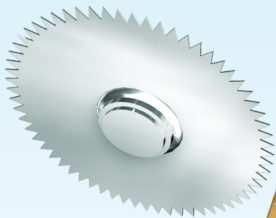




SERVICE GUIDE



**DAZER
DAZER**

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BASIC SERVICE PROCESS

1. Move the saw head all the way to the front of the machine and press the E-stop button.
2. Disable the blade motor as appropriate:
 - » Safety PLC: Enter commissioning mode.
 - » Safety relay: Remove power plug from motor and secure with electrical tape ensuring no interference is possible when the head rotates or bevels
3. Allow the saw to be run with the door open as appropriate:
 - » Safety PLC: Enter commissioning mode.
 - » Safety relay: Bypass the door and all other guard interlocks.
4. Start the Simple/PMAC backup and update procedure (see page 12).
5. As this is running, remove all guards while occasionally moving back to the monitor to keep downloading the PLCs. Leave all fasteners in their respective positions once the guards are off except for the Y-axis centre brush cover and rear frame cover.



Note: leave the dome, the Y-axis centre brush cover and the 4 front screws on the Y-axis centre brush cover until last.

6. When the update process is finished, home the saw and lift the dome.
7. Remove the last 4 screws of the Y-axis centre brush cover and the cover itself.
8. Turn on the dust extractor and thoroughly blow down the machine (including the electrical cabinets) using a top-down approach (see page 33) while on the lookout for any superficial damage.
9. Grease the entire saw (see page 26) starting with the saw chamber and working around while performing as many of the more simple checks as you can remember from the checklist as you move through.



Note: Also, be on the lookout for anything that looks incorrect or damaged. If you find something, note it down and keep greasing.

10. Once the greasing is complete, go ahead and work through any remaining saw checks and feeder checks you can remember.
11. Have a look through the Razer saw checklist from the Detailed Service Checklist only (saw chamber and feeders) and tidy up anything you have missed that requires the guards to be off. Leave the checks that require clamped timber to the very end.



CAUTION

Keep in mind some actions require an E-stop condition, so make sure the motor plug is in a safe location.



Note: this is also a good time to isolate the air supply (see page 10) to perform all checks required without the air.

12. Consider performing any minor remedial work required on the saw chamber and feeders that you wish to complete on the service.



Note: major items that cannot fit into the time of the service should first be discussed with the site production manager.

13. Refit all guards.

14. Work through the remainder of the Detailed Service Checklist which can be done fairly sequentially (i.e. AIT, OFK, follower, printer and so on).

15. Once all checks and minor repairs are complete, revisit the tasks that require clamped timber (e.g. rollers come down low enough, saw level, printer heights, thickness sensor, width sensor, etc.).

16. Check the blade alignment if necessary.

17. Perform the length calibration procedure (see page 49) and check follower zero offset (see page 1).

18. Remove all bypasses, exit commissioning mode and complete the cut calibrations (see page 53).

19. Get the operators to cut for as long as possible under full production (minimum 1 hour, ideally 2 hours), measuring every piece for 30 minutes. Make necessary tweaks where needed and answer any operator questions.

20. Once done for the day, take a backup (see page 12) and put on Google Drive.

ISOLATION PROCEDURES



Note: the isolation procedures below are to be followed when required by a maintenance operation.

Electrical isolation

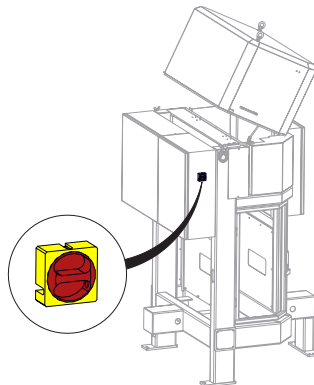
Saw

1. Save any open files and close Simple.
2. Shut down the PC (Start Menu > Shut down).
3. Hold down the red STOP button on the operator console for 3 seconds.
4. Press the E-stop button on the operator console.
5. Remove all timber from the saw.



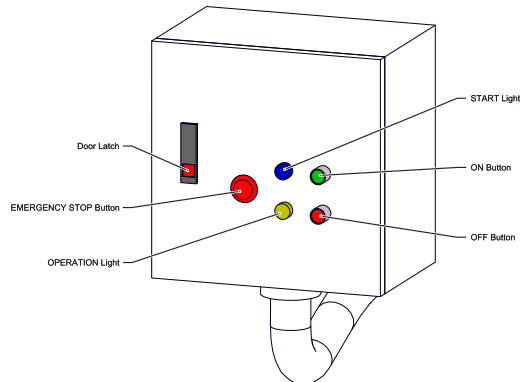
Note: make sure the PC is now completely off and the monitor is blank before continuing.

6. Turn off the electrical isolation switch on the front of the saw.
7. Lock out / tag out the electrical isolation switch.



Dust Extractor (if required)

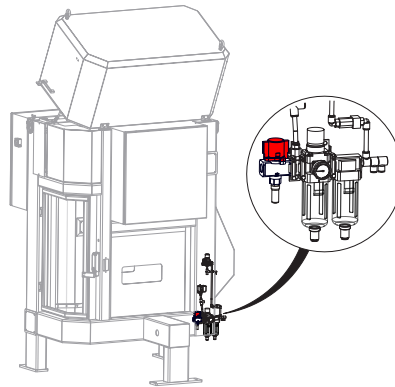
1. Press the red STOP button on the dust extractor control panel.
2. Press the E-stop button on the dust extractor control panel.



3. Isolate the incoming power supply to the dust extractor.
4. Lock out / tag out the incoming power supply to the dust extractor.

Pneumatic isolation

1. Turn off the pneumatic isolation switch on the pneumatic unit.
2. Lock out / tag out the pneumatic isolation switch.



GENERAL

Create a saw backup



Note: A backup should be taken immediately before starting the service and at the end of the service. You may notice prefixes used such as Pre and Post when referring to backups.

Simple backup

1. Save any open files and close Simple.
2. Navigate to the `C:\Tools\` folder and check if it contains a script named "Backup Simple.vbs".



Note: The backup script make the backup process easier. If the script is present, you can proceed with the automated backup. Otherwise, follow the manual procedure.

Automated backup

3. Double-click "Backup Simple.vbs" to run the backup script.
4. Click in the Windows Script Host box that appears.
5. When prompted to enter a folder name for the backup, change the default name with the name of the person doing the backup and the reason for backing up to the following standard format: `[date:YYYY-MM-DD]_[name]_[prefix]Service`

EXAMPLE

For a backup preceding a service conducted on 10 February 2016 by Joe, the folder name should be `2016-02-10_Joe_PreService`.

6. Click to automatically create the backup in the `C:\Simple\Backups\` folder.

Manual backup

3. Navigate to the `C:\Simple\Backups\` folder and create a new folder for the backup.
4. Rename the new folder with the name of the person doing the backup and the reason for backing up in the following standard format: `[date:YYYY-MM-DD]_[name]_[prefix]Service`

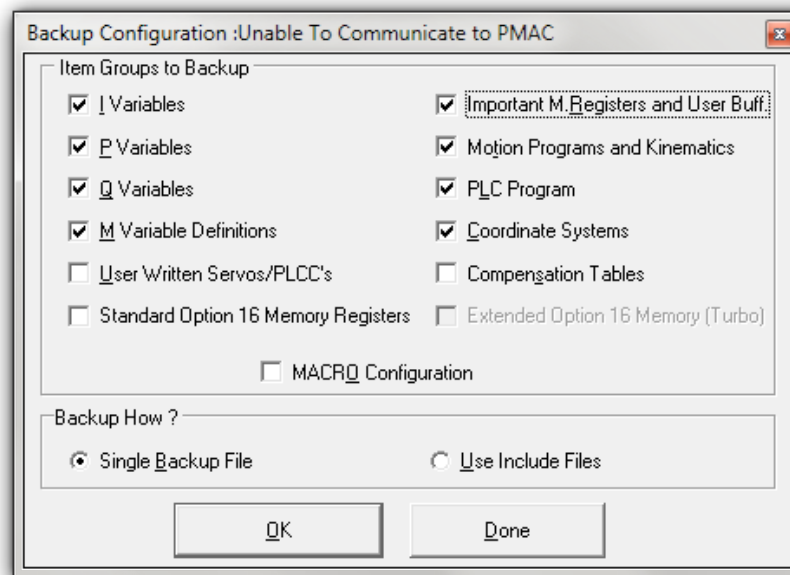
EXAMPLE

For a backup preceding a service conducted on 10 February 2016 by Joe, the folder name should be 2016-02-10_Joe_PreService.

5. Copy ECR.dat (if present), Macros.txt, Materials.txt, Mecha.dll, Offcuts.txt, Setup Parameters.txt, Simple.exe, Simple.ini and Users.txt from the C:\Simple\ folder to the dated folder you have just created in C:\Simple\Backups\.

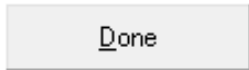
PMAC backup

1. Open the PEWIN32PRO program.
2. In the terminal window, type "save" then press the **Enter** key.
3. Type "i5=0" then press the **Enter** key.
4. Select Upload Configuration from the Backup drop-down menu at the top of the PEWIN32PRO window.
5. In the Backup Configuration pop-up, make sure the options are selected as per the screenshot below then click **OK**.



6. In the Explorer window that pops up, navigate to C:\Simple\Backups\ and open the dated folder corresponding to the Simple backup created earlier.
7. In the File name field, type the exact same name as the dated backup folder then click **Save**.
8. When prompted if you want to use checksummed communications, click **Yes**.

9. The backup process can take several minutes. When complete, click



10. Check that there are no errors in the log at the bottom of the window.

11. In the terminal window, type "\$\$\$" then press the **Enter** key.

12. Close the PEWIN32PRO program.

13. Check that the dated backup folder in C:\Simple\Backups\ now contains both the Simple and PMAC (.CFG file) backups (9 or 10 files in total).

14. Send a copy of the full dated backup folder to a Vekta representative.

Inspect and clean the feeder drive rollers

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Flat Head Screwdriver
- Air Gun



Safety Equipment:

- Standard Personal Protective Equipment
- Safety Gloves



Other Equipment:

- Wire brush



Inspection and cleaning



CAUTION

PINCH POINT: Wear safety gloves and rotate the rollers very slowly.

1. Isolate the saw electrically (see page 9).
2. Remove both feeder transparent covers.
3. Inspect the drive rollers for any signs of damage and make sure they run freely.



Note: contact Vekta Automation if any roller needs to be replaced.

4. Make sure the drive rollers are secure and there is no lateral movement.
5. With a wire brush, remove any timber shavings and build-up caught in the drive roller knurls.



Note: where the wire brush is not sufficient, a flat head screwdriver can be used.

6. Carefully rotate the drive rollers and continue cleaning until all timber shavings and build-up are removed.
7. Blow down the feeders around each drive roller.
8. Refit both feeder transparent covers.

Testing



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Turn on the electrical isolation switch on the front of the saw.
2. Release the E-stop button on the operator console.
3. Rehome the saw.
4. Open Simple.
5. Using the Manual Mode window, operate the drive rollers in both directions.

Check tracking and tension of all timing belts

WHAT YOU NEED

Tools:

- Combination Spanner Set
- Security Torx Key Set
- Allen Key Set (up to 16 mm)
- Large Flat Head Screwdriver
- Feeder Belt Tensioning Tool - RAZ014
- Air Gun



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder



Preparation

1. Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
2. Isolate the saw electrically (see page 9).
3. Remove the rear end cover of the Y-axis assembly (to access the Y-axis belt).
4. Remove both rear side feeder guards (to access the feeders' belts).
5. Use an air gun to blow down the saw from top to bottom.

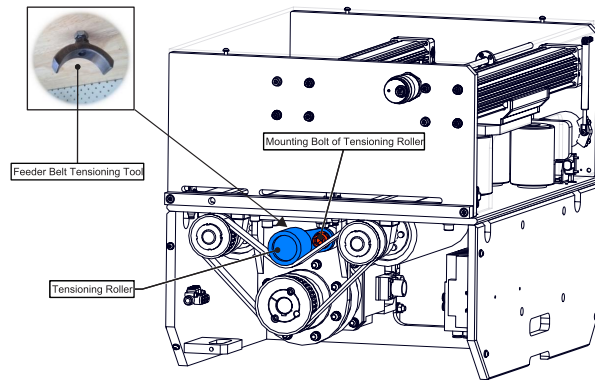
Feeders' drive belts

1. Inspect the infeed and outfeed feeders' drive belts for wear and tension.



Note: the belts are located at the rear of each feeder, directly behind the rear side guards.

2. If tension is incorrect, use a 16-mm Allen key to loosen the mounting bolt of the tensioning roller.



3. Place the feeder belt tensioning tool on top of the tensiing roller.
4. Tighten the feeder belt tensioning tool with a spanner until correct tension is felt on the belt.
5. Re-tighten the mounting bolt of the tensiing roller.
6. Loosen and remove the feeder belt tensioning tool.

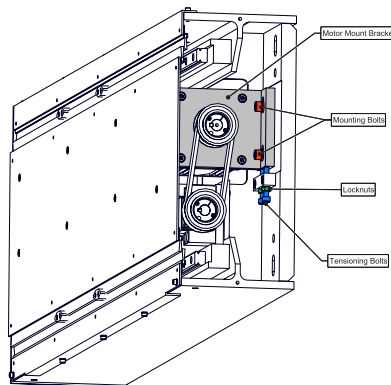
Y-axis belt

1. Inspect the belt for wear and tension.



Note: the Y-axis belt is located directly behind the rear end cover of the Y-axis assembly.

2. If tension is incorrect, loosen the mounting bolts of the motor mount bracket.



3. Loosen the locknut on both tensioning bolts (not present on Z-axis for machines manufactured before late 2016).
4. Adjust both tensioning bolts to move the motor mount bracket until correct tension is felt on the belt.



Note: a large flat head screwdriver can be used to help in moving the motor mount bracket (particularly if no tensioning bolts are present).

5. Re-tighten the mounting bolts of the motor mount bracket.
6. Rotate the pulleys by hand to check the belt tracking.
7. If tracking is incorrect, repeat steps 2 to 6 modifying the alignment of the motor mount bracket slightly until both correct tension and tracking are achieved.
8. Tighten the locknut on both tensioning bolts.
9. Torque the mounting bolts of the motor mount bracket to 79 N·m.

