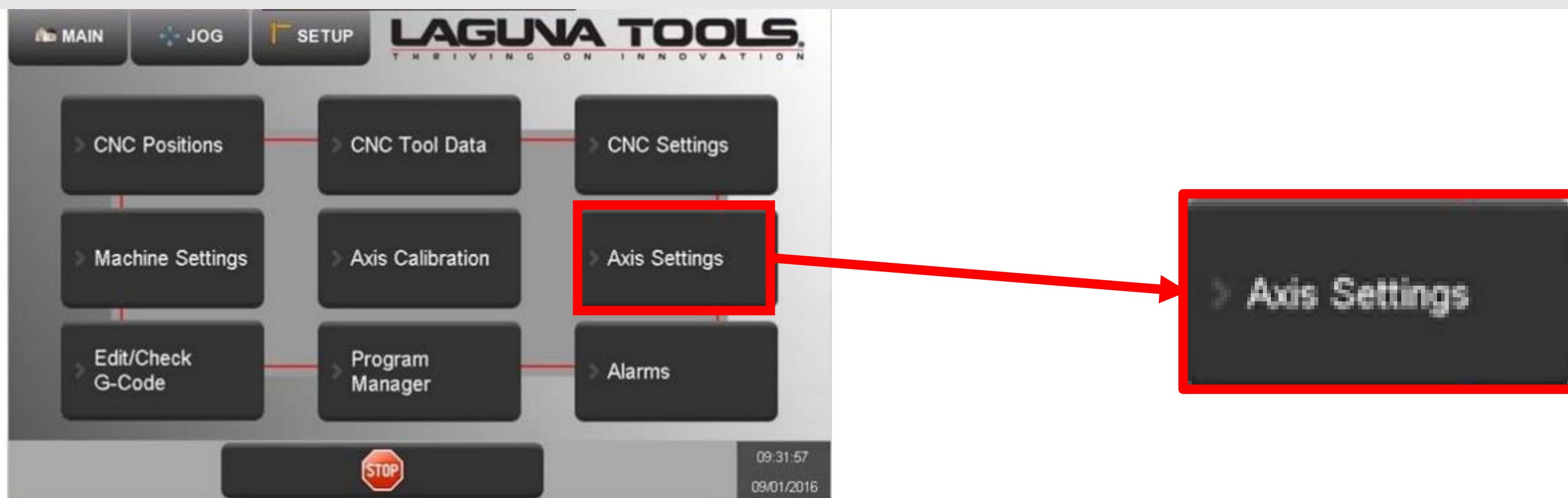


“DRO Display” (Digital Readout Display) = The Digital Read Out’s at the bottom of this screen reference the current machine coordinates for X, Y, and Z.

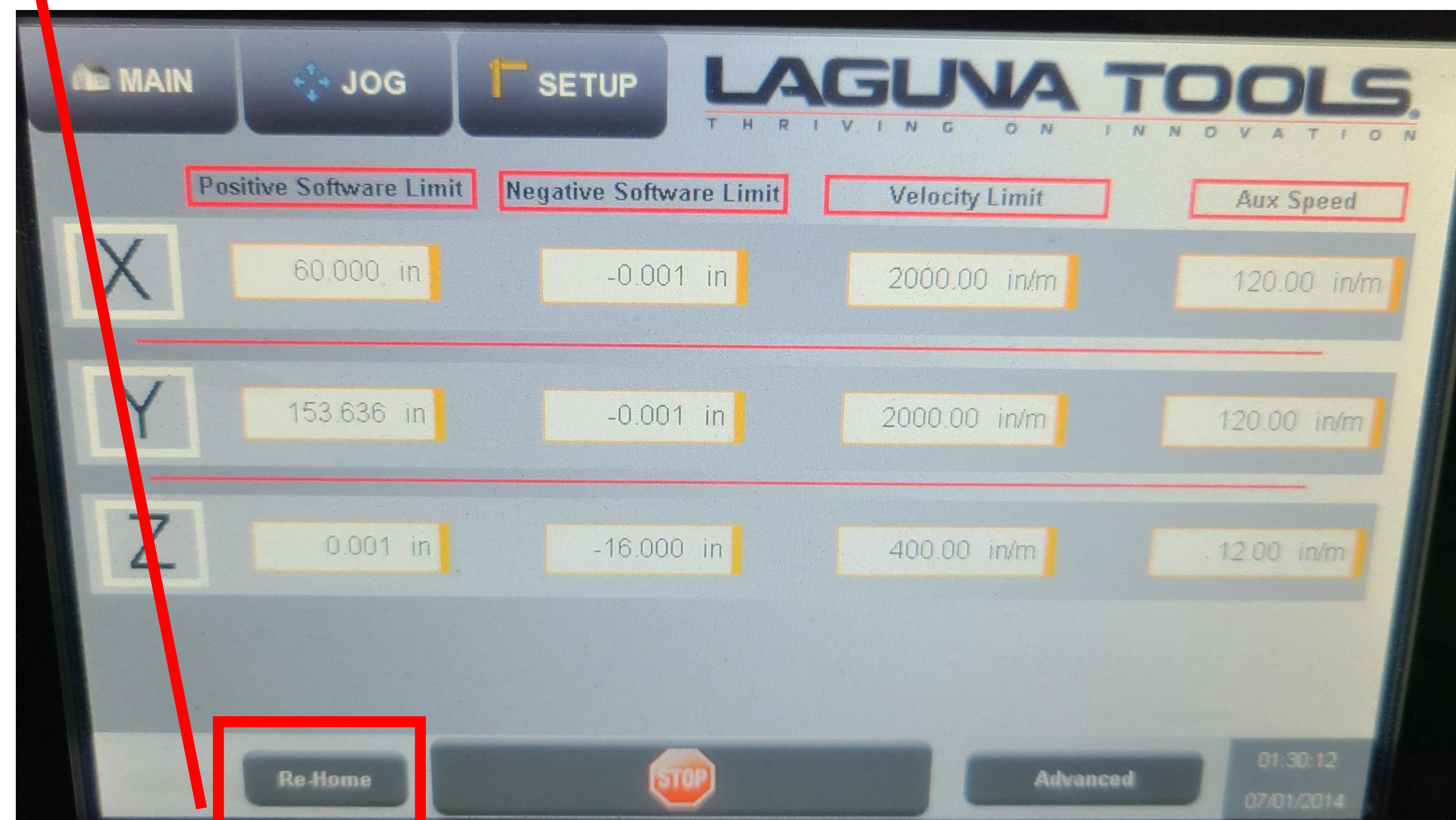
“Stop” = This button cancels the program currently running.



“Axis Settings” Position-Setting “Absolute Zero”- “Home Zero Button”

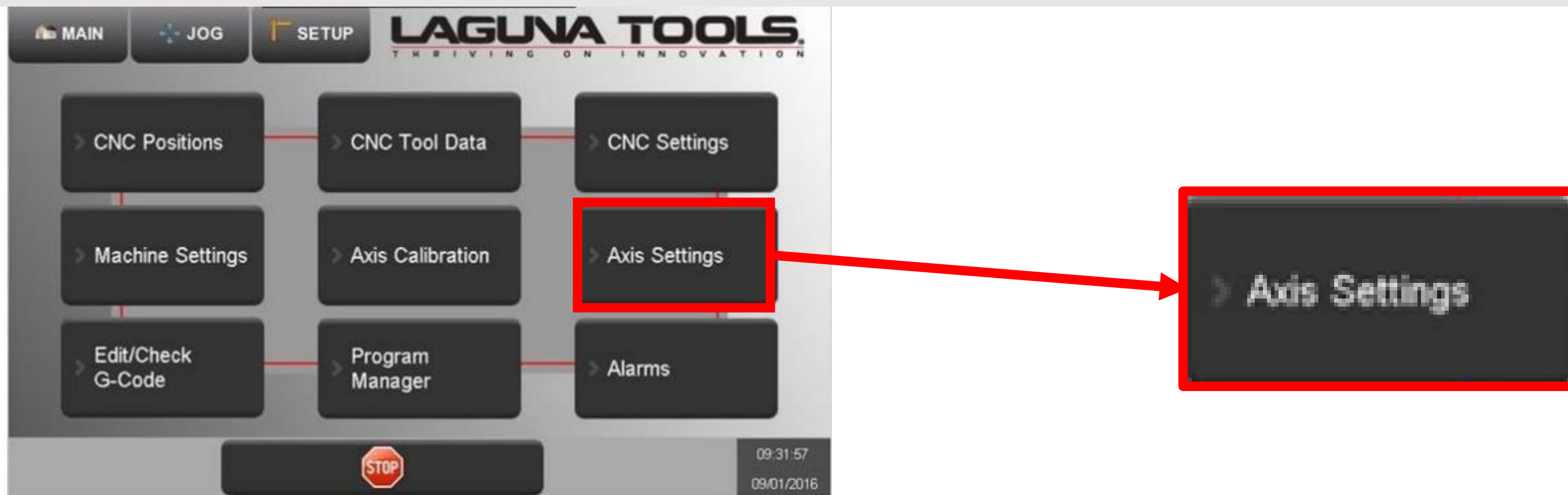


1. Bring all Axis as close to the “Zero” position as possible.
2. Press “**Re-Home Button**” on Screen when homing in to “Absolute Zero (0) on the X, Y, & Z Axis of the Machine.





“Axis Settings” Positions-Setting “Absolute Zero” in case no “ReHome Button” available.



1. Bring all Axis as close to the “Zero” position as possible
2. Turn off machine and manually move the machine so that the end of the linear rails are 3” away from the bearing cards on each Axis.
3. “Y” Axis ABS (ABS=Absolute).





“Axis Settings” Positions-Setting “Absolute Zero” (Cont’d.)

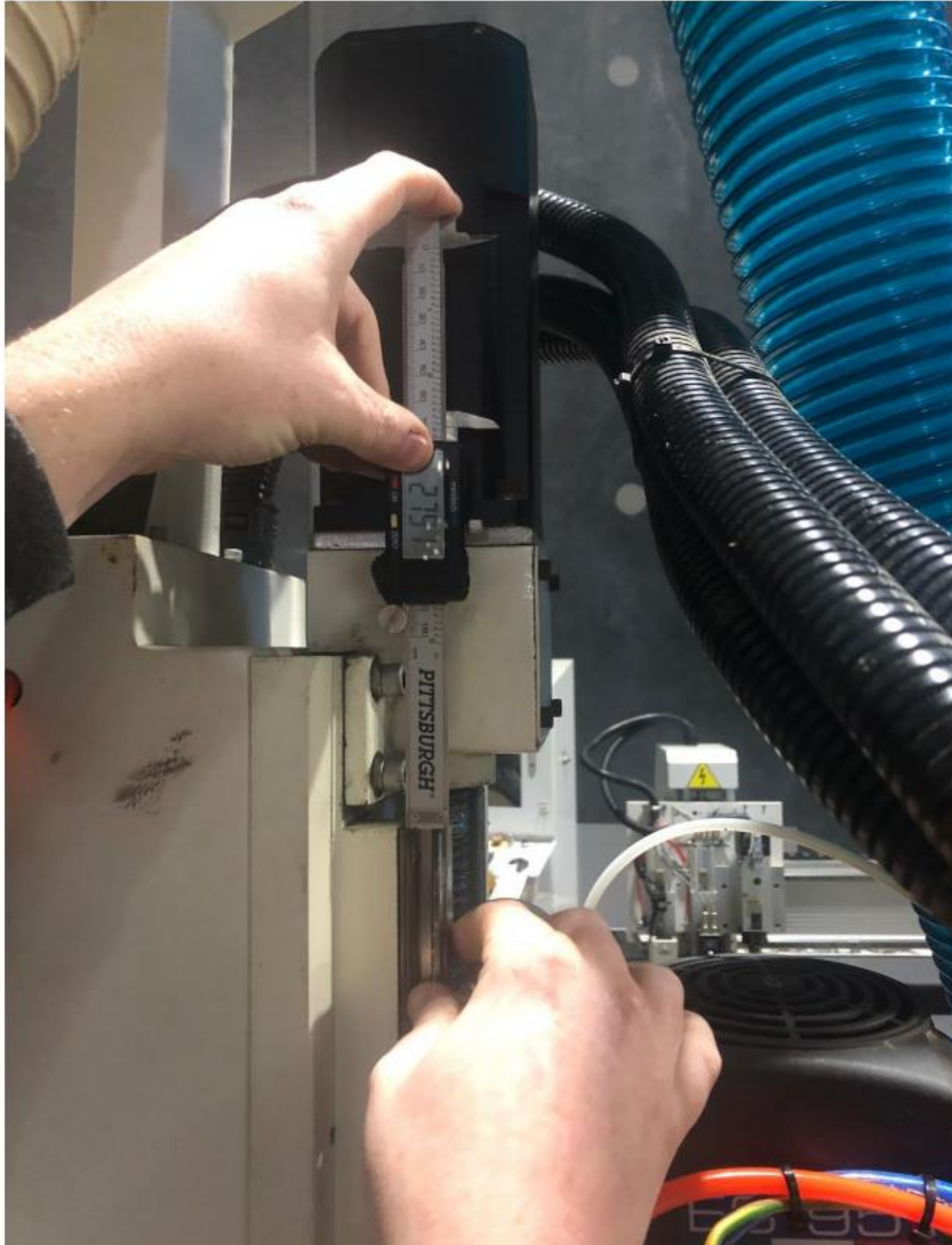
4. “X” Axis ABS (ABS=Absolute).





“Axis Settings” Positions-Setting “Absolute Zero ” (Cont’d.)

5. “Z” axis ABS (ABS=Absolute).



