

USER GUIDE

UGE072-1113

TS Series Up Cut Saw

Models TS524 UP, TS724 UP, and TS924 UP



Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Manual Number: UGE072-1113

Serial Number(s):

Model Number(s):

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Purpose of the User Guide

This User Guide describes the Conair TS Up Cut Saw and explains step-by-step how to install and operate this equipment.

Before installing this product, please take a few moments to read the User Guide and review the diagrams and safety information in the instruction packet. You also should review manuals covering associated equipment in your system. This review won't take long, and it could save you valuable installation and operating time later.

How the Guide is Organized

Symbols have been used to help organize the User Guide and call your attention to important information regarding safe installation and operation.



Symbols within triangles warn of conditions that could be hazardous to users or could damage equipment. Read and take precautions before proceeding.



Numbers indicate tasks or steps to be performed by the user.



A diamond indicates the equipment's response to an action performed by the user.



An open box marks items in a checklist.



A circle marks items in a list.



Indicates a tip. A tip is used to provide you with a suggestion that will help you with the maintenance and the operation of this equipment.



Indicates a note. A note is used to provide additional information about the steps you are following throughout the manual.

Your Responsibility as a User

You must be familiar with all safety procedures concerning installation, operation, and maintenance of this equipment. Responsible safety procedures include:

- Thorough review of this User Guide, paying particular attention to hazard warnings, appendices, and related diagrams.
- Thorough review of the equipment itself, with careful attention to voltage sources, intended use and warning labels.
- Thorough review of instruction manuals for associated equipment.
- Step-by-step adherence to instructions outlined in this User Guide.

ATTENTION:

Read This So No One Gets Hurt

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.



DANGER: Sharp blades!



Most injuries caused by knife blades occur when the saw has been turned off. Handle blades with care at all times.

- Always wear cut-resistant gloves when the blade guard is open and when handling blades.
- Always lock out the saw before opening any guards.
- Always wait until the saw blade has stopped completely before opening the saw guard. (approximately five minutes)

TS Saws are equipped with several safety devices to ensure safe operation. Never remove or disable these devices to sustain production. Operating without these devices can cause severe injury.

- The STOP button activates a circuit that stops the saw.



WARNING: Improper installation, operation, or servicing may result in equipment damage or personal injury.

This equipment should be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.



WARNING: Voltage hazard

This equipment is powered by three-phase alternating current, as specified on the machine serial tag and data plate.

A properly sized conductive ground wire from the incoming power supply must be connected to the chassis ground terminal inside the electrical enclosure. Improper grounding can result in severe personal injury and erratic machine operation.

Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as routine maintenance. Only qualified personnel should perform troubleshooting procedures that require access to the electrical enclosure while power is on.

How to Use the Lockout Device



CAUTION: Before performing maintenance or repairs on this product, you should disconnect and lockout electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.

Lockout is the preferred method of isolating machines or equipment from energy sources. Your Conair product is equipped with the lockout device similar to the one shown here. To use the lockout device:



- 1 Stop or turn off the equipment.**
- 2 Isolate the equipment from the electric power.** Turn the rotary disconnect switch to the OFF, or “O” position.
- 3 Secure the device with an assigned lock or tag.** Insert a lock or tag in the holes to prevent movement.
- 4 The equipment is now locked out.**



WARNING: Before removing lockout devices and returning switches to the ON position, make sure that all personnel are clear of the machine, tools have been removed, and all safety guards reinstalled.

To restore power to the equipment, turn the rotary disconnect back to the ON position:

- 1 Remove the lock or tag.**
- 2 Turn the rotary disconnect switch to the ON or “T” position.**



Description

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What is the TS Up Cut Saw?

The Conair's TS Series Up Cut Saw is an on- or off-line sawing device capable of on-demand cutting of tubes or profiles.

Typical Applications

The Conair TS Series Up Cut Saws can cut extrudable plastics and rubber both on- and off-line. Other extrudable materials-foods, ceramics, magnets, soaps, etc.-may also be cut depending on specific application requirements.

TS Saws are available with different cutting capacities (5, 7, and 9 inches) { 127.0, 177.8, and 228.6 mm } to suit your specific needs. The standard saw orientation is right-to-left, saws can also be made with a left-to-right orientation (*see Specifications in this section*). (The illustrations in this User Guide represent the standard right-to left configuration.)

TS saws are limited to a specific range of product sizes based on each unit's cutting capacity.

Different materials, line speeds, temperatures and material cross-sections can result in different cutting torques. If you are changing any of these parameters, consult your Conair service personnel to be sure your equipment can handle the changes.

How the TS Up Cut Saw Works

The Conair TS Series Up Cut Saws are designed for the in-line cutting of profiles, pipe and tubing of a wide variety of sizes.

Located as part of the extrusion line downstream of the extruder, the TS performs five sequential functions in the cut operation as follows:

- 1 The saw table begins to travel with the product in a linear motion then the clamps lock the product to the table.**
- 2 The saw blade travels up and through the product.**
- 3 The saw blade returns to its down (home) position.**
- 4 The clamp releases the product.**
- 5 The saw table returns to its starting (home) position and readies for the next cycle.**

These functions are preformed automatically with contact closure by means of either depressing the manual cut push button or by activating a flag switch mounted downstream of the unit as standard.

There are available options that also initiate the cut cycle including an internal timer, electronic length counter, or any other device that has a N.O. (normally open) contact.

How the TS Up Cut Saw Works (continued)

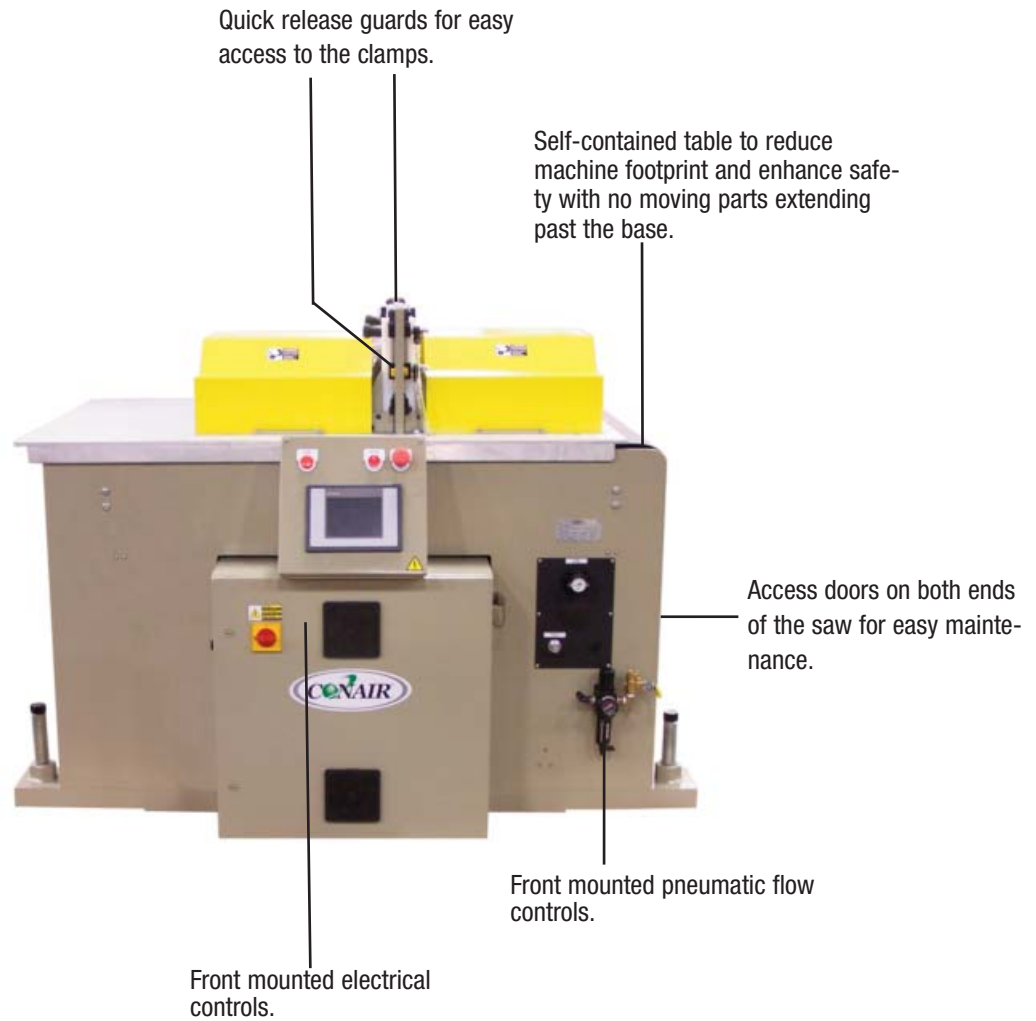
Saw clamps hold the product in place while the blades pass through it during the cutting cycle.

Extruded material enters the saw from the upstream side (right-to-left operation).

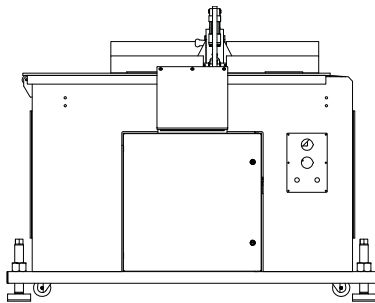


Cut pieces are collected on a dump table or carried away on a conveyor.

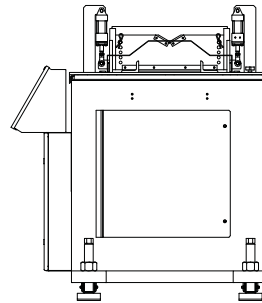
TS Up Cut Saw Features



Specifications



Front view



Side view

MODELS	TS524UP	TS724UP	TS924UP
Performance characteristics			
Applications	Pipe or Profile	Pipe or Profile	Pipe or Profile
Pipe diameter capacity in. {mm}	5 {127}	7 {178}	9 {228}
Profile capacity in. {mm} H x W*	1 x 28.5 {25.4 x 724}	2 x 16 {50.8 x 406}	2.75 x 23 {69 x 584}
Blade diameter in. {mm}	18 {457}	23 {584}	27 {686}
Blade type	carbide tipped	carbide tipped	carbide tipped
Blade drive motor Hp {kW}	3 {2.4}	3 {2.4}	5 {3.73}
Blade speed	Variable blade speed standard on all models†		
Dimensions in. {mm}			
Height to centerline	42 {1067}	42 {1067}	42 {1067}
Maximum table travel	24 {609}	24 {609}	20 {508}
Electrical requirements			
	230V/3 phase/60 Hz or 460V/3 phase/60 Hz		

SPECIFICATION NOTES:

*Profile capacity H x W dimensions are provided for guidance only. The actual capacity can vary depending on the profile you are attempting to produce.

† Maximum blade surface speeds are individually configured based on each models blade diameter.

This table defines standard configurations only.

Specifications can change without notice. Contact a Conair representative for the most current information.

Optional Equipment

Left-to-right machine operation -

This option changes the machine direction from the standard right to left extrusion flow.

Finer tooth blade -

for thin material and materials that are easy to fracture.

Electronic Cut-to-Length measuring system -

using a digital automatic reset counter with encoder for mounting to customer's puller.

Chip Collection System with 2 hp vacuum unit.

Servo control for optimal cut length and repeatable length accuracy -

Servo drive package for saw table travel system uses an AC servomotor with precision planetary gear drive assembly. A microprocessor supplies signals to the servomotor for accurate control of the saw table travel. Operator controls include a touch screen human-machine interface (HMI) for length input settings and table motion synchronization. The command signal is supplied using a quadrature encoder mounted to the part or the customer's puller.

Installation

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Unpacking the Boxes

The TS Up Cut Saw typically arrives in a single crate.



CAUTION: Lifting

To avoid personal injury or damage to the saw, lift the saw using a forklift or hoist with straps that have been positioned at the saw's center of gravity.



- 1** Carefully uncrate the saw and its components.
- 2** Remove all packing material, protective paper, tape, and plastic.
Compare contents to the shipping papers to ensure that you have all the parts.
- 3** Carefully inspect all components to make sure no damage occurred during shipping.
Check all wire terminal connections, bolts, and any other electrical connections, which may have come loose during shipping.
- 4** Record serial numbers and specifications in the blanks provided on the back of the User Guide's title page. This information will be helpful if you ever need service or parts.
- 5** You are now ready to begin installation.

Preparing for Installation

You need these tools for installation:

- ☐ wire strain relief
- ☐ 16- or 18-inch adjustable wrench
- ☐ set of Allen wrenches
- ☐ 1/2 inch open or box wrench
- ☐ #2 flat blade screwdriver
- ☐ multimeter
- ☐ flashlight

Plan the location. Make sure the area where the saw is installed has the following:

- **A grounded power source.** Check the saw's serial tag for the correct amps, voltage, phase and cycles. All wiring should be completed by qualified personnel and should comply with your region's electrical codes.
- **Clearance for safe operation and maintenance.** Make sure there is enough clearance around the saw for maintenance and servicing.



WARNING: Improper installation, operation, or servicing may result in equipment damage or personal injury.

This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

Positioning the TS Up Cut Saw

- 1 Move the saw into position.** Place the saw in position downstream of the belt puller.



CAUTION: Lifting

To avoid personal injury or damage to the saw, lift the saw using a forklift or hoist with straps that have been positioned at the saw's center of gravity.

- 2 Determine the best distance** from the belt puller to the TS Up Cut Saw.

For rigid products, leave enough space to allow the product to flex during the cutting cycle. In some cases, it may be necessary to allow 6-8 feet between the puller and saw.

- 3 Align the saw with the extrusion line.**

- 4 Measure the centerline height** of the extrudate as it exits the extrusion die. Adjust all equipment on the extrusion line (sizing tank, cooling tanks, belt puller, and saw) to this height.

- 5 Adjust the saw's floor lock/caster assembly** to the center height of the extrusion line using a 16- or 18-inch adjustable wrench. Once the correct height is reached, adjust the pad assembly to remove the weight from the casters for operation. This minimizes machine vibration during the cutting cycle.

- 6 Use a plumb line or laser to check for a straight line** from the extrusion die through each line component to the saw center line of the table. Adjust as necessary.

Connecting the Main Power Source



WARNING: Electrical hazard



Before performing maintenance or repairs on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.

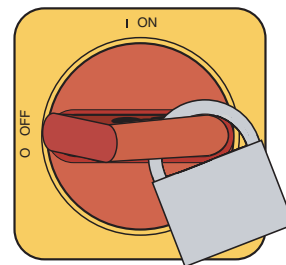


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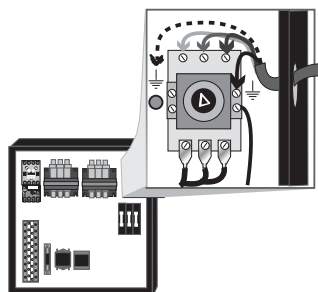
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All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

- 1 Open the TS Up Cut Saw's electrical enclosure.** Turn the disconnect dial on the door to the OFF or "O" position and open the door.
- 2 Insert the main power wire** through the knockout in the side of the enclosure. Secure the wire with a rubber compression fitting or strain relief.
- 3 Connect the power wires** to the terminals indicated on the wiring diagram that came with your machine.
- 4 Check every terminal screw** to make sure wires are secure. Gently tug each wire. If a wire is loose, use a screwdriver to tighten the terminal.
- 5 Connect the ground wire** to the grounding point shown in the wiring diagram shipped with your unit.



! IMPORTANT: Always refer to the wiring diagrams that came with your saw before making electrical connections. The diagrams show the minimum size main power cable required for your saw, and the most accurate electrical component information.



Installing the Encoder



CAUTION: Handle with care.

The encoder is a delicate piece of equipment and must be handled gently.

Conair uses bi-directional encoders to ensure that only product that moves forward is counted. Installing the encoder consists of several parts:

- The encoder
- The measuring wheel
- The connecting cable

The encoder is fitted with a one foot circumference wheel which rides on either the upper belt of the belt puller or (for rigid profiles and pipe) on the extrudate itself upstream of the puller.

Encoder



Wheels



Connecting Cable

The encoder is supplied with an integral mounting bracket.

How and where you attach the encoder to the puller depends on your particular puller and application.

- If the wheel rides on the puller belt, make sure that its linear alignment is the same as the belt. Place the wheel near the center of the belt to minimize bouncing. Try to avoid cracks and other belt features that may affect accuracy.
- Make sure the location allows you to keep the wheel clean. Any small buildup on the wheel will affect its circumference and change the cut length.

After the encoder is installed, attach it to the saw control using the supplied cable. The cable receptacle has been hard-wired to the control at the factory.

Installing the Saw Blades



DANGER: Sharp Blades!

Most injuries caused by saw blades occur when the saw has been turned off. Handle blades with care at all times.



- Always wear cut-resistant gloves when the blade guard is open and when handling blades.
- Always lock out power to the saw before opening any guards.
- Always wait until the saw blade has completely stopped before opening the saw guard (approximately five minutes).