Testing



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Turn on the electrical isolation switch on the front of the saw.
2. Release the E-stop button on the operator console.
3. Rehome the saw.
4. Open Simple.
5. Using the Manual Mode window, move any re-tensioned axis slowly in both directions to confirm the belt tracking.
6. If tracking is incorrect, isolate the saw electrically (see page 9) and repeat the tensioning procedure for the relevant axis.
7. Once both tension and tracking are correct for all timing belts, refit the rear end cover of the Y-axis assembly and the rear side feeder guards.

Check wear and clean the feeder encoder wheels

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Wire Brush



Safety Equipment:

- Standard Personal Protective Equipment
- Safety Gloves



Note: when a follower is fitted, a pop-up encoder is present on the outfeed feeder only.

1. Isolate the saw electrically (see page 9).
2. Remove both feeder transparent covers.
3. Remove both front side feeder guards.
4. Inspect the encoder wheels for any signs of damage, significant wear or build-up between the knurls.
5. If necessary, clean the encoder wheels with a wire brush.
6. Refit both front side feeder guards.
7. Refit both feeder transparent covers.
8. Turn on the electrical isolation switch on the front of the saw.

Check the actuation of the feeder encoder wheels

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Pen



Safety Equipment:

- Standard Personal Protective Equipment



Note: when a follower is fitted, a pop-up encoder is present on the outfeed feeder only.

1. Isolate the saw electrically (see page 9).
2. Remove both feeder transparent covers.
3. Remove the side feeder guards on both sides of each feeder.
4. From the rear of each feeder, use a pen to operate the manual override button for the encoder air supply valve (marked "ENC") on the valve bank multiple times and observe the actuation of the encoder wheel.



Note: this should actuate with roughly a 1-second rise and fall time.

5. If too fast or too slow, adjust the restrictors until the desired actuation speed is observed.
6. Refit the side feeder guards.
7. Refit both feeder transparent covers.
8. Turn on the electrical isolation switch on the front of the saw.

Check the actuation of the side clamp rollers

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Allen Key Set
- Pen

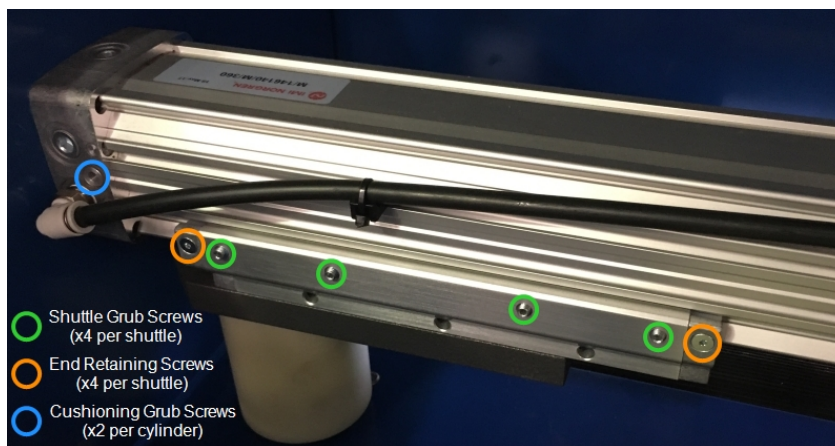


Safety Equipment:

- Standard Personal Protective Equipment



1. Isolate the saw electrically and pneumatically (see page 9).
2. Remove both feeder transparent covers.
3. Inspect the rodless cylinders on both feeders for any signs of damage or wear.
4. Try to move the side clamp rollers side to side (towards and away from the saw chamber) and make sure there is no play.
5. If required, tighten the four grub screws on the internal side of each side clamp roller shuttle to remove any side-to-side play.



Note: do not overtighten the grub screws as this could prevent the shuttles from sliding freely.

6. Move the side clamp rollers back and forth by hand and make sure the shuttles slide freely and smoothly.
7. Make sure the four end retaining screws on each shuttle are secure so that the nylon wear strips cannot fall out.
8. Turn on the pneumatic isolation switch on the pneumatic unit.
9. Remove both rear side feeder guards.

- 10.** From the rear of each feeder, use a pen to operate the manual override button for the side clamp air supply valve (marked "SIDE") on the valve bank multiple times and observe the actuation of the side clamp rollers.
- 11.** Check for smooth movement and correct cushioning.
- 12.** If required, adjust the cushioning grub screw at both ends of each rodless cylinder.
- 13.** Refit both rear side feeder guards.
- 14.** Refit both feeder transparent covers.
- 15.** Turn on the electrical isolation switch on the front of the saw.

Check the height of the top clamp rollers

WHAT YOU NEED

Tools:

- Combination Spanner Set

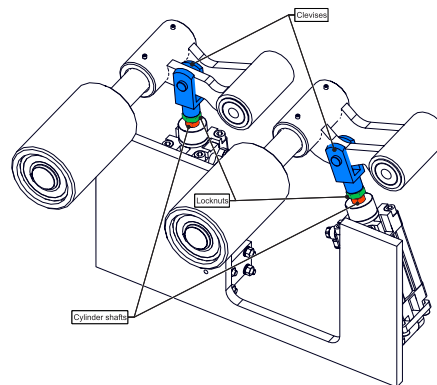


Safety Equipment:

- Standard Personal Protective Equipment



1. Using the Manual Mode window, move the Y-axis to the rearmost position and the Z-axis to the highest position.
2. Press the E-stop button on the operator console.
3. Isolate the saw pneumatically (see page 10).
4. Open the saw chamber door and make sure the top clamp rollers drop to the lowest possible position under their own weight.
5. Find a block of minimum thickness timber available that is long enough to span a pair of drive rollers (around 500 mm).
6. Through the saw chamber, push the block of timber up against the side of each pair of top clamp rollers (not underneath the top clamp rollers but still on top of the drive rollers) and make sure all four top clamp rollers sit at least 5 mm below the top level of the block of timber.
7. For any top roller that does not sit low enough, release the locknut on the corresponding pneumatic cylinder and screw the cylinder shaft into the clevis until the roller sits at least 5 mm below the top level of the block of timber.



8. Re-tighten the locknut.
9. Turn on the pneumatic isolation switch on the pneumatic unit.

Check the locknuts on the top roller cylinders are secure

WHAT YOU NEED

Tools:

- Security Torx Key Set
- 24-mm Spanner



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Isolate the saw pneumatically (see page 10).
3. Remove both feeder transparent covers.
4. Lift the top clamp rollers by hand to give access to the locknuts on the top roller cylinders.
5. Using a 24-mm spanner, attempt to tighten each one of the four locknuts to make sure they are secure.
6. Refit both feeder transparent covers.
7. Turn on the pneumatic isolation switch on the pneumatic unit.

Greasing

WHAT YOU NEED

Tools:

- Allen Key Set
- Security Torx Key Set
- Flat Head Screwdriver
- Grease Gun - ME1122
- EPL 2 Lithium Grease - ME1123



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder
- Rags



Note: A multipurpose high pressure lithium-based grease is required for all linear bearings and ball screw nuts (Castrol SpheroL EPL 2 recommended). The same can be used for the other bearings but any lithium-based grease will be sufficient.

Grease the Y and Z-axes



CAUTION

When using the manual mode, ensure the following:

- The appropriate speed slider is set to a very slow speed.
- Everything and everyone is clear of moving parts to prevent damage or injuries.

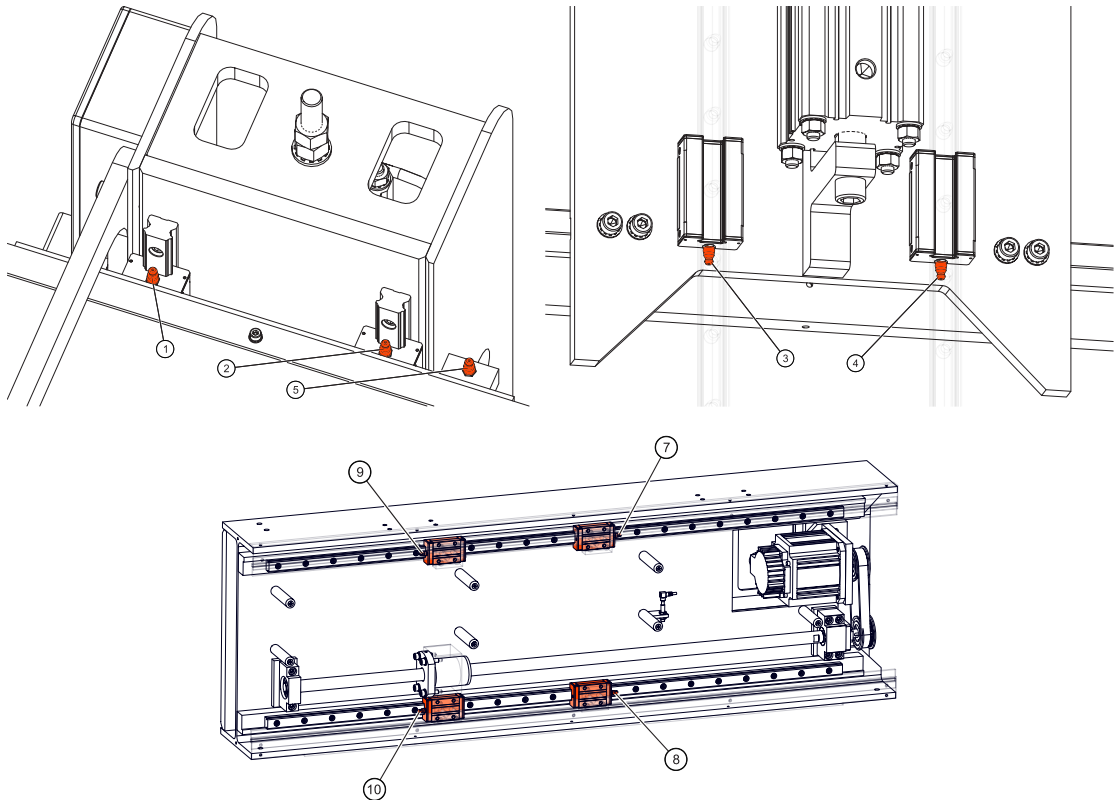
1. Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
2. Open up the dome.
3. Remove the front and rear frame covers, along with the front and rear end covers of the Y-axis assembly.
4. Using the Manual Mode window, slightly raise the Z-axis, then move the Y-axis across its range of motion to remove the seven bolts that hold the centre brush cover of the Y-axis assembly, and remove the centre brush cover.
5. Using the Manual Mode window, move the Y-axis to the forwardmost position.

6. Apply 2-3 pumps of grease to each of the three grease nipples located on top of the saw, the two grease nipples on the Z-axis bottom linear bearings, and the four grease nipples on the Y-axis linear bearings.



CAUTION

SHARP BLADE: Keep clear of the saw blade while working inside the saw chamber.



- 7.** Using the Manual Mode window, move the Y and Z-axes to the middle position.
- 8.** Apply 2-3 pumps of grease again to the same grease nipples.
- 9.** Using the Manual Mode window, move the Y-axis to the rearmost position and the Z-axis to the highest position.
- 10.** Apply 2-3 pumps of grease again to the same grease nipples.
- 11.** Move the Y and Z-axes several times across their entire range of motion.
- 12.** Using the Manual Mode window, move the Y-axis across its range of motion to refit the centre brush cover on the Y-axis assembly and tighten the seven bolts that hold it in place.
- 13.** Refit the front and rear frame covers, along with the front and rear end covers of the Y-axis assembly.
- 14.** Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.

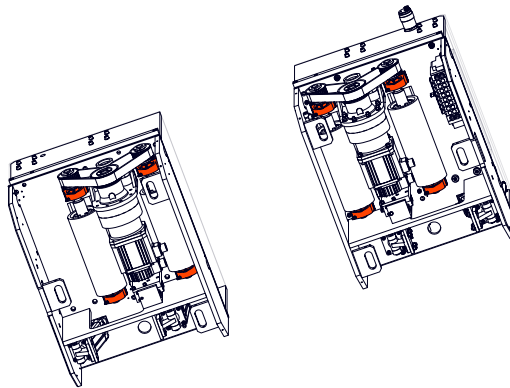
15. Close the dome.

Grease the feeders

1. Press the E-stop button on the operator console.
2. Remove the side feeder guards on both sides of each feeder.
3. Apply 2-3 pumps of grease to the eight grease nipples on the drive roller bearings.



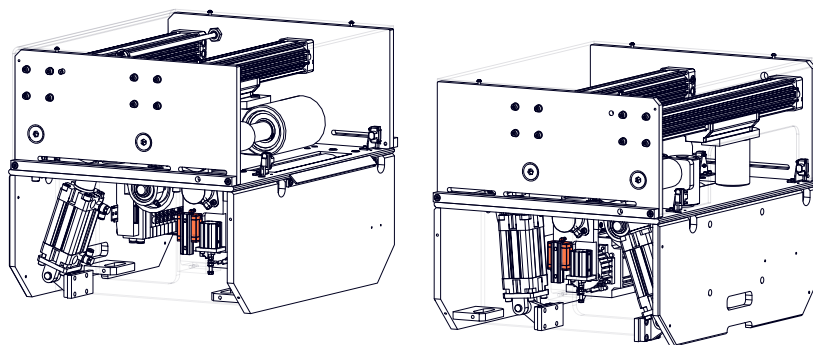
Note: you may need to get under each feeder to reach the four drive roller bearings closest to the saw chamber.



4. Apply 2-3 pumps of grease to the two grease nipples on the linear bearings of the pop-up encoders.



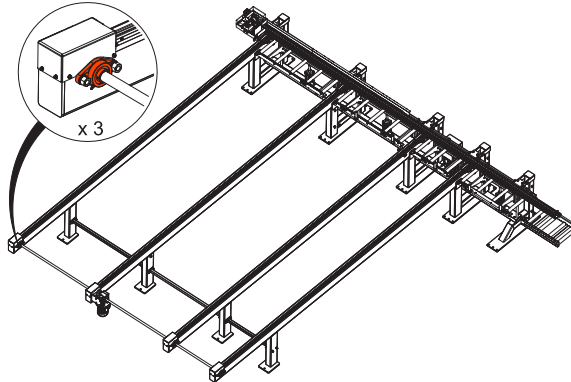
Note: when a follower is fitted, a pop-up encoder is present on the outfeed feeder only.