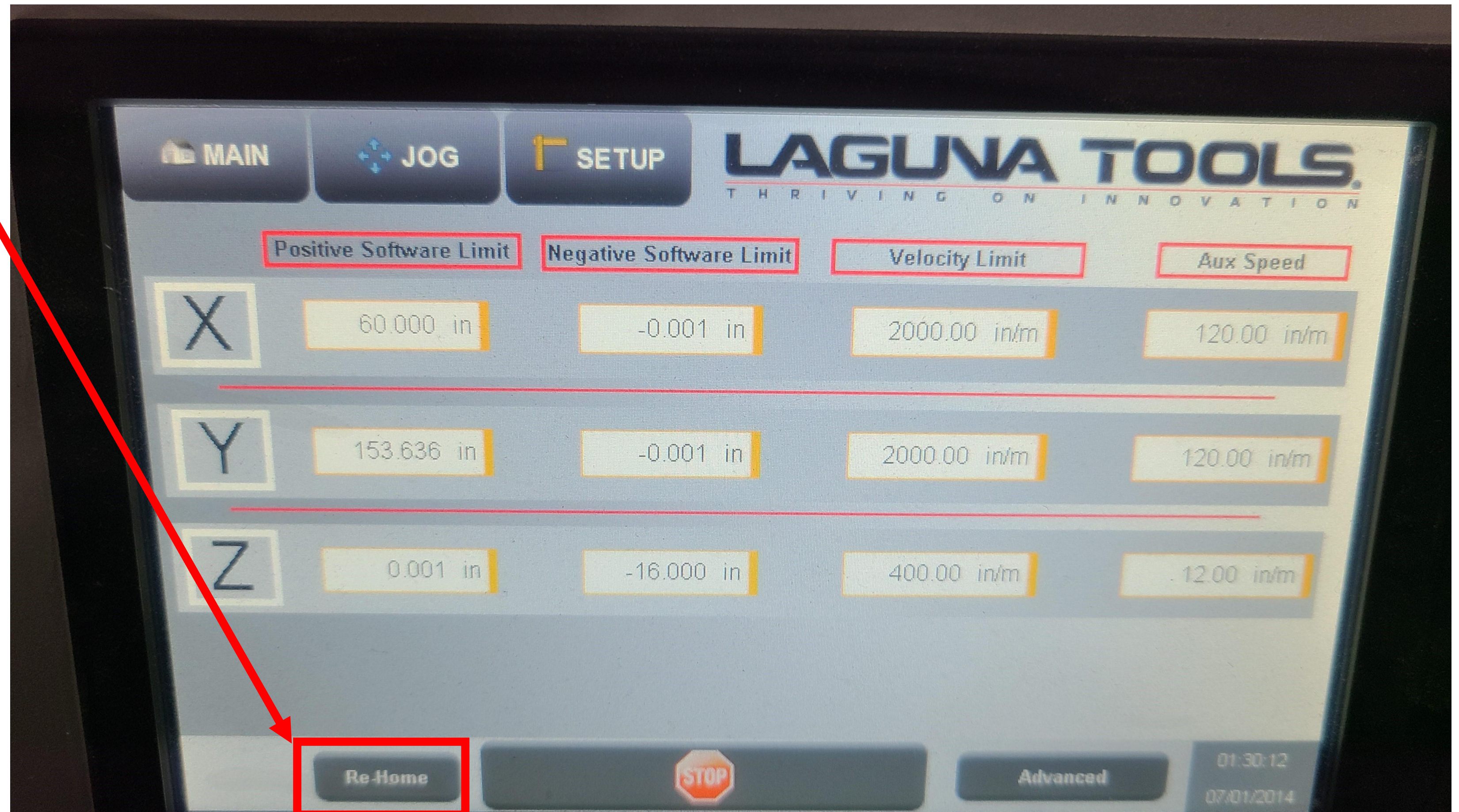


“Axis Settings” Positions-Setting “Absolute Zero ” (Cont’d.)

6. Navigate to the Axis Settings page (Setup → Axis Settings).

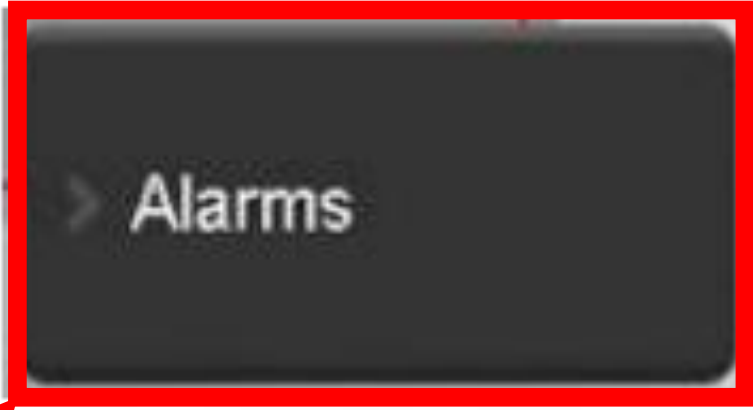
7. Verify that the “X”, “Y”, and “Z” axis are all 3” from end of the rail to the bearing card and the **Press “Re-Home”**.

Press **“Re-Home”**
Button.

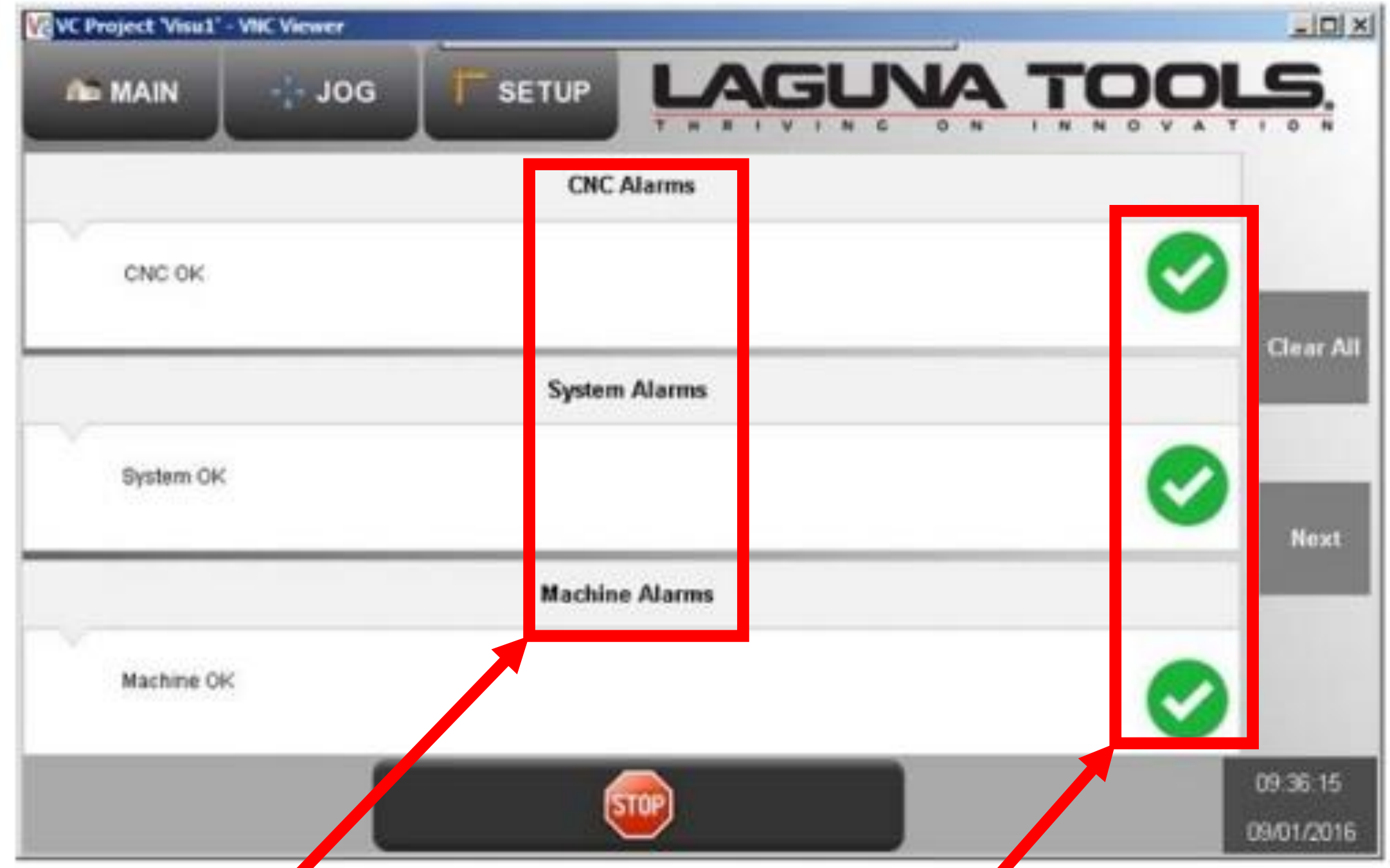




Alarm Screens-



This enters the alarm screens:



This screen will display the **“3 Types of Alarms”** that can be generated in the controller. The **“Check Marks”** 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.





Main Screen Buttons & Flow- Main Screen to “Jog” Screen

Main / Home screen defined: **“Main” Screen**

The Main Screen interface includes the following elements:

- Navigation buttons: MAIN, JOG, SETUP.
- Program selection: Select Program dropdown (Cab4x4 (2)), CNC Monitor section with Last 2, Last 1, Current, Next 1, Next 2 fields, and Run Time (0.0000 sec).
- Tool and Spindle controls: Active Tool (1), Feedrate (0.00 in/m), Spindle RPM (0 RPM), Start at Block (0), Start at Tool (0).
- Axis coordinates: X (0.000 in), Y (0.000 in), Z (7.000 in).
- Buttons: Park Tool, Verify Origin, Hold, Run, Settings, STOP, Preview Program.
- Footer: 02:04:47, 07/07/2014.

Jog screen defined: **“Jog” Screen**

The Jog Screen interface includes the following elements:

- Navigation buttons: MAIN, JOG, SETUP.
- Function buttons: Jog Past Y Safe, Dusthood Up/Down, Teach Tool Length, Teach ZPO, Reset Relative Coords Display, Disable SW Limits.
- Axis controls: X Axis, Y Axis, Z Axis. Each axis has Jog Type (Continuous Jog), Jog Speed (1%), Jog Step Size (0.001 in), Machine Coordinates (0.000 in), and directional buttons (-, +).
- Buttons: STOP, Tool Touch Sensor Input.
- Footer: 09:31:49, 09/01/2016.



Jog Screen Defined-

1. **Jog Past "Y" Safe** = This button is used for maintenance and repair issues only. There is no operator function for this.
2. **Dust Hood Up/Down** = This button is used to manually retract or extend the dust hood.
3. **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.
4. **Teach Zero Point ZPO** = This button will write the current X and Y locations to the Zero Point Offset selected from the **"Upper Right Field G54- G59"**.
5. **Reset Relative Coord's Display** = This button resets the Relative position of X and Y to Zero. Use would be a digital tape measure.
6. **Disable Switch Limits** = This button is used for maintenance and repair issues only. There is no operator function for this.

Jog screen defined: 





Jog Screen Defined (Cont'd.)-

“Jogging Functions” = There are 3 settings for Jogging.

ipm=Inches Per Minute

DROP DOWN MENU for the X Axis, Y Axis, & Z Axis-

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.



Main Screen Buttons & Flow-

Main / Home screen defined:  **“Main” Screen**



“Program Preview Screen”





“Settings” Button from Main Menu/ Override Screen Defined-

Main / Home screen defined:

LAGUNA TOOLS
THRIVING ON INNOVATION

Select Program: Cab4x4 (2)

Active Tool: 1

Feedrate: 0.00 in/m

Spindle RPM: 0 RPM

Start at Block: 0

Start at Tool: 0

Zero Point Offset: [Dropdown]

CNC Monitor

Last 2: [Field]

Last 1: [Field]

Current: [Field]

Next 1: [Field]

Next 2: [Field]

Run Time: 0.0000 sec

X: 0.000 in Y: 0.000 in Z: 7.000 in

Settings STOP Preview Program 02:04:47 07/07/2014

LAGUNA TOOLS
THRIVING ON INNOVATION

MDI Command: [Field] Execute Command

Rapid Override: 100.00 %

Feedrate Override: 100.00 %

Spindle Override: 100.00 % Enable Control Blocks

Machine Coordinates: X: 0.000 in Y: 0.000 in Z: 0.000 in

Feedrate: 0.00 in/m

Spindle On/Off Delay: 0.000 sec

Max Spindle Speed: 0 RPM

STOP 02:31:37 06/01/2014



“Settings” from Main Menu / Override Screen Defined (Cont’d.)-

“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.





Main Menu "Settings" / Override Screen Defined (Cont'd.)-

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

"DRO Display" (Digital Readout Display) = The Digital Read Out's at the bottom of this screen reference the current machine coordinates for X,Y, and Z.

- Control Blocks
 - Conditions
 - IF Statement
 - ELSEIF Chain
 - SWITCH Statement
 - FOR Statement
 - WHILE Statement
 - DO Statement



"Stop" = This button cancels the program currently running.

"Overrides" = 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.



Program Manager-

“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.

VC Project 'Visu1' - VNC Viewer

MAIN JOG SETUP

LAGUNA TOOLS
THRIVING ON INNOVATION

Estimated Time Without CNC Filters:
128 min

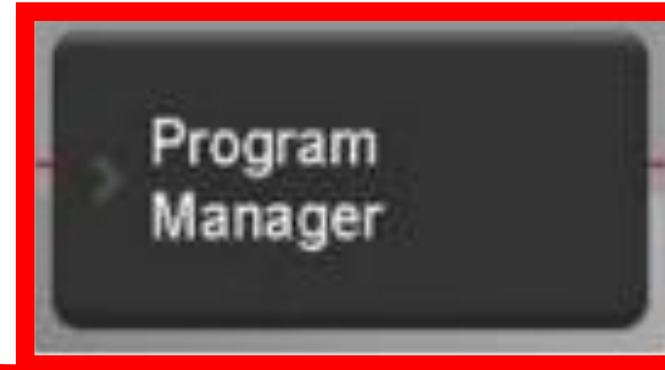
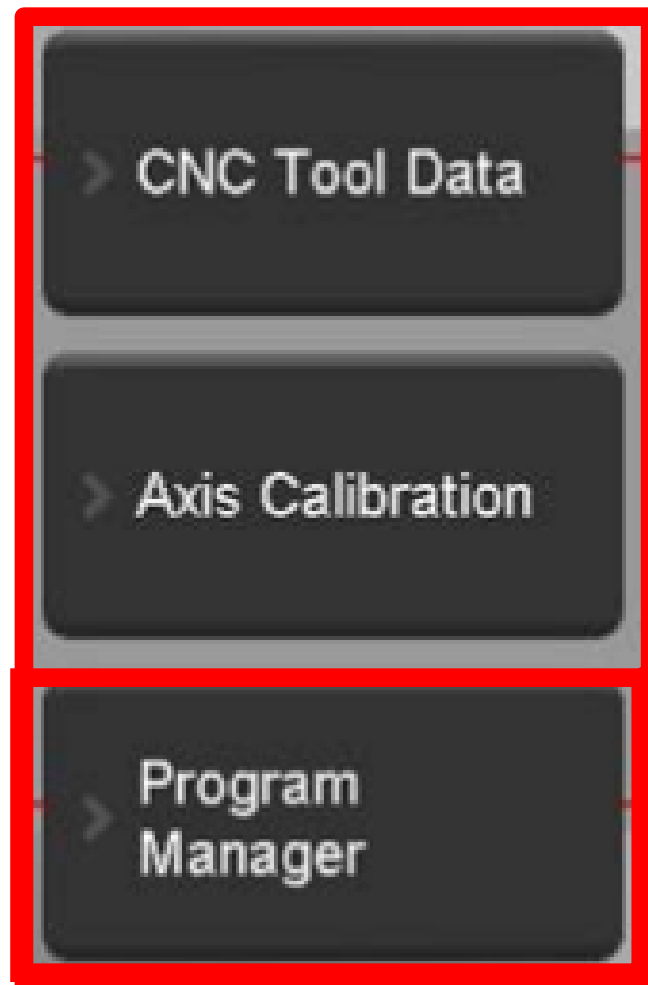
Dismiss Preview

STOP

09:42:32
09/01/2016



Program Manager-



Program Manager: This screen is used for the managing the programs within your controller.

