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USER GUIDE

UGE074-1013

ATC Series
Automatic Tubing Coiler

Corporate Office: 724.584.5500 | Instant Access 24/7 (Parts and Service): 800.458.1960 | Parts and Service: 814.437.6861

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: UGE074-1013

Serial Number(s):

Model Number(s):

DISCLAIMER: Conair shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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Introduction

Purpose of the User Guide

This User Guide describes the Conair ATC Series 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.

1 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 user with a suggestion that will help with the maintenance and the operation of this equipment.

 Indicates a note. A note is used to provide additional information about the steps the user is 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: Moving Parts; pinch hazard.

Emergency stop (E-stop) buttons are located at several accessible points on the operator side of the machine on top of the main plate at the upstream end. When pressed, it will disconnect power to the ATC drive. The E-stop must be physically pulled up to reset the switch. To start the ATC again after an E-stop has been pressed, the fault message seen in the control system must be cleared. The HMI must be reset before the ATC can be restarted.

⚠ 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

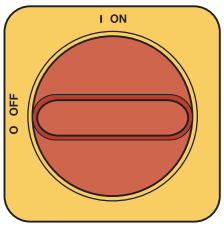
This equipment is powered by three-phase alternating current, as specified on the machine serial tag and data plate.

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

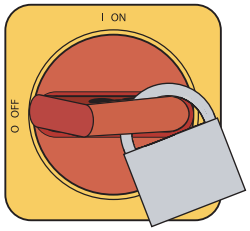
CAUTION: Before performing maintenance or repairs on this product, you should disconnect and lockout electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.



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

1 **Stop or turn off the equipment.**

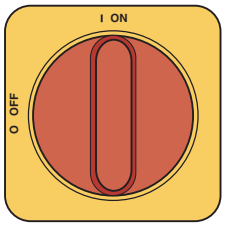
2 **Isolate the equipment from the electric power.** Turn the rotary disconnect switch to the OFF, or "O" position.



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.**

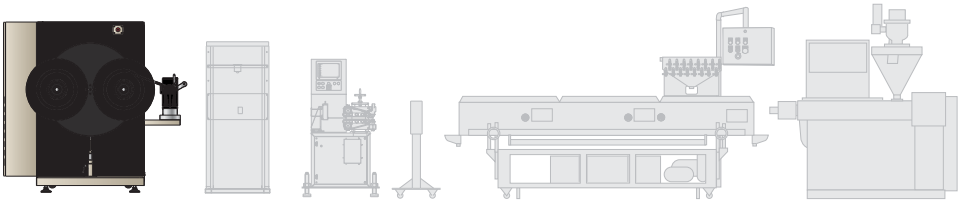
2 **Turn the rotary disconnect switch to the ON or "I" position.**

SECTION
2

Description

What Is an ATC (Automatic Tubing Coiler)

Conair ATCs are designed to consistently coil small flexible tubing being fed from an extrusion line. The standard servo drive system with sonic loop detection is designed to coil with little-to-no friction or winding tension.



Conair ATC Series

Typical Applications

Conair ATC Series Dual Spindle is a twin coiling unit designed to wind small flexible extrusions with little-to-no friction or winding tension. This eliminates deformities in delicate products making it ideal for extrusions such as: medical tubing, small hose, and filled cords. Various profiles can also be coiled on the ATC.

This ATC was configured based on your specific application needs.

Due to the automatic cutting and transferring of this machine when it is placed in the extrusion line, the operation is virtually hands-off. This promotes higher line rates due to less operator involvement.

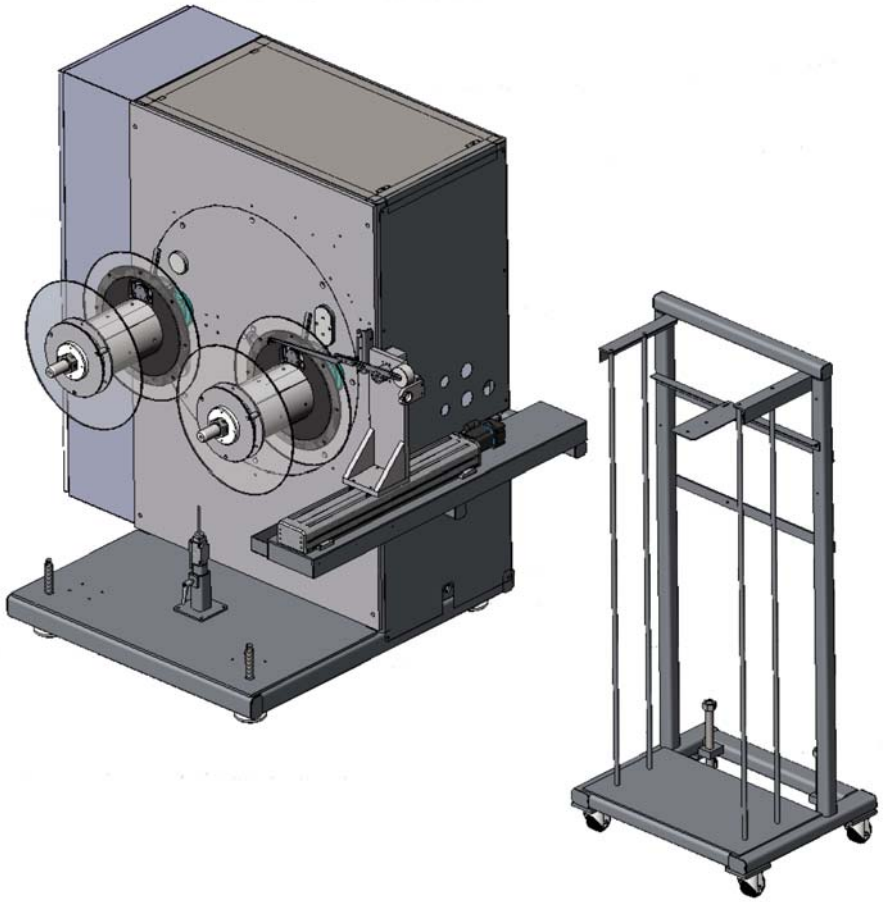
The fully servo-controlled operation creates an accurate finished spool each cycle with no need to “Dial In” for each product changeover.

This ATC is capable of storing recipes, making line change overs a breeze. All ATC components that come into contact with the extrusion are made from stainless steel or are hard coat anodized.

This ATC has user-friendly design for operation and maintenance.

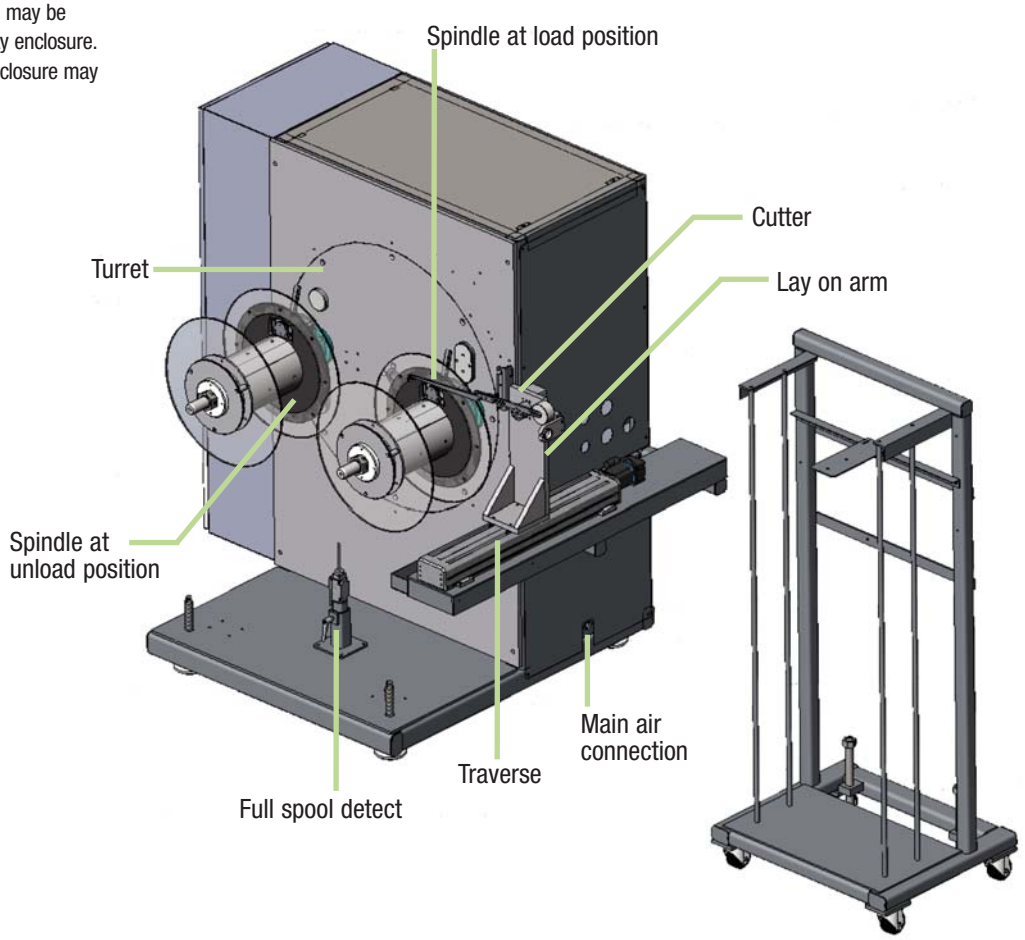
How It Works

Two spindle hubs coil the extrusion in unison with the traverse, and the sonic loop stand to control the tension on the tubing to eliminate deformities in the product. Hubs can be either with a caliper cover or customer supplied spools.



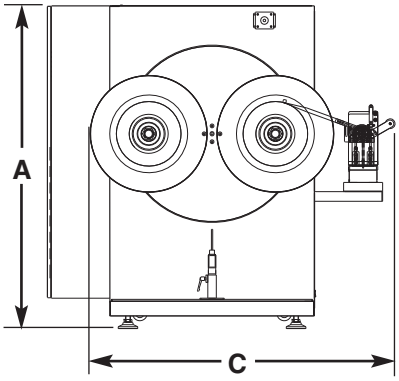
ATC Series Features

NOTE: Some models may be equipped with a safety enclosure. Operation with the enclosure may vary slightly.

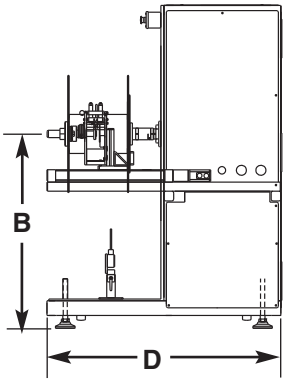


ATC Series Specifications

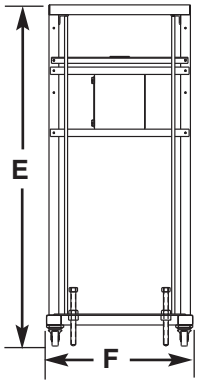
ATC front view



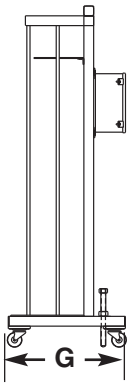
ATC side view



Trim control front view



Trim control side view



MODELS	ATC-24	ATC-36	ATC-48
Performance characteristics			
Product range tube diameter in {mm}	Typical 0.85 to 0.5 {2.16 to 12.7} / Optional 0.2 {0.5} and up to 1.0 {25.4}		
Coil type	Collapsible for coreless reel - one set included		
Coil drive	Independent servo drive on each reel		
Coil size OD inch {mm}	24 {609}	36 {914}	48 {1219}
Coil width inch {mm}	12 {304}	12 {304}	12 {304}
Coil size ID inch {mm}	8 {203}	12 {304}	12 {304}
Traverse	Servo control on traverse assembly		
Turret drive	Servo control on turret shaft		
Line rate	Nominal 500 FPM {152m/min} up to 800 FPM {243m/min} - Tube size dependant		
Line direction	Right to left		
Frame	Heavy-duty welded steel with four (4) swivel casters and four (4) leveling screws		
Controls			
PLC	Programmable microprocessor with touch screen HMI		
Panel	NEMA-4		
Dimensions inches {mm}			
A - Overall height	66.3 {1684.0}	86.0 {2184.4}	106.5 {2705.1}
B - Height to spindle centerline	40.0 {1016.0}	41.2 {1046.5}	52.0 {1320.8}
C - Overall length	68.7 {1745.0}	99.7 {2532.4}	125.0 {3175}
D - Overall width	48.0 {1219.2}	83.1 {2110.7}	83.5 {2120.9}
Weight lb {kg}			
Shipping	2200 {998}	4400 {1996}	5600 {2540}
Voltage	230V/3 phase/60 Hz		

Trim Control			
Dancer type	Non-contact ultrasonic for tube diameters 0.085 to 0.5 in. {2.16 to 12.7 mm} Ultra-lightweight roller contact ultrasonic for 0.02 to 0.085 in. {0.5 to 2.16 mm} tube		
Dimensions inches {mm}			
E - Overall height	70.0 {1778}	70.0 {1778}	70.0 {1778}
F - Overall length	30.0 {762}	30.0 {762}	30.0 {762}
G - Overall width	24.4 {620}	24.4 {620}	24.4 {620}
Weight lb {kg}			
Shipping	500 {226.8}	500 {226.8}	500 {226.8}
Voltage	230V/3 phase/60 Hz		

SPECIFICATION NOTES:

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

TPEX 033-1011

Options

- **Left-to-right machine operation**
  This option changes the machine direction from the standard right to left extrusion flow.
- **Spare set of collapsible spools**
- **Additional lay-on arms for product diameters**
- **460/3/60 voltage**
- **Additional voltages available**

SECTION
3

Installation

Unpacking the Boxes

⚠ CAUTION: Lifting hazard.

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

1. **Carefully uncrate the ATC and its components.** The ATC typically comes fully assembled in a single crate.

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. **Complete the preparation steps** on the next page.

Preparing for Installation

⚠ 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.

You will install the ATC on the extrusion line, downstream of the extruder and any calibration/sizing equipment.

1 Make sure the installation area provides:

- ❒ **A grounded power source** supplying the correct current and voltage. Check the 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.
- ❒ **Minimum clearance for safe operation and maintenance.** Determine the best distance from the discharge end of the puller to the traverse rollers of the ATC. This can be anywhere from 3 to 10 feet {0.91 to 3.05 m}, depending on the ability of your product to flex. Any more than 10 feet of distance may interfere with the ATC's ability to function.

2 Determine the correct position for the ATC.

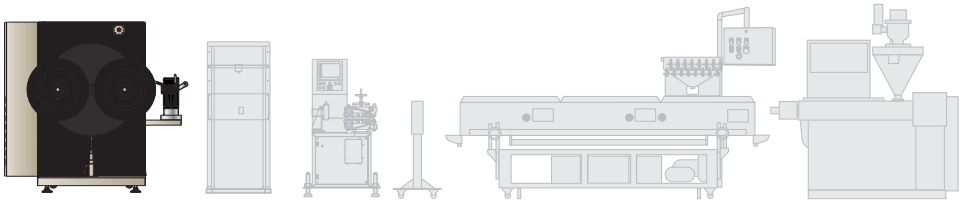
The ATC will be positioned downstream of the extruder and any sizing equipment. You must consider optional equipment and product type to determine the best spacing between the equipment.

Installing the ATC

⚠ **CAUTION: Lifting hazard.**

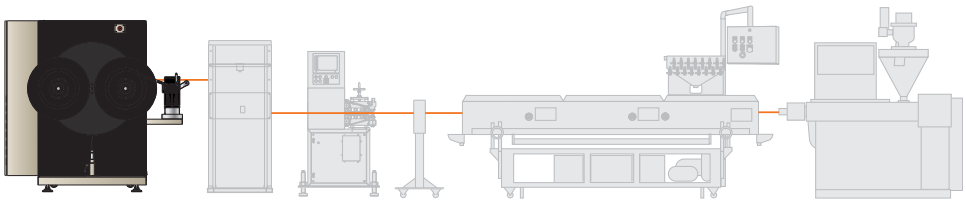
To avoid personal injury or damage to the ATC, lift the puller using a forklift or hoist with straps that have been positioned at the ATC's center of gravity.

1 **Move the ATC into position.** This unit is supplied for either a right to left or left to right extrusion direction. Check your order to see which direction was purchased.



2 **Measure the centerline height** of the extruded product as it exits the extrusion line. Make sure all equipment on the extrusion line is aligned to the this height. Use a plumb line or laser to check for a straight line from the extrusion die through each line component.

3 **Align the ATC with the centerline height of the extrusion line.** Adjust the ATC's floor lock/caster assembly to the center height of the extrusion line using an adjustable wrench. Turn the floor locks until the puller reaches the center height of the extrusion line.



⚠ **IMPORTANT: Never operate the ATC on casters.**
Always use the leveling jacks to support the ATC. Once the correct height is reached, adjust the pad assembly to remove the weight from the casters.

(Continued)

Installing the ATC (continued)

The Loop Detector - The loop detector will be positioned halfway between the puller and the ATC. Its function is to detect the height of the loop. As the loop lowers it sends a signal to speed up the servo drive. In likeness, as the loop gets higher it sends a signal to slow down the servo drive. When these functions work together, it keeps the loop at a consistent height, minimizing any stretch that could result from the ATC "pulling" the material directly from the upstream puller.

1 Find the bottom of the product-loop by holding a sample of the extrusion between the ATC and the puller. Let the product almost sag to the floor. This is now where the loop detector should be located.

- The bottom of the loop should fall directly below the sonic control head. If the material loop is not directly centered, it may cause the loop detector to give false readings of product position.
- Simulate the material traversing side to side. It should not touch the vertical stainless steel guiding posts.

2 Plug the power for the loop detector into the main control box of the ATC. (On the rear of the main control box you will find a port labeled "Loop Detector Power".)

3 Plug the output from the loop detector into the main control box of the ATC. (On the rear of the main control box you will find a port labeled "Loop Detector Analog Input".)

Encoder Signal - The ATC needs a signal from the encoder to resume operation.

Testing the Installation

⚠ DANGER: Pinch hazard.

Never remove or disable safety devices to sustain production. Operating without these devices could lead to hazardous conditions that can cause severe injury. Take all necessary precautions when working around moving parts to prevent body parts and clothing from being pulled into the machine.

1. **Make sure all components** are installed according to assembly drawings. Check all bolts on the ATC for tightness.

2. **Check that ATC is firmly anchored** into position with the floor locks.

3. **Check that all wiring conforms to electrical codes**, and all wiring covers are in place.

4. **Turn on the main disconnect.** Plug in the main power cord and turn on the main disconnect.

5. **Check that the E-Stop buttons are in the out, extended position.**

6. **The ATC must go through homing procedure** for spindle and traverse to be in the proper position before the machine will start.

7. **Turn on the puller to send an encoded signal to the ATC.**

8. **Press Start button.** The hubs should begin to rotate. Ensure that the ATC is operating.

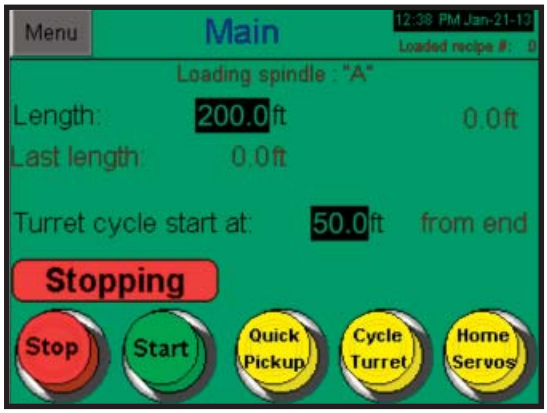
If the ATC is not working properly at any time, turn it off immediately and refer to the Troubleshooting section of this User Guide.

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

SECTION
4

Operation

Starting the ATC



To start the ATC:

1 **Ensure that all guards are in place.**

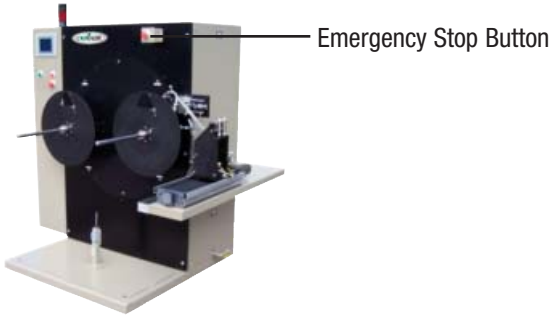
✎ **NOTE:** If the model is equipped with a safety enclosure, after pressing start, the ATC will wait for the doors to be closed and safety interlocks to engage prior to starting.

2 **Turn on the main power.**

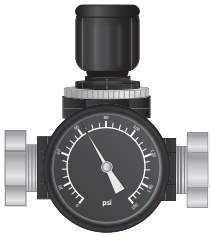
3 **Wait until the human machine interface (HMI) panel has initialized** and is displaying the Main Menu page.

4 **Check that the emergency stop buttons are functioning correctly.**

5 **Reset the emergency stop circuit if necessary.**



6 **Check for proper air pressure at the main air pressure gauge.** Pressure should be set at 65 psi.



7 **Go to the recipe page and select and load the desired recipe** to the servo controller, if necessary.

8 **Home the servos.**

9 **Thread the product through the lay-on arm and over the load spindle.**

(Continued)

Starting the ATC (continued)

The load spindle will begin winding when the product puller is running. When the spool reaches the turret index setpoint the turret will rotate the spool to the unload position. At the target length, the cutter will clamp and cut the product and the load spindle will begin winding. The unload spindle will stop turning and orient to the cut position. The reset turret pushbutton will illuminate, indicating the spool is ready for removal.

10 Remove product from the full spool.

11 Press the reset turret pushbutton.

✎ **NOTE:** In the event that a full spool is not removed from the unload spindle, the ATC will complete the current spool and stop. A message on the HMI will indicate that both spools are full. To recover, remove product from both spools. Press the reset turret pushbutton and restart the machine in automatic mode.

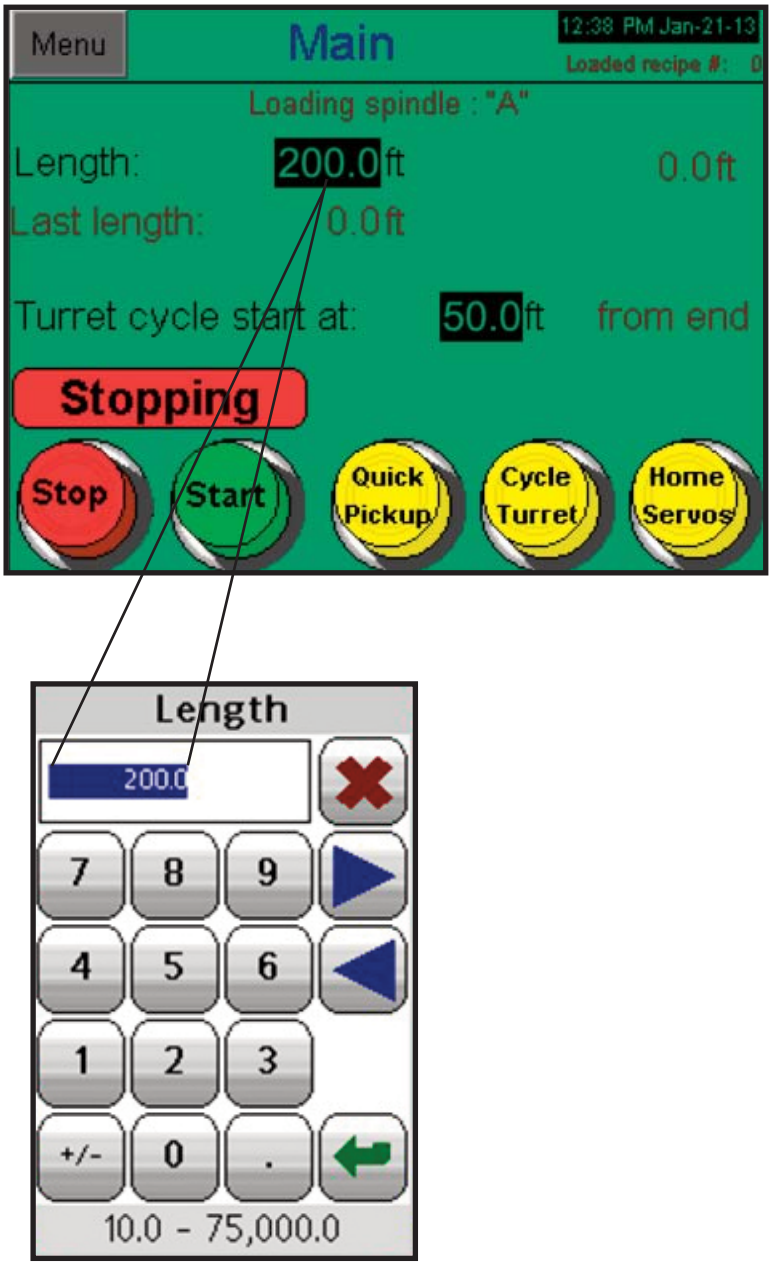
The machine is equipped with a full spool detection limit switch. The purpose of the switch is to detect a full spool turreting back to the load position. Ensure that the limit switch is adjusted to detect any spool that is not empty. If this condition occurs, the turret cycle will complete and the machine will stop. To recover, remove product from both spools and restart the machine in automatic mode.

ATC Series Splash Screen

This is the first screen to appear when turning the power on to the ATC Series unit. After power is turned on, the HMI panel will initialize. After it has initialized the 'Splash' page will appear and the panel will establish communications with the servo controller. This page shows Conair contact information. Use the Service/Parts number to contact the Conair resource line.

