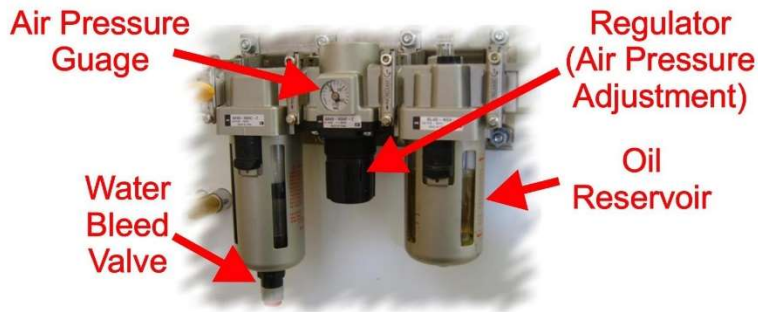
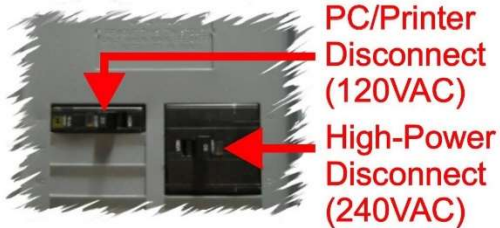


Starting the Saw



Check that water is properly bleeding from the regulator and check that the oil reservoir contains oil. Check that you have operational air pressure on your regulator. The normal operational range for Model 1150 saws is 55-60PSI, for Model 1200 saws it is 70-80PSI.

Carefully clean the cooling system filter (avoid damaging the filter element). Replace the element **at least** monthly (Purolator Part#: A40004, or equivalent).



Activate the main power disconnects (make sure both circuit-breakers are turned on). Wait for the PC to finish loading Microsoft Windows, then double-click the shortcut to start the saw's operating software (usually "WebSaw Interface") located on the Windows desktop.



After the software loads, it will display the Select User to Log On screen. This screen may show "User 1" through "User 5", or it may display the names of the saw's operators. Choose the correct user-name, then click OK to proceed.

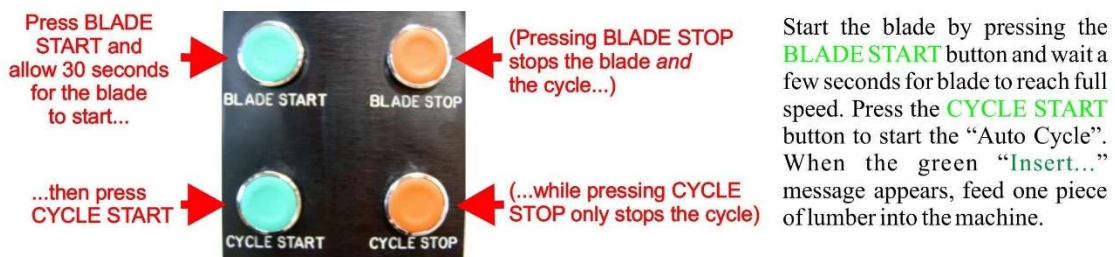
(Note: If your location plans to assign only one operator to the saw, you can leave the selection on "User 1", and click OK. This will still allow combined statistics to be tracked on the Report Screen.)



Operating the saw



Make certain that the saw's cage door is closed and latched! Check that the E-STOP button is not engaged, and that its light is not active. Activate the machine by pressing the green **POWER** button. Turn the CONVEYOR switch to ON to activate the waste conveyor.

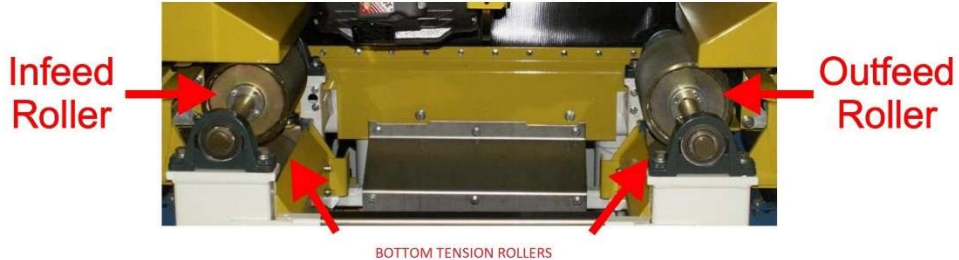


NOTE: Never attempt to start the blade-motor while the blade is spinning. Always allow the blade to come to a complete stop before attempting to restart the blade-motor.

Overview

Feed-Rollers

Infeed- and Outfeed-Rollers are used to move wood through the WebSaw. They determine the accuracy of the lengths of cut boards.



It is important that the rollers keep firm traction on the lumber. Spring tension should be adjusted so that the feed-rollers apply the right amount of pressure on boards. The feed-rollers and encoder-rollers should be cleaned **at least** at the end of each shift. Use WD-40 or similar solvents to clean the rollers, before cleaning them with a stiff wire-brush.

Thru-Beam Sensors

The Thru-Beam sensors are used to detect when a board enters the saw. When the sensors detect lumber, the software triggers the machine to begin cutting. It is important that the path between these sensors is kept clear of sawdust and wood particles.

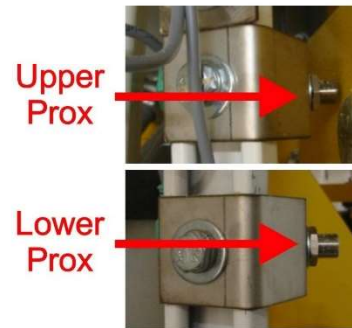


Linear-Encoder/Vertical-Limit Sensors

Model 1150 saws use a linear-encoder sensor to determine the carriage position, and two proximity sensors to double-check the linear-encoder's operation. The linear-encoder allows the carriage to drop only as far as needed to complete a cut, saving time during the cycle.



Carriage Position Sensors



Model 1200 saws use only upper and lower position sensors mounted to one lift-cylinder. The WebSaw Interface shows the position of the carriage with an icon in the lower-right of the display. The icon will move down and up as the saw cycles. If the icon indicates the carriage is not at its up position, the air-supply may have diminished, or there may be an electrical or mechanical problem with the machine.