TS saws are equipped with several safety devices to ensure safe operation. Never remove or disable these devices to sustain production. Operating without these devices can cause severe injury.

1 Open the rear access door of the machine.

2 Remove the screws that retain the blade door to the blade shroud and hinge open the door.

! **IMPORTANT:** Always note the blade tooth direction when removing blade to insure that the replacement blade is installed the same. Rotating a carbide blade in the wrong direction will usually damage the blade. As standard, the blade rotation should have the top of the blade rotating away from the front or operator side of the unit.

3 Remove the hex nut. The blade is held on with a hex nut tightened on the motor arbor shaft. Based on either right-to-left or left-to-right saw operation, the hex nut will be either a left-hand or right-hand thread. A right-to-left saw operation means that the product is entering the saw from the right side. A right-to-left operating saw will use a left-handed threaded arbor. This is done to insure that the arbor nut will want to continually tighten during blade rotation. The motor has an arrow on the housing to indicate the arbor rotation.

Remove the hex nut using a spanner wrench to hold the blade shaft. The saw blades will be removable at this time.

Preparing for Testing

- 1 Make sure all components** are installed according to assembly drawings. Make sure that all bolts on the saw have been tightened.
- 2 Check that saw is firmly locked** into position with the anchoring screws.
- 3 Check that all wiring conforms to electrical codes** and all wiring covers are in place.
- 4 Connect the air supply.**

Testing the Installation

- 1 Turn on the main disconnect.** Plug in the main power cord and turn on the main disconnect.
- 2 Check that the E-Stop button is in the out, extended position.**
- 3 Press the vacuum start button.** Check the rotation of the vacuum motor for correct phasing. (The phase in your plant may be different from the Conair factory.)
- 4 Press the saw start button.** Turn off the saw and vacuum.
- 5 Check the saw blade rotation.** The top of the saw blade should turn away from the front or operator side. If the top of the blade is spinning toward the operator side, switch one of the 3-phase plug wires. Then verify the blade rotation.
- 6 Make a sample cut.** Restart the vacuum and the saw motor and press the manual cut button. The saw should make one sample cut.

If the saw is not working properly at any time, turn it off immediately and *refer to the Troubleshooting section of this User Guide.*

If you do not encounter any problems, proceed to the Operation section.

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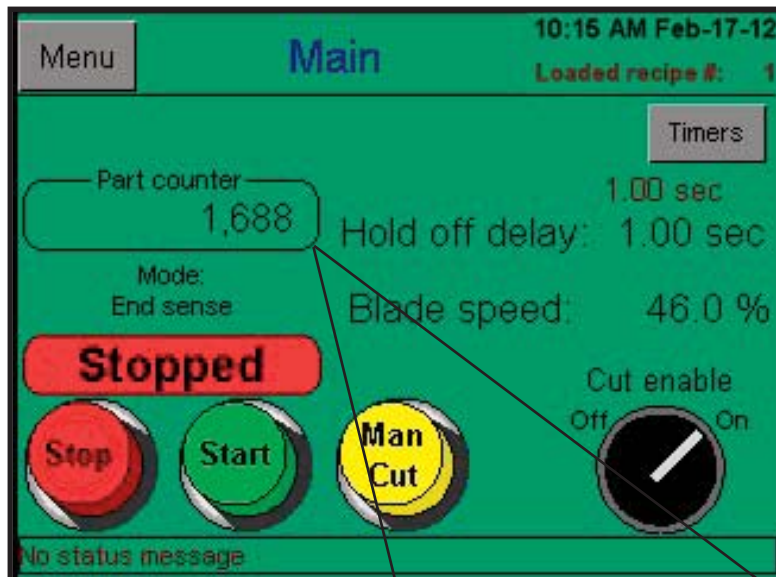
TS Up Cut Saw Splash Screen



This initial startup screen appears for the first three seconds while the equipment initializes.

How to Navigate the Control Screens

Navigate through the TS Up Cut Saw Control Screens by touching any black text which opens a numeric keypad or pop up window. The colored text is not selectable and represents current data being displayed.

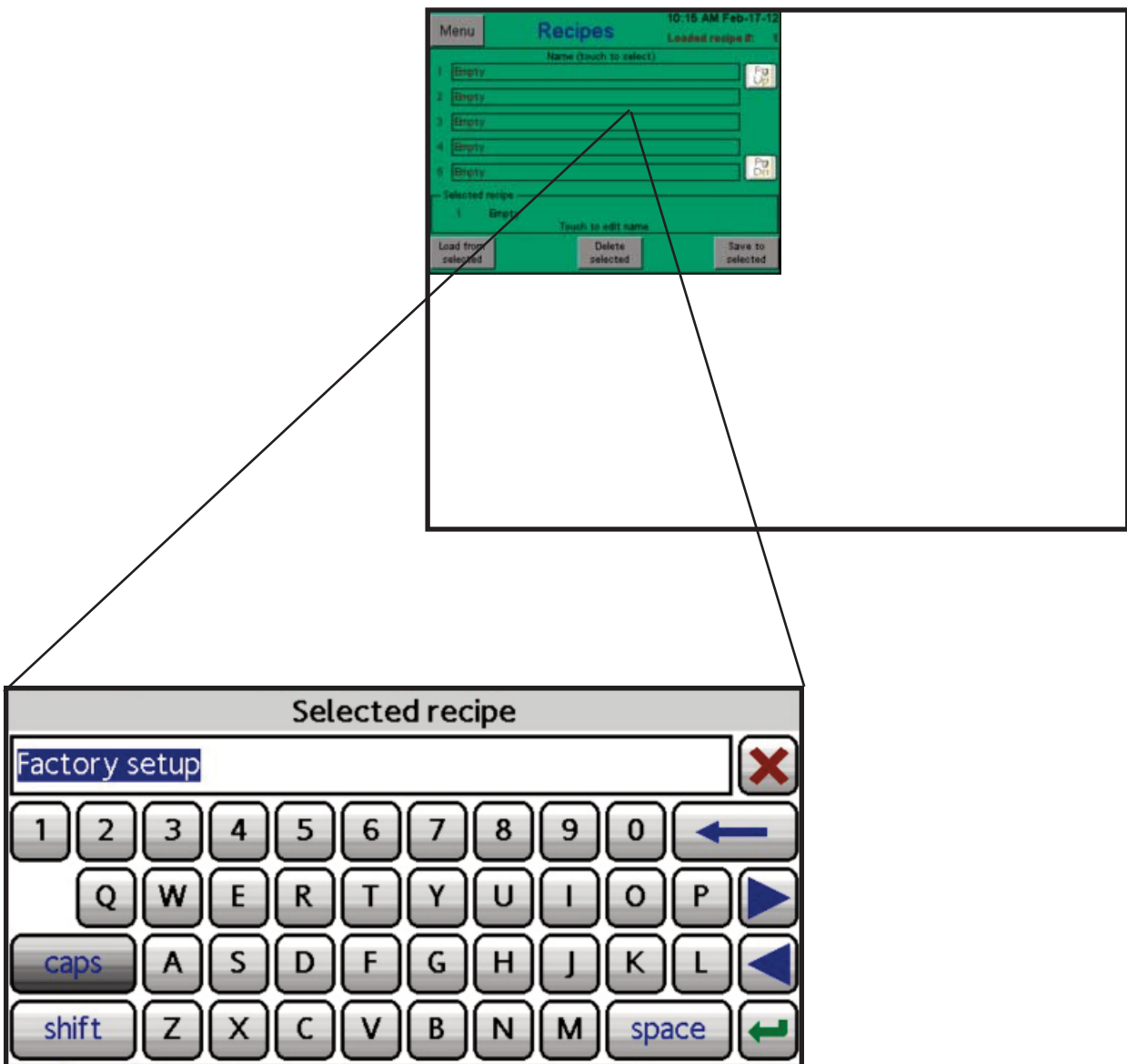


Example of Pop Up Number Pad

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How to Navigate the Control Screens

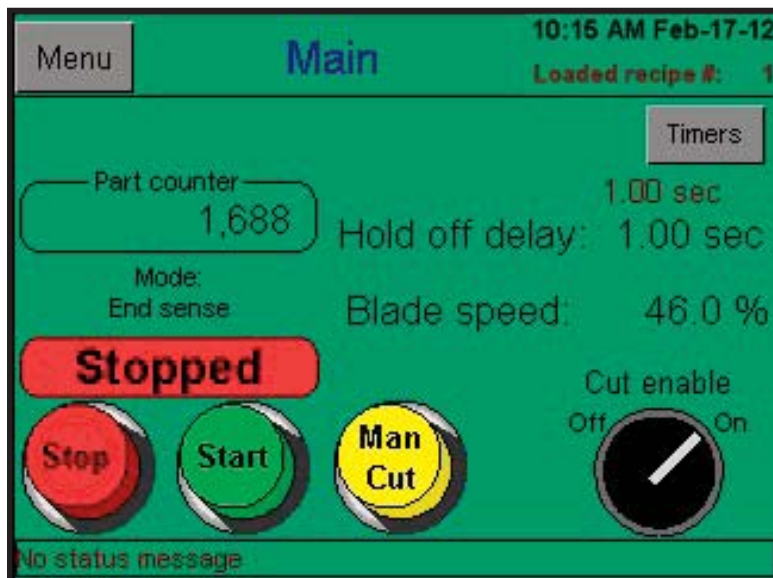
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Example of Pop Up Keypad

TS Up Cut Saw Operator Instructions

Main Screen



The main page is displayed automatically upon power up after the system is done initializing. The main page is where most machine control functions are performed. From here the saw can be started and stopped. Touch the green start button to start the saw. Touch the red stop button to stop the saw. The running indicator directly above the start/stop buttons indicates current state of the saw. This will display “Running” after touching the start button. After touching the stop button, this indicator will display “Stopping” while the saw is decelerating to a stop. After the saw has come to a complete stop it will display “Stopped”.

The saw has three (3) modes of operation. The currently selected mode is displayed directly above the running indicator. The saw mode can only be changed when the saw is stopped. To change the mode touch the current mode indicator. A pop-up window will appear allowing mode selection. The three (3) sources of demand cutting are: “Encoder”, “Timer” and “End Sense”.

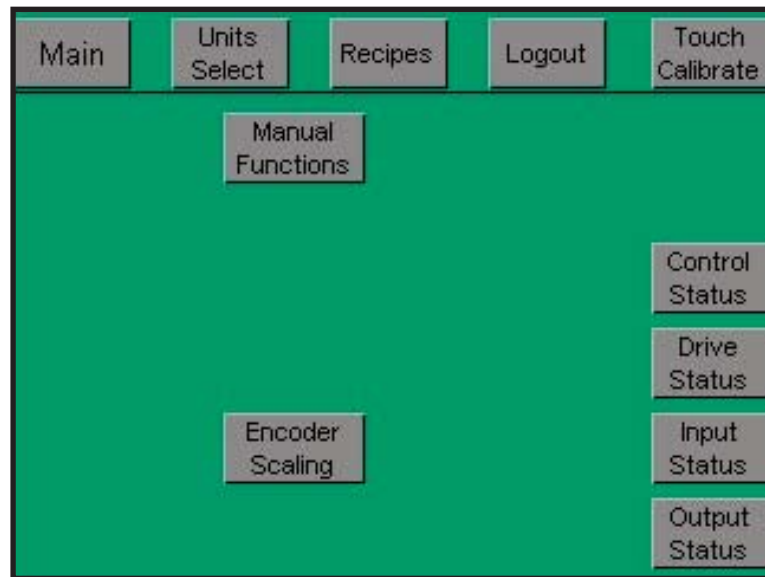
A manual cut button allows triggering a cut from the HMI.

The saw has a built in part counter. The part counter can be enable/disable, and turned on/off. To access this, touch the count value in the display.

Blade speed can be adjusted for the desired blade RPM to make a clean cut of the current product you are cutting.

TS Up Cut Saw Control Instructions

Menu Screen



The menu page is the root page for screen navigation. The row of buttons at the top of the menu page allow access to specific pages.

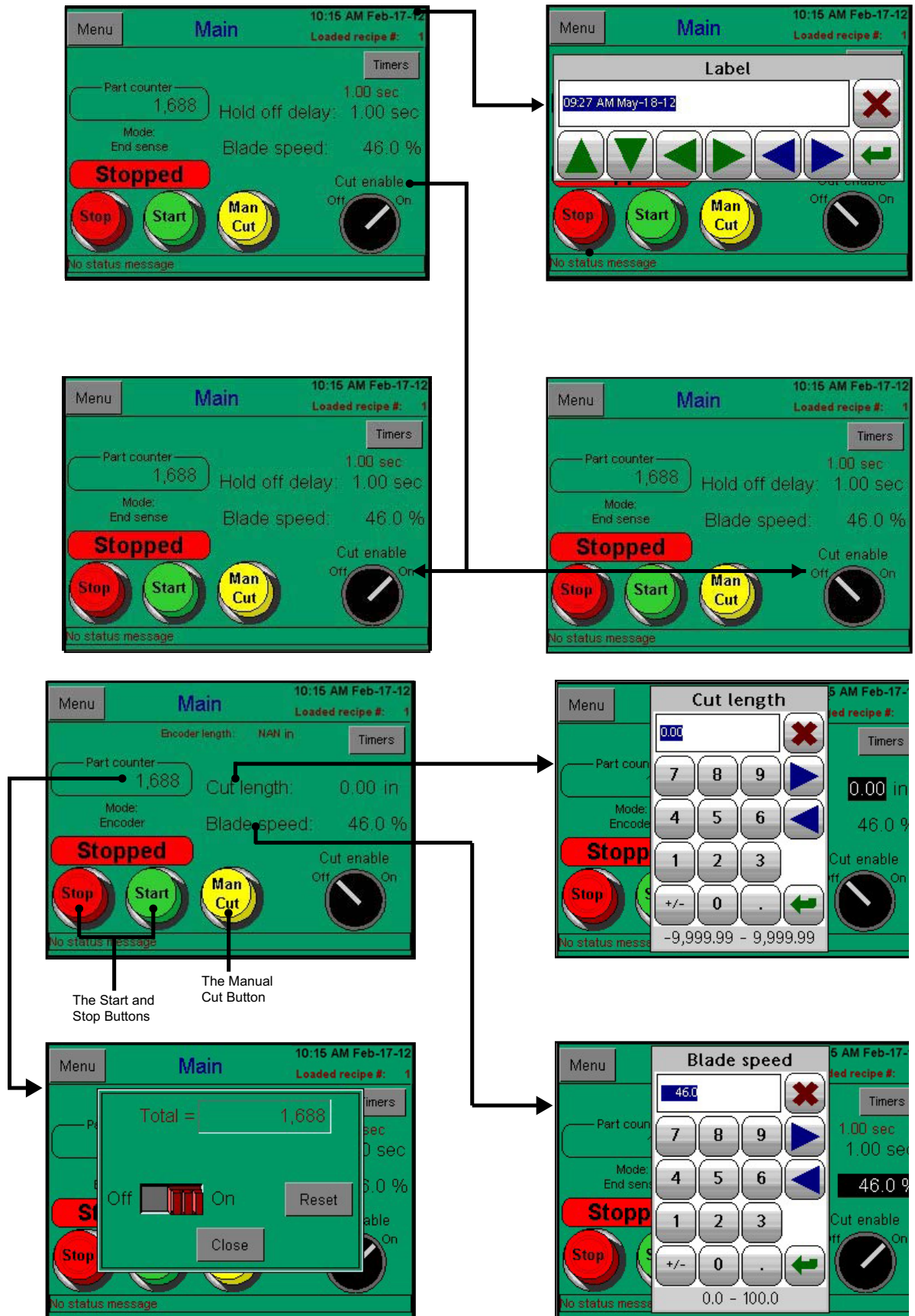
- | | |
|-------------------------------|--|
| Main page: | This will take you back to the main page. |
| Units of Measure page: | This page allows customer to set the units of measure to English or Metric. |
| Recipes page: | This page allows access to the recipe storage system. The current setup of the machine running parameters can be save to a recipe file. The system allows storage of 100 recipes. The running parameters can be changed by loading a saved recipe file. |
| Log Out page: | This page logs out of the program. |
| Touch Calibrate page: | This page allows access to the recipe storage system. The current setup of the machine running parameters can be saved to a recipe file. The system allows storage of 100 recipes. The running parameters can be changed by loading a saved recipe file. |

