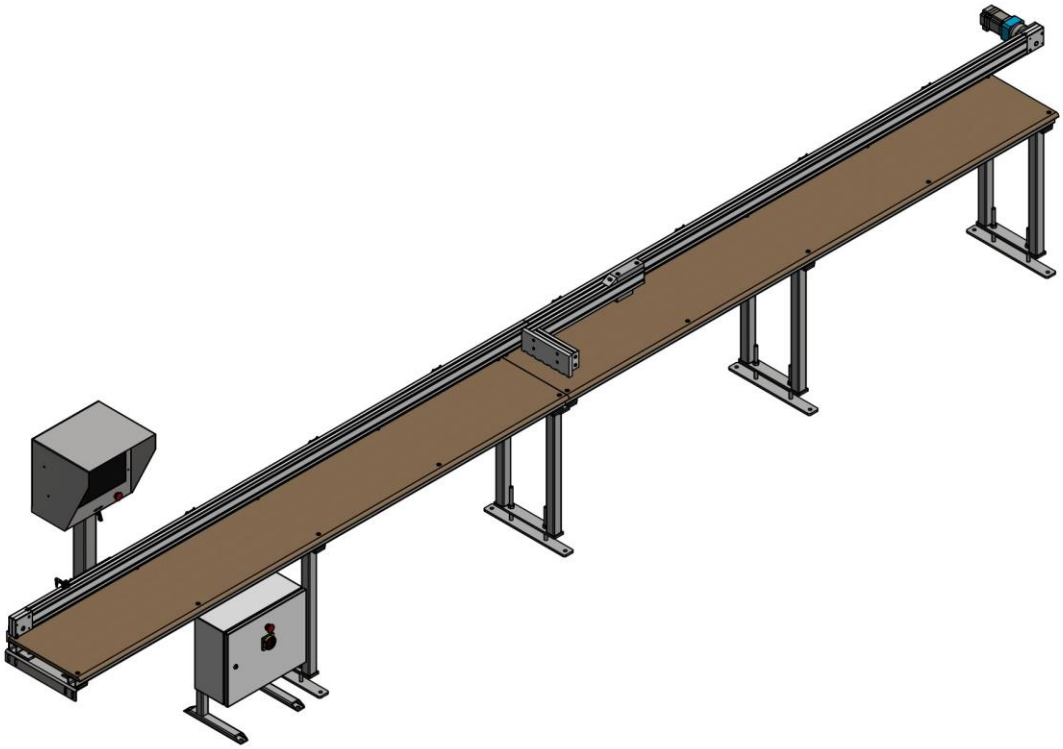
SPIDA MACHINERY
A MULTINAIL COMPANY

Rapid stop



OPERATION & MAINTENACE MANUAL

WARNING

This machine ***must only*** be used by personnel who have been properly instructed in all aspects of the machine's safe operation.

Operators ***must*** also wear the recommended personal protective clothing and have thoroughly read and understood this manual.

Serial Plates

All enquiries should be directed to:
SPIDA Machinery Ltd

Australia free phone 1800 146 110

America free phone 1888 262 9476

NZ free phone 0800 SPIDAS or +64 7 343 7915

Below is a copy of the serial plate displayed on the back of the machine

1 Contents

Tables

Figures

2 Overview

The Spida Rapid Stop is designed to accurately measure timber, or other materials, up to 6000mm in length.

The Rapid Stop test procedures must be performed at installation and after any maintenance, adjustment, repair, or modification to the machine. The test procedure is available on request.

Only qualified personnel must install and test the Rapid Stop.

Do not perform any tests or repairs other than those outlined in the manual.

The Operator must also regularly perform (at least every three months but more often if used continuously) the recommended maintenance procedures.

All electrical wiring must be set so as not to allow its movement through the cutting area of adjacent machinery.

All Operators should read this manual before operating the Rapid Stop to ensure they are thoroughly familiar with the proper operation of the Rapid Stop controls, features, capabilities and limitations.

This manual offers many safety tips, but its purpose is not to provide instruction in all the skills and techniques required to manufacture timber safely.

Due to improvements in design and performance during production, in some cases there may be minor discrepancies between the actual machine and the illustrations and text in this manual.