Hardstop (1150 saws)

The Hardstop protects the carriage pivot from traveling past its designed limits. If the pivot is required to “Home” before running the machine (some 1150 versions), the inner Hardstop stud sets the base home position. Minor adjustments to the angulation can be made in the saw software.

Homing Stud

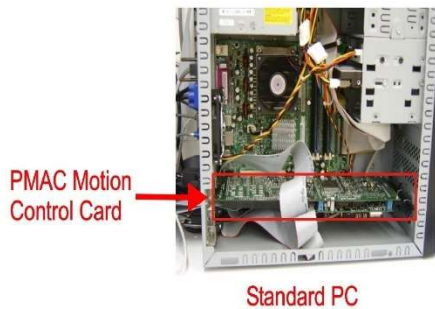


Overtravel Stud



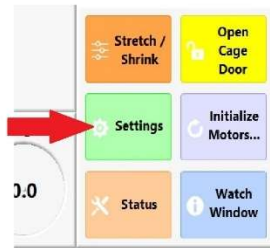
Motion Control

The saw uses two computers to control its operations. One is a standard desktop-style PC running Microsoft Windows XP. In addition to this a second computer (called a PMAC Motion Control card) is located inside the PC. The PMAC card is a 16-bit computer running a real-time operating system, and is the bridge between the saw’s software-interface and it’s physical components.

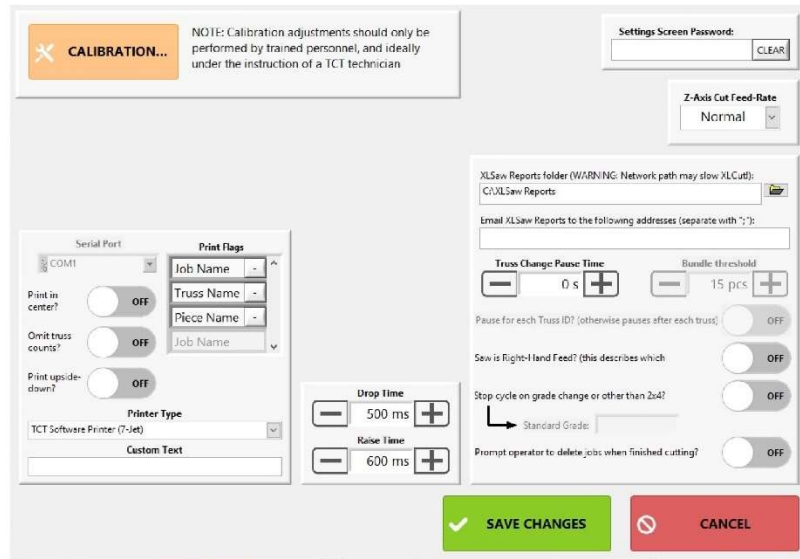


PMAC Motion Control Card

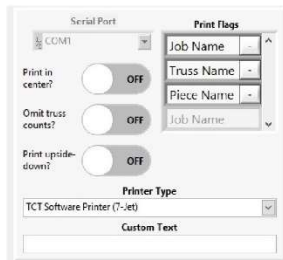
Standard PC



Click the “Set Up Screen” button on the WebSaw Interface main screen to show the Set Up screen (Version 350 shown...).



The Set Up Screen allows the operator to check the status of the systems of the saw, and to change certain settings relating to the way the machine operates.



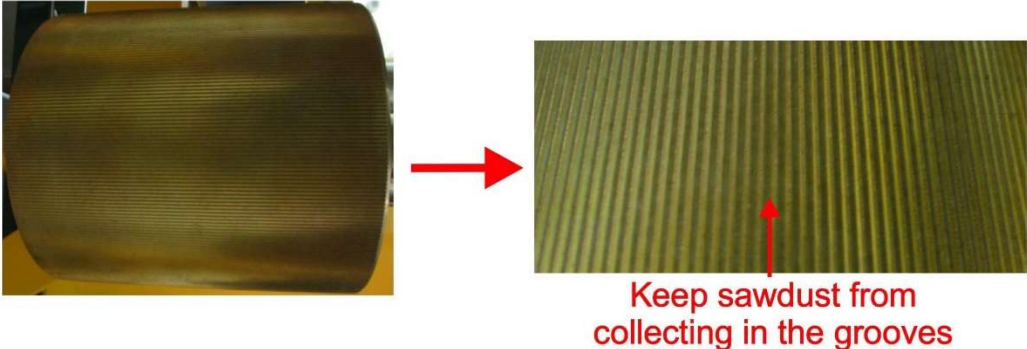
Printer quality settings can be adjusted using the “Printer Settings” section of the Set Up screen. You can disable the printing system and select which fields to print under the ENABLE PRINTING area of the Set Up Screen. Refer to “Configuring the Printer” later in this manual for further information.

Most of the software adjustments and settings for the saw can be found on the Set Up screen. For details on updating the saw’s operating software see the section titled Software.

General Maintenance

Feed Rollers

The saw's Feed- and Encoder-Rollers must be cleaned each shift for them to keep traction on the lumber. TCT recommends soaking the rollers with ^{W-D 40} while blowing the sawdust from the rest of the saw, then cleaning the rollers (top AND bottom) with a stiff wire-brush.



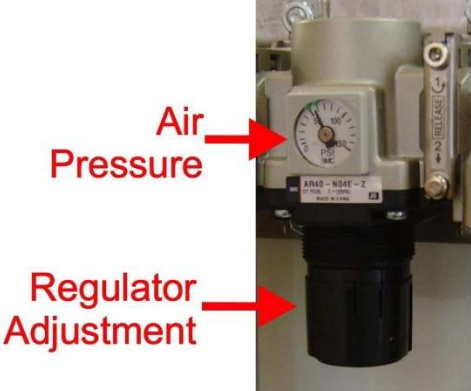
Printhead cleaning

Clean at the end of every shift

Air Pressure

Operational range for Model 1150 saws is from 55-60PSI and Model 1200 saws operate at 70-80PSI. Observe the air-pressure as the saw runs. It should not drop more than 10PSI while running (reasons for this behavior include insufficient air supply, i.e. compressor or air lines too small, or too many tools connected to the same line). If necessary, add an additional compressor.

NOTE: The recommended size for the incoming air-hose is 3/4" I/D.



Oil Flow Control

Pneumatic Air-Tool Oil



Pneumatics

Keep oil reservoir supplied with approved pneumatic oil. Adjust oil flow control till the oil in the reservoir lasts between 2-3 weeks each time it is filled (when properly adjusted, you should see one drop of oil through the flow control knob for every 10 strokes of the carriage).