TS Up Cut Saw Control Instructions

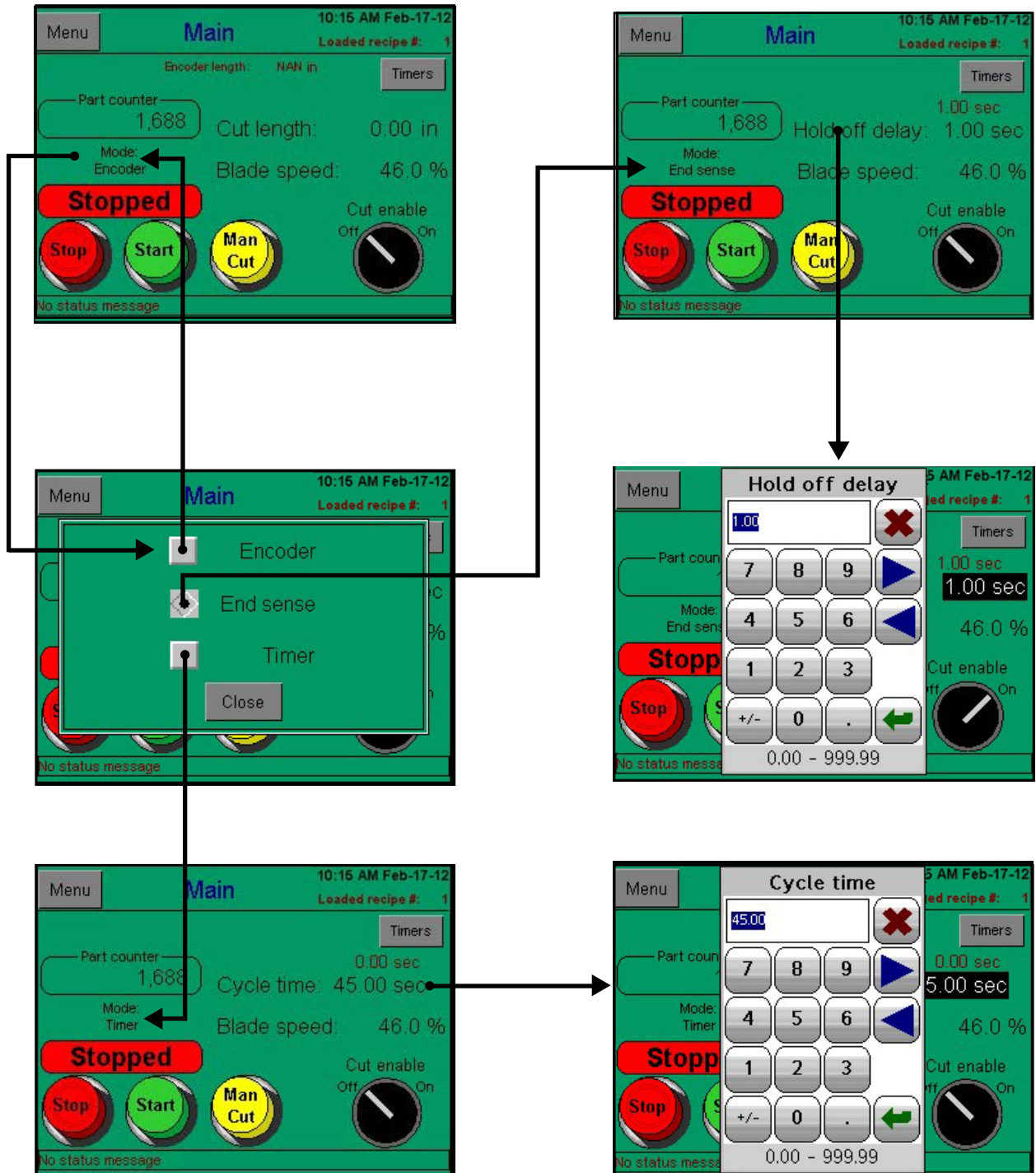
Menu Screen (continued)

Manual Functions page:	This page gives the User access to all manual functions of the TS Up Cut Saw.
Encoder Scaling page:	This page allows access to the master encoder input scaling parameters. The saw uses a quadrature encoder input signal to measure product length. These parameters scale encoder pulses to product length.
Control Status page:	This page allows access to the saw servo control module status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw.
Drive Status page:	This page allows access to the saw servo drive module status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw.
Input Status page:	This page allows access to the saw servo control digital input status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw.
Output Status page:	This page allows access to the saw servo control digital output status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw.

Control Function Flow Charts

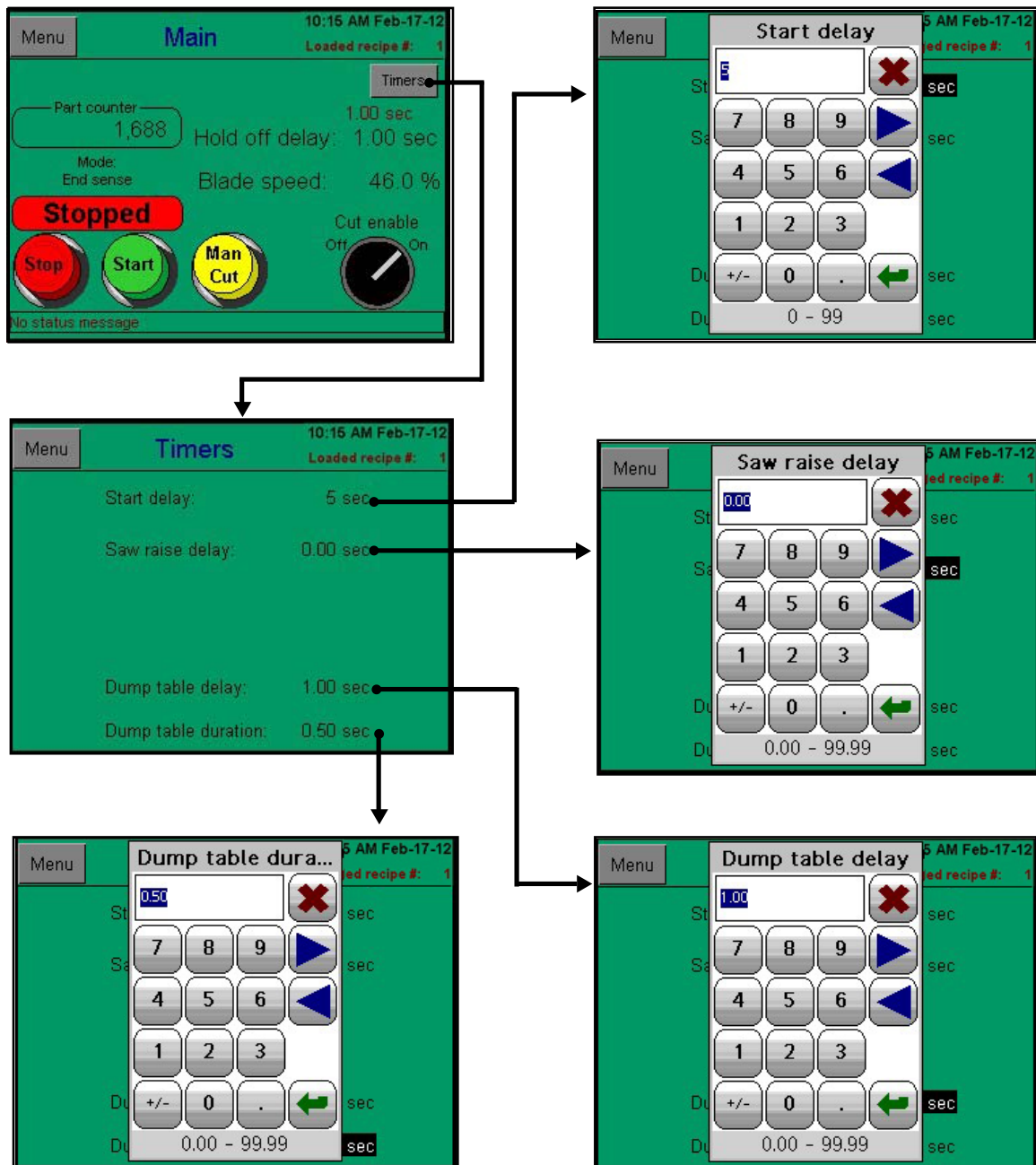


Control Function Flow Charts (continued)

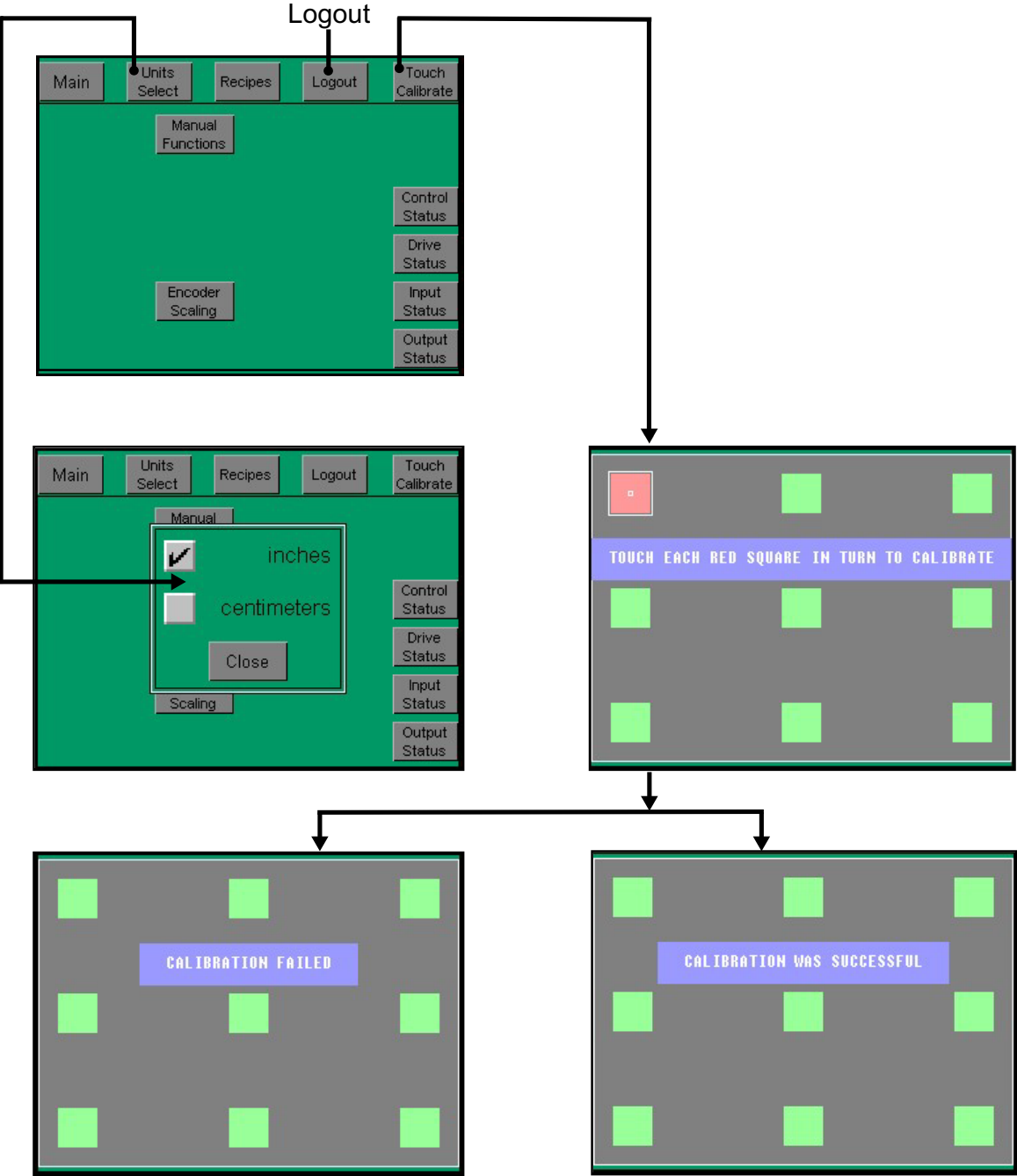


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Control Function Flow Charts (continued)

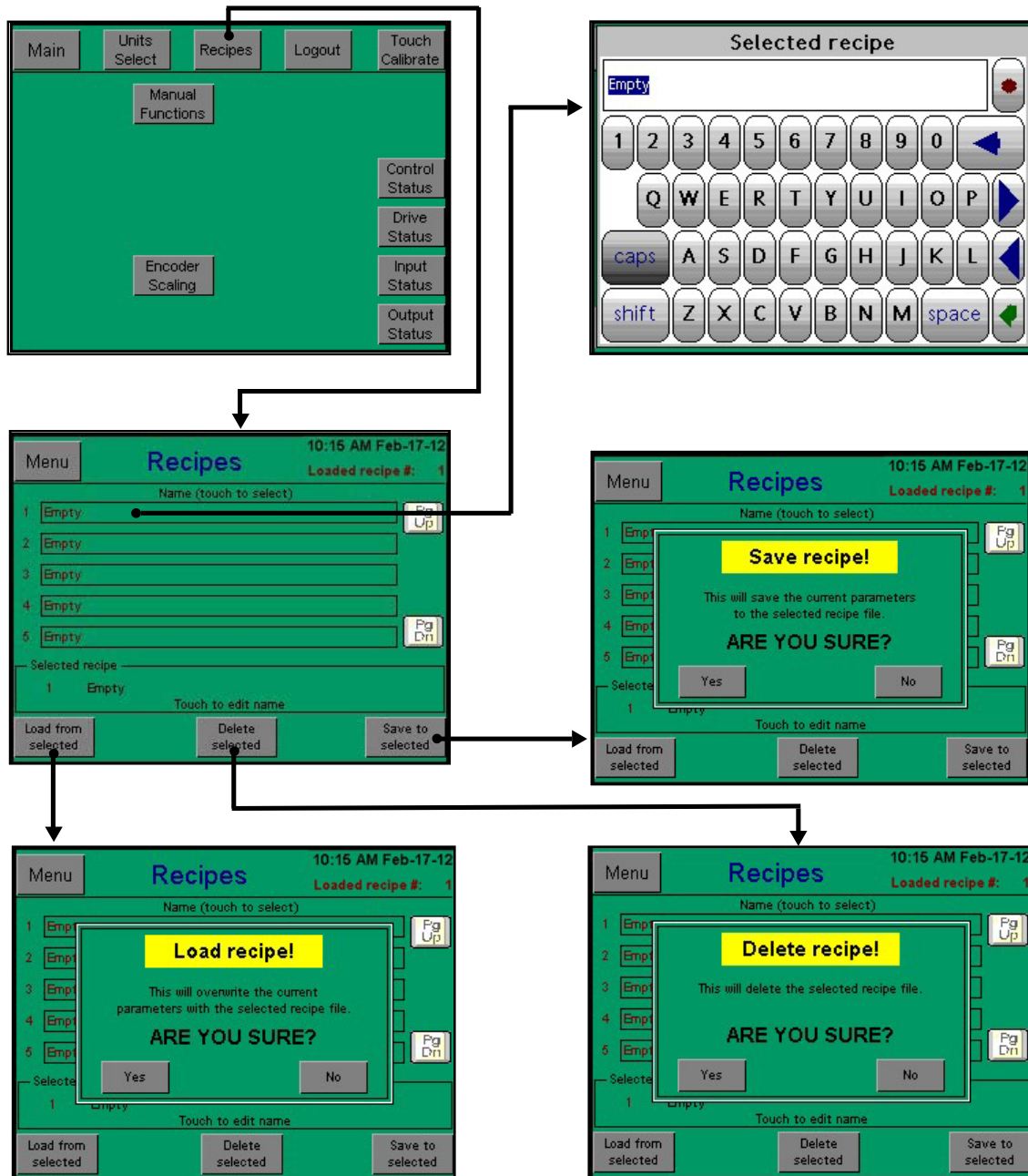


Control Function Flow Charts (continued)