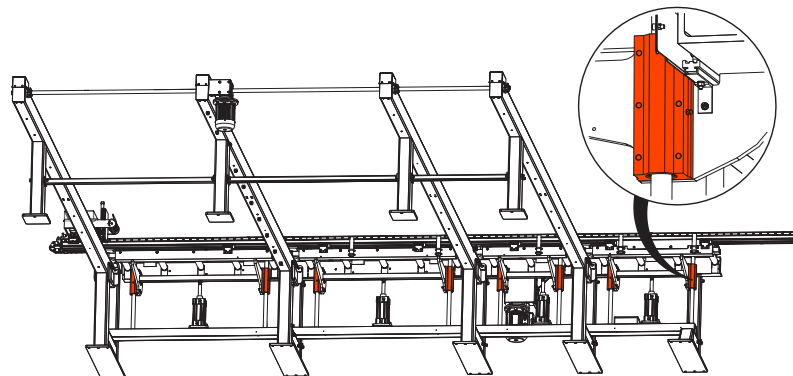
5. Apply 2-3 pumps of grease to the four grease nipples on the top clamp knuckles (machines from late 2016 onwards).
6. Refit the side feeder guards.
7. Release the E-stop button on the operator console.

Grease the AIT

1. Press the E-stop button on the operator console.
2. Apply 2-3 pumps of grease to the three grease nipples on the roller bearings of the side transfer legs.



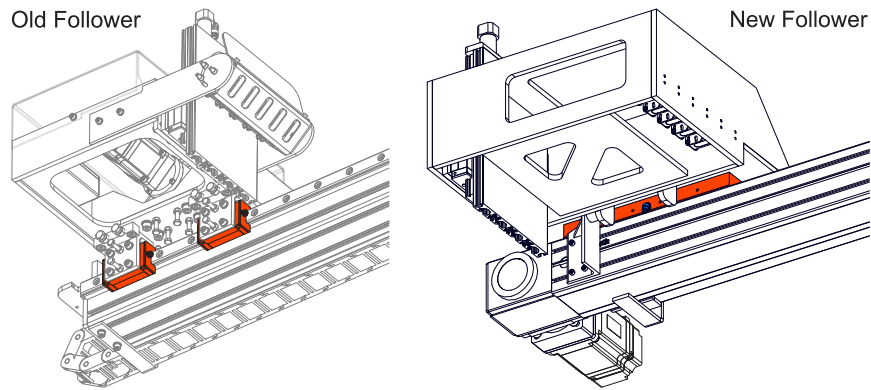
3. Apply 2-3 pumps of grease to the eight grease nipples on the linear bushings at the rear of the AIT.



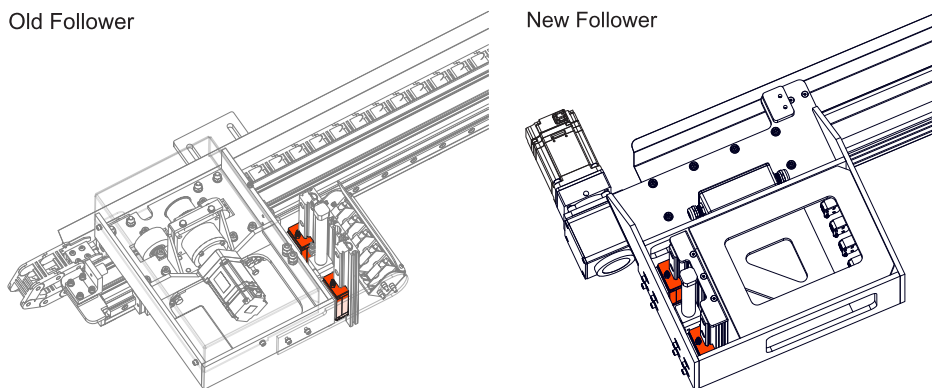
4. Release the E-stop button on the operator console.

Grease the follower

1. Rehome the saw if not already in the home position (follower farthest from the saw chamber).
2. *Old follower (manufactured prior to September 2016):* Apply 1 pump of grease to the two grease nipples on the carriage linear bearings.
New follower (manufactured from September 2016): Apply 1 pump of grease to the grease nipple on the shuttle plate.



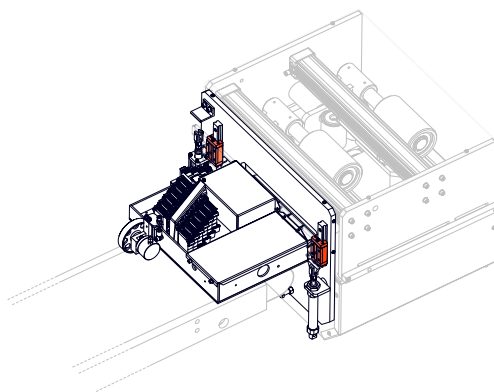
- 3.** Start a rehoming cycle then press the red STOP button on the operator console when the follower is half-way up the rail.
- 4.** Apply 1 pump of grease again to the same grease nipple(s).
- 5.** Perform 3 rehoming cycles to distribute the grease along the follower rail.
- 6.** Apply 2-3 pumps of grease to the two grease nipples on the paddle linear bearings.



- 7.** Wipe off any excess grease.

Grease the P3 printer

- 1.** Press the E-stop button on the operator console.
- 2.** Lift the printer cover.
- 3.** Apply 2-3 pumps of grease to the two grease nipples on the carriage linear bearings.



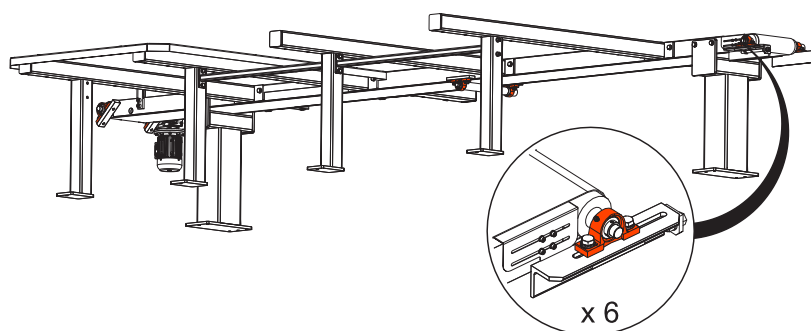
4. Close the printer cover.
5. Release the E-stop button on the operator console.

Grease the OFK

1. Press the E-stop button on the operator console.
2. Apply 2-3 pumps of grease to the six grease nipples on the conveyor roller bearings.



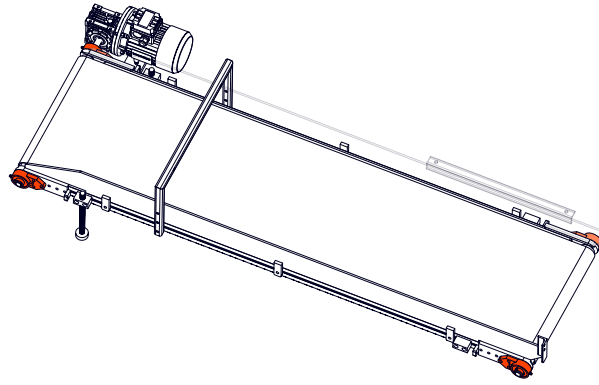
Note: you may need to lift the printer cover to reach the two conveyor roller bearings closest to the saw chamber.



3. Release the E-stop button on the operator console.

Grease the waste and extended waste conveyors

1. Press the E-stop button on the operator console.
2. Apply 2-3 pumps of grease to the four grease nipples on the roller bearings of the waste conveyor under the saw chamber.



3. Apply 2-3 pumps of grease to the grease nipples (four per conveyor) on the roller bearings of the extended waste conveyor(s).
4. Release the E-stop button on the operator console.

Testing

1. Make sure all axes rehome correctly.
2. Start a cutting sequence with normal sticks of timber from an optimised job file and make sure everything runs smoothly.

General clean

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Allen Key Set
- Air Gun



Safety Equipment:

- Standard Personal Protective Equipment
- Eye and Hear Protection



Other Equipment:

- Step Ladder



1. Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
2. Isolate the saw electrically (see page 9).
3. Open up the dome.
4. Remove the side feeder guards.
5. Remove the front and rear end covers of the Y-axis assembly.
6. Remove the rear frame cover next to the rear end cover of the Y-axis assembly.
7. Using the timing belt and pulleys of the Y-axis, move the Y-axis by hand across its range of motion to remove the seven bolts that hold the centre brush cover of the Y-axis assembly, and pull the centre brush cover out of the saw from the rear.
8. Start the dust extractor manually by pressing the ON button on the dust extractor control panel.
9. Blow down the saw chamber, starting at the top and working your way down. Make sure you don't miss any of the following areas:
 - » on top of the Z-axis assembly
 - » behind the Y-axis assembly and on top of the cable chain



Note: Pay particular attention to dust accumulating on top of the lower section of the cable chain. This needs to be cleaned thoroughly.

- » on top of the Y-axis assembly
- » through the centre of the C-axis
- » on top of the C-axis
- » around the B-axis and saw blade

**CAUTION**

SHARP BLADE: Keep clear of the saw blade while working inside the saw chamber.

10. Blow all dust and swarf out of the Y-axis assembly from front to rear.



Note: make sure to remove any dust or swarf that may interfere with the operation of the linear bearings or ball screw nut.

11. Blow down the feeders, ensuring you remove any swarf from the following areas:

- » on top of the side clamp cylinders
- » around the sides of the chambers
- » around the six yellow photoelectric sensors in each feeder
- » under the feeders



Note: make sure to remove any dust or swarf that may interfere with the operation of the drive rollers or pop-up encoders.

12. Gently blow down the top of the printer.

**CAUTION**

Do not blow air onto the print heads.

13. Stop the dust extractor manually by pressing the OFF button on the dust extractor control panel.

14. Using the timing belt and pulleys of the Y-axis, move the Y-axis by hand across its range of motion to refit the centre brush cover on the Y-axis assembly and tighten the seven bolts that hold it in place.

15. Refit the rear frame cover next to the rear end cover of the Y-axis assembly.

16. Refit the front and rear end covers of the Y-axis assembly.

17. Refit the side feeder guards.

18. Close the dome.

19. Turn on the electrical isolation switch on the front of the saw.

20. Release the E-stop button on the operator console.

21. Rehome the saw.

22. Open Simple.

23. Using the Manual Mode window, start the waste conveyor forwards to remove all the dust from the bottom of the saw chamber.

Clean and inspect the saw chamber door

WHAT YOU NEED

Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Microfibre cloth
- Warm soapy water or Windex



1. Using the Manual Mode window, move the saw blade to the back of the saw chamber.
2. Press the E-stop button on the operator console.
3. Open the saw chamber door.
4. Start the dust extractor manually by pressing the ON button on the dust extractor control panel.
5. Blow off any loose dust or swarf on and around the door.
6. Stop the dust extractor manually by pressing the OFF button on the dust extractor control panel.
7. Clean off any remaining dust and built-up grime with the microfibre cloth and warm soapy water. You may soak problem areas for several minutes if required.



CAUTION

- Do not use anything but a microfibre cloth or this will scratch the surface of the door and cause it to become cloudy.
- Do not use harsh cleaning products or strong solvents (e.g. acetone) or this will cause the door to become cloudy, brittle and more susceptible to damage.

8. Perform a thorough visual inspection for any bubbles or cracks, paying close attention to the bend in the door.



Note: Please contact Vekta Automation immediately if any defects are found in the door. It will need to be replaced as soon as possible.

9. Shut the saw chamber door.
10. Release the E-stop button on the operator console.

Replace the saw blade

WHAT YOU NEED

Tools:

- Allen Key Set



Spare Parts:

- Saw Blade - ME1118




Safety Equipment:

- Standard Personal Protective Equipment
- Cut-resistant Gloves



Position and access the saw head

1. In the Manual Mode window, click . The saw head should automatically present itself to the front of the saw chamber with the blade facing the door.
2. Press the E-stop button on the operator console.
3. Open the saw chamber door.

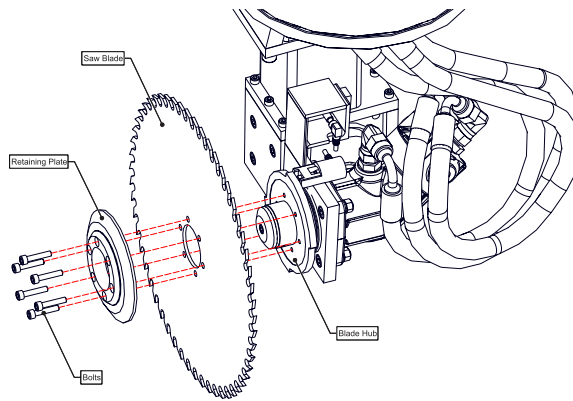
Replace the saw blade



CAUTION

SHARP BLADE: Wear cut-resistant gloves when handling the saw blade.

1. Take note of the teeth direction on the old saw blade to avoid confusion when installing the new saw blade.
2. Grasp the saw blade and remove the six bolts that hold the saw blade and the retaining plate onto the blade hub.



- 3.** Remove the retaining plate and the saw blade.
- 4.** Check the condition of the six bolts and replace any bolts that are bent, cracked or start to round out on the Allen key head.
- 5.** Install the new saw blade on the blade hub then refit the retaining plate.
- 6.** Refit and tighten the six bolts evenly in a criss-cross pattern, small amounts at a time, until they are tight.

Inspect and clean the feeder sensors

WHAT YOU NEED

Tools:

- Allen Key Set
- Security Torx Key Set
- Small Flat Head Screwdriver
- Small Phillips Head Screwdriver
- Loctite Low Strength Threadlocker



Spare Parts:

- Banner Laser Emitter - EL1023 (if needed)
- Banner Receiver - EL1024 (if needed)
- Metal Pinhole Mask - EL1022 (if needed)



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Damp cloth



Inspection and cleaning

1. Remove both feeder transparent covers.
2. Perform the following checks:
 - » Inspect the feeder sensors for any initial signs of damage or misalignment.
 - » Make sure the green power LED on each emitter and receiver is on.
 - » Check the strength and alignment of the laser beams on the receiver side by placing a thin strip of timber in front of each emitter. The beam should be clearly visible and roughly in the centre of the receiver.
 - » Make sure the orange sensing LED on each receiver turns on when the beam is interrupted.
 - » Make sure there is a metal pinhole mask fitted to the first emitter on the infeed feeder (farthest from the saw chamber) and to the middle emitter on the outfeed feeder.
3. If any of the checks are not met, **press the E-stop button on the operator console** and perform the following tasks accordingly:

- » Replace any damaged or faulty emitters and receivers with spare ones. Apply a small amount of Loctite on the mounting bolts.
 - » If the beam is dull, clean the face of the emitter with a damp cloth. Remove any fitted mask if necessary and refit after cleaning. If this does not help, replace the emitter with a spare one.
 - » If the beam is off centre, adjust the alignment of the emitter.
 - » If any metal pinhole mask is missing, install a spare one.
- 4.** Refit both feeder transparent covers.