Blade Motor

Grease the blade motor once every 12 months, using two pumps of a standard grease-gun per grease fitting. **DO NOT** over-grease the motor. The saw blade nut is right-hand (standard) thread. Be sure to use only the approved wrench when removing or installing the blade. Clean the threads and apply a light amount of oil to them before installing the blade and tightening the blade-nut.



Grease Fittings

Bearing Pillow Blocks

Once every 3-6 months, lightly grease each pillow block, using two pumps of a standard grease-gun per grease fitting. **DO NOT** over-grease bearings.



Grease Fittings





**Keep
Tight**

Bolts and Set-Screws

Periodically check for any loose bolts, nuts, or set-screws. Tighten all sensor mounting brackets, encoder stabilizer brackets, and the two Lovejoy couplings (it may be necessary to remove the sleeve covering the Lovejoy couplings to inspect their set-screws). A common cause of length issues is loose Lovejoy set-screws.

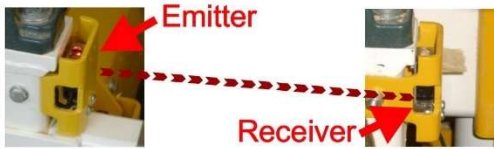
Electrical

Regularly check that all panel doors are secure and that the ventilation-fan is operating and the filter is clean. Continuously check all conduit for tightness and signs of wear. *NOTE: Loose wires should be routed and tied back to minimize wear or damage.*

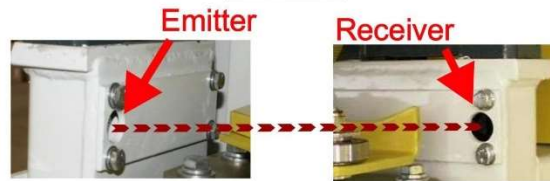
Thru-Beam Sensors

The saw utilizes Thru-Beam sensors to detect when a board is inserted into the machine. The performance of these sensors is greatly reduced when sawdust is allowed to collect in front of the 'window' of the sensors. Make sure the path between the sensors is kept clear of sawdust, wood scraps, and solids of any type. The most common symptom that results from a dirty or blocked Thru-Beam sensor is that the saw will not accept lumber from the operator. Simply check for sawdust on the faces of the sensors.

Model 1150



Model 1200



Door-Lock

Clean the door interlocking mechanism at the end of each shift by gently brushing away any saw dust buildup. Avoid using compressed air; this can jam the mechanism. Lubricate the lock with a lightweight, dry silicon. If the door lock does not operate properly, remove the cover and carefully lubricate the plunger and all moving parts.



Key (used to open door with no power)

Keep Clean



Every 6 months (or as needed), disassemble the door-lock, and clean and lubricate it as shown below.



Lubricate carefully...



...Remove screws...



...Gently separate halves...



...Clean and lubricate carefully...



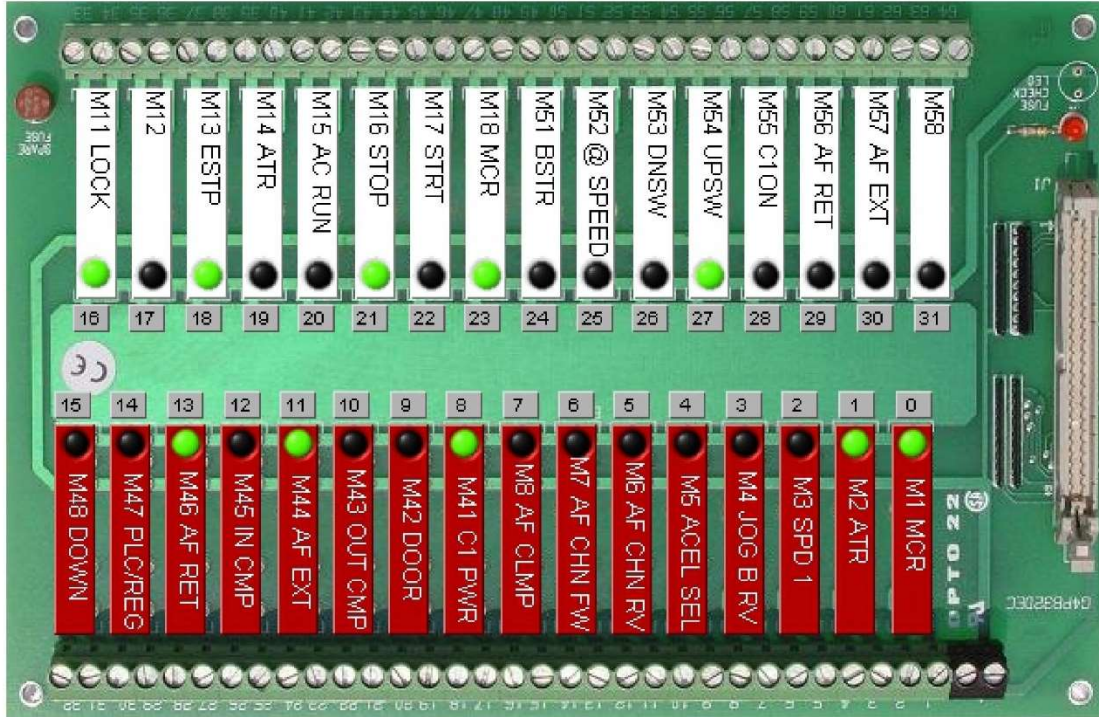
...Reassemble

Cleaning the Printing System

The printhead should be cleaned (as shown) at least once per 8 hour shift.



WARNING: NEVER use compressed air to clean the Printhead, as severe damage will occur. This type of damage is not covered under warranty (minium repair charge is \$750).



IOTB (Input/Output Modules and Terminal Board)

The Set Up screen shows a picture of the IOTB in the electrical cabinet. This Input/Output Terminal Board contains white Input Modules (top) and red Output Modules (bottom). Both Input and Output modules have a status LED (light) on them, that indicates whether they are on or off. Input Modules will be lit if they are receiving a signal from their associated circuit, whereas Output Modules will be lit if they are sending a signal to their associated circuit.

