Swift Series- Swift Vacuum Manual Owner's Manual-

Safety-Specification Sheet-Delivery of Machine-Parts of Machine Assembly & Set Up-Maintenance-Warranty-Features:

- 3HP Water Cooled Electro-spindle (ER-20 Collet)
- 6,000 24,000 RPM Spindle
- Vacuum Table

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- Handheld Controller
- Gantry Height: 7-½"
- Ball Screw on Z Axis
- Double Helical Rack Drive on X & Y-Axis

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Laguna Tools: 744 Refuge Way Grand Prairie, TX U.S.A. Service: +1 (800) 234-1976 or email: customerservice@lagunatools.com Swift Series CNC Machines © 2021 Laguna Tools 6/01/2021



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Safety Rules-

As with all machinery there are certain hazards involved with the operation and use of this machine. Using it with caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. If you have any questions relative to the about its installation and operation, do not use the equipment until you have contacted your supplying distributor.

Read carefully before operating the machine-

1.) Keep the working area clean and be sure adequate lighting is available.

2.) Do not wear loose clothing, gloves, bracelets, necklaces, or ornaments.

3.) Wear face, eye, respiratory and body protection devices as indicated for the operation or environment.

4.) Be sure that the power is disconnected from the machine before tools are serviced or an attachment is to be fitted or removed.

5.) Never leave the machine with the power on.

6.) Do not use dull, gummy or cracked cutting tools.

7.) Be sure that the keys and adjusting wrenches have been removed and all the nuts and bolts are secured.

Specification Sheet-

Item	Swift 48" X 48" or 4' X 4'	Swift 48" X 96" or 4' X 8'	Swift 60" X 120" or 5' X 10'	
Motor	3 hp very quiet	3 hp very quiet	3 hp very quiet	
	spindle.	spindle.	spindle.	
Spindle	1 or 3 Phase	1 or 3 Phase	1 or 3 Phase	
	Industrial Induction	Industrial Induction	Industrial Induction	
	Spindle, Liquid Cooled.	Spindle, Liquid Cooled.	Spindle, Liquid Cooled.	
Spindle RPM	6,000 - 24,000	6,000 - 24,000	6,000 - 24,000	
Controller	Rich Auto DSP Contoller	Rich Auto DSP Contoller	Rich Auto DSP Contoller	
Dust Chute Diameter	4 Inches	4 Inches	`4 Inches	
Volts	220V Single phase/ 30 Amp	220V Single phase/ 30 Amp	220V Single phase/ 30 Amp	
Gantry Clearance	8 Inches	8 Inches	8 Inches	
Machine Work Table	T-Slot	T-Slot	T-Slot	
Z-Axis	Precision Ball Screw	Precision Ball Screw	Precision Ball Screw	
X & Y-Axis	Rack & Pinion	Rack & Pinion	Rack & Pinion	
Machine Foot Print	73"w x 80"l x 55"h	67"w x 120"l x 58"h	90"w x 144"l x 58"h	
Work Envelope	48" X 48" or 4' x 4'	48" X 96" or 4' x 8'	60" X 120" or 5' x 10'	

Where to locate your Machine-

Before you unpack your machine, select the area where you will use your machine. There are no hard and fast rules for its location, but below are a few guidelines.

1.) There should be an area around the machine suitable for the length of material that you will be machining.

2.) <u>Adequate Lighting</u>: The better the lighting, the more accurately and safely you will be able to work.

3.) Solid Floor: You should select a solid flat floor, preferably concrete or something similar.

4.) Close to a Power Source(220V-Volt Capacity) and Dust Collection (Proper created Ventilation Holes Suggested).

Unpacking your Machine-

To unpack your machine, you will need tin snips, a knife, and a wrench.

1.) Using the tin snips, cut the banding that is securing the machine to the Pallet [if fitted]. WARNING: EXTREME CAUTION MUST BE USED BECAUSE THE BANDING WILL SPRING AND COULD CAUSE INJURY.

2.) Remove the box from the CNC machine if fitted and any other packaging material. The parts ordered with the machine will be packed on or inside the machine. Note. The machine is heavy, and if you have any doubt about the described procedure, seek professional assistance. Do not attempt any procedure that you feel is unsafe, or that you do not have the physical capability of achieving.

3.) Use a forklift with sufficient lifting capacity and forks that are long enough to extend the complete width of the machine.

4.) Remove the securing bolts that attach the machine to the pallet [if fitted].

5.) Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes around the forks.

6.) Move the machine to the required position and lower gently to the floor.

Receiving New Machine-

Note: It is probable that your machine will be delivered by a third party. Before you unpack your new machine you will need to first inspect the packing, invoice and shipping documents supplied by the driver. Ensure that there is no visible damage to the packing or the machine. You need to do this prior to the driver leaving. All damage must be noted on the delivery documents and signed by you and the delivery driver. You must then contact the seller (Laguna Tools) as soon as practical. If damage is found after delivery, contact the seller as soon as is practical.

Note: It is probable that you will find sawdust within your machine. This is because the machine has been tested prior to shipment from the factory and / or Laguna Tools. Laguna Tools endeavors to test machines prior to shipping to customers as movement can take place during transportation. It must be noted that additional machine movement can take place between Laguna Tools and the end user and some adjustments may have to be undertaken by the customer. These adjustments are covered in the various sections of this manual.

Unloading Requirements-

1.) When the Crate containing your newly purchased Smartshop[®] Laser/CBX is delivered, it will be delivered "Curbside", in other words the Machine will be delivered in front of the Driveway of one's Garage/Shop or Workspace. (****It is the Purchasers responsibility of moving the Machine into His or Hers Garage/Shop or Workspace.****)

2.) One should obtain a Crane: Hydraulic crane / crane (10T or above, 4 groups of 10T rings, 2 10M long, 10T straps).

3.) One should obtain a Forklift: The forklift can fork items weighing 10T or more.

4.) To Open Crate-Acquire some standard tools for taking apart the Crate.

a.) Hammer.



b.) Pry Bar.

c.) Wire Cutters.



d.) Cordless Drill.



5.) Cut all straps only on the Crate.



6.) Unscrew a series of Screws at the Base of Crate using a Cordless Drill.



7.) Unscrew and Remove Side Panels of Crate.







Swift Standard Damage Notification-

1.)The Machines are thoroughly tested before leaving any or our Laguna Tools Facilities, but that does not mean the Machines would not experience any damage in transit.