Testing

- 1.** Release the E-stop button on the operator console.
- 2.** Feed a long length of timber into the saw by hand and make sure the "eye" feeder indicators in the monitoring panel turn grey when the beam is interrupted.

Check operation and condition of all safety devices

WHAT YOU NEED

Tools:

- Electrically Insulated Screwdriver



Safety Equipment:

- Standard Personal Protective Equipment
- Cut-resistant Gloves



All saws

- › Check that the E-stop button and the lanyards (if fitted) put the saw into an emergency stop state.
- › Check that the saw chamber door cannot be opened with the control on.
- › Check that the control cannot turn on with the saw chamber door open.

Safety relay saws

- › Check that the contactor interlocks function correctly by manually pressing CES1 and CES2, one at a time while the saw control is off, with an insulated screwdriver and ensure that the control cannot turn on.



Note: the CES1 and CES2 contactors are located in the left-hand electrical cabinet.

- › Check that there is a 5-second time delay between pressing the E-stop button and being able to open the saw chamber door.
- › If feeder safety sensors are fitted, check that removing the feeder transparent covers puts the saw into an emergency stop state.

Safety PLC saws

- › Check that removing the feeder transparent covers puts the saw into an emergency stop state.
- › Check that the contactor interlocks function correctly by manually pressing CES1, CES2 and CES3, one at a time while the saw control is off, with an insulated screwdriver, and ensure that the "CES 1 and CES 2" or "CES 3" fault appears in Simple and that the control cannot turn on.



Note: The CES1, CES2 and CES3 contactors are located in the left-hand electrical cabinet. CES3 is sometimes labelled "HYD PP".

- › Enter commissioning mode while the saw control is on and ensure that the CES3 contactor is disengaged. Press CES3 with an insulated screwdriver, and ensure that the "CES 3" fault appears in Simple and that the saw enters an emergency stop state.



Note: To enter commissioning mode, type "Q427=1" in the terminal window of PEWIN32PRO and press the **Enter** key. When finished, enter "Q427=0" to exit commissioning mode.

- › Check that the CONTROL button needs to be held for at least 5 seconds to recover from a "CES 1 and CES 2" or "CES 3" fault.
- › Enter commissioning mode while the saw control is on and open the saw chamber door. Spin the saw blade by hand to register a speed of above 100 rpm and ensure that the saw enters an emergency stop state.



CAUTION

SHARP BLADE: Wear cut-resistant gloves when handling the saw blade.

- › If light curtains are fitted, cross the curtain momentarily while running the saw and ensure that the saw enters a paused state. Restart the saw, obstruct the curtain continuously and ensure that the saw enters an emergency stop state after 1 second.

Inspect the feeder nylon rollers

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Allen Key Set
- Circlip Pliers (external)
- Loctite Low Strength Threadlocker



Spare Parts:

- Side Fence or Side Clamp Roller - OS1018
- Top Clamp Roller - OS1019
- Side Fence or Side Clamp Roller Bearing - ME1056
- Top Clamp Roller Bearing - ME1055



Safety Equipment:

- Standard Personal Protective Equipment



Note: there are four side fence rollers, two side clamp rollers and two top clamp rollers in each feeder, which makes a total of 16 nylon rollers.

Inspection

1. Using the Manual Mode window, move the saw blade to the back of the saw chamber.
2. Isolate the saw electrically (see page 9).
3. Remove both feeder transparent covers.
4. Inspect the nylon rollers for any signs of damage, wear or flat spots.
5. Gently move the 12 side rollers up and down, and the four top rollers sideways to make sure they have a small amount of play.
6. Make sure they run freely and there is no sign of sticking.



Note: If any roller or roller bearing needs to be replaced, contact Vekta Automation to order spare parts and follow the below replacement procedure.

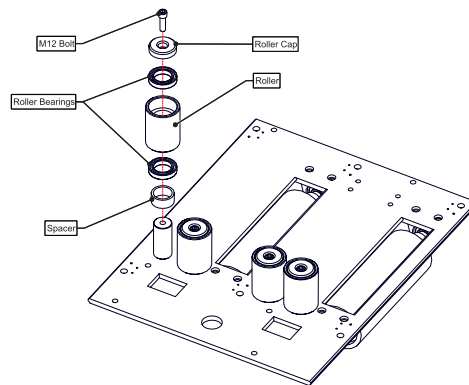
7. Refit both feeder transparent covers.

Replacement



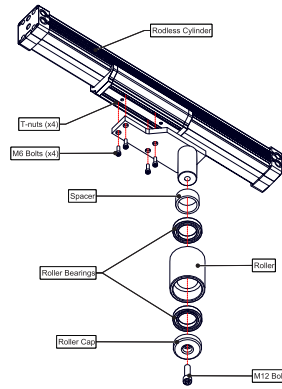
Note: Worn nylon rollers may be flipped to prolong life but it is recommended that they are changed in case of excessive wear. Top clamp rollers should be changed if they no longer apply pressure to the timber when the clevis has reached the end of its adjustment.

Side Fence Rollers



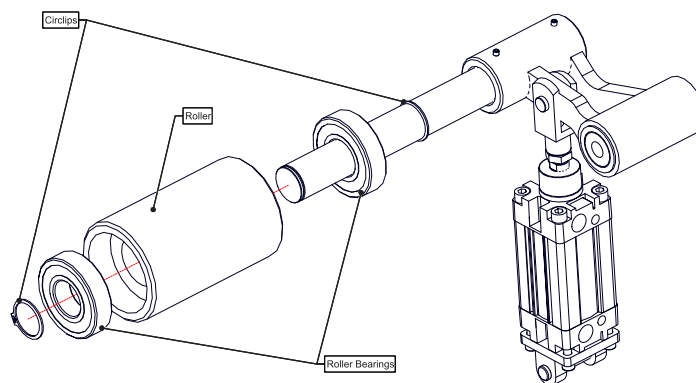
1. Isolate the saw electrically and pneumatically (see page 9).
2. Remove the M12 bolt that holds the roller cap.
3. Remove the roller cap.
4. Slide the roller and the roller bearings off the shaft.
5. Check the condition of the roller bearings and replace as required.
6. Flip or replace the roller and slide it back on the shaft with the bearings fitted on each side.
7. Refit the roller cap.
8. Apply a small amount of Loctite on the M12 bolt and tighten it.

Side Clamp Rollers



1. Isolate the saw electrically and pneumatically (see page 9).
2. Remove the four M6 bolts that hold the side clamp assembly to the rodless cylinder.
3. Put the side clamp assembly upside down.
4. Remove the M12 bolt that holds the roller cap.
5. Remove the roller cap.
6. Slide the roller and the roller bearings off the shaft.
7. Check the condition of the roller bearings and replace as required.
8. Flip or replace the roller and slide it back on the shaft with the bearings fitted on each side.
9. Refit the roller cap.
10. Apply a small amount of Loctite on the M12 bolt and tighten it.
11. Reposition the side clamp assembly on the rodless cylinder as it was before and tighten the four M6 bolts into the T-nuts.

Top Clamp Rollers



1. Isolate the saw electrically and pneumatically (see page 9).

2. Lift the roller by hand.
3. Remove the front circlip.
4. Slide the roller and the roller bearings off the shaft.
5. Check the condition of the roller bearings and replace as required.
6. Flip or replace the roller and slide it back on the shaft with the bearings fitted on each side.
7. Refit the front circlip.

Testing



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Turn on the electrical isolation switch on the front of the saw.
2. Turn on the pneumatic isolation switch on the pneumatic unit.
3. Release the E-stop button on the operator console.
4. Rehome the saw.
5. Open Simple.
6. Using the Manual Mode window, feed in a stick of timber and make sure it feeds correctly.

Perform a full recalibration

Tension the follower belt

WHAT YOU NEED

Tools:

- Allen Key Set
- Ruler



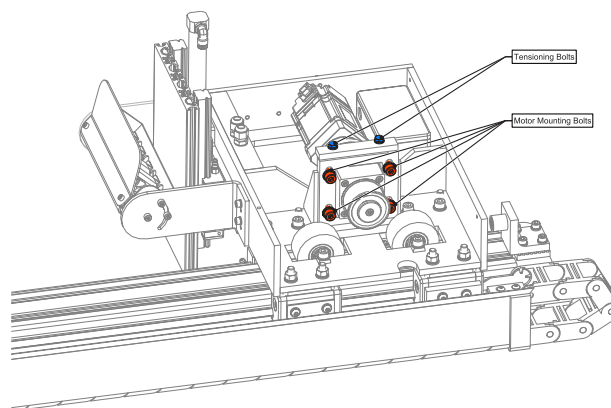
Safety Equipment:

- Standard Personal Protective Equipment



1. Rehome the saw if not already in the home position (follower farthest from the saw chamber).
2. Isolate the saw electrically (see page 9).
3. Remove the follower top guard.

4. Loosen the four follower motor mounting bolts.



5. Loosen the two follower belt tensioning bolts.
6. Make a small pen mark on the follower belt about half a meter away from the follower.
7. Make a small pen mark closer to the follower on the AIT frame next to the follower belt 8 mm from the first mark.
8. Slowly tighten the two tensioning bolts and watch the mark on the follower belt moving as tension is increased.
9. Stop tightening the tensioning bolts when the mark on the follower belt is 1 to 2 mm away from alignment with the mark on the AIT frame.
10. Tighten the four follower motor mounting bolts to reach the tension that is needed to have perfect alignment of the two marks.
11. Once alignment is complete, inspect the follower belt for correct tracking (see page 79).
12. Refit the follower top guard.

Adjust the follower friction torque

WHAT YOU NEED

Standard Personal Protective Equipment



1. Manually push the follower halfway down the rail.
2. Open PEWIN32PRO, type "disable PLC 3..30" in the terminal window and press the **Enter** key.
3. Type "#8o0" and press the **Enter** key.
4. Type "o10" and press the **Enter** key. Check the follower for movement towards the saw chamber.

5. Lightly tap the back of the follower carriage (opposite the paddle) then check for further movement towards the saw chamber.
6. Type "o-10" in the terminal window and visually inspect the follower for movement away from the saw chamber.



Note: Adjusting the follower friction torque needs to be done in both directions. By inserting a minus sign before the number, the follower direction will change.

7. Lightly tap the front of the follower carriage (same side as the paddle) then check for further movement away from the saw chamber.
8. Repeat steps 5 to 8 with "o11" and "o-11", then with "o12" and "o-12", and so on until you reach the correct setting.



Notes:

- The follower assembly may stop at one or two points along the rail but as long as it continues after giving it a slight tap, then the friction torque setting is acceptable. Based on this information, make a note of the best setting for both directions.
- The correct setting can in some cases be slightly below 10 but should not exceed 25. If you cannot find the correct setting within the normal range, contact Vekta Automation.

9. Type "#8o0" in the terminal window of PEWIN32PRO and press the **Enter** key.
10. Type "Q792=XX" (replace XX with the number of the best friction torque setting found) and press the **Enter** key.
11. Type "enable PLC 3..30" and press the **Enter** key.
12. Type "save" and press the **Enter** key.

Adjust the follower torque settings

WHAT YOU NEED

Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Rehome the saw.
2. Using the Manual Mode window, feed a straight 6-m-long timber into the saw so that the trailing end of the board is in the middle of the AIT conveyor.



Note: make sure the board is securely clamped in both feeders and can move at least 2 m in either direction without hitting the follower end stops.

3. Open the PEWIN32PRO program.
4. Select Watch Window from the View drop-down menu at the top of the PEWIN32PRO window.
5. Press the **Insert** key and add the TestPrintMoveErrMin (P981) and TestPrintMoveErrMax (P982) variables to the Watch Window.
6. Type "Q281=1" in the terminal window and press the **Enter** key to position the follower against the board.



CAUTION

This will engage the follower at full speed with no audible warning. Make sure that everything and everyone is clear of the follower.

7. In the terminal window, set the following variables (press the **Enter** key to confirm each one):
 - » "Q796=10" (Velocity Compensation Pressure)
 - » "Q784=35" (Normal Pressure Torque)
 - » "Q789=30" (Dynamic Pressure Torque)
8. Type "&1b11r" and press the **Enter** key.
9. Type "P983=1" to move the follower and board to the left. Watch for the follower paddle to stay in contact with the board while moving.
10. Type "P983=-1" to move the follower and board to the right. Watch for the follower paddle to stay in contact with the board while moving.
11. If the follower paddle does not stay in contact with the board, increase Q784 and Q789 evenly up to respectively 45 and 40. Repeat from step 9 until set correctly.
12. If the follower paddle still does not stay in contact with the board once both Q784 and Q789 have reached their maximum value, increase Q796 progressively up to 12. Repeat from step 9 until set correctly.
13. Make sure the error readings in the Watch Window do not exceed 3 mm.



Note: if either reading exceeds 3 mm (absolute value), contact Vekta Automation for further assistance.

14. Type "&1a" in the terminal window and press the **Enter** key.
15. Press and hold the CONTROL button on the operator console for 5 seconds to release the timber and return the follower.
16. Type "save" and press the **Enter** key.

Length Calibration

WHAT YOU NEED

Tools:

- Tape Measure
- Steel Ruler



Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Rehome the saw.
2. [Log in](#) as an engineer or supervisor in Simple.
3. Using the [Manual Mode](#) window, feed a straight 6-m-long timber into the saw so that the trailing end of the board is in the middle of the AIT conveyor.
4. Run a tape measure under the follower carriage and next to the follower belt along the follower rail. Hook the zero end of the tape measure onto the rail end closest to the saw chamber and make sure there is no slack.



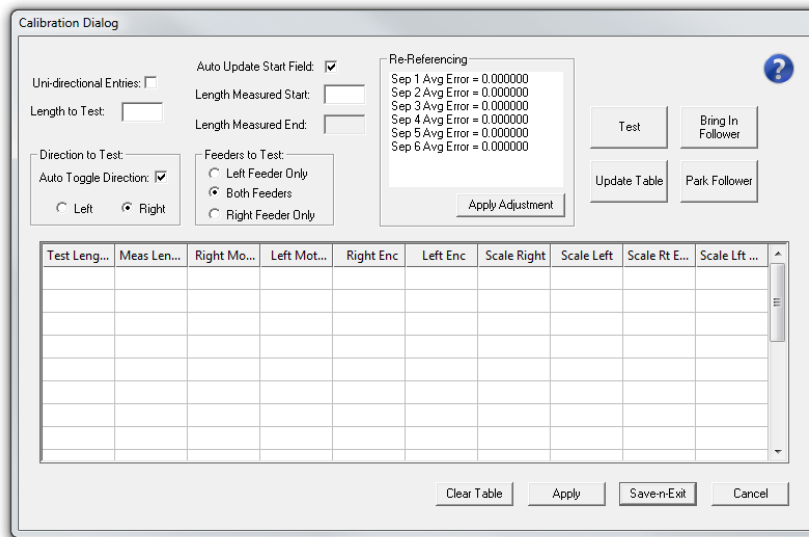
5. Click [Calibrate Length](#) in the [Manual Mode](#) window to open the Length Calibration window and click [Bring In Follower](#) to position the follower against the board.