3 Specifications

Table 1, Rapid Stop Specifications

Overall Width	515mm
Overall Height	984-1144mm
Overall Length	6590mm
Working Width	395mm
Working Height	818-978mm (Adjustable)
Working Length	6100mm
Fence Height	115mm
Weight	320 kg
Operational Noise	-
Timber Feed	Left or Right
Monitor centre height	1470mm
Electrical Supply	15 Amp 240V Single Phase
Servo Motor	2.94Nm, 5000 RPM
Servo Drive	Ultra 3000 5A/15A Index

Specifications may change without notice

4 Installation

4.1 Handling & Transport

- Box all additional parts and secure with the machine
- Using a single fork truck, lift the machine package underneath using the forklift spaces provided
- Once on the truck, tightly strap the machine.
- Do Not place any loads on top of the machine
- The machine should be kept free from road grime and rain, and should be covered at all times while being transported

4.2 Installation

- It is advisable to forklift the machine package as close to the final assembly point as possible to reduce manual lifting
- The final operating position of the machine must be free from any rubbish or impediments
- There must be good lighting in the installation area to allow proper positioning of the machine
- The ground on which the machine rests must not vary by more than 30mm over a 12m x 2m area
- Rapid Stop table should be leveled using the adjustable feet. Once level, machine should be bolted to the floor through holes provided.
- Electrical commissioning to be to local standards and be performed by a qualified electrician

The site selected for the Spida Rapid Stop will depend on the ground. The ground chosen should be a clean and free of water or possible flooding. The area on which the framework sits must be as even and horizontal as possible. This can be achieved by adjusting the length of the feet. There should be no twist to the framework when the feet have been adjusted to take the ground into account.

The final operating position of the machine should be free of all rubbish or impediments with general access to all areas of the Rapid Stop for the ease of loading and unloading of timber.

With the machine in position, a qualified engineer should be used to connect the electrical components to the machine.

Check that all safety equipment is functioning properly.

5 Safety

This Spida Rapid Stop is built for providing an efficient and safe means of measuring and cutting timber. The Spida Rapid Stop must only be used for the purpose specified above and must be set up, maintained and operated in accordance with the instructions contained in this manual and the best standards of industrial machinery practice.

This Spida Rapid Stop will perform better and have a longer life if it is operated with care and given regular maintenance and inspections.

PROTECTIVE SAFETY CLOTHING AND EQUIPMENT MUST BE WORN; INCLUDING:

Eyewear

Hearing protection

Respirator or Dust mask

Protective Clothing

The Spida Rapid Stop must only be operated by personnel who have been properly instructed in all aspects of the Spida Rapid Stop safe operation.

Each member of the factory personnel shall be instructed in the safe use of the Spida Rapid Stop using this manual as a guideline and shall sign a copy of this manual to indicate that he or she has been instructed in the safe operation of the Spida Rapid Stop and have thoroughly read and understood this Manual and any other additional information that has been supplied.

A copy of this manual will be placed in the personnel file of each employee that receives instruction on the Spida Rapid Stop.

A second copy will be made available to each employee for his or her reference.

This manual is intended as a guide for safe operation of the Spida Rapid Stop by the operator. The operator should not consider this manual as all-inclusive.

Should you have any questions on the Spida Rapid Stop contact SPIDA Machinery (SM2012 Ltd).

- Protective clothing is to be worn at all times whilst operating this machine. The machine has several moving components which may snag any loose ill-fitting clothing resulting in possible injury. Keep hands away from all moving parts.
- Stay alert at all times of any human movement around the machine. Know where your co-workers are when you are operating the machine!
- Use the correct operating procedure to switch the machine off when it is not in use
- Before the commencement of work:
    - Carry out a general inspection of the machine for loose fittings, fasteners and damage to the electrical wiring.
    - Check all safety systems and equipment are work properly
    - Ensure that the machine is not vibrating or making unusual noises
- When shutting the machine down after each shift remove any foreign objects such as tools, discarded nails etc.
- Long hair should not be worn around the machinery. Wear appropriate hat or hair net, which will cover loose hair in accordance with OHS regulations.

- All maintenance should be carried out (where possible) with the compressed air and electrical supply isolated.
- The operator shall be suitably trained in accordance with this manual[1].
- Any person under the influence of alcohol or any drugs which would impair the operator's normal functions shall **not** operate the machine[2].
- It is the responsibility of the competent operator to prevent any other person from coming into the operators work area whilst the machine is in use.
- Observe and obey all warning decals and labels.