“USER TAB” – TO THE CUSTOMER DO NOT UTILIZE OR USE IN ANY WAY.

“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.



Program Manager-



“Refresh Button” = This buttons polls the program storage area and brings the list up to a real time reference.

“Multiselect Button” = This button allows the selection of multiple programs for pasting into another location or deleting.

d.) Press the **“Paste Button”** to insert the **“G-Code”** into the program folder for active selection.

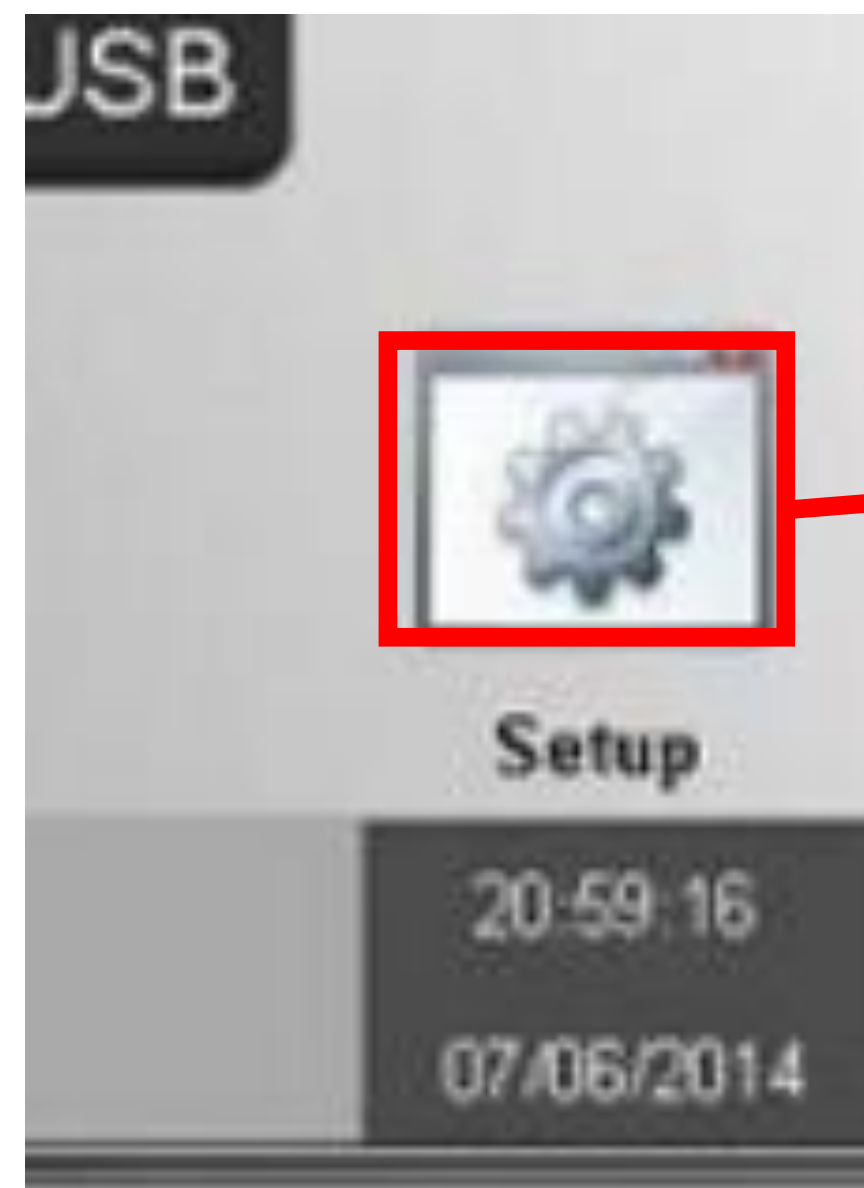
c.) Highlight a program and press the **“Copy Button”**. Then open the Programs tab and select an empty field.

b.) Use the **“USB Tab”** to select from a flash drive.

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 exacting what they say.



Set-Up / Networking Screen-



This setup button opens the Network settings screen.

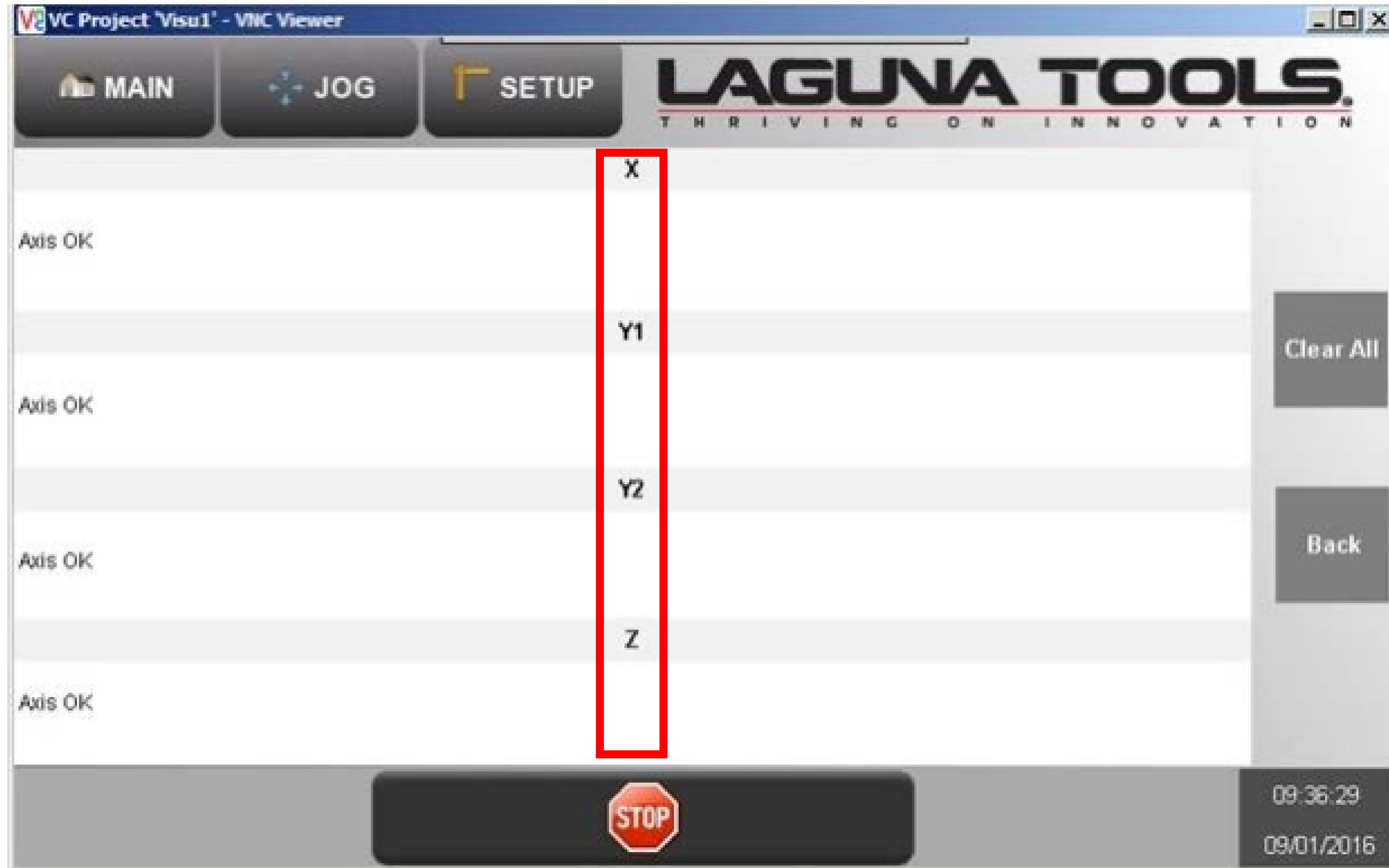
The information contained in this screen is used for networking directly to the controller. This is needed for file transfers and remote diagnostic functions Via a P.C. Network.

See Chapter on making a **“Network Connection”**.





Alarm Screens-

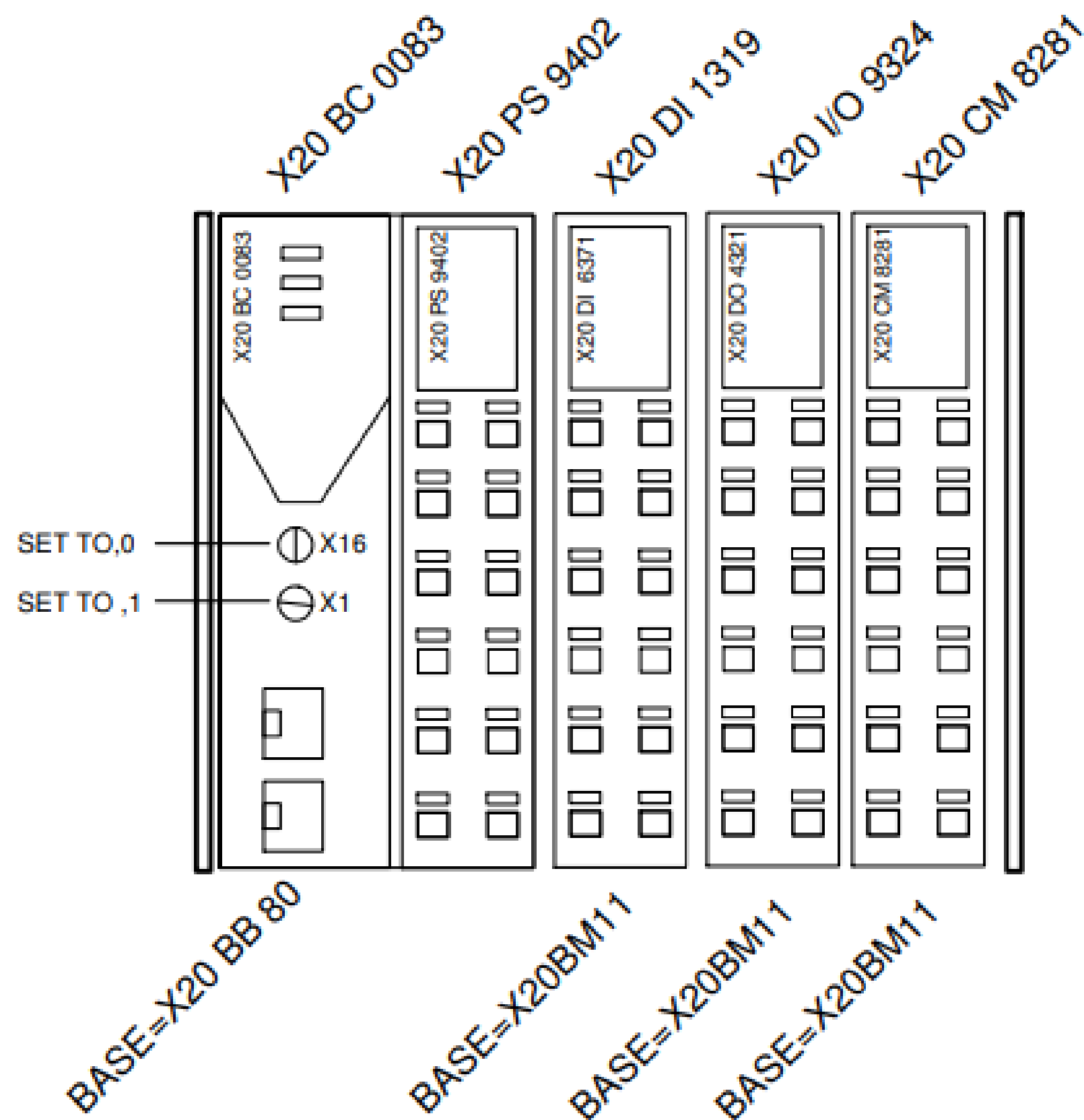


The **“Alarms”** displayed on this screen are Axis Specific.



Schematics-

SUV P3 SERVO BUILD, AS BUILT,12-13-2018_REV,4A

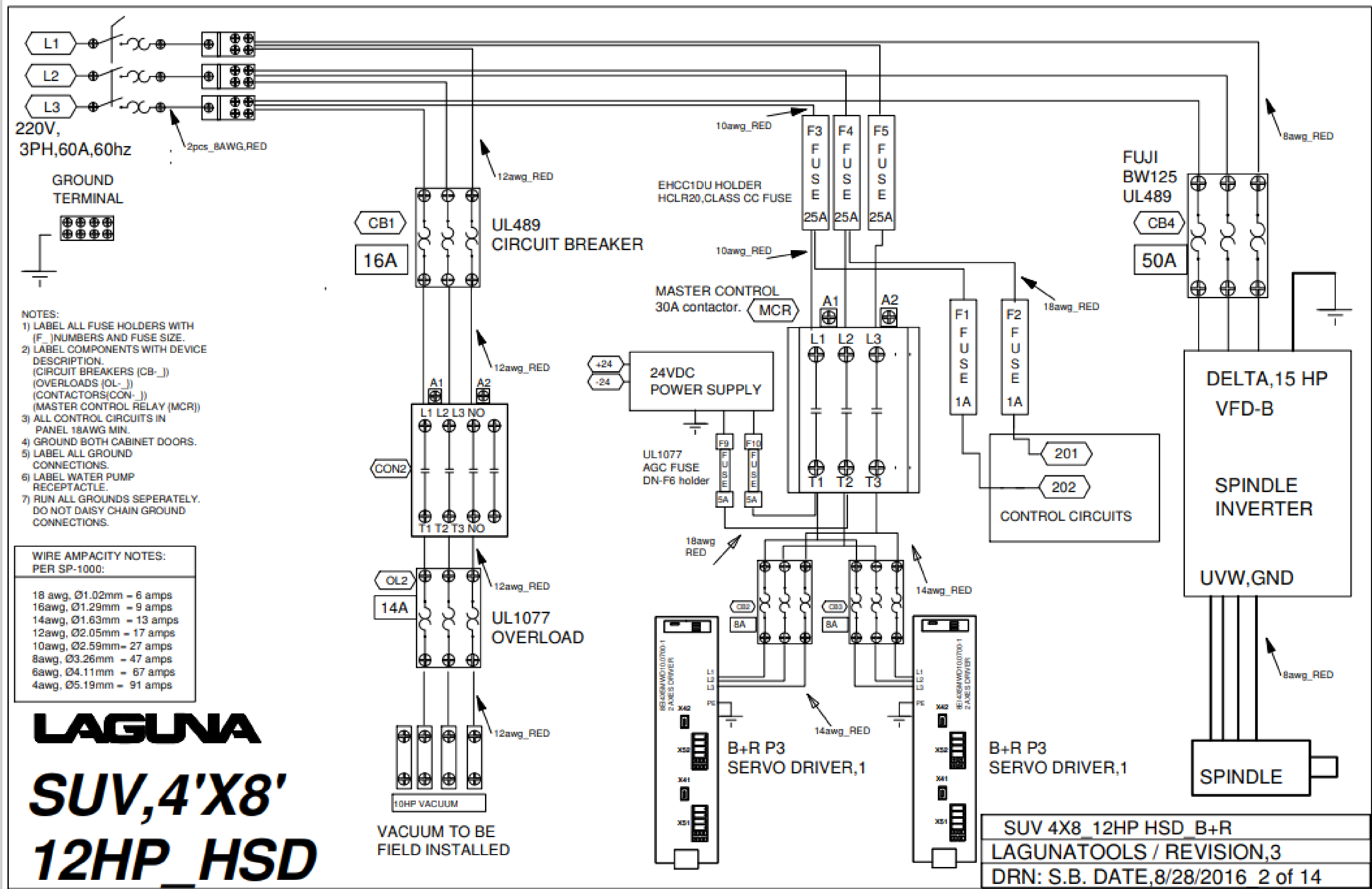


PAGE,1- COVER/PLC RACK CONFIGURATION
 PAGE,2-4X8 POWER CONFIGURATION
 PAGE,3-5X10 POWER CONFIGURATION
 PAGE,4-PANEL LAYOUT
 PAGE,5-COMUNICATION REFERENCE
 PAGE,6-E-STOP CIRCUIT
 PAGE,7-SERVO DRIVER,1
 PAGE,8-SERVO DRIVER,2
 PAGE,9-RACK POWER SUPPLY WIRING
 PAGE,10-DS1319 CARD WIRING
 PAGE,11-IO9324 CARD WIRING - HOME SWITCHES
 PAGE,12-CM8281 CARD WIRING
 PAGE,13-VFD SETTINGS
 PAGE,14- ALARM CONNECTION DETAIL