2.) Before one Signs the Bill of Lading (See Example Below) when the Trucking Company drops off the Machine, visually inspect the entire crate and check for any damage.

SHIP FROM							Bill of Lading Number:						
Laguna Tools 744 Refuge Way Suite #200 Grand Prairie, TX 75050 SID No.:							BAR CODE SPACE						
SHIP TO							Carrier Name:						
[Name] [Street Address] [City, <u>ST_ZIP</u> Code] CID No.:							Trailer number: Serial number(s):						
THIRD PARTY FREIGHT CHARGES BILL TO							SCAC:						
[Name] [Street Address] [City, <u>ST_ZIP</u> Code]						Pro Number: BAR CODE SPACE							
Special Instructions:						Freight Charge Terms (Freight charges are prepaid unless marked otherwise): Prepaid Collect 3rd Party C							
							Master bill of lading with attached underlying bills of lading.						
						CUSTOM	IER ORD	ER INFOR	MATIC	N	T		
Custor	mer Order	No.				# of Pa	ickages	Weight (circle one) Additional Shipper		Additional Shipper In	information		
									Y	N			
						<u> </u>			Y	N			
									Y	N			
Grand	Total								Ť	N			
Grana	10401					CA	RRIER IN	FORMATI	ON				
Hand	ling Unit	Pac	kage									LTL	Only
Qty	Туре	Qty	Type	Weight	HM (X)	Connocity Description Connocities requires second or additional care or attention in harding or stowing must be or mainto and apackaging at to ensure safe transportation with ordinary care. See Section 2(e) of NMPC non-3d0			NMFC No.	Class			
Where th declared by the sh	a rate is deper value of the pr ipper to be not Not	dent on vak operty as for exceeding	an, shippers a lows: "The ag	re required to preed or decla per	state specific red value of the	aly in writing the property is 	the agreed a specifically	or CO stated Fe	DD Ame terms	ount: \$ able, Se	Prepaid Custo e 49 USC § 14706(c)(1)	omer check ac	ceptable
Received upon in w classificat the shipp	, subject to ind riting between tions, and rule er, on request,	lividually dot the carrier is that have b , and to all a	termined rates and shipper, it been establish pplicable stat	k or contracts f applicable, o hed by the car e and federal	that have bee therwise to th rier and are a regulations.	n agrood e rates, zailable to	The car all other Shippe	rier shall n r lawful fee r <u>Signatu</u>	iot mak is. re	e deliver;	of this shipment withou	t payment of c	harges a
Shipper Signature/Date Trailer Loa			oaded: pper	Freight Counted: Carrier Si			Carrier Signature/	nature/Pickup Date					
This is to classified condition	The is to carby that the <u>absorbane</u> materials are preparity exercised, packaged, marked, and labeled, and are in preparity and the to the preparity of the applicable packaged of the COT.		D By dr	ý shipper y driver/pallets said to contain p driver/pieces was med response vehícia.			Carrier acknowledges rec placards. Carrier certifies was made available and/o resonance outdook or or	men acknowledges receipt of packages and require cards. Carrier contrise emergency response inform is made available and/or carrier has the DDT emerg porce guidebook or equivalent documentation in th https. Property described above is received in good capit as noted.					

Introduction to CNC Machines-

The CNC is designed to give you years of safe service. Read this owner's manual in its entirety before assembly or use. The advantage of the CNC machine is that it can, in most cases, fully machine the complete job without it being removed from the table so that you have finished parts of high accuracy that are totally repeatable. It can also produce intricate carvings with the purchase of the relevant software. Nesting is also a valuable feature of CNC machining that saves on waste and costs. It is possible to reduce the number of different machines in the shop as the CNC will perform multiple functions and is a must for cabinet makers and serious wood workers.

Machine Briefing-

The Laguna Swift CNC offers a rugged platform with rigidity and accuracy to process materials including wood, plastics, foams, aluminum, and composites. The optional vacuum table and 4th axis turner expands the possibilities of this machine even further. Built to the same standards as our Smartshop line and using many of the same components, the Swift CNC is a durable machine that your business can depend on.

Swift Vacuum

The Laguna Swift Vacuum CNC Router features a work envelope of 4' x 4', 4' x 8', 5' x 10'. It also includes an industrial-grade liquid cooled electro-spindle. The Swift vacuum features a 4-zone (4' x 4' table) or 6-zone (4' x 8'/5' x 10') vacuum phenolic table to hold down your parts.

Features of Machine-

- . 3HP Water Cooled Electro-Spindle (ER-20 Collet)
- . 6,000 24,000 RPM Spindle
- . Vacuum Table
- . Hand-held Controller
- . Gantry Height: 7-1/2"
- . Ball Screw "On" Z-Axis
- . Double Helical Rack Drive on X & Y Axis

*Vacuum Pump Sold Separately

Dimensions of Each Swift Vacuum Machine Size-



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Dimensions of Each Swift Vacuum Machine Size-



Dimensions of Each Swift Vacuum Machine Size-



Layout & Footprints of Each Swift Vacuum Machine Size-



LAGUNA

SWIFT SERIES 4' X 4'

PART NO.: {MCNC Swift 48 X 48 1000-0233}

SPECIFICATION:	
	DR4WN,S.B6/1/2016_REV,2
POWER REQUIREMENTS	220V,30A,1 PHASE
FOOTPRINT.	78" W X 73" L
WORKING AREA.	49" X 49"
GANTRY CLEARANCE.	7*
SPINDLE.	3 HP, LIQUID COOLED
SPINDLE RPM.	6,000-24,000
RAPID TRAVEL.	900 IPM
MAXIMUM CUTTING SPEED.	600 IPM
DUST PORT DIAMETER.	4"
PRECISION HELICAL RACK & PINION.	20MM HEAVY DUTY LINEAR
DRIVE SYSTEM FOR X AND Y AXES	BEARING,ALL AXES
CONTROLLER.	LAGUNA HAND HELD DSP
MDF TABLE TOP WITH TEE SLOTS.	YES
SOLID STATE HOME SWITCH'S.	YES
HEAVY DUTY WELDMENT TUBULAR	
STEEL FRAME.	1200 POUNDS
CENTRALIZED LUBRICATION SYSTEM	
FOR ALL AXES.	YES

Layout & Footprints of Each Swift Vacuum Machine Size-





Layout & Footprints of Each Swift Vacuum Machine Size-

Parts of the Swift Vacuum Series-





1.) **<u>Bed</u>**: The bed of the machine consists of a heavy steel frame with a plastic top that is slotted for the vacuum function. It has "T-Slots". The "T" slots are used to clamp the job or fixtures to the bed.

