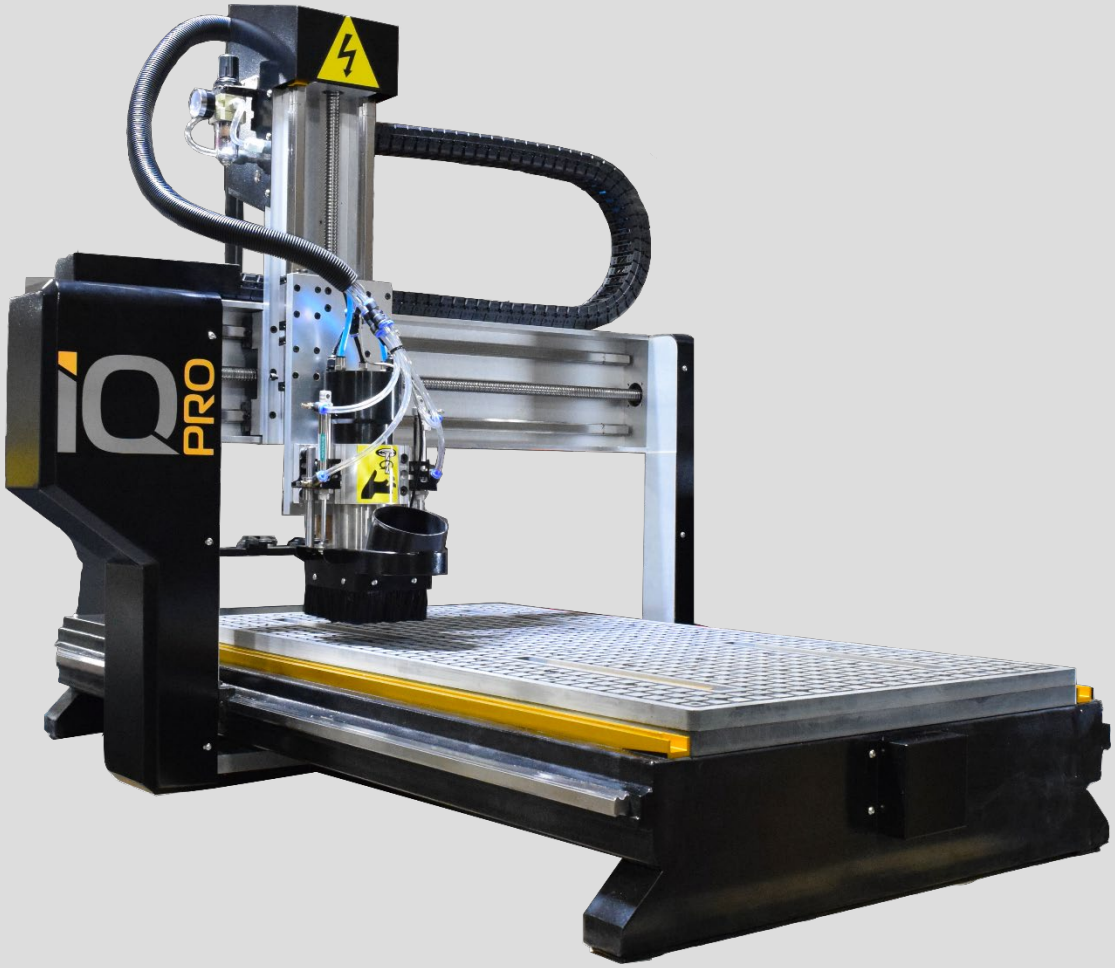
IQ Pro Owner's Manual



LAGUNA

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Scope of This Manual

This manual outlines the basic operations, Quick Start, Multi-Tool Programs, Maintenance, and Troubleshooting for the IQ PRO Router equipped with the Rich Auto B57E Handheld Controller.

For detailed instructions and videos, please go to www.lagunatools.com. Refer to www.lagunatools.com for the latest manual revision.

Customer Service

For technical support, please contact Laguna Tools Customer Service by phone 1-800-332-4094.

In the space provided, record the serial number, model number, and install date of the machine.

Serial No.	
Model No.	
Install Date:	

Revision R03 V09 (05/15/2026)

Table of Contents

1.0 General Information and Safety

1.1 Overview

SAVE THIS MANUAL. Keep this manual for the safety warnings, precautions, assembly, operating, inspection, and maintenance procedures. Read this Owner's Manual in its entirety prior to assembly or operation.

Read and understand all warnings and operation instructions before using any tool or equipment. Always follow basic safety precautions to reduce the risk of personal injury. Improper operation, maintenance, or modification of tools or equipment could result in serious injury or property damage. Laguna Tools equipment is designed for specific and limited applications. This product should not be modified nor used for any application other than its intended use.

PERSONAL SAFETY IS THE RESPONSIBILITY OF THE OPERATOR.

1.2 Safety Signs and Callouts

DANGER

An imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

A potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

A potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTE

A helpful tip from Laguna Tools technical staff.

1.3 Proposition 65 Warning of Harmful Exposure

Some dust created by sanding, sawing, grinding, drilling, machining, and other construction activities contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paint.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically treated lumber.

⚠ DANGER

Fire Warning

Use extreme caution when working with flammable materials such as wood or acrylic, as they are more volatile than other materials. Keep the machine clean and follow the maintenance schedule. Always have a fire extinguisher ready to extinguish a fire. Never leave the machine running unattended. The tools sold by Laguna Tools are safe when used properly, as described by the American National Safety Institute, the UL Standards of safe tool use, and the IEC standards of safe tool use. Laguna Tools is in no way responsible for injury or death that occurs while using this product.

The risk of exposure varies depending on frequency of use. To reduce exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles. For more information go to https://www.p65warnings.ca.gov/.

1.4 Intended Use

The machine is designed to cut wood, acrylics, wood-fiber composites, certain plastics, and non-ferrous metals. Do not use this machine for anything other than its intended use.

1.5 Safety Information

The machine is an electrical appliance and precision machine. Please read and understand the entire owner's manual before attempting assembly or operation. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all warnings may cause serious personal injury or damage to the machine.

The machine is designed and intended for use by properly trained and experienced personnel only. Personnel who are not familiar with the correct and safe operation of the machine should not operate the machine until properly trained.

1. Never operate machinery under the influence of drugs or alcohol, when tired, or when distracted.
2. Stay alert at all times while operating the machine.
3. Always wear safety glasses and hearing protection.
4. Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce the risk of slipping and losing control or accidentally contacting cutting tool or moving parts.
5. Never stand on the machine. Serious injury may occur if the machine is tipped or if the cutting tool is unintentionally contacted.
6. Know where the emergency stop switch is located.
7. Perform daily inspection of the machine for damaged, loose, or improperly adjusted parts or any condition that could affect safe operation. For your own safety, do not operate the machine with damaged parts.
8. Use the machine only in clean areas free from excessive moisture or flammable objects.
9. Keep the working area clean and ensure adequate lighting is available.
10. Cables and cords should be inspected regularly.
11. Do not attempt to exceed the limits of the machine.
12. Keep the machine, electrical cabinet, and cables away from excessive heat, flammable substances, and sharp objects.
13. Keep the machine, electrical cabinet, and surrounding area clear of obstructions and free from excessive moisture.
14. Safety Signs should be attached to places that are easy to spot.
15. Disconnect power to all system components when not in use, when changing accessories, and before servicing. Remove the switch keys or lock-out the machine to prevent unauthorized use and child-proof the workshop.
16. Exercise care with machine controls and around keypad to avoid unintentional start-up.
17. The machine must be level. Level the machine if the ground is uneven.

18. Ensure the keys and adjusting wrenches have been removed and all the nuts and bolts are secured.
19. Keep cutting tools clean and sharp.
20. Do not use dull, gummy, or cracked cutting tools.
21. Lubricate and change accessories when necessary.
22. Keep controls clean and dry.
23. Consult the Owner's Manual or contact Laguna Tools for recommended accessories. Using improper accessories will increase the risk of serious injury or damage.
24. Keep a copy of this manual for future reference.
25. All motion parameters have been set up by Laguna Tools. If any modifications are required, please have a qualified operator perform the changes.

1.5.1 Shop Environment

1. Verify the floor can bear the weight of the machine and workpieces.
2. Ensure the floor around the machine is clean and free of scrap material, oil, and grease.
3. Do not lean material against the gantry, guide rails, or table.
4. Support the weight of the dust hose attached to the dust shoe (optional) accessory to prevent the weight of the hose from dislodging the dust shoe. Ensure that there is sufficient slack in the dust collection hose to allow the spindle to cover the entire work area.
5. Position the machine away from overhead pipes and plumbing fixtures to prevent condensation from dripping on to the spoil boards and control system components.
6. Locate the machine away from sinks, faucets, or other water supplies or storage to prevent splash-out that can damage the spoil boards and control system components.
7. Provide adequate room between this machine and other machines in the shop to reduce the chance of accidental jarring when transporting lumber or other heavy materials through the shop and while materials are being worked on other machines.
8. Verify there is adequate space between machines to allow for the possibility the workpiece will extend over the end of the machine.
9. Ensure that the lighting your machine is placed under is sufficient to safely perform regular operation and maintenance. Any glares, shadows, or strobe lighting which may distract or prevent the operator from safely operating the machinery should be removed from the working area.
10. Store cutting tools in a dry location and prevent contact to preserve the cutting edge.

1.5.2 Health and Safety

1. Always wear approved personal health and safety equipment as indicated for the materials and type of operations that will be performed. These should include face, eye, respiratory, hearing, and body safety protection devices. Wear safety glasses/face shield and ear protectors (plugs or muffs) even during short periods of operation.
2. Before operating this machine: remove all hand, wrist, or neck jewelry and push sleeves up over the elbows. Do not wear loose clothing which may become caught in the machine and confine long hair. Non-slip footwear or anti-skid floor strips are recommended.
3. Use a dust mask or other safeguards to avoid inhaling dust generated from wood products. Install dust collection equipment consistent with shop ventilation practices and budget. Remove dust and debris from the floor frequently to prevent slipping. Drilling, sawing, sanding, or machining wood products generates wood dust and other substances known to the State of California to cause cancer. Wood products also emit chemicals known to the State of California to cause birth defects or other reproductive harm (California Health and Safety Code Section 56).
4. In addition to other health hazards, dust from wood and other materials is flammable. Do not operate welding, wood burning, smelting, soldering, or other high-heat tools on the machine or vicinity.
5. Do not operate this machine while tired or under the influence of drugs, alcohol, or any medications.

1.5.3 Electrical Safety

1. Verify the switch is in the OFF position before connecting the machine to the power supply.
2. Verify the machine is properly grounded and the circuit is protected with a fuse or circuit breaker in accordance with local codes. Install a separate circuit if necessary to limit power loss when multiple machines in the shop are operating simultaneously. If necessary, place a cover on the outlet to prevent accidental disconnection.
3. Verify all machine adjustments or maintenance with the machine unplugged from the power source.
4. Follow effective lockout procedures to reduce the risk from high voltage wires and components and prevent accidental operation.
5. Do not operate in a damp or wet location or exposed to rain, fog, or snow.
6. Keep the electrical cord away from sharp edges, heat or moving parts, and do not store materials on top of it. Position the cord so it will not become a tripping hazard.

7. While the use of an extension cord is discouraged, if it is necessary, verify the cord is in good condition, meets the current requirements, and is located so as not to present a tripping hazard.