B+R SUV SERVO
PLC RACK ASSEMBLY
LAGUNATOOLS / REVISION,5
DRN: K.E. DATE,12/13/2018 1of14

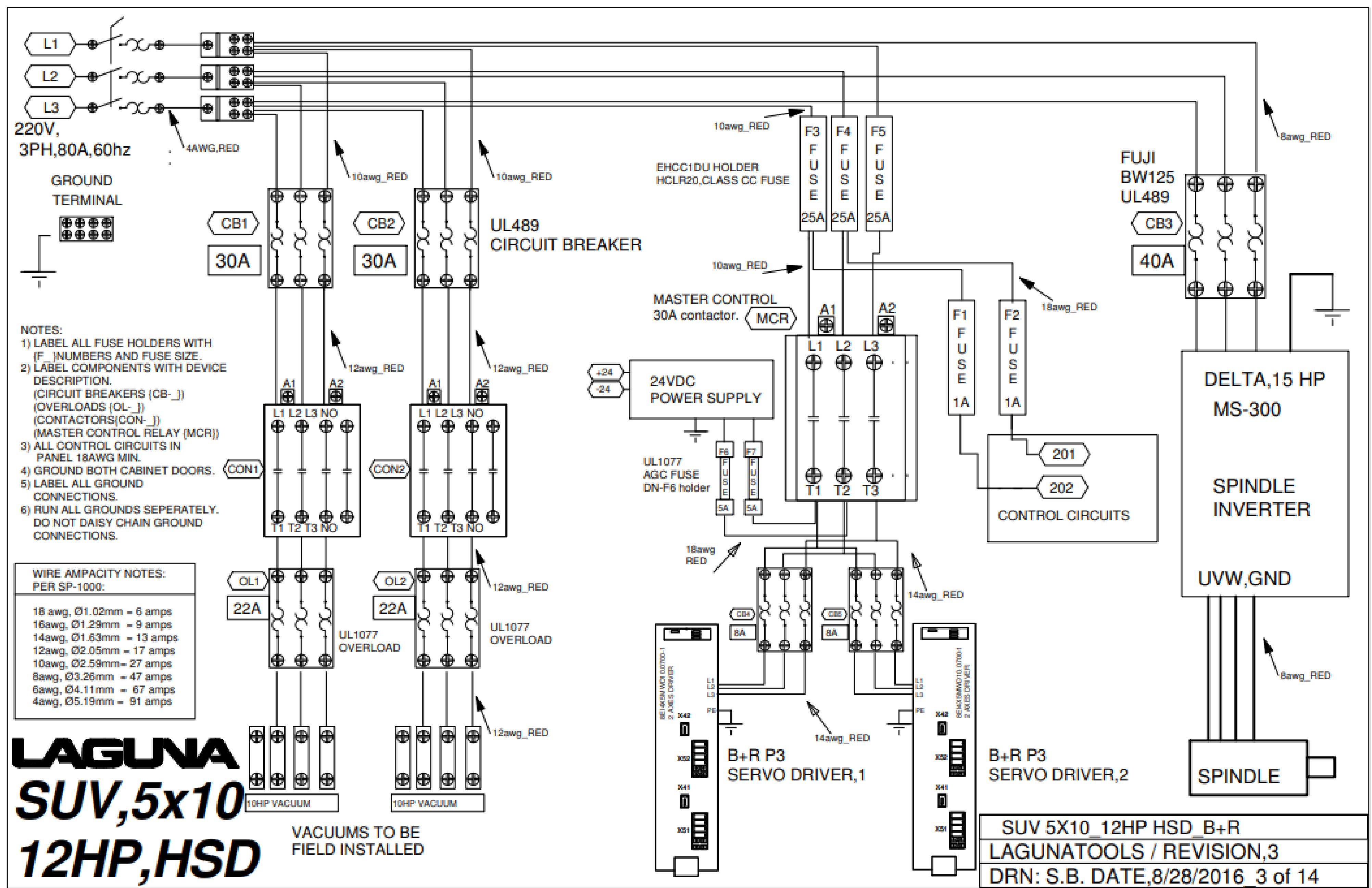


Schematics-



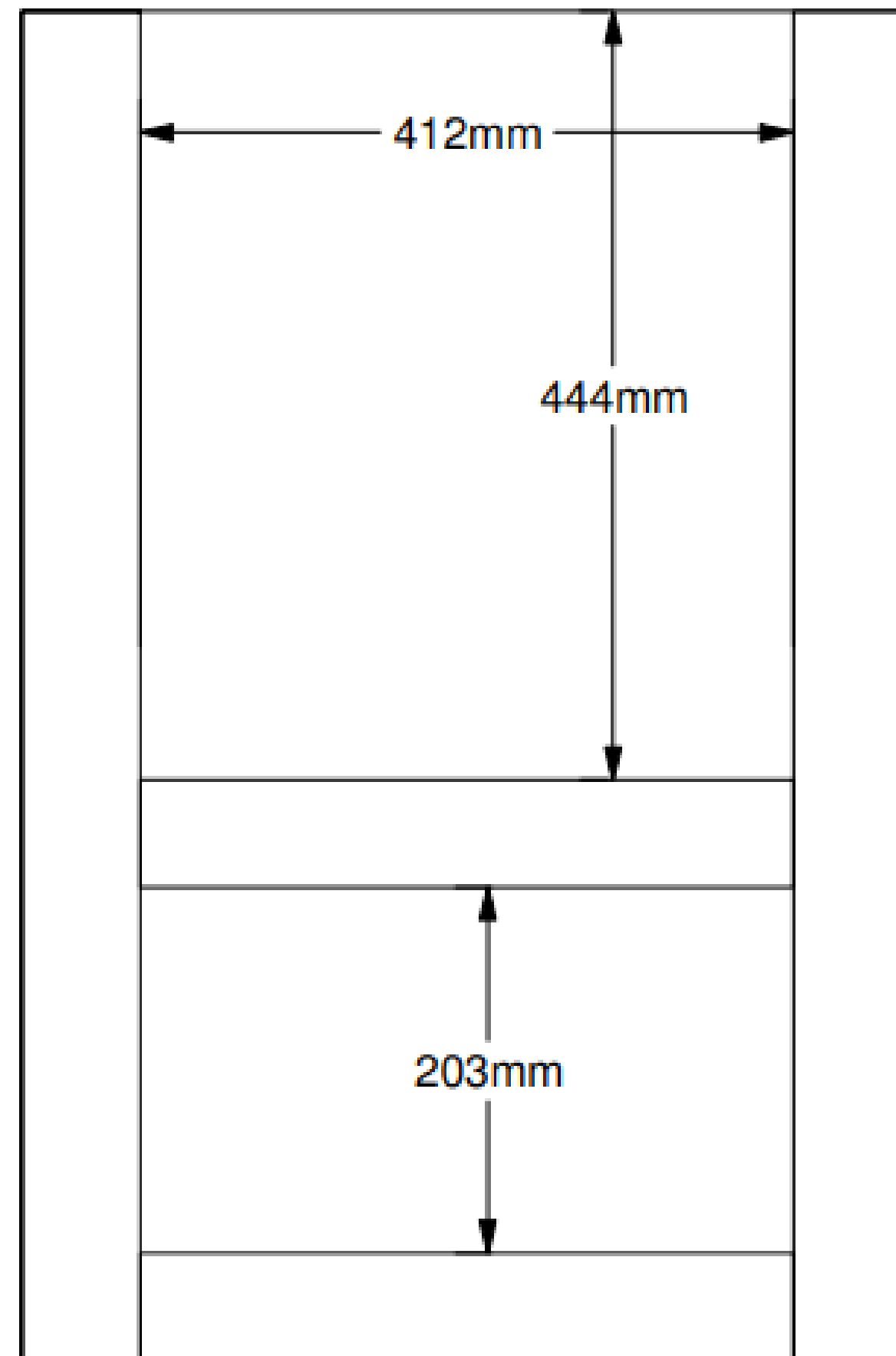


Schematics-





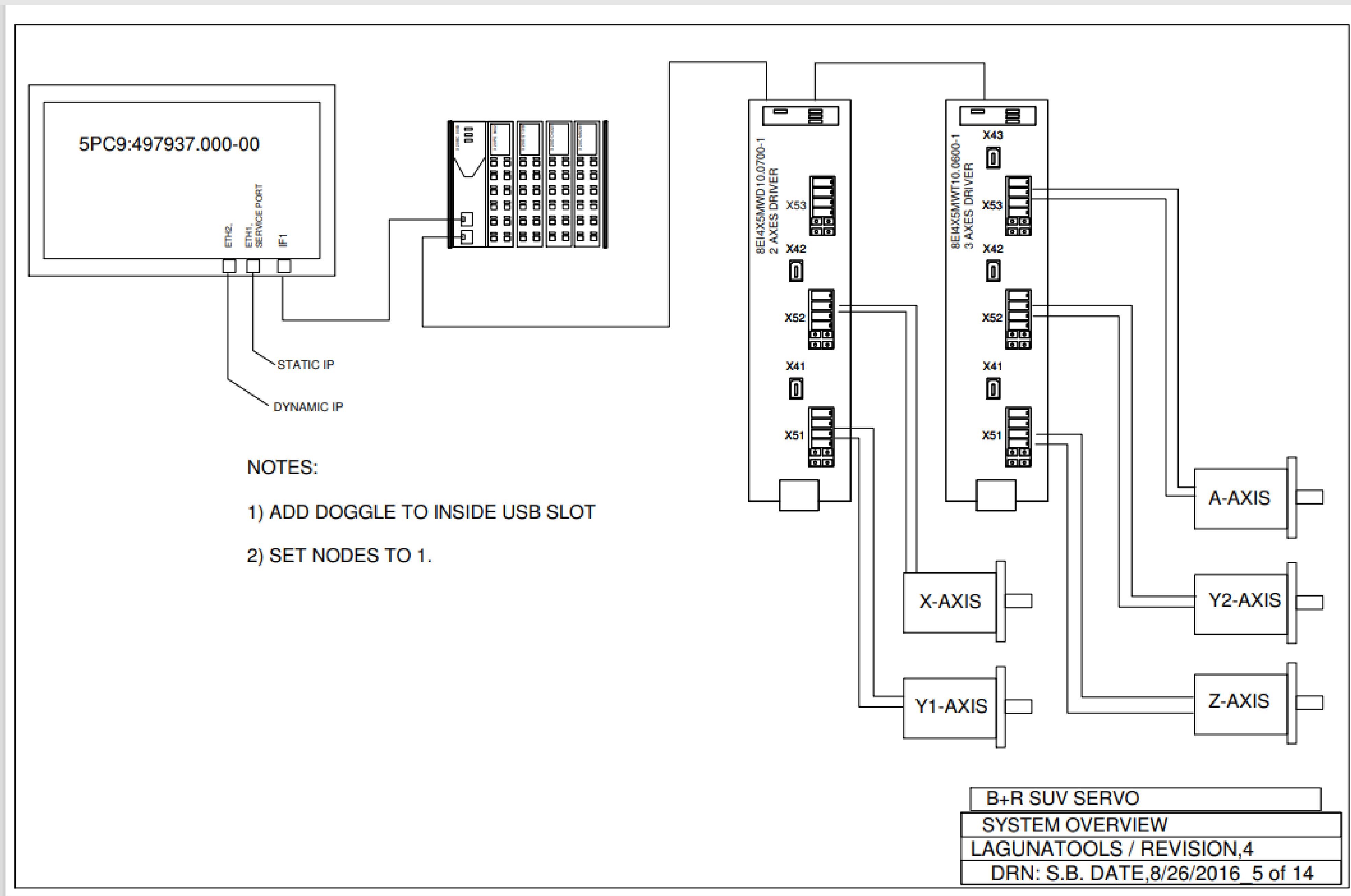
Schematics-



SUV SERVO SIDE OF PANEL
LAGUNATOOLS / REVISION,3
DRN: S.B. DATE,8/12/2016 4 of 14

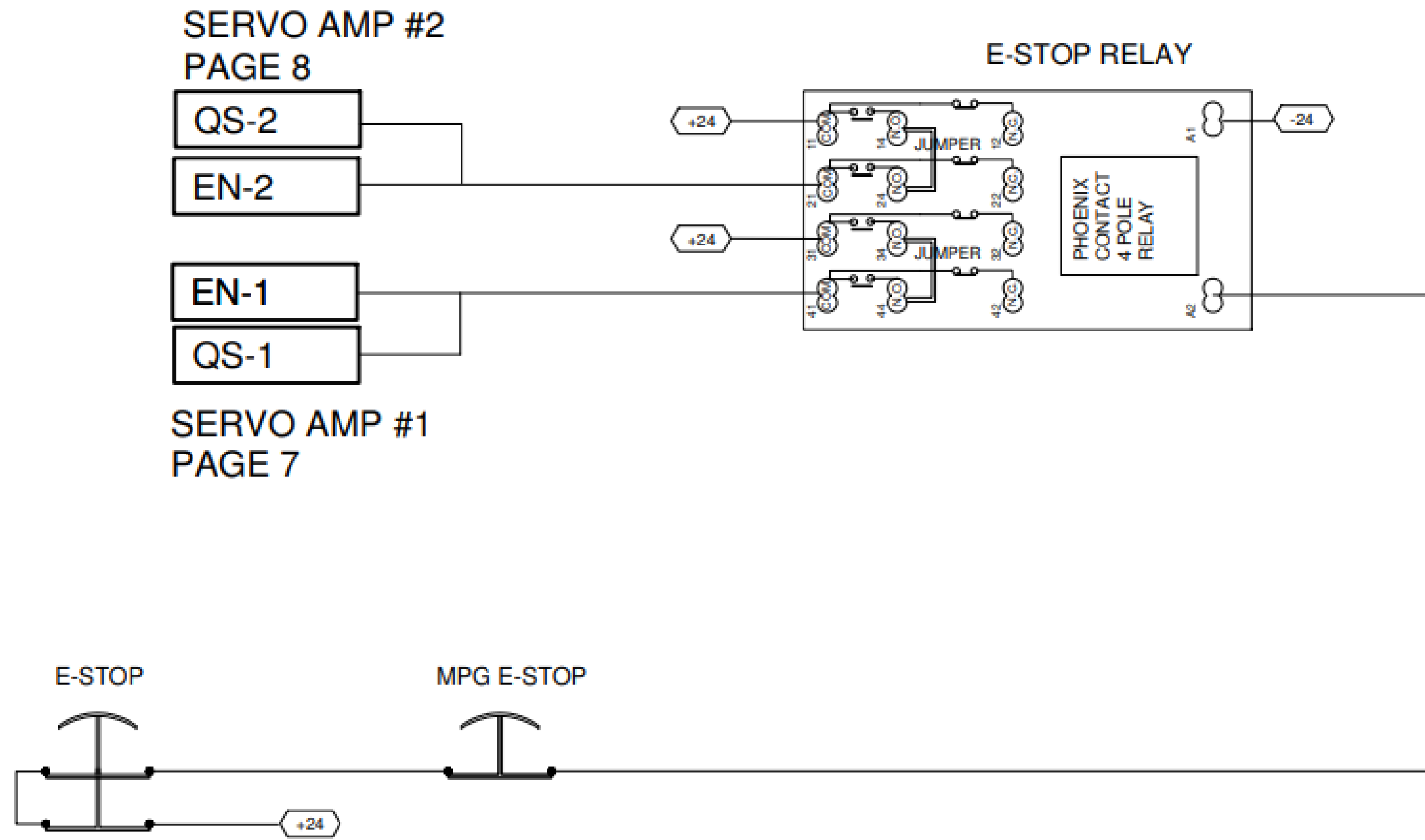


Schematics-





Schematics-

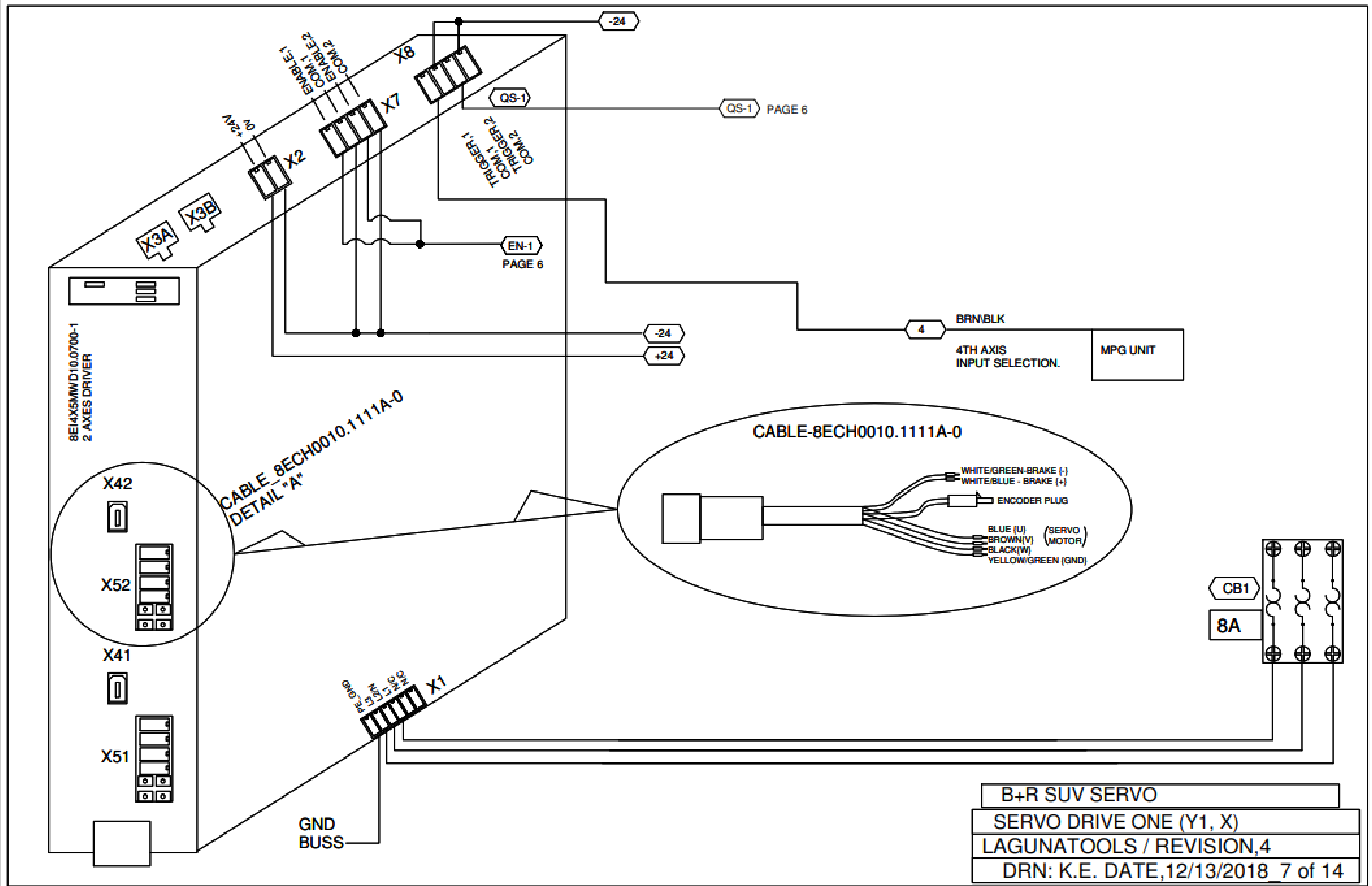


WHEN +24 VOLTS IS REMOVED FROM EN-# AND QS-#
 THE SERVO AMPS QUICKLY STOP THE MOTORS
 THEN DISABLE HOLDING CURRENT.