2.) <u>Gantry</u>: The gantry straddles the bed and carries the router spindle motion system. It is moved along the length of the bed by a precision ball screw system that is controlled by the machine controller.

3.) **<u>Router Spindle</u>**: The router spindle is moved along the gantry by a precision ball screw system that is controlled by the machine controller.

4.) **Frame:** The frame is a heavy welded construction that supports all the other parts of the machine.

5.) **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.

6.) **Water Pump:** The water pump provides coolant for the router spindle motor. Running the router spindle.

Parts of the Swift Vacuum Series (Cont'd.)-

5.) **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.



6.) Water Pump (Cont'd.): The water pump provides coolant for the router spindle motor. Running the router spindle without the cooling pump running can lead to spindle bearing failure.





You will connect one pipe to the water pump and the other pipe will be placed in the water container for the return water.

It is not important which pipe is used as the return.

Fit the 90 Degree connector to the pump. Connect one of the pipes to the water pump by pushing it into the 90 deg connector. Lightly pull on the pipe to ensure that it is connected correctly.

Fill a container about ¾ full of clean Distilled or Deionized water.

Lower the water pump into the container ensuring that it is the correct way up [water inlet lowest] and place the water return pipe into the container.

Note: For CNC Machines Operations being performed in the Northern or Cold Regions, the operator can use a 50/50 mix of DISTILLED WATER/DEIONIZED WATER with Glycol ANTI-FREEZE.

Water Pump Installation (Cont'd.):

The logical position for the water container is just behind the control box close to the caterpillar track. Ensure that it is close to the machine as you do not want to kick the container and spill the water.

Once the assembly is complete and the water pump electrical connection has been made, [plug the pump into the machine water pump socket] lift the water return pipe up and check that the water is flowing.

Place the lid onto the container to keep dust and dirt out of the container. Check the container periodically as the water will evaporate.

<u>Note</u>: If the spindle is run without cooling, it could be damaged and fail.

Note: If your shop is subject to freezing temperatures antifreeze must be added to the cooling water.

Note: No water container is supplied. You will need a container with a minimum of 5 gallons capacity. If your shop is subject to high ambient temperatures a larger water container may be required.

<u>Note</u>: If water is not flowing or is slow, reverse the hoses on the pump and flow should regain, sometimes the system will create an air bubble during shipping causing vapor lock.

Water Pump Installation (Cont'd.):

Note: A qualified electrician must carry out the electrical installation. Lower the water pump into the container ensuring that it is the correct way up [water inlet lowest] and place the water return pipe into the container. The logical position for the water container is just behind the control box close to the caterpillar track. Ensure that it is close to the machine as you do not want to kick the container and spill the water. Once the assembly is complete and the water pump electrical connection has been made, plug the pump into the machine water pump socket, lift the water return pipe up and check that the water is flowing. Place the lid onto the container to keep dust and dirt out of the container. Check the container periodically as the water will evaporate.

<u>Note</u>: If the spindle is run without cooling, it could be damaged and fail.

Parts of the Swift Vacuum Series (Cont'd.)-

7.) Electrical Control Box: The electrical control box is located on the side of the machine in a dust



Front Panel of Electrical Control Cabinet-





Parts of the CNC Machine-



Spare Drive Belts



Dust Shroud/Hood









Table Clamps (Qty. of 8 Provided)



Coolant Container/ Bucket for Coolant

Parts of the CNC Machine (Cont'd.)-







USB Memory Stick (8G Max.)



Touch-Off Puck



Assembly & Setup CNC Machine-

Assembling the Controller:

Fit the Cable to the controller and ensure that the screws are finger tight.



Note: When using a memory stick, it fits into a slot on the top of the hand-held controller and must not exceed 8G in capacity.



Fitting the Dust Hose-

1.) Fit the dust hose to the dust shroud and secure with a clamp. Ensure that it is tight as it is very inconvenient to have it fall off during production.



2.) Fit the shroud to the router head. Adjust the shroud so that the brushes are even with the tip of the router bits that you will be using.



Note: If it is too low the brushes may drag on the job being cut and could be cut by the router bit. If it is too high and is not in contact with the job suction may not be optimal. Once adjusted, clamp with the clamping Allen screw.

Fitting the Dust Hose (Cont'd.)-

3.) The head of the machine will move all the way across the table and the dust hose will follow the head.

<u>Note</u>: If there is insufficient slack, the hose may break or damage the dust shroud. It is suggested that the hose be suspended from the ceiling of ones Facility with sufficient slack so that it will not restrict movement. It will also be out of the way and not causing a trip hazard.



Electrical Connection for the Machine-

No cable is supplied as this will depend on the local wiring codes and your electrical supply. Ensure that when installing the electrical supply to the machine that 220v (220 Volts) single phase is supplied.

It is recommended that you use a 30-amp Breaker.

Wire to Terminal L1 & L2. Terminal L3 is not used.

Note: When wiring the machine to your electrical system, keep your cable as short as possible and the cable should not be allowed to run along the floor, as this will cause a trip hazard. There is a cable that has a female electrical socket for connection to the water pump.

<u>Note</u>: A qualified electrician must carry out the electrical installation.





Power/Earth Terminals

Fitting the Router Bit into the Router Head-

<u>Note</u>: Before changing or fitting the router bit always disconnect the power to the machine.

Note: Collets & spindle collet hole must be cleaned regularly. Ensure that the slots in the collets are free of sawdust as sawdust builds up and will stop the collet compressing. If the collet or spindle hole are not clean, the router bit may not run true, and this will affect the performance of your machine.



1.) Select a router bit and its relevant collet.

2.) Fit the collet into the spindle nut. Press the collet into the spindle nut until it snaps into place.
<u>Note:</u> The router bit must not be fitted into the collet until the collet has been fitted into the spindle nut. With the router bit fitted into the collet the collet cannot compress and snap into the spindle nut. The face of the collet and the face of the spindle nut will be close to flush.

Fitting the Router Bit into the Router Head (Cont'd.)-

Note: To remove the collet, hold the spindle nut and press the collet on the side. The collet will compress and pop out. Do not try to remove the collet while a cutter is fitted as the collet will not compress and pop out.

3.) Fit the spindle nut and collet assembly onto the spindle thread by hand.