1.5.4 Additional Safeguards

1. Remove and store adjusting keys and wrenches before turning on the power. If necessary for visibility, apply safety markings to adjusting wrenches and keys.
2. Install safety guards consistent with general shop safety practices. Always keep safety guards in place when the machine is in use. If removed for maintenance purposes, use extreme caution, and replace the guards immediately after completion of maintenance.
3. Check damaged parts immediately. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function.
4. Keep visitors a safe distance from the work area. Keep children away.
5. Control liquids in the shop to limit the possibility of spillage that can damage the machine and potentially cause damage or personal injury from electric shock or fire. Never use the table to apply or dry finishes.

1.5.5 Maintenance

1. Disconnect the machine from power when performing any maintenance.
2. Establish a weekly and monthly maintenance checklist and follow it diligently.
3. Routine maintenance should include periodic checks for alignment of moving parts, looseness, or binding of moving parts, worn or bare wires, breakage of parts, skewed mounting, and any other conditions that may affect its operation or cause injury. Analyze breakage or damage to determine the cause and take appropriate remedial action.
4. Do not operate the machine if a component of the control system is damaged. It should be properly repaired or replaced before use.
5. Follow instructions for lubricating and changing accessories.
6. Store maintenance tools and supplies nearby, consistent with the shop maintenance practices and resources.

1.5.6 Operational Practice

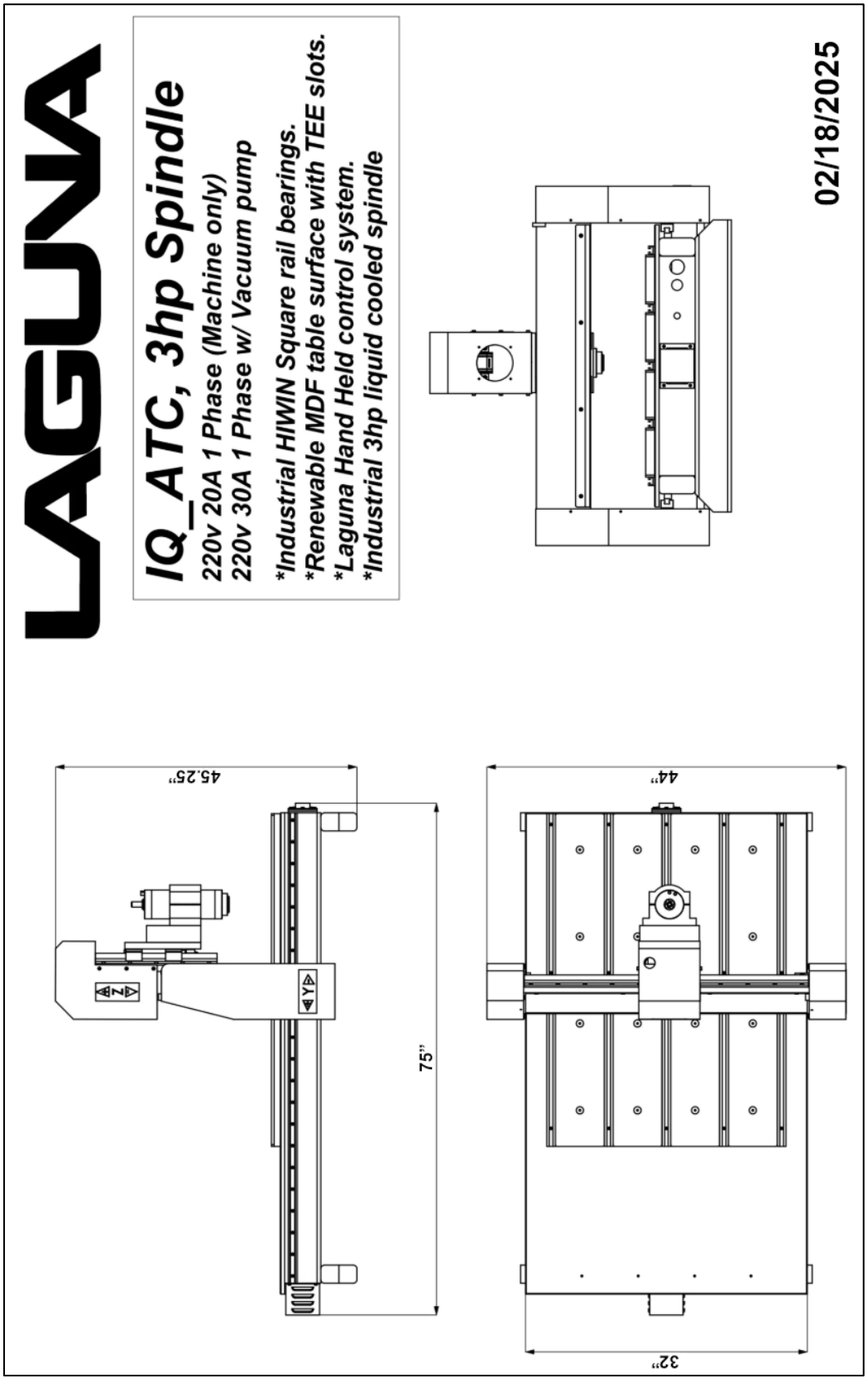
1. Never leave the machine running unattended. Always be in close reach of the emergency stop button.
2. Turn off the power and do not leave the machine until it comes to a complete stop.

3. Avoid pinch points and entanglement hazards. Keep hands and clothing away from any moving objects, rotating/moving cutting tools, ball screws, bearings, gantries, guide rails, and any other hazards while in operation.
4. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was designed. The right tool will do the job better and more safely.
5. Do not touch a cutting tool immediately after use. It will be hot and may cause skin burns. Exercise caution when handling any cutting tool and accessories. If the cutting tool is hot, keep a heat-resistant glove or oven mitt on hand for this purpose.
6. Do not lay a hot cutting tool on its side.
7. Use recommended accessories; improper accessories may be hazardous.
8. Do not use dull, gummy, or damaged cutting tools such as blades, bits, etc. Keep cutting tools clean and sharp for the best and safest performance.
9. Turn off the machine before cleaning. Use a vacuum or brush to remove chips or debris. Do not use bare hands.
10. Do not climb or stand on the machine. Serious personal injury and costly damage could occur if the machine tips over or any component is dislodged.
11. Remove loose items and unnecessary workpieces from the table before starting the machine.
12. Plan tool paths to make multiple passes rather than to take off a large amount of material at one time. This will reduce mechanical stress and heat on cutting tools.
13. Always secure a workpiece to the spoil bard using clamps, vacuum, or double-sided tape. If the workpiece is mounted in a jig, ensure that the fixture is securely held to the table. Never hold a workpiece down by hand while operating.
14. Inspect the material of the workpiece to detect any defects that may result in ejection of large pieces of scrap.
15. Verify the workpiece is free from nails, hardware, or other foreign objects.
16. After installing a cutting tool, verify the collet is securely tightened. An unsecured cutting tool may fly loose from the collet and cause injury. Verify that the adjusting wrenches have been removed and are secured before turning on the power.

2.0 Machine Specifications

Spindle RPM	6,000 – 24,000
Controller	Rich Auto DSP B57E Handheld
Ball Screw	On All Axis
Gantry Clearance	10"
Machine Worktable (W x L)	24" x 48"
Machine Footprint (W x L x H)	44" x 74" x 45.25"
Machine Table Frame (W x L)	30.5" x 62.25"
Control Cabinet Dimensions (W x L x H)	12.25" x 26.25" x 19.25"
Work Envelope (W x L)	24" x 48"
Weight	484 lbs. (220Kg)
Shipping Weight	650-700 lbs. (294-318kg)
Shipping Dimension (W x L x H)	68" x 88" x 65"

2.1 Dimensional Drawing



NOTES:

3.0 The IQ Pro Machine

The IQ Pro is designed to supply years of service. The IQ Pro performs multiple functions, thereby reducing the number of machines needed to complete projects.

3.1 IQ Pro Components

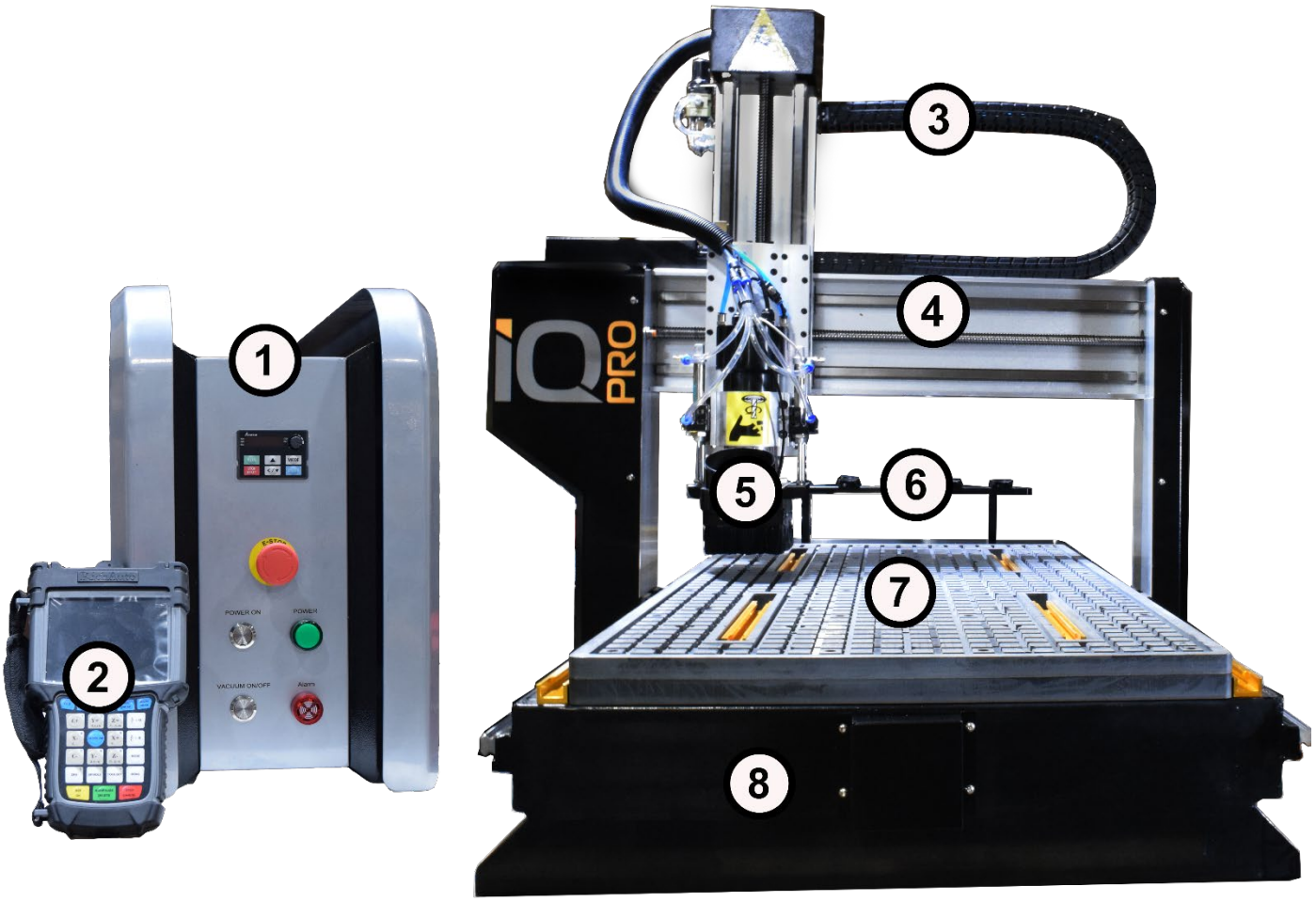


Figure 3-1: IQ Pro Machine Components

1. Electrical Control Box
2. Handheld Controller
3. Caterpillar Track
4. Gantry
5. Router Spindle
6. Automatic Tool Changer Holder
7. Vacuum Table
8. Frame

1. **Electrical Control Box**

   The electrical control box is attached to the machine by a flexible conduit and can be located close to the machine (preferably on a shelf under the machine). The electrical control box houses all the electrical components. There is an emergency stop switch, on/off switch, and spindle controller/display. There are carry handles on the sides of the box. The main power cable is located in the back of the box.