How to Navigate the Control Screens

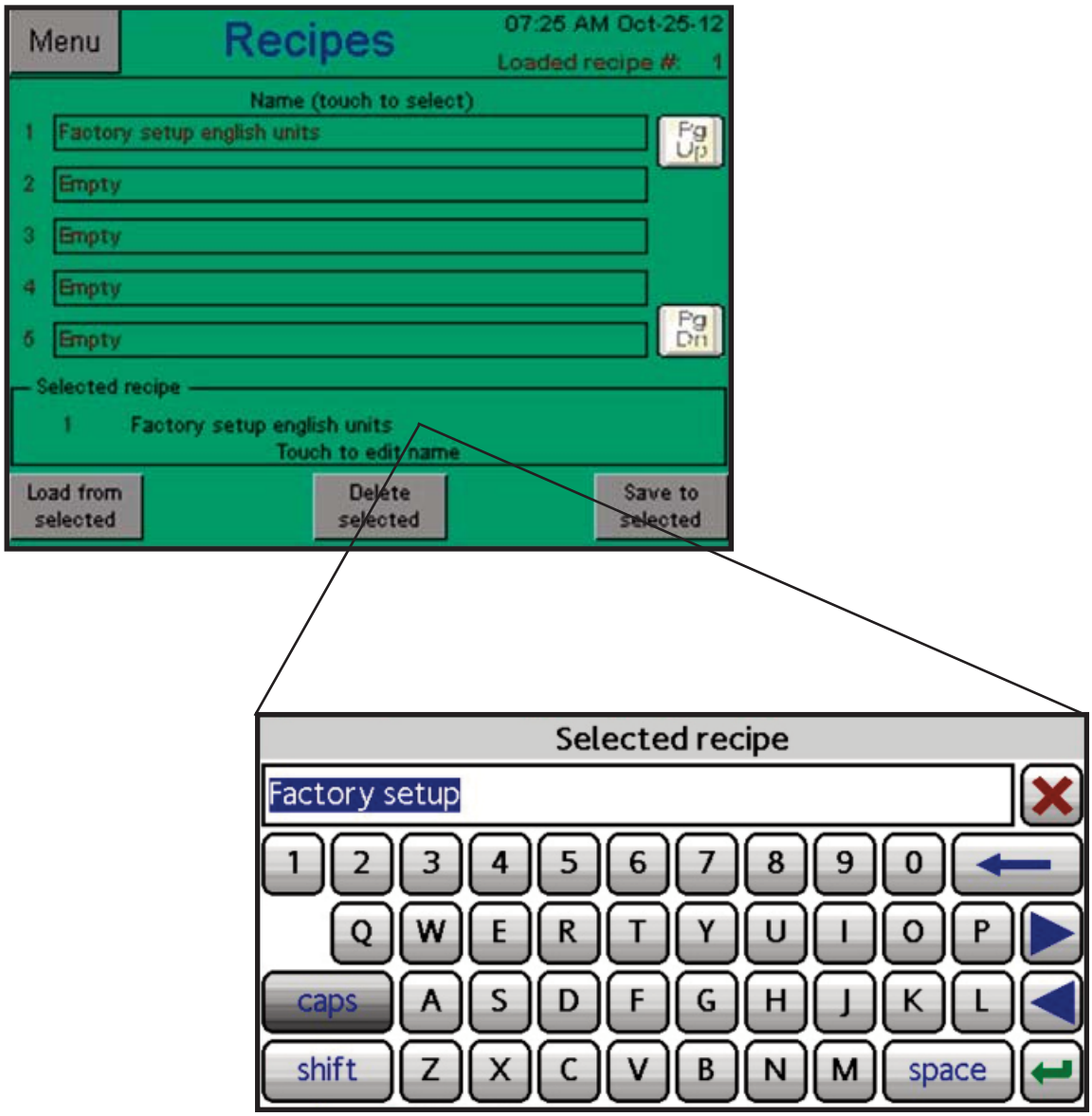
Navigate through the ATC Control Screens by touching any black text which opens a screen or pop up window. The colored text is not selectable and represents current data being displayed.



Example of Pop Up Number Pad

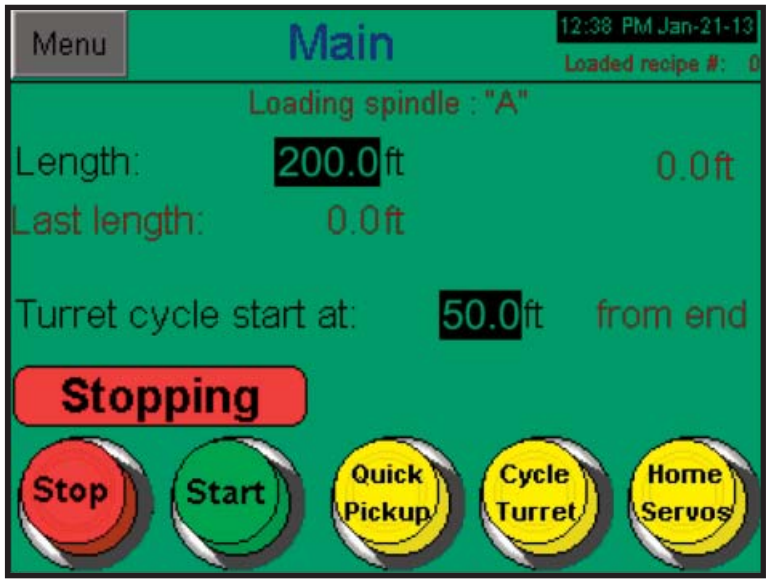
(Continued)

How to Navigate the Control Screens
(continued)



Example of Pop Up Keypad

The ATC Operator Instructions Main Screen



Shortly after power up, the Splash screen is replaced by the Main Control page. This is the page that will be showing most of the time during operation.

Loaded Recipe: This box indicates which recipe is currently loaded.

Spindle at load: After homing, the coiler will know which spindle is in the "Load" position and will indicate which spindle here.

Length: Enter the desired length of a full spool.

Last Length: This is the length of the last spool that is at the unload station after the turret change.

Turret cycle start at: Enter the length of tubing remaining to be coiled when the turret change starts. This is used to get an accurate length of tubing on a spool. The faster the line is running, the sooner the turret needs to start its indexing.

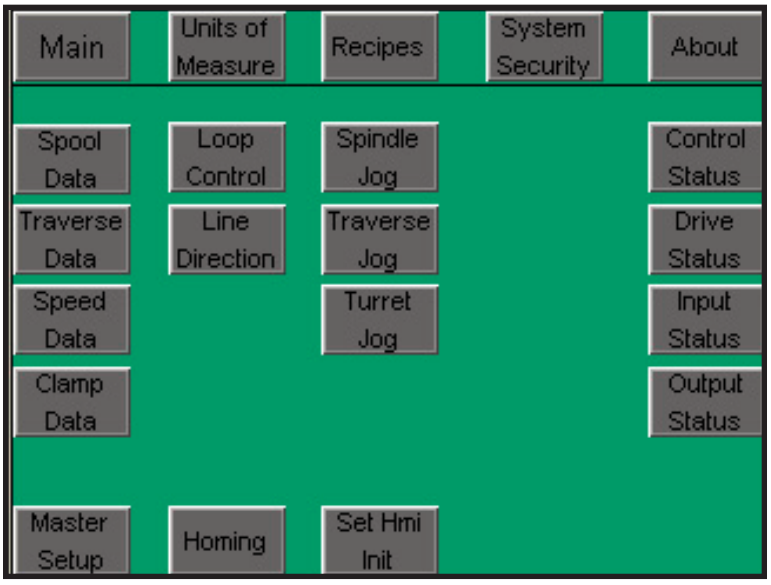
Start/Stop: The product must be strung through the laydown arm before pressing the "Start" button. The system must also be "Homed" before these buttons will work. The "Stop" button can be used at any point. But, in order to restart, the servos all must be returned to the "Home" position.

Quick Pickup: This button is used to speed up the coiler to get excess tube that accumulated during starting wrapped to get the coiling into its proper operating condition.

Cycle Turret: Pressing this button will begin a turret cycle command. This can be completed at any point in the current spool.

Home Servos: The Homing procedure takes place after powering up. This button must be depressed for the entire homing procedure.

The ATC Control Instructions Menu Screen



Access this menu screen from the menu button on the Main page.This page provides access to all other display pages. Press the appropriate button to change pages. When a machine fault occurs a machine fault indicator/button will appear in the upper right corner of the display page. Press this button to display the error message pop-up box.

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

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 saved to a recipe file. The system allows storage of 100 recipes. The running parameters can be changed by loading a saved recipe file.

System Security page: This page allows the customer to create a password for a user and to "LogOn" and "LogOff" of the system. The "Set Pass" button takes the user to the Security Manager screen where the password is assigned. Once the password has been assigned, the "LogOn" and LogOff" buttons can be used to access the system.

About page: This page displays the version information of the Crimson programming software used to create the HMI pages. It also displays Conair's contact information. Touchscreen calibration is accessed from this page.

(Continued)

The ATC Control Instructions Menu Screen (continued)

Spool Data page: This page provides access to the parameters that affect the operation of the spool. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

Traverse Data page: This page provides access to the parameters that affect the traverse operation. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

Speed Data page: This page provides access to the parameters that affect the operation of the winder. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

Clamp Data page: This page provides access to the clamp information associated with the selected recipe. The loaded recipe information appears near the top, right corner of the Clamp Data screen. This screen also provides the user with the ability to turn the clamp function “Off” during the cutter unload and load processes.

Master Setup page: This page allows access to the master encoder input scaling parameters. The cutter uses a quadrature encoder input signal to measure product length. These parameters scale encoder pulses to product length.

Loop Control page: This page provides access to the parameters that affect the operation of the ultra-sonic loop control. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

(Continued)

The ATC Control Instructions Menu Screen (continued)

Line Direction page: This page is set at the factory before the machine is shipped. This switch provides right-to-left or left-to-right direction. The setting must suit the build style of the machine. Most ATCs are right-to-left direction. Do not change this setting unless it is wrong.

Homing page: This page provides access to the servo homing offset parameters. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. The servo encoders are incremental and do not retain their position when powered off. After power up, the servos must be homed. Each servo axis has a proximity switch which provides a point of reference during the homing procedure. If the homing offsets are zero, then the proximity switch reference point becomes the absolute 0 position of the servo axis. If the homing offsets are non-zero, the servo axis will move from the proximity switch reference point by the amount entered in the homing offset. This new offset position becomes the absolute 0 position for the servo axis. Spindle "A" and "B" have two offsets. One each for the load and unload positions. Both spindles could be at either position at power-up. Two offsets for each spindle are provided to accommodate this. After an offset is changed, the servos must be re-homed for the offset to take effect.

Spindle Jog page: This page provides access to all the Spindle Jog functions including the Spindle Jog Speed function. To access the Spindle Jog Speed function, press the Jog Speed button near the middle of the screen.

Traverse Jog page: This page provides access to all the Traverse Jog functions including the Traverse Jog Speed function. To access the Traverse Jog Speed function, press the Jog Speed button near the middle of the screen.

Turret Jog page: This page provides access to the Turret Jog functions including the Turret Jog Speed function. To access the Turret Jog Speed function, press the Jog Speed button near the middle of the screen.

(Continued)

The ATC Control Instructions Menu Screen (continued)

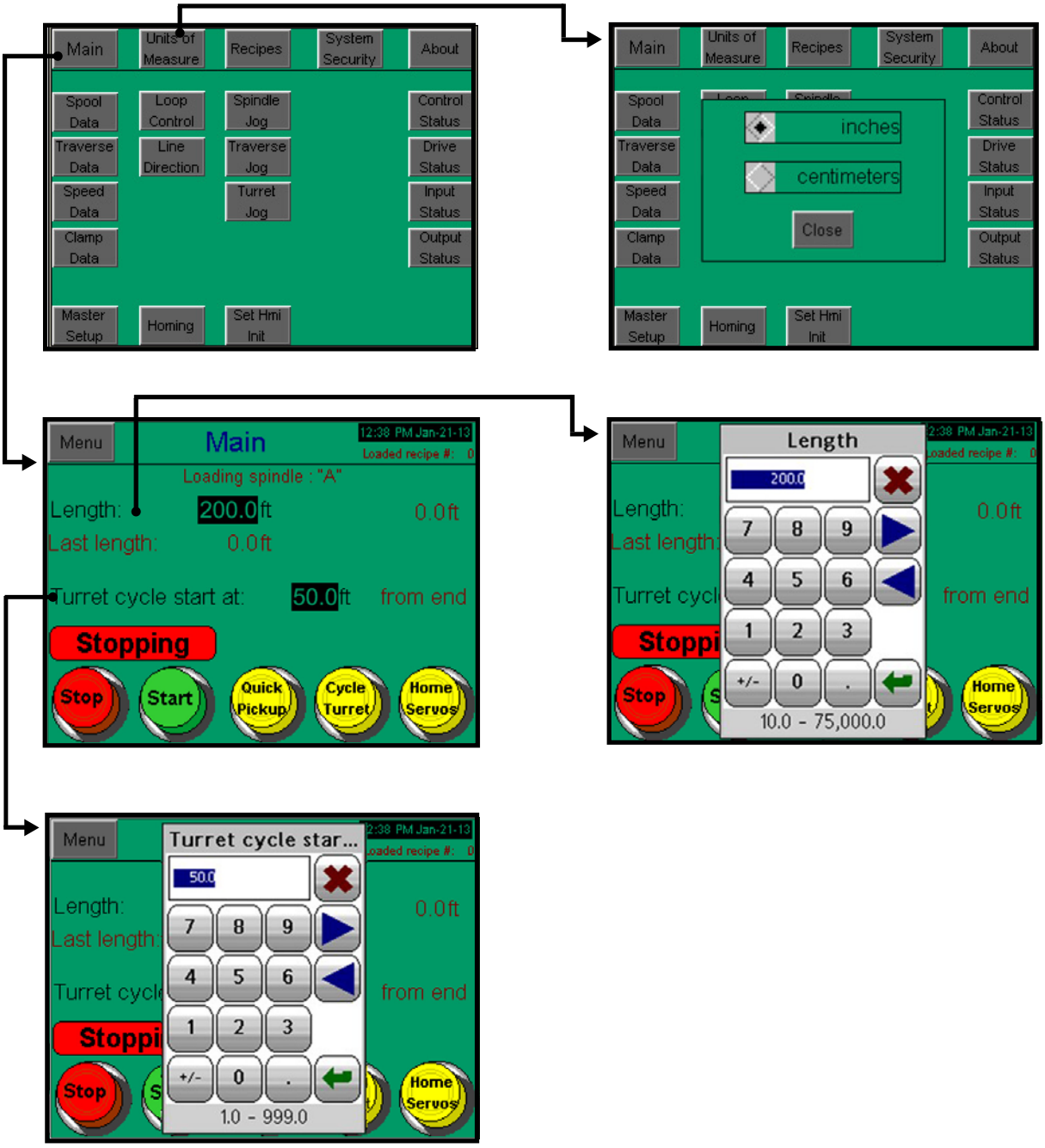
Control Status page: This page shows status information for the servo controller. Six controller programs are defined: Estop; Main; Manual; Auto; Wind; and Rotate. This page shows the status and currently executing line number for each program. This information is provided for troubleshooting purposes.

Drive Status page: This page allows access to the cutter servo drive module status. The information displayed on this page would be used to help troubleshoot problems encountered with the ATC.

Input Status page: This page allows access to the ATC servo control digital input status. The Input Status screen shows the On/Off status of the servo controller inputs. This information is only valid when the emergency stop circuit is reset. The information displayed on this page would be used to help troubleshoot problems encountered with the ATC.

Output Status page: This page allows access to the cutter servo control digital output status. The Output Status screen shows the On/Off status of the servo controller outputs. This information is only valid when the emergency stop circuit is reset. The information displayed on this page would be used to help troubleshoot problems encountered with the cutter.

The ATC Control Flow Charts



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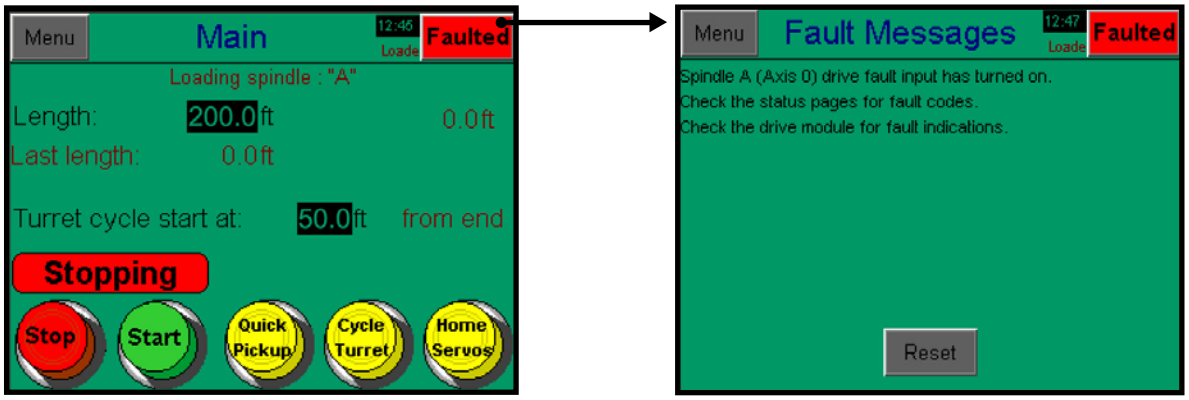
The ATC Control Flow Charts (continued)



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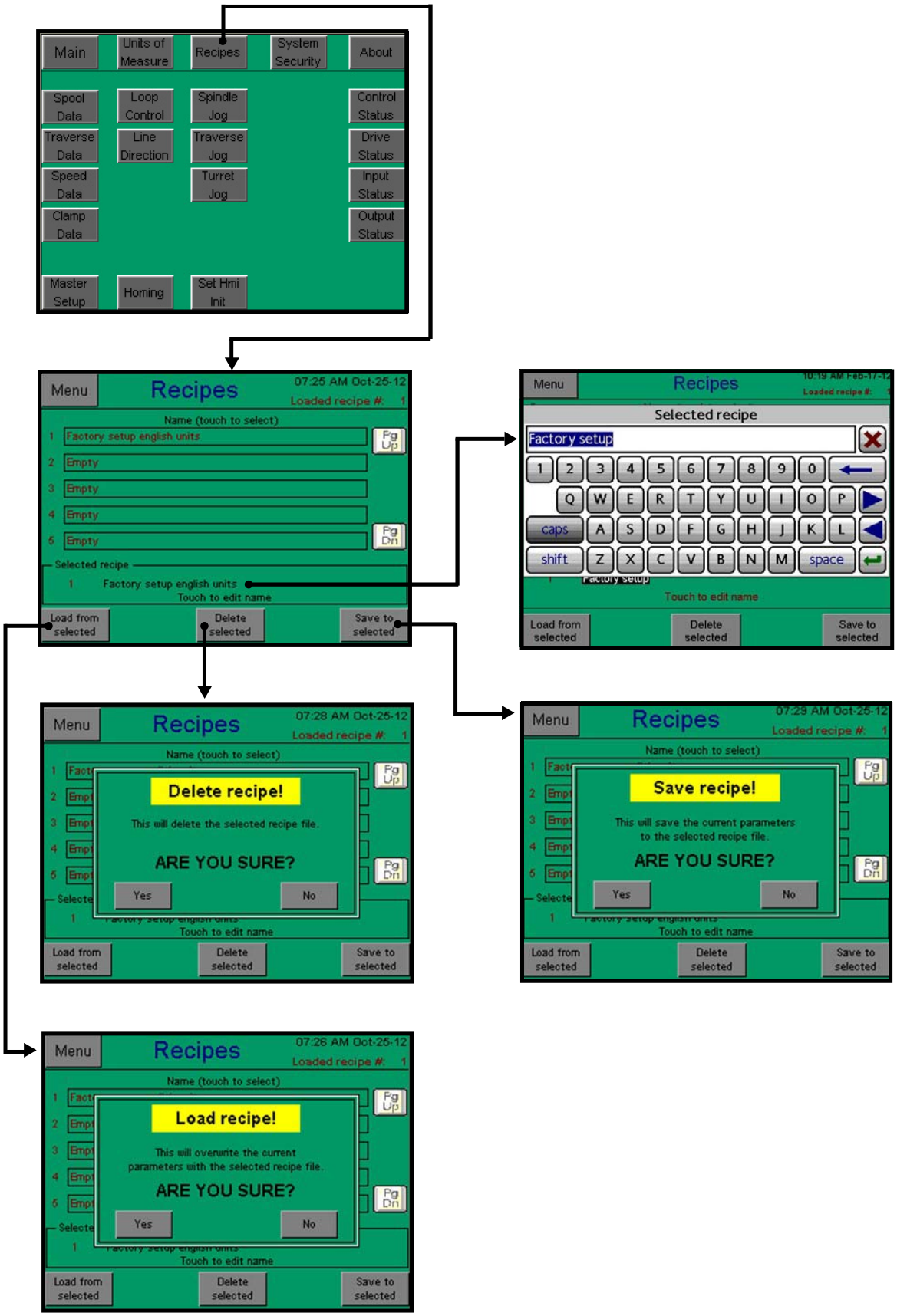
The ATC Control Flow Charts (continued)



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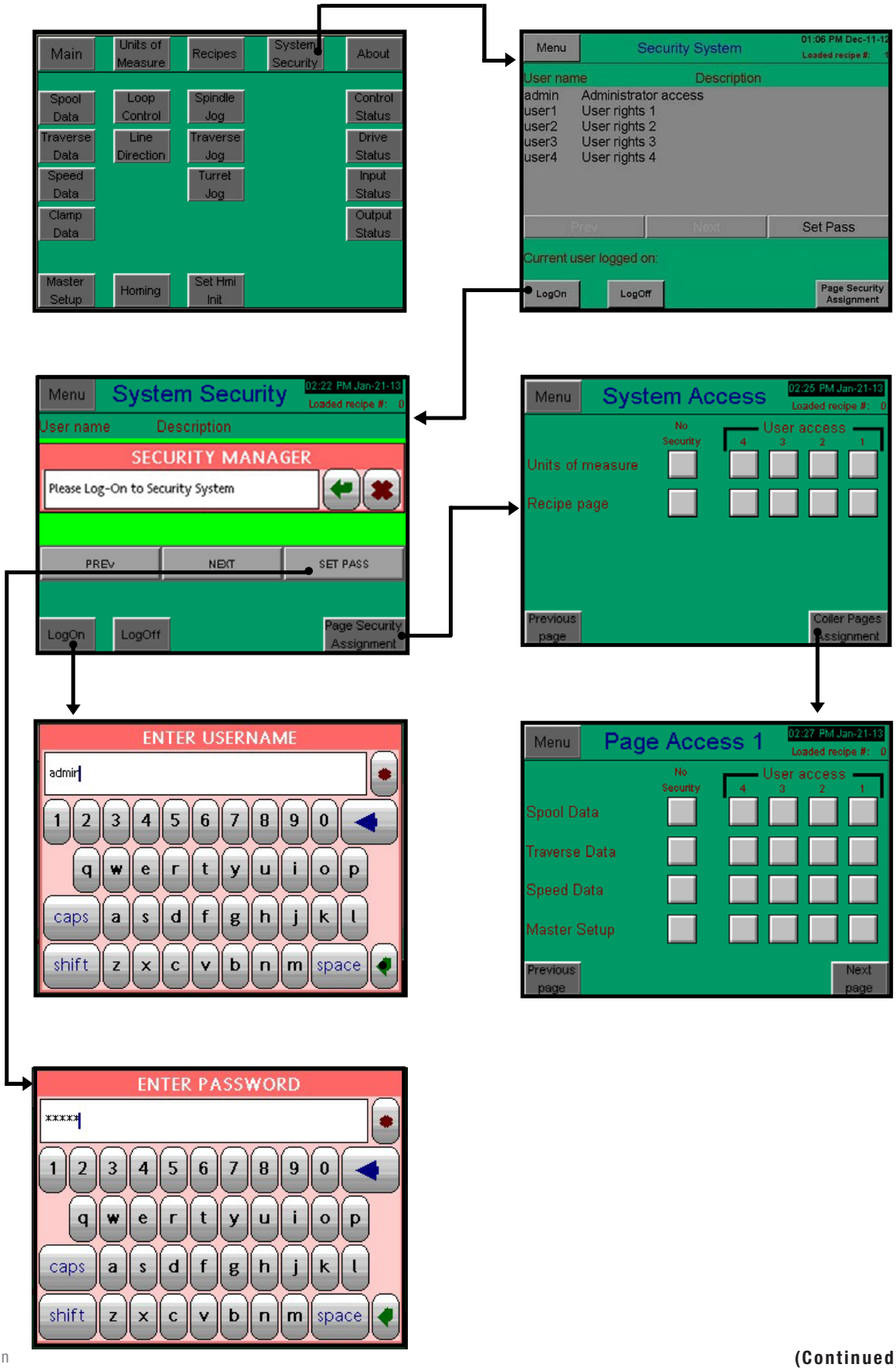
The ATC Control Flow Charts (continued)



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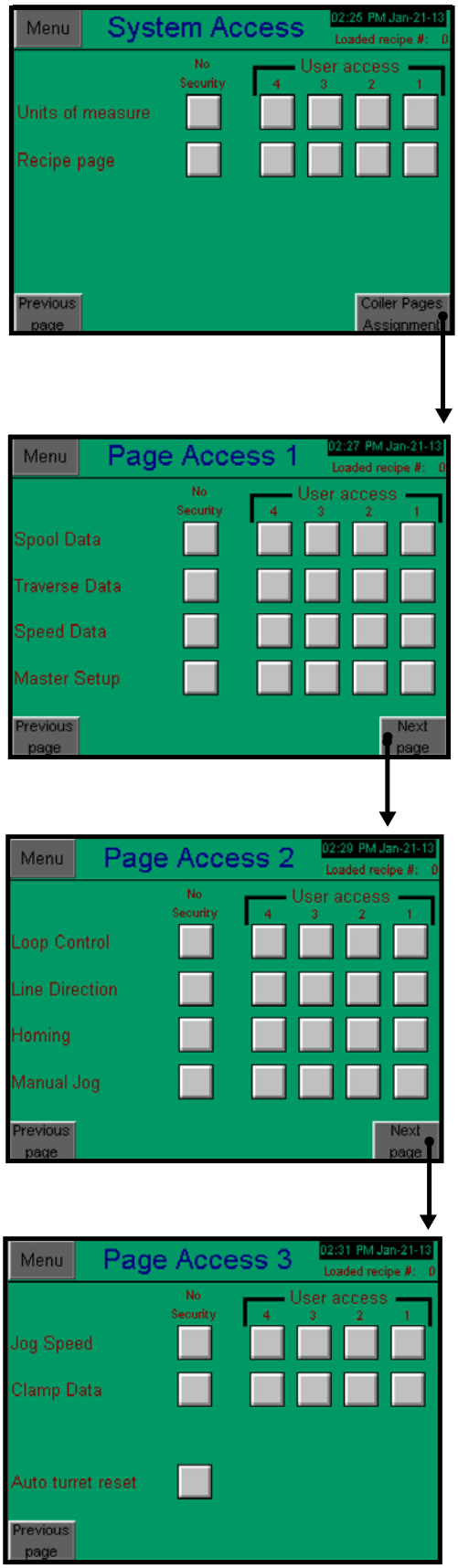
The ATC Control Flow Charts (continued)