4.) Press the bit into the collet but note that the flute of the router bit must not be inside the collet and should be a minimum of 1/16 " outside the collet. Hold the router spindle with the supplied wrench and tighten the collet with a second wrench. Do not overtighten.

<u>Note</u>: Use this process for all other router bits that you need to fit but you will have to change the collet if the shank of the router bit is a different size.
Types of Router Bits-

There are 5-five Basic Types of Router Bits:

- **1.)** Straight, **2.)** Up Shear, **3.)** Down Shear, **4.)** Combination (also called compression), and
- 5.) Form Tools (Round Over, Ogee, etc.).

1.) **<u>Straight Router Bits</u>**: These are the standard router bits that are commonly used with handheld routers and are usually available at home centers.



2.) <u>Up-Shear Router Bits:</u> These bits have flutes that are spiraled upward (a standard twist drill is an example of this type of bit). This bit design removes the chips from the kerf but tends to chip the top surface, especially veneers or melamine surfaces. Ball Nose Router Bits are a variation of the up-shear bit design but have a radiuses end. These bits are typically used for 3D surfacing

applications.



Types of Router Bits (Cont'd.)-

3.) **Down-Shear Router Bits:** These bits are like the up shear but with an opposite spiral that tends to pack the chips into the kerf. These bits prevent chipping the material surface, especially with veneers or melamine surfaces.



4.) <u>Combination (Compression) Router Bits:</u> These bits combine the advantages of both up shear and down shear designs. The top section of the tool is down shear to prevent chipping the top surface of the material and the lower part of the bit is up shear to prevent chipping the bottom surface of the material. Combination Router Bits are the preferred configuration for machining veneered plywood as well as melamine surfaced product. A variation of the bit is called the "Mortising Compression" router bit. With this bit, the up-shear portion of the bit is less than ¼" in length so that the bit can be used on ¼" veneered plywood and for dados.



Types of Router Bits (Cont'd.)-

5.) **Form Router Bits:** Typically, are available in standard profiles such as round over, ogee, etc. Router bits that have a shape associated with them would be classified with this group.



Controller Button Functions-

Note: There is a comprehensive manual for the hand-held controller. Below is a list of the main key functions.

<u>Note</u>: The controller may vary form that shown.



X + / 1 = Moves the gantry in the X direction away from the home end of the bed.

<u>**Y**+/2</u> = Moves the gantry in the Y direction away from the home end of the bed.

 $\underline{Z+/3}$ = Moves the router head in the Z [Up direction] away from the table surface.

XY-0 / 4 = Set's Machine "Origin".

Controller Button Functions (Cont'd.)-



- <u>X-/5</u> = Moves the gantry in the X direction towards the home end of the bed.
- <u>Y-/6</u> = Moves the router head in the Y direction towards the home end of the bed.
- $\underline{Z-/7}$ = Moves the router head in the Z (Down Direction) towards the table surface.
- **<u>Z-0 / 8</u>** = Used set the tool to the "Zero" surface (Tool "Touch-Off".)

Controller Button Functions (Cont'd.)-



HOME / 9 = Causes the machine to move to the "Home" position, first in the Z-Axis, followed by X and then Y. (Home is a mechanically determined position using mechanical switches/sensors.)

<u>HIGH/LOW / 0</u> = Toggles jogging speeds between High and Low ranges.

ONOFF/. = Turns the Router Spindle on and Off.

MENU / _ = Provides access to various setup features.

Controller Button Functions (Cont'd.)-



ORIGIN /OK = Use to accept commands ("On".) Origin causes machine to the machines "Origin".

MODE = Toggles between the three jogging modes: Continuous, Step or Distance.

"RUN/ PAUSE / DELETE" = Used to load a program from either the USB drive or internal memory. While the program is running, causes the Operation to "Pause".

STOP / CANCEL = Stops a running program. Also used to cancel commands

Turning "On" the Machine-

<u>Note</u>: Before you turn on the machine remove all tools and other objects from the machine table.

Release the <u>"Emergency Stop"</u> by twisting clockwise and it will pop out.



Turn the Main Power Isolation Switch Clockwise to the "On" Position.



Turn the Main Power Key Lock Clockwise to the from the "0", "Off" Position, to the "1", or

"On" Position.



Press the **<u>"Start Button</u>** that will turn power on to the machine, **Power <u>"On"</u> Light will appear**.







Pressing the "Green Button" will also power the controller and the display will light up.



The screen will display "Go to Home?" Make sure that the table surface is clear of obstructions and press the "Green Origin/OK button".





The router head will move to the home position on the table.

<u>Note</u>: "Home" is a mechanical position that is a constant that is determined by switches on each

of the 3-Axes.



X+= Across (from left-to-right when standing in front of the machine).

Y+ = Length (from front-to-back when standing in front of the machine).

Z+= vertical (up). By pressing HIGH LOW / 0 and MENU / - the display will change to AX=0, AY=0, and AZ=0.

When the X, Y and Z have an A in front, this denotes that the dimensions displayed are about the machine's home position. When the X, Y, and Z values are displayed with a number (1-9) this indicated the dimensional relationship of the machine from the machine "Origin."

To move the Router Head-

There are 3-Three different methods of moving the router head:

1.) <u>Continuous Mode</u>: Press the mode button until Continuous is displayed. The display will show (bottom row of the screen) the changing location of the router head as it moves location. By holding X+ button down, the machine will move constantly until the button is released. This is the same for X-, Y+, Y-, Z+ and Z-. The "High/Low" button determines the speed of the jogging moves.

2.) **<u>Step Mode</u>**: Press the mode button until step is displayed. With step selected, each time X, or Y button is pressed it will move the router head by 0.5mm in high setting and 0.1mm in the low setting.

3.) **Distance Mode:** Press the mode button a third time and Distance is displayed. This allows you to input a position into the controller that you want the router spindle to move to. As an example, if you want to move the router spindle 100 mm from the home position in the X and / or Y-Axis:

3a.) Press the mode button until Distance is displayed.

3b.) Type in 100 and press OK

3c.) Pressing the X+= button will now move the router 100mm in the X+ axis. The router head also move the set distance in the X+, X-, Y+ and Y- depending on the button that is pressed. To move the router head in the Z axis, press the Z+= / 3 [UP] or the Z- / 7 button [DOWN]. By pressing any of the other X, Y or Z + or – buttons the router head will move 100mm in the selected direction.