2. **Handheld Controller**

   The B57E Handheld Controller (HHC) controls all the functions of the IQ Pro.

3. **Caterpillar Track**

   The caterpillar track runs along the side of the machine in a trough and carries all the electrical cables and the spindle cooling tubes. There is a second caterpillar track under the bed of the machine that carries the electrical cables for the longitudinal movement.

4. **Gantry**

   The gantry straddles the bed and carries the router spindle motion system. It is moved along the length of the bed by the ball screw and guided by the linear bearing rails. The gantry is controlled by the handheld controller.

5. **Router Spindle**

   The high-precision router spindle is water-cooled. The spindle moves along three (3) axes by a precision ball screw system controlled by the handheld controller.

6. **Automatic Tool Changer Holder**

   The automatic tool changer holder holds up to 5 tools at a time.

7. **Vacuum Table**

   The vacuum table has holes which generate suction to hold down project material. The table features grooves to ensure that air is extracted evenly. T-Slots are also provided so that spoil boards and/or project materials can be clamped to the table.

NOTE

The better the vacuum, the more secure the material will be held in place.

8. **Frame**

   The frame is a welded heavy steel tubular construction that supports all other parts of the machine.

9. **Ball Screw (not shown)**

   There are three (3) ball screws; one (1) for each axis. Each ball screw is driven by a stepper motion and moves the router spindle in the X, Y, and Z directions.

10. **Water Pump (not shown)**

    The water pump coolant for the router spindle motor. Running the router spindle without the cooling pump running can lead to spindle bearing failure. The pipe connector is push fit and is used for connection of the spindle water pipe.

3.2 Accessories

The following accessories are included with the IQ Pro:

- One (1) Water Pump
- One (1) Handheld Controller
- One (1) Flash Drive
- Two (2) Wrenches
- Five (5) Tool Cones
- Sample collets
- Set of cutter bits
- Set of table clamps
- Table gasket

4.0 Setting Up the IQ Machine

⚠ WARNING

All electrical connections must be performed by a qualified electrician and follow any local codes and ordinances. Failure to comply may result in serious injury.

4.1 Attach an Electrical Plug to the Power Cord

A Power Cord with a NEMA L6-30 plug (not provided) must be connected to the electrical power cord in the center rear of the electrical cabinet. The 220 Volt plug must be connected only to a 220 Volt electrical outlet. Ensure the necessary plug has been acquired prior to installation. Consult a licensed electrician if necessary.

Figure 4-1: NEMA L6-30 Plug

4.2 Connecting Power Wires to the Machine

The main power hookup is located on the left-hand terminal block on the bottom of the cabinet. It is labeled "MAIN".

1. Attach the ground wire (green) to the ground terminal and secure by screwing in the flathead screw.
2. Attach the 220V AC power wires to the terminal and secure by screwing in the Phillips screw.

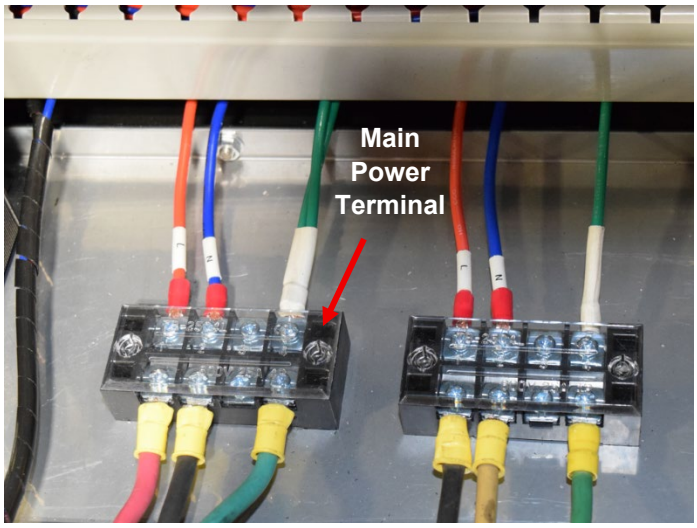


Figure 4-2: Main Power Terminal

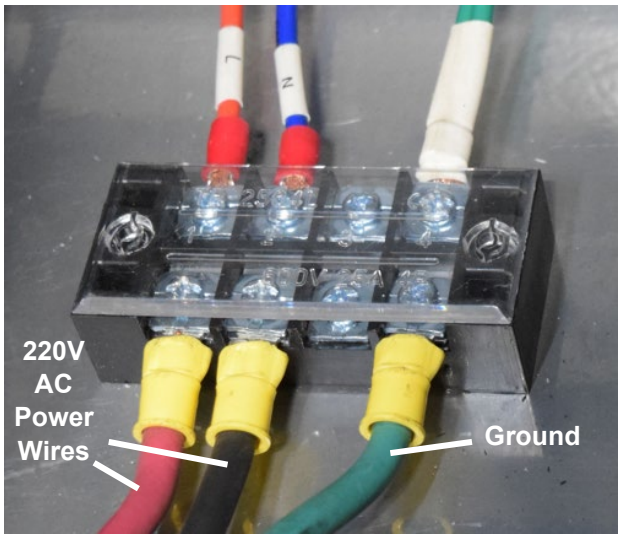


Figure 4-2.1: Main Power Connection

4.3 Setup the Pail for the Liquid Cooled Spindle

1. Locate the top of the pail with two (2) holes for the water pump.
2. Place the two (2) separate clear hoses into the top of the two (2) holes. The fit will be tight in order to keep dirt out of the pail.
3. Attach the blue fitting to the water pump.
4. Place the end of the clear hose into the blue fitting on the water pump. The fitting will automatically lock to the hose. To release the hose, press down on the blue ring.

Figure 4-3: Holes for Water Pump Hoses

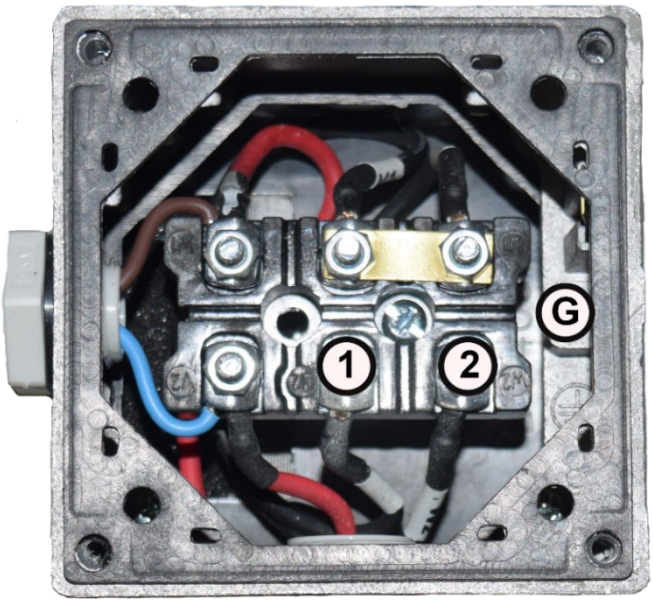
4.4 Setup the Water Pump for the Liquid Cooled Spindle

1. Place the water pump in the pail.
2. Pass the black electrical cord of the water pump through the slot provided on the pail.
3. Fill the pail three quarters full of water (distilled water is recommended).
4. Place the lid on the pail.
5. Insert the water pump electrical plug into a 110 volt outlet before operation.

4.5 Vacuum Pump Installation

The vacuum pump provides the suction necessary to hold projects to the vacuum table. The vacuum pump should be installed prior to operation.

1. Remove the cover from the vacuum pump power box. (Figure 4.4 and/or Figure 4.5)

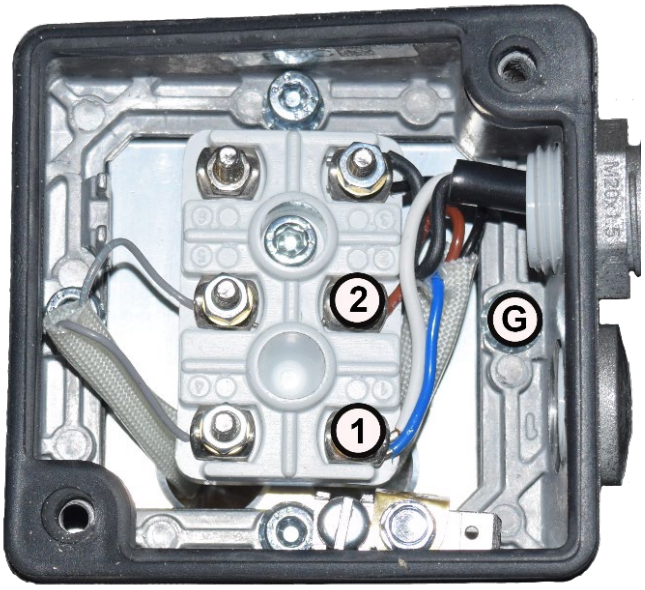


U2 - Leg 1

W2 - Leg 2

G - Ground Terminal

Figure 4-4: Laguna DB-330-11 (2.5 HP) Vacuum Pump



1 - Leg 1

2 - Leg 2

G - Ground Terminal

Figure 4-5: Becker SV200 (2.4 HP) Vacuum Pump

2. Connect the vacuum pump wires to the Leg 1 ① and Leg 2 ② (Figure 4-4/4-5).

3. Connect the green ground to the ground Ⓖ terminal (Figure 4-4/4-5).

4. The vacuum pump hookup is located on the right-hand terminal block on the bottom of the cabinet. It is labeled "VACUUM".