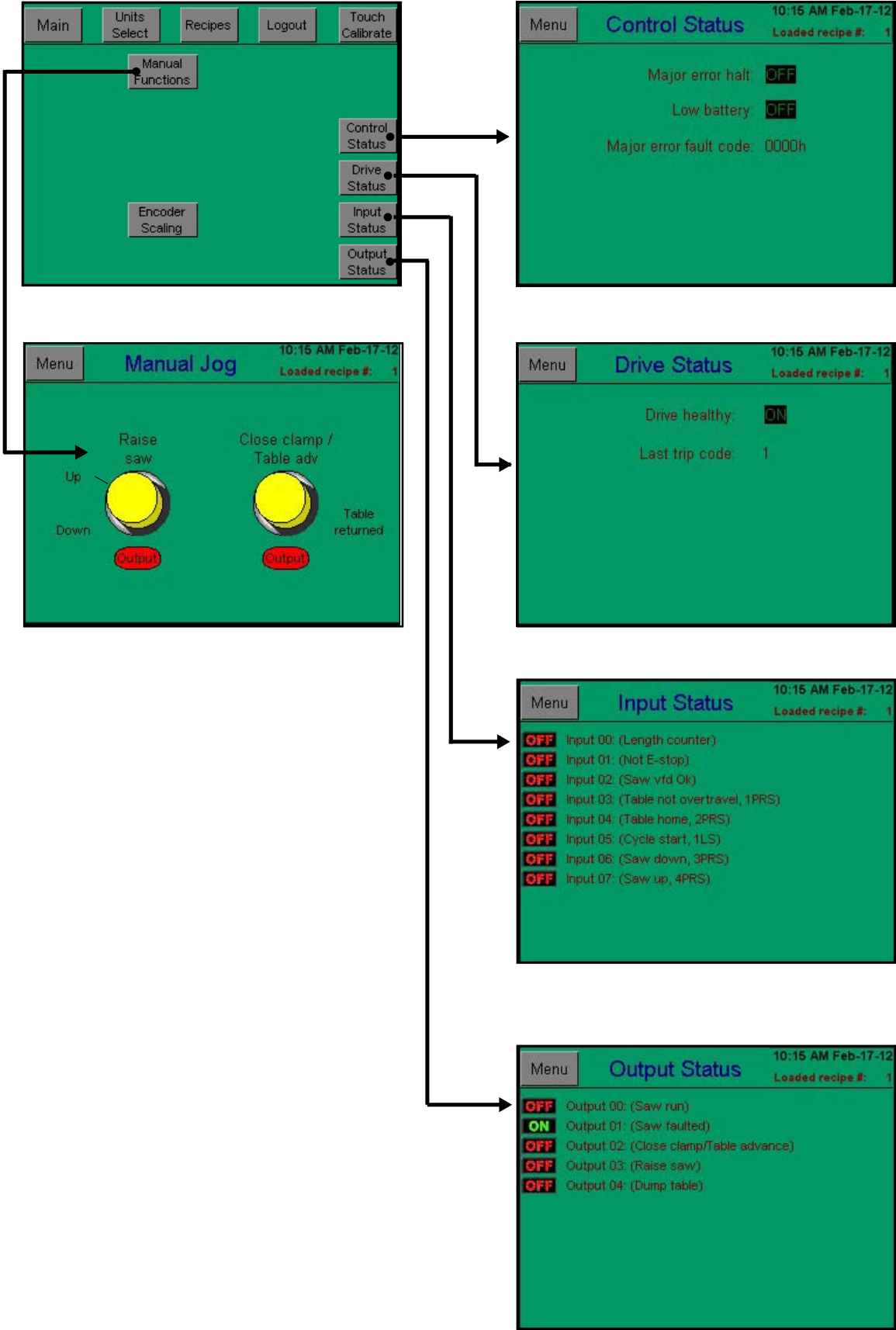


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Control Function Flow Charts (continued)

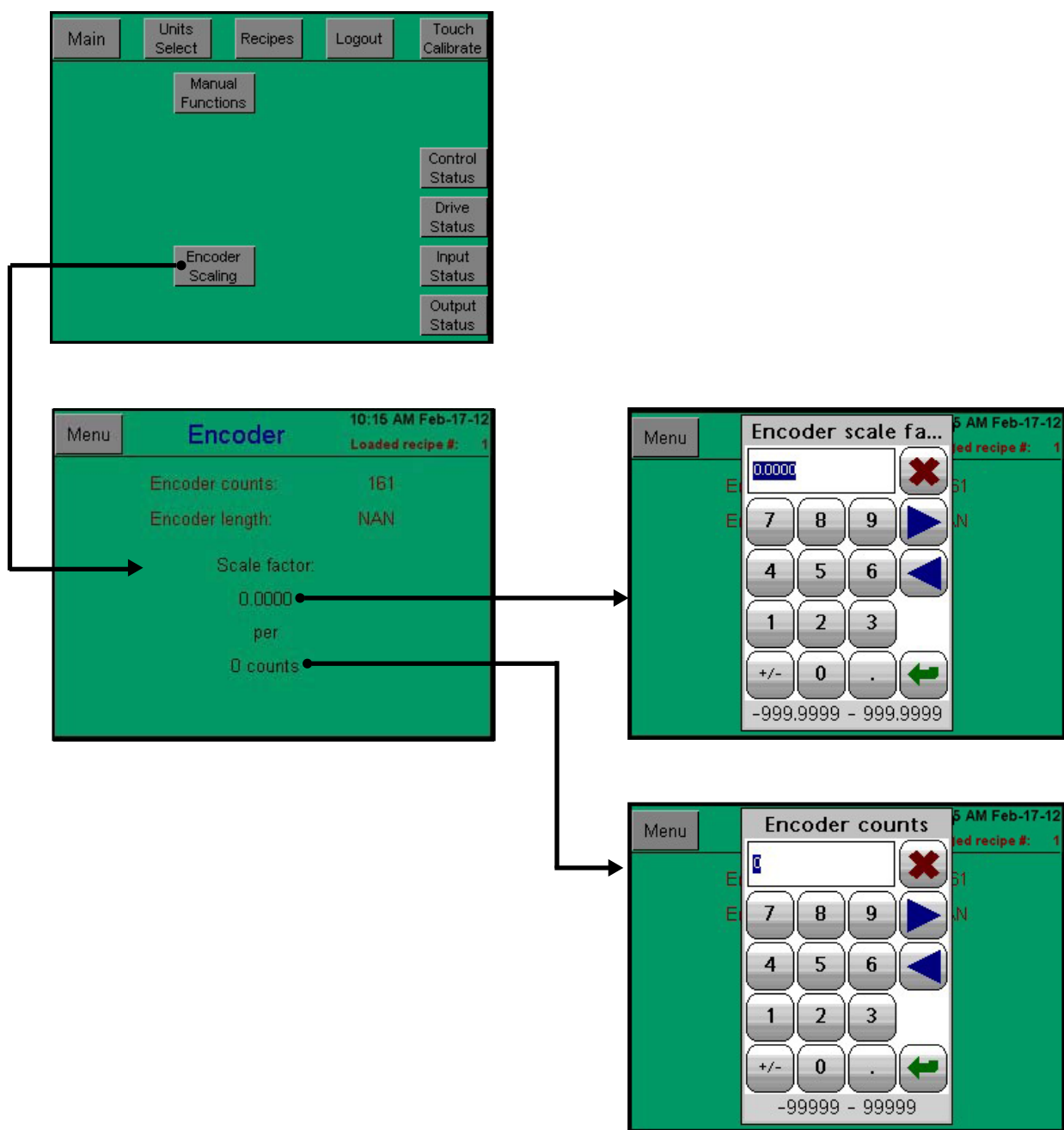


Control Function Flow Charts (continued)

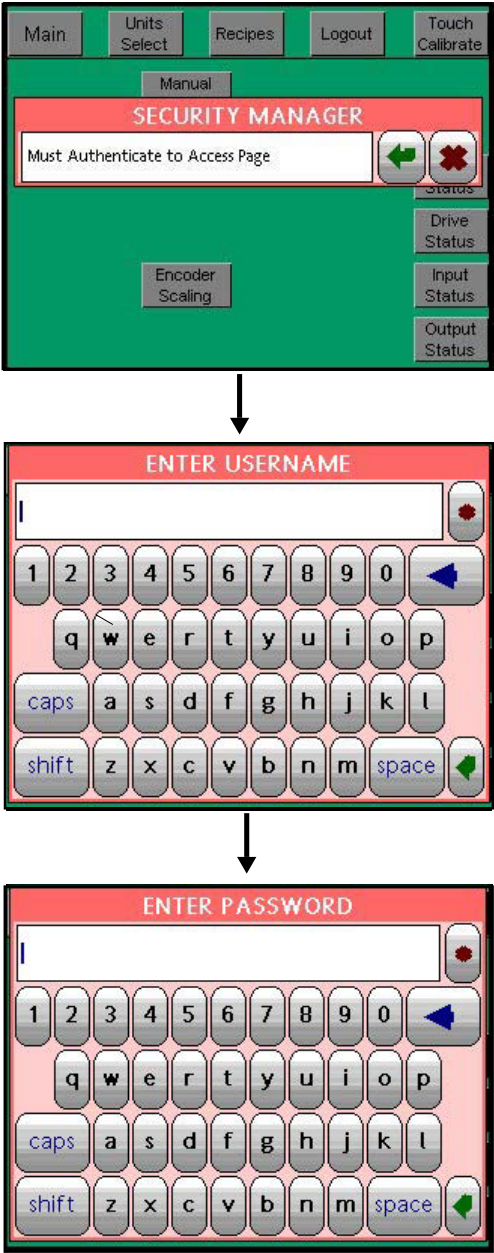


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Control Function Flow Chart (continued)

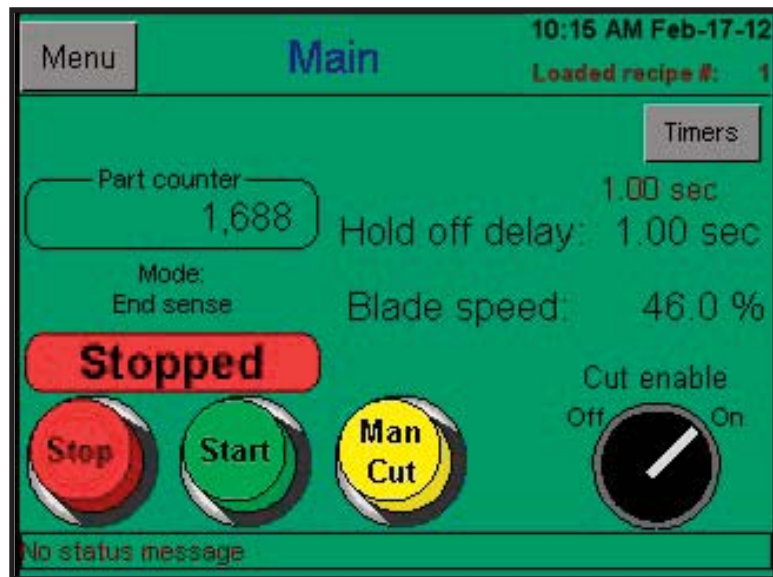


Control Function Flow Charts (continued)



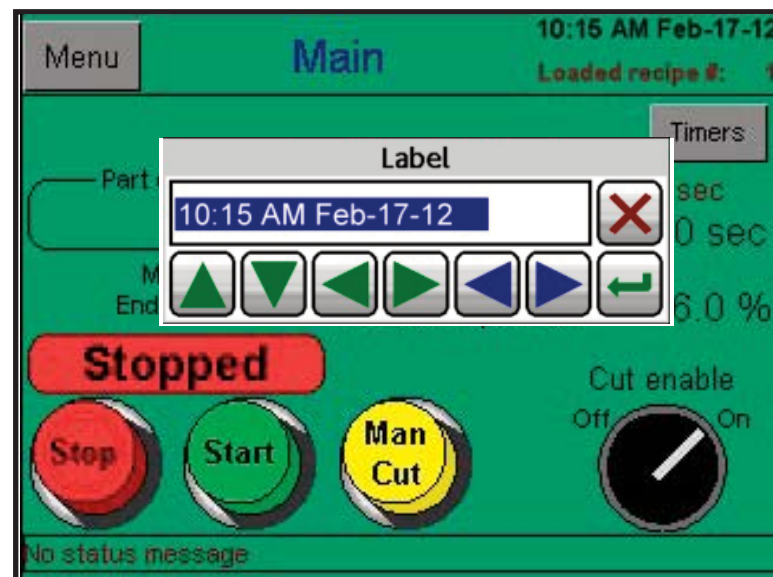
(Continued)

Control Function Descriptions



Main Page

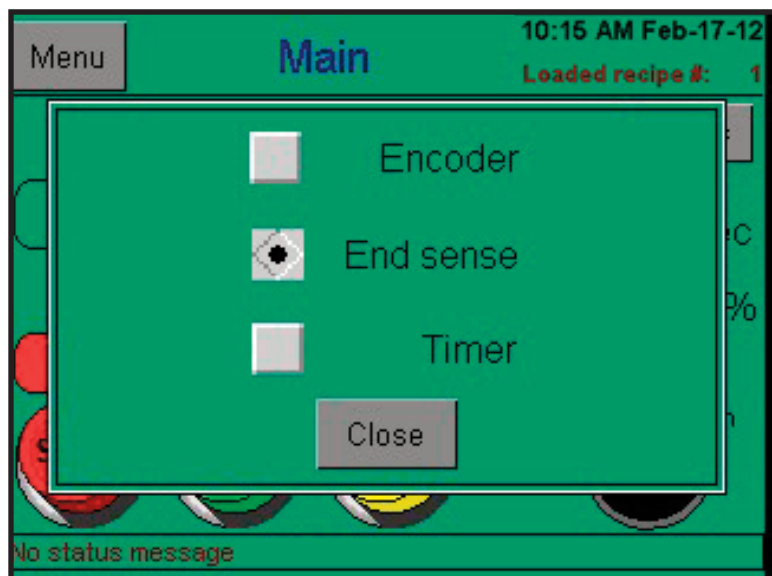
The main page is displayed automatically upon power up after the system is done initializing. The main page is where most machine control functions are performed.



Date and Time Page

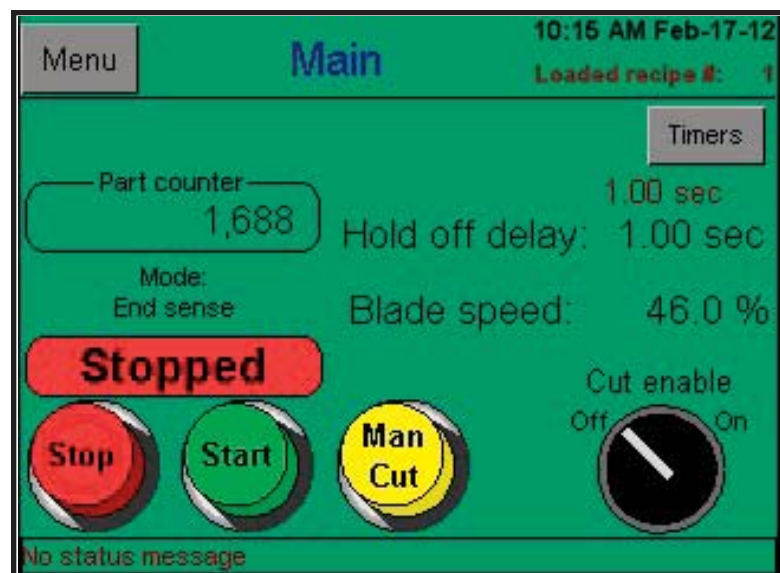
This page displays a pop up screen with the current date and time. Touching the date and time allows the User to correct for the current date and time.

Control Function Descriptions (continued)



Mode Selection from Main

This page allows you to select the mode for cutting. Modes can only be changed when the saw is off.

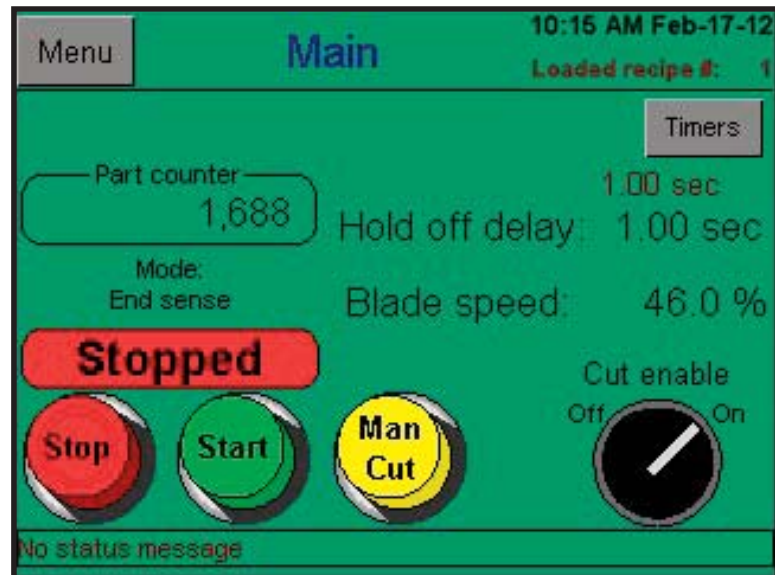


Cut Enable Turned Off

Note on the above screen that the “Cut enable” knob selection is pointing to “off”. Touching the knob will rotate the selection to “On.”