Jogging Speed-

You can select between a Low or High speed. By pressing the HIGH LOW / 0 button you can toggle between the two speeds. The High-speed jog setting is approximately 4 times the speed of Low-speed jog setting.

Setting the Work Envelope-

The Work Envelope is a volume that defines the movement limits of the router spindle. The X0, Y0 corner of the work envelope is determined by the machine's Home Position. The X+ and Y+ limits of the work envelope are determined by the "Table Size: Settings (MENU/MACHINE SETUP/TABLE SIZE) and provide the "soft limits" for the machine. The Table Size settings prevent the possibility of the spindle assembly/gantry from being jogged into the machine's frame.

Ensure that the controller display is indicating the "Machine Coordinates". Those numbers correspond to the machine Home position that is determined by physical limit switches. Machine Coordinates are indicated on the screen by the designation "AX"", AY", or "AZ". I the Machine Coordinates are not being displayed, depressing the HIGH/LOW and MENU buttons together will toggle between the machine coordinates and ORIGIN coordinates. (e.g., 1-9.).



Setting the Work Envelope (Cont'd.)-

1.) Select Low Speed by pressing the HIGH LOW / 0 button. Select Continuous by press the mode button until "Continuous" is displayed. The position of the router head as it changes will be shown at the bottom of the display. Move the router spindle to the home position by pressing the Home button.

2.) Move the router head to the max X position by pressing the X+ button until the router spindle stops. Note the displayed AX= value.

3.) Press the Y+ button and hold until the router gantry stops moving, note the displayed AY value.

4.) Typically, on the Laguna Swift 4 x 4 CNC machine the work envelope will be 1300mm [51.181 in] x 1300mm [51.181 in] (work envelopes vary by machine model).

5.) Machining can only be performed if the tool path centerlines fall within the work envelope. If an error message is displayed while trying to execute a program indicating an over travel error in one of the Axes, executing the program would require that a tool path fall outside of the machine's Work Envelope. PLEASE NOTE THAT THE SELECTION OF THE "ORIGIN" ALSO EFFECTS PLACEMENT OF THE PROGRAM WITHIN THE WORK ENVELOPE.

Using the Vacuum Table-

Note: The better the vacuum created, the more securely the parts will be held in place. Follow the below instructions to obtain optimum results. The vacuum table has 6 zones, and you can set the configuration to suit the type of work that you will be producing. Each zone is controlled by a switch that is located at the front of the machine. The table has two holes in each zone that extract the air and generate the vacuum. The table has grooves that ensure the air is extracted evenly across the zone. To seal the zone from leakage, a foam rubber gasket is pressed into the outer grooves. This gasket sits slightly proud of the table and is compressed by the spoil board [sometimes called sacrificial board] as the vacuum is applied. T slots are also provided to allow you to clamp jobs / spoil boards to the table should it be required.



Using the Vacuum Table (Cont'd.)-



Fitting the Foam Rubber Gasket:

It is important that the foam rubber gasket is pressed evenly into the grove in the vacuum table around the zone that you are constructing. To ensure a good seal, it is strongly recommended that the gasket is turned in at the beginning [as shown]. The gasket tends to stretch while fitting and over time it may relax and shorten. The extra length of gasket allows you to re-set it and make the seal again. If the initial turn is not put in place, there is no margin for error, and you may have to discard a complete length just for being one inch short. It is recommended that you initially create 3 Zones, each one completely across the table. You can change the configuration at a later stage.



Start point foam rubber gasket turned in



Inserting foam rubber gasket

Fitting the Foam Rubber Gasket (Cont'd.):



Cutting end of foam rubber gasket

Suggested One Configuration





Final finished joint

Vacuum One

<u>Note</u>: Do not stretch the foam rubber gasket while you are fitting it into the grove in the vacuum table.

Spoil Board Material and Precautions-

The Spoil Board has 2-Two Functions:

1.) To protect the vacuum table from the cutters. You will set the depth of your cutter a few thousandths of an inch deeper than the job thickness. If there was no spoil board this would mean that you would be cutting into the vacuum table.

2.) To transfer the vacuum from the table to the job. This means that the spoil board must be porous to allow air to be sucked from the underside of the job. We have found that low cost MDF is the best material for this function.

Spoil Board Preparation-

When you purchase your MDF spoil board it should be no thinner than 3/4 inch. Contrary to what you might think, the thicker the MDF the better the suction that is created. However, it is not recommended that your spoil board is thicker than 1 inch.

The MDF that you purchase will not be flat and the machine will be cutting to accuracy in the order of a few thousandths of an inch so you will have to machine the spoil board flat. After your spoil board has been skimmed many times and is ½ inch thick discard it and start a new spoil board. The spoil board edges are very porous and must be sealed. We recommend that a hard candle wax is used as it contains no water. Never use a water-based product to seal the edges of the board as this will make the board grow and it will be unsuitable as a spoil board.



Edge sealing wax

Spoil Board Preparation (Cont'd.)-

Spoil board edge



Edge sealing wax

Note: Some glues contain water and can affect the edges of the spoil board.

Note: Do not confuse flatness with bow. If the board is bowed the vacuum may not pull the board down and you will lose vacuum. Never use a bowed board as a spoil board.

1.) Cut your spoil board to the size of the bed of the machine.

2.) Place on the vacuum table. Prior to placing the spoil board onto the vacuum table, ensure that the table is perfectly clean, free from sawdust and dirt. If there is sawdust etc. on the table, it will change the height of the spoil board and it will not be flat. It is strongly recommended that you do not wipe or brush the table clean but use a handheld blower. Do not use a vacuum cleaner as it may draw the foam seal out of the grove and damage it.

Spoil Board Preparation (Cont'd.)-

<u>Note</u>: It takes at least 2-two people to load a spoil board. You must never put the edge of the board on the vacuum table and push it across. This will snag on the foam rubber gasket and rip it with the result that you will lose the vacuum seal and must replace the seal. Only lift the board into place and lower it onto the vacuum table in the correct position.

3.) Turn on the Vacuum.

4.) Fly cut the total surface of the spoil board.

Note: Only remove the minimum to achieve a flat surface over the complete surface. You will have to skim the surface several times during the life of the spoil board to clean it up and you should get into the habit of only skimming the minimum off the surface.

5.) Once one face is flat, remove the vacuum, turn the spoil board over and repeat the process for the other.