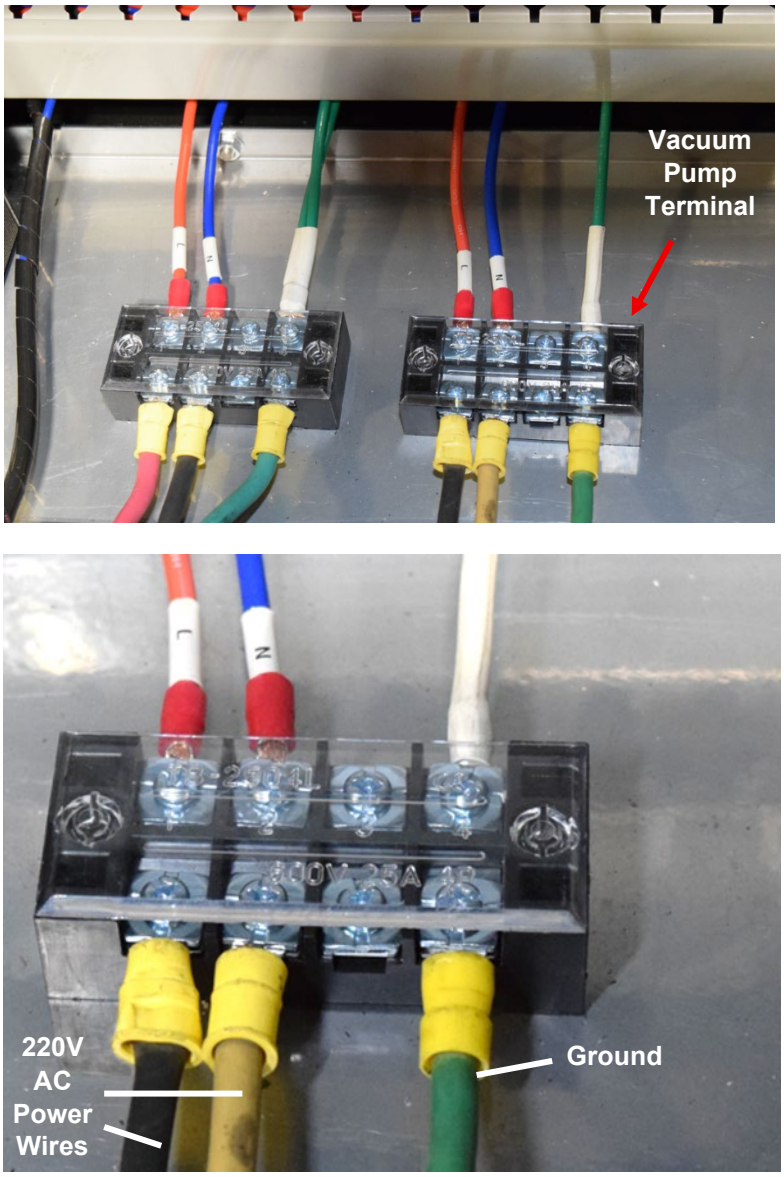


Figure 4-6: Vacuum Pump Connection

5. Insert the vacuum power cord through the vacuum pump power cord port.
6. Connect the green ground wire to the ground terminal.
7. Connect the vacuum pump wires to terminals.
8. Verify all connections are correct; close the electrical cabinet and vacuum power box.
9. Connect a 32 mm hose to the vacuum pump at the back of the IQ machine. Secure with the provided clamps.

NOTES:

5.0 Basic Operation

5.1 Before Turning on the Power

Please review and observe these Dos and Don'ts before turning on the power to the IQ Pro:

1. **DO** verify the water level in the spindle reservoir. If operating the IQ Pro for carving work, a much larger quantity of water will be needed for the spindle-cooling reservoir.
2. **DO** lubricate the ball screws every eight (8) hours of operation. Use 30W oil or lithium white grease lubricant or equivalent to lubricate the ball screws. Wipe off any excess to reduce dirt and dust accumulation.
3. **DO** keep your collets clean from dust build-up.
4. **DO** press the E-Stop button on the control box and turn off the main power prior to changing tooling or working on the spindle. Remember to clear alarms caused by the E-Stop button on the alarm pages after the E-Stop has been removed.
5. **DO** turn off main power prior to working on or servicing the spindle water pump and or reservoir.
6. **DO NOT** ever, under any circumstances, reach over the table or obstruct the movement of the gantry while the machine is powered or running a program.

5.2 Turning on the Machine

The Emergency Stop (E-Stop) button must be released prior to turning on the power. Twist the E-Stop button clockwise until it releases outward.

1. Spindle Display
2. Emergency Stop
3. Power ON/OFF Button
4. Power ON/OFF Light
5. Vacuum ON/OFF Button
6. Alarm Light

Figure 5–1 IQ Control Panel

NOTE

Before you turn on the machine, remove all tools and other objects from the machine table.

1. Verify the water reservoir is full and the water is circulating through the spindle.
2. Press the Control Power ON/OFF button (Figure 5-2) on the control panel.
3. After the HHC has fully booted, the machine must be Homed before any other function is performed (see Section 5.4).

Figure 5-2: Power Switch

5.3 Fitting the Job to the Table

Safely secure materials to the cutting table by use of the provided clamp, double-sided tapes, vacuum, etc.

5.3.1 Using the Vacuum Table

The vacuum table generates suction to hold down project material. The table features grooves to ensure that air is extracted evenly. To seal a zone from leakage, press a foam rubber gasket into the outer grooves.

5.3.2 Using the T-Slots

T-Slots enable clamping spoil boards and project materials directly to the table. Clamps are provided for this purpose.

5.4 Homing the IQ Pro

Homing refers to establishing set coordinates which the machine uses as a starting point. The machine must be homed each time it is powered on.

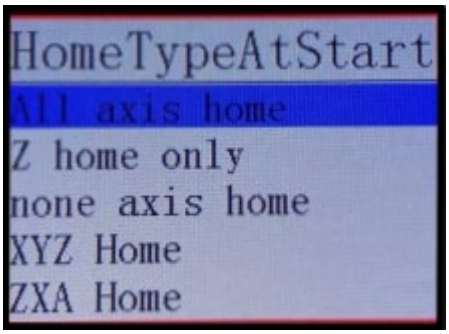


Figure 5-3: All Axis Home

1. When the B57E controller is powered on, the user will be prompted with the HomeTypeAtStart window (Figure 5-3).
2. The machine needs to be homed each time the machine is powered on.
    - This resets your machine coordinates origin, relative to the home switches and flags.
    - The tool locations are relative to the machine origin.
3. The default selection is **All axis home**.
    - Press **REF/OK** to begin homing all axes or select another option.

5.5 Basic Button Functions

1. The Rich Auto motion control system uses 1-button and 2-button combination functions.
2. Only the most used button functions are covered in this section.
3. The B57E Handheld Controller (HHC) features the following buttons (from top left):

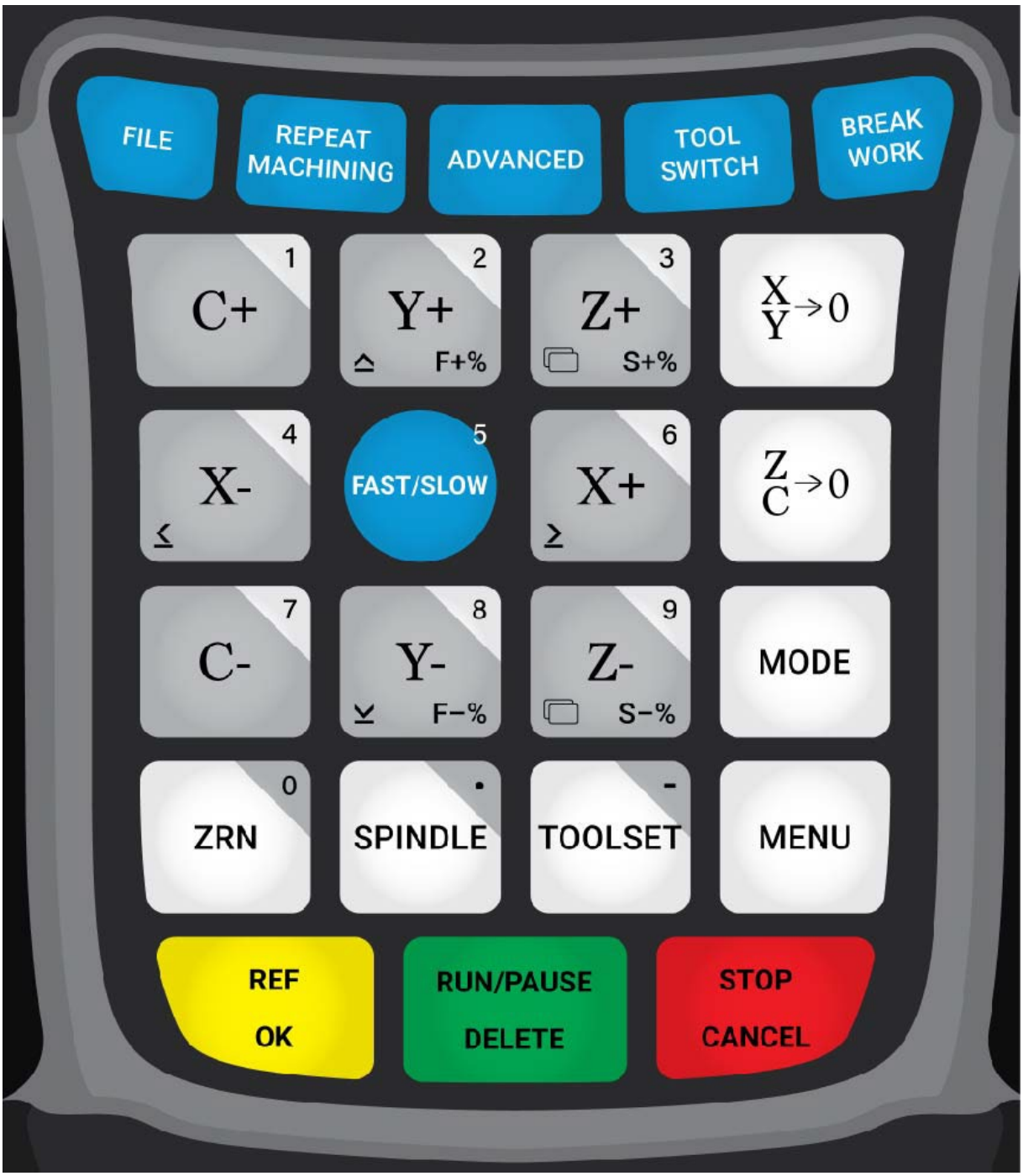


Figure 5-4: B57E HHC Keypad

FILE – Loads a job file

REPEAT MACHINING – Repeat last program

ADVANCED – Opens the Advanced Function menu

TOOL CHANGE – Opens the Tool Change menu

BREAK WORK - Saves the stop points

1 -9 (C+ to Z-) – Functions as both the numerical keys and the Jog Spindle Controls

X/Y → 0 – Set X and Y work origin

FAST/SLOW – Switches between fast and slow jog speeds

ZC → 0 – Set Z work origin

MODE – Switches between continuous, step, and distance jog modes

ZRN – Home the machine

SPINDLE – Turns the spindle ON and OFF

TOOLSET + MENU – Executes a tool touch with the current tool

REF/OK – OK for selection; Return to work origin

RUN/PAUSE/DELETE – RUN starts a job file; PAUSE pauses a running job; DELETE deletes input data

STOP/CANCEL – STOP stops as a running program; CANCEL cancels inputs and operations

5.6 Changing Tools

A tool can be inserted or removed two (2) ways:

1. Manually – Using the tool release button on the side of tool head.
2. Automatically – Using the Tool Switch button.
    a. Press **ToolSwitch** button
    b. Use up and down arrow **Y** buttons to highlight tool selection.
    c. Press **REF/OK** button.

NOTES:

6.0 Quick Start Section

This section provides a workflow from turning on the machine to starting your program.

This walkthrough assumes only Tool 1 is used:

1. Power on machine (Section 4.2).
2. Home machine (Section 4.4).
3. Verify the machine is connected to an air supply.
    a. The tool changer needs **6-7 bar or 87 psi-100 psi**.
    b. Use the pressure regulator on the back of the machine to adjust air pressure.

Figure 6.1: Pressure Regulator

4. Plug in the water pump and verify water is flowing through the spindle (only applicable to machines equipped with liquid cooled spindles).
5. Setup a tool cone (Figure 6-2) with the router bit you intend to use.
    a. Use the manual tool release button located on the tool head to load the tool cone into the spindle.
    b. It is pertinent that the spindle releases and engages the tool cone repeatedly. This quick check will prevent an error condition.
6. Transfer your G-Code program onto a USB and transfer to the controller's internal memory.