CAUTION

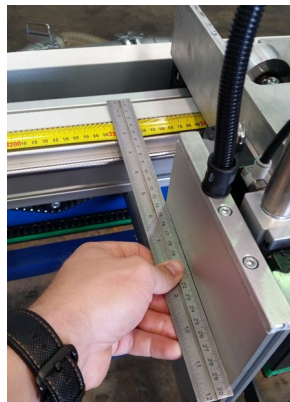
This will engage the follower at full speed with no audible warning. Make sure that everything and everyone is clear of the follower.

6. Set the feeder speed to 50% in the Manual Mode window.
7. In the Length Calibration window, do the following:
 - a. Uncheck Uni-directional Entries.
 - b. Check Auto Update Start Field.
 - c. In the Direction to Test box, check Auto Toggle Direction and Right.
 - d. In the Feeders to test box, check Both Feeders.



8. With a steel ruler pushed firmly against the follower paddle, take the first measurement on the tape measure.

 **Note:** this should be as accurate as possible, down to fractions of a millimetre.



9. Enter this value (in mm) in the Length Measured Start field, then subtract 500 mm off, round to the nearest 10 mm and enter the result in the Length to Test field.

EXAMPLE

If the measured length is 3752.5 mm, the length to test will be 3250 mm.

10. Click then if prompted to enter a number. The timber should move the amount of length to test towards the outfeed and stop.
11. Take a measurement and enter the value (in mm) in the field.
12. Click to populate the first row of the table.
13. Click to move the timber back towards the infeed.
14. Take a measurement and enter the value (in mm) in the field.
15. Click to populate the next row of the table.
16. Repeat steps 10 to 15 until six rows are populated.
17. Replace all the values in the and columns with "1".
18. Click .
19. Click .
20. Repeat steps 10 to 15.
21. Make sure the value is within 0.5 mm of the and values in both table rows.



Note: if the measured length is still incorrect, restart the procedure from step 16.

22. Click .
23. Click .

Calibrate the re-ref sensors

WHAT YOU NEED

Tools:

- Tape Measure



Safety Equipment:

- Standard Personal Protective Equipment





CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Disable the follower on the toolbar.
2. Open the Setup window and set P720 to "1".
3. Open the Manual Mode window.
4. Set the feeder speed to 30%.
5. Feed a straight 6-m-long timber into the saw so that Re-Ref Add in the Manual Mode window reads "0".
6. Make a note of the average value between the Re-Ref Right Err and Re-Ref Left Err readings. (If a follower is fitted, only the Re-Ref Right Err value is to be used.)



Note: if the difference between the Re-Ref Right Err and Re-Ref Left Err readings remains abnormally high (greater than 0.1 mm) after several moves from Re-Ref Add 2 to 0, a length calibration probably needs to be performed (see page 49). (This does not apply if a follower is fitted.)

7. Use the appropriate Left & Right drive button to move the timber back towards the infeed conveyor until Re-Ref Add reads "2", then forth again towards the feeder until Re-Ref Add returns to "0".
8. Make another note of the average value between the Re-Ref Right Err and Re-Ref Left Err readings.
9. Repeat the last two steps once again.
10. Make a final average of the three recorded average values.
11. In the Setup window, adjust P723 by adding the final average value if positive or taking it away if negative.
12. Repeat all the steps above until each of the Re-Ref Right Err and Re-Ref Left Err readings no longer exceeds 0.05 mm.
13. Repeat all the steps above for each one of the next four separation distances by moving the timber back and forth three times between their respective Re-Ref Add values in the following order:
 - a. from Re-Ref Add 3 to 1 to adjust P724
 - b. from Re-Ref Add 4 to 2 to adjust P725
 - c. from Re-Ref Add 5 to 3 to adjust P726
 - d. from Re-Ref Add 6 to 4 to adjust P727
14. Manually measure the last separation distance between the two re-ref sensors farthest from the saw chamber and adjust P728 accordingly.
15. In the Setup window, set P720 to "3".
16. Set the feeder speed to 100% and run the timber fully in and out 30 times to per-

form a self-calibration.

17. Enable the follower on the toolbar.

Cut Calibrations

WHAT YOU NEED

Tools:

- Tape Measure



Safety Equipment:

- Standard Personal Protective Equipment




Preparation

1. Backup the PMAC (see page 13).
2. Disable both print modules in the plate marking control panel.
3. Make sure the Waste to Infeed feature is enabled on the toolbar.
4. In Simple, open the job file named "calibration_35mm.smp2" (or "calibration_45m-m.smp2" for New-Zealand) located in
C:\Simple\Documentation\Commission Files\.



Note: do not forget to create another backup of the PMAC once all the required cut calibrations are complete.

Basic cuts

1. Feed a **straight** 6-m-long timber into the saw.
2. Cut the 50-mm-long block named "A1" (select it and click  on the toolbar).
 - a. The initial dock cut should remove between 3 and 5 mm from the leading end of the timber. If the dock cut misses the timber or is too short, open the Setup window and increase P513 to cut further into the timber. If it is too long, decrease P513.
 - b. Adjust P509 until the block is exactly 50 mm. (Increase to lengthen the block or decrease to shorten it.)
3. Cut the member named "B1".



Note: double-click the length field on the member diagram and set it to 50 mm shorter than the remaining timber length.

4. Adjust both P721 and P722 until the member is exactly the desired length. To do so, measure the difference between the actual cut length and the desired length, then divide the difference (in mm) by the desired length (in metres) and add the result to both variables to lengthen the member (or subtract it to shorten the member).

EXAMPLE

If a 5.95-m length is short by 3 mm, you need to increase both variables by $3 / 5.95 = 0.50$.

5. Make a note of the original value of P610 then set it to any value less than 50 mm.

6. Feed the remaining timber into the saw and recut the 50-mm-long block named

"A1" (select it and click  then  on the [toolbar](#)).

7. Adjust P630 until the block is exactly 50 mm. To do so, measure the difference between the actual cut length and the desired length, then add half the difference (in mm) to P630 to lengthen the block (or subtract it to shorten the block).

8. Reset P610 to its original value.

9. Cut the 300-mm-long wedge named "E1" for a front fenceline (or "F1" for a rear fenceline).

10. Adjust P514 until the wedge is 300 mm (± 1 mm). To do so, measure the difference between the actual cut length and the desired length, then add a third of the difference (in mm) to P514 to shorten the wedge for a front fenceline / lengthen it for a rear fenceline (or subtract it to lengthen the wedge for a front fenceline / shorten it for a rear fenceline).

EXAMPLE

If the wedge is 6 mm too long, you need to increase P514 by $6 / 3 = 2$ for a front fenceline (or decrease it for a rear fenceline).

11. Cut the member named "H1" for a front fenceline (or "G1" for a rear fenceline).



Note: double-click the length field on the [member diagram](#) and set it to 50 mm shorter than the remaining timber length.

12. Adjust P510 until the member is the desired length (± 1 mm). To do so, measure the difference between the actual cut length and the desired length, then add a third of the difference (in mm) to P510 to shorten the member for a front fenceline / lengthen it for a rear fenceline (or subtract it to lengthen the member for a front fenceline / shorten it for a rear fenceline).



Note: when repeating this cut, make sure the follower has a flat surface to press against (not a scarf cut), otherwise the length will be incorrect.

13. Square both ends of the remaining timber and feed it into the saw to cut the member named "DBL_BEVEL1".



Note: double-click the length field on the [member diagram](#) and set it to 50 mm shorter than the remaining timber length.

14. Measure the height of the centreline from the bottom edge of the timber. It should be 17.5 mm for 35-mm-thick timber (or 22.5 mm for 45-mm-thick timber). Adjust P515 by the error (in mm) until the centreline is at the right height. (Increase to move the centreline up or decrease to move it down.)

15. Repeat the last two steps with the member named "DBL_BEVEL2" to adjust P511 this time.

16. Click in the [Setup](#) window to permanently save the variables.

Check the height of the infeed and outfeed

WHAT YOU NEED

Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Rehome the saw to make sure the printer is in the highest possible position.
2. Using the [Manual Mode](#) window, load a straight high quality board (6 m long and 90 mm wide).
3. Move the board towards the outfeed until the end of the board is across the OFK conveyor by at least 100 mm.
4. Check that the gap between the bottom of the timber and the top of the OFK conveyor does not exceed 1 mm.
5. Check that the AIT conveyor rollers are not putting excessive upward pressure on the board.
6. Check that the free running rollers on the infeed chute are not directly contacting the bottom of the board. If they do contact, lower the free rolling infeed chute or increase the angle with the mounting/jacking bolts.
7. Move the board towards the outfeed and stop about 100 mm prior to passing the last powered roller on the AIT.
8. Check that the gap between the bottom of the timber and the top of the AIT conveyor roller does not exceed 1 mm.
9. Check that the OFK conveyor is not putting excessive upward pressure on the board.

Inspect and clean the electrical cabinets, fans and fan filters

WHAT YOU NEED

Tools:

- Large Flat Head Screwdriver
- Air Gun



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Electrical cabinet door key



1. Check that all electrical fans operate when the saw is switched on and blow air out of the cabinet.
2. Isolate the saw and the dust extractor electrically (see page 9).
3. Blow air towards the ground for several seconds to make sure there is no moisture left in the air gun.
4. Using a flat head screwdriver, remove the front covers off all fan vents to access the fan vent filters.
5. Blow all dust out of the filters and vents.
6. Replace any damaged or excessively dirty filter.
7. Refit all vent covers.



Note: make sure the filter is flat in the vent covers.

8. Open each electrical cabinet and inspect for any build-up of dust.
9. If there is excessive dust, gently blow **dry** air in and around the cabinet from top to bottom.



CAUTION

Do not blow air directly onto exposed electrical components.

10. Check the condition of the electrical fans in each electrical cabinet.
11. Gently blow the dust off the electrical fans.
12. Once all dust has been removed, close and lock each electrical cabinet.

Check that the Y-axis ball screw nut is secure

WHAT YOU NEED

Tools:

- Allen Key Set
- 26-mm Spanner
- Adjustable Spanner



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder

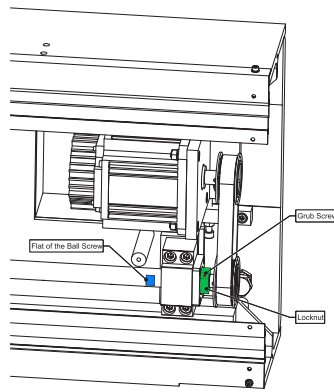


CAUTION

When using the manual mode, ensure the following:

- The appropriate speed slider is set to a very slow speed.
- Everything and everyone is clear of moving parts to prevent damage or injuries.

1. Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
2. Open up the dome.
3. Remove the front and rear frame covers, along with the rear end cover of the Y-axis assembly.
4. Using the Manual Mode window, slightly raise the Z-axis, then move the Y-axis across its range of motion to remove the seven bolts that hold the centre brush cover of the Y-axis assembly, and remove the centre brush cover.
5. Move the Y-axis to the middle position and the Z-axis to the lowest position.
6. Press the E-stop button on the operator console.
7. At the rear of the Y-axis assembly, place a 26-mm spanner on the locknut and an adjustable spanner on the flat of the ball screw to ensure that the locknut is tight.



- 8.** Using the timing belt and pulleys of the Y-axis, move the Y-axis by hand to properly position the grub screw and ensure that it is tight.
- 9.** Release the E-stop button on the operator console.
- 10.** Close the dome then rehome the saw.
- 11.** Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
- 12.** Open up the dome.
- 13.** Using the Manual Mode window, slightly raise the Z-axis, then move the Y-axis across its range of motion to refit the centre brush cover on the Y-axis assembly and tighten the seven bolts that hold it in place.
- 14.** Refit the front and rear frame covers, along with the rear end cover of the Y-axis assembly.
- 15.** Using the Manual Mode window, move the Y-axis to the middle position and the Z-axis to the lowest position.
- 16.** Close the dome.

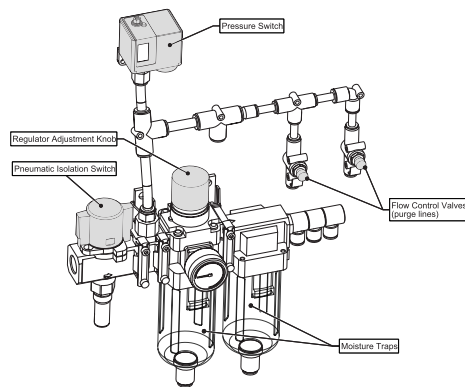
Check the pneumatic unit

WHAT YOU NEED

Standard Personal Protective Equipment



1. Visually inspect the pneumatic unit for signs of damage.
2. Inspect the moisture traps for excessive moisture in the airline. If these are full, please empty and consider using a dryer air supply.



3. Check that the pressure is set to around 70-80 psi on the regulator.
4. Make sure there is a slight positive and constant pressure from the purge lines in front of each feeder photoelectric sensor. Slightly re-adjust the flow control valves on the purge lines (one for each feeder) if necessary.
5. Check that the pressure switch is set to 0.4 MPa.
6. Turn off the pneumatic isolation switch and ensure that this triggers the alarm.
7. Check for leaks around the regulator and associated components.


Check the configuration of Vekta Rescue

1. Get the configuration number of your saw from a Vekta representative.
2. Save any open files and close Simple.
3. Navigate to the `C:\Simple\` folder and open the `Simple.ini` file.
4. Search for the line beginning with "HelpDirectory=" and check that the address matches the following pattern: `https://help.vekta.com.au/ConfigXX/` (where XX stands for the configuration number of the saw).

E X A M P L E

If your configuration number is 8, the full line should be the following (case-sensitive):

```
HelpDirectory=https://help.vekta.com.au/Config8/
```

5. Change as necessary, save and close the text file.
6. Open Simple, click the question mark button  on the toolbar and ensure that Vekta Rescue opens to the homepage.
7. Scroll down to the very bottom of the homepage and ensure that the version indicated in the footer matches the correct configuration number.