Output Modules also have brown fuses attached (example is near the top left of the picture). If a particular circuit is not functioning, but the associated Output Module's LED is lit, its fuse may be blown. Check the fuse by removing it from the module, and inserting it into the socket labeled FUSE CHECK LED, near the top right of the IOTB. If the LED lights, the fuse is good.

The Set Up screen shows the status of all the modules on the IOTB. If a white Input Module has a green light, the software senses a signal from that module's inputs. If a red Output Module is shows a green light, the software is sending a signal to that particular module on the IOTB. Output Modules can still be blown even if a light is showing on the Set Up screen, since the software cannot detect that a signal was successfully transmitted through the module. However, it is rare for Input AND Output Modules to fail.

NOTE: Input and Output modules are not interchangeable with each-other, and as such, if a module needs replacement, you must replace it with the same color module.

TCT Linear-Feed Saw Troubleshooting Guide

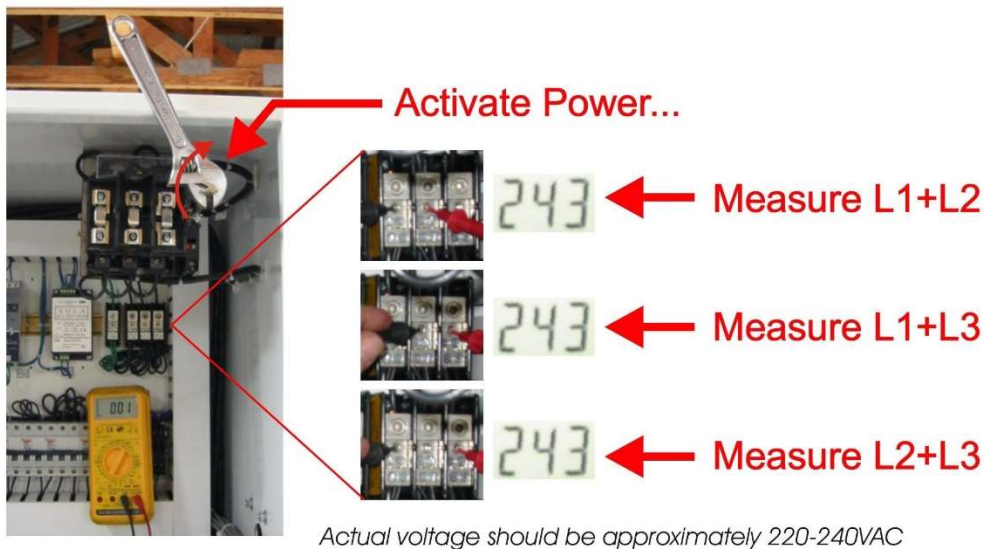
Does restarting the saw resolve the problem?

QUIT the WebSaw Interface and shutdown the saw's computer (START -> Shut Down). Once the screen has gone blank (or says 'No Signal'), turn off both circuit-breakers to the left of the electrical cabinet and allow the machine to reset for 5 minutes (this allows the power to drain from the system). *NOTE: Do not simply restart Windows, as this does not reset the entire machine!*

After 5 minutes, start the saw again, then check to see if the problem still exists.

Is 3-phase power present? (*DANGER: High-Voltage, Use Extreme Caution*)

If a phase of the incoming 3 phase power is lost, the saw may appear to operate normally, but some systems will not function properly. Measure the voltage across each phase, as shown below. If any problems are found, have a qualified electrician inspect the saw immediately.

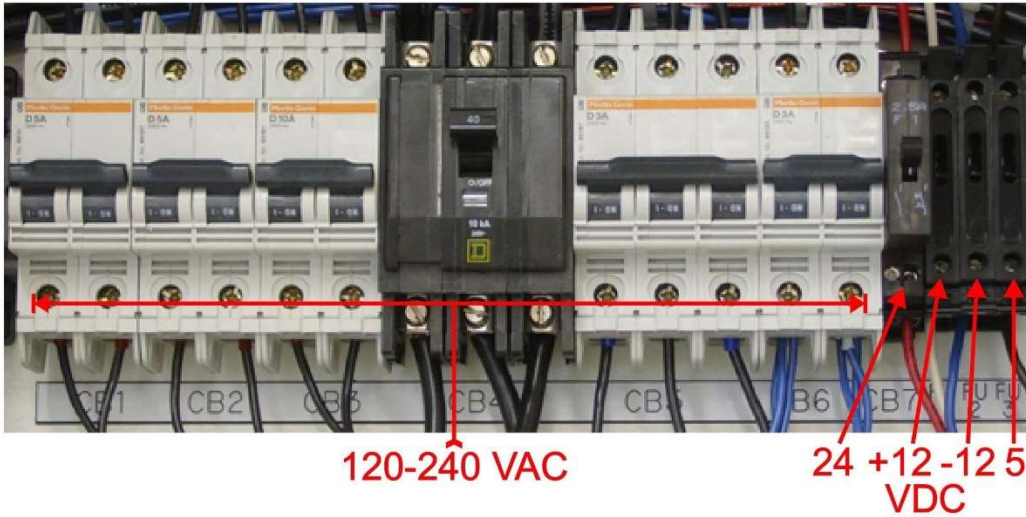


Is the cut file located on the saw's hard disk?

Only load cut-files that have been copied to the C:\JOBS folder on the saw's computer. Attempting to load files directly from a flash-drive or a network location can slow the operation of the software, and may cause some functions to fail.

Do other parts cut correctly?

Attempt to cut a different part. If this part cuts properly, the problem may be with the orientation or details of the part that fails to cut. If not, create a web in the Build Part screen (see pg. 2.12), and attempt to cut it.



Are any circuit-breakers or fuses tripped/blown? (WARNING: USE EXTREME CAUTION)

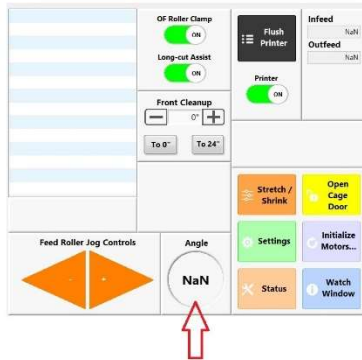
Measure the voltage on the bottom side of each breaker and fuse (use the diagram above). Find the cause of any tripped breaker, and replace any fuses that are blown.