    When running a program directly from a USB, memory transfer is less reliable. It is recommended to store the program in the controller's internal memory.

    a. **MENU** → *Menu Function User Interface* → **REF/OK.**
    b. *Machine Configuration* → **REF/OK**.
    c. Select *Copy File* press **REF/OK.**
    d. Select the *UDisk File* you want to copy press **REF/OK.**
    e. Press **STOP/CANCEL** a few times to return to the controller home screen.

Figure 6.2: Assembled Tool Cone

7. Load Program into viewer.
    a. Press **FILE** → *Internal File* → **REF/OK.**

b. Select your program → **REF/OK**.

8. Mount work piece to the tabletop.
    a. This can be done with supplied table clamps (Figure 5-3).
    b. There are multiple ways to secure the work piece. Find the method which works best for your application before continuing.
    c. Always consider clearance between the router bit and table clamps. When the machine changes tools it will need to travel to the back of the machine during program execution.

Figure 6-3: Assembled T-Slot Clamp

9. Verify coordinate system.
    a. Workpiece 1 should be selected.
    b. To change to workpiece 1, Hold **MENU** → press **C+ / 1 button.**
10. Verify which tool cone is currently in the spindle and compare to the **CurSpindle** parameter on the controller run screen. If the current tool number is not tool 1, then switch tools using tool switch function.
11. Jog the spindle to the XY origin point. This is determined when the CNC program is created.
    a. If you are using Vectric's V-Carve software, it is called the XY datum position.
    b. Once the spindle is in position press the **XY→ 0** button to set the XY origin point.
    c. On the controller, you will see the X and Y axis coordinates go to zero.

For multi-tool programs go to Section 6.

12. Set the Z origin point (Manually).
    a. Set jog speed to low and carefully move the spindle down towards the top of the material until the desired Z zero position is obtained. It may be helpful to use a sheet of paper by sliding it back and forth under the bit, while jogging the Z-Axis down. When the paper is snagged by the bit, it is within a paper thickness (0.1 mm) of the material.
    b. Press the **ZC** → button.
    c. On the controller, you will see the Z-Axis coordinate go to zero.
13. Press **REF/OK** button. This will retract the spindle to a safe starting location.

14. Put on your safety glasses and run the program.

    a. In case of an emergency or machine failure you can hit the E-STOP button on the control cabinet. In most cases the stop/cancel button on the HHC is a preferred stopping method.

    b. Press the **RUN/PAUSE/DELETE** button to start the program.

    c. Accept the default runtime parameters by pressing **REF/OK**.

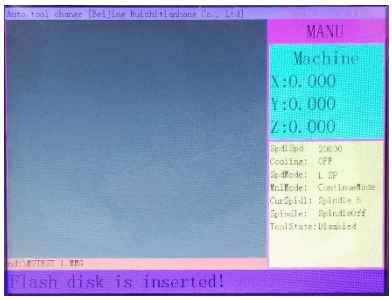


Figure 6-4: Control Screen

15. While the program is running, the Feed Rate can be adjusted by pressing the **Y+** or **Y-** buttons:

    a. **Y+** will increase the feed rate by 10%.

    b. **Y-** will decrease the speed by 10%.

    c. The max speed is determined by the program file.

16. Program End - At the end of a program the spindle will stop and the Z-Axis retract to a safe clearance height.

NOTES:

7.0 Multiple Tool Program

There are preliminary steps that need to be done before running a multi-tool program:

1. Prepare the machine (Sections 5.2).
2. Prepare all tool cones for the job and place into the corresponding tool holders.
3. Run procedure to calculate tool offsets (Section 6.1).
4. Set XY work origin (Section 7.2).
5. Set Z work origin (Section 7.3).
6. Run program (Section 5.11).

Figure 7-1: Tool Rack and Touch Off Puck

7.1 Setting Tool Offsets

1. Place the designated tools, determined at the time of program creation, into the corresponding tool holders on the machine.
2. Change to Workpiece 1 and Tool 1 (Section 3.5).
   a. Verify Workpiece 1.
   b. Verify **CureSpindl: Spindle 1** and Tool 1 is in the spindle.
   c. Manually jog the spindle into a safe location by the tool rack. The machine will return to the starting position after changing tools.
3. Press and hold **MENU** button → press **TOOLSET** button → release both buttons.
   a. The spindle will move over the tool touch off switch from its current position.
   b. Rapid to a preset Z value (ToolSettingZ).
   c. At a slower feed rate, it will lower until the switch is triggered, then retract.
4. Once Tool 1 has touched off, Switch to Tool 2, using the Tool Switch button.
5. Press and hold the **MENU** button → press **TOOLSET** button → release both buttons.
6. Once Tool 2 has touched off, Switch to Tool 3, using the Tool Switch button.
7. Press and hold the **MENU** button → press **TOOLSET** button → release both buttons.
8. Switch back to Tool 1 using the Tool Switch button.
9. Offsets are now calculated.

7.2 Setting XY Work Origin

Jog the spindle to the XY origin point. This origin is determined when the program is created.

1. If you are using Vectric's V-Carve software, the Origin is called the XY datum position.
2. Once the spindle is in position press the **XY → 0** button to set the XY origin point.
3. On the controller, you will see the X and Y axis coordinates go to zero.

7.3 Setting Z Work Origin

Set the Z origin (Manually).

1. Set the jog speed to low and carefully move the spindle down towards the top of the material until the desired Z zero position is obtained. It may be helpful to use a sheet of paper by sliding it back and forth under the router bit, while jogging the Z-Axis down. Once the paper is snagged by the bit it is within a paper thickness (0.1 mm).
2. Press the **ZC → 0** button.
3. On the controller, you will see the Z-Axis coordinate go to zero.

7.4 Run Program

1. Copy the G-Code program to a USB and transfer to the controller's internal memory. When running a program directly from a USB, memory transfer is less reliable. Laguna Tools recommends storing the program in the controller's internal memory.
    a. **MENU →** *Menu Function User Interface* **→ REF/OK.**
    b. *Machine Configuration* **→ REF/OK.**
    c. Scroll down to *Operate File* then press **REF/OK.**
    d. Select *Copy File* press **REF/OK.**
    e. Select the *UDisk File* you want to copy press **REF/OK**.
    f. Press **STOP/CANCEL** until the controller returns to the home screen.
2. Load Program into viewer.

    Press **FILE →** *Internal File* **→ REF/OK →** select your program **→ REF/OK.**

7.5 Understanding Work Coordinate Systems

1. Machine Coordinates (Workpiece 0).
    a. The origin is based off the home switches.
    b. Tool positions and TTO switch location are set relative to machine coordinates.
    c. Press **MENU + ZRN/0** to switch to Workpiece 0.
2. Hold down the **MENU + 1-0 buttons** to move between work coordinate systems.
3. In the picture to the right the active work coordinate system is Workpiece *2*.
4. Transitioning between Workpieces will in turn, transition between X, Y, and Z offsets made in each Workpiece.

7.6 Tool Cone Setup

1. Select a router bit and its corresponding collet.

NOTE

Collets and spindle nut must be cleaned regularly. Ensure that the slots in the collets are free of sawdust.

2. Press the collet into the spindle nut until it snaps into place.
3. Thread on the collet assembly onto the tool cone.
4. Insert the router bit into the collet.
5. Use the provided wrenches to tighten the spindle nut.

7.7 Resetting Tool Locations – Homing the Machine

This will reset the controller's machine coordinates relative to the position of the home switches and flags.

1. Verify the controller is in machine coordinates (Workpiece 0). If not, press **MENU + ZRN/0** to change to machine coordinates.

2. Put an empty tool cone into the spindle using the manual tool release button.
3. Using the handheld controller's jog control, carefully guide the cone into the tool rack.
    - Step Jog Mode can be used for smaller and precise increments.
4. Record the X, Y, and Z position. Verify that these are in machine coordinates.
5. Carefully jog the tool out of the tool rack.
6. Navigate to the ATC stored locations, by following the below steps:
    a. **MENU** → *Menu Function User Interface* → **REF/OK.**
    b. *Machine Setup* → **REF/OK.**
    c. Scroll down to *ATC setup* → **REF/OK.**
    d. Scroll up to *ATC position* → **REF/OK.**
    e. Press **STOP/CANCEL** to clear the warning.
    f. Select an ATC position.
    g. Select the X, Y, or Z position and press the **RUN/PAUSE/DELETE** button to edit.
    h. Use the numeric buttons to enter in the new tool position and press **ORIGIN/OK** to save.
    i. Repeat this process for each X, Y, Z coordinate for tools 1, 2, and 3.
    j. Verify your work.
        - Test the tool change without a tool cone.
        - Test the tool change with a tool cone without a router bit.

7.8 Setting the Tool Touch Off (TTO) Location

1. After homing the machine, press **Menu** and **ZRN** simultaneously.
2. Jog the machine until it is centered over the TTO location about four (4) inches.
3. Write down the coordinates of X, Y, and Z.
4. Go to **Menu** > **Menu Function User Interface** > **Machine Setup** > **Toolset Setup** > **C.A.D. Position**.
5. Press **STOP/CANCEL** twice to display coordinates.
6. Edit and replace the coordinates with the **RUN/PAUSE/DELETE** button.
7. Press **OK** to save.

7.9 Machine Orientation and V-Carve Set-Up

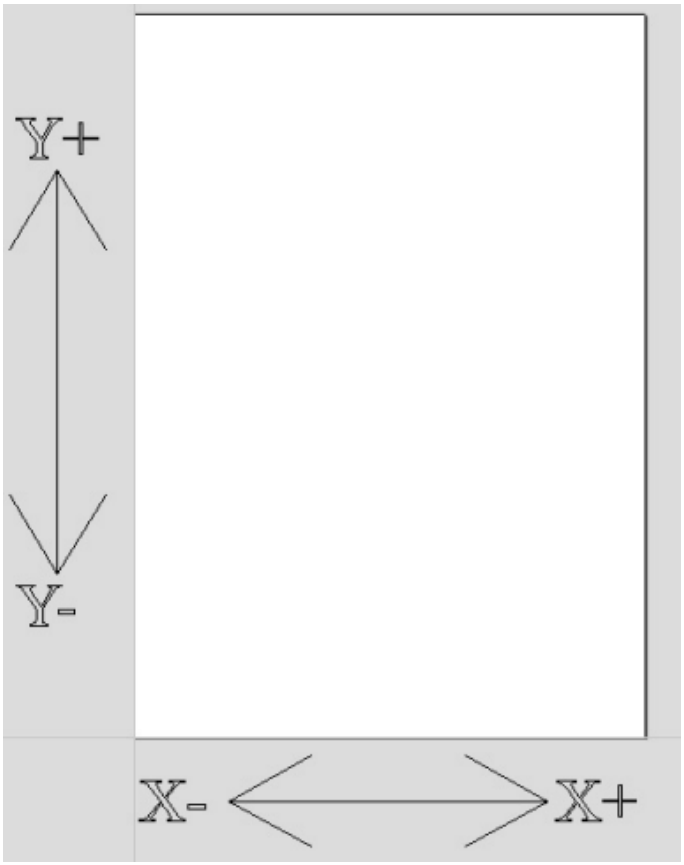
This information will assist with properly setting up programs in the CAM packages. This guide is based on V-Carve, however, most principles will transfer to any program.