When initially locating the machine in the factory production area, due care and attention should be given to a clear working area around the machine and the movement of timber into and away from the working area. Operation of the machine should be confined to competent trained personnel only, (Ensure they sign the Operation/Maintenance Manual) who are responsible for routine inspection of components and ensuring that the machine is not in an unsafe condition.

Notes:

1 It is recommended that the employers maintain training records demonstrating the competencies of each employee

2 Consult a doctor or a pharmacist if you are on or taking any medication that you are unsure about.

WARNING! Do not operate the Spida Rapid Stop without having received the proper instruction in operation and safety from this manual.

6 Operating Controls

Before attempting to operate the Spida Rapid Stop, familiarise yourself with the location and function of each control.

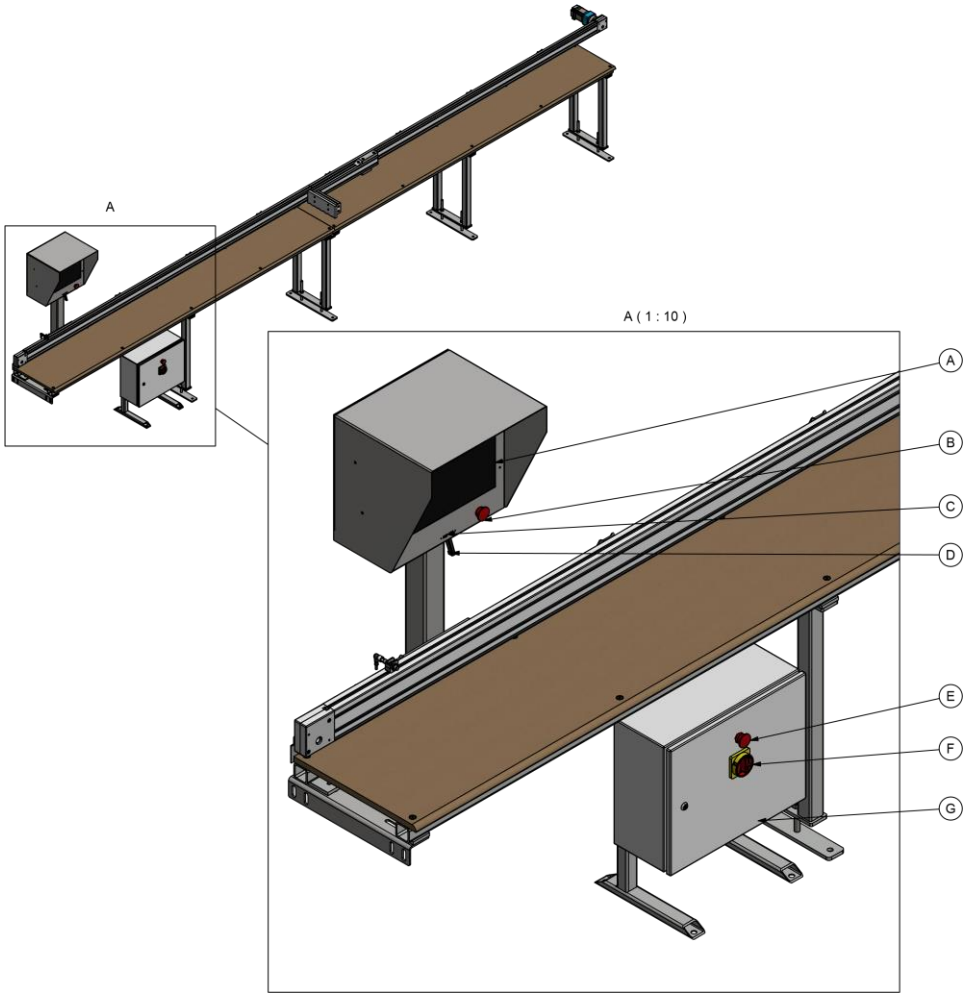


Figure 1, Rapid Stop Controls

Table 2, Control functions see ***Error! Reference source not found.***

Control	Function
A	Operator Input Touch Screen
B	Emergency Stop Button
C	USB Port
D	Quick Clamp Lever
E	Emergency Stop Button
F	Main Electrical Isolation Switch
G	Main Electrical Control Box

WARNING! The emergency stop will disable the machine indefinitely unless problem is addressed. Don't non operate the Rapid Stop without the correct knowledge and function of each of the controls.