Check the reed switches on B and Z-axes

WHAT YOU NEED

Tools:

- Flat Head Screwdriver
- Pen



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder



B-axis reed switches



CAUTION

SHARP BLADE: Keep clear of the saw blade while working inside the saw chamber.

1. Using the Manual Mode window, move the C-axis so that the B-axis reed switches are visible in the saw chamber.
2. Press the Bev Sol **45deg** button and check for smooth movement.
3. Make sure the Bev Sol **45deg** button shows a green status indicator.
4. Make sure the 45-degree reed switch lights up in red while the B-axis is in the 45-degree position.
5. Press the Bev Sol **90deg** button and check for smooth movement.
6. Make sure the Bev Sol **90deg** button shows a green status indicator.
7. Make sure the 90-degree reed switch lights up in red while the B-axis is in the 90-degree position.
8. Press the E-stop button on the operator console.
9. Open the saw chamber door.
10. If any of the B-axis reed switches needs adjustment, proceed as follows:
 - a. If the B-axis needs to be in the 45-degree position, use a pen to hold down the manual override button for the B-axis air supply valve located on the valve bank at the back of the Z-axis weldment.



Note: when the manual override button is released, the B-axis returns to the 90-degree position.

- b.** Use a flat head screwdriver to loosen the mounting screw, reposition the reed switch correctly within the groove and re-tighten the screw.
- 11.** Make sure both B-axis reed switches are physically secure and cannot move from their set positions.
- 12.** Make sure the B-axis reed switch cables are not damaged and not prone to being pinched.
- 13.** Inspect the B-axis for any rubbish or bits of timber that may prevent correct full movement.
- 14.** Close the saw chamber door.
- 15.** Release the E-stop button on the operator console.

Z-axis reed switches



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

- 1.** Using the Manual Mode window, move the Y-axis to the middle position and press the Z Sol1 and Z Sol2 **Down** buttons to move the Z-axis to the lowest position.
- 2.** Make sure the Z Sol1 and Z Sol2 **Down** buttons both show a green status indicator.
- 3.** Open up the dome.
- 4.** Remove the rear frame cover.
- 5.** Inspect the Z-axis for any rubbish or bits of timber that may prevent correct full movement.
- 6.** Make sure the two down reed switches light up in red while the Z-axis is fully down.



Note: the Z-axis down reed switches are fitted at the bottom of the upper cylinder and at the top of the lower cylinder.

- 7.** If required, use a flat head screwdriver to loosen the mounting screw, reposition the down reed switches correctly within the groove and re-tighten the screw.
- 8.** Press the Z Sol1 and Z Sol2 **Up** buttons to move the Z-axis to the highest position and check for smooth movement.
- 9.** Make sure the Z Sol1 and Z Sol2 **Up** buttons both show a green status indicator.

10. Make sure the two up reed switches light up in red while the Z-axis is fully up.



Note: the Z-axis up reed switches are fitted at the top of the upper cylinder and at the bottom of the lower cylinder.

11. If required, use a flat head screwdriver to loosen the mounting screw, reposition the up reed switches correctly within the groove and re-tighten the screw.

12. Make sure all Z-axis reed switches are physically secure and cannot move from their set positions.

13. Make sure all Z-axis reed switch cables are not damaged and not prone to being pinched.

14. Press the Z Sol1 and Z Sol2 **Down** buttons to move the Z-axis back to the lowest position and check for smooth movement.

15. Refit the rear frame cover.

16. Close the dome.

Check the locknuts on B and Z-axes are secure

WHAT YOU NEED

Tools:

- Combination Spanner Set



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder



CAUTION

SHARP BLADE: Keep clear of the saw blade while working inside the saw chamber.

1. Using the Manual Mode window, move the Y-axis to the middle position and press the Z Sol1 and Z Sol2 **Down** buttons to move the Z-axis to the lowest position.
2. Isolate the saw electrically and pneumatically (see page 9).
3. Open up the dome.
4. Remove the rear frame cover.
5. Inspect the Z-axis for any signs of damage.
6. Inspect all locknuts on the Z-axis cylinders for any missing or misaligned witness marks.
7. Tighten and mark locknuts as required.
8. Refit the rear frame cover.
9. Close the dome.
10. Open the saw chamber door.
11. Inspect the B-axis for any signs of damage.
12. Make sure the witness mark on the B-axis cylinder locknut is present and aligned.
13. Tighten and mark the locknut if required.
14. Close the saw chamber door.

Check the condition of the cables on the Z-axis, B-axis and saw head

WHAT YOU NEED

Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Step Ladder



CAUTION

SHARP BLADE: Keep clear of the saw blade while working inside the saw chamber.

1. Using the Manual Mode window, move the Y-axis to the middle position and press the Z Sol1 and Z Sol2 **Down** buttons to move the Z-axis to the lowest position.
2. Isolate the saw electrically and pneumatically (see page 9).
3. Open up the dome.
4. Remove the rear frame cover.
5. Inspect all the cables on the Z-axis for any signs of damage.
6. Inspect the cable chain for any damaged or broken parts that may cause rubbing on the cables.
7. Inspect the Z-axis for any bits of timber that may cause damage to the cables.
8. Make sure all the cables on the Z-axis are secure and not prone to being pinched.
9. Refit the rear frame cover.
10. Close the dome.
11. Open the saw chamber door.
12. Inspect all the cables on the B-axis and saw head for any signs of damage.



Note: these include hoses, sensor cables, motor power and encoder cables, etc.

13. Inspect the B-axis and saw head for any bits of timber that may cause damage to the cables.
14. Move the B-axis by hand and make sure it moves freely.

- 15.** Make sure all the cables on the saw head are secure and not prone to being pinched.
- 16.** Report any damaged cables or hoses to a supervisor.
- 17.** Close the saw chamber door.

Inspect and track the waste and extended waste conveyor belts

WHAT YOU NEED

Tools:

- Combination Spanner Set
- Allen Key Set



Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

Inspection

1. Inspect each one of the waste and extended waste conveyors and make sure it is clear of any wedged offcuts or excess build-up.
2. Using the [Manual Mode](#) window, run the waste conveyors forwards.
3. Check the condition of the entire belt on each waste conveyor while it is running, watching for tears and frayed edges.



Note: if the belt is damaged, it should be replaced during the service.

4. Check the tracking of the belt, watching if it runs to one side of the rollers. If the tracking needs to be adjusted, follow the procedure below.

Tracking

1. Press the E-stop button on the operator console.
2. Extend the M8 tensioning bolts on the bearing blocks to make sure they are tight against the push blocks.
3. Loosen the three cap head bolts slightly to allow the appropriate bearing blocks to be adjusted.

4. Slightly extend or retract the tensioning bolts to adjust the roller alignment.

E X A M P L E

If the belt needs to move left, extend the right bearing and/or retract the left bearing (ensuring you leave the belt tensioned properly).

5. Tighten the three cap head bolts on each bearing block.
6. Tighten the locknut on the tensioning bolts.
7. Release the E-stop button on the operator console.
8. Rehome the saw.
9. Using the [Manual Mode](#) window, run the waste conveyors forwards to check the tracking.
10. Repeat the tracking procedure if needed.

Inspect and replace the dust extractor bags

WHAT YOU NEED

Tools:

- Adjustable Spanner



Spare Parts:

- Dust Extractor Bags - ME1192



Safety Equipment:

- Standard Personal Protective Equipment



Inspection and replacement

1. Press the E-stop button on the operator console.
2. Isolate the dust extractor (see page 10).
3. Visually inspect the dust extractor for any signs of damage.
4. Shake the dust out of the top dust filter bags (if fitted).
5. Operate the cleaning mechanism on the side of the dust extractor to clean the cart-ridge filters (if fitted).
6. Shake the dust extractor bags to remove excess dust.
7. Use an air gun to blow down the dust extractor.
8. Unlatch the locking strap on any bag that is full and needs replacing.
9. If bags are filling unevenly, adjust the baffles that are used to control the dust flow to each bag:
 - a. Use a spanner to loosen the exterior nuts that secure the baffle inside the dust extractor above the bag.
 - b. Adjust to direct more or less dust into the bag in question.
 - c. Re-tighten the nuts to secure the baffle in place again.
10. Install new bags using the locking strap, making sure the new bag is in good condition.

Testing

1. Turn power back on for the dust extractor.
2. Release the E-stop button on the dust extractor control panel.

3. Release the E-stop button on the operator console.
4. Rehome the saw.
5. Using the Manual Mode window, make sure the dust extractor turns on normally and the bags are filling with air properly.

AUTOMATIC INFEED TABLE

Inspect and clean the re-ref sensors

WHAT YOU NEED

Tools:

- Allen Key Set
- Security Torx Key Set
- Small Flat Head Screwdriver
- Small Phillips Head Screwdriver
- Loctite Low Strength Threadlocker



Spare Parts:

- Banner Laser Emitter - EL1023 (if needed)
- Banner Receiver - EL1024 (if needed)
- Metal Pinhole Mask - EL1022 (if needed)



Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Damp cloth



Inspection and cleaning

1. Perform the following checks:

- » Gently move the cable of each re-ref sensor and check for any signs of beam wobble when the cable is moved.
- » Inspect the re-ref sensors for any initial signs of damage or misalignment.
- » Make sure the green power LED on each emitter and receiver is on.
- » Check the strength and alignment of the laser beams on the receiver side by placing a thin strip of timber in front of each emitter. The beam should be clearly visible and roughly in the centre of the receiver.
- » Make sure the orange sensing LED on each receiver turns on when the beam is interrupted.
- » Make sure there is a metal pinhole mask fitted to all emitters.

2. If any of the checks are not met, **press the E-stop button on the operator console** and perform the following tasks accordingly:
 - » Replace any damaged or faulty emitters and receivers with spare ones. Apply a small amount of Loctite on the mounting bolts.
 - » If the beam is dull, clean the face of the emitter with a damp cloth. Remove the fitted mask if necessary and refit after cleaning. If this does not help, replace the emitter with a spare one.
 - » If the beam is off centre, adjust the alignment of the emitter.
 - » If any metal pinhole mask is missing, install a spare one.

Testing



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Release the E-stop button on the operator console.
2. Open the Manual Mode window.
3. Feed a straight 6-m-long timber into the saw so that Re-Ref Add in the Manual Mode window reads "0".
4. Set the feeder speed to 20%.
5. Use the appropriate Left & Right drive button to move the timber towards the re-ref sensors on the infeed conveyor, and check that the Re-Ref Add value is changing from 0 to 6 as the timber passes through each beam.
6. Use the other Left & Right drive button to move the timber back towards the saw chamber, and check that the Re-Ref Add value is changing from 6 to 0 as the timber passes through each beam.



Note: if Re-Ref Right Err or Re-Ref Left Err shows a value greater than 0.05 mm, a calibration of the re-referencing system must be performed (see page 51).

Check the AIT chain tensions

WHAT YOU NEED

Tools:

- 24-mm Combination Spanner



Safety Equipment:

- Standard Personal Protective Equipment
- Safety Gloves



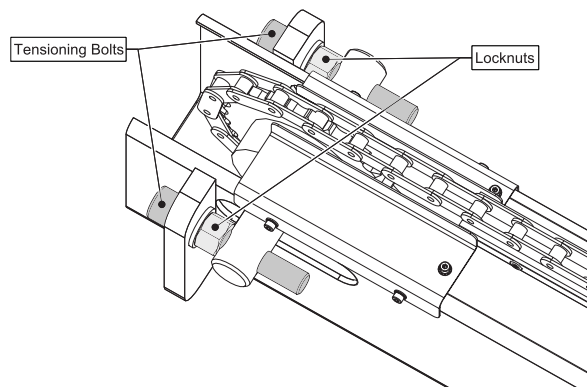
Check and correct the chain tension on the side transfer legs

1. Press the E-stop button on the operator console.
2. In the centre of each side transfer legs, lift up the chain to test the tension.



Note: there should not be more than 75 mm of deflection in the chain.

3. Inspect the chain for signs of wear and for any rubbish or bits of timber that may cause the side transfer to pinch.
4. If a side transfer chain is loose, do the following:



- a. Loosen the locknut on both tensioning bolts at the end of the side transfer leg (roller conveyor side).
- b. Evenly tighten both tensioning bolts to tension the chain.
- c. Check the chain tension after each small adjustment.
- d. Tighten the locknut on both tensioning bolts.

Check the chain tension on the infeed roller conveyor

1. Press the E-stop button on the operator console.
2. Rotate one conveyor roller back and forth to feel for any excessive backlash.



Note: there should not be more than 1 or 2 mm of backlash.

3. Inspect the chain for signs of wear and for any rubbish or bits of timber that may cause the roller conveyor to pinch.
4. If the roller conveyor chain is loose, do the following:
 - a. Loosen the AIT motor mounting bolts.
 - b. Adjust the chain tension by lowering or raising the AIT motor slightly.
 - c. Check the chain tension after each small adjustment.
 - d. Tighten the AIT motor mounting bolts.





Note: you may need to contact a Vekta Automation for assistance in tensioning the chain.

Testing



CAUTION

When using material handling in the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Release the E-stop button on the operator console.
2. Rehome the saw.
3. Open Simple.
4. In the Material Handling window, click  to operate the side transfer legs and check for any misalignment.
5. Click  under AIT Infeed Control to operate the infeed roller conveyor and check for any misalignment.

Check the AIT conveyor goes up and down evenly

WHAT YOU NEED

Tools:

- Allen Key Set



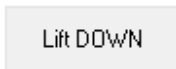
Safety Equipment:

- Standard Personal Protective Equipment



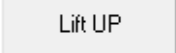
CAUTION

When using material handling in the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Inspect the AIT for signs of damage or wear, and for any rubbish or bits of timber that may prevent correct movement.
2. In the Material Handling window, click  to lower the conveyor and perform the following checks:
 - » Make sure no cables are being pinched or any part of the conveyor is rubbing.
 - » Visually check that the conveyor moves into position correctly and in an even motion.



Note: the full movement should not be jerking and the conveyor should stay perfectly level while travelling.

3. Click  to raise the conveyor and perform the same checks.
4. If the up and down motion is not even, adjust the AIT air cylinder cushioning and restrictors as required.

Check the AIT conveyor reed switch

WHAT YOU NEED

Tools:

- Flat Head Screwdriver





Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using material handling in the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. In the Material Handling window, click  to lower the conveyor.
2. Make sure the reed switch does not light up when the conveyor is down.
3. Click  to raise the conveyor.
4. Make sure the reed switch lights up in red when the conveyor reaches the up position.
5. If required, use a flat head screwdriver to loosen the mounting screw, reposition the reed switch correctly within the groove and re-tighten the screw.
6. Make sure the reed switch is physically secure and cannot move from its set position.