7.9.1 Machine Axes and Orientation

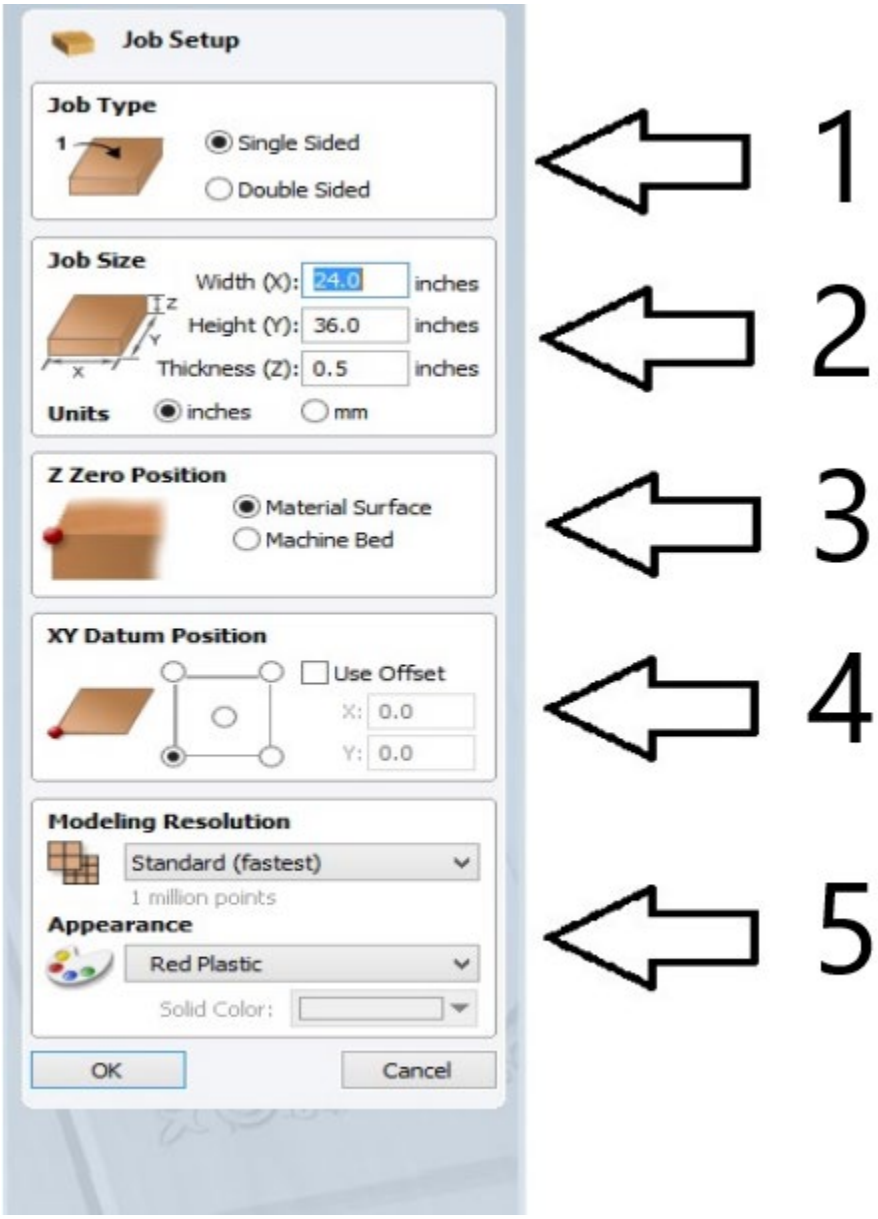
On all standard Laguna Tools IQ CNC routers, there are three (3) axes on the machine. These three (3) axes are X, Y, and Z. Each separate axis has a negative and positive direction to it.

- X-axis: Left to right if standing at front of CNC looking at the spindle plate
- Y-axis: Front to back if standing at front of CNC looking at the spindle plate
- Z-axis: Up and down if standing at front of CNC looking at the spindle plate

In V-Carve, the program file should have X and Y axes as follows in diagram (the Z-Axis would correlate to the material thickness in V-Carve).



7.9.2 V-Carve Material Set-up

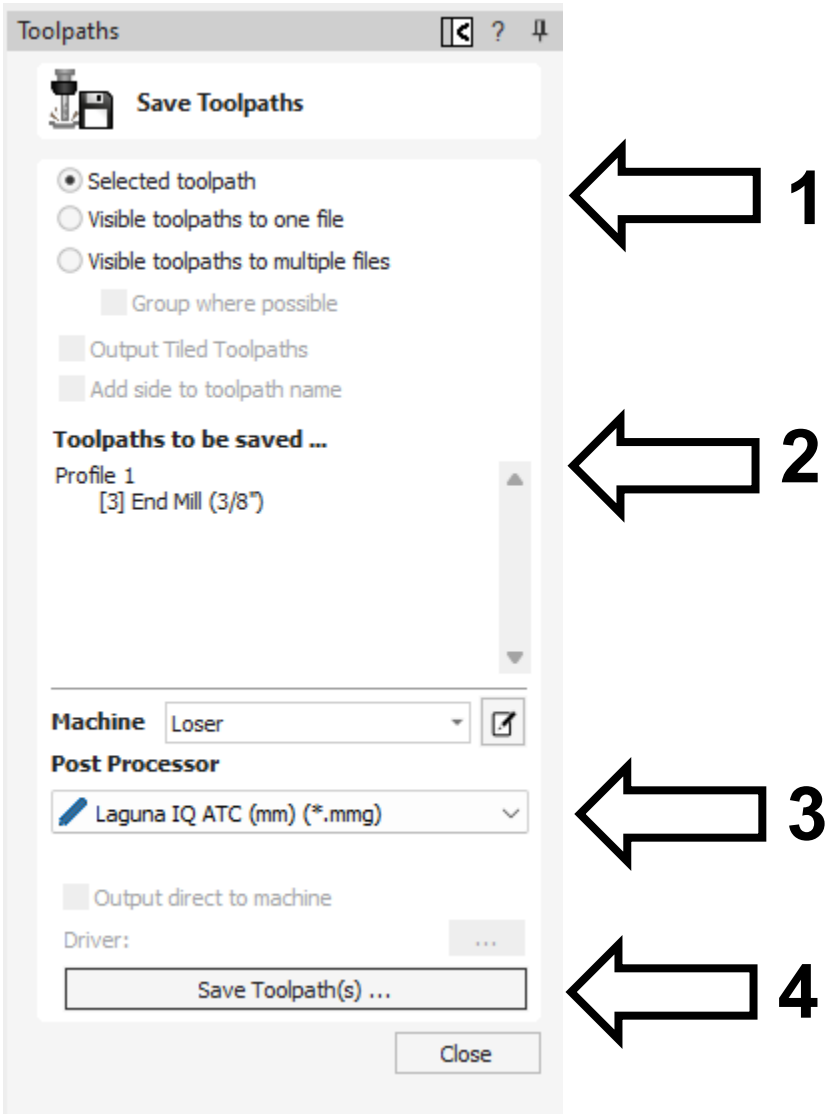


1. **Job Type** - Whether the piece has machining tool paths on just one side or both sides. Normally, this will be set to single sided.
2. **Job Size** - The size of the material in use. Verify the dimensions are accurate.
    - Thickness of material should always be measured with digital calipers to verify accuracy of depth of cuts
    - Units may be in inches or millimeters

3. **Z Zero Position** - Basis for the height of the tool. On the IQ, the machine is configured to use a Z zero at *Material Surface* as that is referring to the top of the part you are machining and all tool heights are based off the surface.
4. **XY Datum Position** - The XY start point (XY- 0) that you will assign before running the program.
5. Purely in reference to the visual of model the software will create and will not affect the code being sent to the machine.

7.9.3 Saving Code to Run on the Machine

After creating a V-Carve drawing and toolpaths, save the file. Click the **Save Toolpaths** icon under the tooling tab. The created file is referred to as the G-Code. The G-Code will have a file extension of .mmg (not .crv or .crv3d).



1. **Save Toolpaths** - When saving your toolpath on the IQ, verify the box next to *Output all visible toolpaths to one file* is checked to save multiple tool paths using the same exact tool into one (1) file.
2. **Toolpaths to be Saved** - A list of all tool paths that will be saved into the G-Code for the machine. The toolpaths will run in this order (always cut parts out free at the very end) and the numbers in brackets refer to its tool # position in the rack at the machine.
3. **Post Processor** – The Post Processor in use for the handheld controller.
4. **Save Toolpath(s)** - The button you press to save all the tool paths into one G-Code file.

NOTES:

8.0 Maintenance

Regular maintenance of the IQ Pro will ensure optimal performance. Please follow these maintenance routines.

Failure to follow maintenance procedures will void the warranty.

8.1 Lubrication

Regularly lubricate the bearing surfaces and the ball screws (every twelve (12) hours at a minimum). Use a thin lithium spray or 30W oil lubricant. Spray daily and wipe away the excess.

8.2 Daily Checks

1. Clean the machine and lubricate unpainted surfaces with 30W oil lubricant. The linear guides and ballscrews should be lubricated with lithium grease. Wipe away any excess and buff with a dry polishing cloth. This will reduce the likelihood of rust forming.
2. Remove all tooling from the spindle at the end of the day.
3. Do not leave any tooling in the spindle overnight. This includes tool cones, collets, router bits, etc.

NOTE

Leaving any tooling in the spindle overnight can cause the tooling to get dirty, stuck, rust, and cause damage to the spindle.

4. Inspect the machine for damaged, loose, or worn parts. Verify there are no loose wires, bolts, etc.
5. Check the dust collection hose and hood for blockage or possible breakage.
6. Check cutter teeth for chips and dullness or general wear. Collets are a consumable item that should be cleaned regularly for optimal usage to prevent slippage while cutting.
7. Collets and spindle collet holes must be cleaned regularly. Ensure that the slots in the collets are free of sawdust, as sawdust builds up and will stop the collet from compressing. If the collet or spindle holes are not clean, the router bit may not run true, and this will affect the performance of your machine.
8. Verify the water pump is functioning properly to ensure cooling of the spindle while in operation.

8.3 Weekly Checks

1. Inspect lubrication of bearing surfaces (linear guides and ballscrews) and reapply where needed. Wipe away any excess and buff with a dry polishing cloth.
2. Clean the cutters.
3. Check cutter teeth for chips and dullness.
4. Inspect the machine for damage and loose or worn parts.
5. Check the dust extraction for blockages.
6. Replace the water in the pump bucket and verify it is clean. Use only distilled water. In colder climates, a mixture of water and anti-freeze can be used. If exposed to freezing temperatures, all water must be sprayed out of the lines. Frozen water will expand and might destroy the seals and spindle.
7. Rotate the water lines every week (Inlet to outlet and reverse for the other pipe). This will clean out any dirt or other debris that is accumulating inside the cooling system.
8. Check that all electrical connectors are fitted correctly and are not loose.
9. Check that all the motor couplers are connected and that the screws are tight.

8.4 Position of Stop Switches

The stop switches are activated by proximity to steel items and can be tested by placing a screwdriver or something similar on the activation face (top). When activated, the LED should light. If the LED does not come on, the switch or wiring is faulty.

X-Axis is activated by the vertical axis cover.

Y-Axis is activated by a steel flag located on the end of the frame (under the bed).

Z-Axis is activated by a steel flag located on the router support plate.

8.5 Universal Joints

The ball screws are coupled to the motor shafts with a universal joint. The joints should be checked periodically to check that they are tight and not damaged. If loose, tighten the clamping screws. Replace if damaged.