B+R SUV SERVO
E-STOP CIRCUIT
LAGUNATOOLS / REVISION,4
DRN: K.E. DATE,12/13/2018 6 of 14

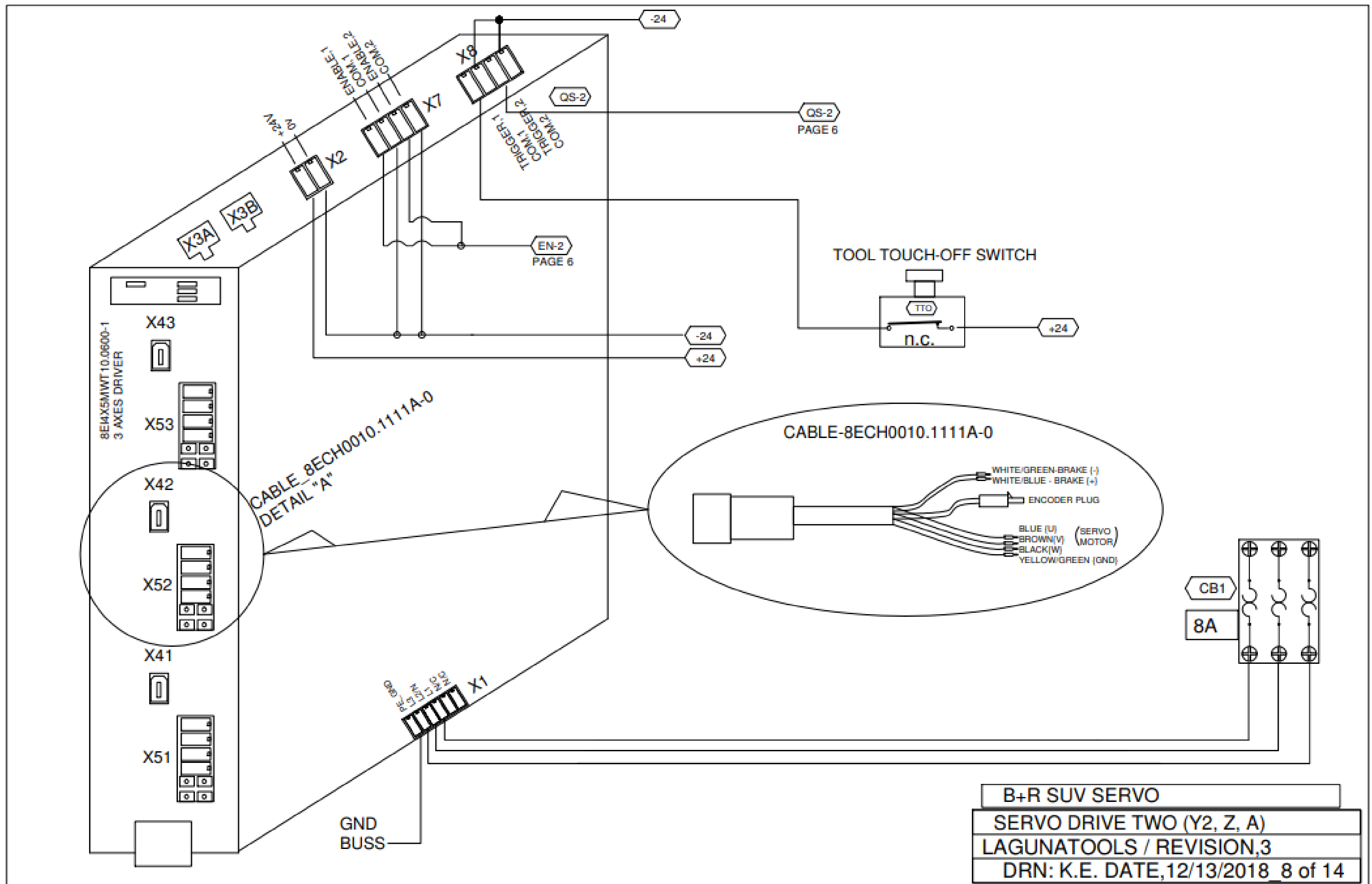


Schematics-



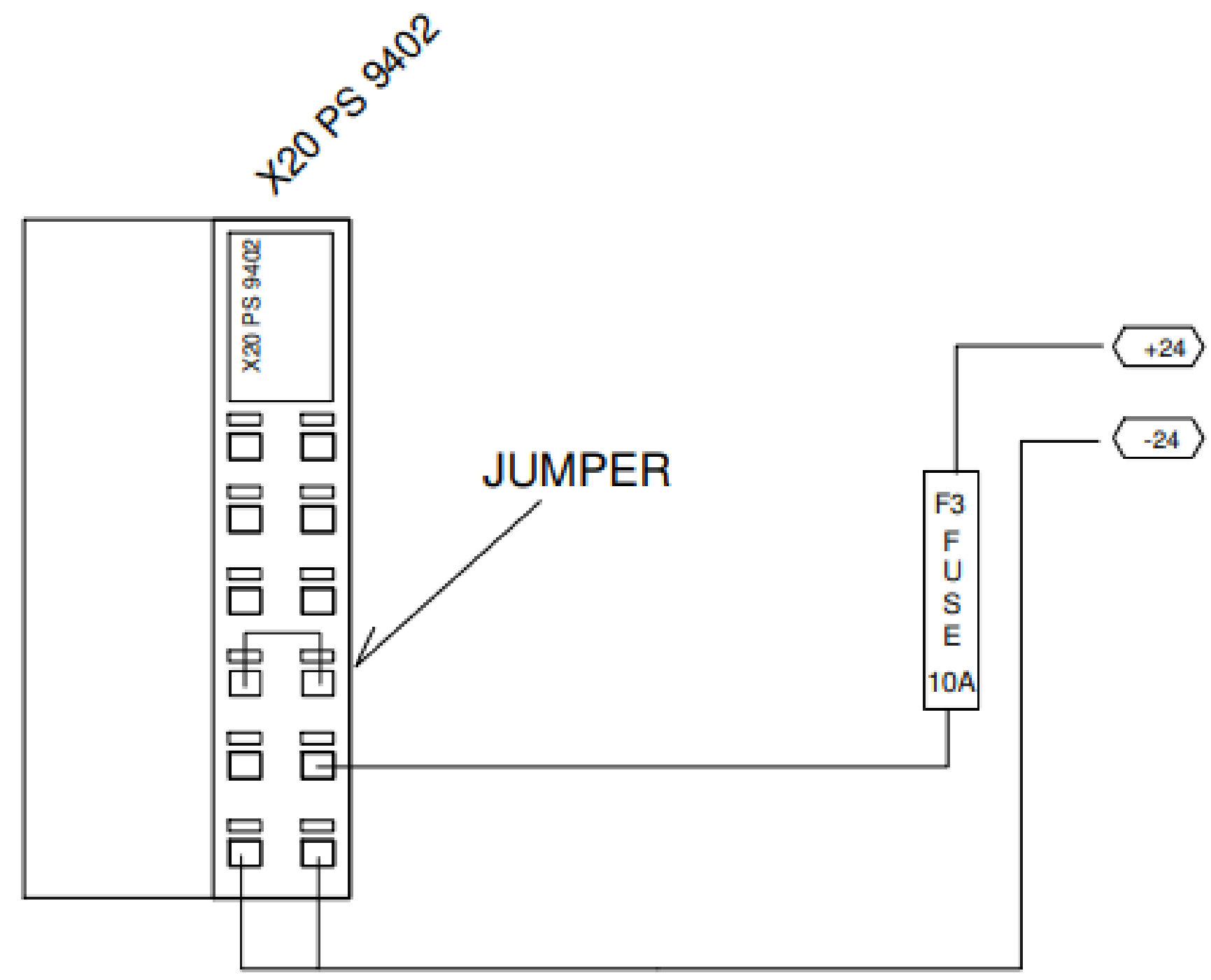


Schematics-





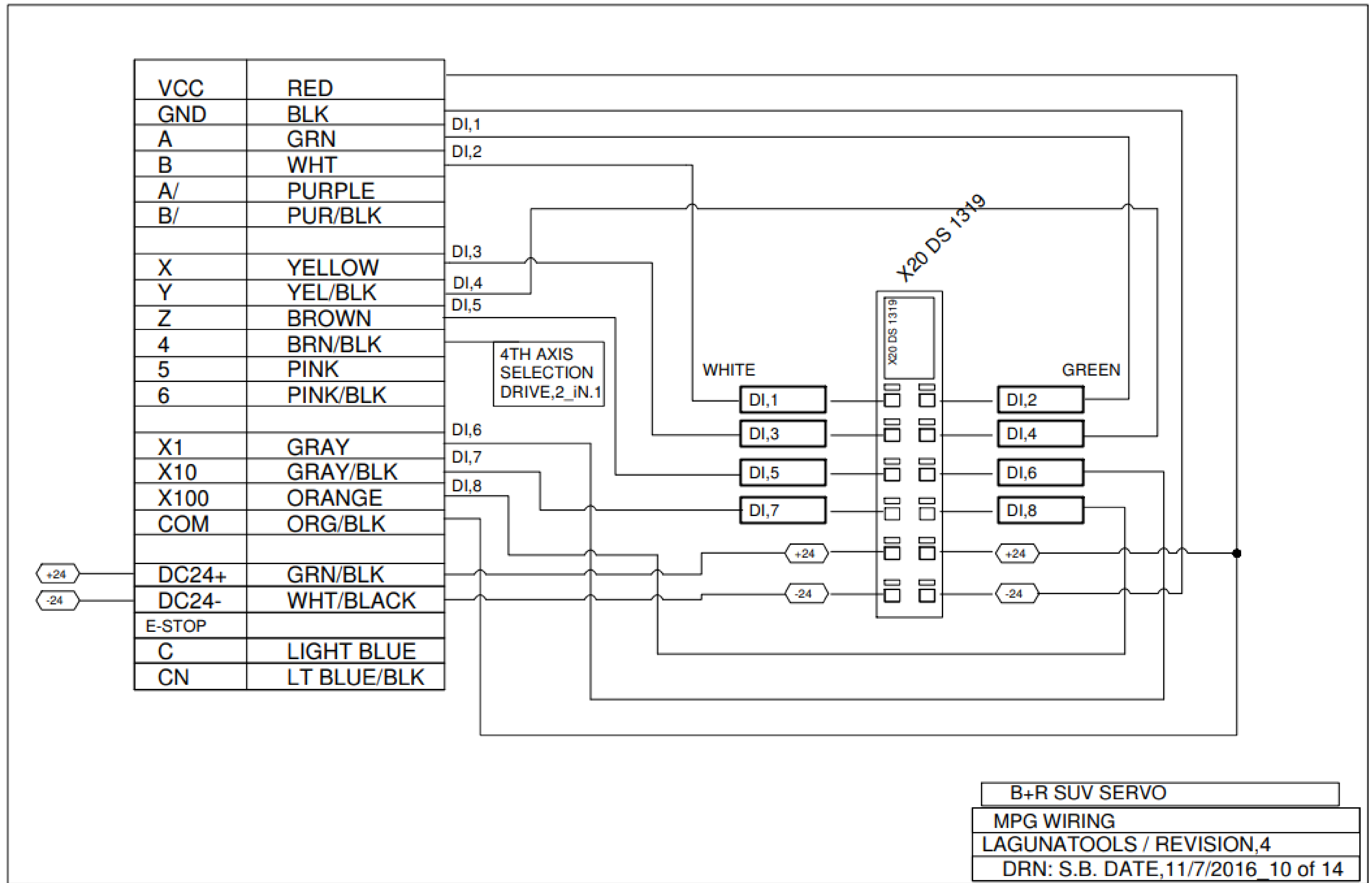
Schematics-