Check automation timing for loading new timber

WHAT YOU NEED

Standard Personal Protective Equipment



1. Inspect the AIT for signs of damage or wear, and for any rubbish or bits of timber that may prevent correct movement.
2. Open a commissioning job file in Simple.
3. Load the boards onto the side transfer legs.
4. Select the first board to be cut in the job file and start cutting.
5. When the saw starts, visually make sure the AIT conveyor moves down once the board has passed the gap sensors on the side transfer legs.
6. Then make sure the AIT conveyor moves up and picks up the board off the side transfer legs at the correct time so that the board sits near the fenceline but does not hit the fenceline rollers when fed into the saw.
7. If required, adjust the gap time setting Q526 to achieve the right timing.



Notes:

- Boards that are sitting too close to the fenceline will more likely hit the fenceline rollers causing damage.
- Boards that are sitting too far from the fenceline will require the side clamp rollers to push them to the correct position. The constant slamming of the boards will eventually cause damage to the rollers.

Inspect and track the follower belt

WHAT YOU NEED

Tools:

- Allen Key Set
- Large Flat Head Screwdriver



Safety Equipment:

- Standard Personal Protective Equipment



Inspection

1. Isolate the saw electrically (see page 9).
2. Remove the follower top guard.
3. Disconnect the follower power cable from the follower servo drive in the electrical cabinet.
4. Manually push the follower slowly the whole length of the rail in both directions while visually inspecting the follower belt tracking on the drive pulley.



Note: The belt should not rub on any part of the follower assembly. The belt may float on the drive pulley as long as it does not come within 2 mm of touching any adjacent part.

5. If the tracking needs to be adjusted, follow the procedure below.

Tracking



Note: The tracking is influenced by the idle roller leading the direction of travel:

- When the follower is moving towards the saw chamber, adjust the idle roller closest to the saw chamber.
- When the follower is moving away from the saw chamber, adjust the idle roller farthest from the saw chamber.

1. For the direction requiring tracking, slightly loosen the mounting bolt on one side of the relevant idle roller.
2. Using a large flat head screwdriver on the same side as the loosened mounting bolt, lever the roller in the desired direction to adjust its orientation.
3. While holding the roller in the desired position with the screwdriver, re-tighten the roller mounting bolt.



Note: Only a very fine adjustment is required. Moving the mounting position by a fraction of a millimetre may make a large difference.

4. Manually push the follower up and down the rail to check the belt tracking.
5. Repeat the tracking procedure if needed.

Testing

1. Reconnect the follower power cable onto the follower servo drive in the electrical cabinet.
2. Turn on the electrical isolation switch on the front of the saw.
3. Rehome the saw 3 to 4 times with the follower top guard off. While standing clear, make sure the follower belt tracks correctly on the drive pulley.
4. Feed 2 to 3 boards into the saw with the follower top guard off. While standing clear, make sure the follower belt still tracks correctly on the drive pulley.
5. Press the E-stop button on the operator console.
6. Refit the follower top guard.

Check the actuation of the follower paddle

WHAT YOU NEED

Tools:

- Security Torx Key Set
- Pen



Safety Equipment:

- Standard Personal Protective Equipment



1. Start a rehoming cycle then press the red STOP button on the operator console when the follower is roughly half a metre away from the end of its travel close to the saw.
2. Isolate the saw electrically (see page 9).
3. Remove the rear side guard from the infeed feeder.
4. From the rear of the infeed feeder, use a pen to operate the manual override button for the follower paddle air supply valve (marked "FOL") on the valve bank multiple times and observe the actuation of the paddle.



Note: this should actuate with roughly a 1-second rise and fall time.

5. If too fast or too slow, adjust the restrictors until the desired actuation speed is observed.
6. Refit the rear side guard on the infeed feeder.
7. Turn on the electrical isolation switch on the front of the saw.

Inspect the follower for loose bolts or connections

WHAT YOU NEED

Tools:

- Allen Key Set
- 13-mm Spanner



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Remove the follower top guard.
3. Inspect all bolts and locknuts for tightness, in particular:
 - » Idle roller shaft bolts
 - » Paddle bearing bolts
 - » Paddle cylinder bracket bolts
 - » Carriage bearing bolts and jacking bolts/locknuts
 - » Tensioning bolts
 - » Motor bracket face bolts
4. Make sure all air lines are in good working order and fully inserted into their fittings.
5. Make sure the encoder and motor connections are secure.
6. Refit the follower top guard.
7. Release the E-stop button on the operator console.

Check the follower carriage is secure

WHAT YOU NEED

Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Gently rock the follower side to side and up and down. Make sure the carriage feels firm with no significant play.
3. If significant play is detected, keep rocking the follower to identify the cause (i.e. worn bearings, loose bolts, poor alignment, etc.).
4. Release the E-stop button on the operator console.



Note: contact Vekta Automation for further assistance or if parts are required.

Inspect the follower sensor array

WHAT YOU NEED

Tools:

- Screwdriver Set
- Ruler



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Disconnect the follower power cable from the follower servo drive in the electrical cabinet.
3. Release the E-stop button and press the green CONTROL button on the operator console.
4. Check the follower sensor alignment as follows:
 - a. Place a 90-mm-wide board flat on the AIT conveyor underneath the follower sensor array.
 - b. Place a ruler across the board parallel to the laser dots from the sensor array and verify the following measures:
 - » The laser dot farthest from the follower rail should be 20 mm away from the edge of the re-ref sensor bracket.
 - » All laser dots should be 35 mm apart from each other.
 - c. If required, loosen the two screws holding the individual sensor bracket to the main array bracket, twist to the correct position and re-tighten.
5. Check the trigger point of the sensors as follows:
 - a. Place an object 15 to 20 mm above the AIT rollers and make sure the orange sensing LED on each sensor toggles when the object crosses the beam or is removed.
 - b. If any sensor triggers higher or lower than 15 to 20 mm above the AIT rollers, use a screwdriver to adjust the gain screw terminal on the head of the sensor.
 - c. Manually push the follower up and down the rail and monitor the sensors when crossing the AIT rollers. If a sensor triggers while passing every roller, please re-adjust it.



Note: a small occasional flicker is acceptable.

Inspect the follower homing sensor

WHAT YOU NEED

Tools:

- Combination Spanner Set



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Inspect the follower homing sensor for security and signs of damage, and clean any build-up of dust.
3. Manually push the follower all the way to the end stop closest to the saw, such that the carriage contact plate is over the top of the follower homing sensor.
4. Perform the following checks:
 - » Visually make sure the follower homing sensor is roughly centred below the contact plate. Adjust the homing sensor bracket if required.
 - » Visually make sure the gap between the carriage contact plate and the homing sensor is about 1 mm.
 - » Make sure the orange sensing LED on the side of the sensor is turned on.
 - » Make sure that the locknut on the homing sensor is secure. Tighten if required.



CAUTION

Take care not to overtighten the locknut as this will damage the sensor.

5. Release the E-stop button on the operator console.
6. Rehome the saw.

OUTFEED KICKOFF TABLE

Check the reed switches on the kickoff arm

WHAT YOU NEED

Tools:

- Flat Head Screwdriver



Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using material handling in the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Open the PEWIN32PRO program.
2. Select Watch Window from the View drop-down menu at the top of the PEWIN32PRO window.
3. Press the **Insert** key and add the KickoffExtended (M910) and KickoffRetracted (M911) variables to the Watch Window.
4. Make sure the OFK conveyor is clear of timber or any other obstruction.
5. In the Material Handling window, click **Kickoff Extend** to extend the kickoff arm.
6. Make sure the KickoffExtended variable changes from 0 to 1 and the reed switch closest to the conveyor lights up in red when the arm is fully extended.
7. If required, use a flat head screwdriver to loosen the mounting screw, reposition the reed switch correctly within the groove and re-tighten the screw.
8. Click **Kickoff Retract** to retract the kickoff arm.
9. Make sure the KickoffRetracted variable changes from 0 to 1 and the reed switch farthest from the conveyor lights up in red when the arm is fully retracted.
10. If required, use a flat head screwdriver to loosen the mounting screw, reposition the reed switch correctly within the groove and re-tighten the screw.
11. Make sure both reed switches are physically secure and cannot move from their set positions.

Inspect and track the OFK conveyor belt

WHAT YOU NEED

Tools:

- Combination Spanner Set



Safety Equipment:

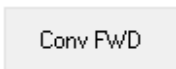
- Standard Personal Protective Equipment



CAUTION

When using material handling in the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

Inspection

1. Inspect the OFK conveyor and make sure it is clear of timber or any other obstruction.
2. In the Material Handling window, click  to run the OFK conveyor forwards.
3. Check the condition of the entire belt while it is running, watching for tears and frayed edges.



Note: if the belt is damaged, it should be replaced during the service.

4. Check the tracking of the belt, watching if it runs to one side of the rollers. If the tracking needs to be adjusted, follow the procedure below.


Tracking

1. Press the E-stop button on the operator console.
2. Loosen the two mounting bolts on each roller bearing at the end of the conveyor farthest from the saw.
3. Loosen the locknut on the large tensioning bolts under each bearing.

4. Slightly extend or retract the tensioning bolts to adjust the roller alignment.

EXAMPLE

If the belt needs to move left, extend the right bearing and/or retract the left bearing (ensuring you leave the belt tensioned properly).

5. Tighten the two mounting bolts on each roller bearing.
6. Tighten the locknut on the tensioning bolts.
7. Release the E-stop button on the operator console.
8. Rehome the saw.
9. In the Material Handling window, click  to run the OFK conveyor forwards and check the tracking.
10. Repeat the tracking procedure if needed.

PRINTER

Clean the print heads

WHAT YOU NEED

Safety Equipment:

- Standard Personal Protective Equipment



Other Equipment:

- Damp lint free cloth
- Dry lint free cloth



1. Lift the printer cover.
2. Make sure the status of both print modules reads "Case open" in the plate marking control panel.
3. Open the retention latch for all print heads, not forgetting the side print heads.
4. Remove each print head one by one, and clean by dabbing and wiping firmly with a damp lint free cloth. You should get two solid lines of ink.



CAUTION

Do not shake the print heads at any point or this can permanently damage them.

5. Make sure no ink or grime is on the electrical contacts behind the print heads. Wipe clean with a **dry** lint free cloth if required.
6. Inspect the print head slots for ink or dust build-up, cracks, missing clips and damaged latches.
7. Clean the Pogo pins in the slots by dabbing with a **dry** lint free cloth.



CAUTION

Do not blow air directly into the slots.

8. Refit each print head and close the retention latches fully.



Note: If you have trouble closing a retention latch, re-seat the print head to make sure it is inserted correctly.

9. Close the printer cover.

Check the position of the side print heads

WHAT YOU NEED

Tools:

- Tape Measure
- Allen key Set



Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Make sure the saw is homed.
2. Using the Manual Mode window, feed a long straight board into the saw and move it towards the printer until the end of the board is past the side print heads.
3. Check that the gap between the side print heads and the board is between 3 and 5 mm.
4. If required, adjust the position of the side print heads as follows:
 - a. Press the E-stop button on the operator console.
 - b. Remove the printer guard by removing the screws that hold it to the printer backing plate.
 - c. Loosen the four bolts that hold the print head bracket to the linear bearing.
 - d. Move the side print heads to the correct position.
 - e. Re-tighten the four mounting bolts.
 - f. Re-check the position and re-adjust if required.
 - g. Refit the printer guard.
5. Make sure the side print heads are secure and cannot twist (see page 97).

Blow out the dust from the print module compartment

WHAT YOU NEED

Tools:

- Allen Key Set
- Air Gun



Safety Equipment:

- Standard Personal Protective Equipment



1. Isolate the saw electrically (see page 9).
2. Lift the printer cover.
3. Remove the print module cover.
4. Visually inspect the print modules for any signs of damage.
5. Blow air towards the ground for several seconds to make sure there is no moisture left in the air gun.
6. Carefully blow out any dust or dirt from the print module compartment.



CAUTION

Do not blow sustained air pressure directly onto the print modules.

7. Refit the print module cover.
8. Close the printer cover.
9. Turn on the electrical isolation switch on the front of the saw.

Check the print head alignment

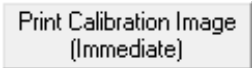

WHAT YOU NEED

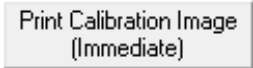
Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Make sure the saw is homed.
 2. Open the PEWIN32PRO program.
 3. In the terminal window, type "Q295=70" (if using 35-mm-thick boards) or "Q295-5=90" (if using 45-mm-thick boards) then press the **Enter** key.
 4. Using the Manual Mode window, feed two 90-mm-wide boards stacked **one on top of the other** into the saw and move them towards the outfeed until they are positioned under the print heads.
 5. Open the plate marking control panel and click  **at the top left** of the panel (for print module 1 only).
 6. Move the boards further to the outfeed so that you can see the printing.
 7. Inspect the printing for any misalignment of the print heads.
- 

Note: if the print heads are significantly misaligned from one to the next (i.e. more than about 0.5 mm), contact Vekta Automation for help in realigning.
8. Hold down the red STOP button on the operator console for 3 seconds and remove the timbers from the saw.
 9. In the terminal window, type "Q295=35" or "Q295=45" (depending on the thickness of the boards used) then press the **Enter** key.
 10. Using the Manual Mode window, feed two 90-mm-wide boards stacked **side by side** into the saw and move them towards the outfeed until they are positioned under the print heads.
 11. Click  **at the bottom right** of the plate marking control panel (for both print modules).
 12. Move the boards further to the outfeed so that you can see the printing.

13. Inspect the printing for any misalignment of the print heads.



Note: if the print heads are significantly misaligned from one to the next (i.e. more than about 0.5 mm), contact Vekta Automation for help in realigning.

14. Hold down the red STOP button on the operator console for 3 seconds and remove the timbers from the saw.

15. Close the plate marking control panel.

16. Close the PEWIN32PRO program.

Check the printer goes up and down smoothly

WHAT YOU NEED

Tools:

- Small level
- Allen Key Set
- Combination Spanner Set



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Lift the printer cover.
3. Inspect the printer assembly, and more particularly the actuators, for any signs of damage or misalignment.
4. Place a small level on the top of the carriage bearing plate to check the level of the printer carriage.
5. Move the printer assembly up and down by hand and make sure the motion is smooth and consistent.



Note: the electric actuator will provide a bit of resistance but this is normal.

6. Close the printer cover.
7. Release the E-stop button on the operator console.
8. Rehome the saw.
9. Open the PEWIN32PRO program.
10. In the terminal window, type "Q295=35" then press the **Enter** key. This will force the printer to the 35-mm position.
11. Type in "Q295=80" then press the **Enter** key. This will force the printer to the 80-mm position.