8.6 Ball Screw Adjustment

The ball screws are factory set and no adjustment should be required. If the ball screws need adjustment, the C wrench nut needs to be adjusted.

1. Bend the locking tag washer out of the slot in the nut.
2. Tighten the nut so that it is snug.
3. Bend the relevant locking tab into the nut slot.

8.7 Fuses

The electrical functions of the machine are protected by fuses. To access the fuse, pull the fuse holder up. Once the fuse has been verified that it has not blown, ensure that the fuse holder is pushed down and is fully home.

⚠ DANGER

Never access the inside of the electrical box with the mains connected.

NOTES:

9.0 Troubleshooting

9.1 IQ Machine

Issue	Suggested Action
Machine will not start	1. Verify the start switch is firmly and fully pressed. 2. Verify the Emergency Switch is fully released. 3. Verify the electrical power cord is plugged into the power outlet. 4. Verify the electrical supply is on. Reset the breaker if necessary. 5. Disconnect power from the machine and verify the wiring to the plug is correct. Verify the rubber insulation is stripped properly and not causing a bad connection. Verify all the screws are tight.
Machine will not stop	This is a very rare occurrence, as the machine is designed to failsafe. If it should occur and you cannot fix the fault, seek professional assistance. The machine must be disconnected from the power and not powered back on until the fault has been rectified. 1. The Internal breaker is faulty. 2. Replace the breaker.
Motor tries to start but will not turn	1. With the power disconnected from the machine, try to turn the spindle by hand. If the spindle will not turn, check for possible jamming. 2. Motor faulty. Replace the spindle. 3. Spindle operated without coolant. Replace the motor. 4. Check the voltage supplied to the VFD is 220V.
Motor overheats	Overheating is typically caused by dull cutting tools, no water in the coolant tank, blockage in the coolant pipe, or excessive ambient temperature.
Squeaking noise	Check the bearings.

Issue	Suggested Action
Spindle slows down during a cut	1. Dull cutting tools. Replace the tool or have it resharpened. 2. Feeding the wood too fast. Slow down the feed rate. 3. Cutter feeds and spindle speed are not correct. Adjust the feeds and speeds.
Machine will not home	1. Verify the home position sensors are undamaged, properly adjusted, and connected. 2. Verify the parameters in the handheld controller are correct. 3. After the completion of a project, press the OK button and verify the router head returns to the home position.
Jobs are machined inconsistently	1. Verify the motor drive belt is tight and not damaged. Do not overtighten. Replace, if damaged. 2. Verify the drive couplings are tight and undamaged. Tighten loose couplings. Replace damaged couplings. 3. Verify the slider bearings are fixed tight and undamaged. Tighten loose bearings. Replace damaged bearings.
Inaccurate position of router head	1. Verify the drive screws and the bearing rails are clean and lubricated. 2. If the gantry/router head movement is too fast: a. Verify that the machine is correctly grounded and there is no static or electrical interference. b. Verify all the bearings and motor-fixing bolts are tight. c. Verify the input voltage is correct; it must be 220V.

Issue	Suggested Action
The gantry or router head will not function	1. Verify the handheld controller cable is properly connected. 2. Verify the drive wires are not loose or damaged. 3. Verify the handheld controller is not damaged 4. Examine the drive circuit board for damage. Replace the circuit board if damaged.
The cutting depth is inconsistent	1. Verify there is no excessive play in the Z-axis ball screw drive mechanism. Verify the bit is tight in the spindle collet.

9.2 Handheld Controller

Issue	Suggested Action
The screen is blank, dull, or flickers	1. Verify the cable to the handheld controller is fitted correctly and the clamping screws are tight. 2. Verify the connectors on the interface printed circuit board are fitted correctly and all the screws are tight. 3. Verify the fuse is not blown. 4. If the 50-pin interface is damaged, replace the damaged part. 5. If the power supply is damaged, replace the power supply. 6. If the handheld controller is damaged, replace the handheld controller. 7. Verify the supply voltage is within specification.
The display indicates that the spindle is on, but the spindle is not rotating or vice versa	1. Verify there are no loose or broken wires among the wiring. 2. Verify the spindle settings on the handheld controller are correct.

Issue	Suggested Action
The screen is frozen Loading on start-up	May be caused by a corrupted operating system (OS). 1. Hold down a button on power-up to enter emergency mode. 2. Reload the OS via updating.
The screen is green on start-up	This is a catastrophic failure. Return the controller to Rich Auto for repair.
Work origin of X and Y cannot be set	Press **MENU** and **0** to return to the starting coordinate system. If the button does not appear functional, verify the button are working: 1. Press **MENU**. 2. Select *System set-up*. 3. Select *Button check*.
Soft limit error	Verify the origin is correctly set for the current code. To verify the origin: 1. Press **ORIGIN.** 2. Select *O.K.*. Verify the table size is set correctly: 1. Press **MENU**. 2. Select *Table size*. Verify the pulse is set correctly. Calibrate the controller: 1. Press **MENU**. 2. Select *Machine Set-up*. 3. Scroll down to the *Pulse Equiv*. 4. All three (3) axes are 320.

Issue	Suggested Action
Button not responding	Verify the buttons are operational: 1. Press **MENU**. 2. Select *System Set-up*. 3. Select *Buttons check*.
DSP screen does not light when power is on	1. Verify the cable connections are good. 2. Verify the controller card is powered by the 24 VDC.
Z-axis drops suddenly	The working speed of Z is too fast. 1. Verify the Max speed in the machine setup. 2. Verify the coupling between the Z-axis and the ball screw is not loose. 3. Check wiring between the control card and stepper driver is not damaged. 4. Check wiring between the stepper motor and the driver is not damaged.
Z-axis depth varies on previously run program	The Z-Axis home switch flag has been moved and the homing Z-Axis changes from its previous reading. Electrical noise can cause a false home signal. Verify the motor shields are connected on one end only.
Machine does not stop on the home switches	Verify the home switch signals are recognized by the controller. 1. Double click the **MENU** to view the input status of the home switches. 2. Place metal on the home switch and note if the 1, 2, or 3 arrows on the screen change. Verify the home switch LED is lit when it is flagged with metal. The distance from the flag may have moved preventing the switch from recognizing it. Verify the 50-pin cable between card and controller is fully seated and in good repair.

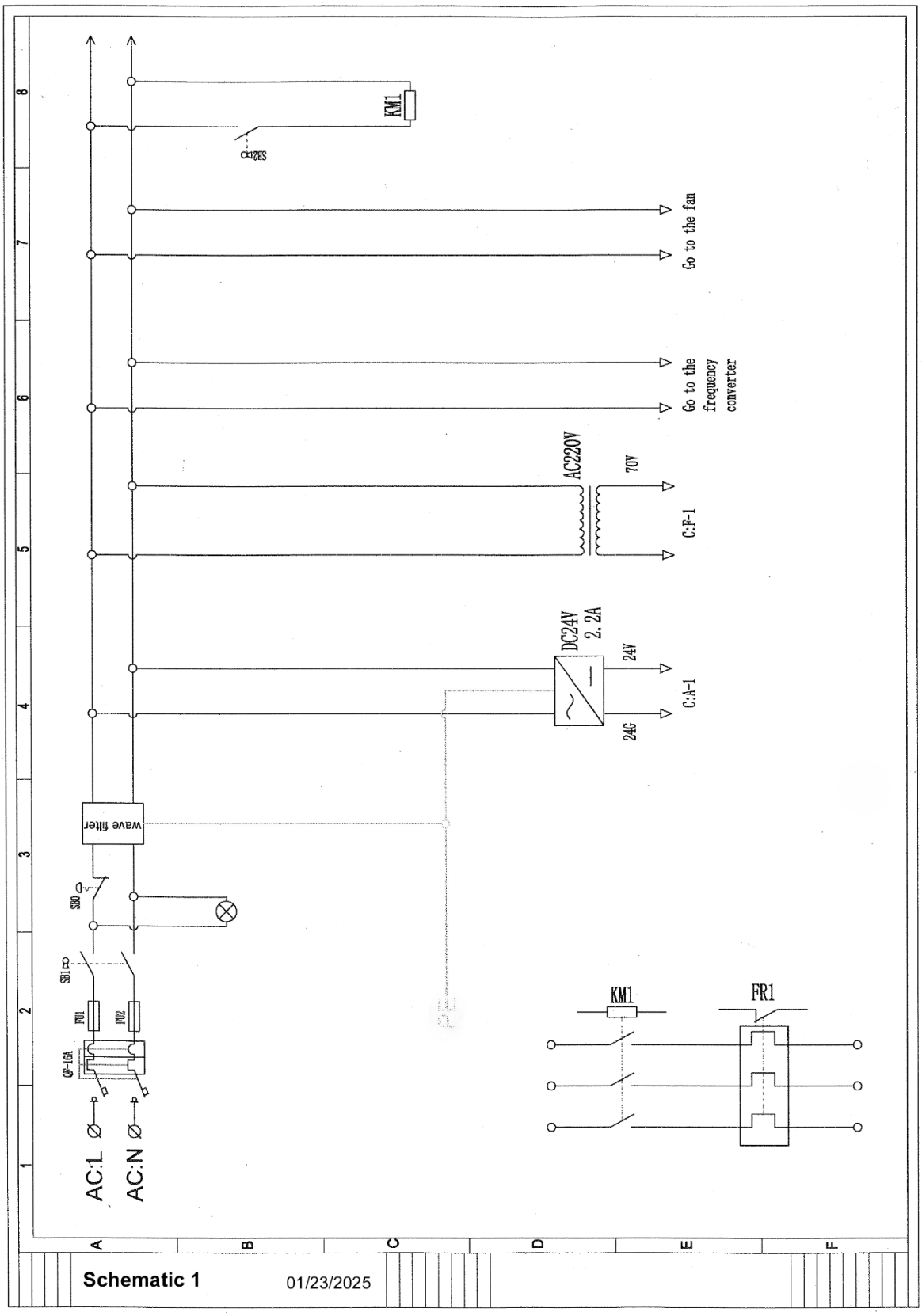
Issue	Suggested Action
Home switch LED does not light	Verify there is + and – 24vdc at the switch. If power is present, the switch has failed.
Machine moves in the opposite direction when homing	The home switch is damaged and shorting the output. Home switch wiring to the control card is damaged. Electrical noise is a giving a false signal to the card. Verify the shields of the steppers are landed on once end only. Metal is on the home switch causing a false signal. Control card is damaged.
Z-axis does not stop during tool touch off with puck	Communication cable is damaged and shorting signals. The puck's wired connection has failed. Since this is handled often the connections can come apart stopping the signal to the card. Verify the ground/common connection (-24vdc) at the spindle is good. Verify the home switch signals are being known to the controller. 1. Double click the **MENU** button to see the input status of the home switches 2. Place metal on the home switch and note if 1, 2, or 3 arrows on the screen change state.
Screen is dim after power-up but bright when plugged in	Check the 24vdc is correctly measured at the card. The 50-pin cable could be damaged.
Screen is not lit on PC or on machine	The DSP has received a physical shock. This can damage the crystal processor. Replace the DSP. The DSP was exposed to high voltage. Replace the DSP.