Precautions Regarding Spoil Boards-

The spoil board is porous and will absorb moisture. As moisture is absorbed the dimensions of the board will change. In general, this will not be a problem as the changes from day to day are not significant. Also, the changes will, in general, be over the complete board. There are however exceptions. Your morning coffee can do a great deal of damage if spilt. If water etc. is spilt, it will be absorbed into the board and make the board grow in that area. Do not allow the board to become wet. If an accident should happen, remove the board from the machine and allow to dry.

Precautions Regarding Spoil Boards-

This may take several days. Replace the board with a new board. Once the wet board has completely dried it may be possible to skim the board and re-use it, but the likelihood is that it is Scrap.



Vacuum Table T-Slots-

The vacuum table has 9-nine T-Slots to enable fixtures and jobs to be clamped directly to the table. Clamps are provided but it must be noted, the table must be protected with a packer when using jacking bolts. If the jacking bolts meet the plastic of the table, the plastic will be damaged. The packer must be as large as possible to spread the load on the plastic of the table.

T- Slots are also provided at the end and sides of the table and can be used for clamping jobs and fixtures.



Automatic "Z" Origin Point [Tool Touch Off Puck]-

The machine is provided with an automatic tool height adjustment. Place the contact button on the clean spoil board directly under the cutter. To activate the automatic tool height adjustment, press Menu & On/Off key at the same time on the control pad. This will cause the cutter to move slowly down. Once the cutter touches the contact button, electrical contact is made, and the cutter will move up and away from the contact button. The machine now knows the height of the cutter.



Contact Button of the Tool Touch Off Puck.

Cutter





Contact Button

Contact Button of the Tool Touch Off Puck.

Automatic "Z" Origin Point [Tool Touch Off Puck](Cont'd.)-

There is also a manual method that is detailed below:

1.) Fit a flat bottom router bit to the spindle.

2.) Jog [Z] the tip of the tool down so that it is just above the top of the spoil board using the "Continues" (CONTINUOUS???) button.

3.) Step down in slow mode [0.1mm 0.004" each time the button is pressed] while turning the router collet by hand in the reverse direction. As you feel pressure, stop jogging down.

Note: Do not turn the router bit (BY HAND???)as it is sharp and could cause injury.

4.) Select the distance mode and enter 0.0254mm [0.0001"] Press Z+ [UP] and rotate the cutter in the reverse direction until the cutter is free to move and there is no drag. The cutter is now within 0.001" above the spoil board.

5.) Once the router bit is at Zero press the Z-0 / 8 button to set the zero point.

6.) Jog the router bit up or press the origin button to move the router bit up and to the origin point.

Fitting the Touch Off Puck-

The touch off puck plugs into the front of the machine and is stored in the puck holder.



Setting the Spoil Board on the Vacuum Table for Production-

Moving the Router Head to the Spoil Board Corner Position-

1.) With the router head in the home position, drop the router bit to just above the spoil board top face as described earlier [Z axis].

2.) Use the distance command as described earlier [press mode, toggle through to distance] to set the X and Y position to 40.38mm.

3.) Press X+.

4.) Once the router head has stopped moving press Y+.

5.) The point of the router bit is now located over the point where the corner of the spoil board should be.

6.) You may need to move the router bit lower so that it is closer to the top surface of the spoil board by pressing the Z- button.

7.) Press the top right-hand button XY-0 / 4 this will set the origin and the machine now has a new datum point which will be the X=0 / Y=0 in your design program.

8.) Move the spoil board so that the corner of the spoil board is directly under the point of the router bit and adjust the spoil board position so that it is parallel with the edges of the vacuum table. Vacuum can now be applied to the spoil board.

Re-Setting the Origin Point-

1.) Bring the router head to the origin point by pressing origin button.

2.) Lower the router bit by pressing Z= so that it is just above the spoil board. Note the position of the tip of the router bit point and you will probably find the origin point will have to be adjusted.

3.) Jog the point over so that it lines up with the edge of the spoil board in the X axis.

4. Jog the point over so that it lines up with the edge of the spoil board in the Y axis.

5.) Reset the origin point by pressing the top right-hand button XY-0 / 4. This will set the origin and the machine now has a new datum point.

STOP KEY

Spindle Speed Control-

Only 3-Three Buttons are Operator accessible:

ARROW UP, ARROW DOWN, and STOP KEY. ARROW UP Key is used to raise the spindle speed. ARROW DOWN Key is used to lower the spindle speed.



ARROW DOWN

The **Stop Key** is available to stop the spindle during a program activation. Display reads in hertz, 200hz = 12,000, 300hz = 18,000, 400hz = 24,000.

Loading a Program into the Machine-

The controller has a USB slot located to the top.

- 1.) Load your program into your USB drive.
- 2.) Fit the USB into the USB slot in the controller.
- 3.) Press the button RUN PAUSE/ DELETE. The display will show U disc.
- 4.) Press the OK button. What is in the USB drive will be shown on the screen.
- 5.) Use the arrow keys to select the file that you need to load into the controller.
- 6.) Select, then press OK button.

7.) Once the code / program has been downloaded the machine will start to operate. Note. Ensure that you are clear of the machine as the spindle will start to turn and could cause injury.

8.) The router will just cut the surface of the spoil board the distance that you set in the design software, (We suggest 1.6mm [1/16") and cut the outline of the job. This will give you the location of the part on the spoil board.

Fitting a Job to the Spoil Board-

One can use double-sided tape to attach the job to the spoil board. If you are using doublesided tape, ensure that the spoil board and the job are clean and do not have saw dust or chips as this will affect the ability of the tape to hold the job securely. Only use the smallest amount of double-sided tape as it will make it easier to remove the job once machined.



Removing the Job from the Spoil Board-

Pry the job off the spoil board with a wide blade putty knife or something similar.



Fitting the Job to the Table using the "T" Slots-

One may find it convenient to clamp the job to the spoil board with the table clamps. However, note that this attachment method can only be used if the outside edges are not being machined. When using the clamps, place a piece of packing under the jacking bolt to protect the

bed of the machine.



(Qty. of 8 Provided)



Maintenance-

As with any machine, to ensure optimal performance you must conduct regular maintenance.

Note: If one operates within a Quality System Certified Facility (ISO/QS 9000, TS-16949,etc.), be advised to incorporate the Daily & Weekly Maintenance checks into the Preventive Maintenance Protocol of the facilities Quality System.

Daily Checks-

1.) Clean the machine and lubricate unpainted surfaces with a Teflon lubricant. Wipe off any excess and buff with a dry polishing cloth. This will reduce the likelihood of rust forming.