Is the machine overheating

Check that the ventilation fan and PC cooling-fans are running. Clean the ventilation-filter or replace it if necessary (should be replaced once per month, or more often if required).

Is the air-supply adequate?

The air-pressure should read 55-60PSI or 70-80PSI (see pg. 1.1) at the regulator, depending on the model of the saw. Pressure should not drop more than 10 PSI during the saw's cycle.



when the infeed and outfeed positions say "NaN" it means that the computer is not communicating with the PMAC

Is the machine in an E-STOP condition?

1) Check E-Stop Button

Check that the E-Stop button has not been engaged.

**Disengage
E-STOP button** →
(Turn clockwise)



2) Cage door is open

Check that the WebSaw's door is closed, and that the computer is receiving a signal from the door-lock.



3) E-Stop lost 24VDC

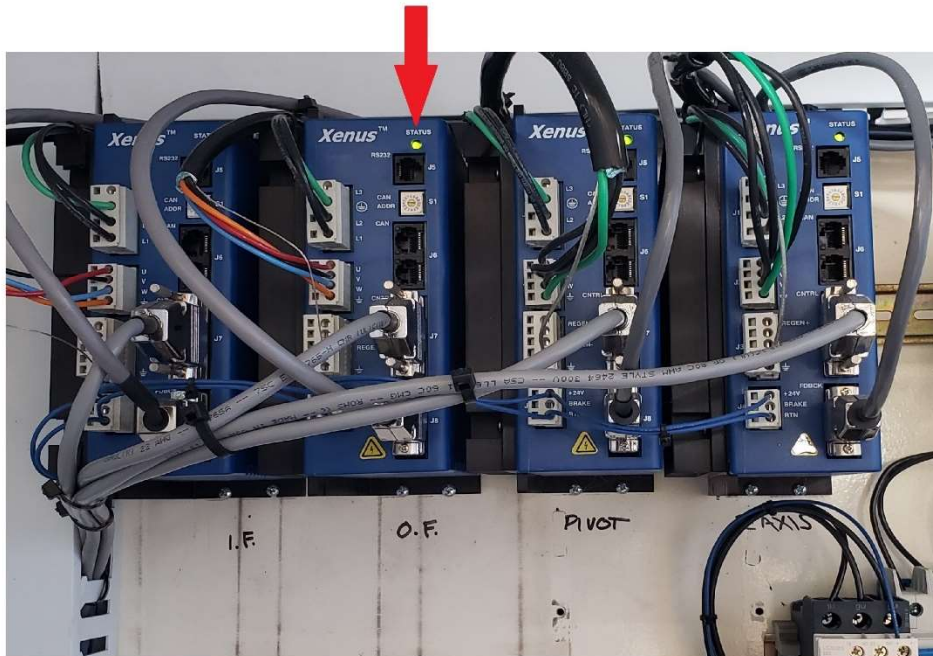
Check that the ESR relay is getting 24VDC; if not, check the 24VDC circuit-breaker.

Motor Faults

If lumber feeds into the WebSaw and either: 1) the board stops before making a cut, or 2) the saw cuts one or more cuts on the front side of the board, then ejects the board, open the Set Up screen and look for a Fault, Warn, or Fatal indication in the Motor Data section (see pg. 2.10). If one of these indicators is lit, visually check for anything that would cause the board to jam, and correct any problems found. If nothing obvious is found, inspect the cables that connect to the feed and pivot servo motors for damage or signs of damage or wear.

If the cycle won't start at all, try to rotate the blade and jog the feed-rollers manually using the controls on the Set Up screen. If there is a problem with any servo system, the saw may refuse to run altogether.

**AMPS SHOULD HAVE A GREEN STATUS LIGHT
IN THE UPPER RIGHT CORNER**



AC - Tech VFD Configuration

WARNING: HIGH-VOLTAGES PRESENT--USE EXTREME CAUTION

Open electrical cabinet door and reactivate power
With the cabinet door open it is necessary to use a wrench to turn the power disconnect to the on position.

Reactivate Power →



High-Voltage Inside Cabinet

Press the POWER button and note that the POWER light activates



When power button is pushed, AC-Tech contactor should activate



AC-Tech should show " - - - "



Enter Password

Press the Mode button on the AC-Tech (the display should show 00) and use the Up Arrow button to scroll up to 225, the default password. Press Mode again to enter the password and proceed to the parameter listing.



Change Parameters

The first parameter (P01) will appear on the display. Press Mode to view the current setting for P01, or press the Up or Down Arrow buttons to scroll through the parameter listing. If a setting change is needed, press the Mode button to view the current setting, and use the scroll arrows to change the value as needed. Pressing Mode once at this point will put the AC-Tech back into standby mode (---); press Mode once more to return to the parameter listing. When all changes have been made, press Mode until the display shows ---.



AC-Tech Error Codes

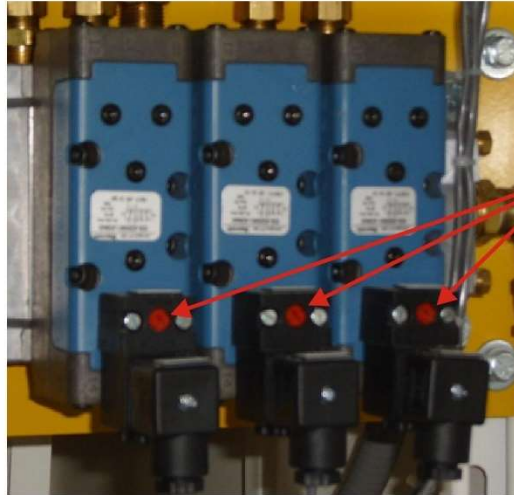
Fault	Description & Possible Causes
AF	<i>High Temperature Fault:</i> Ambient temperature is too high; Cooling fan has failed (if equipped).
CF	<i>Control Fault:</i> A blank EPM, or an EPM with corrupted data has been installed. Perform a factory reset using Parameter 48 - PROGRAM SELECTION.
cF	<i>Incompatibility Fault:</i> An EPM with a different parameter version has been installed. Either remove the EPM or perform a factory reset (Parameter 48) to change the parameter version of the EPM to match the parameter version of the drive.
dF	<i>Dynamic Braking Fault:</i> The drive has sensed that the dynamic braking resistors are overheating and shuts down to protect the resistors.
EF	<i>External Fault:</i> TB-13A and/or TB-13C is set as an External Fault input and TB-13A and/or TB-13C is open with respect to TB-2. Refer to Parameter 10 and/or 12.
GF	<i>Data Fault:</i> User data and OEM defaults in the EPM are corrupted.
HF	<i>High DC Bus Voltage Fault:</i> Line voltage is too high; Deceleration rate is too fast; Overhauling load. For fast deceleration or overhauling loads, dynamic braking may be required.
JF	<i>Serial Fault:</i> The watchdog timer has timed out, indication that the serial link has been lost.
LF	<i>Low DC Bus Voltage Fault:</i> Line voltage is too low.
OF	<i>Output Transistor Fault:</i> Phase to phase or phase to ground short circuit on the output; Failed output transistor; Boost settings are too high; Acceleration rate is too fast.
PF	<i>Current Overload Fault:</i> VFD is undersized for the application; Mechanical problem with the driven equipment.
SF	<i>Single-phase Fault:</i> Single-phase input power has been applied to a three-phase drive.
UF	<i>Start Fault:</i> Start command was present when the drive was powered up. Must wait 2 seconds after power-up to apply Start command if START METHOD is set to NORMAL.
F 1	<i>EPM fault:</i> The EPM is missing or damaged.
F 2-F 9, F o	<i>Internal Faults:</i> The control board has sensed a problem - consult factory.