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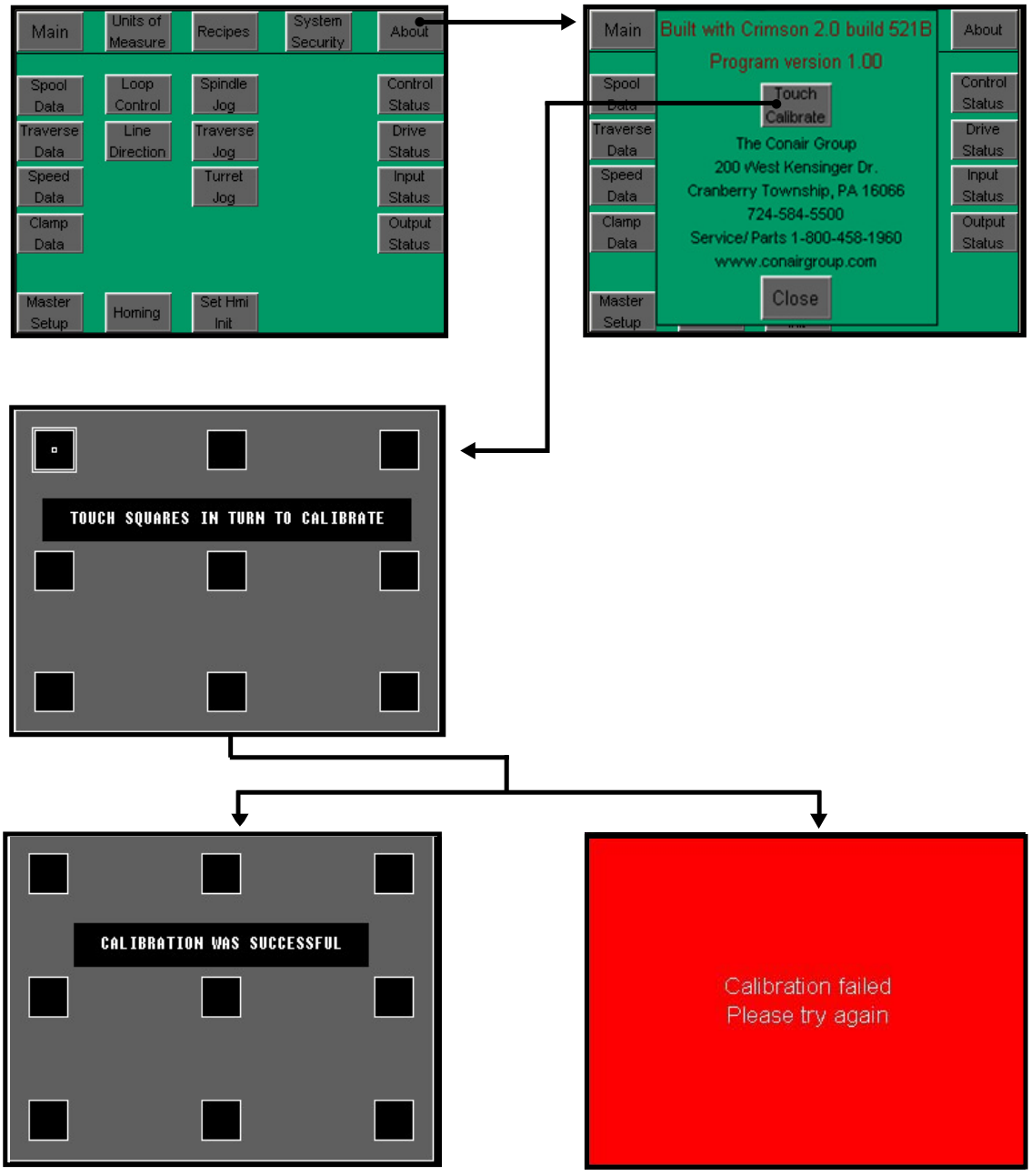
The ATC Control Flow Charts (continued)



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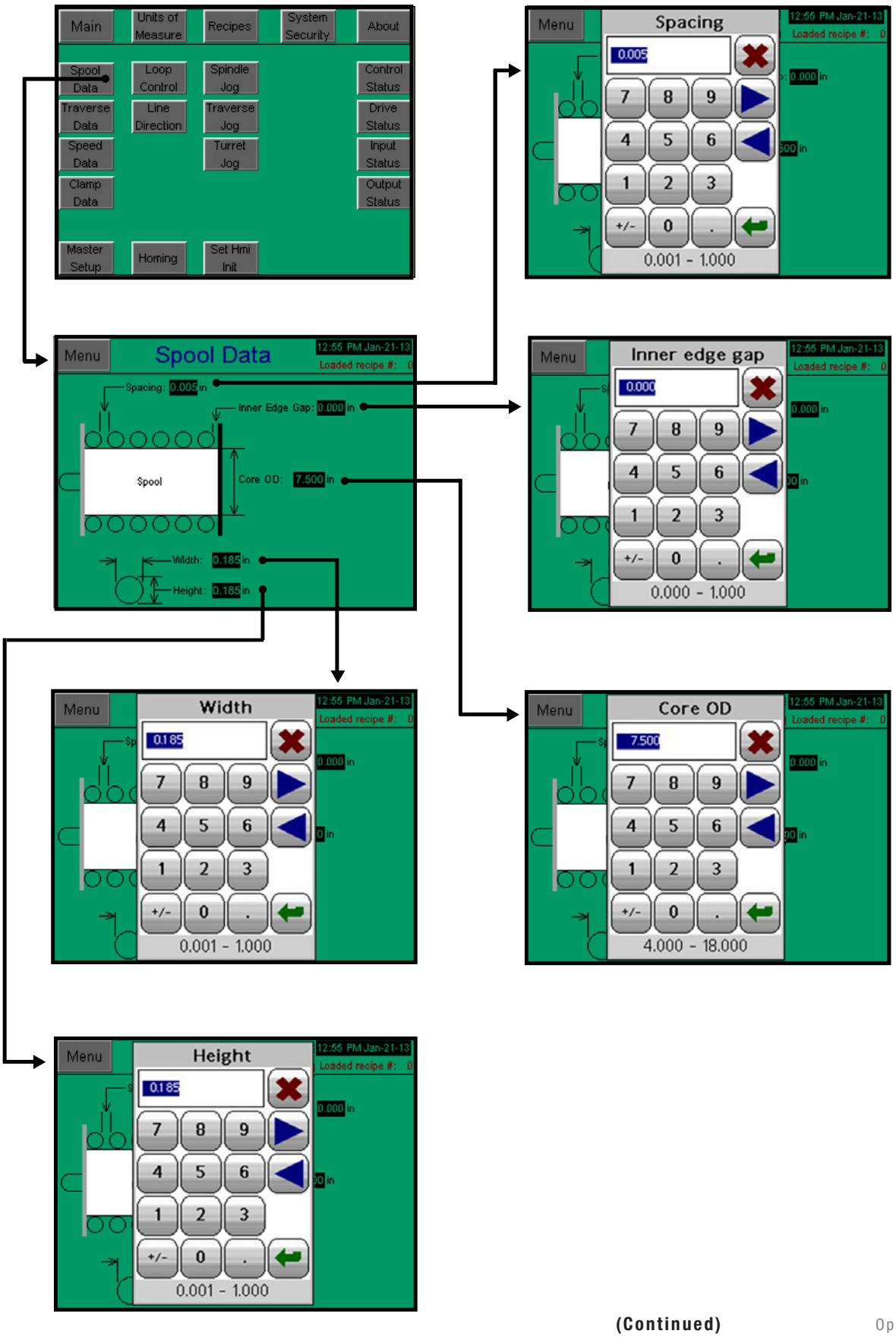
The ATC Control Flow Charts (continued)



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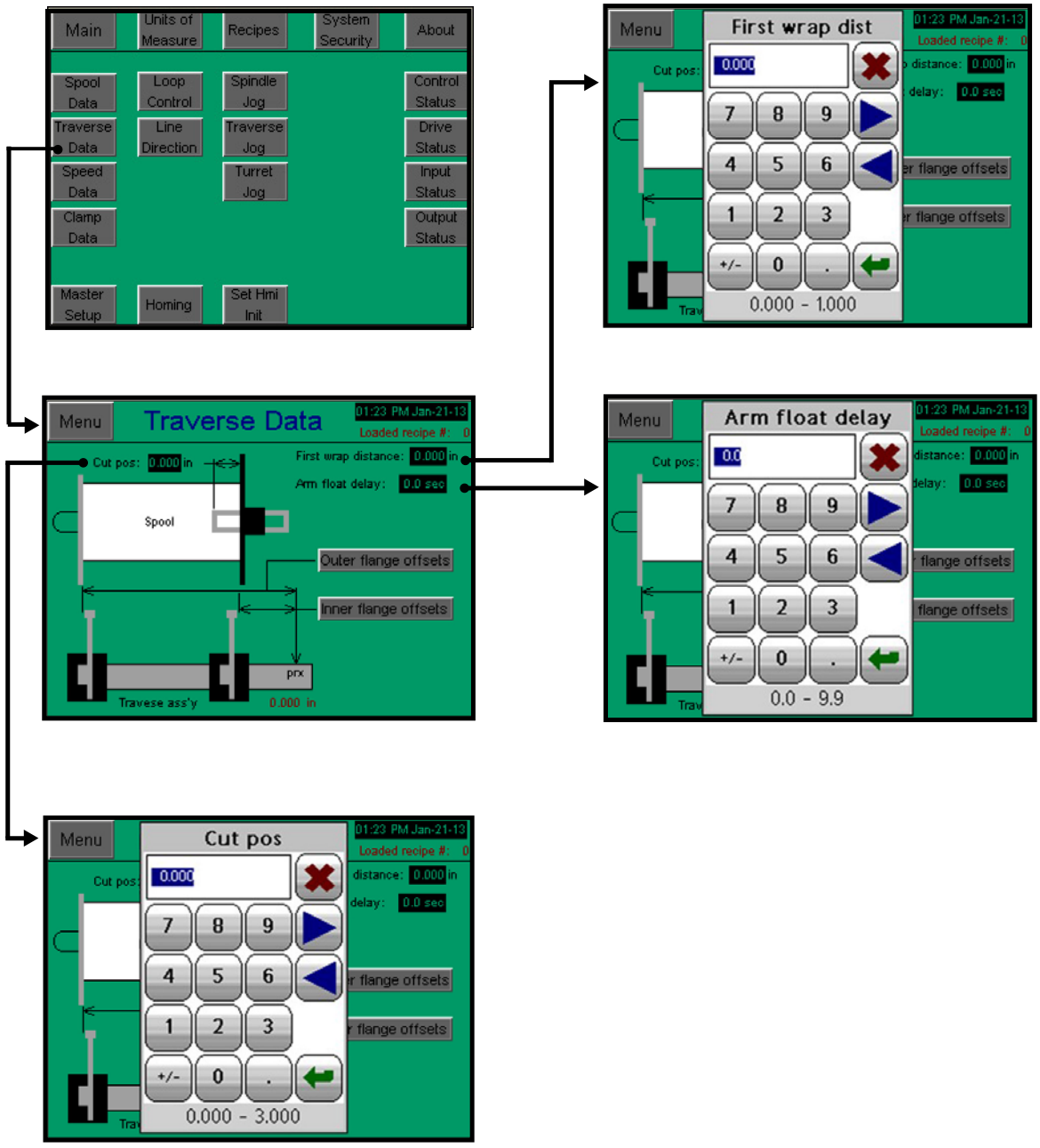
The ATC Control Flow Charts (continued)



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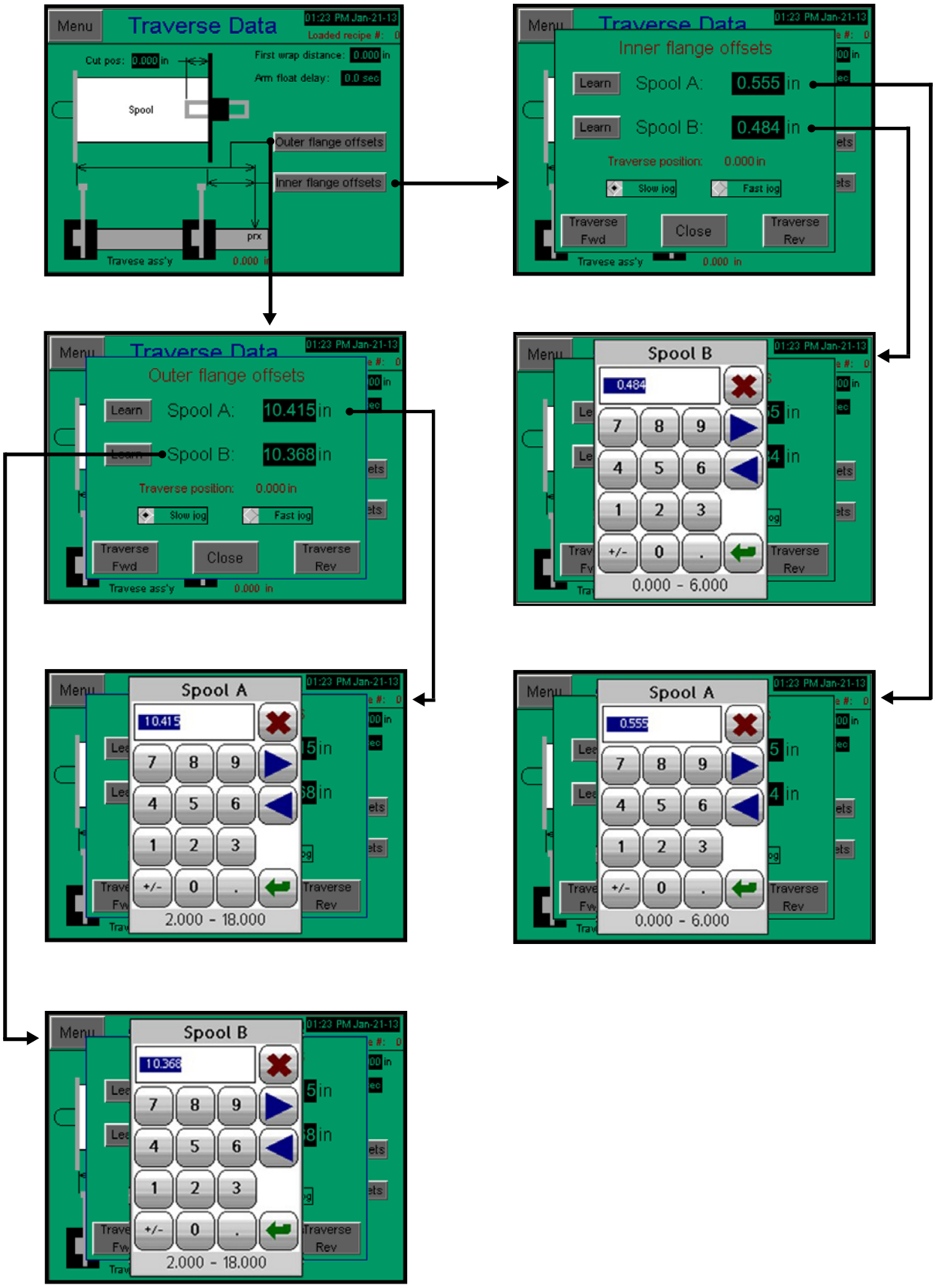
The ATC Control Flow Charts (continued)



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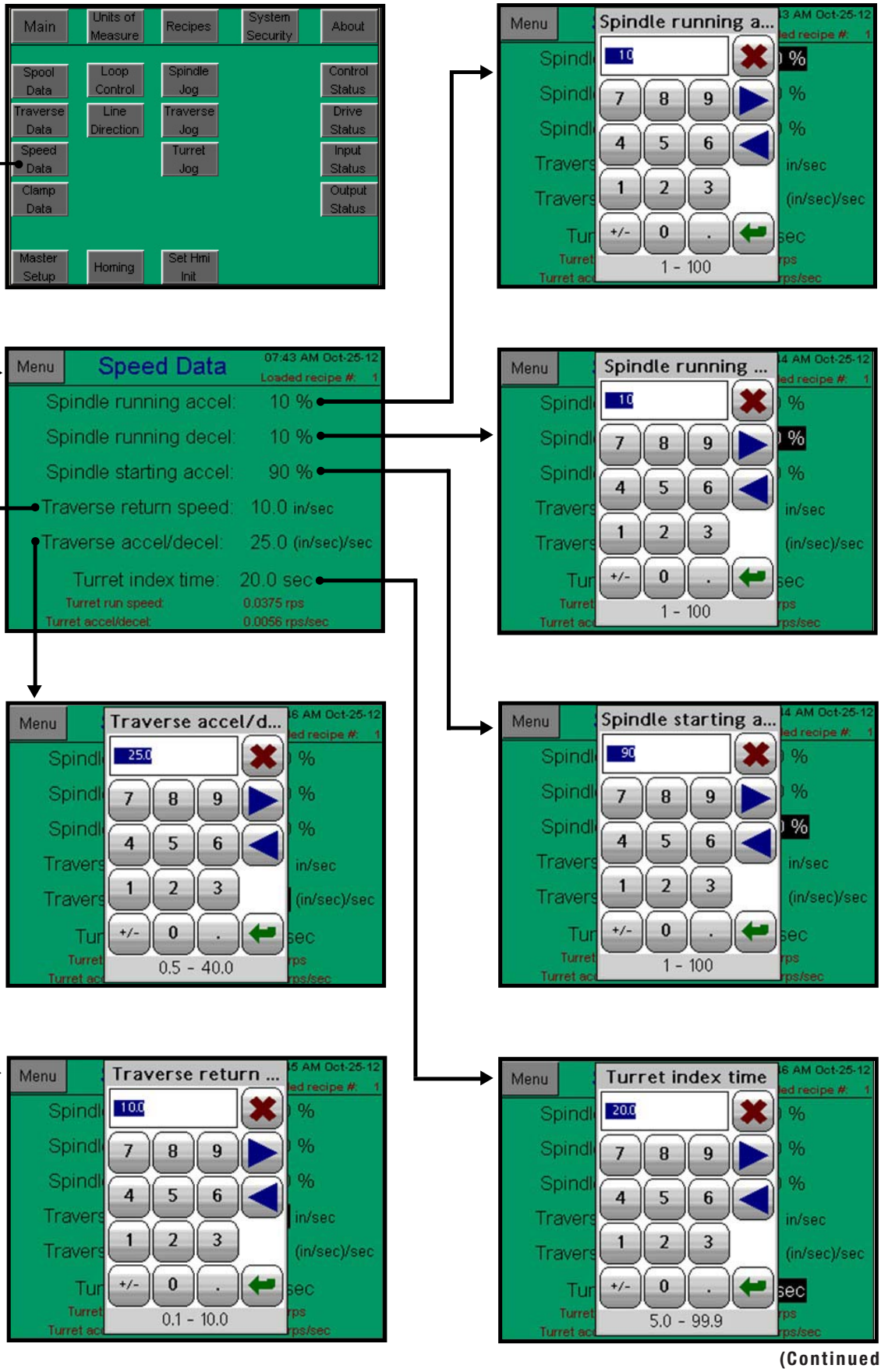
The ATC Control Flow Charts (continued)



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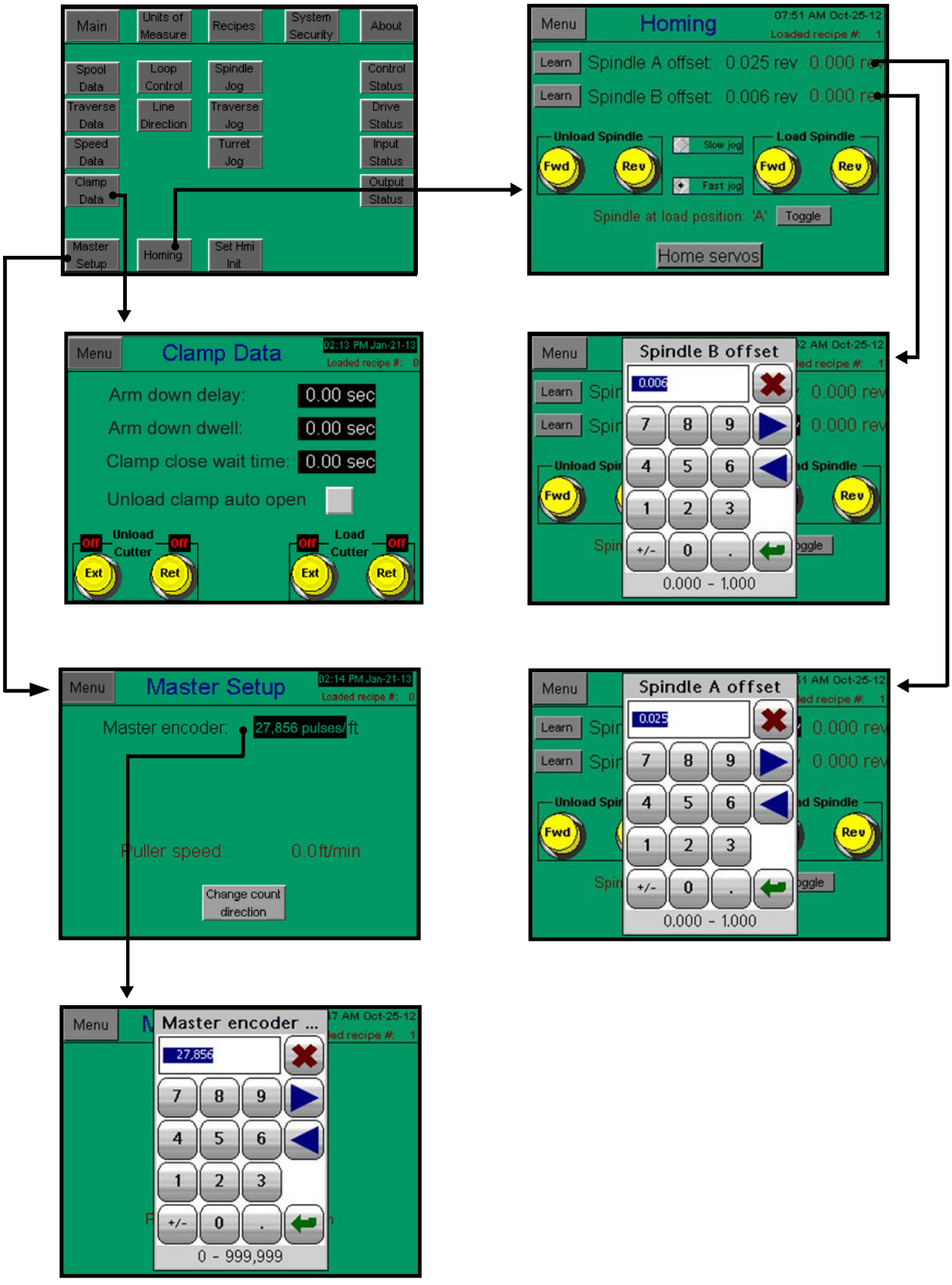
The ATC Control Flow Charts (continued)



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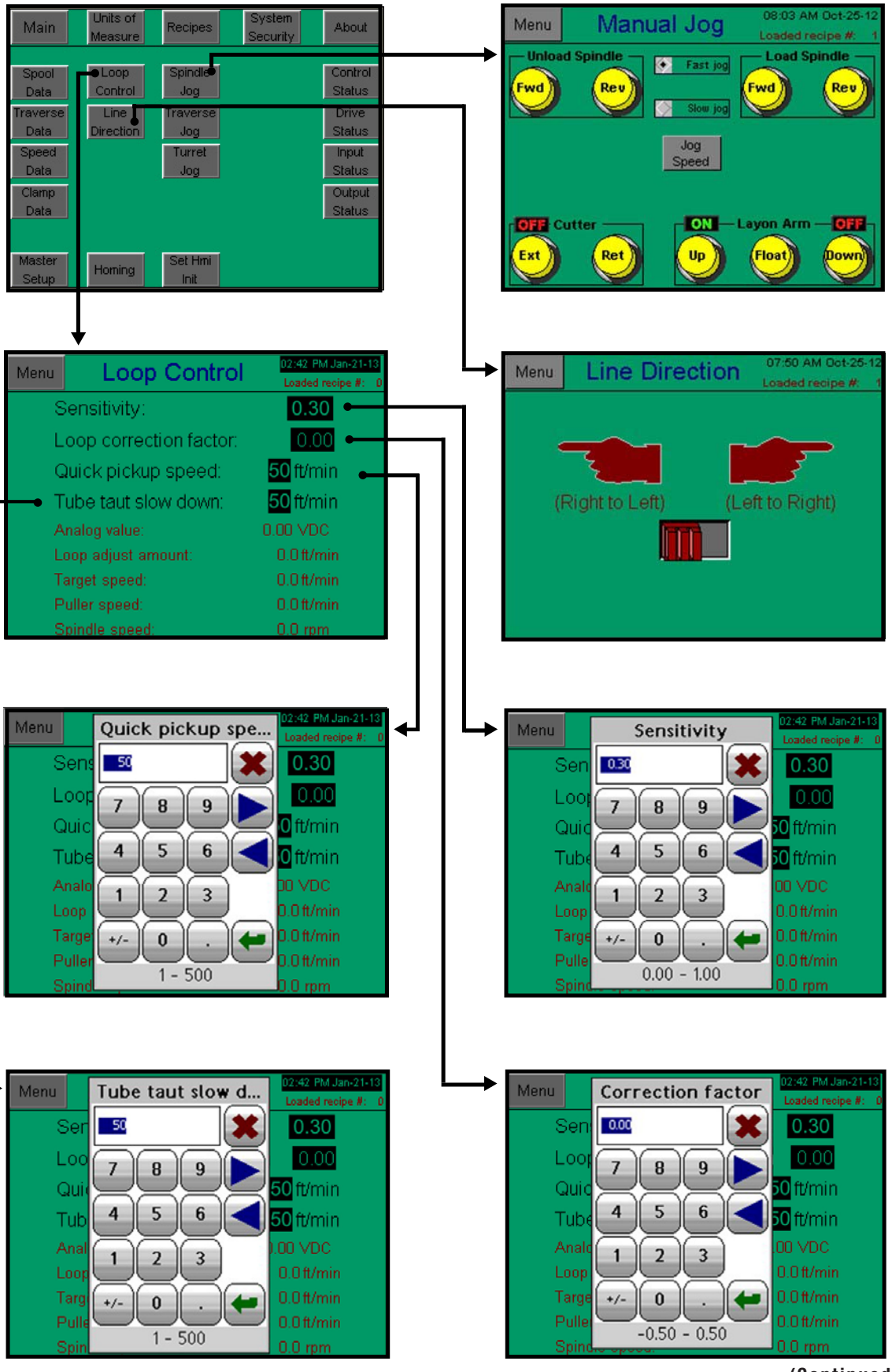
The ATC Control Flow Charts (continued)



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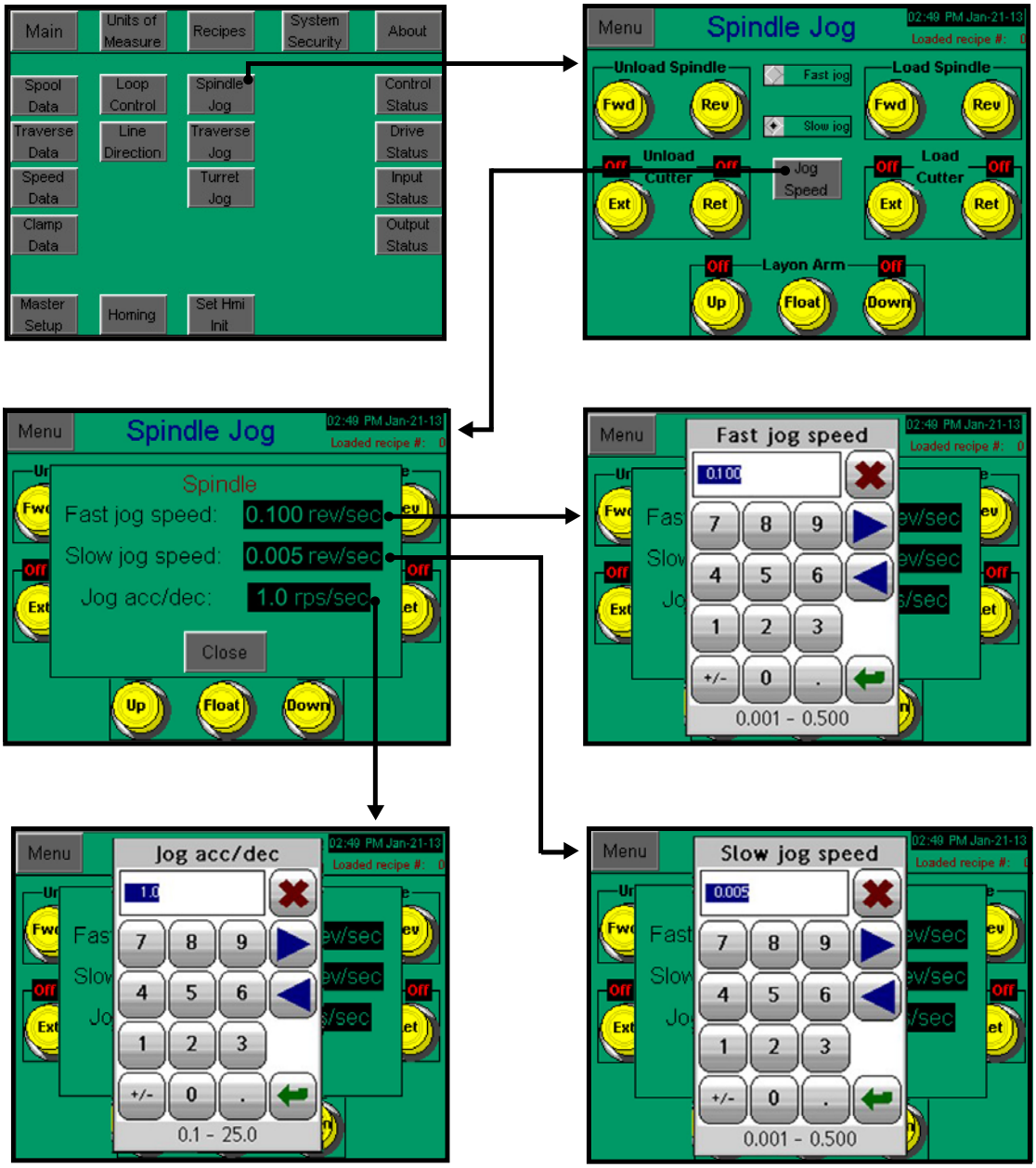
The ATC Control Flow Charts (continued)