2.) Check cutter teeth for chips and dullness.

3.) Generally inspect the machine for damage and loose or worn parts.

Weekly Checks-

- 1. Clean the cutters.
- 2. Check cutter teeth for chips and dullness.
- 3. Generally inspect the machine for damage and loose or worn parts.
- 4. Check the dust extraction for blockages and any large bits that could cause blockages.

Maintenance (Cont'd.)-

Oiling the Machine:

The machine is provided with a central oiler. Do not over lubricate the machine as excess oil attracts dirt and sawdust. It is recommended that one pump of the oiler once a month will be sufficient to keep your machine lubricated. When the oil tank needs filling, top up with a good quality SAE 30 weight oil.



Jacking the Table Level:

The machine is provided with table jacking points. The jacking points come factory set and should not need adjustment. Do not adjust the jacking points until you have contacted Laguna Tools, Inc.

customer service.



Troubleshooting-

Machine Will Not Start:

- 1.) Check that the start switch is being pressed full in.
- 2.) Check that the red stop switch is fully out.
- 3.) Check that the electrical power cord is plugged into the power outlet.
- 4.) Check that the electrical supply is on [reset the breaker].

5.) With the power disconnected from the machine, check the wiring to the plug is correct. Check that the rubber insulation is stripped enough and is not causing a bad connection. Check that all the screws are tight.

The Machine Will Not Stop:

This is a very rare occurrence as the machine is designed to fail-safe. If it should occur and you cannot fix the fault, seek professional assistance. The machine must be disconnected from the power and never run until the fault has been rectified.

1.) Internal breaker faulty. 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 the reason for the jamming.

2.) Motor faulty. Replace the motor.

Troubleshooting (Cont'd.)-

Motor Overheats:

The motor is designed to run hot, but should it overheat it has an internal thermal overload protector that will shut it down until the motor has cooled and then it will reset automatically. If the motor overheats wait until it has cooled and restart. If the motor shuts down consistently check for the reason. Typical reasons are dull cutting tools, no water in the coolant tank, blockage in the coolant pipe and excessive ambient temperature.

Squeaking Noise:

1.) Check the bearings.

Spindle Slows Down During A Cut:

- 1.) Dull cutting tools. Replace the tool or have it re-sharpened.
- 2.) Feeding the wood too fast. Slow down the feed rate.

Machine Vibrates:

1.) Machine not level on the floor. Re-level the machine ensuring that it has no movement.

Warranties-

Delivery Protocol-

Date: 12/02/2020 BILL OF LADING					
SHIP FROM				Bill of Lading Number : 145787446	Bill of Lading Number: 145787446
Name: Address:	Nathaniel Boomer 4700 Burleson Rd Units L M			Carrier Name: Estes Express	
City/State/Zip: Ph: (512) 645	tte/Zip: AUSTIN,TX 78704 12) 645-4170 Contact: Nathaniel Boomer FOB:			SCAC: EXLA Pro number:	
SHIP TO				1	
Name: Address:	Laguna Tools TX 744 Refuge Way Suite 200		Location#		
City/State/Zip: Ph: 949474120	itylState/Zip: GRAND PRAIRIE,TX 75050 h: 9494741200 Contact: Vince (ZM) RMACR11096 FOB:			Freight Charge Terms: (freight charges are prepaid by Worldwide Express unless indicated otherwise)	
FREIGHT CHARGES BILL TO				Master Bill of Lading:	
Address:	2828 Routh Street Sul	ite 400		with attached underlying Bill Of Lading	SPECIAL INSTRUCTIONS: For assistance please call 833-8WE-SHIP
SPECIAL INSTE	SPECIAL INSTRUCTIONS: For assistance please call 833-8WE-SHIP			WWE Number: W709699351	of Low L northogenerics i of account of prease can obe officially
Handling Instructions: RMACR11096					Handling Instructions: RMACR11096
Pickup Instructions:					Pickup Instructions:
Delivery Instructions: RMACR11096					
Pickup Service(s): Liftoate Pickup, Residential Pickup					Delivery Instructions: RMACR11096
Districe Secular(a): Lifteete Districe, Desidential Districe					
REFERENCE NUMBER INFORMATION PICKUP Service(s): Lingate Pickup, Residential Pickup					
REFERENCE # PKGS REFERENCE # PKGS Total # of Pkgs					
CARRIER INFORMATION					
HANDLING PIECE UNITS		MERCHAT	H.M. Consmolties requir	Ing special or additional care or aftertion in	
QTY TYP	PE QTY TYPE	QTY TYPE WEIGHT X and Emportation Imm 300		with ordinary care. See section 2(#) of NMEC NMEC# CLASS	
1 PL1	T I	385	machine, 48(L)	x 48(W) x (H) DO NOT STACK 77.5	
1 385 Grand Total					
In agreed of declared value of property is follow: The agreed of declared value of the property is specifically stated by the shipper to be not exceeding property is specifically stated by the shipper to be not exceeding per				COD Amount: \$ Fee Terms: 3 rd Party WWE Remit Address: Customer Check Customer C	
Note: Lability limitation for loss or damage in this shipment may be applicable. See 49 Money Order Money Order Money Order					
RECEIVED, subject to individually determined rates or contracts that have been agreed CARROER SIGNATURE /PICKUP DATE					
motor carried broker, pursuant to 40 USC 14101(b) and all applicable state and federal placards. Carrier certifies emergency response info					
SHEPPERS SIGNATURE / DATE Trailer Loaded: Freight Counted: response guide				 was made available and /or carrier has DOT emergency response guidebook or equivalent documentation in vehicle. 	
This is to certify that I properly classified, de	he above-named materials are rscribed, packaged marked and	D By Shirrow		 Property described above is received in good order, except as noted. 	
labeled, and are in pro according to the applic	oper condition for transportation icable regulations of the	By Driver	By Driver/pallet		
Cepartment of Transp	ponumon.		By Driver/Piecer		
				(Signature) (Date)	
(Terrature)	(Tele)				
(2017) 0/177 1 1					

Dealer Machinery 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 be 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..



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 Atton 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/rpolicies/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 oneyear warranty. Wearable parts like throat plates, bandsaw guides, etc., have a ninety-day warranty.

Table A-1	Warranty	Lengths
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Year – New Machines Sold Through an Authorized Dealer
Year – Accessories Sold as Machine Options (excluding blades)
Year – Machines Sold for Commercial or Industrial Use
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.