NOTE: See page 48 of AC-Tech manual for more details.

Pneumatic Ceram-Valves

Pneumatic valves are used to control the clamps and carriage cylinders. It is imperative that the air supply has minimum moisture content to ensure their long term operation. If maintenance is required, the manual override buttons can be used to test the valve's mechanical function, bypassing the electrical system (also useful when the machine is not powered). The machine's oiler should be applying one 'drop' of oil Make sure you are consuming oil as described in the section titled "Maintenance".

NOTE: Recommended oil for maintenance is standard Pneumatic Tool Oil, available at most hardware and automotive stores..



Manual Override:

Allows you to bypass the electronic control circuit and manually activate each valve. Push in and turn 1/8 turn to the right to lock. Turn to the left to unlock.

TCT Linear-Feed Saw Calibration Guide

Fence Setup (Model 1150)

This section describes the steps required to setup a fence that has lost its calibration. Find a straight board, which is as long as possible (*This test requires long lumber; short boards will not give accurate results*). Align the board with the fence and jog the feed rollers to the right, stopping before the board leaves the outfeed roller. The board should stay adjacent to the fence, and not move away from it.

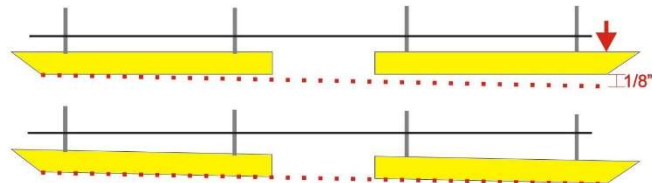


Next, jog the board left, towards the operator station. If the fence is correctly angled, the board will travel away from the fence just slightly as it is moved backwards through the machine.

If the board moves away from the fence more than $\frac{1}{2}$ " in 10', the fence's angle may be too steep. Adjustment consists of moving the outfeed side of the fence so that it is about $\frac{1}{8}$ " closer to the front of the WebSaw than the infeed side. NOTE that if an adjustment is made, you may need to realign the fence halves (using a long straight-edge).

- 1) Fully loosen all four (4) outfeed fence mounting nuts, and slide the fence towards the back of the machine.
- 2) Adjust the infeed fence right-hand (inner) stud to obtain the correct starting measurement of $7\frac{1}{4}$ " from the fence mounting point in the frame to the face of the fence (in-line with the stud).
- 3) Carefully insert a 6' straight-edge along the face of the infeed fence, centering it in the saw.
- 4) Actuate the infeed clamp by pushing in and turning the RED button on the infeed pneumatic-valve solenoid.
- 5) Adjust left-hand (outer) infeed stud till the distance from the leftmost mounting point to the left end of the straight edge should be $\frac{1}{8}$ " less than the measurement from the rightmost mounting point to the right end of the straight edge.
- 6) Remove the straight edge, and cut a board with 45° and 135° angles on the front side. Is only necessary to cut the front side of the board. Verify center of cut is correct ($1\frac{3}{4}$ " from the edge that was against the fence). If not, adjust the two infeed fence studs equally to achieve proper center of cut.
- 7) Clamp the straight-edge in the infeed side again. Bring the outfeed fence up so that the face of the fence touches, but DOES NOT DEFLECT, the straight edge.
- 8) Insert a long board into the infeed side, against the fence, and jog it part-way through the saw (stop jogging before the board leaves the outfeed roller). The board should stay near the fence as it travels right through the saw. Then jog the board back out to the left. The board should move away from the fence $\frac{3}{8}$ " to $\frac{5}{8}$ " after moving about 6'. If the board does not stay against the fence, or it moves away too far during the return, it may be necessary to tweak the fence angle.
- 9) Remove the long board and insert a 3' board into the machine, against the fence, and jog into the saw. Note whether it travels straight, or pivots toward the rear of the saw (left end moves away from the fence, right end moves toward the fence). If the board pivots significantly, the infeed encoder roller will need to be realigned to "aim" the board so that it moves straight into the saw.

NOTE: It is very important that the two fence halves be aligned correctly with each other, otherwise the saw may have difficulty moving boards through itself.



90° Angle Adjustment

Determine Pivot Motor Type (1150 Models)

For Model 1150 saws, it is important to identify the type of pivot system that is installed on the saw. Open the cage-door, and physically look at the top of the carriage. You will see either of the following types: (be sure the Direct DV checkbox in the Blade Angle section matches the pivot system installed on your machine)



Direct-Drive (NSK) Type (1200 & 1150)

Calibration:

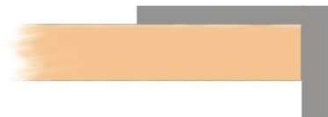
Use the Manual Cut screen to design a board with a 90° angle on each end. Insert a board 4' long into the saw and allow the first cut to be made, then stop the cycle and jog the board back toward the operator station. Check the angle with a large, accurate carpenter's square.