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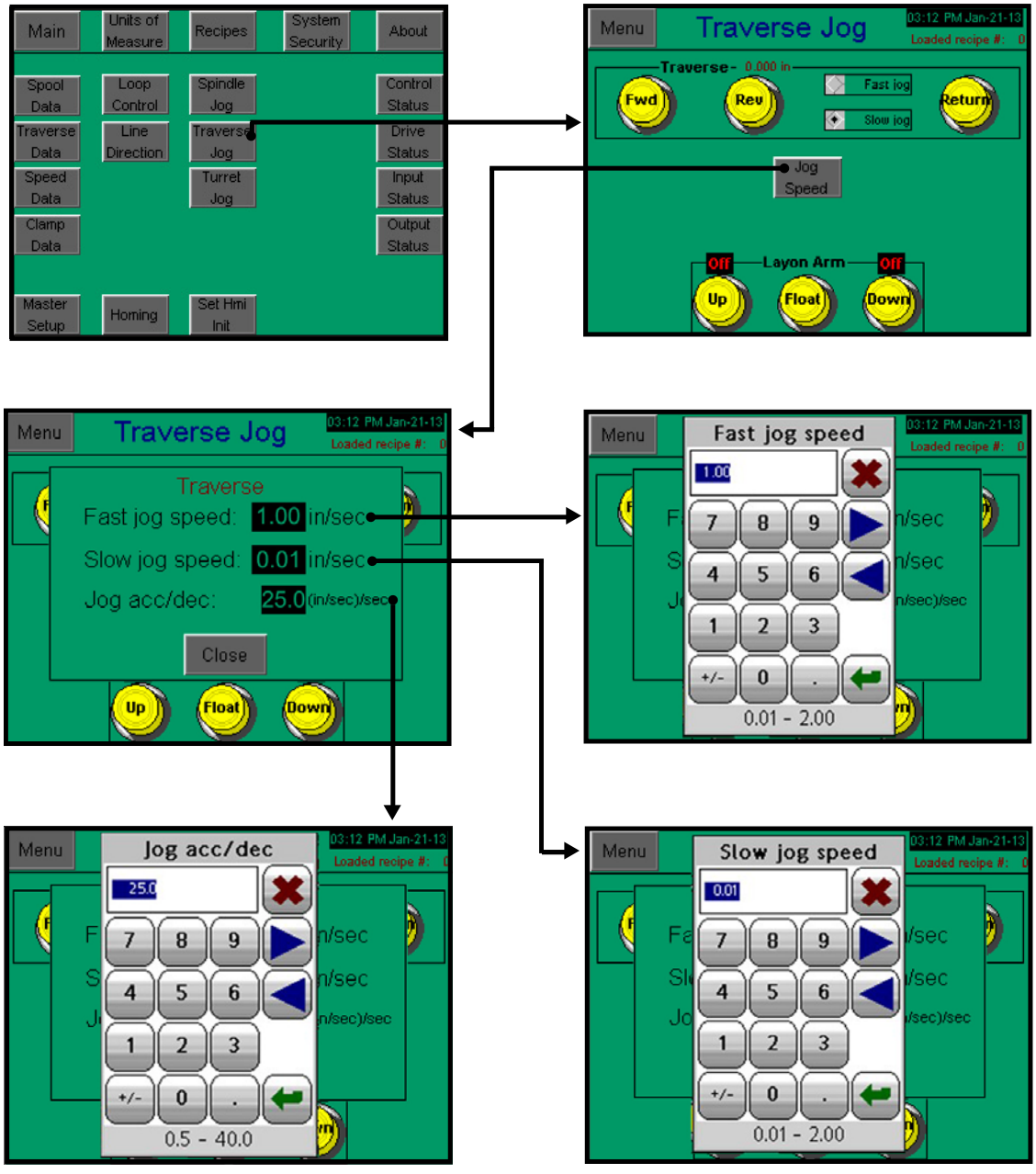
The ATC Control Flow Charts (continued)



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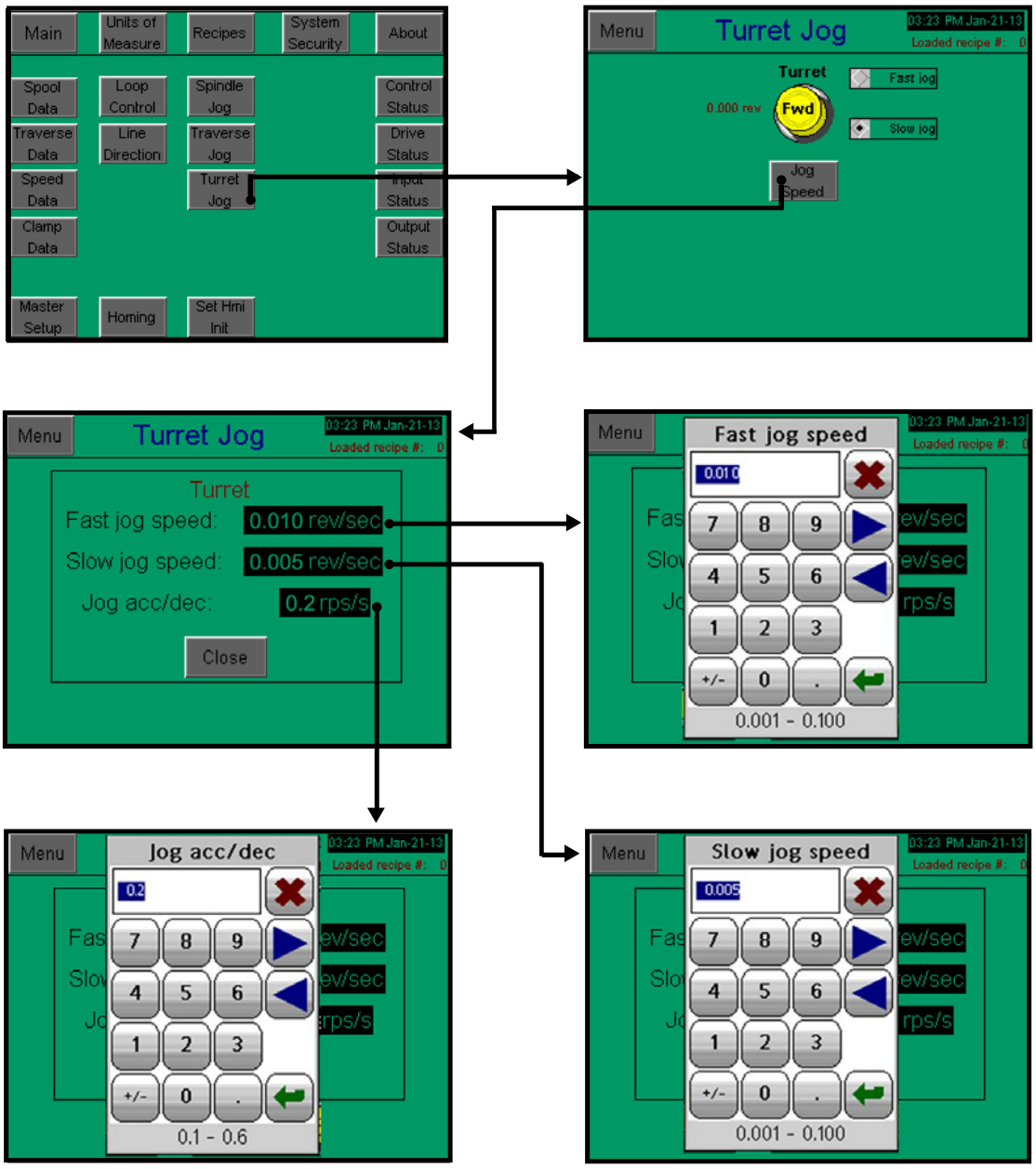
The ATC Control Flow Charts (continued)



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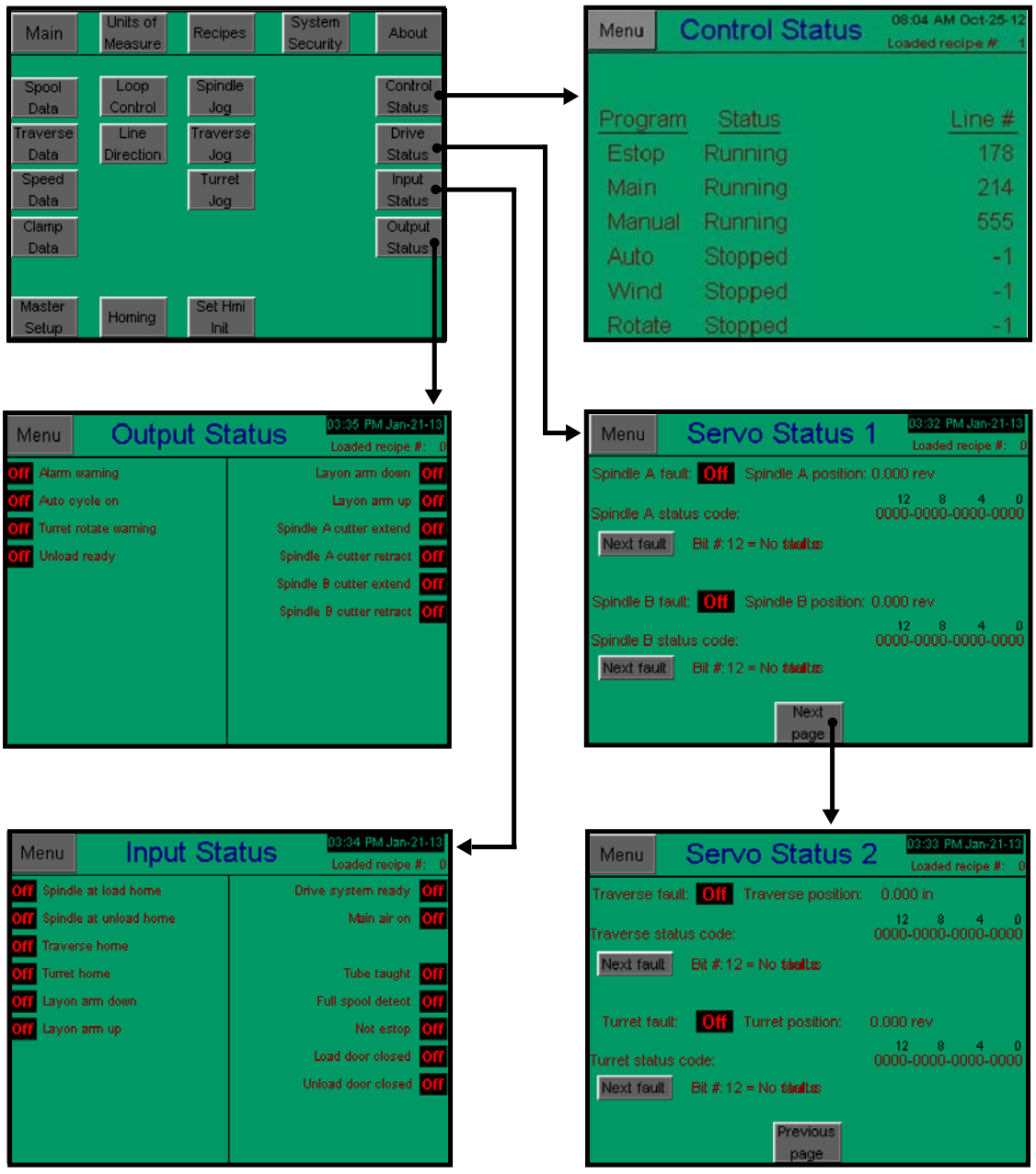
The ATC Control Flow Charts (continued)



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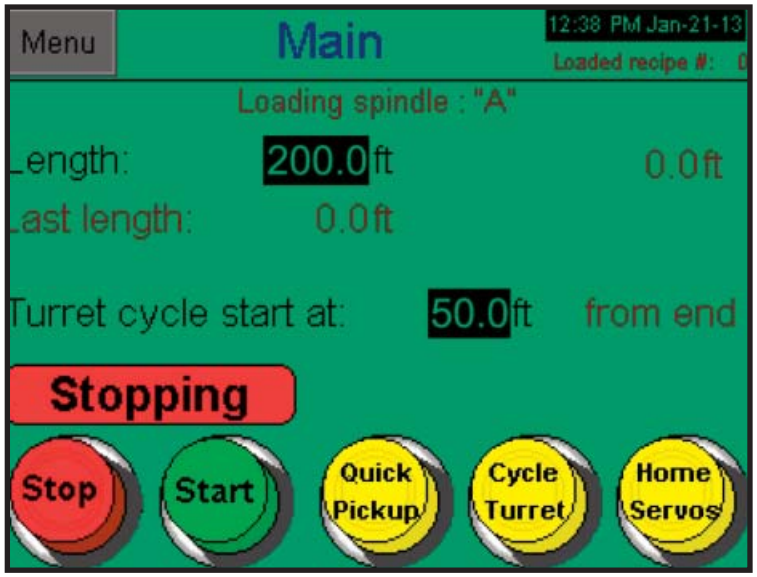
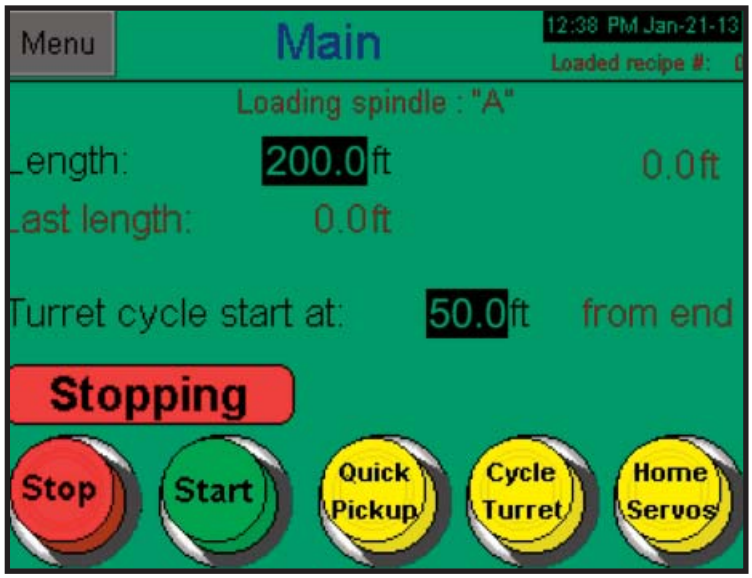
Control Function Descriptions



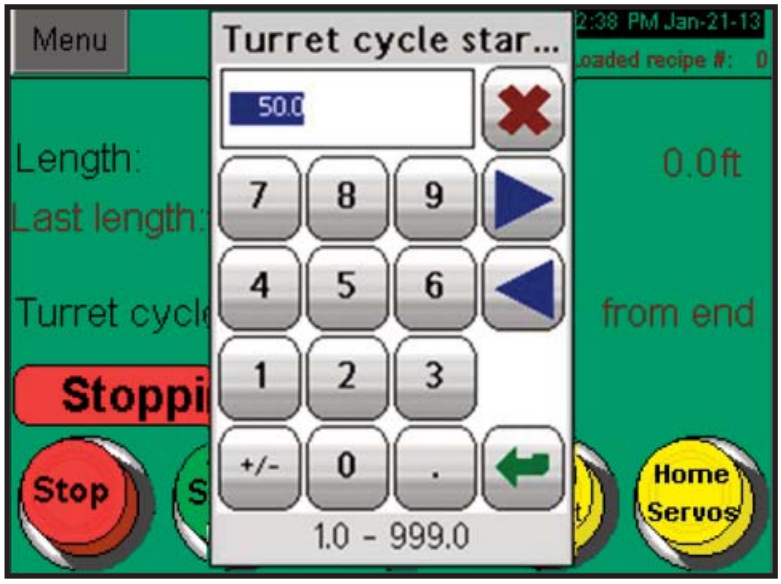
Main Page
The main page is displayed automatically upon power up after the system is done initializing. The main page is where most machine control functions are performed.



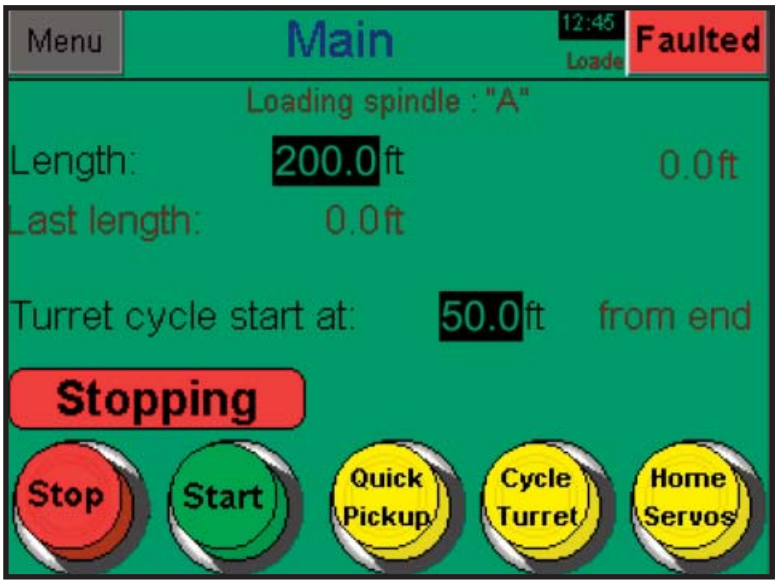
Main Length Entry
This parameter sets the desired spool length. The cut and transfer cycle will begin at this spool length. The data entry limits of this parameter are 1 to 25,000 ft {0.35 to 7,620 m}.

(Continued)

Control Function Descriptions (continued)



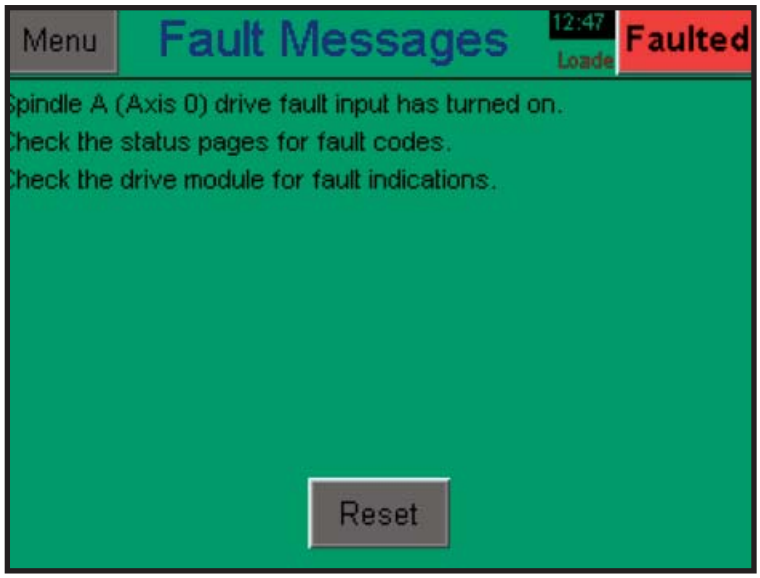
Main Turret Cycle Start Entry
This parameter sets the time when the turret cycle begins before the end of the spool is reached. This value is in feet before the end of the spool. The data entry limits of this parameter are 1 to 999 ft {0.35 to 304.5 m}.



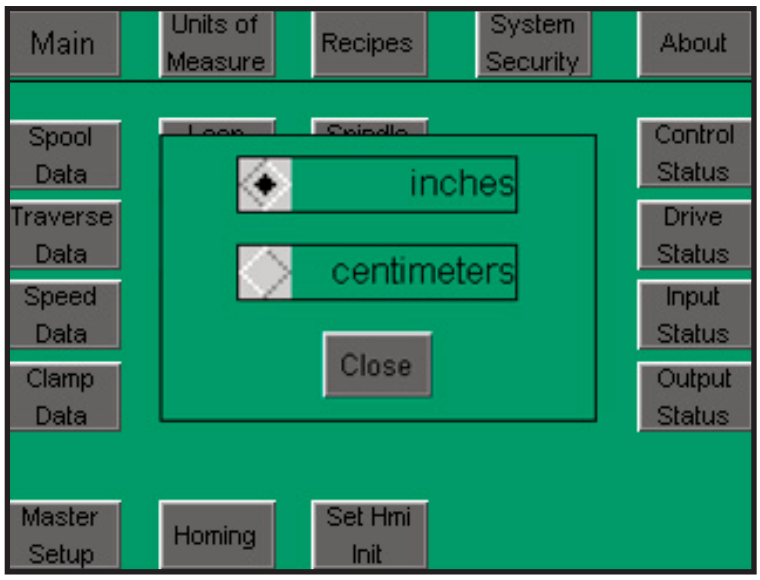
Main Fault Condition
This page shows the Main page after an E-Stop. Here, the ATC has faulted. Press the red "Faulted" button to obtain details of the fault.

(Continued)

Control Function Descriptions (continued)



Main Fault Messages
A fault indicator/button will appear in the upper right of the page if a machine fault occurs. Pressing this button will show the fault message pop-up box. The reset button will reset the fault as long as the condition that created the fault is corrected. When the fault is reset, the fault indicator will disappear.



Units of Measure
From the Main Menu screen, the units can be changed from Empirical to Metric. 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). Push the close button to return to the Main Menu.

(Continued)

Control Function Descriptions (continued)

Recipes

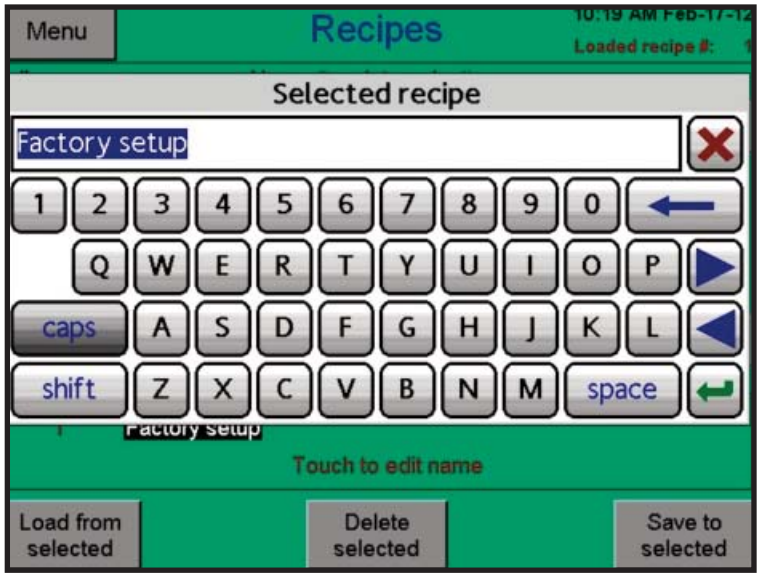
The recipe page allows access to the recipe storage/retrieval system. Up to 100 recipe files are available and are numbered 1 through 100. Each recipe file can be given a name up to 40 characters. Five recipe file numbers/names are displayed at once. To view other recipe file names touch the "Pg Up"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

Recipe Load from Selected

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

(Continued)

Control Function Descriptions (continued)



Recipe Touch to Rename

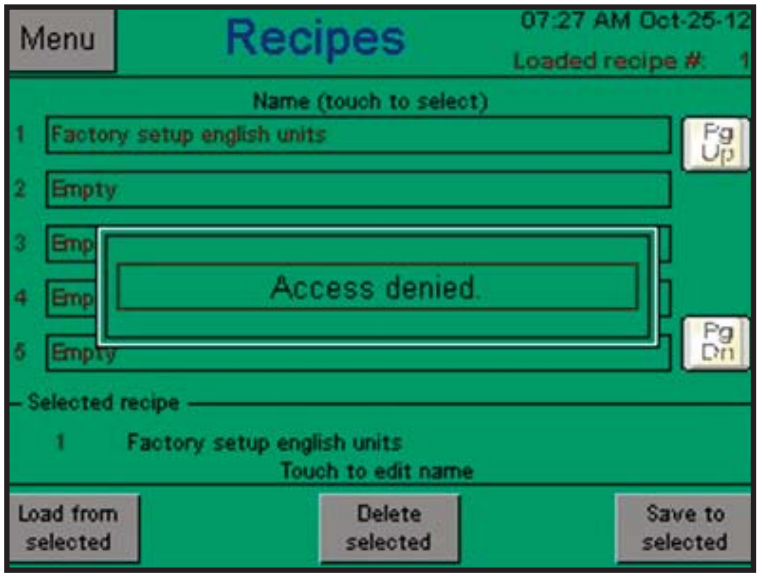
The "Selected Recipe" key pad can be used to assign or change the name of a recipe. Recipe names are limited to 40 characters.

Recipe Delete Selected

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.

(Continued)

Control Function Descriptions (continued)



Recipe Delete Access Denied

The Recipe Delete "Access denied" pop-up will appear if the user tries to delete a recipe without the proper authority (password access). To correct this situation, log in as a user with proper authority.

Recipe Save to Selected

Individual recipes can be saved using this pop-up screen. Up to 99 different recipes can be saved. A saved recipe will collect all set points of the current ATC when it is saved. Recipes can be saved at any time. Recipes can only be loaded when the machine is in the stopped condition. This function will save the active parameters to the selected recipe file.

(Continued)

Control Function Descriptions (continued)

Security System

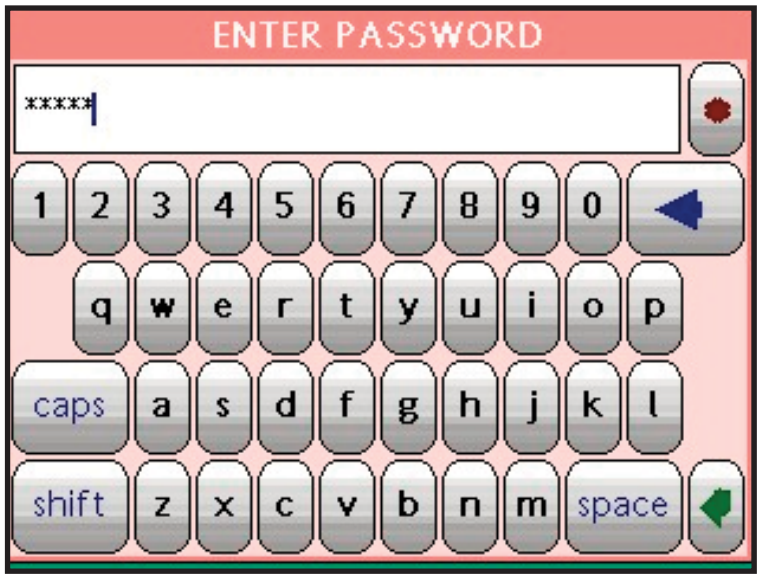
The System Security screen is used to create a password for a user and to "LogOn" to and "LogOff" of the system. There are five different user choices. The "Set Pass" button takes the user to the Security Manager screen where the password is assigned. Once the password has been assigned, the "LogOn" and LogOff" buttons can be used to access the system. Setting the accessibility of each user to the various pages can be done by pushing the Page Security Assignment.