7 Software Operation

7.1 Saw Operation

7.1.1 Software Protection

This program is protected by a USB Hardware Key to prevent unauthorized copying of our software. Please ensure you protect your Hardware Key as the value of the software is in the Key, and you will be charged for a replacement.

If you have problems with your Key the software can run on a Temporary Activation while a new Key is shipped to you.

To run using a Temporary Activation, press Ignore when prompted for the Hardware Key, and then ring SPIDA for an authorisation code for your computer.

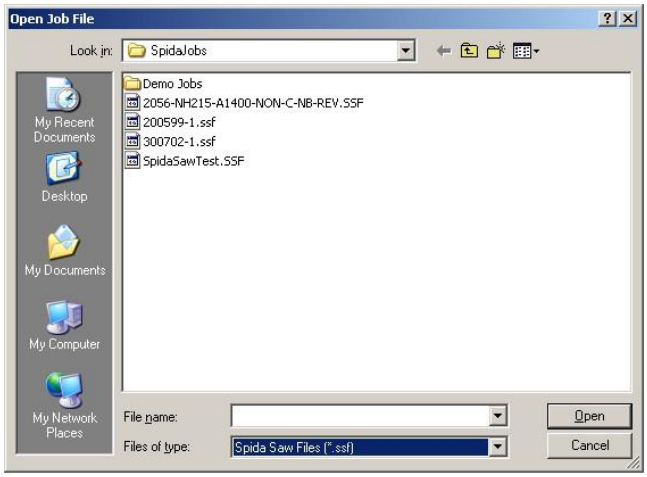
Note: you will only be able to run for a very limited time on a Temporary Activation so you will need to order a replacement key ASAP.

7.1.2 Getting Started

Turn on Control Cabinet and make sure the UPS and computer start up. If not turn them on also. The computer will boot and load Windows then the CSS software. Once loaded the following question box will be displayed:

Check that all lumber placed on the bench is out of the way of the trolley then press Yes to enable and home the Trolley.