B+R SUV SERVO
P.S. WIRING
LAGUNATOOLS / REVISION,3
DRN: S.B. DATE,8/26/2016 9 of 14

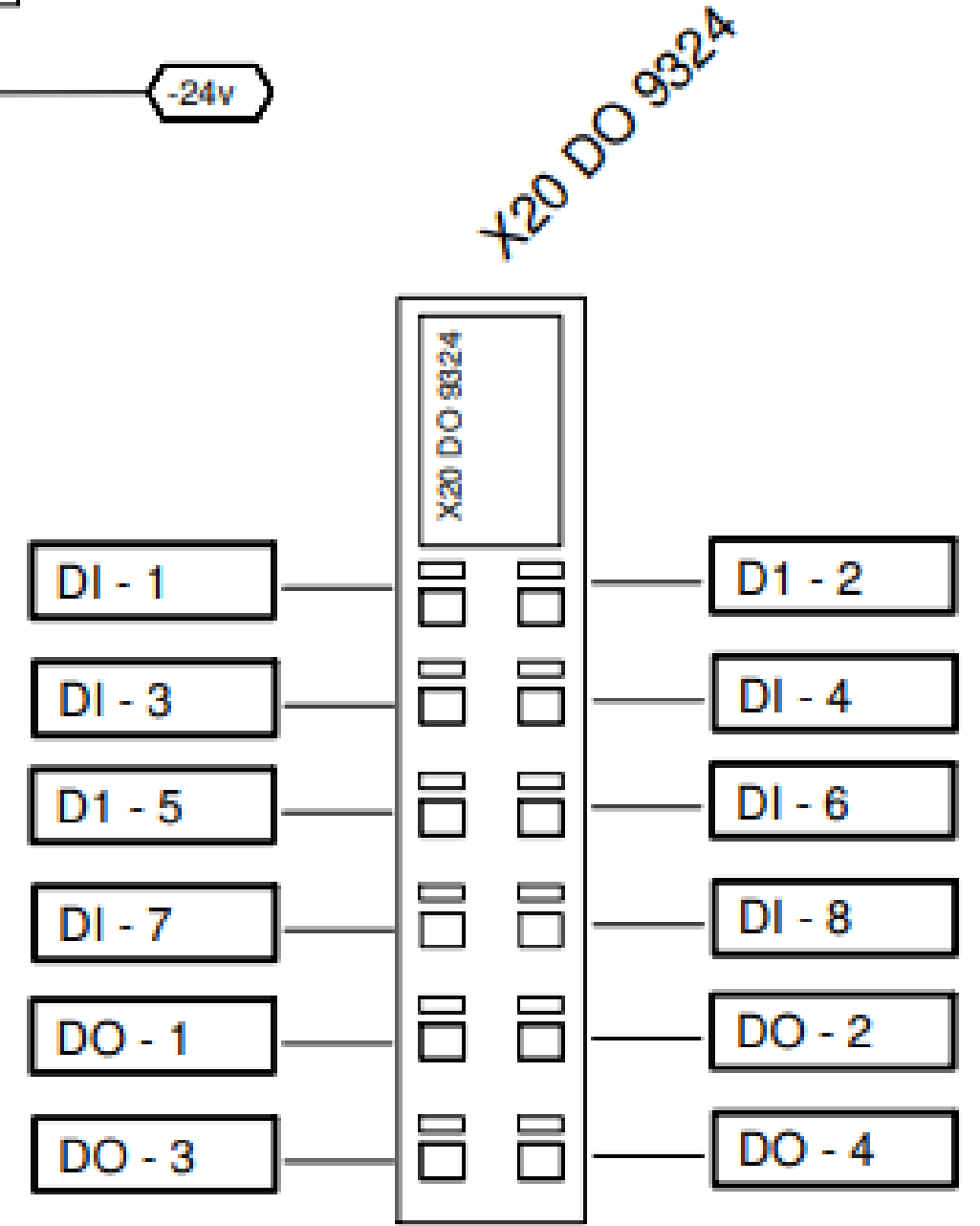
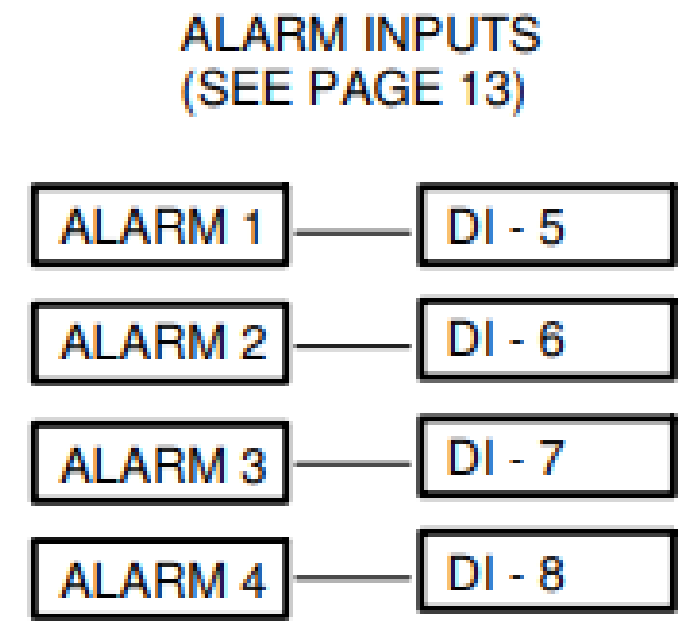
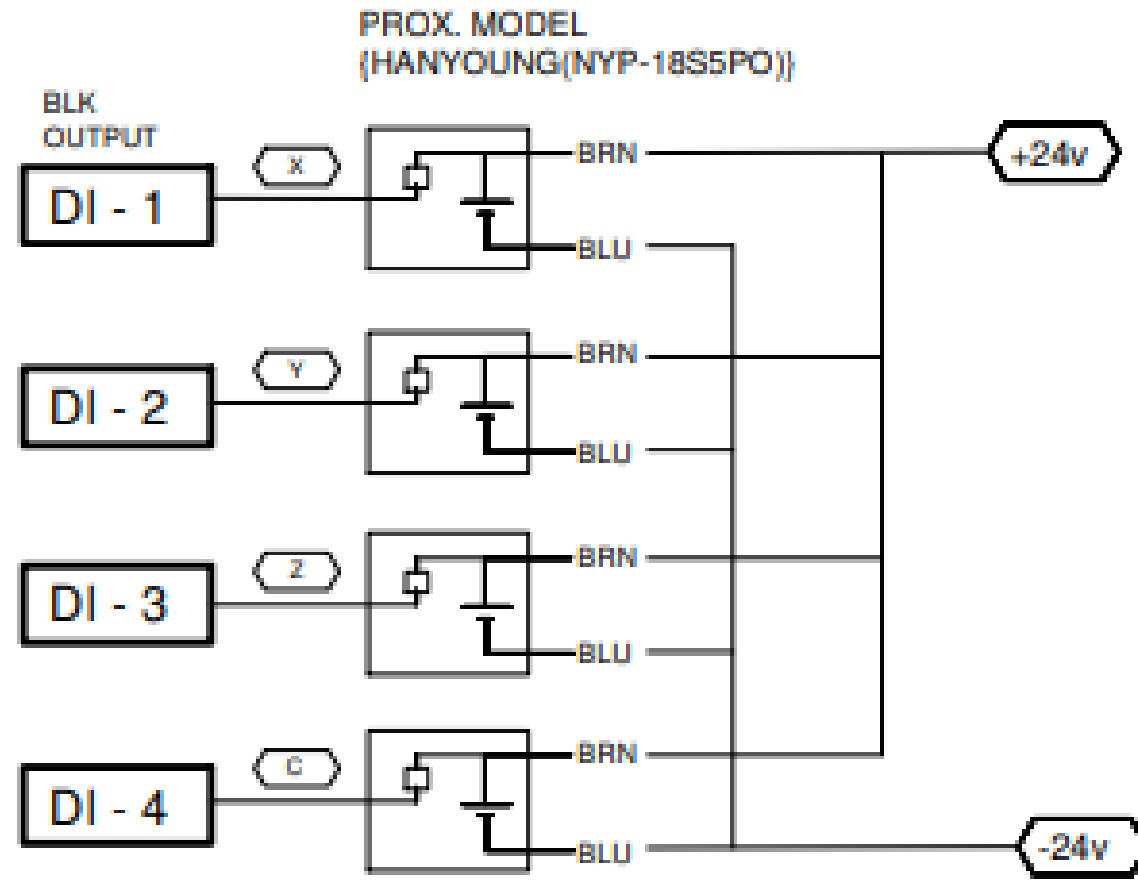
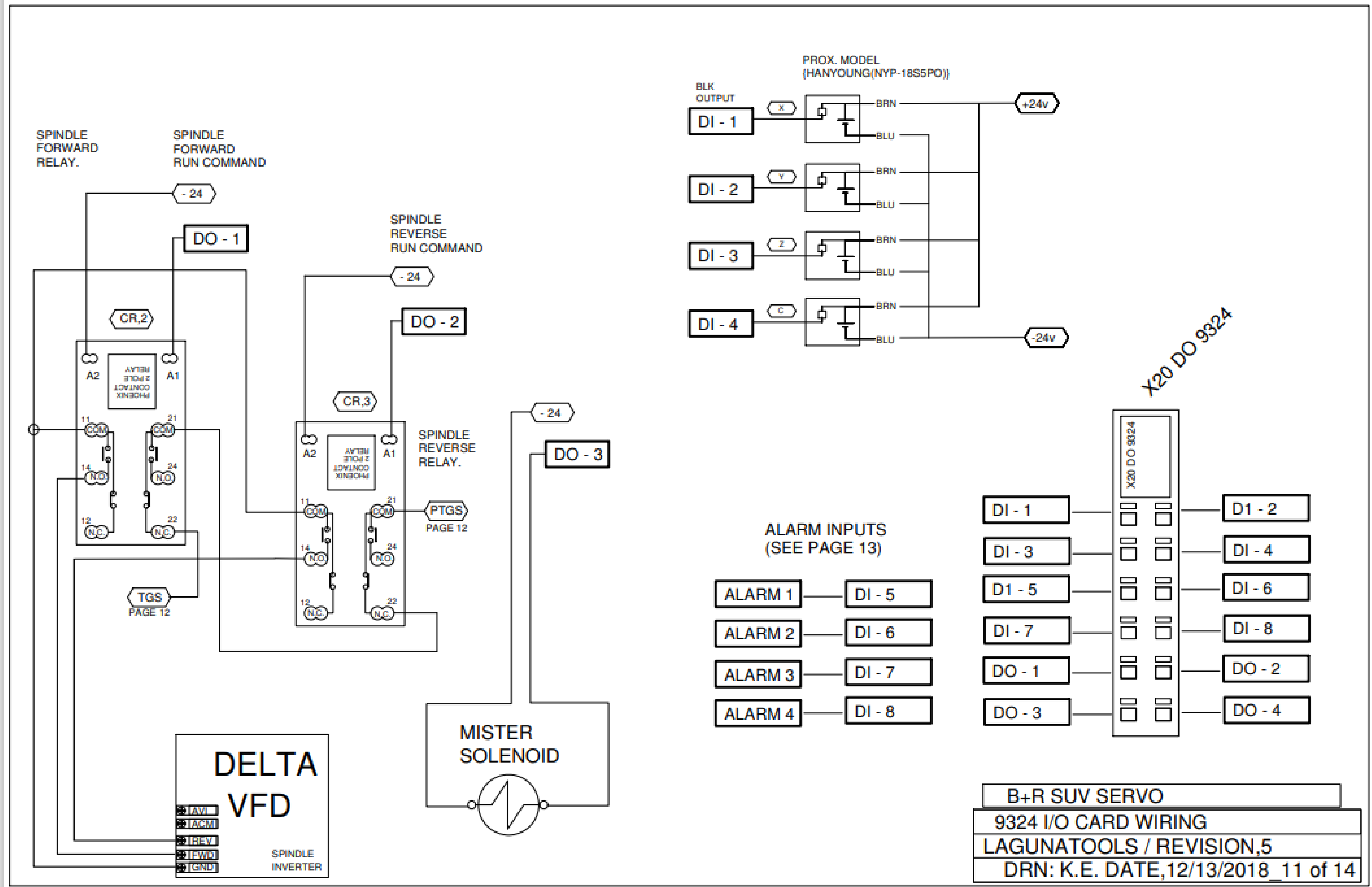