Security System Logon

The Security Manager pop-up allows the user to assign a password and user access level for the user. The admin has the clearance to change all passwords by selecting the Set Pass button.

(Continued)

Security Enter Username
The Enter "UserName" Key Pad pop-up allows the user to enter the user name.



Security Enter Password
The Enter Password Key Pad pop-up allows the user to enter the user's password.

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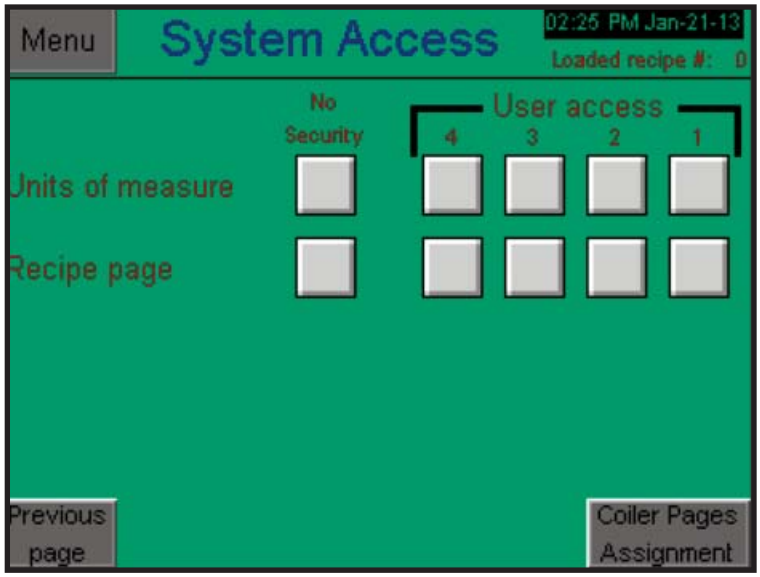
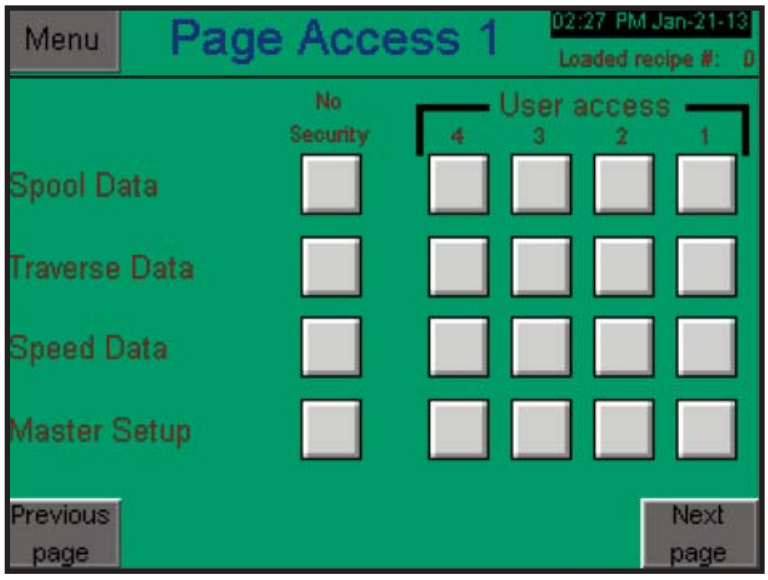
Control Function Descriptions (continued)

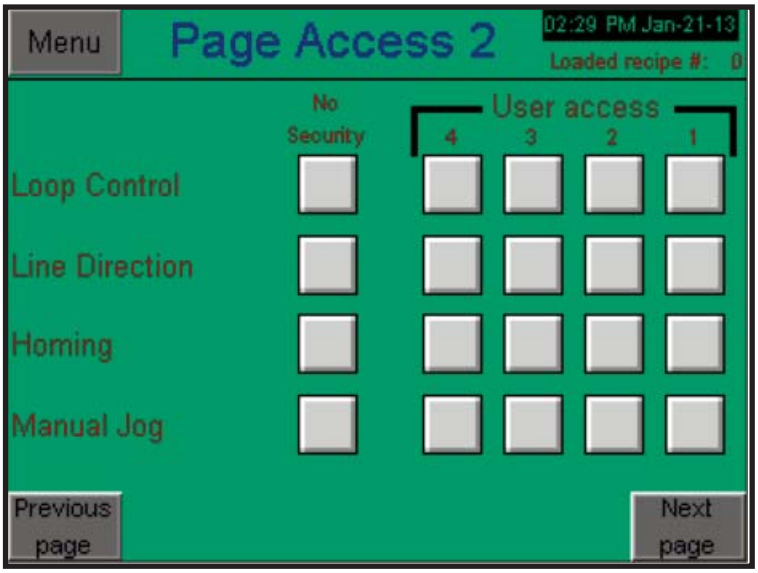


System Security Access
The System Access screen is used to give access to the Units of Measure and Recipe Page functions. Access can be granted as "No Security" or to specific users.

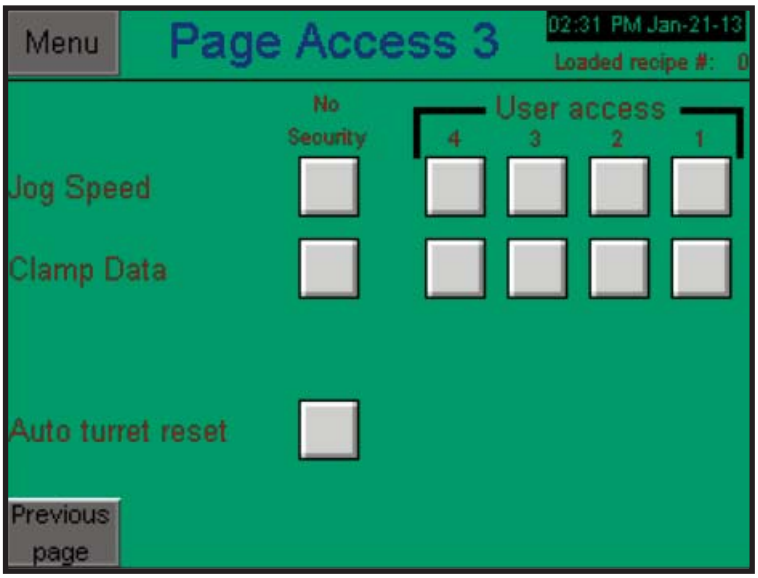


Page Access 1
The Page Access 1 screen is used to give access to the Spool Data, Traverse Data, Speed Data, and Master Setup functions. Access can be granted as "No Security" or to specific users.

(Continued)



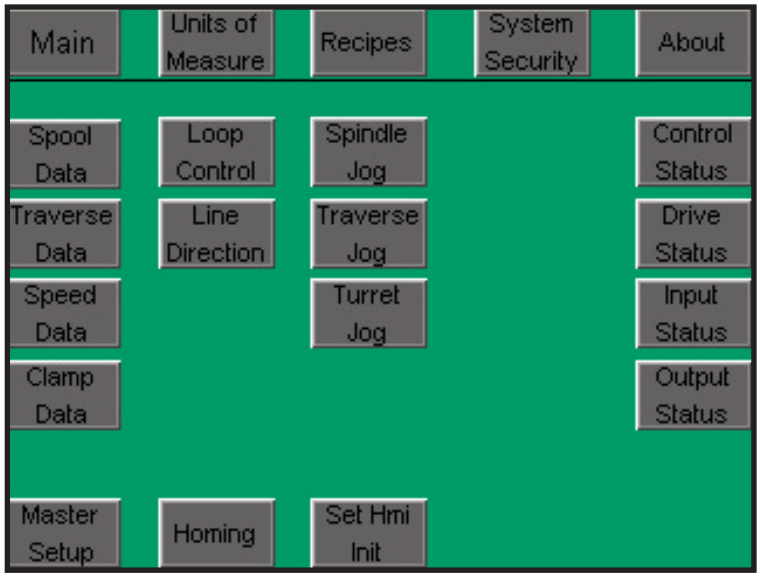
Page Access 2
The Page Access 2 screen is used to give access to the Loop Control, Line Direction, Homing, and Manual Jog functions. Access can be granted as "No Security" or to specific users.



Page Access 3
The Page Access 3 screen is used to give access to the Jog Speed and Clamp Data functions. Access can be granted as "No Security" or to specific users. It is also used to give access to the Auto Turret Reset function ("No Security" only).

(Continued)

Control Function Descriptions (continued)



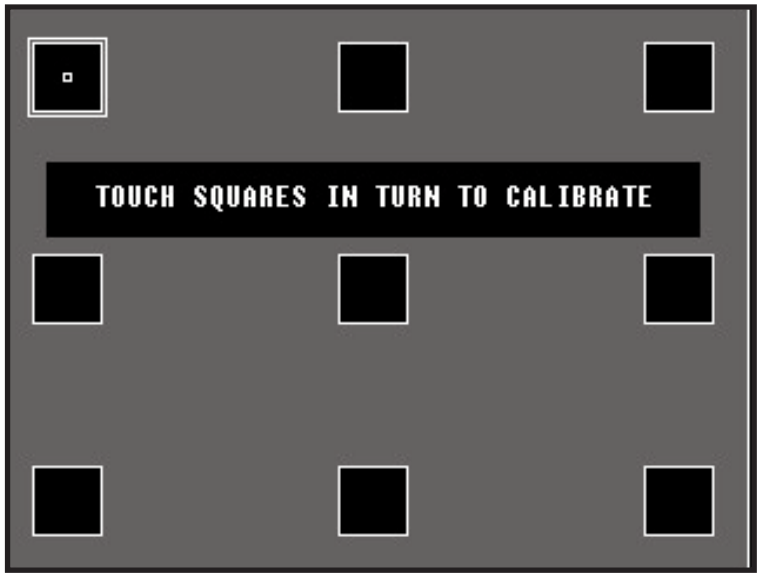
Menu

This is the general menu screen. This screen is pulled up when the menu button is pushed at the lower left corner of the HMI or on the top left corner of the Main Control screen. This gives you access to most of the HMI screens.

About

This page displays the version information of the Crimson programming software used to create the HMI pages. It also displays Conair's contact information. Touchscreen calibration is accessed from this page by pushing the Touch Calibrate button.

(Continued)

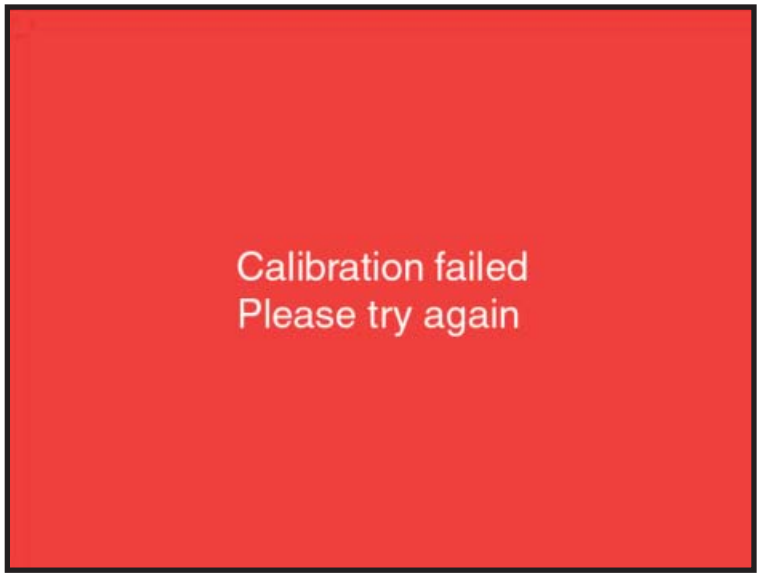


Touch Calibrate
The squares highlight one at a time. Once all nine squares have been touched in the order highlighted, calibration will be complete. If Calibration fails, a red warning message will appear; otherwise a Calibration Success message will be seen.

Touch Calibrate Successful
The "Calibration Was Successful" message will appear if the calibration process was successful.

(Continued)

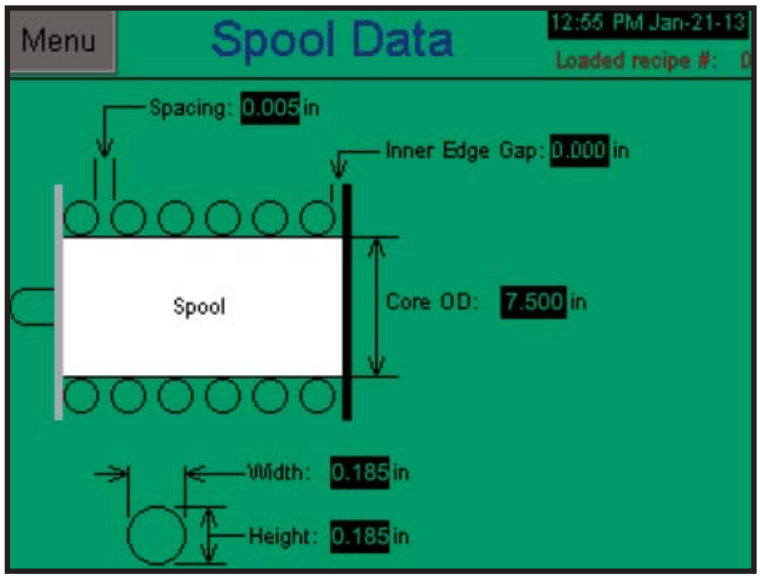
Control Function Descriptions (continued)



Touch Calibrate Failed

The "Calibration failed. Please try again" message will appear if the calibration process failed. If the calibration process failed, repeat the calibration process. If calibration fails again, try cleaning the HMI sreen. If calibration continues to fail, contact Conair Service.

Contact Conair Service
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

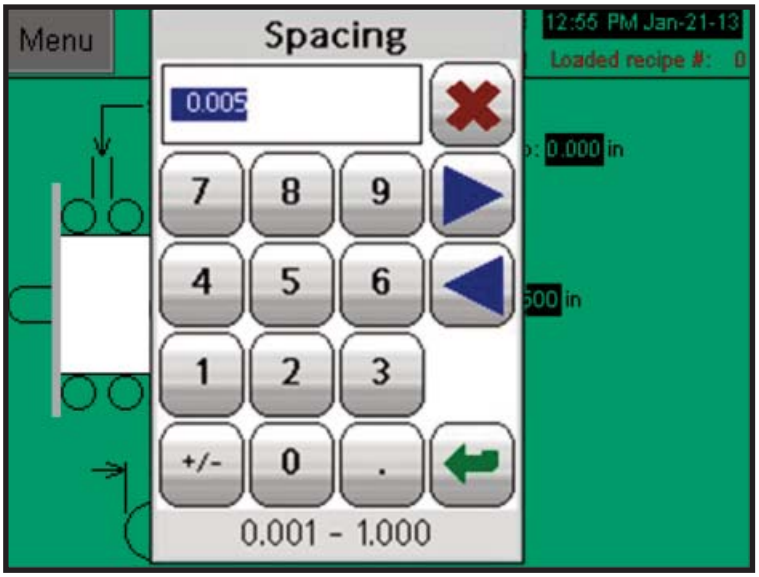


Spool Data

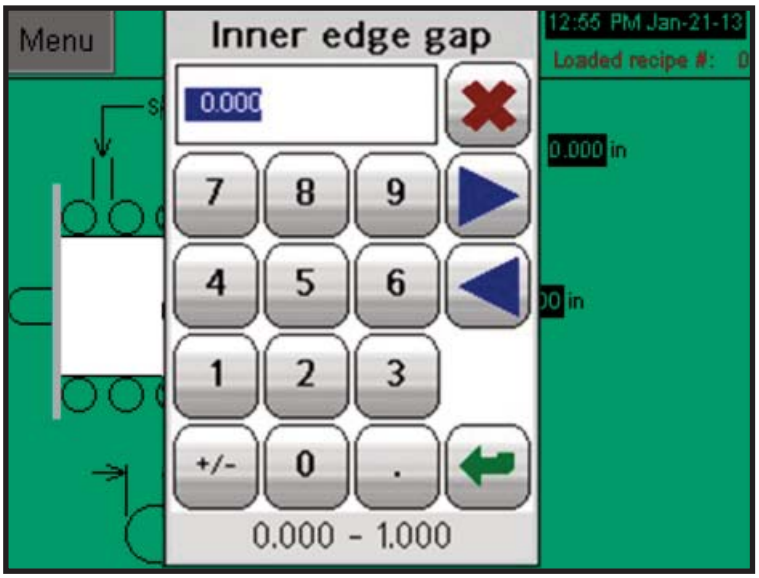
The Spool Data screen provides access to the parameters that affect the operation of the spool. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

(Continued)

Control Function Descriptions (continued)



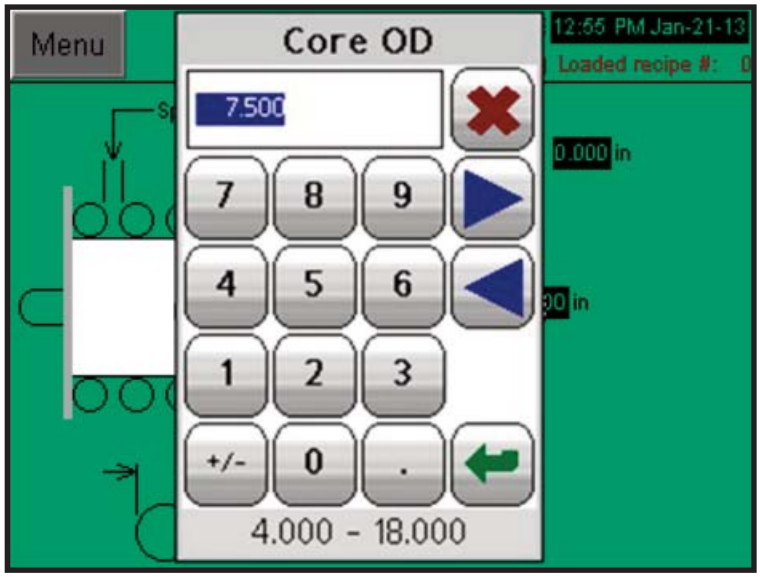
Spool Data Spacing Data Entry
This is the gap to add between each wrap. Different resins/products may need different gapping due to tackiness of the material. Tackier material needs a wider gap so that the product lays down on the spool and does not stack up on the previous wrap. Use the number pad pop-up to enter the desired spacing value. The range can be between 0.001 and 1.000 in. {0.0254 and 25.40 mm}.



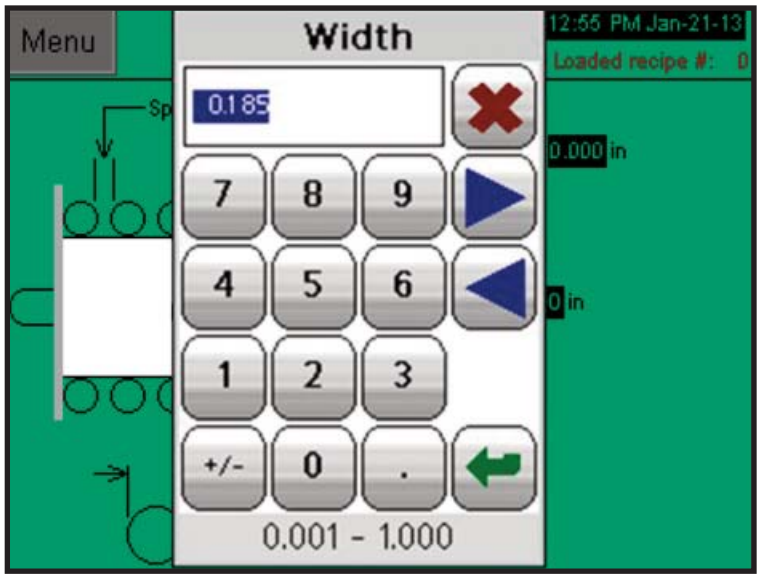
Spool Data Inner Edge Gap Data Entry
This is the distance from the inner flange that the traverse will coil to. This value is used to inhibit the lay-on arm from returning all the way back to the inner edge. The product will wrap from here to the outer edge and there will be a gap. The range can be between 0.000 and 1.000 in. {0.0 and 25.40 mm}.

(Continued)

Control Function Descriptions (continued)



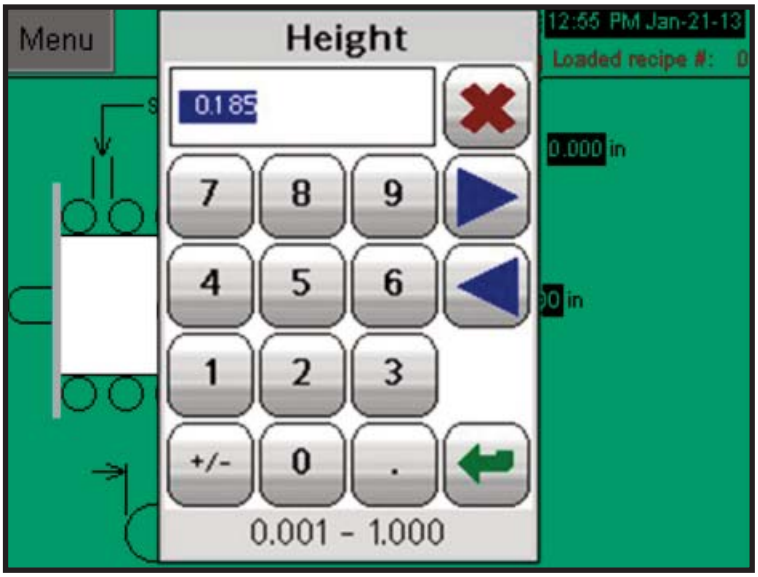
Spool Data Inner Core OD Data Entry
This parameter sets the outside diameter of the spool core. It is used in a calculation that sets the winding speed of the spindle. The data entry limits of this parameter are 4.000 to 18.000 in. {101.60 to 457.20 mm}.



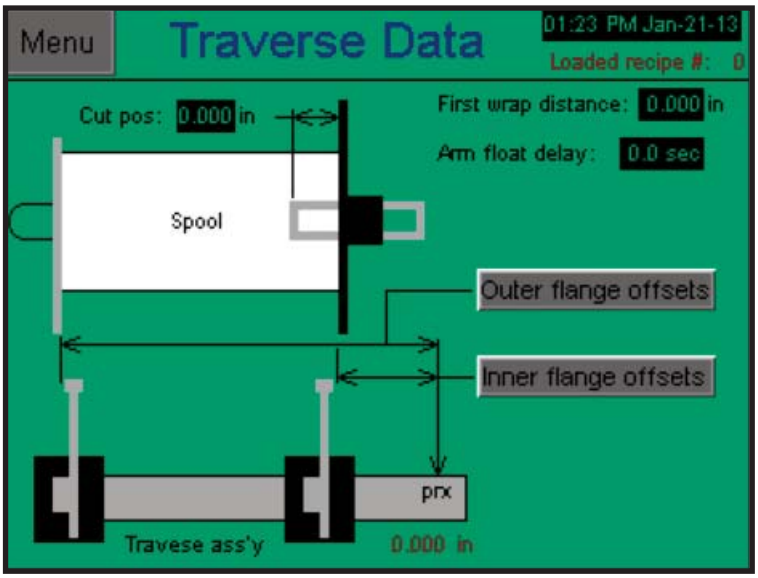
Spool Data Width Data Entry
This parameter sets the width of the product or diameter of the tube. The coiler can coil both tubing and profiles. It is used in a calculation that sets the maximum travel of the traverse. The data entry limits of this parameter are 0.001 to 1.000 in. {0.0254 and 25.40 mm}.

(Continued)

Control Function Descriptions (continued)



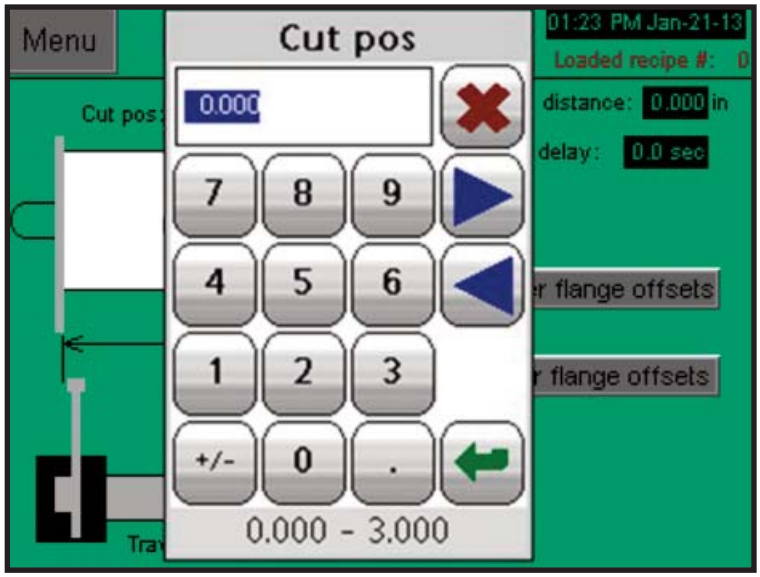
Spool Data Height Data Entry
This parameter sets the product height or diameter of the tube that is being coiled. It is used in a calculation that sets the winding speed of the spindle. The data entry limits of this parameter are 0.001 to 1.000 in. {0.0254 and 25.40 mm}.