7.1.3 Open Job File

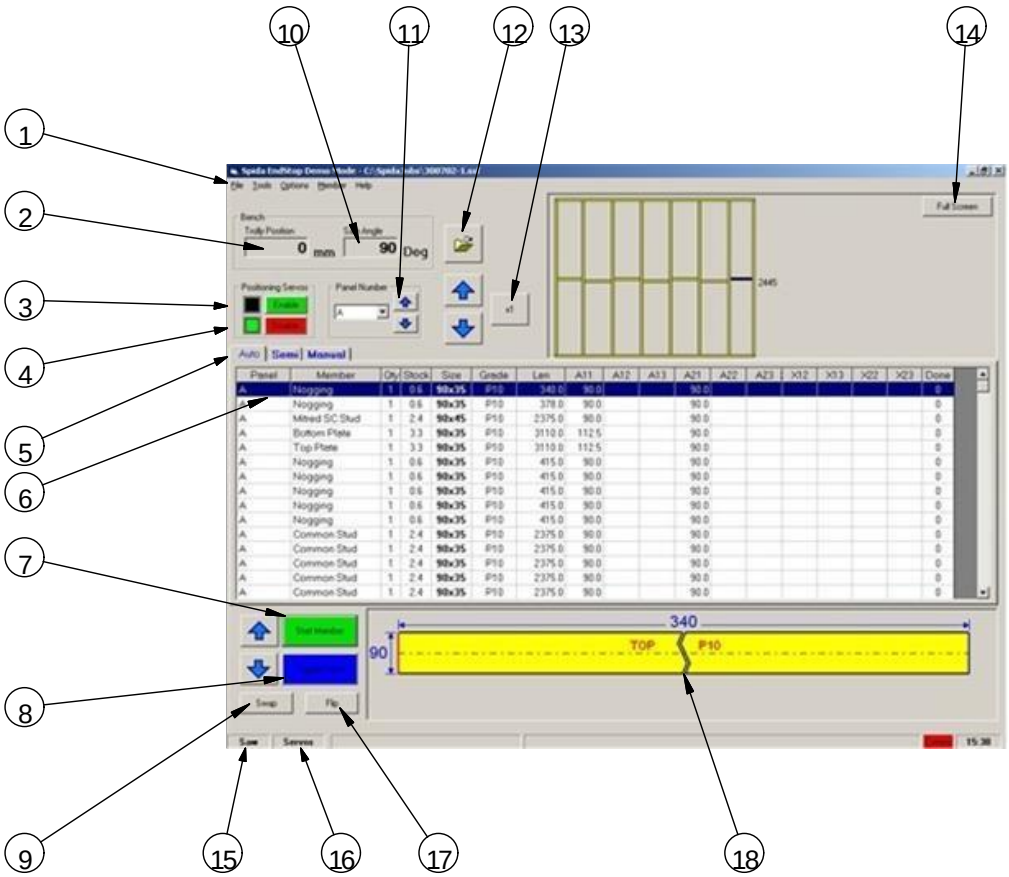


Click on the Open Job Button (or select "Open Job" from the File Menu) to open the Open Job File dialog box.

Then Select the job and click “open “. If the job file is on a removable disk, insert the disk and select "Copy Jobs from Removable Media (X:\)" from the File Menu.

7.1.4 Main Screen

Once a job is opened the main screen will be populated with the cutting file, a picture of the first member will be displayed at the bottom of the screen and the first panel/truss drawing will be displayed at the top.

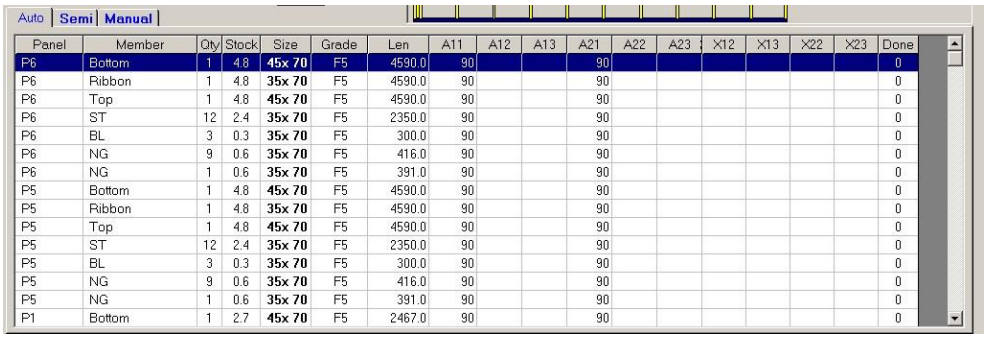


NUMBER	BUTTON	FUNCTION
1	Menus	Select menus
2	Trolley Position	Shows trolley position
3	Enable	Powers up servo drives
4	Disable	Turns servo drives off
5	Cutting Mode Tabs	Auto, Semi, Manual
6	Member Selection	Currently selected member
7	Start	Starts selected member
8	Done - Toggle	Changes member status from done to not done
9	Swap	Swap member end to end
10	Saw Angle	Shows required saw angle
11	Select Member	Arrow button to move through member list
12	Open	Open job button
13	X1	X1 changes to X10 allowing movement through list by number
14	Full Screen	Toggles full screen
15	Saw	Saw not applicable to Rapid Stop
16	Servo	Opens servo control to reset, home or disable trolley
17	Flip	Roll member over
18	Member	Member picture with length, size and grade

7.1.5 Using the Saw

Each of the following three operations can be selected from the main screen by clicking on the appropriate tab.