Schematics-





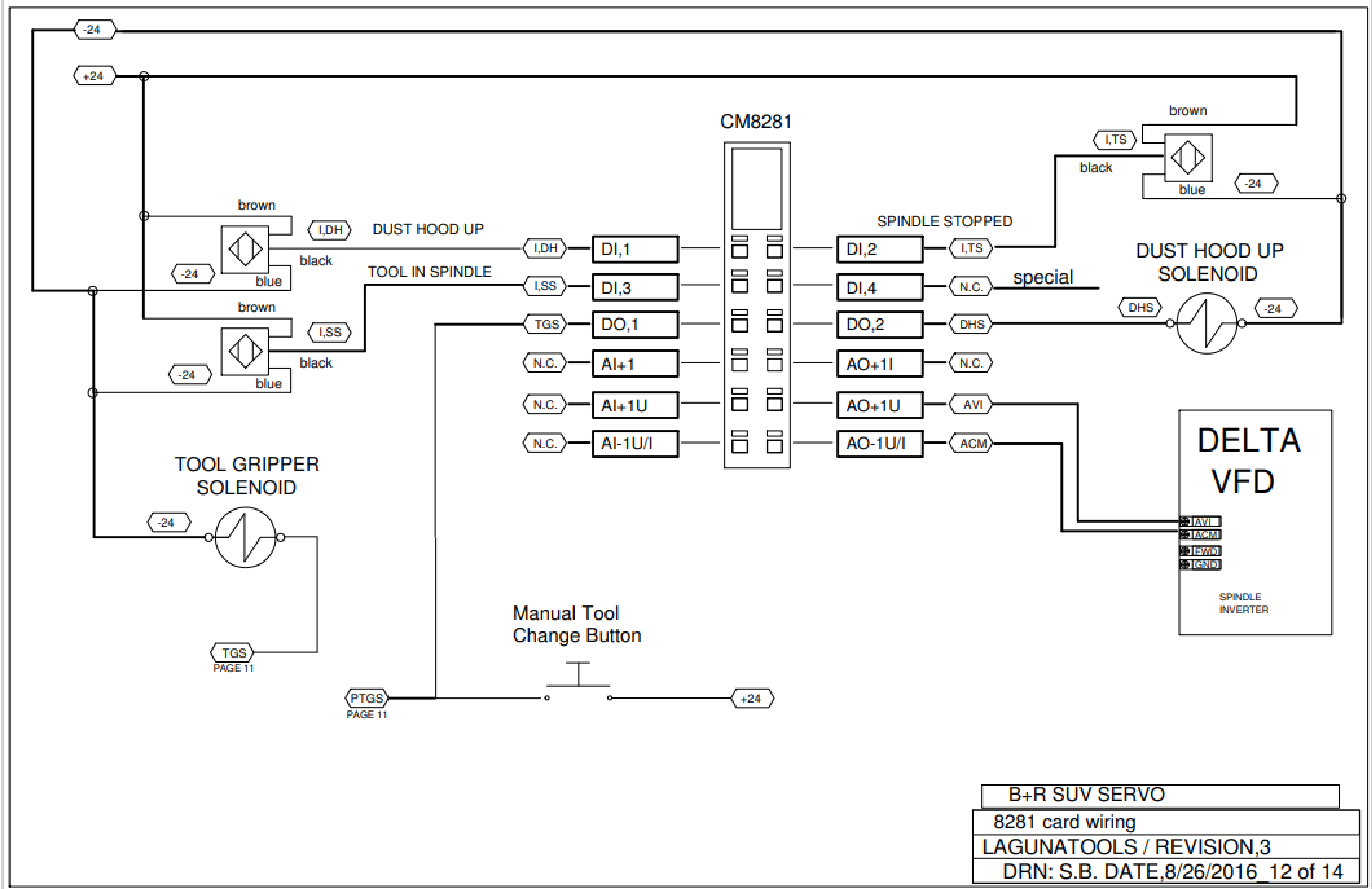
Schematics-



B+R SUV SERVO
9324 I/O CARD WIRING
LAGUNATOOLS / REVISION,5
DRN: K.E. DATE,12/13/2018_ 11 of 14



Schematics-





Schematics-

DELTA VFD-B HSD VFD SETTINGS 24,000RPM

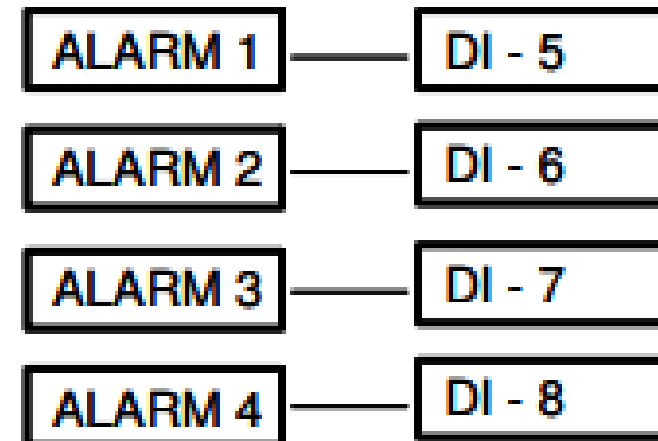
- 00-00 / 4772
- 00-07 / 33582
- 01-00 / 800
- 01-01 / 800
- 01-02 / 220
- 01-09 / 10
- 01-10 / 10
- 02-00 / 1
- 02-01 / 1
- 02-10 / 1
- 04-00 / 0
- 07-00 / 60
- 07-04 / 4 no. of poles
- 07-05 / 2
- 07-06 / 990
- 08-00 / 60
- 08-02 / 1
- 08-03 / 38.4
- 00-09 / 2

DELTA VFD-B

220V,10HP VACUUM VFD

- 01-00 = 60
- 01-01 = 60
- 01-02 = 220
- 02-00 = 0
- 02-01 = 1MOVE

ALARM DESCRIPTION



NOTE:
ALL ALARMS ARE ACTIVE LOW.
UNUSED ALARM INPUTS MUST BE WIRED TO +24VDC.

ALARM 1 - 2 - 3 PRODUCE FEED-HOLD CONDITION.
WHEN ALARM IS CLEARED - MACHINE CAN RESUME OPERATION.

ALARM 4 WILL INHIBIT TOOL CHANGE OPERATION (USE FOR LOW PSI CONDITION).
WHEN ALARM IS CLEARED, TOOL CHANGE OPERATION CAN OCCUR.

INPUT MODULE SHOWN ON PAGE 11.

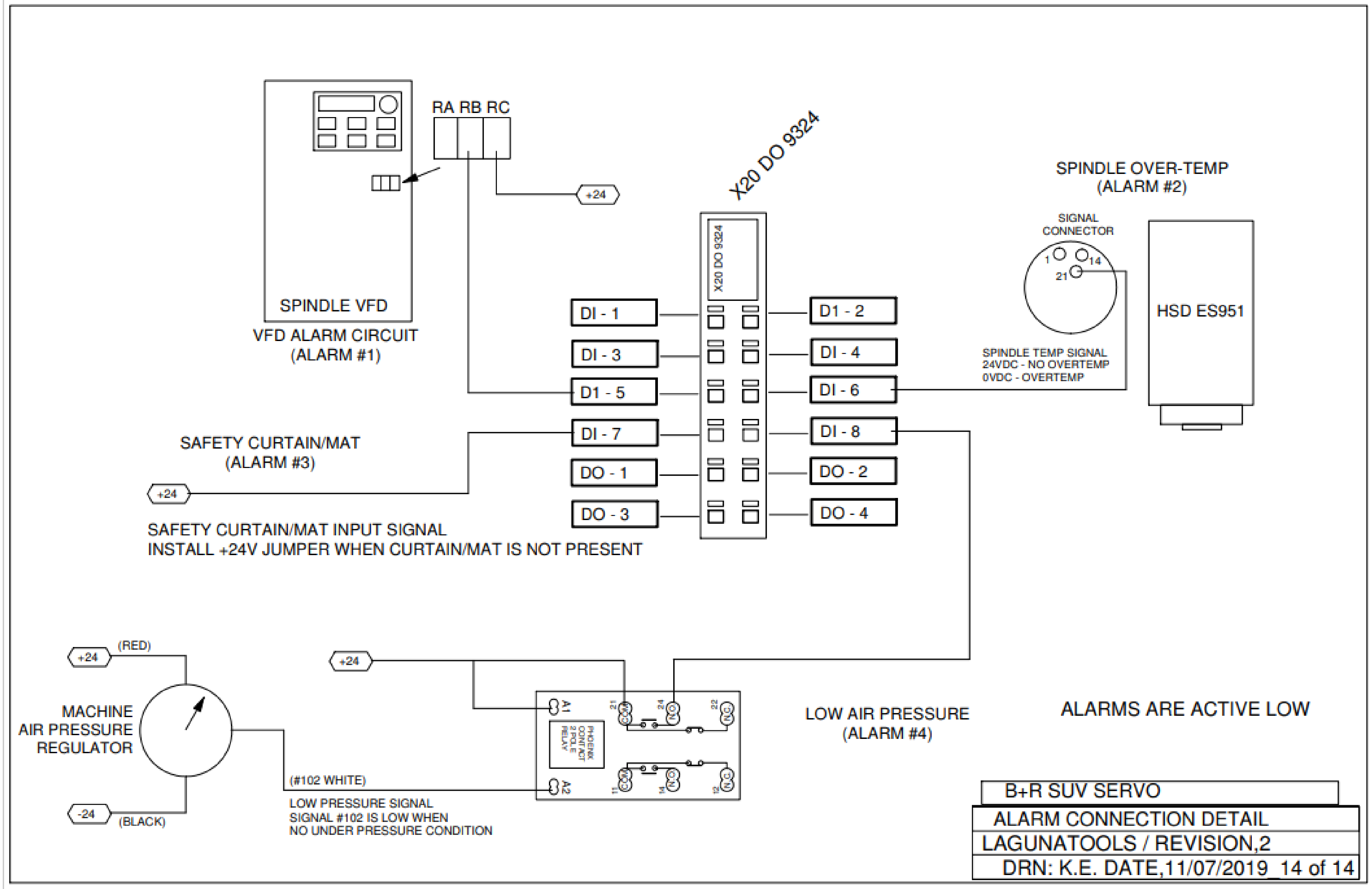
B+R SUV SERVO

VFD SETTINGS - ALARMS
LAGUNATOOLS / REVISION,3

DRN: S.B. DATE,8/26/2016 13 of 14



Schematics-



B+R SUV SERVO
 ALARM CONNECTION DETAIL
 LAGUNATOOLS / REVISION,2
 DRN: K.E. DATE,11/07/2019 14 of 14



Delivery Protocol-

- Most large machinery will be delivering on a tractor trailer 48'-53' long. Please notify Sales Representative with any Delivery Restrictions.
- Customer is required to have a forklift (6000lb. or larger is recommended) with 72" forks or fork extensions and operator.
- Note any visible damage, torn packaging, scuffs or any abnormal marks on the delivery receipt or Bill of Lading (BOL).

BILL OF LADING							
Date: 12/02/2020							
SHIP FROM			Bill of Lading Number : 145787446				
Name: Nathaniel Boomer Address: 4700 Burleson Rd Units L M City/State/Zip: AUSTIN, TX 78704 Ph: (512) 645-4170 Contact: Nathaniel Boomer			Carrier Name: Estes Express SCAC: EXLA Pro number:				
SHIP TO			Freight Charge Terms: (freight charges are prepaid by Worldwide Express unless indicated otherwise)				
Name: Laguna Tools TX Address: 744 Refuge Way Suite 200 City/State/Zip: GRAND PRAIRIE, TX 75050 Ph: 9494741200 Contact: Vince (ZM) RMACR11096			Master Bill of Lading: with attached underlying Bill Of Lading				
FREIGHT CHARGES BILL TO			WWE Number: W709699351				
Name: Worldwide Express Address: 2828 Routh Street Suite 400 City/State/Zip: Dallas, TX 75201			SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP				
SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP			Handling Instructions: RMACR11096				
Pickup Instructions:			Pickup Instructions:				
Delivery Instructions: RMACR11096			Delivery Instructions: RMACR11096				
Pickup Service(s): Liftgate Pickup, Residential Pickup			Pickup Service(s): Liftgate Pickup, Residential Pickup				
REFERENCE NUMBER INFORMATION							
REFERENCE	# PKGS	REFERENCE	# PKGS	Total # of Pkgs			
CARRIER INFORMATION							
HANDLING UNITS		PIECES		COMMODITY DESCRIPTION Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged to ensure safe transportation with ordinary care. See section 2(e) of NMFC Item 360	LTL ONLY		
QTY	TYPE	QTY	TYPE		NMFC#	CLASS	
1	PLT			machine, 48(L) x 48(W) x (H) DO NOT STACK		77.5	
1				Grand Total			
Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of property as follows: The agreed or declared value of the property is specifically stated by the shipper to be not exceeding _____ per _____				COD Amount: \$ Fee Terms: 3 rd Party WWE Remit Address:		Acceptable Forms of Payment: Bank Certified Check <input type="checkbox"/> Customer Check <input type="checkbox"/> Personal Check <input type="checkbox"/> Money Order <input type="checkbox"/>	
Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. B14706(c)(1)(A) and (B).				CARRIER SIGNATURE / PICKUP DATE Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and for carrier has DOT emergency response guidebook or equivalent documentation in vehicle. Property described above is received in good order, except as noted.			
SHIPPER'S SIGNATURE / DATE This is to certify that the above-named materials are properly classified, described, packaged marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.		Trailer Loaded: <input type="checkbox"/> By Shipper <input type="checkbox"/> By Driver		Freight Counted: <input type="checkbox"/> By Shipper <input type="checkbox"/> By Driver/pallet said to contain <input type="checkbox"/> By Driver/Pieces		[Signature] (Date)	
[Signature] (Date)							

Bill of Lading Number : 145787446

SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP

Handling Instructions: RMACR11096

Pickup Instructions:

Delivery Instructions: RMACR11096

Pickup Service(s): Liftgate Pickup, Residential Pickup



Parts & Service



Laguna Tools Warranty-

Dealer Machinery Warranty

New woodworking machines sold by Laguna Tools carry a two-year warranty effective from the date of dealer invoice to customer/end-user. Machines sold through dealers must be registered with Laguna Tools within 30 days of purchase to be covered by this warranty. Laguna Tools guarantees all new machine sold to be free of manufacturers' defective workmanship, parts and materials. We will repair or replace, without charge, any parts determined by Laguna Tools, Inc. to be a manufacturer's defect. We require that the defective item/part be returned to Laguna Tools with the complaint. The end-user must request an RMA (return material authorization) number from Customer Service and include the (RMA) number with any and all returned parts/components requesting warranty coverage.* Any machines returned to Laguna Tools must be returned with packaging in the same manner in which it was received. If a part or blade is being returned it must have adequate packaging to ensure no damage is received during shipping. In the event the item/part is determined to be damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges. This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, lack of or inadequate dust collection, misuse/abuse or damage caused where repair or alterations have been made or attempted by others.