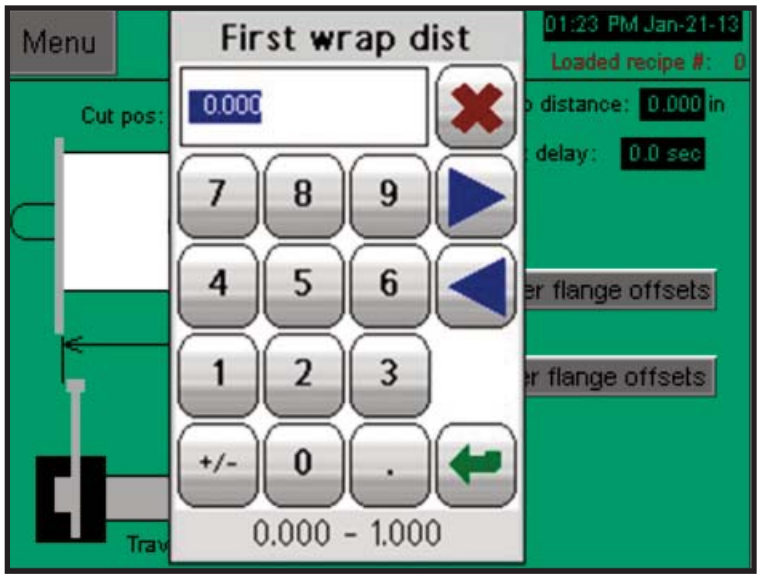
Traverse Data
The Traverse Data screen provides access to the parameters that affect the traverse operation. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

(Continued)

Control Function Descriptions (continued)



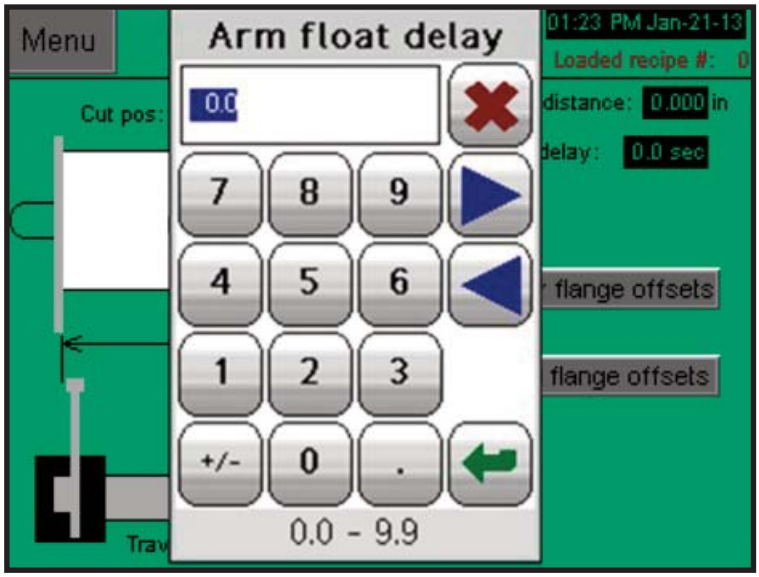
Traverse Data Cut Pos Data Entry
This parameter sets the position of the traverse when laying the product into the cutter arm. After the arm is down, the traverse will move to the 0 position. The data entry limits of this parameter are 0.000 to 3.000 in. {0.00 to 76.20 mm}.



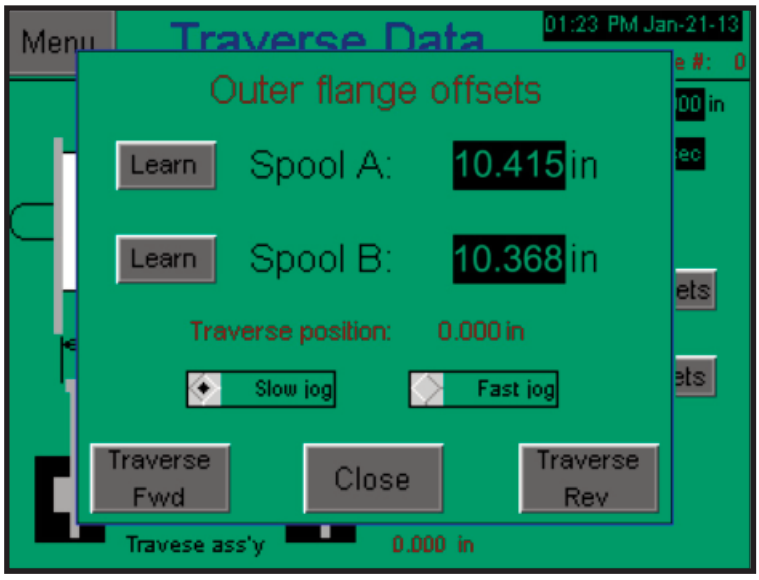
Traverse Data First Wrap Dist Data Entry
This parameter sets the amount of travel the traverse makes at in 1 rev of the load spindle at the beginning of the spool. The data entry limits of this parameter are 0.000 to 1.000 in. {0.0 and 25.40 mm}.

(Continued)

Control Function Descriptions (continued)



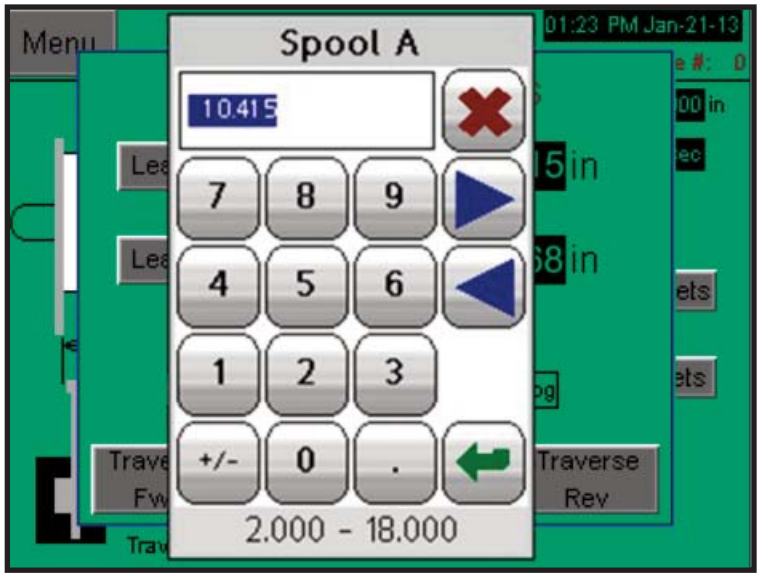
Traverse Data Arm Float Delay Data Entry
The laydown arm is in a forced down mode when doing the cut and beginning the wrap. This parameter sets the amount of time delay after the arm is de-energized and the cut/clamp process is complete. The data entry limits of this parameter are 0.0 to 9.9 seconds.



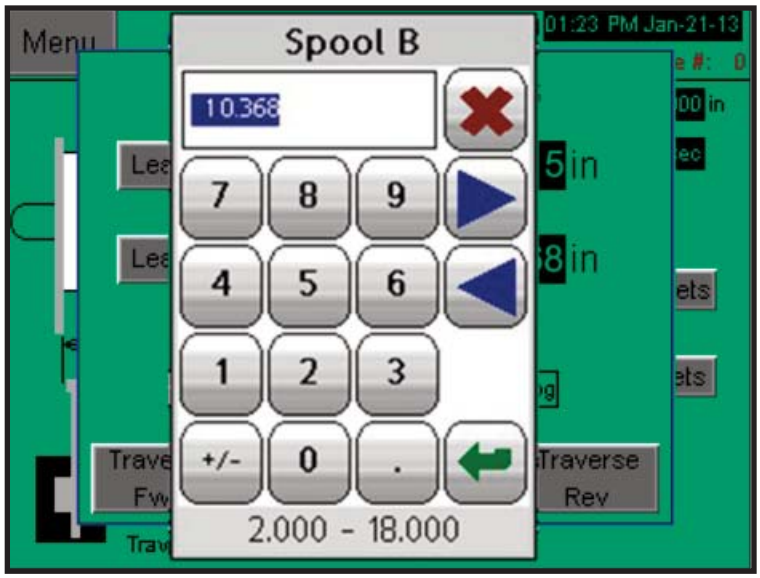
Traverse Data Outer Flange Offsets
This parameter allows the user to set the outer flange offsets for “Spool A” and “Spool B”.

(Continued)

Control Function Descriptions (continued)

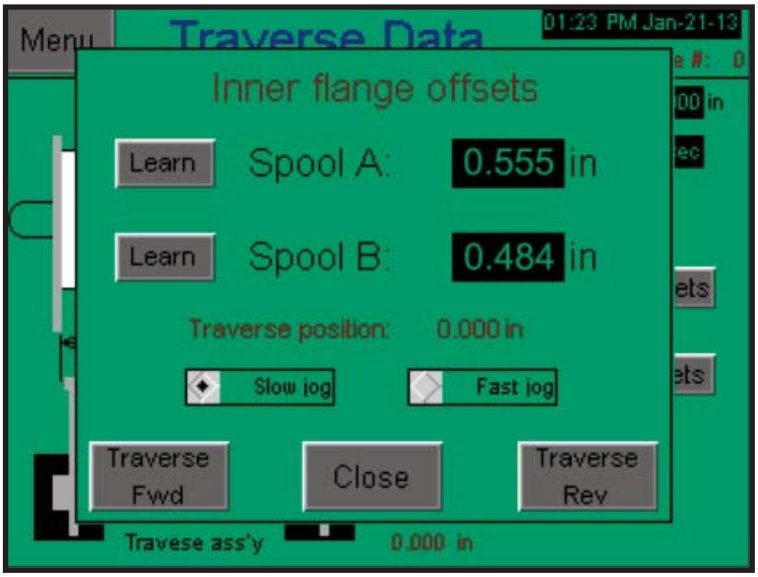


Traverse Data Outer Flange Offsets Spool A
This parameter sets the position the traverse will move to when coiling. The data entry limits of this parameter are 2.000 to 18.000 in. {50.80 to 457.20 mm}.

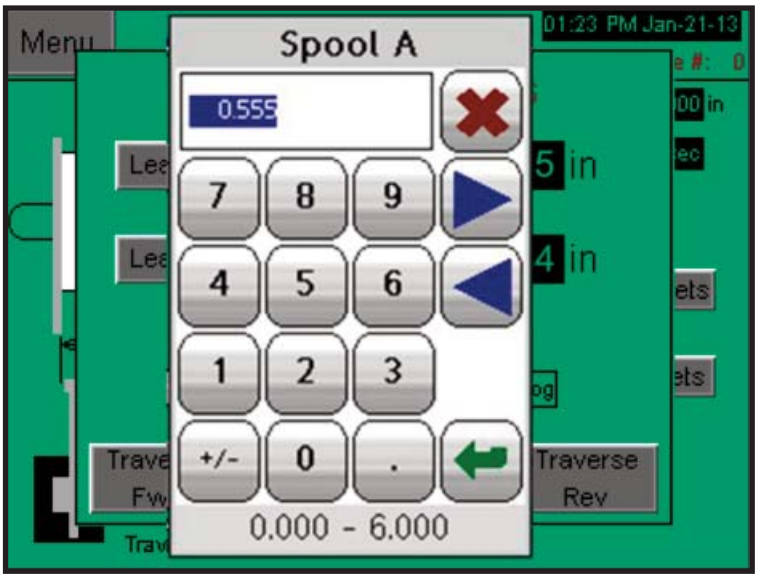


Traverse Data Outer Flange Offsets Spool B
This parameter sets the amount of outer flange offset for Spool "B". The data entry limits of this parameter are 2.000 to 18.000 in. {50.80 to 457.20 mm}.

(Continued)

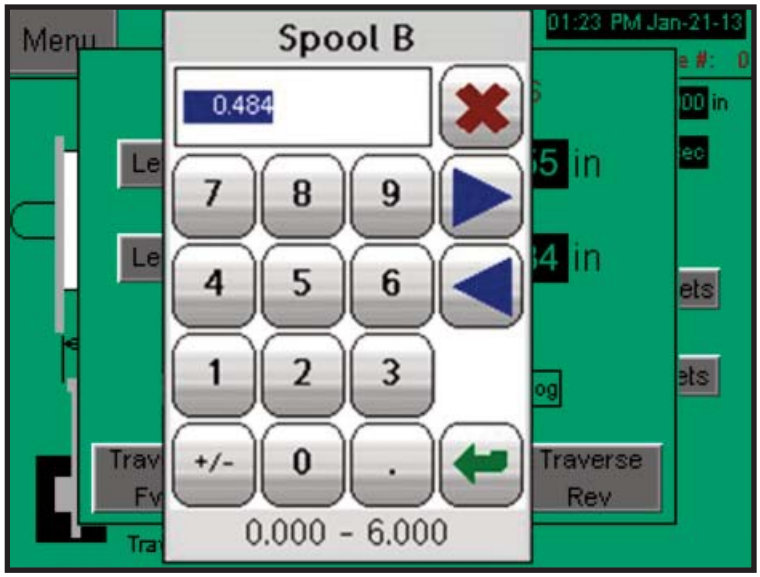


Traverse Data Inner Flange Offsets
This parameter sets the position the traverse will move to when coiling. The traverse offsets must be set up for the inner flanges of both A and B spindles.

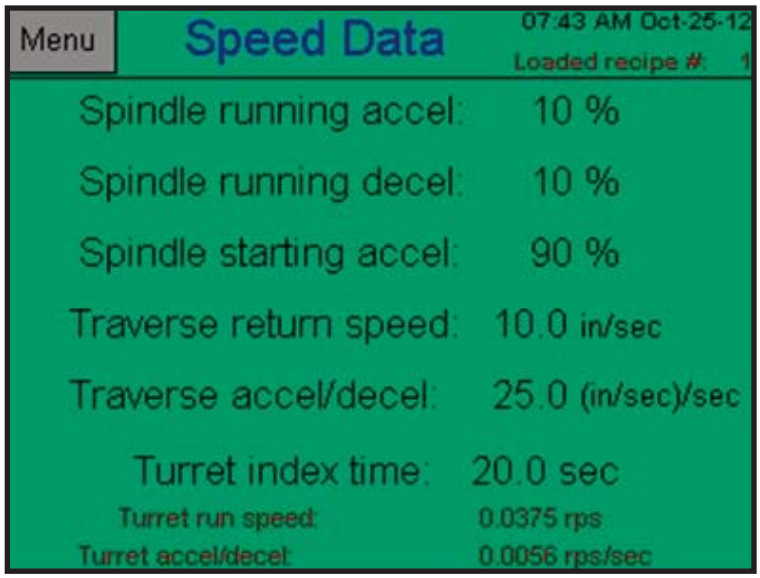


Traverse Data Inner Flange Offsets Spool A
This parameter sets the amount of inner flange offset for Spool "A". The data entry limits of this parameter are 2.000 to 6.000 in. {50.80 to 152.40 mm}.

(Continued)



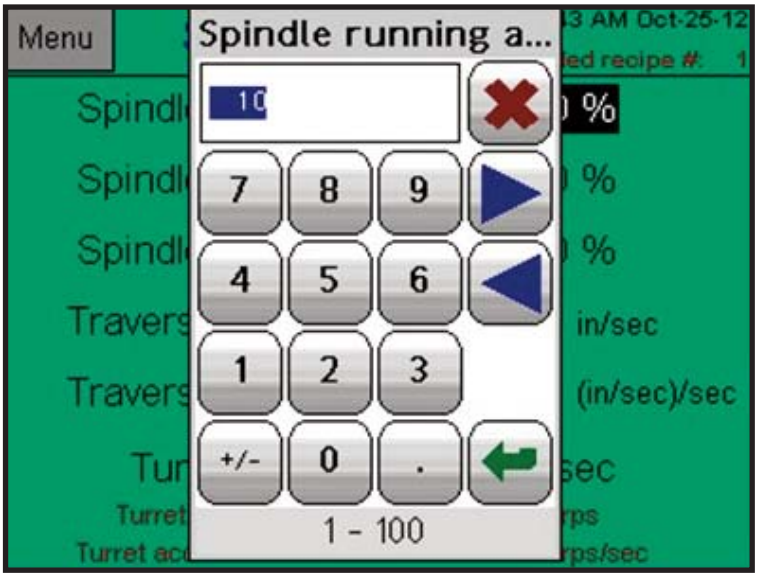
Traverse Data Inner Flange Offsets Spool B
This parameter sets the amount of inner flange offset for Spool "B". The data entry limits of this parameter are 2.000 to 6.000 in. {50.80 to 152.40 mm}.



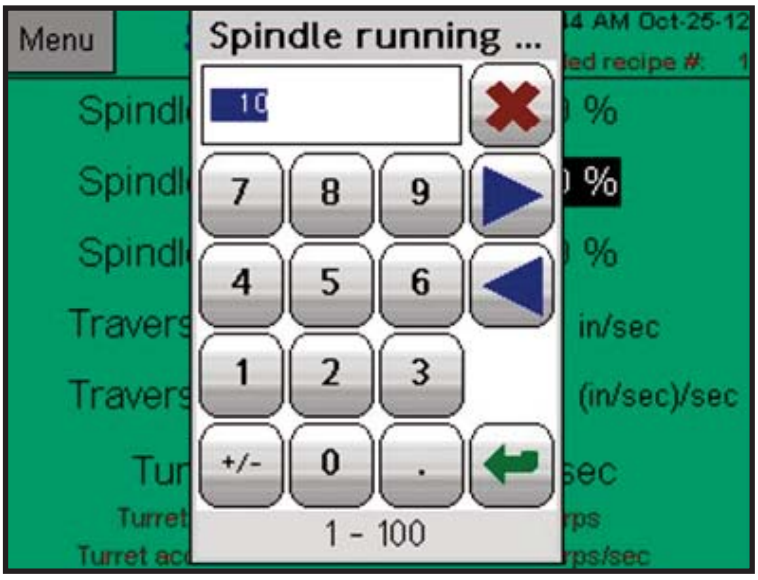
Speed Data
The Speed Data screen provides access to the parameters that affect the operation of the coiler. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

(Continued)

Control Function Descriptions (continued)



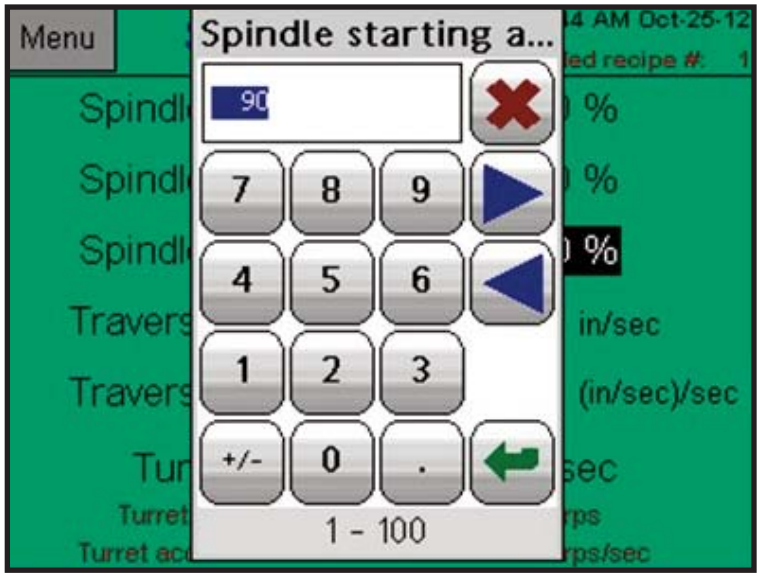
Speed Data Spindle Running Accel Data Entry
This is a percentage of the maximum acceleration/deceleration that spindle servo is capable of during any speed change while the spindles are already running. This percentage is typically lower so that there is a more cushioned accel or decel while already running. This parameter sets the acceleration rate at which the spool changes speed after it has initially ramped up to line speed. The data entry limits of this parameter are 1 to 100%.



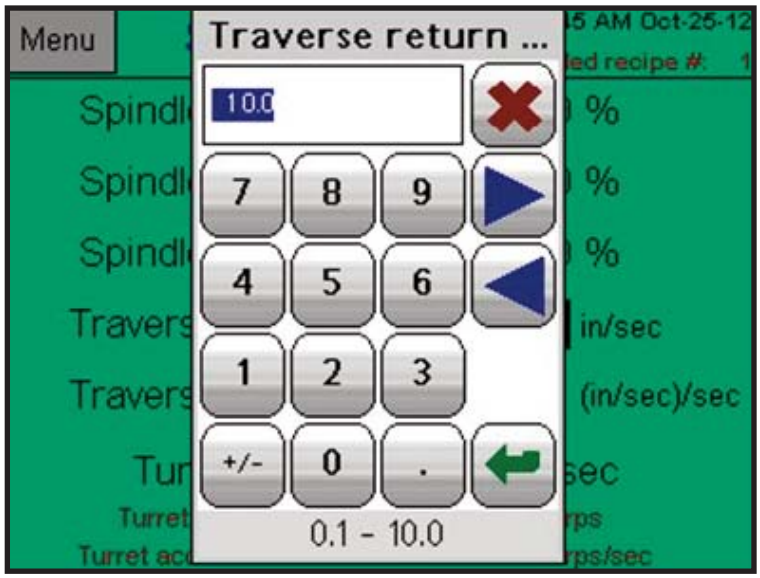
Speed Data Running Decel Data Entry
This parameter sets the deceleration rate at which the spool changes speed after it has initially ramped up to line speed. The data entry limits of this parameter are 1 to 100%.

(Continued)

Control Function Descriptions (continued)



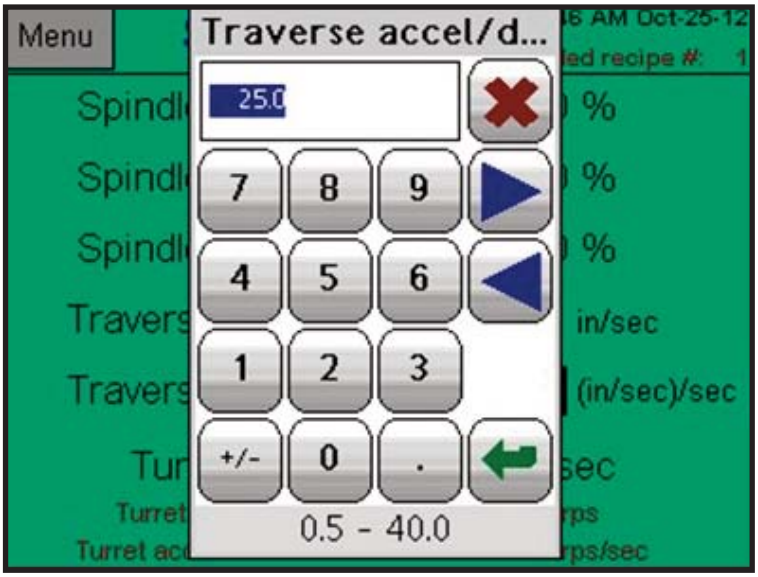
Speed Data Spindle Starting Accel Data Entry
This percentage of max accel is for the initial startup of the coiler when a faster acceleration is needed to get the coiler from stopped up to the speed of the product. This parameter sets the rate at which the empty spool will ramp up to the line speed after a cut and traverse. The data entry limits of this parameter are 1 to 100%.



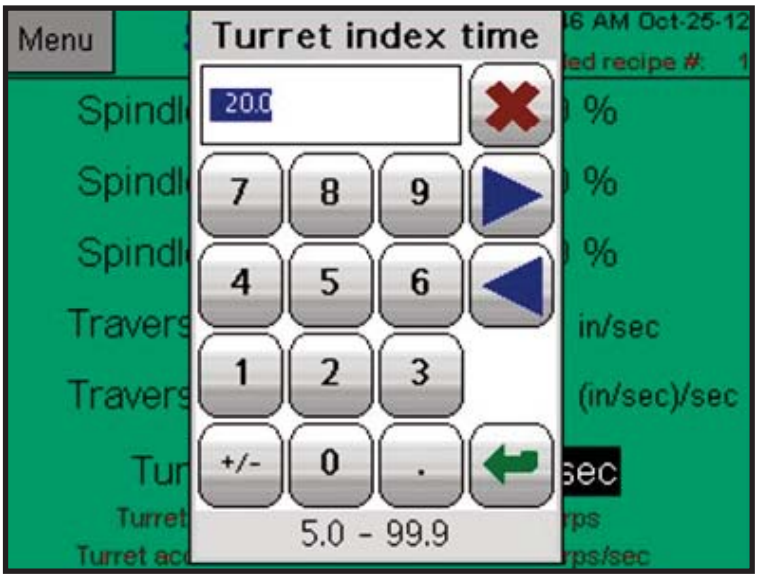
Speed Data Traverse Return Speed Data Entry
This is the speed required to get the traverse back to the cut position for the cut/transfer process. This can be modified to allow the traverse to match the turret change speed such that the traverse is back in its "Cut" position before the turret change is fully complete. This parameter sets the traverse return speed per second. The data entry limits are 0.10 to 10.00 in./sec {2.540 to 254.00 mm/sec}.

(Continued)

Control Function Descriptions (continued)



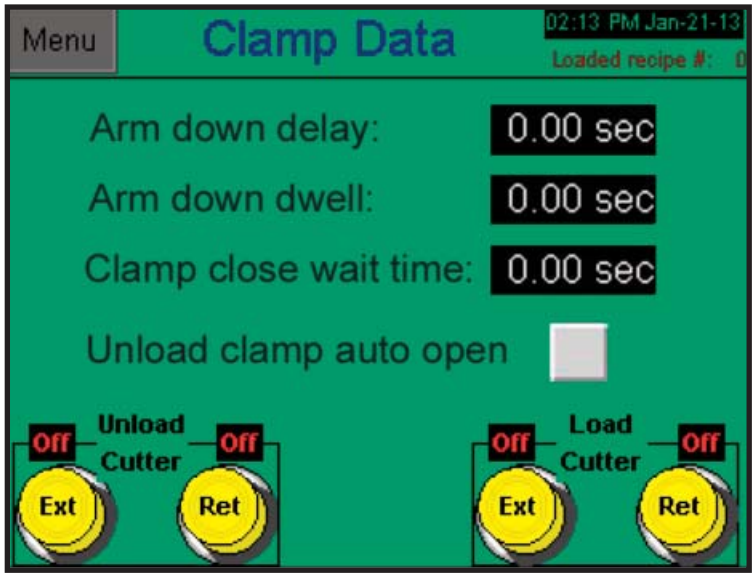
Speed Data Traverse Accel/Decel Data Entry
This parameter sets the traverse acceleration/deceleration speed in (inches/sec)/sec {(cm/sec)sec}. The data entry limits of this parameter are 0.5 to 40.0 in. {1.27 to 101.60 cm}.



Speed Data Turret Index Time Data Entry
This parameter sets the amount of time it takes the turret to complete its index cycle. This time may need to be increased for slower running products. The data entry limits of this parameter are 5.0 to 99.9 seconds.

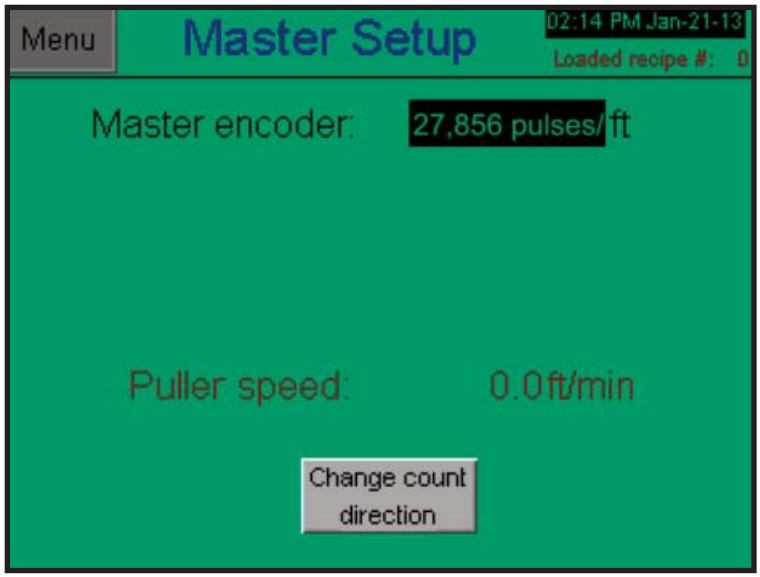
(Continued)

Control Function Descriptions (continued)



Clamp Data

The Clamp Data screen provides access to the clamp information associated with the selected recipe. The loaded recipe information appears near the top, right corner of the Clamp Data screen. This screen also provides the user with the ability to turn the clamp function "Off" during the cutter unload and load processes. Some ATCs may not have this function.