ANGLE ADJUST SETTING ON A GEARBOX SAW IS USUALLY 8 TO 10 DEGREES

Hardstop (1150 Models Only)

To check that the hardstop is set correctly, open the cage door, and rotate the blade by hand clockwise till the head meets the inner hardstop stud (the face of the blade should be toward you). The 'Blade Angle' indicator should show a number between 8.5° and 9.5°. If not, adjust the inner stud. Then rotate the blade counter-clockwise till the head meets the outer hardstop stud. The 'Blade Angle' indicator should now show a number between 170.5° and 171.5°. If not, adjust the outer stud.

Once the hardstop is set, check that the outfeed roller is centered between the blade's two extremes.



- OR -



Worm-Gear Type (Some 1150 Models)

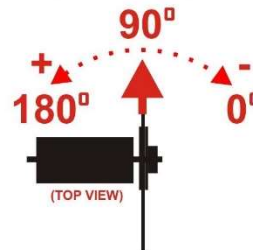
When the blade is homed, it pivots clockwise till it meets the homing (inner) hardstop stud. This stud is set to about 8.5° on Model 1150 saws. The blade then pivots counter-clockwise by the amount specified in the '90 adj' box (usually around 81.5°), and sets this new position as 90°.

Calibration:

Use the Manual Cut screen (*see pg. 2.12*) to design a board with a 90° angle on each end. Insert a board 4' long into the saw and allow the first cut to be made, then stop the cycle and jog the board back toward the operator station. Check the angle with a large, accurate carpenter's square.

If the cut was less than 90°, increase the '90 adj' value (ten clicks equal 1°). If the cut was greater than 90°, decrease the adjustment. When you are finished, the adjustment normally will be approximately 81.5°. Home the blade to apply the new value, then repeat the 90° test to verify the adjustment was successful. *NOTE: On this type of pivot-motor setup, the '90 adj' value is only applied after the saw's blade has been homed.*

Because the hardstop plays a critical role in the accuracy of angles on this type of pivot-motor setup, it is not recommended that the hardstop be adjusted. If you need to adjust the hardstop, it is best to contact TCT Manufacturing, Inc and speak with a service technician.



Kerf Adjustment

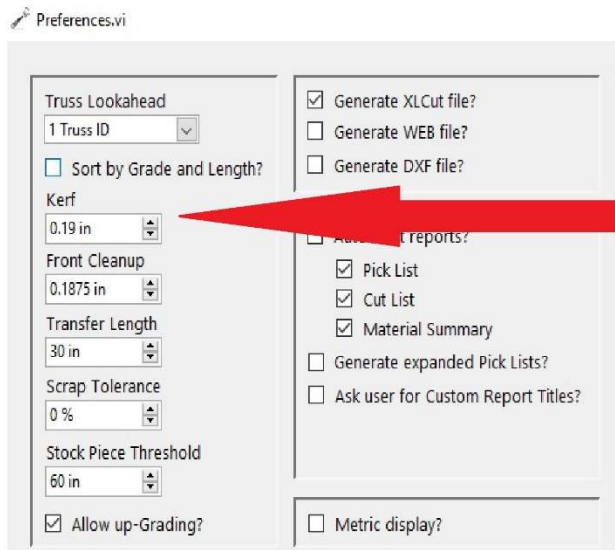
The kerf adjustment tells the saw how thick its blade is, and thus how much material will be removed from the board by the blade during each cut. Four-angle webs will be affected more by the kerf adjustment than simple 90/90 boards. This adjustment should be checked if you notice a difference between three- or four-angle webs and two-angle parts.

Cut two 4' long parts: one with 90° angles on both ends, and one with a 30° and a 150° angle on each end, as pictured below.



Compare the length of the two parts you cut. It is not important yet that the parts are cut exactly 4'; however, both parts should be identical in length.

If the pointed (30°/150°) board is shorter than the 90° board, increase the kerf adjustment; if the pointed board is longer than the 90° board, reduce the adjustment. It is important to not make large changes to this number; generally it will be between 0.210 and 0.230 for Model 1150 saws (or any saw with a 24" blade), and 0.180 and 0.200 for Model 1200 saws. Repeat the test and make another adjustments if necessary.



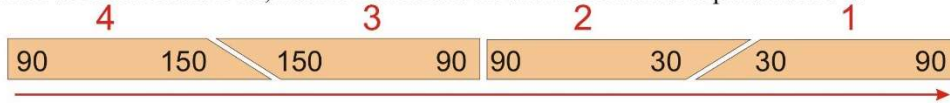
**KERF IS SET IN THE PREFERENCE
SCREEN IN THE XL-OPT PROGRAM**

‘30-150’ Testing Guide

The ‘30-150’ test is a cut sequence designed to show that the TCT WebSaw is calibrated correctly and cutting accurately. The saw is correctly calibrated if, and only if, the parts are cut identically. If the boards aren’t equal, this section will help diagnose which area(s) of the WebSaw needs adjustment.

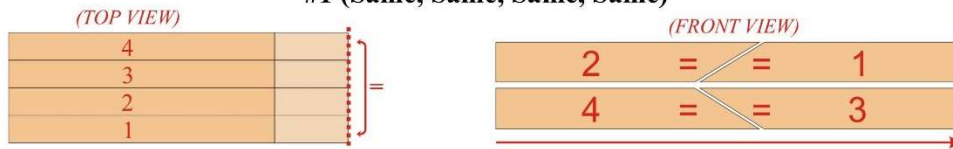
Testing the 30-150

You MUST use straight, high-quality lumber that is *exactly* 3 1/2” wide for this test, or the results will not be valid! Use one stock board to cut all four parts. Cut a series of two 90-30 and two 90-150 boards, each one 18” long, as shown below. As each board is cut, mark its number and the direction it was cut as pictured below.



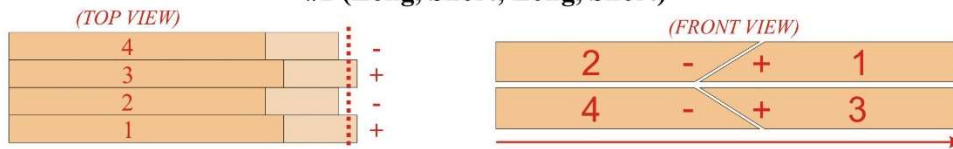
Now stack the boards vertically (as shown below) in the order they were cut (1, 2, 3, then 4) on a FLAT, CLEAN SURFACE. Compare the stack with the following scenarios to determine if any adjustment is needed or what adjustment needs to be made. (NOTE that the 30° and 150° angles must be correct, or the test will not be valid)

#1 (Same, Same, Same, Same)



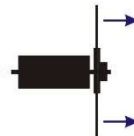
All parts are the same. The WebSaw is calibrated correctly; no adjustments are needed.