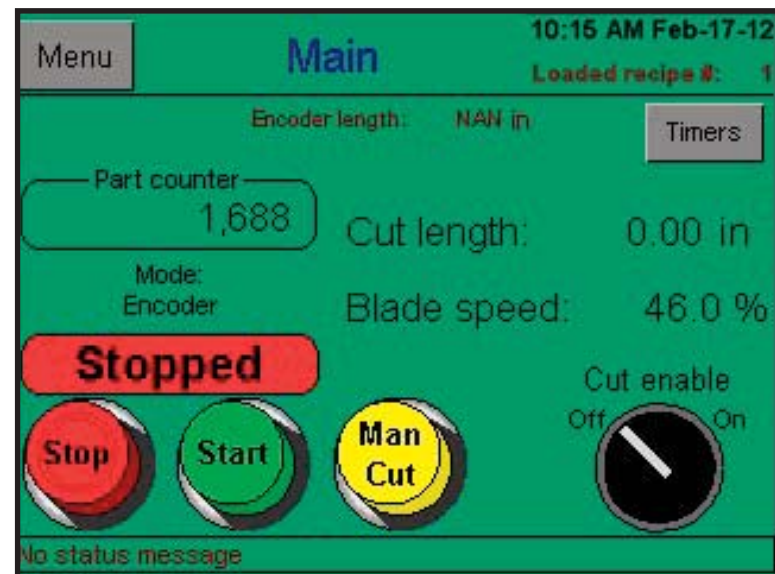
(Continued)

Control Function Descriptions (continued)



Cut Enable Turned On

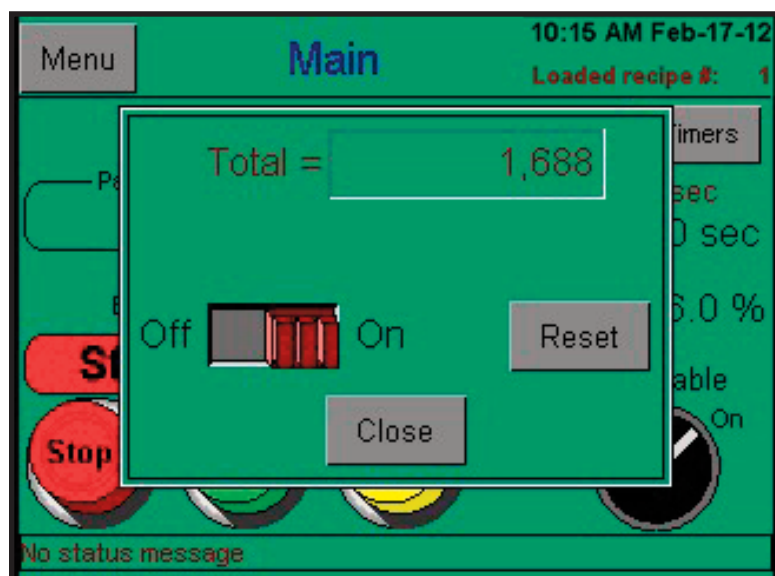
Note on the above screen that the “Cut enable” knob selection is pointing to “On”. Touching the knob will rotate the selection to “Off.”



Main In Encoder Mode

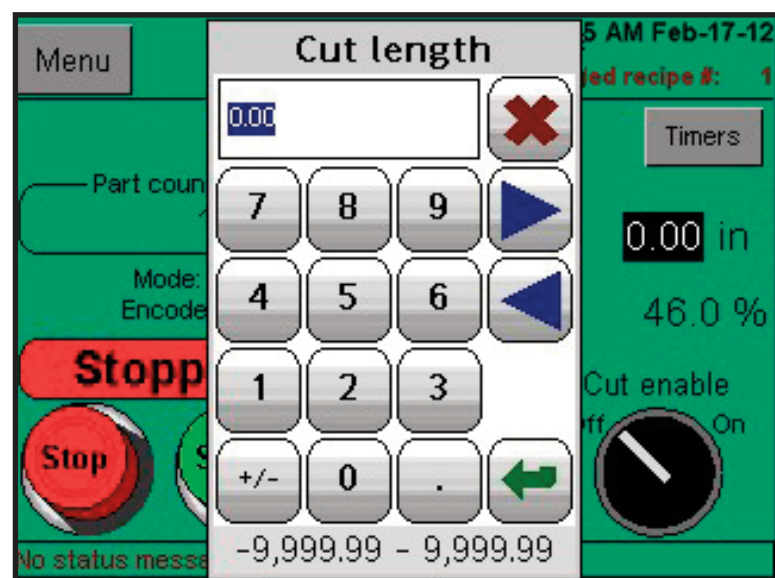
Note on the above screen that the Mode is set to “Encoder”. Touching the text “Mode:” allows you to change the mode of operation for the saw. Available modes of operation are: Encoder, End sense, and Timer.

Control Function Descriptions (continued)



Part Counter Total

From the main screen, if you touch the part counter count, this window will pop up. From this window, you can turn part counting on or off and can reset the total count.

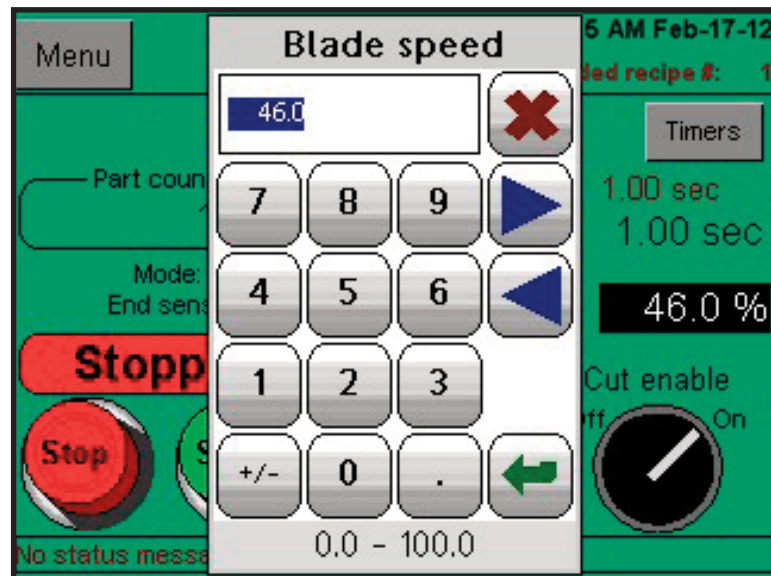


Cut Length Pop-up in Encoder Mode

From the main screen, if you press the text "Cut length:" the above pop up window opens. Here you can enter the desired cut length then press the enter key. The numeric key pad will disappear after the enter key is pressed as long as the value is in the acceptable range.

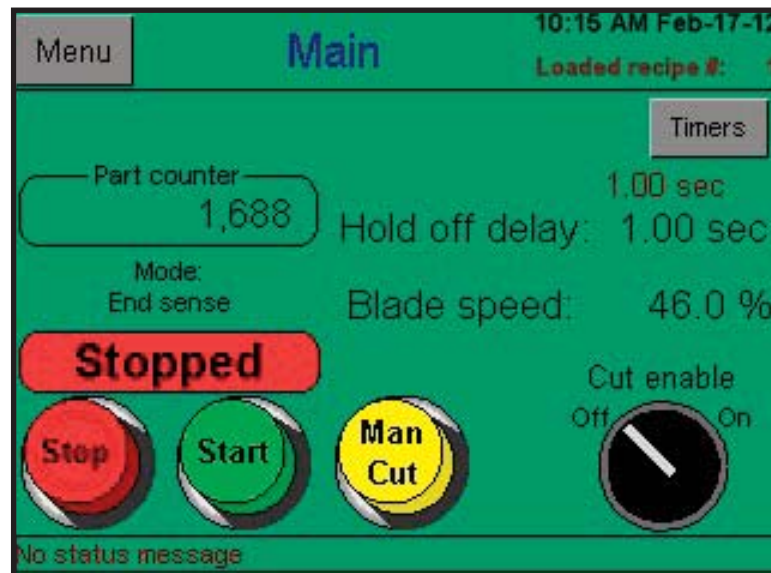
(Continued)

Control Function Descriptions (continued)



Blade Speed Pop Up

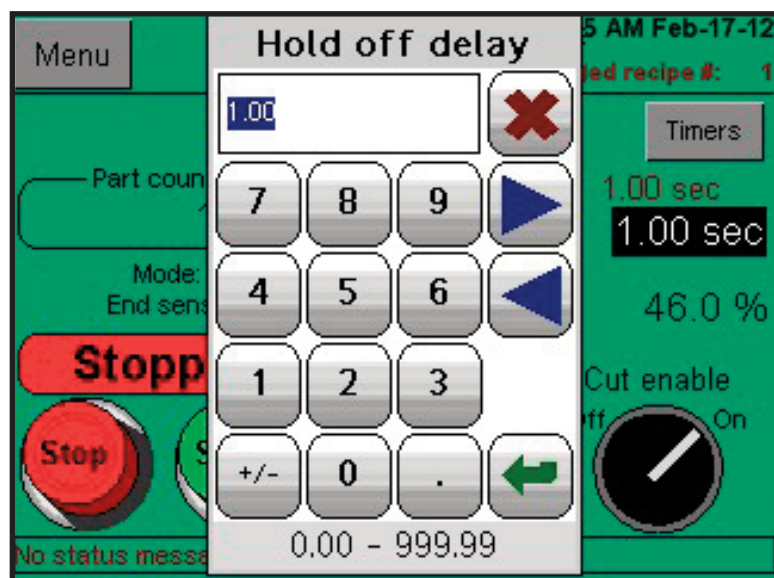
If you touch on the blade speed text from the main page, this blade speed pop up window opens. From here, you can enter the blade speed in a percent (%) of speed you wish the blade to run.



Main In End Sense Mode

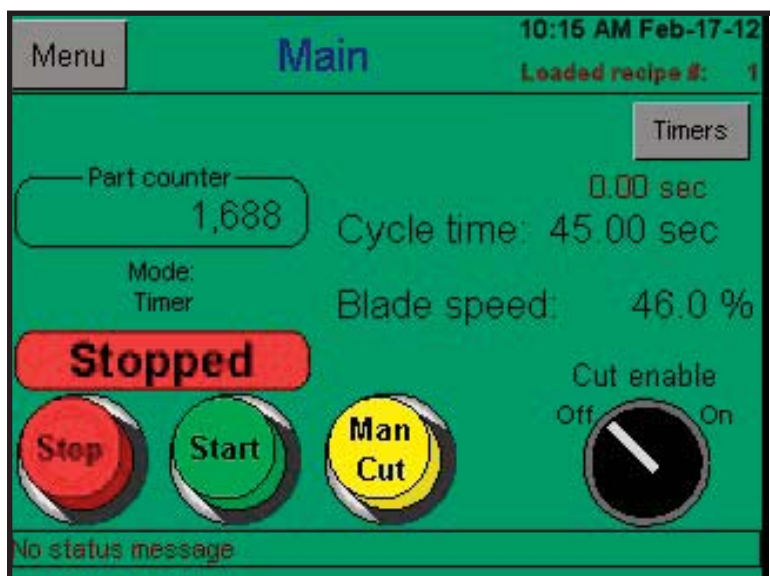
This page uses a proximity switch, mechanical switch, or some type of sensing device that triggers the cut. The sensing device must be placed at a distance from the downstream side of the blade. Pressing on the "Mode" text will enable you to change the mode of operation between End sense, Timer, and Encoder.

Control Function Descriptions (continued)



Hold Off Delay Pop-up

From the main screen, in End sense mode, you can enter the amount of time you would like the photo eye or switching signals to be ignored after the cut is made. Note: you do not want to set the value too long, or you may start missing the next cut.

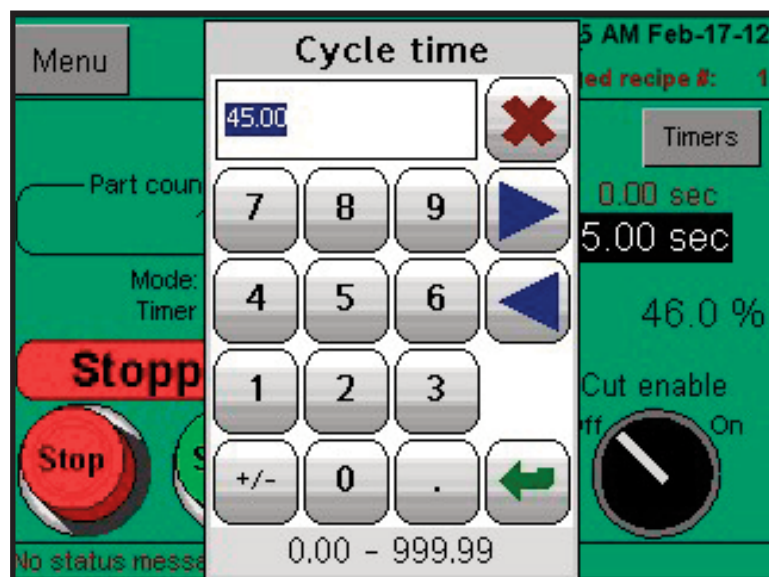


Main In Timer Mode.

In Timer mode, the saw uses a cycle time to determine the cut frequency. Pressing on the “Mode” text will enable you to change the mode of operation between End sense, Timer, and Encoder.

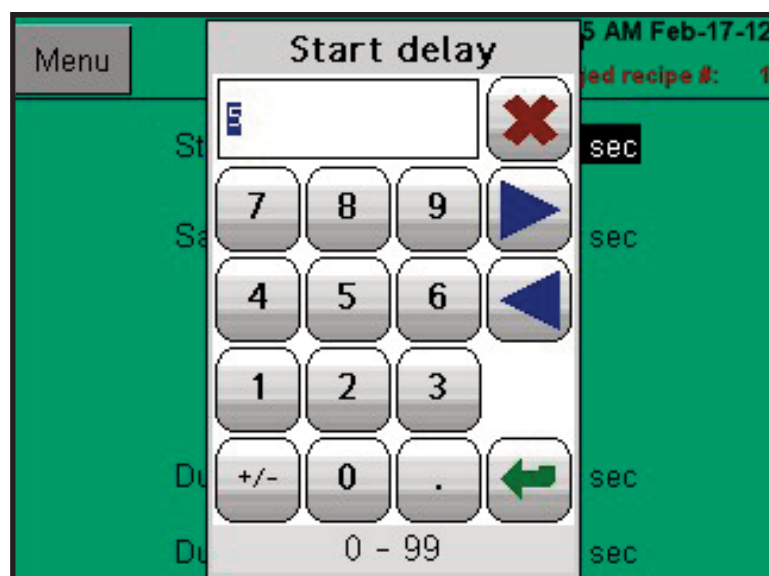
(Continued)

Control Function Descriptions (continued)



Cycle Time Pop Up in Timer Mode

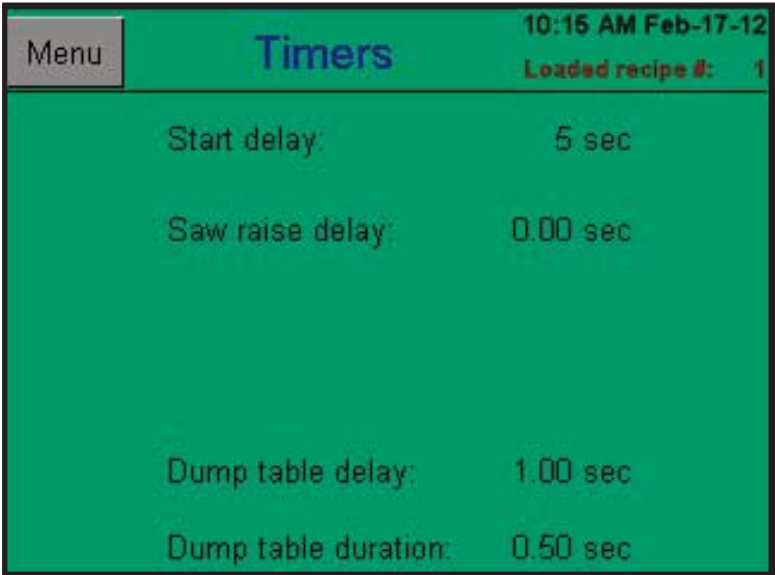
When in Timer mode, pressing the cycle time text will display this pop up window. From here, you can adjust the cycle time.



Timer Start Delay Pop Up

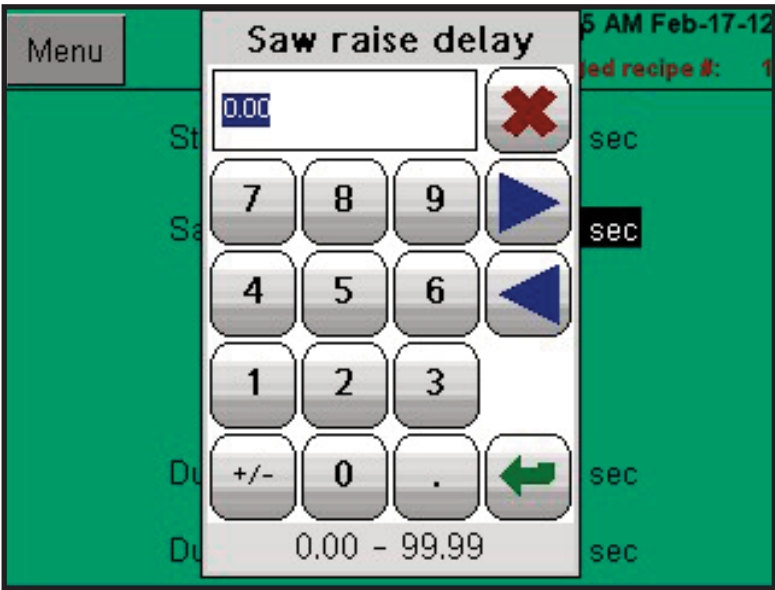
On the main screen in Timer mode, touching the “Timers” button will display the Timers Screen. Pressing Start delay on this screen displays the above window to set the delay.