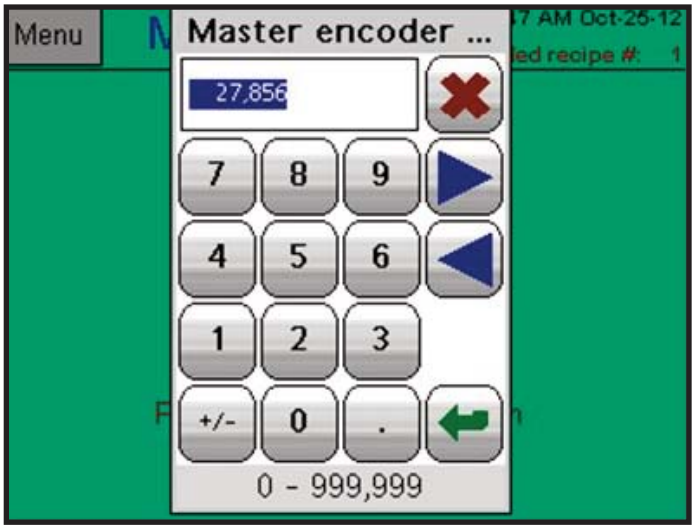


Master Setup

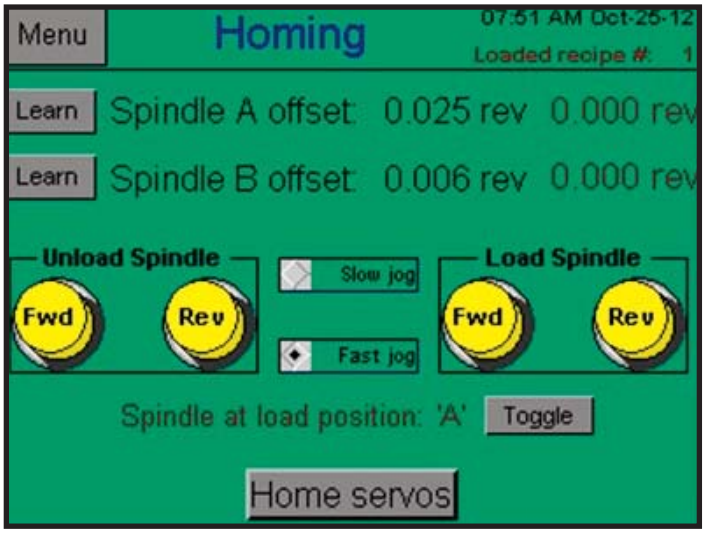
The Master Setup screen is used to set the puller scaling. The number of pulses per foot from the encoder on the puller are scaled. Adjust the preset until the puller speed shown matches the actual puller speed.

(Continued)

Control Function Descriptions (continued)



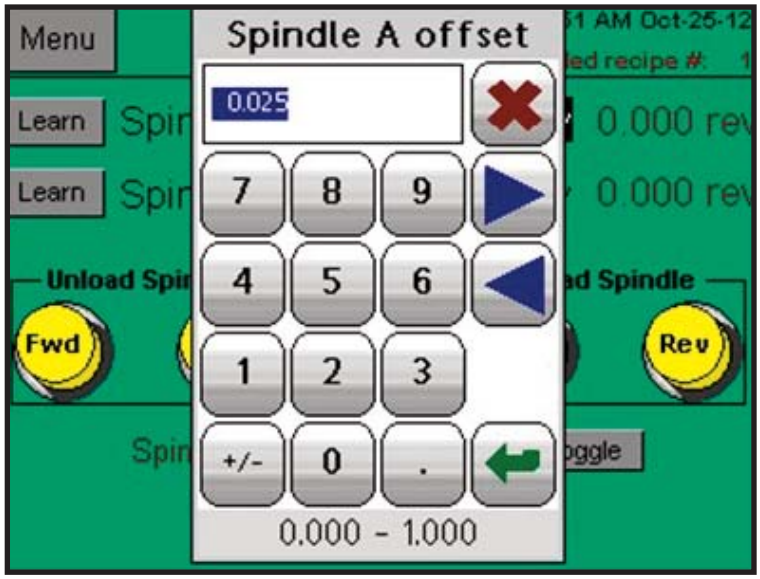
Master Setup Encoder Pulses Data Entry
This parameter sets the number of pulses per foot {pulses per meter} of material processed. The data entry limits of this parameter are 0 to 999,999.



Homing
The Homing screen provides access to the servo homing offset parameters. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. The servo encoders are incremental and do not retain their position when powered off. After power up, the servos must be homed. Each servo axis has a proximity switch which provides a point of reference during the homing procedure. If the homing offsets are zero, then the proximity switch reference point becomes the absolute 0 position of the servo axis. If the homing offsets are non-zero, the servo axis will move from the proximity switch reference point by the amount entered in the homing offset. This new offset position becomes the absolute 0 position for the servo axis. Both spindles could be at either the load or unload position at power-up. After an offset is changed, the servos must be re-homed for the offset to take effect.

(Continued)

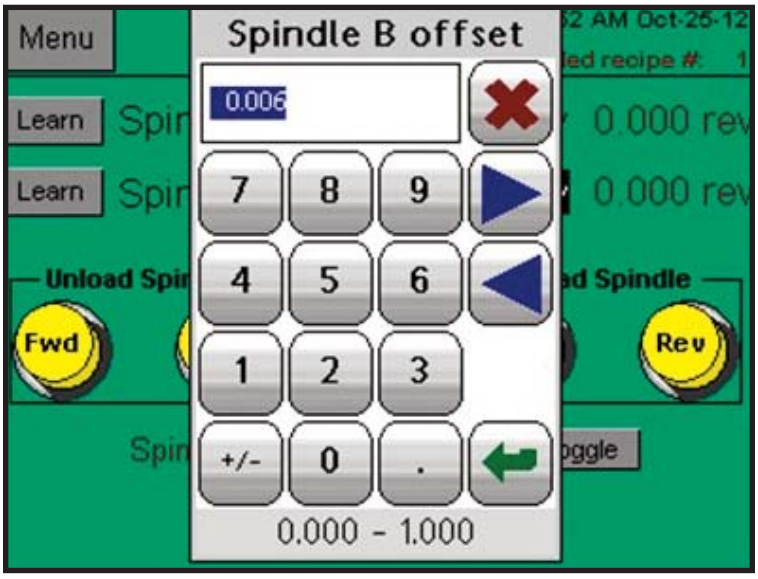
Control Function Descriptions (continued)



NOTE: Set offset to move the cutter head to a 12:00 position (top dead center). Some slight adjustment may need to be made from 12:00 for your specific application.

Homing Spindle A Offset Data Entry

This parameter sets the homing offset of spindle "A" when it is homing at the load position. The data entry limits of this parameter are 0.000 to 1.000 revolutions.



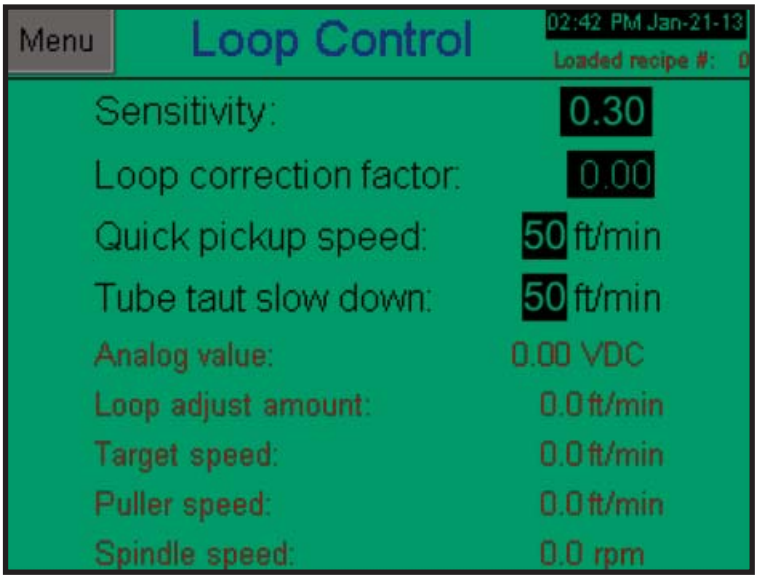
NOTE: Set offset to move the cutter head to a 12:00 position (top dead center). Some slight adjustment may need to be made from 12:00 for your specific application.

Homing Spindle B Offset Data Entry

This parameter sets the homing offset of spindle "B" when it is homing at the load position. The data entry limits of this parameter are 0.000 to 1.000 revolutions.

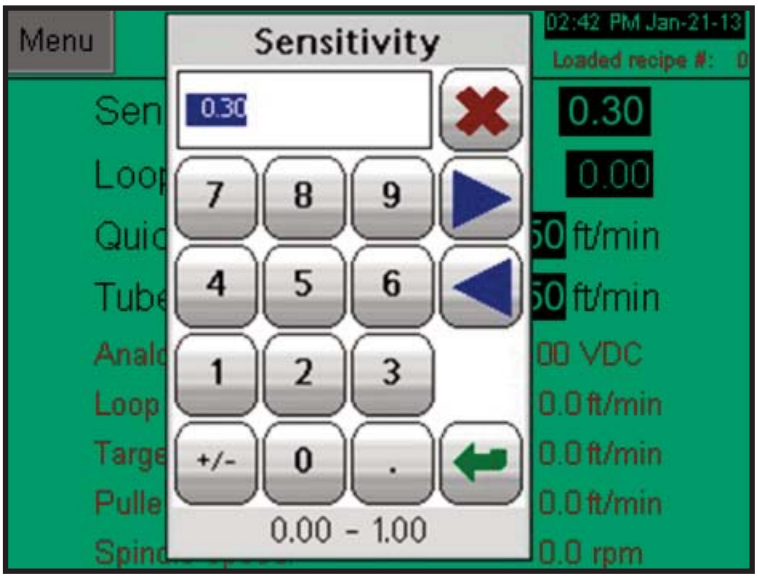
(Continued)

Control Function Descriptions (continued)



Loop Control

The Loop Control screen provides access to the parameters that affect the operation of the ultra-sonic loop control. To modify a parameter, touch the numeric field of the parameter. After doing so, a numeric keypad will appear for data entry. Upon entry of a new parameter value, the value is sent to the servo controller and takes effect immediately. Use caution when changing values while the machine is running as a data entry error can cause an unexpected machine reaction.

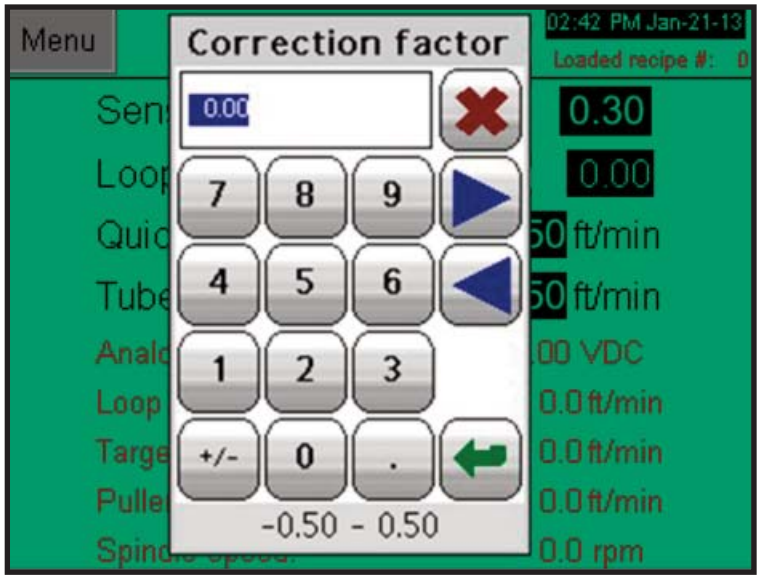


Loop Control Sensitivity Data Entry

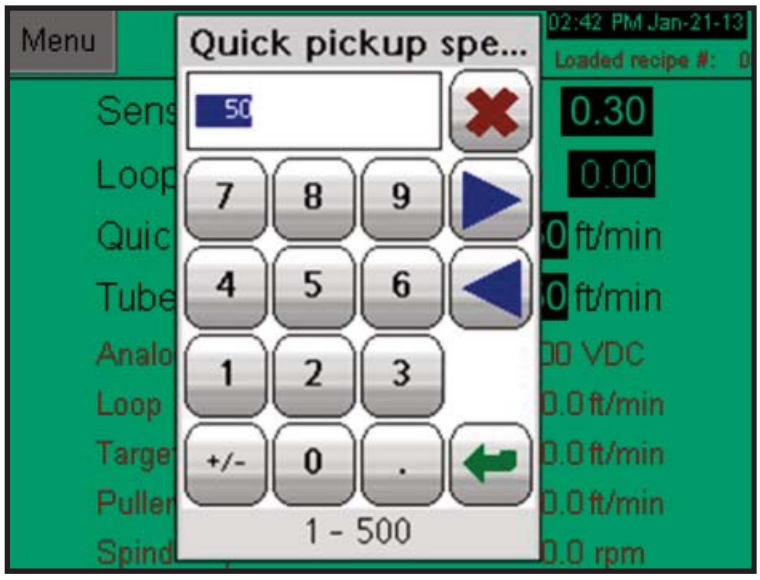
This parameter sets the sensitivity of the loop control calculation. The data entry limits of this parameter are 0.00 to 1.00. The larger this value is, the larger the amount of speed adjustment for a given loop analog value. If this value is set to 0, then the loop control provides no speed adjustment.

(Continued)

Control Function Descriptions (continued)

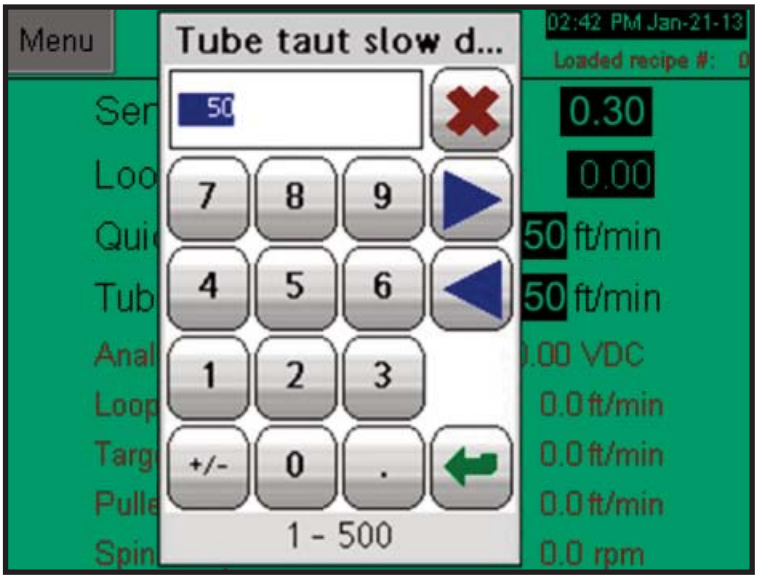


Loop Control Correction Factor Data Entry
This parameter is a manual adjustment to the final loop control correction value. The data entry limits of this parameter are -0.50 to 0.50 revolutions per second. This parameter is typically used for large footage coils. The number is increased in small increments to get the loop back in the middle of the loop detector as the coil fills.

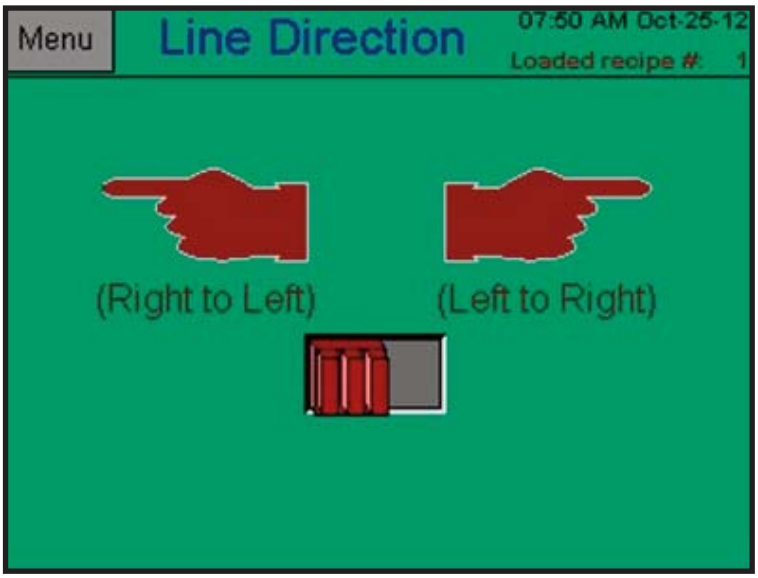


Loop Control Quick Pickup Speed Data Entry
This parameter sets the speed increase of the spindle when the quick pickup button is pressed. The data entry limits of this parameter are 1 to 500 ft/min {0.315 to 152.40 m/sec}.

(Continued)



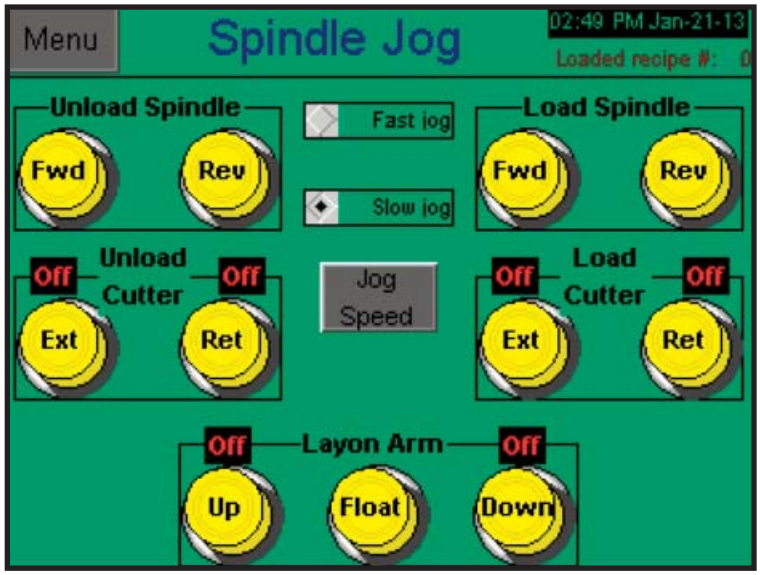
Loop Control Tube Taut Slow Down Speed Data Entry
This parameter sets the speed decrease of the spindle when the tube taut input is turned on by the loop stand. The data entry limits of this parameter are 1 to 500 ft/min {0.315 to 152.40 m/sec}.



Line Direction
The line direction is set at the factory before the machine is shipped. This switch provides right to left or left to right direction. The setting must suit the build style of the machine. Most ATCs are right to left direction. Do not change this setting unless it is wrong.

(Continued)

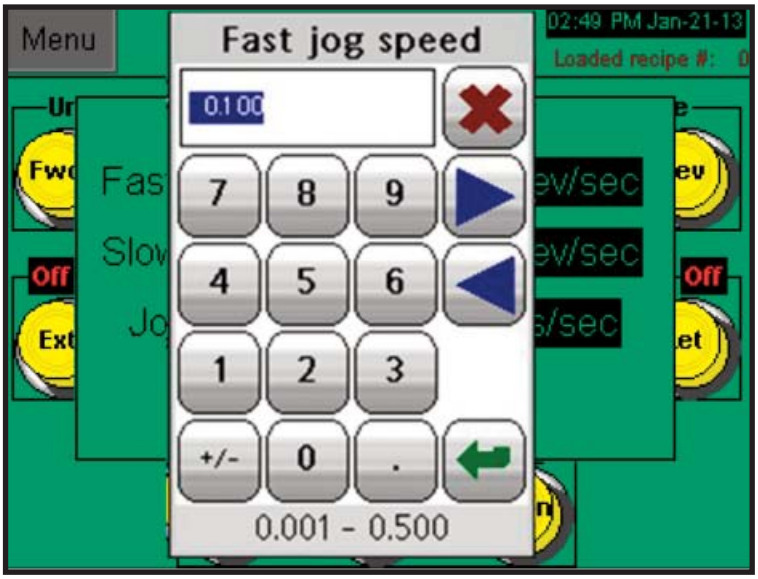
Control Function Descriptions (continued)



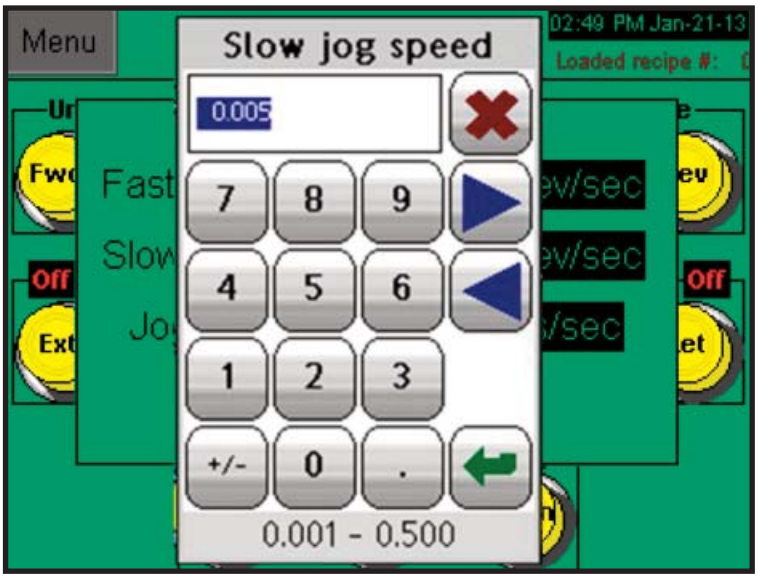
Spindle Jog
The Spindle Jog screen provides access to all the Spindle Jog functions including the Spindle Jog Speed function. To access the Spindle Jog Speed function, press the Jog Speed button near the middle of the screen.

Spindle Jog Speed
The Spindle Jog Speed pop-up lists the Fast Jog Speed, Slow Jog Speed, and Jog Accelerate/Decelerate speeds. To access and change these speeds, touch the appropriate numeric field.

(Continued)



Spindle Jog Fast Speed Data Entry
This parameter is used to set the Fast Jog Speed for the spindle. The data entry limits of this parameter are 0.001 to 0.500 revolutions per second.

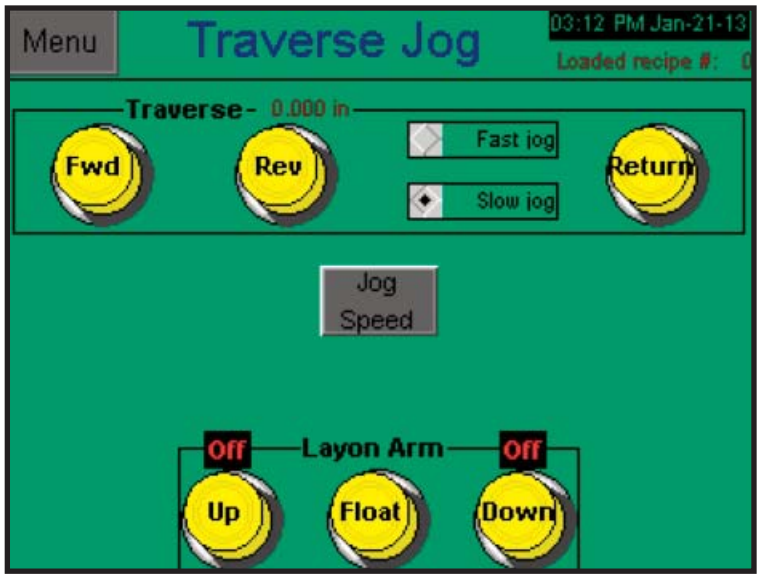


Spindle Jog Slow Speed Data Entry
This parameter is used to set the Slow Jog Speed for the spindle. The data entry limits of this parameter are 0.001 to 0.500 revolutions per second.

(Continued)

Control Function Descriptions (continued)

Spindle Jog Accel/Decel Data Entry
This parameter is used to set the Jog Accelerate/Decelerate Speed for the spindle. The data entry limits of this parameter are 0.10 to 25.00 revolutions per second per second (rps/sec).



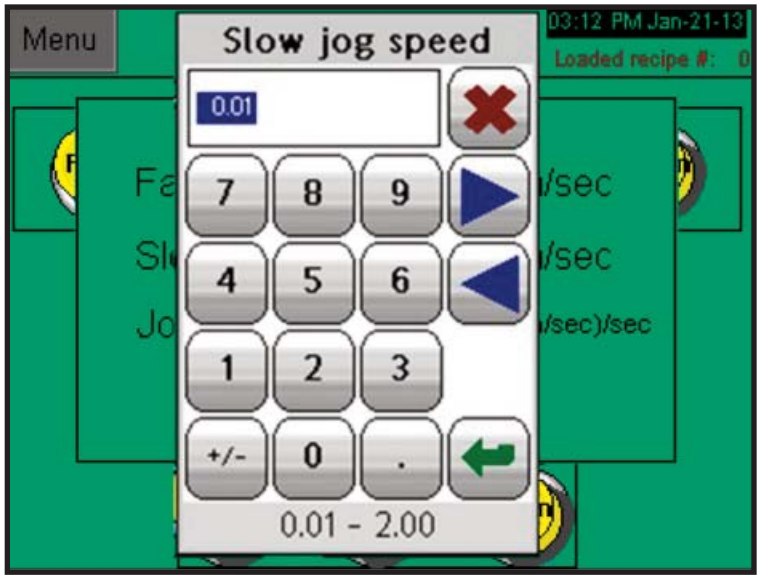
Traverse Jog
The Traverse Jog screen provides access to all the Traverse Jog functions including the Traverse Jog Speed function. To access the Traverse Jog Speed function, press the Jog Speed button near the middle of the screen.

(Continued)

Traverse Jog Speed
The Traverse Jog Speed pop-up lists the Fast Jog Speed, Slow Jog Speed, and Jog Accelerate/Decelerate speeds. To access and change these speeds, touch the appropriate numeric field.

Traverse Fast Jog Speed Data Entry
This parameter is used to set the Fast Jog Speed for traverse. The data entry limits of this parameter are 0.01 to 2.00 in./sec {0.254 to 50.80 mm/sec}.

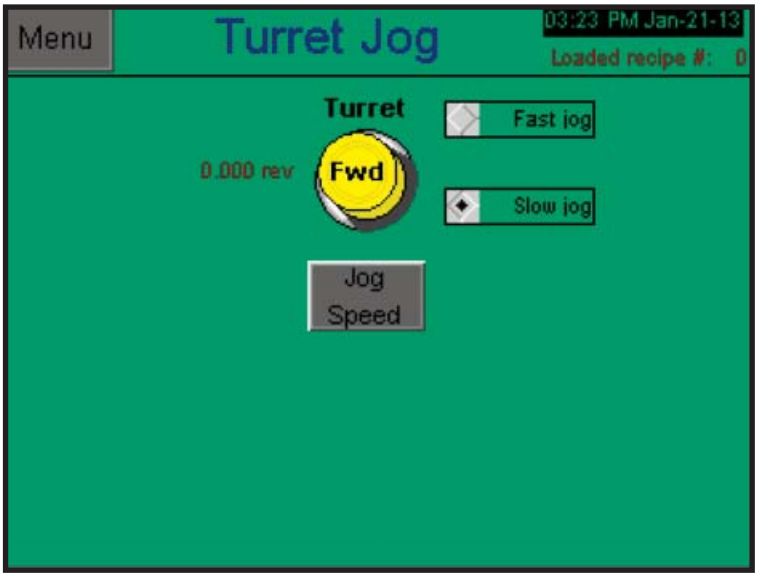
(Continued)



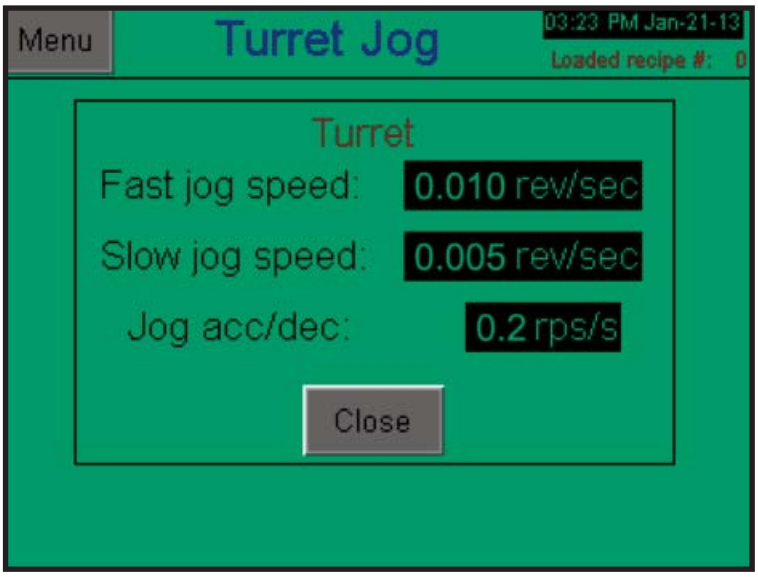
Traverse Slow Jog Speed Data Entry
This parameter is used to set the Slow Jog Speed for traverse. The data entry limits of this parameter are 0.01 to 2.00 in./sec {0.254 to 50.80 mm/sec}.