#2 (Long, Short, Long, Short)

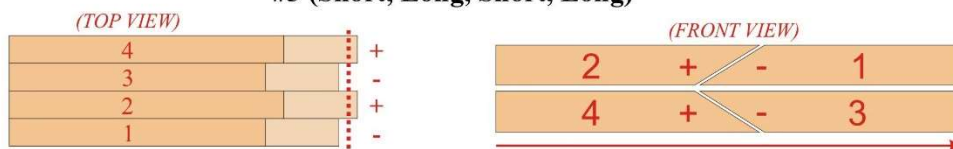


1 and 3 are long; 2 and 4 are short.

Resolution: Blade is too far to the left. Adjust the blade motor to the right, half the amount of difference between the boards.

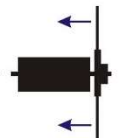


#3 (Short, Long, Short, Long)

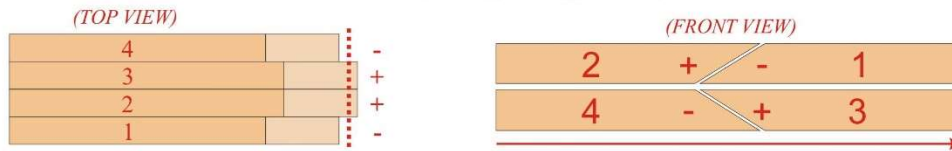


1 and 3 are short; 2 and 4 are long.

Resolution: Blade is too far to the right. Adjust the blade motor to the left, half the amount of difference between the boards.



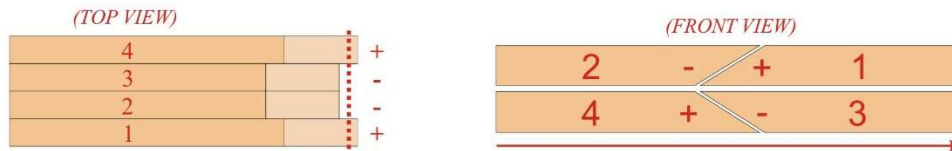
#4 (Short, Long, Long, Short)



1 and 4 are long; 2 and 3 are short.

Resolution: Fence is too far towards the front of the WebSaw. Perform the Centerline Calibration test to determine how far to move the fence.

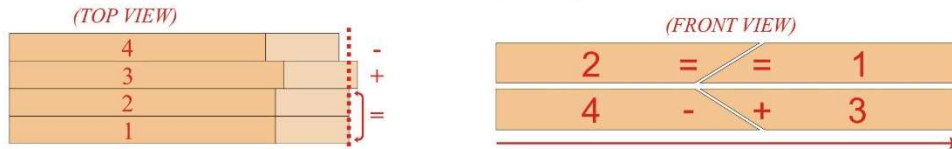
#5 (Long, Short, Short, Long)



1 and 4 are short; 2 and 3 are long.

Resolution: Fence is too far away from the front of the WebSaw. Perform the Centerline Calibration test to determine how far to move the fence.

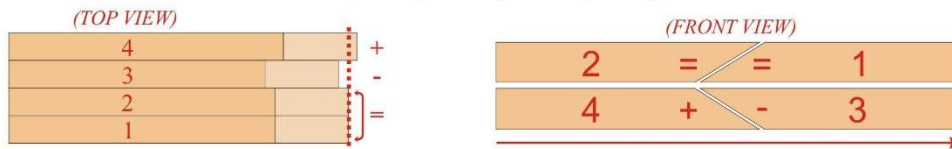
#6 (Same, Same, Long, Short)



1 and 2 are equal; 3 is long and 4 is short.

Resolution: This is a combination of Scenario #5 (the fence is too far away from the front of the WebSaw), and Scenario #2 (the blade is too far to the left). Perform the Centerline Calibration test to determine how far to move the fence, repeat the 30-150 test, then adjust the blade motor the correct amount.

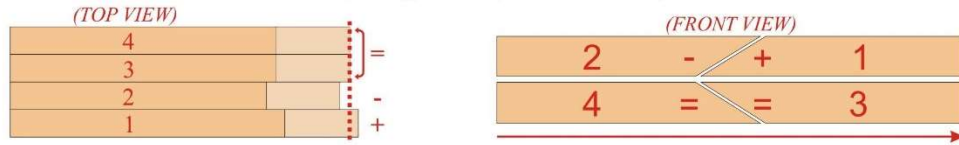
#7 (Same, Same, Short, Long)



1 and 2 are equal; 3 is short and 4 is long.

Resolution: This is a combination of Scenario #4 (the fence is too far toward the front of the WebSaw), and Scenario #3 (the blade is too far to the right). Perform the Centerline Calibration test to determine how far to move the fence, repeat the 30-150 test, then adjust the blade motor the correct amount.

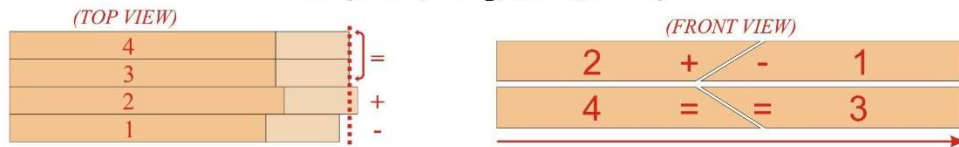
#8 (Long, Short, Same, Same)



1 is long and 2 is short; 3 and 4 are equal

Resolution: This is a combination of Scenario #4 (the fence is too far toward the front of the WebSaw), and Scenario #2 (the blade is too far to the left). Perform the Centerline Calibration test to determine how far to move the fence, repeat the 30-150 test, then adjust the blade motor the correct amount.

#9 (Short, Long, Same, Same)



1 is short and 2 is long; 3 and 4 are equal

Resolution: This is a combination of Scenario #5 (the fence is too far toward the front of the WebSaw), and Scenario #3 (the blade is too far to the right). Perform the Centerline Calibration test to determine how far to move the fence, repeat the 30-150 test, then adjust the blade motor the correct amount.