Control Function Descriptions (continued)



Timers From Main Screen

On the main screen in Timer mode, touching the “Timers” button will display the Timers Screen. From this screen, you can adjust the start delay, the saw raise delay, the dump table delay, and the dump table duration.

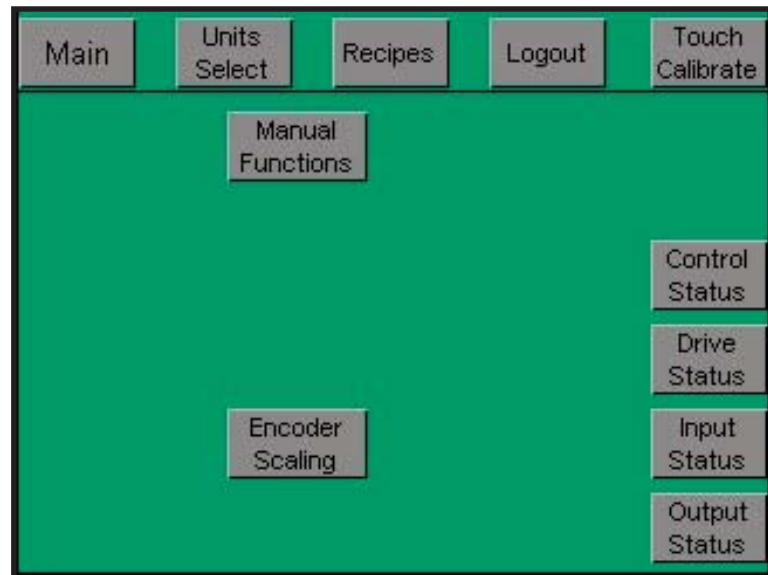


Timer Saw Raise Delay Pop Up

On the main screen in Timer mode, touching the “Timers” button will display the Timers Screen. Pressing Saw raise delay on this screen displays the above window to set the delay.

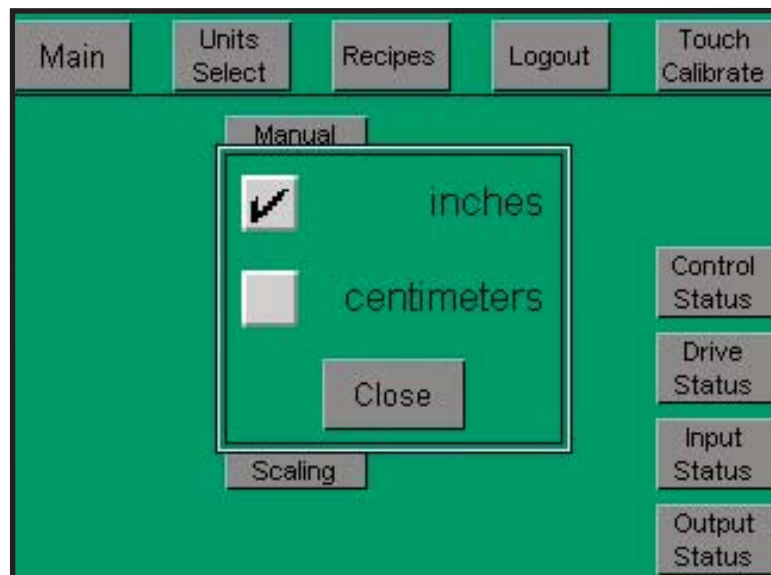
(Continued)

Control Function Descriptions (continued)



Menu Page

The menu page is the root page for screen navigation.



Units of Measure Page

Selecting “inches” sets length units to inches and speed units to feet/min, (FPM).

Selecting “centimeters” sets length units to centimeters and speed units to meter/min, (MPM).

Control Function Descriptions (continued)

Recipes

Menu Recipes 10:15 AM Feb-17-12 Loaded recipe #: 1

Name (touch to select)

1 Empty Pg Up

2 Empty

3 Empty

4 Empty

5 Empty Pg Dn

Selected recipe

1 Empty Touch to edit name

Load from selected Delete selected Save to selected

Recipes Page

Recipes Page

The recipe page allows access to the recipe storage/retrieval system. Up to 100 recipe files are available and are number 1 thru 100. Each recipe file can be given a name up to 40 characters. Five recipe file numbers/names are displayed at once. To view other recipe file names touch the “Pg Up” or “Pg Dn” buttons. The recipe files are scrolled five at a time.

Three recipe function can be performed. They are “Load from selected”, “Delete selected” and “Save to selected”. To perform one of these functions a recipe file must first be selected. To select a recipe from the recipe file, touch the name of the desired recipe from the list of five currently displayed. The recipe name and number will appear as the selected recipe file. The name of the selected recipe can be changed by touching the selected recipe name.

(Continued)

Control Function Descriptions (continued)



Recipe Name Edit Page

When you touch on the name of a recipe from the Recipes page, you are able to edit the name of that recipe. From here, use the keypad to name the recipe, and press Enter when complete to return to the Recipes screen.



Recipe Save Page

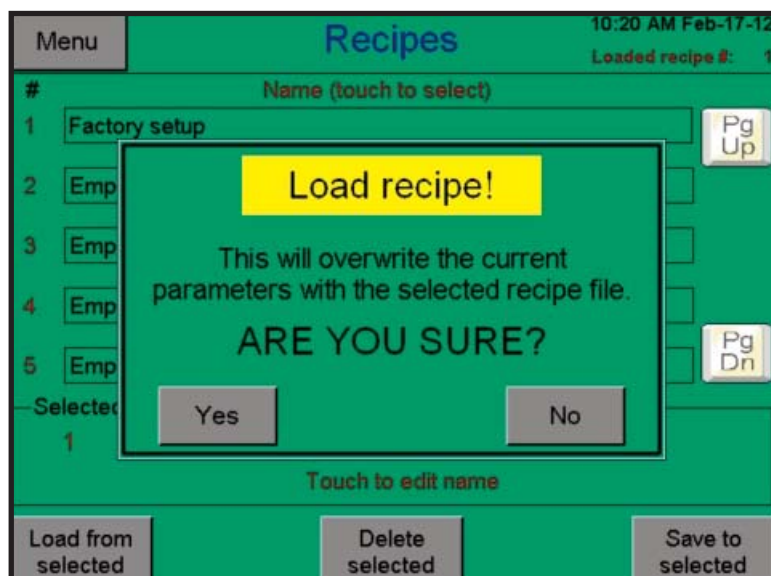
The "Save to selected" function is available anytime. This function will save the active parameters to the selected recipe file.

Control Function Descriptions (continued)



Recipe Delete Page

The “Delete selected” function is available anytime. This function will set the name of the selected recipe file to “Empty”. The actual parameter values in the recipe file are not deleted

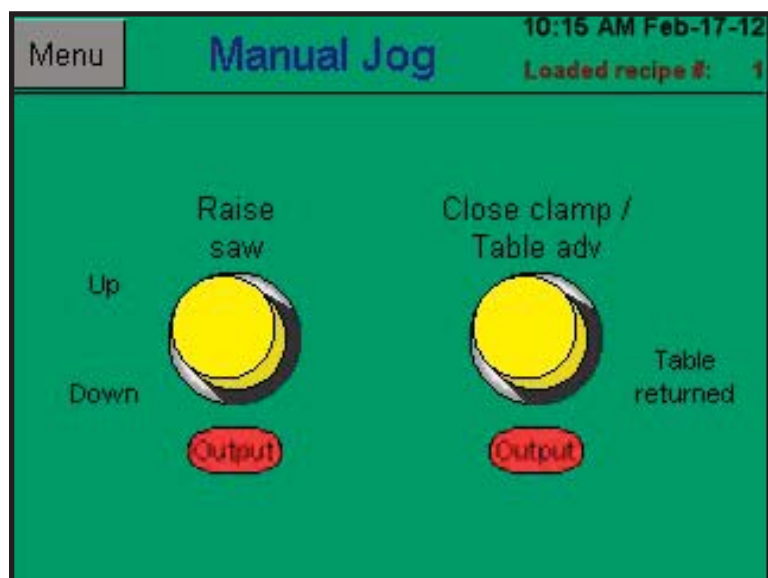


Recipe Load Page

The “Load from selected” function is only available when the cutter is stopped. This function will load the parameters from the recipe file into the active parameters.

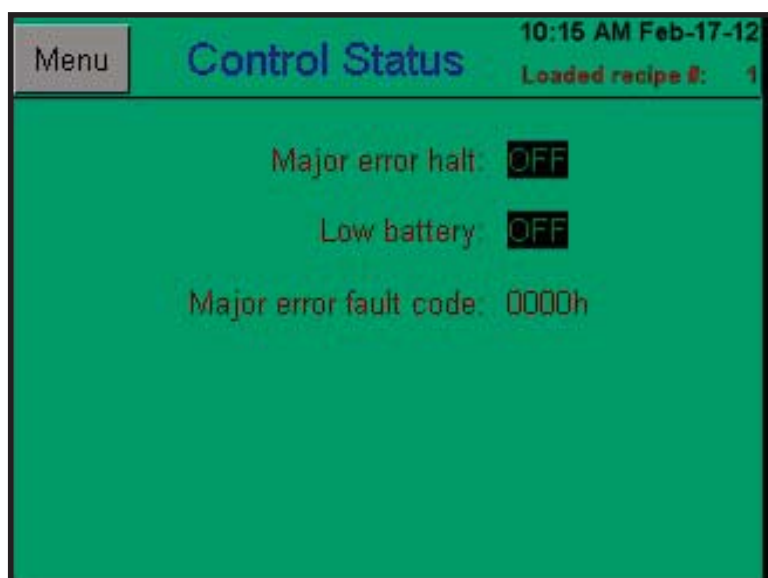
(Continued)

Control Function Descriptions (continued)



Manual Functions.

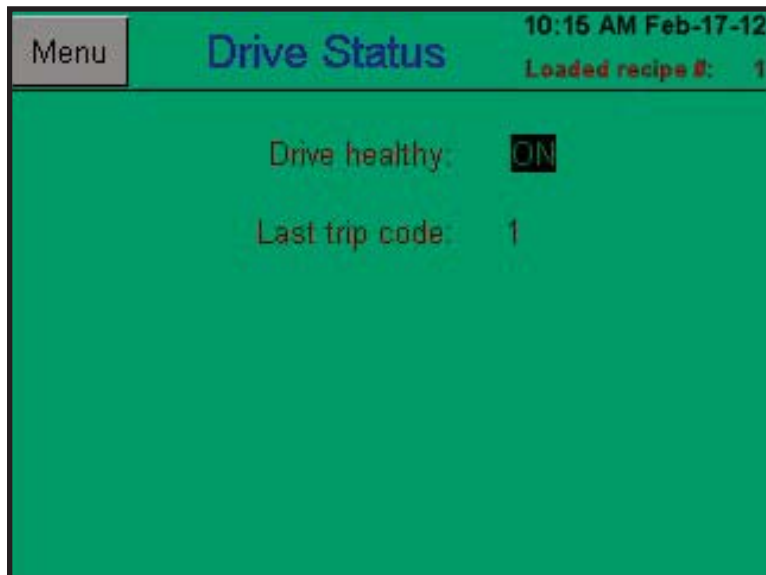
This screen allows you to test cylinders and solenoids that operate saw functions for cleaning and troubleshooting.



Control Status

This page allows access to the TS Up Cut Saw control module status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw operation.

Control Function Descriptions (continued)



Drive Status

This page allows access to the TS Up Cut Saw module status. The information displayed on this page would be used to help troubleshoot problems encountered with the saw operation.

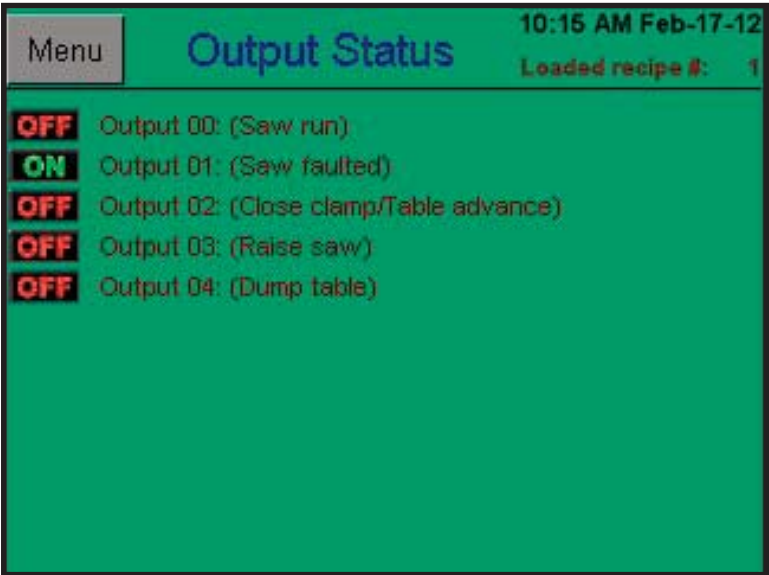


Input Status

This page allows access to the TS Up Cut Saw control digital input status. The information displayed on this page would be used to help troubleshoot problems encountered with switches/photo eyes, eliminating the need to meter connections in the control box.

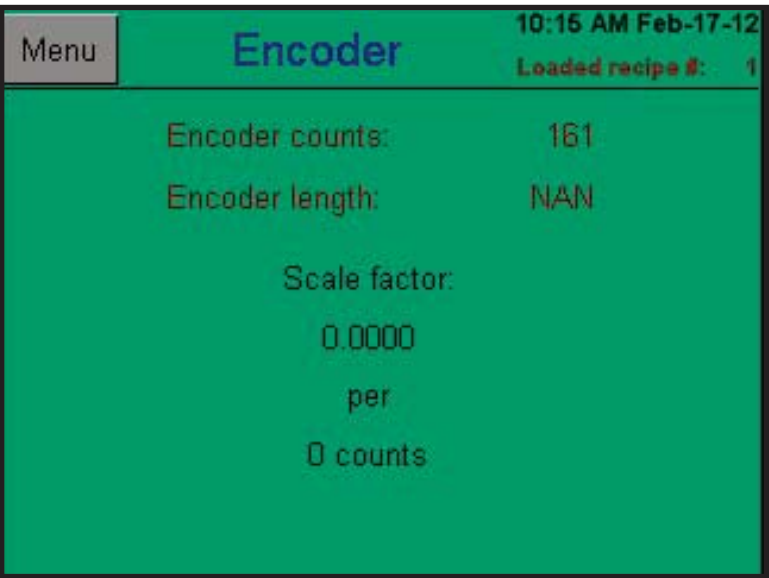
(Continued)

Control Function Descriptions (continued)



Output Status

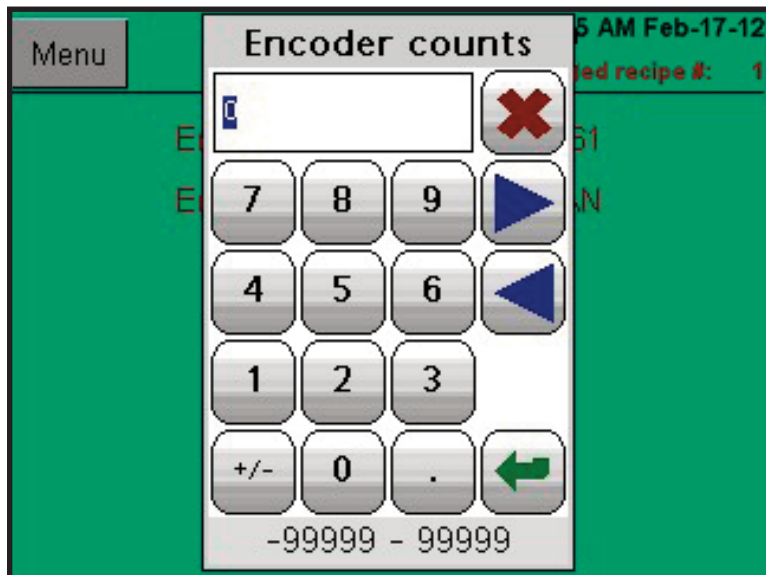
This page allows access to the saw servo control digital output status. The information displayed on this page would be used to help troubleshoot problems encountered.