****NOTE: Issuing an RMA number is for referencing materials and issues, it does NOT indicate warranty acceptance/conformity.**



Laguna Tools Warranty-

CNC Limited Warranty

New CNC machines sold by Laguna Tools carry a one-year warranty effective from the date of shipping. Laguna Tools guarantees all new machine sold to be free of manufacturers' defective workmanship, parts, and materials. We will repair or replace without charge, any parts determined by Laguna Tools, Inc. to be a manufacturer's defect. We require that the defective item/part is determined to be damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges. This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, lack of or inadequate dust collection, misuse/abuse or damage caused where repair or alterations have been made or attempted by others.

Laguna Tools, Inc. is not responsible for additional tools or modifications sold or performed (other than from/by Laguna Tools, Inc.) on any Laguna Tools, Inc. woodworking machine. Warranty maybe voided upon the addition of such described tools and/or modifications, determined on a case-by-case basis. Software purchased through Laguna Tools, Inc., is not covered under this warranty and all technical support must be managed through the software provider. Normal user alignment, adjustment, tuning and machine settings are not covered by this warranty. It is the responsibility of the user to understand basic woodworking machinery settings and procedures and to properly maintain the equipment in accordance with the standards provided by the manufacturer.

Parts under warranty are shipped at Laguna Tools, Inc.'s cost either by common carrier, FEDEX ground service or a similar method.

Technical support to install replacement parts is primarily provided by phone, fax, e-mail or Laguna Tools Customer Support Website. The labor required to install replacement parts is the responsibility of the user. Laguna Tools is not responsible for damage or loss caused by a freight company or other circumstances not in our control. All claims for loss or damaged goods must be notified to Laguna Tools within twenty-four hours of delivery.

Please contact our Customer Service Department for more information. Only NEW machines sold to the original owner are covered by this warranty. For warranty repair information, call 1-800-332-4094. Copyright 2013 Laguna Tools, Inc. *Warning – no portion of these materials may be reproduced without written approval from Laguna Tools, Inc.**



Laguna Tools Warranty-

WARRANTY & REGISTRATION

THANK YOU!

Welcome to the Laguna Tools® group of discriminating woodworkers. We understand that you have a choice of where to purchase your machines and appreciate the confidence you have in the Laguna Tools® brand.

Through hands-on experience, Laguna Tools® is constantly working hard to make innovative, precision products. Products that inspire you to create works of art, are a joy to operate, and encourage your best work.

Laguna Tools®
Imagination, Innovation, and Invention at Work

WARRANTY & REGISTRATION

Every product sold is warranted to be free of manufacturers' defective workmanship, parts, and materials. For any questions about this product, the intended use or what it was designed for, customer service, or replacement parts, please contact our customer service department:

Laguna Tools® Customer Service
2072 Alton Parkway, Irvine, California 92606, USA
1-800-332-4049
customerservice@lagunatools.com
www.lagunatools.com/why/customer-service/
8AM. to 5PM PST, Monday through Friday

For warranty claims or to report damage upon receiving – please reach out to our warranty department:

Laguna Tools® Warranty Service
2072 Alton Parkway, Irvine, California 92606, USA
1-949-474-1200
customerservice@lagunatools.com
www.lagunatools.com/policies/warranty
8AM to 5PM PST, Monday through Friday

REGISTRATION

To prevent voiding this warranty, all products sold must be registered within thirty (30) days of receiving the product. Registering the product will enable the original purchaser to receive notifications about important product changes, receive customer service, and be able to file a warranty claim against defective workmanship, parts, or materials.



WHO IS COVERED

The applicable warranty covers only the initial purchaser of the product from the date of receiving the product. To file such claims, the original purchaser must present the original receipt as proof of purchase.

WHAT IS COVERED

The warranty covers any defects in the workmanship of all parts and materials that make up the machine unless otherwise specified. Any part, determined by Laguna Tools®, to have a defect will be repaired or replaced (and shipped), without charge. The defective item/part must be returned to Laguna Tools® with the complaint and proof of purchase in the original packaging that it was received in. In the event the item/part is determined to be not covered by this warranty, the customer will be responsible for the cost to replace the item/part and all related shipping charges.

WARRANTY LIMITATIONS

This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, or lack-of inadequate dust collection. The warranty may be voided against proof of misuse/abuse, damage caused where repair or alterations have been made or attempted by others, using the product for purposes other than those described as intended use (unless with consent by Laguna Tools®), modification to the product, or use with an accessory that was not designed for the product. It is the responsibility of the user to understand basic woodworking machinery settings and procedures and to properly maintain the equipment in accordance with the standards provided in this manual.

LENGTH OF WARRANTY

All new machines and optional accessories sold through an authorized dealer carry a two-year warranty effective the date of receiving the product. Machines sold for either commercial or industrial use have a one-year warranty. Wearable parts like throat plates, bandsaw guides, etc., have a ninety-day warranty.

Table A-1 Warranty Lengths

2 Year – New Machines Sold Through an Authorized Dealer
2 Year – Accessories Sold as Machine Options (excluding blades)
1 Year – Machines Sold for Commercial or Industrial Use
1 Year – Blades and Accessories outside of Machine Options
90 Days – Wearable Parts

Aside from being free of defects upon receiving, consumable parts, like cutters and abrasives, are not covered by this warranty unless otherwise stated by Laguna Tools®. These parts are designed to be used at the expense of the operator and are available for replacement or inventory purchase. The determination of a consumable part will be made on a case-by-case basis by Laguna Tools®.

SHIPPING DAMAGE

Laguna Tools® is not responsible for damage or loss caused by a freight company or other circumstances not in the direct control of Laguna Tools®. All shipping-related claims for loss or damage goods must be made to Laguna Tools within twenty-four hours of delivery.

HOW TO RECEIVE SUPPORT

To file a warranty-claim please contact the warranty department at 1-949-474-1200. To receive customer service or technical support please contact the customer service department at 1-800-332-4094. Parts, under warranty, are shipped at the expense of Laguna Tools® either by common carrier, FedEx ground services or similar method. Technical support to install replacement parts is primarily provided by phone, fax, email, or the Laguna Tools Customer Support Website.

LAGUNA



Laguna Tools Warranty-

No Modifications Allowed or Sold.

Laguna Tools, Inc. is not responsible for additional tools or modifications sold or performed (other than from/by Laguna Tools, Inc.) on any Laguna Tools, Inc. woodworking machine. Warranty maybe voided upon the addition of such described tools and/or modifications, determined on a case-by-case basis. Normal user alignment, adjustment, tuning and machine settings are not covered by this warranty. It is the responsibility of the user to understand basic woodworking machinery settings and procedures and to properly maintain the equipment in accordance with the standards provided by the manufacturer. Parts, under warranty, are shipped at Laguna Tools, Inc.'s cost either by common carrier, FEDEX ground service or a similar method. Technical support to install replacement parts is primarily provided by phone, fax, e-mail or Laguna Tools Customer Support Website. The labor required to install replacement parts is the responsibility of the user. Laguna Tools is not responsible for damage or loss caused by a freight company or other circumstances not in our control. All claims for loss or damaged goods must be notified to Laguna Tools within twenty-four hours of delivery. Please contact our Customer Service Department for more information. Only new machines sold to the original owner are covered by this warranty.

For warranty repair information, call 1-800-332-4094.



Laguna Tools Packaging/RMA Procedures-

Dealer Machinery Warranty

****Any machines returned to Laguna Tools must be returned with packaging in the same manner in which it was received. If a part or blade is being returned it must have adequate packaging to ensure no damage is received during shipping. In the event the item/part is determined to be damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges.**

We require that the defective item/part be returned to Laguna Tools with the complaint. The end-user must request an **RMA (Return Material Authorization) Number** from Customer Service and include the (RMA) number with any and all returned parts/components requesting warranty coverage.



Laguna Tools Packaging/Laguna Tools RMA Example-

RMA #

**RTN. AUTH. #
CR10979**

12/1/2020 Return Authorization - NetSuite (Laguna Tools, Inc)

Return Authorization
CR10979 Black Forest wood Co. PENDING RECEIPT

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CUSTOMER Black Forest wood Co.	CREATED FROM Sales Order #210855	Summary
DATE 11/5/2020	SALES EFFECTIVE DATE 11/5/2020	SUBTOTAL 1,686.59
CURRENCY Canadian Dollar	EST. EXTENDED COST 755.64	DISCOUNT
SUBSIDIARY Laguna Tools, Inc	EST. GROSS PROFIT 930.95	GST/HST 84.33
RTN. AUTH. # CR10979	EST. GROSS PROFIT PERCENT 55.1972%	PST 0.00
DEPARTMENT Sales : Wholesale	PROMISE DATE 5/12/2020	TOTAL 1,770.92
PRODUCT LINE	<input type="checkbox"/> DEPOSIT RECEIVED	
LOCATION Laguna Texas Demo / Returns	<input type="checkbox"/> ACCOUNTING APPROVAL	
SALES REP Benjamin Helshoj	COMMENTS Customer's bandsaw cast iron at the bottom is bent the customer can't insert bolts to stand. No shipping damage machine arrived in excellent condition do damage to packaging. PO 981	
PARTNER	RETURN REASON Manufacturers Warranty Defect	
LEAD SOURCE Dealer_Canada Dealer-Canada	SHIP IMMEDIATE SPLIT SHIP	
PO # PO-981	<input type="checkbox"/> REVISED INVOICE	
MEMO	ORDER HOLD REASON	

SHIPPING COMMENTS

Items Promotions Address Messages History Workflow Custom Partners Sales Team Additional Information OzLINK Pacejet SPS

EXCHANGE RATE 0.76094 **RATE**

DISCOUNT

ITEM	RETURNED	REFUNDED	QUANTITY	UNITS	INVENTORY DETAIL	DESCRIPTION	PRICE LEVEL	UNIT PRICE	AMOUNT	TAX CODE	TAX RATE	PST	OPTIONS	GIFT CERTIFICATE	CLOSED	DROP SHIPMENT	COI ESI TYF
Machine : Bandsaw : MBAND1412- 175 14 12 Bandsaw 110V 1,75HP	0	0	1	Each	14-12 110 VOLT BANDSAW	Retail Price	1,686.59445773	1,686.59	CA- GST only	5.0%	0.0%						Item De Co

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Laguna Tools Packaging/Laguna Tools BILL of LADING Example-

BILL OF LADING								
Date: 12/02/2020								
SHIP FROM			Bill of Lading Number : <u>145787446</u>					
Name: Nathaniel Boomer Address: 4700 Burleson Rd Units L M			Carrier Name: <u>Estes Express</u>					
City/State/Zip: AUSTIN, TX 78704 Ph: (512) 645-4170 Contact: Nathaniel Boomer			SCAC: EXLA Pro number:					
FOB: <input type="checkbox"/>								
SHIP TO								
Name: Laguna Tools TX Address: 744 Refuge Way Suite 200								
City/State/Zip: GRAND PRAIRIE, TX 75050 Ph: 9494741200 Contact: Vince (ZM) RMACR11096								
FOB: <input type="checkbox"/>								
FREIGHT CHARGES BILL TO			Freight Charge Terms: (freight charges are prepaid by Worldwide Express unless indicated otherwise)					
Name: Worldwide Express Address: 2828 Routh Street Suite 400 City/State/Zip: Dallas, TX 75201			<input type="checkbox"/> Master Bill of Lading: with attached underlying Bill Of Lading					
SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP			WWE Number: W709699351					
Handling Instructions: RMACR11096								
Pickup Instructions:								
Delivery Instructions: RMACR11096								
Pickup Service(s): Liftgate Pickup, Residential Pickup								
REFERENCE NUMBER INFORMATION								
REFERENCE	# PKGS	REFERENCE	# PKGS	Total # of Pkgs				
CARRIER INFORMATION								
HANDLING UNITS		PIECES		WEIGHT	H.M. X	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention in handling or slowing must be so marked and packaged to ensure safe transportation with ordinary care. See section 2(e) of NMFC Item 360</small>	LTL ONLY	
QTY	TYPE	QTY	TYPE				NMFC#	CLASS
1	PLT			385		machine, 48(L) x 48(W) x (H) DO NOT STACK		77.5
1				385		Grand Total		
Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of property as follows: The agreed or declared value of the property is specifically stated by the shipper to be not exceeding _____ per _____								
Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. B14706(c)(1)(A) and (B)								
RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and Worldwide Express Operations, LLC, a registered motor carrier broker, pursuant to 49 USC 14101(b) and all applicable state and federal regulations.								
SHIPPER'S SIGNATURE / DATE <small>This is to certify that the above-named materials are properly classified, described, packaged marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.</small>		Trailer Loaded: <input type="checkbox"/> By Shipper <input type="checkbox"/> By Driver		Freight Counted: <input type="checkbox"/> By Shipper <input type="checkbox"/> By Driver/pallet said to contain <input type="checkbox"/> By Driver/Pieces		COD Amount: \$ Fee Terms: 3 rd Party WWE Remit Address:		
(Signature) _____ (Date) _____						Acceptable Forms of Payment: Bank Certified Check <input type="checkbox"/> Customer Check <input type="checkbox"/> Personal Check <input type="checkbox"/> Money Order <input type="checkbox"/>		
						CARRIER SIGNATURE / PICKUP DATE Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and /or carrier has DOT emergency response guidebook or equivalent documentation in vehicle. Property described above is received in good order, except as noted. (Signature) _____ (Date) _____		

Bill of Lading Number : 145787446

SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP

Handling Instructions: RMACR11096

Pickup Instructions:

Delivery Instructions: RMACR11096

Pickup Service(s): Liftgate Pickup, Residential Pickup