Traverse Jog Accel/Decel Data Entry
This parameter is used to set the Jog Accelerate/Decelerate Speed for traverse. The data entry limits of this parameter are 0.50 to 40.00 (in./sec)/sec. {12.70 to 1016.00 (mm/sec)sec}.

(Continued)



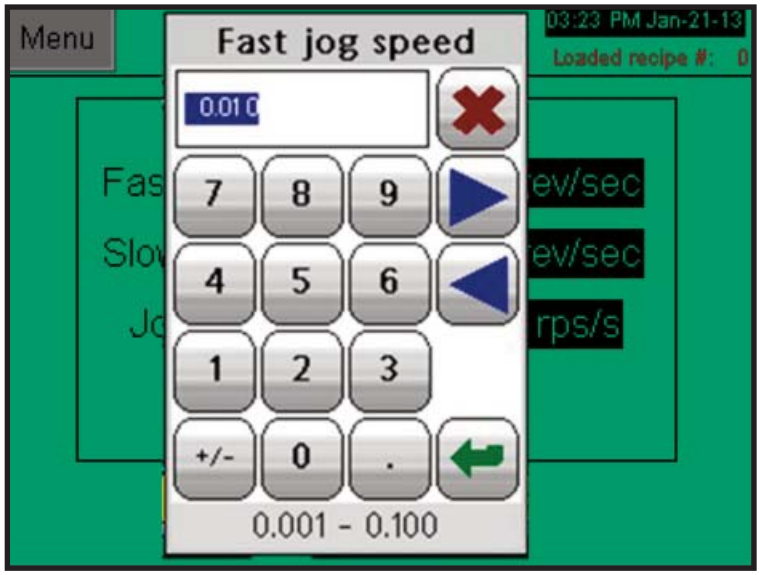
Turret Jog
The Turret Jog screen provides access to the Turret Jog functions including the Turret Jog Speed function. To access the Turret Jog Speed function, press the Jog Speed button near the middle of the screen.



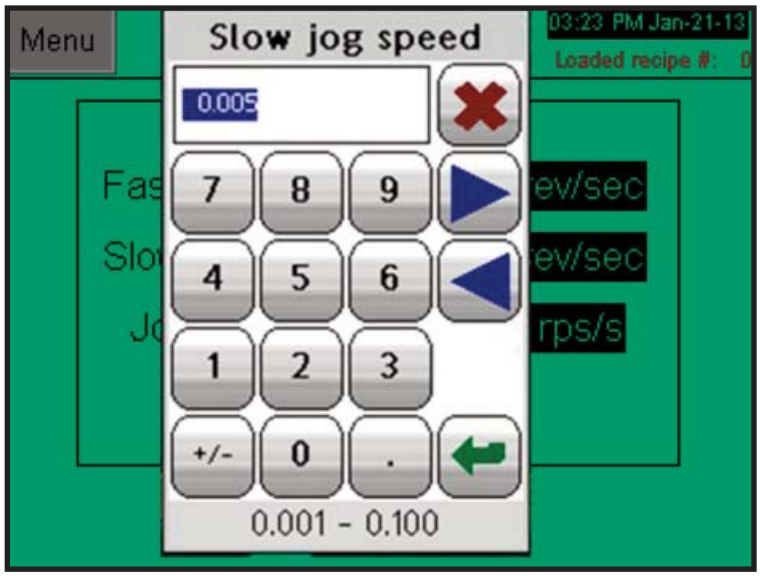
Turret Jog Speed
The Turret Jog Speed pop-up lists the Fast Jog Speed, Slow Jog Speed, and Jog Accelerate/Decelerate speeds. To access and change these speeds, touch the appropriate numeric field.

(Continued)

Control Function Descriptions (continued)



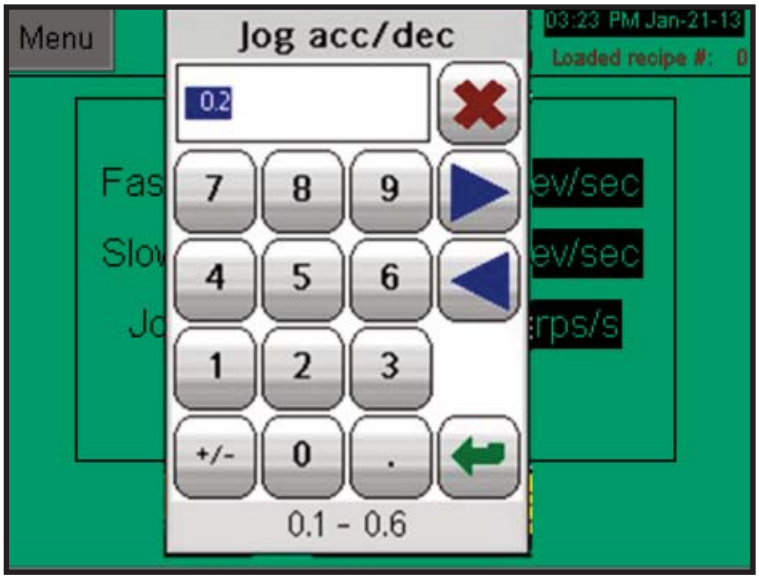
Turret Fast Jog Speed Data Entry
This parameter is used to set the Fast Jog Speed for the turret. The data entry limits of this parameter are 0.001 to 0.100 revolutions per second.



Turret Slow Jog Speed Data Entry
This parameter is used to set the Slow Jog Speed for the turret. The data entry limits of this parameter are 0.001 to 0.100 revolutions per second.

(Continued)

Control Function Descriptions (continued)

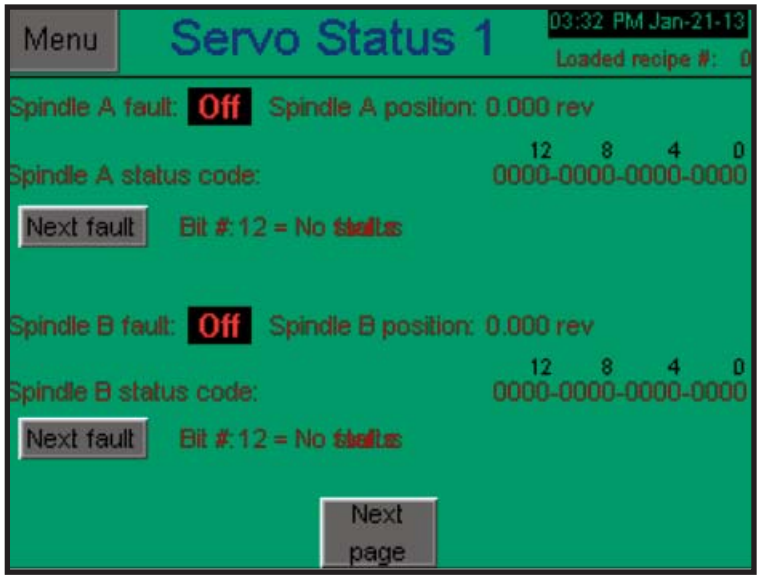


Turret Jog Accel/Decel Data Entry
This parameter is used to set the Jog Accelerate/Decelerate Speed for the turret. The data entry limits of this parameter are 0.10 to 0.60 revolutions per second per second (rps/sec).

Control Status
The Control Status screen shows status information for the servo controller. Six controller programs are defined: Estop; Main; Manual; Auto; Wind; and Rotate. This page shows the status and currently executing line number for each program. This information is provided for troubleshooting purposes.

(Continued)

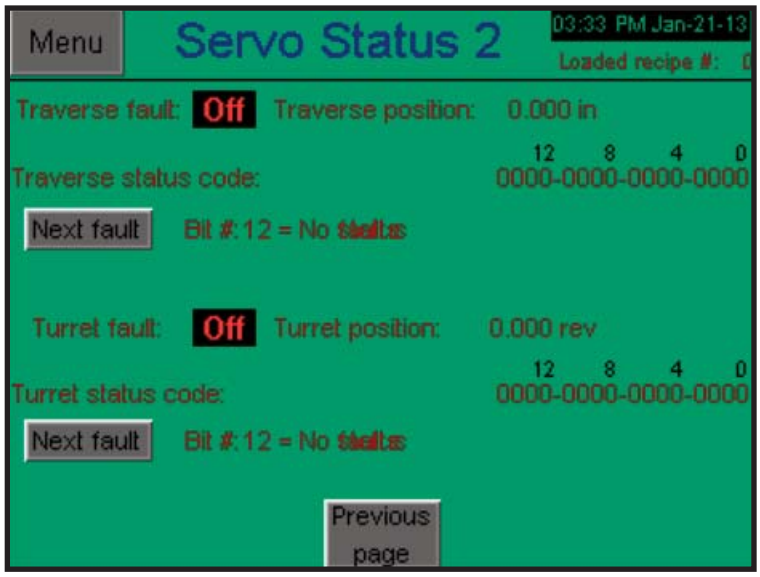
Control Function Descriptions (continued)



Servo Status

The Servo Status screen shows servo drive status. This screen is helpful for troubleshooting and contains information that the Conair Service department will ask for when helping you troubleshoot faults.

Contact Conair Service
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

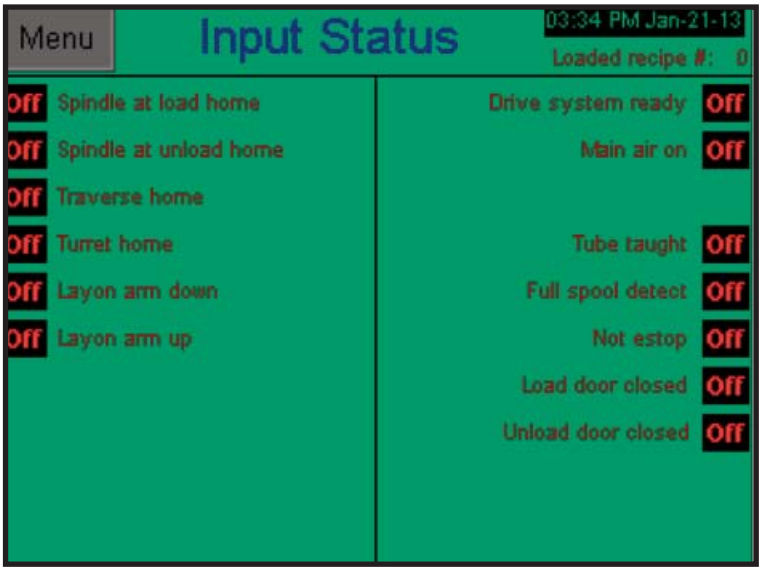


Servo Status 2

The Servo Status 2 screen shows servo drive status. The information displayed on this screen would be used to help troubleshoot problems encountered with the ATC.

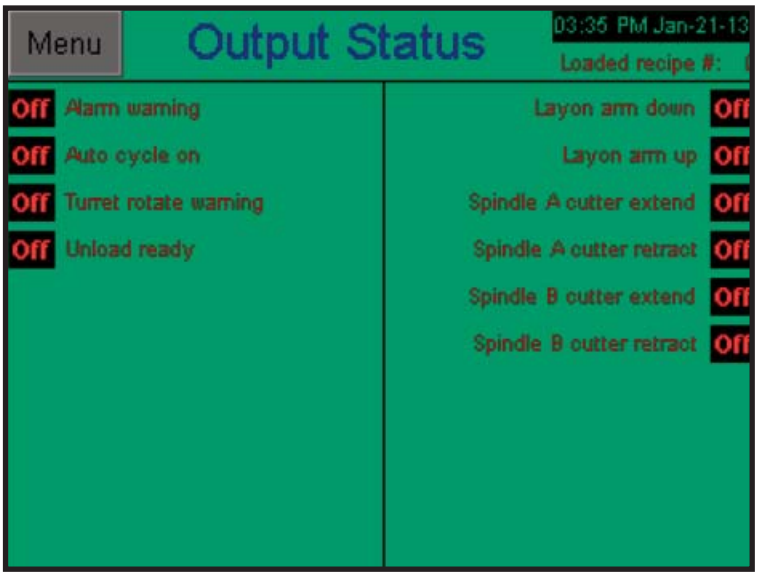
(Continued)

Control Function Descriptions (continued)



Contact Conair Service
(800) 458 1960
From outside of the
United States, call:
(814) 437 6861

Input Status
The Input Status screen shows the On/Off status of the servo controller inputs. This information is only valid when the emergency stop circuit is reset. This information is provided for troubleshooting purposes.



Output Status
The Output Status screen shows the On/Off status of the servo controller outputs. This information is only valid when the emergency stop circuit is reset. This information is provided for troubleshooting purposes.

SECTION
5

Maintenance

Maintenance Features

The ATC model needs regular, scheduled maintenance for peak performance. Among the features that require maintenance are:

- Turret belts
- Floor locks
- Electrical cables and terminals
- Equipment alignment

Warnings and Cautions

To maintain the best performance of the ATC, 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 ATC, 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.

⚠ **DANGER: Pinch Hazard**

Never remove or disable safety devices to sustain production. Operating without these devices could lead to hazardous conditions that can cause severe injury. Take all necessary precautions when working around moving parts to prevent body parts and clothing from being pulled into the machine.

Preventative Maintenance Schedule

WARNING: Moving Parts.
Improper servicing may result in equipment damage or personal injury.

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

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.

Make sure all safety devices and belt guards are installed before resuming normal operation.

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.

(Continued)

Preventative Maintenance Schedule
(continued)

To maintain the best performance of the ATC, we recommend the following maintenance schedule. You may need to shorten the time between servicing, depending on how often you use the ATC, and the types of material flowing through it. Maintenance should be performed anytime you change materials, lines, or equipment in the extrusion line.

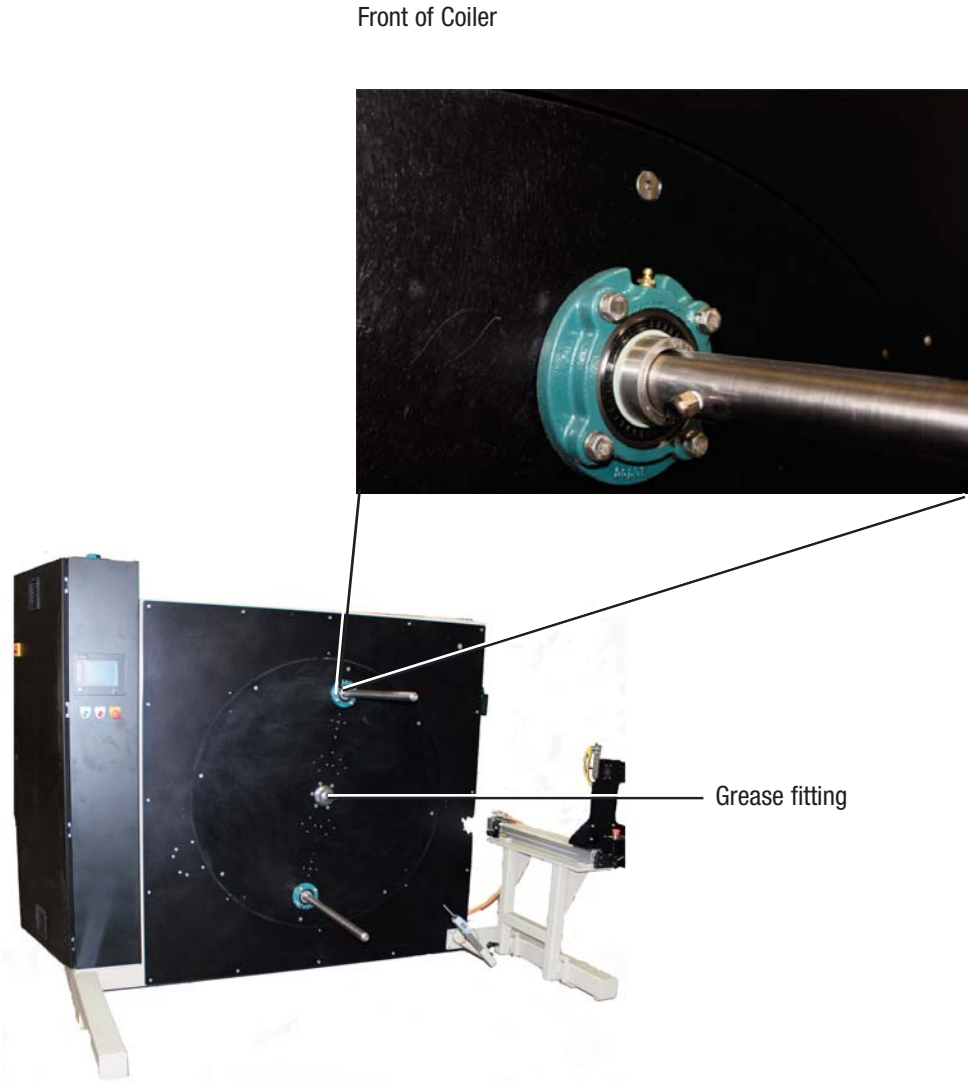
- **Daily**
  - ❒ **Inspect ATC turret belt for wear.**
    If a belt shows sign of cracks, tears, or other damage, replace it.
  - ❒ **Inspecting unit alignment**
    Proper alignment with other equipment on the line is critical for optimum performance. Use a plumb line or laser to check for a straight line from the extrusion die to the ATC.
  - ❒ **Verify floor lock settings.**
    The weight of the ATC should never rest on the casters during operation. For stability during coiling and cutting cycles, the ATC should rest on the floor locks and pad assembly. Verify that the floor locking mechanism is properly adjusted before starting the ATC. If necessary, use an adjustable wrench to turn the floor locks until the weight is off the casters and the ATC reaches the center height of the extrusion line.
  - ❒ **Clean equipment.**
    Wipe the equipment with a clean dry cloth to eliminate dust and other build-up, which can deteriorate performance.

- **Weekly**
  - ❒ **Check the ATC turret belt tension.**
  - ❒ **Check and lubricate all grease fittings.**
    See *Machine Lubrication.*

- **Semi-annual (every 6 months)**
  - ❒ **Inspecting electrical terminals**
    Check all electrical terminals for tightness; adjust as needed.

Checking Grease Locations

Lubricate all shafts and grease fittings as needed.

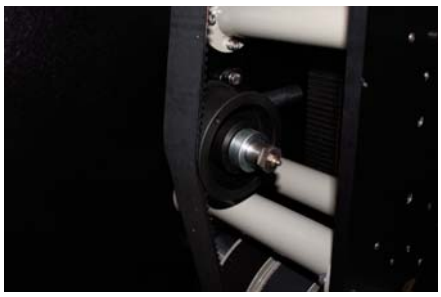


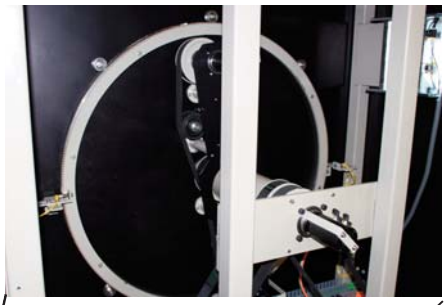
NOTE: Depending on your model or configuration, grease locations may vary from above what is shown in the manual. Visually locate the grease locations on your machine.

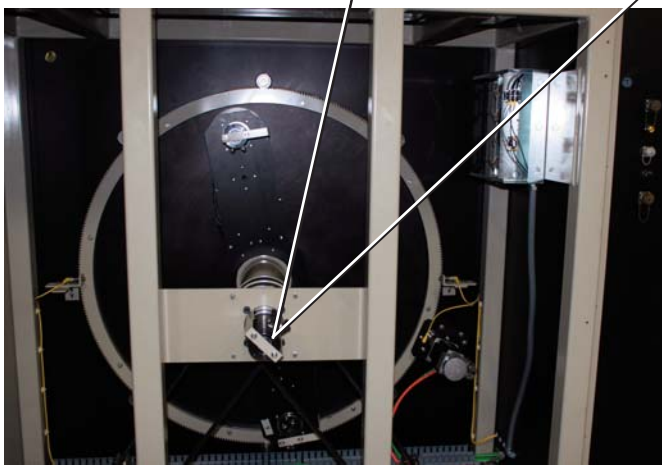
(Continued)

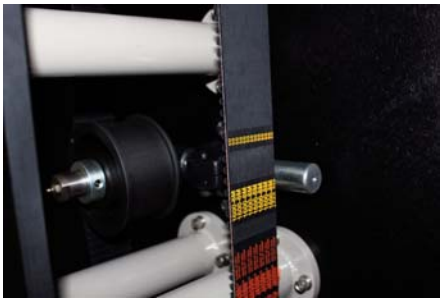
Checking Grease Locations (continued)

Back of Coiler







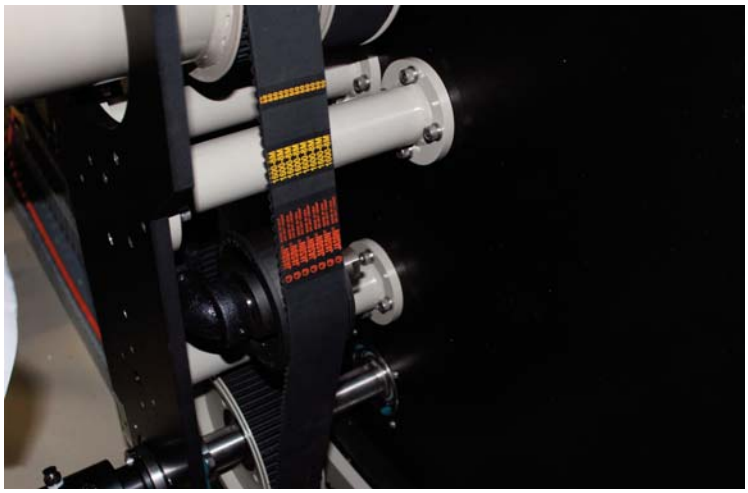


Machine Lubrication

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. For this reason, periodic lubrication is required.

Component	Type of Lubrication	Duration
Flange Bearings	Chassis Lube	6-9 Months
Gear Reducers	Mobil 629 or Equiv.	12 Months

Checking Turret Belt Tension



The turret belt needs to be visually tight. Timing belts do not need to be as tight as a V-belt because a belt that is too tight can cause bearing failure. However, a timing belt that is too loose can cause tooth jumpings and affect timing of the machine.

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

- **Mechanical Components** - Approximately once every six months or sooner, if able, all mechanical components should be visibly inspected. While these components should stay secure and last a long time, it is always a good idea to check for any excessive wear, damage, and fastener security to these units.

- **Belt Tension** - After initial running of the unit, check for any slack condition in the belts. If the belt shows signs of stretching, adjust the belts accordingly. Belt slack mixed with positional servo motors can cause some movements to be misaligned and machine to malfunction.

Checking Electrical Connections

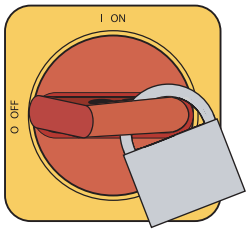
⚠ WARNING: Electrical hazard.

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

⚠ WARNING: Improper servicing may result in equipment damage or personal injury.

This equipment should only be 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 and data plate.



1 **Disconnect and lock out the main power.**
Turn the main power disconnect to the off position before opening the electrical enclosure on the back of the ATC. This is a safety device to prevent you from opening the doors if the power is still on.

2 **Open the electrical enclosure.**

3 **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.

4 **Close the electrical enclosure door.**

5 **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 and casters.

SECTION
6

Troubleshooting

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 to take diagnostic actions, be sure to:

- ❑ 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 ATC. Additional details about troubleshooting and repairing specific components are found in these materials.

- ❑ Check that you have manuals for other equipment connected in the system. Troubleshooting may require investigating other equipment attached to, or connected with the ATC.

A Few Words of Caution

⚠ WARNING: Improper 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.

Identifying the Cause of a Problem

The Troubleshooting section covers problems directly related to the operation and maintenance of the standard ATC. 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 ATCs are:

- **ATC operation problems,** which focus on problems that are clearly related to the ATC's mechanical components and electrical control system.

- **Product quality concerns,** which deal with extrudate characteristics that may be related to ATC operations. 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 component manuals included with this User Guide.

Operation Problems

Look in this section when the control or motor is not working properly.

Problem	Possible cause	Solution
The ATC 'creaks' while running.	**The belt is too tight.**	Check the belt tension; loosen if necessary.
	The bearings are failing.	Replace the bearings.
	Servo/gear backlash.	Visually inspect turret servo and gear.
The ATC does not start.	**The E-stop buttons are pushed in.**	Pull out the E-Stop buttons. Make sure it clicks into position.
	Cables between coiler, puller, and loop detect are disconnected.	Check that communication cables are connected.
	Machine not homed or "at home".	Recirculate power to machine.
	Guard doors not closed.	Verify safety enclosure guards are closed.
Material tension too tight.	**Loop control out of calibration.**	Adjust loop control setpoint.
	Product dimensions wrong.	Verify a product dimension.
	Core dimensions wrong.	Verify core dimension.
	Drag of product through laydown arm.	Verify position of laydown arm.

Operation Problems

Look in this section when the control or motor is not working properly.

Problem	Possible cause	Solution
Material tension too loose.	**Loop control out of calibration.**	Adjust loop control setpoint.
	Product dimensions wrong.	Verify a product dimension.
	Core dimensions wrong.	Verify core dimension.
	Drag of product through laydown arm.	Verify position of laydown arm.
Material not cutting on transfer.	**Blade is dull.**	Replace cutter blade.
	Product physical property issues (wall is too thick or materials too "gummy").	Increase cutter pressure.
Machine stops after turret cycle.	**Unload spool is full.**	Empty spools and restart in automatic mode.

Product Quality Problems

Look in this section when the extrudate shows annular rings in the cross-sectional cut of the product.

Problem--	Possible cause	Solution
Coiled material too tight.	**Loop control out of calibration.**	Adjust loop control setpoint.
	Settings on Spool Data page incorrect.	Correct spool settings on Spool Data page.
Coiled material too loose.	**Loop control out of calibration.**	Adjust loop control setpoint.
	Settings on Spool Data page incorrect.	Correct spool settings on Spool Data page.

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. Most manuals can be downloaded free of charge from the product section of the Conair website. www.conairgroup.com

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. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

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 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.