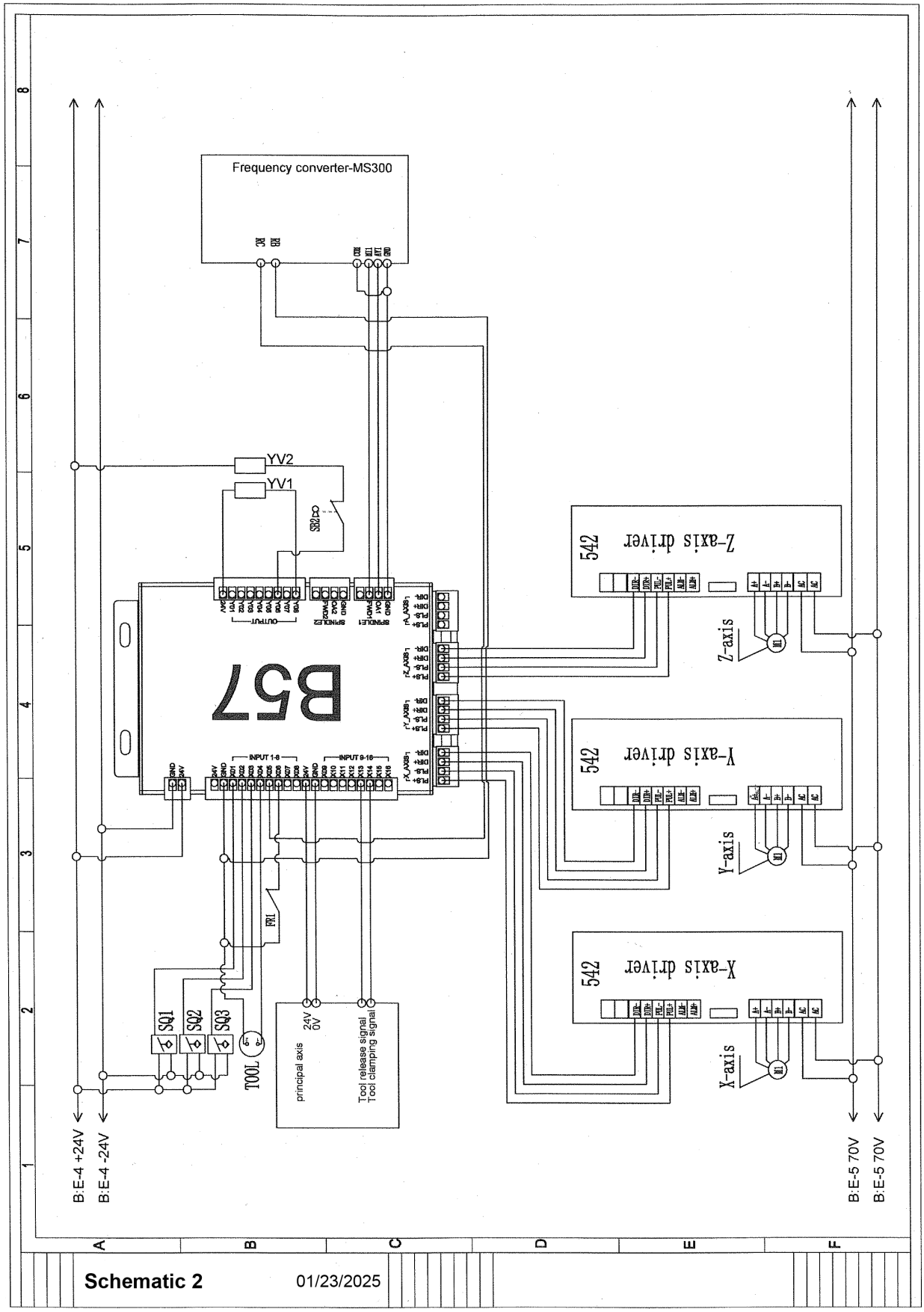
Issue	Suggested Action
DSP readouts change but there is no machine movement	Verify correct power to the lead shine stepper drivers. Green LEDs should be lit on the driver. A red LED indicates the driver is faulted. No LED light indicates no power. If there is only one motor not moving, move the connection to another driver. If this motor does not move, a driver issue is indicated. Verify the cable is fully connected at the handheld controller and the controller card. Verify the mechanical connection to the axis in question is in good condition. The controller card could have failed if all other points have been met
Axis motion in only one direction	Check connections between the driver in question and the controller card. Check connections from the driver to the stepper motor. Verify there is 5vdc at the pulse and direction connections at the driver. Measure from the 5vdc to -24vdc for a reference.
Screen displays spindle on when it is off and vice versa	The output state for the spindle is set incorrectly and needs to be adjusted.
Tool change freezes at the start of the process	Dust hood not retracting.
Dust hood does not raise during a tool change	Check air pressure is 80 – 90 PSI. Verify proper output to the solenoid that raises the hood: 1. Press **MENU**. 2. Select *input/output control*. 3. Scroll to *output 6*. 4. Press **RUN/PAUSE/DELETE.** This will manually activate the rise of the dust hood. If nothing occurs, then proceed with verifying the wiring (check the common at the solenoid and verify the output voltage is received).

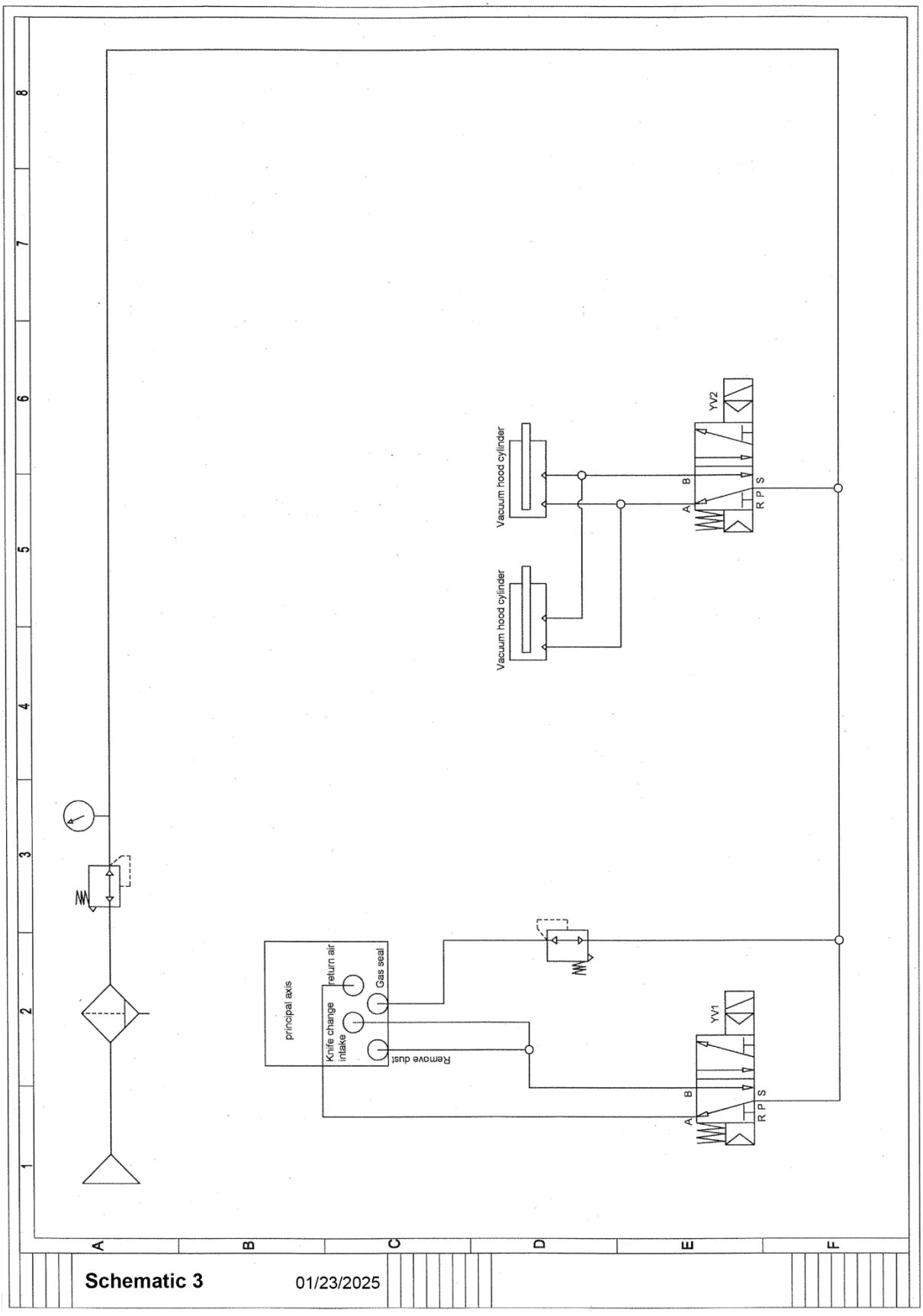
Issue	Suggested Action
Tool change frozen	This occurs when the sensor on the dust hood lifting cylinders does not recognize the hood is retracted. Verify the sensor signal: 1. Press **MENU**. 2. Select *input/output control*. 3. Check if input #15 changes state. If no signal is received verify the sensor on the air cylinder is flush to the body and is in the retracted position. Manually retract the dust hood and move the sensor until its LED lights. The light indicates the sensing magnet on the piston. Verify wiring to the position switch is correct and undamaged. If all above is verified, replace the position sensor switch.
Machine does not touch TTO switch on tool touch off	The TTO switch is stuck in the down position, or the input state may be incorrect. Go to I/O voltage settings set-up and change state of input #4. The TTO switch is shorted.
Tool crashes into TTO switch during touch off	TTO switch has a broken connection to the controller. Verify the sensor signal: 1. Press **MENU**. 2. Select *input/output control*. 3. Check if input #4 changes state. With wiring verified and no state change, replace the switch.

NOTES:

10.0 Wiring Schematics




Frequency converter-MS300
YV2
YV1
B57
542
Z-axis driver
Z-axis
542
Y-axis driver
Y-axis
542
X-axis driver
X-axis
SQ1
SQ2
SQ3
TOOL
principal axis
24V
0V
Tool release signal
Tool clamping signal
B:E-4 +24V
B:E-4 -24V
B:E-5 70V
B:E-5 70V
Schematic 2
01/23/2025


Vacuum hood cylinder
Vacuum hood cylinder
YV2
YV1
principal axis
Knife change intake
return air
Gas seal
Remove dust
Schematic 3
01/23/2025

NOTES:

11.0 Warranties

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 thirty (30) days of purchase to be covered by this warranty. Laguna Tools guarantees all new machines 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 a Return Material Authorization (RMA) number from Customer Service. 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. A part or blade is being returned must have adequate packaging to ensure it is not damaged 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.

* The issue of an RMA number is for reference only; it DOES NOT indicate acceptance of the warranty claim.

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 machines 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. If 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. The warranty may be 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 (24) 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.

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. The warranty may be 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 (24) 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 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 manufacturer's defective workmanship, parts, and materials. For any questions about this produce, the intended use or what it was designed for, customer service, or replacement parts, please contact our customer service department:

Laguna Tools® Customer Service
744 Refuge Way, Grand Prairie, Texas 75050, USA
1-800-234-1976
www.lagunatools.com/why/customer-service/
8AM. To 5PM PSF. Monday through Friday

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

Laguna Tools® Warranty Service
744 Refuge Way, Grand Prairie, Texas 75050, USA
1-800-234-1976
www.lagunatools.come/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.

REGISTER HERE!

https://lagunatools.com/policies/warranty/

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 from 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 or 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 to 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 1-800-234-1976. 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 Service Support Website.

Laguna Tools, Inc.
744 Refuge Way, Suite 200
Grand Prairie, TX 75050
1-800-234-1976
www.lagunatools.com