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, email, 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 way 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 all returned parts/components requesting warranty coverage.

Laguna Tools Packaging/Laguna Tools RMA Example-

Γ	12/1/2020 Return Authorization - NetSuite (Laguna Tools, Inc)					
	Return Authorization					
	CR10979 Black Forest wood	CO. PENDING RECEIPT				
		Actions				
	CUSTOMER Black Forest wood Co.	CREATED FROM Sales Order #210855	Summary			
PN/A #	DATE 11/5/2020	SALES EFFECTIVE DATE 11/5/2020	SUBTOTAL 1,686.59			
<u>NWA #</u>	CURRENCY Canadian Dollar	EST. EXTENDED COST 755.64	DISCOUNT GST/HST 84.33			
RTN AUTH #	SUBSIDURY Laguna Tools, Inc	EST. GROSS PROFIT 930.95	PST 0.00			
CR10979	RTN, AUTH, # CR10979	EST. GROSS PROFIT PERCENT 55. 1972%	TOTAL 1,770.92			
0.110010	DEPARTMENT Sales : Wholesale	PROMISE DATE 5/12/2020				
	PRODUCT LINE	DEPOSIT RECEIVED				
	LOCATION Laguna Texas Demo / Returns	COMMENTS Customer's bandsaw cast iron at the bottom is bent the				
	SALES REP Benjamin Helshoj	customer can't insert boits to stand. No shipping damage machine arrived in excellent condition do damage to				
	PARTNER	packaging. PO 981				
	LEAD SOURCE Dealer_Canada Dealer-Canada	RETURN REASON Manufacturers Warranty Defect				
	PO# PO-981	SHIP IMMEDIATE SPLIT SHIP				
	MEMO	REVISED INVOICE				
		ORDER HOLD REASON				
	SHIPPING COMMENTS					
	Items Promotions Address Messages	History Workflow Custom Partners Sales Team	Additional Information OzLINK Pacejet SPS			
	EXCHANGE RATE	RATE				
	0.76094 DISCOUNT					
		INVENTORY PRICE TAX	TAX GIFT DROP EST			
	Machine : 0 0 1 E	Inch 14-12 110 Retail 1,686.59445773 1,686.59 CA-	5.0% 0.0% Iber			
	Bandsaw : MBAND1412- 175.1412	VOLT Price GST BANDSAW only	De Co			
	Bandsaw 110V 1,75HP					
	Edit Back Receive Close	Actions				
L						

Laguna Tools Packaging/Laguna Tools BILL of LADING Example-

Date: 12/02/2020 BILL OF LADING										
		SHIP FROM	A		Bill of Lading Number: 145787446					Bill of Lading Number: 145787446
Name: Address:	Nathaniel Bo 4700 Burleso	omer on Rd Units	LM		Carrier Name:	Estes Ex	vess			
City/State/Zip: Ph: (512) 64	AUSTIN,TX 5-4170 Contac	78704 t: Nathaniel	Boomer	FOB:	Pro number:	LADA				
		SHIP TO								
Name: Address:	Laguna Tool 744 Refuge	s TX Way		Location#						
City/State/Zip: Ph: 94947412	GRAND PR/ 00 Contact: Vi	AIRIE, TX 75 nce (ZM) RI	050 MACR1109	6 FOB:	Freight Charge	Terms: (freig)	t charges are p ficated otherwis	repaid by		
	FREIGH	T CHARGE	S BILL TO			and a Dill of Law			_	
Name: Worldwide Express Address: 2828 Routh Street Suite 400 Citv/State/Zin: Dallas, TX 75201 MAVE Number: W706690351				erlying Bill Of 9351	Lading		SPECIAL INSTRUCTIONS: For assistance, please call 833-8WE-SHIP			
SPECIAL INST	RUCTIONS: F	or assistance	e, please c	all 833-8WE-SHIP						
Handling Instru	ctions: RMACE	R11096							_ \ []	Line die a laster line an DUI 0011000
Pickup Instructions:					Handling Instructions: RMACR11096					
Delivery Instructions: RMACR11096										
Pickup Service	(s): Liftgate Pic	kup, Reside	ential Picku	P						Pickup Instructions:
			SEEDEN							Delivery local stress DML OD (1995)
REF	ERENCE	#P	KEFEREN KGS	REFERENCE	ORMATION #	PKGS Tot	al # of Pkgs			Delivery Instructions: RMACR11096
							an orrigo			Distance Consists (a): Lifeste Distance Desidential Distance
										Pickup Service(s): Liftgate Pickup, Residential Pickup
			CA	RRIER INFORMA	TION					
HANDLIN	3	PIECES		COMMODITY DESI	CRIPTION ing special or additional	al care or attention	LT	LONLY		
QTY TY	PE QTY	TYPE	WEIGHT	X handling or slowing safe transportation	must be so marked an with ordinary care. See	nd packaged to ens e section 2(e) of N	IFC NMFC	CLASS		
1 PL	T		385	machine, 48(L):	x 48(W) x (H) DC	O NOT STAC	(77.5		
1 385 Grand Total										
where the rate is the agreed or dec property is specifi	dependent on valu lared value of prop cally stated by the	e , shippers an erty as follows: shipper to be n	The agreed of st ot exceeding	ate specifically in writing r declared value of the	COD Amount: Fee Terms: 3' Remit Address:	Party WWE	Acceptable For Bank Certifie Customer Ch	ms of Payment: d Check		
Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 Personal Check U.S.C. B14706(c)(1)(A) and (B) Money Order										
RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carried and Worldwide Express Operations, LLC, a resistered			the second second							
motor carried broker, pursuant to 49 USC 14101(b) and all applicable state and federal placards. Carrier certifies emergency response information			information							
suppersonance was made available and for carrier has DOT emergency response guidebook or equivalent documentation in vehicle.										
This is to certify that properly classified, d	the above-named ma escribed, packaged m	terials are harked and	De Shine		Property descr noted.	cribed above is n	eceived in good o	rder, except as		
labeled, and are in p according to the app	roper condition for tra licable regulations of I	nsportation he	By Driver	By Driveripallet	10000					
Department of Trans	portation.			said to contain						
				By Driver,Preces	(Caratara)			(But-)		
					(orginature)			(Date)		
(Signature)		(Date)								

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Manual Revision Record

Date of Change	Revision#	Engineering/Design Change Description
4/27/2021	1	Developed New Manual for the Swift Vacuum.