Encoder Scaling

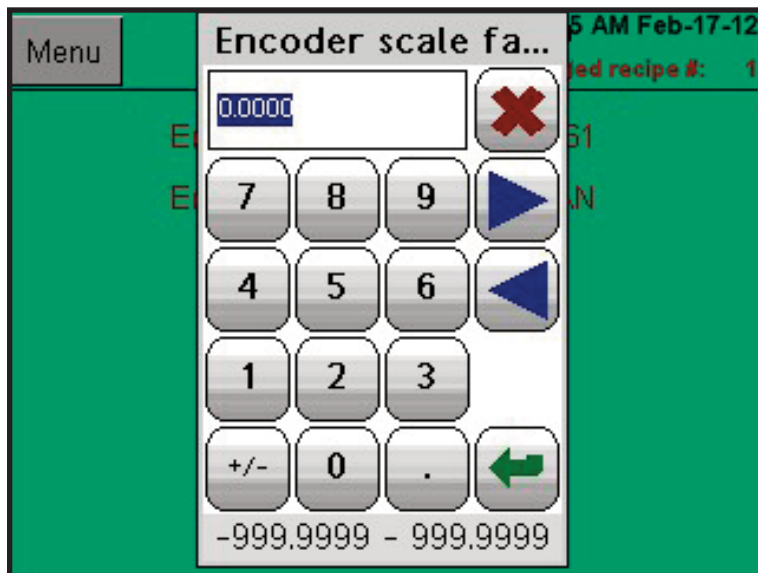
This screen is used for setting the encoder for your application depending on where you have mounted the encoder and what encoder you are using.

Control Function Descriptions (continued)



Encoder Counts Pop Up

If you touch the “Encoder counts” text on the Encoder screen, this is the pop-up window to set the number of encoder pulses per revolution for the encoder used. The machine is set at the factory and this setting should not need changed.

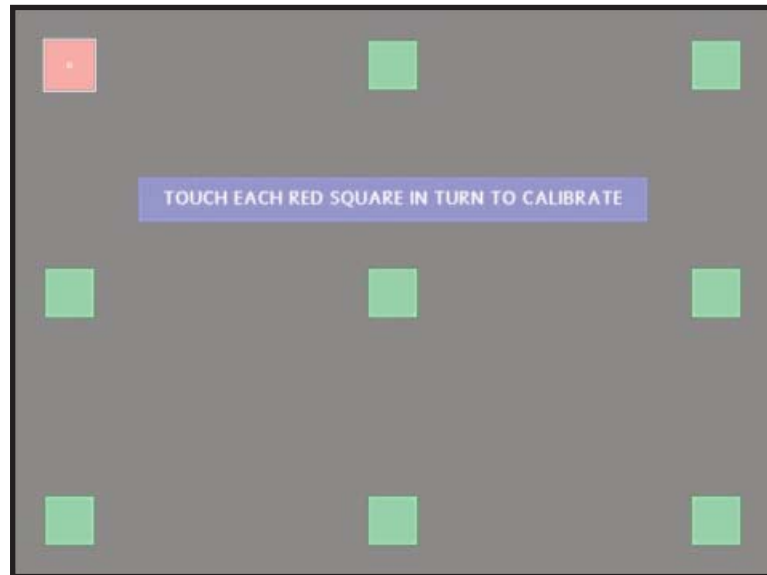


Encoder Scale Factor Pop Up

This screen allows further adjustment of the encoder for your application.

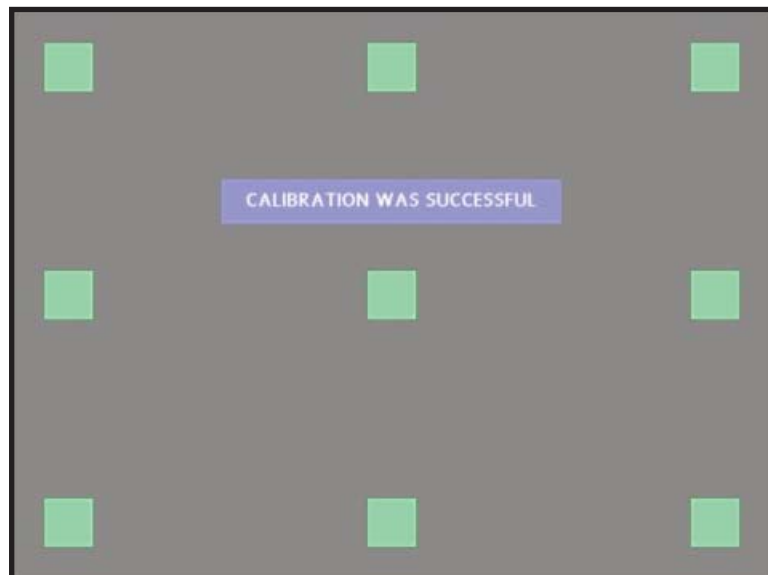
(Continued)

Control Function Descriptions (continued)



Touch Calibrate Page

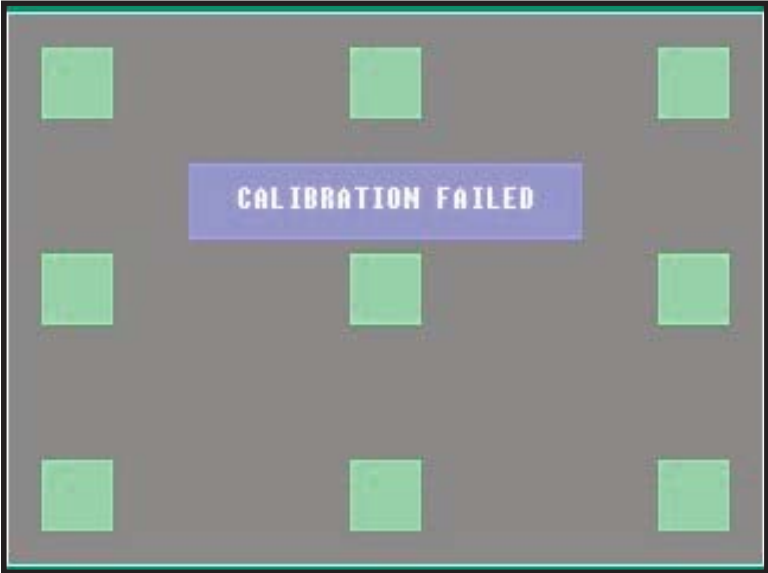
The HMI touchscreen can be calibrated by this page. Selecting this page begins the calibration procedure. The user is guided to touch various points on the screen to complete the procedure.



Touch Calibrate Success Page

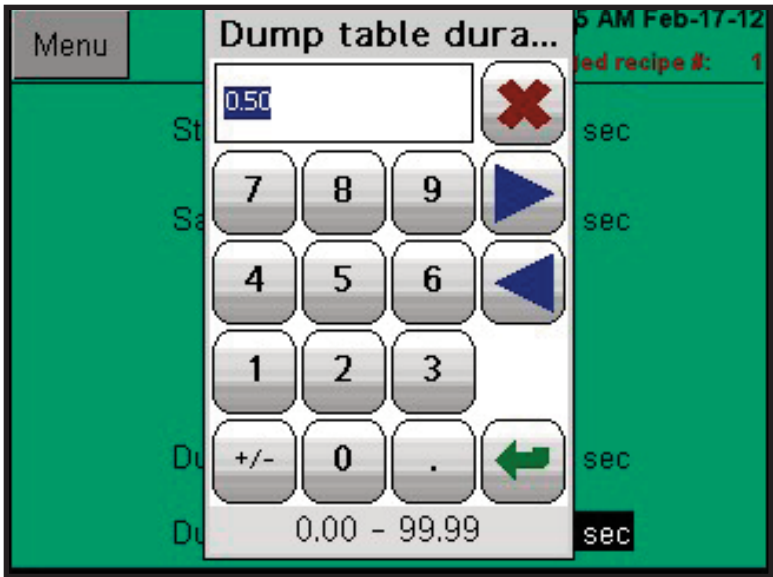
This message displays when you have successfully calibrated the touch screen.

Control Function Descriptions (continued)



Touch Calibrate Failure Page

This message displays if the calibration has failed. This is usually because too much time has passed between touches, or there is a problem with the touch functionality of the screen.



Timers Dump Table Duration Page

This screen is used to set how long you would like the table to remain in the down position before returning to the upright position.

(Continued)

Control Function Descriptions (continued)



Security

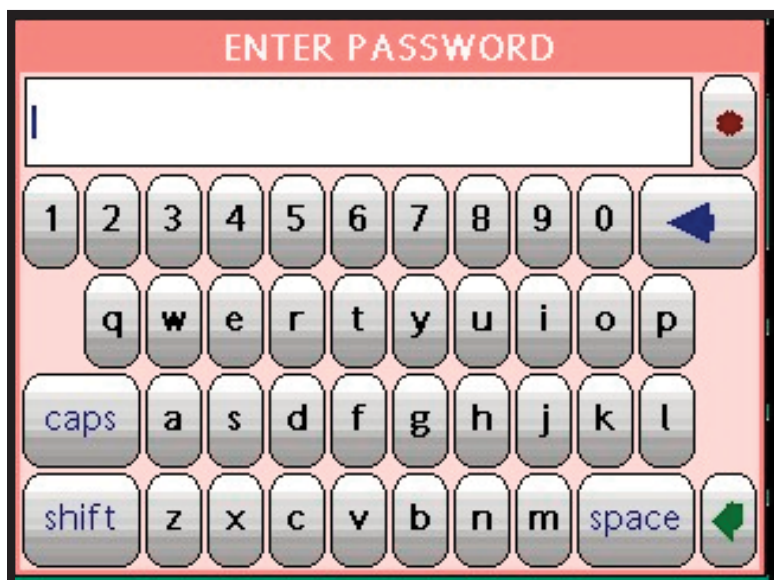
This window will pop up anytime you are trying to access an area or change a setting that requires a higher security level. From here, you can enter your username and press the enter key.



Security Username

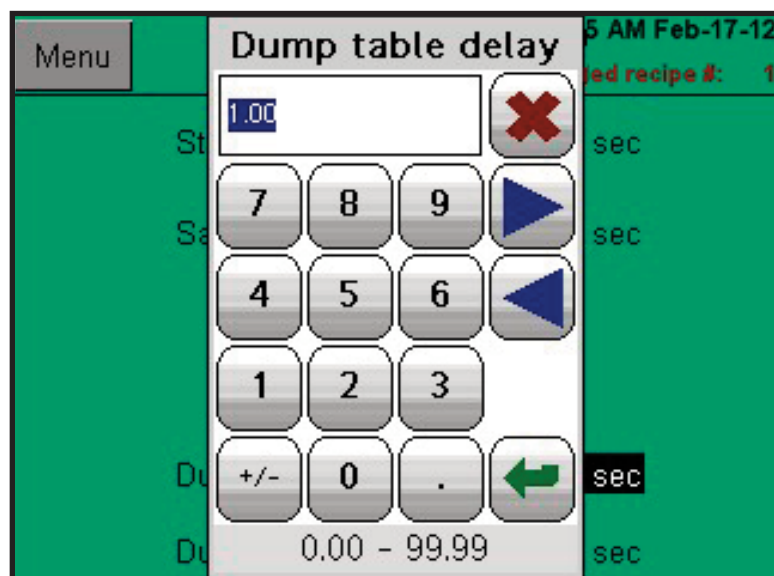
From here, you can enter your username and press the enter key.

Control Function Descriptions (continued)



Security Password

From here, you can enter your password and press the enter key to access the area you were trying to access.



Timers Dump Table Delay

This screen is used to set how long you would like to wait after a cut is made before actuating the dump table to move to the down position and dump the cut part.

(Continued)

The Saw Control

! IMPORTANT: Always refer to the wiring diagrams that came with your saw before making electrical connections. The diagrams show the minimum size main power cable required for your saw, and the most accurate electrical component information.

IMPORTANT: Before applying power, ensure that the SAW BLADE UP and TABLE FORWARD valves are closed (fully clockwise).

- 1 Connect the electrical line cord to a source of power.** compatible with the nameplate on the saw cut-off saw.
- 2 Connect the air supply** to the FRL (filter-regulator-lubricator) on the saw.
- 3 Install and connect the dust collector.**



Note: A dust collector MUST be installed in order to run the TS Up Cut Saw.

- 4 Turn the main disconnect switch to the ON position.**
- 5 Press Start** or (if equipped with Dust Collector) turn Dust Collector power “ON” first and then press saw motor “START”.
- 6 Check the motor rotation.** If the motor rotation is incorrect: Reverse the connections at the AC plug end. **Make sure that the FRL is set for 65 PSI.**

! IMPORTANT: Always note the blade tooth direction when removing blade to insure that the replacement blade is installed the same. Rotating a carbide blade in the wrong direction will usually damage the blade. As standard, the blade rotation should have the top of the blade rotating away from the front or operator side of the unit.

- 7 Press Manual Cut.**
- 8 Adjust the Table Forward speed control** to match the approximate line speed (if a pneumatic control is used).
- 9 Set the blade height limit** by adjusting the collar on the lifting rod (located on the table surface).
- 10 Adjust the Table Return speed control** to the suitable travel return speed (if a pneumatic control unit is used).
- 11 Adjust the clamp pressure regulator** to grasp the profile firmly.



Note: The TABLE RETURN pressure must be set high enough to return the table to the start position and trigger the TABLE START micro-switch from the front or operator side of the unit.

Machine Frame and Support System

The machine frame is constructed of welded steel that has been primed and painted to resist corrosion and provide a maintenance free finish. The frame is supported by, four leveling screws, that both permanently fix the position of the unit and also help accommodate any uneven flooring. These screws have a welded hex nut to allow adjustment with a wrench.

The motors and machine components are mounted inside the frame and completely guarded for operator safety.

These and all guards should always remain securely in place when machine is running and should be re-installed after any maintenance procedures that have required their removal.

Blade Height Adjustment

The saw blades are mounted to and driven by an arbor motor adjustable up to a speed of 3500 RPM. This motor is mounted on a pivot assembly, which guides and secures the saw blade through the cutting process.

There is adjustment for how high the saw blade will extend through the table depending on the product being cut. For maximum cut cycles, the saw blade should be adjusted so that the blade just passes through the product before returning home. Too much blade extension will waste valuable time and limit the amount of cuts that will be available per minute. This adjustment is made externally with the hand knob positioned at the rear of the cutting table. Turning the knob counterclockwise will allow the blade to extend farther up through the table and turning the knob clockwise will reduce the amount that the blade will come up.

Use the “Manual Jog” page to test this adjustment.

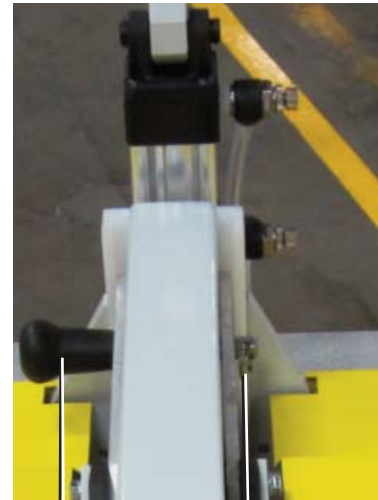
Upper Clamp Adjustment

As with the blade height adjustment, there is also a requirement to adjust the product clamps to adequately clamp different size products. The clamps are reversible and can be used for clamping round or flat items. If you are running a round product such as pipe or tubing, the side of the clamp that has a "V" notch should be used and for flat surfaced products, the straight side of the clamp should be used.

Use the "Manual Jog" page to test this adjustment.

To remove and/or adjust each clamp assembly:

- 1 Lock out and tag out the power to the saw.** *See Section 1: Introduction, How to use the Lockout Device.*
- 2 Wait at least five minutes for the blade to stop completely.**
- 3 Pull the hitch pin from the clamp keeper pin and remove both pins.**
- 4 Slide the clamps to the desired position.**
- 5 Re-insert the keeper pins.**
- 6 Re-install the hitch pins.**



Keeper Pin

Hitch Pin

! IMPORTANT: The clamps should be set approximately 1/8"-1/4" above the product in the "up" position to allow for positive clamping. Always check to see if setting is correct before operating in line.

Power Supply

This equipment is powered by either 230 or 460 VAC , Three Phase, as specified on the machine nameplate.

- 1 Connect the machine power** through a fused disconnect of proper rating. Make sure the power is grounded through the power cable to the plant electrical ground.

Control Panels

The operator control panels are located on the front of the saw frame. The pneumatic control panel is located near the operator controls platform. It consists of a pressure regulator, pressure gauge, and flow controls. All items are labeled, and easily accessible.

Pneumatic Cylinder Operation

The carriage travel, blade pivot and clamp assemblies are moved with air cylinders. The speed of the movement of the **carriage assembly** is controlled by flow controls located on the operator panel. Clockwise rotation will slow the table speed and counterclockwise rotation will increase the table speed.

The **blade pivot assembly** is moved up and down with an air cylinder located below the table. It is controlled by flow controls mounted on the operator panel. These are labeled table up speed and table down speed. Clockwise rotation will slow the table movement speed and counterclockwise rotation will increase the table movement speed.

The **clamp assembly** is moved up and down by air cylinders mounted above the clamp. They are controlled by flow controls mounted on the Cylinders. Clockwise rotation will slow the clamp movement speed and counterclockwise rotation will increase the clamp movement speed.