Note: for extended variable height printers, type in "Q295=90" instead to force the printer to the 90-mm position.

12. Keep switching between these two positions and make sure the printer moves evenly and smoothly.
13. If the printer carriage twists at the upper or lower position, adjust the air actuator as follows:

- a.** Press the E-stop button on the operator console.
 - b.** Remove the printer guard by removing the screws that hold it to the printer backing plate.
 - c.** Loosen the locknut on the actuator clevis.
 - d.** Using the flat of the shaft and the correct spanner, screw the shaft in or out of the clevis to the correct height.
 - e.** Re-tighten the locknut on the actuator clevis.
 - f.** Repeat steps **7** to **12** to check the printer carriage no longer twists and re-adjust if required.
 - g.** Double check all the printer height positions (see page 98).
 - h.** Refit the printer guard.
- 14.** Close the PEWIN32PRO program.

Check the side print heads are secure

WHAT YOU NEED

Tools:

- Allen Key Set
- Phillips Head Screwdriver



Safety Equipment:

- Standard Personal Protective Equipment



1. Press the E-stop button on the operator console.
2. Lift the printer cover.
3. Inspect the side print head assembly for any signs of damage.
4. Make sure the linear rail is secure and there is no side-to-side play.
5. Make sure all bolts and screws are tight, especially the following ones:
 - » the bolts holding the linear rail to the printer backing plate
 - » the bolts holding the print head bracket to the linear bearing
 - » the screws holding the print head plates to the print head bracket
6. Close the printer cover.
7. Release the E-stop button on the operator console.

Check the printer height positions

WHAT YOU NEED

Tools:

- Tape Measure
- Small Flat Head Screwdriver



Safety Equipment:

- Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

Check the positions

1. Make sure the saw is homed.
2. Open the PEWIN32PRO program.
3. In the terminal window, type "Q295=35" then press the **Enter** key.
4. Using the Manual Mode window, feed a long straight 35-mm-thick board into the saw and move it towards the printer until the end of the board is past the print heads but just before the printer encoder wheel.
5. Check that the gap between the bottom of the printer carriage and the top of the board is roughly 2-3 mm.
6. Hold down the red STOP button on the operator console for 3 seconds and remove the timber from the saw.
7. If the position needs to be adjusted, follow the adjustment procedure (see page 99).
8. Repeat steps 3 to 7 for all the other positions:
 - 45 mm
 - 70 mm (Use two 35-mm-thick boards stacked one on top of the other.)
 - 80 mm (Use a 35-mm-thick board stacked on top of a 45-mm-thick board.)
 - 90 mm for extended variable height printers only (Use two 45-mm-thick boards stacked one on top of the other.)

Set the value of Q295 to the thickness of timber being tested.

9. Close the PEWIN32PRO program.

Adjust the positions

1. Open the right-hand electrical cabinet and switch the SMC LEC controller to manual mode (move the small switch beside the LCD to the "M" position).
2. Using a small flat head screwdriver, move the position selector dial to 15. The letter "F" will flash rapidly on the display.
3. Press the "Set" button momentarily. The actuator will start moving to the home position and the display will stop flashing once home is complete.
4. Move the position selector dial to the number of the position you wish to set. The selected position number will flash rapidly on the display. (Position number 12 will display the letter "C".)



Note: The position numbers are 1, 2, 3, 4, 5 (35 mm, 45 mm, 70 mm, 80 mm and 90 mm) or 1, 2, 3, 12 (35 mm, 45 mm, 70 mm and 80 mm) depending on the configuration of your saw. If unsure of the configuration, please contact Vekta Automation.

5. Press the "Set" button momentarily. The display will show a flashing "-" while the actuator is moving to the selected position and will become solid once complete.
6. Hold down the "Set" button for 2 seconds (until the display starts flashing slowly).
7. Using the Manual Mode window, feed a long straight board or stack of boards into the saw with the same thickness as the position you wish to adjust.
8. Use the arrow buttons to set the height of the printer, such that the gap between the bottom of the printer carriage and the top of the board is roughly 2-3 mm.
9. Press the "Set" button momentarily to store the current position. The display will show three horizontal bars.
10. Hold down the "Set" button for 2 seconds to save the position.
11. Repeat steps 2. to 10 for all the other positions that need to be adjusted.
12. Switch the SMC LEC controller to auto mode (move the small switch beside the LCD to the "A" position) and close the right-hand electrical cabinet.
13. Press then release the E-stop button on the operator console.
14. Wait 5 seconds then press the green CONTROL button.
15. Rehome the saw to apply the changes.

Check the printer cover reed switch

WHAT YOU NEED

Tools:

- Allen Key Set



Safety Equipment:

- Standard Personal Protective Equipment



- 1.** With the printer cover closed, visually inspect the reed switch for any signs of damage or misalignment.
- 2.** If misaligned, do the following:
 - a.** Slightly loosen the screws that hold the printer guard to the printer backing plate.
 - b.** Twist the printer guard to realign the reed switch on the printer cover with the magnet.
 - c.** Re-tighten the screws that hold the printer guard to the printer backing plate.
- 3.** Make sure both print modules are enabled in the plate marking control panel.
- 4.** Make sure the CONTROL light is on.
- 5.** Lift the printer cover and make sure the status of both print modules reads "Case open".
- 6.** Close the printer cover and make sure the status of both print modules reads "Init" followed by "Standby". The status indicators of all print heads should now be green.

Inspect the printer cables

WHAT YOU NEED

Tools:

- Allen Key Set



Safety Equipment:

- Standard Personal Protective Equipment



1. Isolate the saw electrically (see page 9).
2. Make sure all visible cables around the printer are secure and not prone to being pinched.
3. Make sure the printer encoder cable is secure and tied to the printer carriage so that it will not get caught in normal operation.
4. Make sure the bend in the cable from the encoder gland is not too tight.
5. Lift the printer cover.
6. Remove the ribbon cable cover and the print module cover.
7. Inspect all wiring, ribbon cables and connectors for any signs of damage, wear or chafing.



Note: pay particular attention to the ribbon cables going to the side print heads.

8. Replace as required.
9. Make sure the ribbon cables are routed correctly and not over-tensioned.
10. Refit the ribbon cable cover and the print module cover.
11. Close the printer cover.
12. Turn on the electrical isolation switch on the front of the saw.

Check wear and clean the printer encoder wheel

WHAT YOU NEED

Tools:

- Wire Brush



Safety Equipment:

- Standard Personal Protective Equipment
- Safety Gloves



1. Isolate the saw electrically (see page 9).
2. Lift the printer cover.
3. Inspect the encoder wheel for any signs of damage, significant wear or build-up between the knurls.
4. If necessary, clean the encoder wheel with a wire brush.
5. Close the printer cover.
6. Turn on the electrical isolation switch on the front of the saw.

Check the operation of the printer encoder

WHAT YOU NEED

- Standard Personal Protective Equipment
- Safety Gloves



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Inspect the printer encoder for any signs of damage.
2. Open the plate marking control panel.
3. Check Log Enc Pos on the right of the panel then click Send Calibration Data for both print modules. The encoder positions will now start scrolling down the log panes.
4. In the Manual Mode window, use the appropriate Left & Right drive button to operate the drive rollers in the direction from infeed to outfeed.
5. Make sure the drive encoder value (Drive Enc) is increasing in a positive direction and similarly in both log panes.



Note: Pay close attention for a minus sign in front of the numbers. Negative values should increase towards 0.

6. Spin the printer encoder wheel by hand in the same direction as it would be with the timber leaving the outfeed.
7. Make sure the printer encoder value (Free Enc) is increasing in a positive direction and similarly in both log panes.



Note: Pay close attention for a minus sign in front of the numbers. Negative values should increase towards 0.

8. Uncheck Log Enc Pos on the right of the plate marking control panel then click Send Calibration Data for both print modules.
9. Close the plate marking control panel.

Check the printer guard is secure

WHAT YOU NEED

Tools:

- Allen Key Set



Safety Equipment:

- Standard Personal Protective Equipment



1. Inspect the printer guard for any missing screws and replace as required.
2. Make sure all screws are tight and tighten as required.
3. Attempt to firmly twist the printer guard to make sure it is secure.

WIDTH DETECTION

Check the width detection is correct

WHAT YOU NEED

Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.

1. Open the PEWIN32PRO program.
2. Select Watch Window from the View drop-down menu at the top of the PEWIN32PRO window.
3. Press the **Insert** key and add the MeasuredTimberWidth (P759) variable to the Watch Window.
4. Using the Manual Mode window, clamp a 90-mm-wide board into the saw.
5. Make sure the MeasuredTimberWidth variable in the Watch Window is within 2 mm of the actual width of the board.
6. Hold down the red STOP button on the operator console for 3 seconds and remove the timber from the saw.
7. Repeat steps 4 to 6 with at least a 120-mm-wide board into the saw.
8. If the width detection is not correct for either board, contact Vekta Automation for help in recalibrating.

Check that the saw stops when an incorrect width is detected

WHAT YOU NEED


Standard Personal Protective Equipment



1. Open any job file in Simple.
2. Select an uncut member or stick.
3. Load a board that is a different width than what is requested.

EXAMPLE

If the selected member or stick is 90 mm wide, load a 70-mm-wide board instead.

4. Press  on the [toolbar](#) and make sure that the saw flags the error to the operator.



Note: an "Incorrect Timber Width" [error notification](#) should be displayed.

HEIGHT DETECTION

Check the height detection is correct

WHAT YOU NEED

Standard Personal Protective Equipment



CAUTION

When using the manual mode, make sure that everything and everyone is clear of moving parts to prevent damage or injuries.


1. Open the PEWIN32PRO program.
2. Select Watch Window from the View drop-down menu at the top of the PEWIN32PRO window.
3. Press the **Insert** key and add the MeasuredTimberThickness (P757) variable to the Watch Window.
4. Using the Manual Mode window, clamp a board into the saw.
5. Make sure the MeasuredTimberThickness variable in the Watch Window is reading the actual thickness of the board (in mm).
6. Hold down the red STOP button on the operator console for 3 seconds and remove the timber from the saw.
7. Repeat steps 4 to 6 with two boards stacked one on top of the other.
8. If the height detection is not correct for either test, contact Vekta Automation for help in recalibrating.

Check that the saw stops when an incorrect thickness is detected

WHAT YOU NEED

Standard Personal Protective Equipment

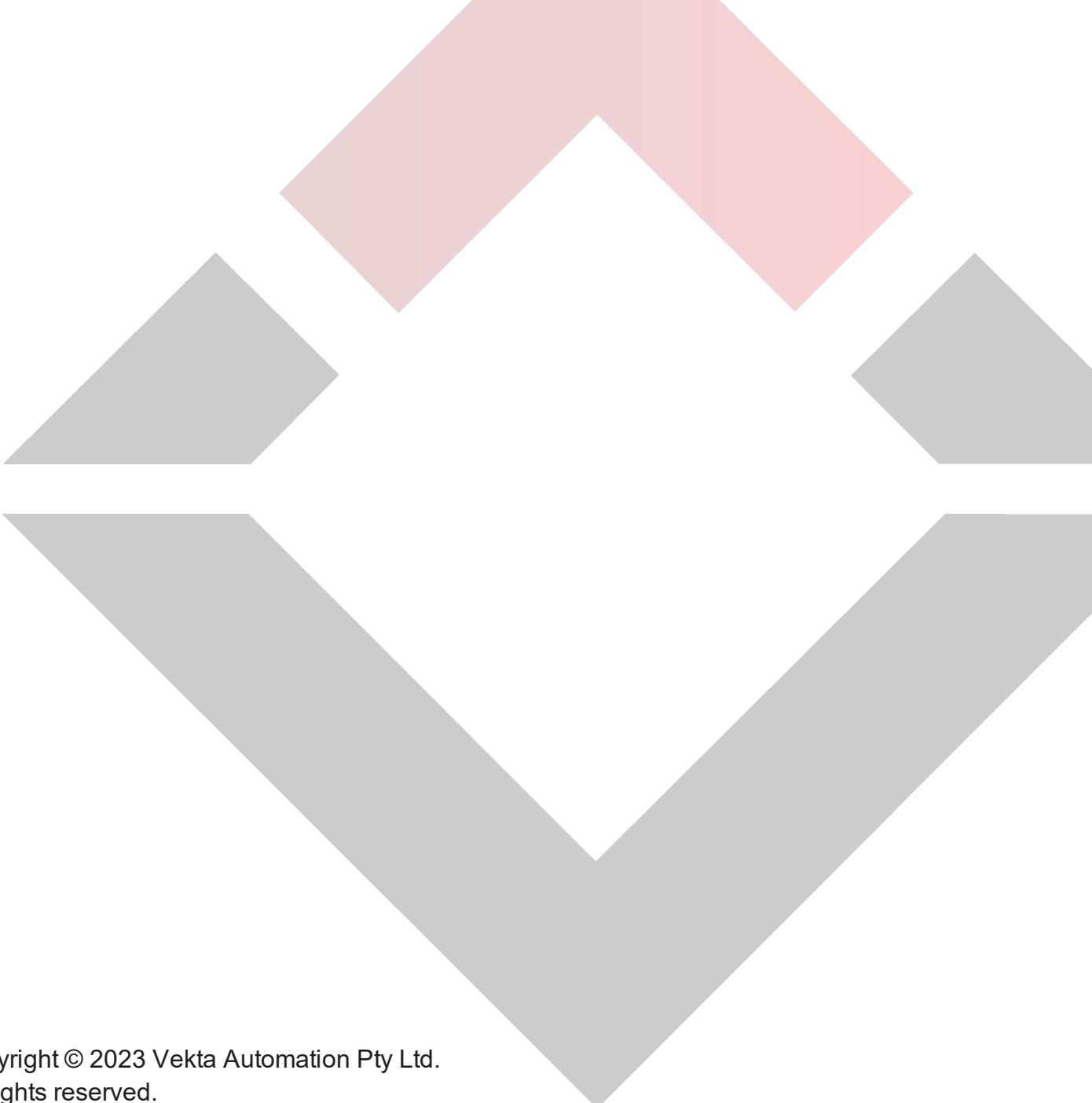


1. Open any job file in Simple.
2. Select an uncut member in the Member List tab.
3. Check 2* Thick on the control bar.
4. Load a single board that matches the thickness of the selected member.
5. Press  on the toolbar and make sure that the saw flags the error to the operator.



Note: an "Incorrect Timber Thickness" error notification should be displayed.

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