The table and clamp pressure setting is adjusted with a pressure regulator located on the operator panel. The pressure level setting is displayed on the gauge located above the regulator. The table and clamp pressure should never exceed 60 PSI.

The main filter/regulator/lubricator is mounted on the side of the machine near the electrical enclosure and should be maintained as described in the manufacturers documentation.

This unit should always be supplied with clean dry air. Incoming pressure should be set at approximately 65 PSI. Maximum pressure is 70 PSI.

Use the “Manual Jog” page to make these adjustments.

! **IMPORTANT:** This unit should always be supplied with clean dry air. Incoming pressure should be set at approximately 65 PSI. Maximum pressure is 70 PSI.

Electrical Operation

The operation of the saw consists of an automatic sequence of events.

*See Section 1:
Introduction,
How to use the
Lockout Device.*

- 1** To start the saw, the main power must be on and the appropriate air supply must be given to the machine. With the power on, the control panel will have the power on light illuminated.
 - 2** To start the saw motor, push the start button. Once the saw motor is started, push the yellow manual cut button and the machine will start its automatic cycle. The clamps will come down and the table will begin to travel away from its home position. Immediately after this happens, the saw pivot assembly will raise the blade up through the table slot until it reaches its up limit switch. Upon reaching this switch, the saw pivot will immediately return down through the table, the clamps will raise and the table will return to its home position, completing one cycle.
- ! IMPORTANT:** An important reminder is that the speed settings of the pneumatic flow controls will affect the cycle time of the machine. The flow controls must be set properly to a compromise between cycle time and cut quality. Flow control settings should be adjusted at this time and fine-tuned during the initial phase of the saw operation.

Machine Lubrication

The machine is supplied to you completely lubricated. After running the unit for long periods of time, this lubrication will break down and become useless. Follow this lubrication chart for optimum performance.

Component	Type of Lubricant	Duration
Table Pivot Bearings	Chassis Lube	6 - 9 months
Clamp Post Slides	Chassis Lube	5 - 6 months

System Inspection

Although this unit was designed to require a minimum amount of maintenance, it should be inspected periodically to insure that it remains in top operating condition.

Items to inspect are as follows:

Saw Tracks - The steel tracks that the saw motor carriages travel on, will after time, begin to wear from the constant contact with the cam rollers. They should be visually inspected for wear and replaced as necessary.

Saw Track Rollers - The steel cam rollers that the saw motor carriages travel on, will after time, begin to wear from the constant contact with the saw tracks. They should be visually inspected for wear and replaced as necessary.

Pneumatic System - Approximately once every 12 months or sooner if able, all system pneumatic components should be visually inspected. All hoses should be checked for wear or damage. All regulators and flow controls should be adjusted through their usable ranges to insure proper operation.

Blade Replacement

1 Lock out and tag out the power to the saw. *See Section 1: Introduction, How to use the Lockout Device.*

2 Wait at least five minutes for the blade to stop completely.

! IMPORTANT: Always note the blade tooth direction when removing blade to insure that the replacement blade is installed the same. Rotating a carbide blade in the wrong direction will usually damage the blade. As standard, the blade rotation should have the top of the blade rotating away from the front or operator side of the unit.

3 Open the rear access door of the machine.

4 Remove the screws that retain the blade door to the blade shroud and hinge open the door.

5 Remove the hex nut. The blade is held on with a hex nut tightened on the motor arbor shaft. Based on either right-to-left or left-to-right saw operation, the hex nut will be either a left-hand or right-hand thread. A right to left saw operation means that the product is entering the saw from the right side. A right-to-left operating saw will use a left-handed threaded arbor. This is done to insure that the arbor nut will want to continually tighten during blade rotation. The motor has an arrow on the housing to indicate the arbor rotation. Remove the hex nut using a spanner wrench to hold the blade shaft. The saw blade will be removable at this time.



WARNING: Electrical hazard

Before performing maintenance or repairs on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.



CAUTION: Moving parts

Before removing lockout devices and returning switches to the ON position, make sure that all personnel are clear of the machine, tools have been removed and all safety guards are reinstalled.

Chip Collection Shrouds and Blower Connection

The TS Up Cut Saw has been equipped with a chip collection shroud. It is imperative that the user hook up a chip collection system of some kind. Failure to do so could result in machine damage or cause a fire.

The success rate of chip removal is dependent on the type and ability of the customer supplied removal system or Conair's optional vacuum system.



WARNING: Electrical hazard

If you did not purchase a Conair dust collection system you must connect a customer supplied dust collector. Failure to do so may result in machine damage and fire hazard!

Maintenance

Maintenance Features 5-2

Warnings and Cautions 5-2

Maintenance Overview 5-3

Preventative Maintenance Schedule 5-4

Checking Electrical Connections 5-6

Maintenance Features

The TS Up Cut Saw needs regular, scheduled maintenance for peak performance. Among the features that require maintenance are:

- Saw blades
- Blade mounting hardware
- Product guides
- The saw guard hardware
- Saw alignment
- Floor locks
- Carriage slide system
- Electrical cables
- Control panel lights

Warnings and Cautions

To maintain the best performance of the saw it must be cleaned and inspected regularly. Maintenance includes a daily, weekly, quarterly, and semi-annual (every 6 months) schedule.

Use this maintenance schedule as a guide. You may need to shorten the time of the maintenance schedule, depending on how often you use the saw, and the types of material flowing through it. Follow all precautions and warnings when working on the equipment.



WARNING: Improper Installation, operation, or servicing may result in equipment damage or personal injury.

This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

Warnings and Cautions (continued)



WARNING: Voltage hazard



This equipment is powered by alternating current, as specified on the machine serial tag and data plate. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

A properly sized conductive ground wire from the incoming power supply must be connected to the chassis ground terminal inside the electrical enclosure. Improper grounding can result in severe personal injury and erratic machine operation.

Before performing maintenance or repairs on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.



DANGER: Sharp Blades!



Most injuries caused by knife blades occur when the saw has been turned off. Handle blades with care at all times.

- Always wear cut-resistant gloves when the cutting chamber is open and when handling blades.
- Always lock out power to the saw before opening any guards.
- Always wait until the saw head has completely stopped before opening the knife guard. Always wait until the saw blade has completely stopped before opening the saw guards (approximately five minutes.).

TS saws are equipped with several safety devices to ensure safe operation. Never remove or disable these devices to sustain production. Operating without these devices can cause severe injury.

Maintenance Overview

This section describes the daily, weekly, monthly and semi-annual maintenance schedules that should be performed when changing materials or lines, or when changing equipment, as well as the maintenance procedures to follow.

Cutting either flexible or rigid materials generates tremendous shock and vibration to the entire unit. Anything that can loosen, will over time.

To maintain the best performance, follow this maintenance schedule and develop an effective preventative maintenance program.

Preventative Maintenance Schedule

- **Daily**

- ☐ **Checking saw blade(s)**

Clean, sharpen or replace as needed (*see Section 4, Blade Replacement*).

- ☐ **Inspecting the blade mounting hardware.**

The blade securing nut should regularly be tightened.

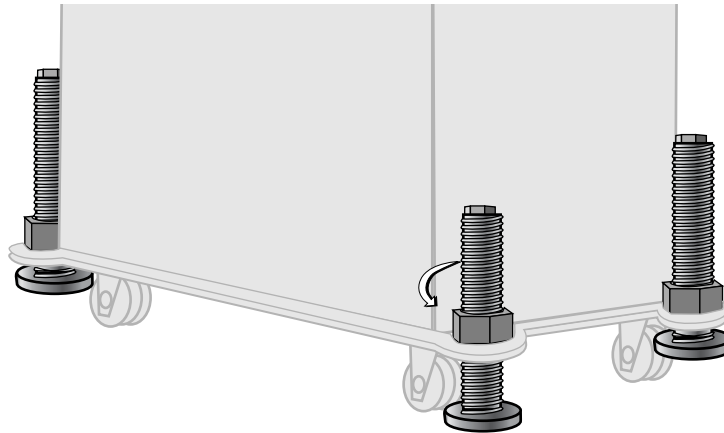
- ☐ **Inspecting the saw product guides for wear and alignment.**

- ☐ **Inspecting saw alignment.**

Proper saw alignment is critical for optimum performance. Use a plumb line or laser to check for a straight line from the extrusion die to the saw guides.

- ☐ **Check floor locks.**

It is always recommended that the weight be removed from the casters for optimum stability during cutting cycles. Check to see if the floor locking mechanism is properly adjusted.



- **Weekly**

- ☐ Blow or vacuum, dust and chips from all surfaces of the saw. Open pneumatic and electrical enclosures and remove the dust and chips from all components.

- ☐ Check that the FRL (filter-regulator-lubricator) for the air input is filled with oil and that the oiler is working. Pressure should be set for around 60 PSI.

This unit also has an automatic drain for any moisture that may develop. The bowl should be kept clean to ensure it will operate properly.

Preventative Maintenance Schedule

(continued)

- **Quarterly**

- ☐ Blow or vacuum, dust and chips from the inside the saw. Remove all dust and chips from inside all control cabinets. Remove any excess oil from the pneumatic enclosure.
- ☐ Verify that all electrical terminals are tight.
- ☐ Check that all air lines are in order (free of cuts or abrasions). Check the saw travel rails and rollers for debris and wear.
- ☐ Check that the adjustable flow controls on the SAW BLADE UP cylinder is set for a smooth downward return.
- ☐ Check that the adjustable flow controls on the clamp cylinder are set so that the clamp operates quickly a slow cycle on the clamp-down will cause inaccurate cuts in length.
- ☐ Check the condition of the clamp pads. If worn or damaged, replace with a new set of pads.
- ☐ Check the condition of the clamp pads. If worn or damaged, replace with a new set of pads.
- ☐ Check the condition of the blade. If the blade is dull, have the unit sharpened; if it is damaged, have the blade replaced.



WARNING: Electrical hazard

Before performing maintenance or repairs on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.



CAUTION: Moving parts

Before removing lockout devices and returning switches to the ON position, make sure that all personnel are clear of the machine, tools have been removed and all safety guards are reinstalled.

Checking Electrical Connections



WARNING: Electrical Hazard

Before performing any work on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.



WARNING: Improper Installation, operation, or servicing may result in equipment damage or personal injury.

This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.



- 1 Be sure the main power is disconnected and the saw is locked out.** Always disconnect and lock out the main power source before opening the unit or servicing.
- 2 Turn the main power disconnect to the off position** before opening the electrical enclosure on the back of the saw, or the back of the control. This is a safety device to prevent you from opening the doors if the power is still on.

Main power
safety disconnect



Checking Electrical Connections (continued)

3 Open the electrical enclosure.

4 Inspect all wires and connections. Look for loose wires, burned contacts, and signs of over-heated wires. Have a qualified electrician make any necessary repairs or replacements.

5 Close the electrical enclosure door.

6 Inspect the exterior power cords. Cords should not be crimped, exposed, or rubbing against the frame. If the main power cord runs along the floor, make sure it is not positioned where it could rest in pooling water or could be run over and cut by wheels or casters.

Troubleshooting

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Before Beginning

You can avoid most problems by following the recommended installation, operation and maintenance procedures outlined in this User Guide. If you have a problem, this section will help you determine the cause and tell you how to fix it.

Before you begin troubleshooting:

- ❑ Find any wiring, parts, and assembly diagrams that were shipped with your equipment. These are the best reference for correcting a problem. The diagrams will note any custom features or options not covered in this User Guide.
- ❑ Verify that you have all instructional materials related to the saw. Additional details about troubleshooting and repairing specific components are found in these materials.
- ❑ Check that you have a manual for other equipment connected in the system. Troubleshooting may require investigating other equipment attached to, or connected with the saw.

A Few Words of Caution



WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.

This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed and adjusted by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.



WARNING: Electrical hazard.

Before performing maintenance or repairs on this product, disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.

A Few Words of Caution (continued)



DANGER: Sharp Blades!



Most injuries caused by knife blades occur when the saw has been turned off.

Handle blades with care at all times.

- Always wear cut-resistant gloves when the cutting chamber is open and when handling blades.
- Always lock out power to the saw before opening the cutting chamber.
- Always wait until the saw has completely stopped before opening the cabinet door.

TS saws are equipped with several safety devices to ensure safe operation. Never remove or disable these devices to sustain production. Operating without these devices can cause severe injury.

Identifying the Cause of a Problem

The Troubleshooting section covers problems directly related to the operation and maintenance of the TS Up Cut Saw. This section does not provide solutions to problems that originate with other equipment. Additional troubleshooting help can be found in manuals supplied with the other equipment.

The main problems you will see with the TS Up Cut Saw are:

- **Saw operation problems**, which focus on problems that are clearly related to the operation of the saw's electrical control systems.
- **Plastic product quality concerns**, which deal with product characteristics that may be related to saw operation. Of course, other sections of the extrusion line also influence the quality of the extruded product. This section does not provide solutions to problems originating with other equipment on the extrusion line.

Additional troubleshooting help can be found in the documentation manuals included with this User Guide.

Electrical Problems

Look in this section when you have problems such as lights on the control that are working improperly, buttons that do not execute the function properly, and when information input is not executed properly.

Symptom	Possible Cause	Solution
Saw will not start.	The E-stop button is depressed.	Make sure the E-stop is extended.
	Motor overload tripped.	Reset motor overload.
	Disconnect in the off position.	Turn disconnect to the on position.
Saw blade runs backwards.	AC Power is phased incorrectly for your plant.	Reverse any two leads connecting the main power supply to the saw.

Product Quality Problems

Symptom	Possible Cause	Solution
Cut not square.	Product guides not aligned square to the blade face.	Re-align the product guides. Ensure that the rear guide is square with the saw blade and tighten. Adjust the front guide accordingly allowing enough clearance for smooth product passage.
Crack or fractures in cut surfaces.	Blade up speed too fast.	Adjust speed control for blade feed into part (slower).
	Incorrect blade design.	Investigate blade choice for the application.
	Incorrect cooling of extrudate.	Improve the molecular structure with variation of cooling time or temperature.
General poor cut quality.	Incorrect blade design.	Investigate blade choice for the application.
	Blade running backwards.	Check motor rotation. Check blade installation.
Product melting at cut.	Dull Blade.	Have blade sharpened or replaced.
	Blade up speed too slow.	Adjust speed control for blade feed into part (faster).
	Incorrect blade design.	Investigate blade choice for the application.

Product Quality Problems (continued)

Symptom	Possible Cause	Solution
Incorrect cut length.	Encoder or input device problem.	Check encoder or input device.
	Puller problem.	Check puller for drive consistencies or any belt to product slippage.
	Counter problem.	Check cut length counter.
	Saw clamps not holding.	Check rubber saw clamps for wear and replace as necessary.
Table motion inconsistent.	Roller ways dirty.	Clean roller ways.
	Rodless cylinder problem.	Check and clean rodless cylinder.
	Solenoid problem .	Check table actuation solenoid for proper operation.
	Low air pressure.	Check main system regulator for incoming air pressure settings.

TS Up Cut Saw Fault Messages

Symptom	Possible Cause	Solution
0. No message.		
1. The emergency stop circuit has been activated.	Release the emergency stop buttons and close the guard doors.	Press the emergency stop reset push-button. Plc input 1 must be on.
2. The saw blade vfd is faulted.	Check the drive status page for fault indications.	Plc input 2 must be on.
3. A table overtravel was detected.	Adjust settings to complete the cut sooner.	

Checking the Servo Amplifier

The servo amplifier is equipped with a digital readout that can be seen through the viewing window on the electrical enclosure. This display shows amplifier status and error messages. Refer to the supplier's documentation included with this User Guide.

 **NOTE:** Make sure you look for servo amplifier messages before you shut off the power.

Checking the Encoder

When the encoder is working properly, the measurement displayed will count up to the pre-set and reset to zero.

- 1 Check all connections.**
- 2 Check the encoder cable for damage.** If necessary, replace.
- 3 Check the connector that attaches the cable to the encoder.** Internal wiring may be shorted out if this connector is not handled properly.
- 4 Check the encoder itself.** There should be no play in the shaft.



WARNING: Delicate equipment

The encoder is a delicate piece of equipment. Any rough handling can damage fragile parts.

- 5 If all else fails,** contact Conair Customer Service. [See Appendix A.](#)

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Department for a nominal fee.

How to Contact Customer Service

To contact Customer Service personnel, call:



 **NOTE:** Normal operating hours are 8:00 am - 5:00 pm EST. After hours emergency service is available at the same phone number.

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- ☐ Make sure you have all model, control type and serial numbers from the serial tag, and parts list numbers for your particular equipment. Service personnel will need this information to assist you..
- ☐ Make sure power is supplied to the equipment.
- ☐ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ☐ Check the troubleshooting guide of this manual for a solution.
- ☐ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ☐ Check that the equipment has been operated as described in this manual.
- ☐ Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.