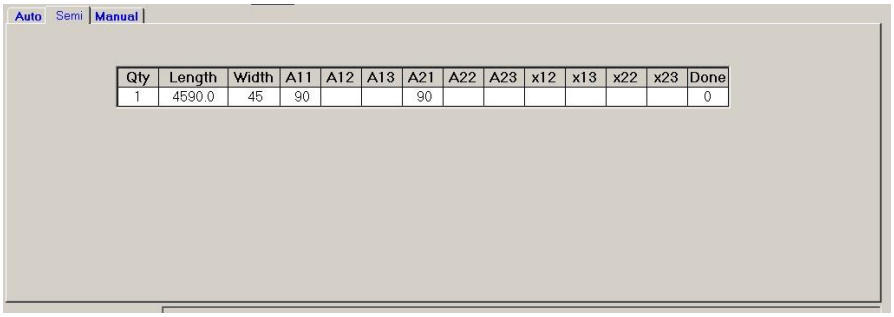
7.1.5.1 Auto Operation



Panel	Member	Qty	Stock	Size	Grade	Len	A11	A12	A13	A21	A22	A23	X12	X13	X22	X23	Done
P6	Bottom	1	4.8	45x 70	F5	4590.0	90			90							0
P6	Ribbon	1	4.8	35x 70	F5	4590.0	90			90							0
P6	Top	1	4.8	35x 70	F5	4590.0	90			90							0
P6	ST	12	2.4	35x 70	F5	2350.0	90			90							0
P6	BL	3	0.3	35x 70	F5	300.0	90			90							0
P6	NG	9	0.6	35x 70	F5	416.0	90			90							0
P6	NG	1	0.6	35x 70	F5	391.0	90			90							0
P5	Bottom	1	4.8	45x 70	F5	4590.0	90			90							0
P5	Ribbon	1	4.8	35x 70	F5	4590.0	90			90							0
P5	Top	1	4.8	45x 70	F5	4590.0	90			90							0
P5	ST	12	2.4	35x 70	F5	2350.0	90			90							0
P5	BL	3	0.3	35x 70	F5	300.0	90			90							0
P5	NG	9	0.6	35x 70	F5	416.0	90			90							0
P5	NG	1	0.6	35x 70	F5	391.0	90			90							0
P1	Bottom	1	2.7	45x 70	F5	2467.0	90			90							0

By opening the job from the Job File, the main screen will display the cutting information for the current job. Select the member you wish to cut from the list by touching that line or by using the arrow keys to scroll between members. Once you have selected the member ensure the positioning servos are enabled by checking the box next to Enable - this should become green. By pressing the "Start member" button the trolley will move to the desired position in preparation for cutting that member.

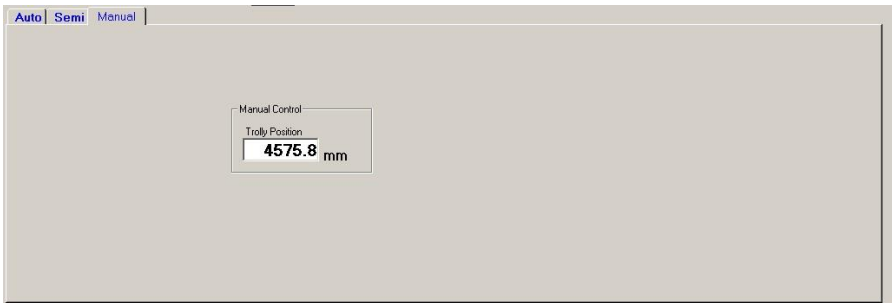
7.1.5.2 Semi Auto Operation



Qty	Length	Width	A11	A12	A13	A21	A22	A23	x12	x13	x22	x23	Done
1	4590.0	45	90			90							0

The user can create or change a member with up to 6 angles and 4 offsets

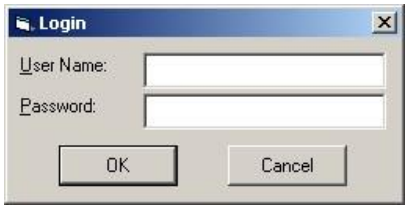
7.1.5.3 Manual Operation



Manual Operation allows you to enter one length. By entering a value into the trolley position box, the user can make a single cut at the desired position. By selecting "Start member" the trolley should then move to the desired position.

7.1.6 Using the Screen Keyboard

The screen keyboard provides a means of entering data using the touch screen. When you click or touch input boxes the screen keyboard will pop up.



The Screen Keyboard changes depending on the type of information that is valid for the box selected.

7.1.6.1 Numeric Data

Allows you to enter a decimal or imperial F-I-S value.

Button	Button Function
1,2,3,4,5,6,7,8,9,0	Numeric Keys
-	Insert Dash for Imperial
<	Backspace Key
CLR	Clear Entry
Enter	Accept Input and Close Keyboard

7.1.6.2 Alphanumeric Data

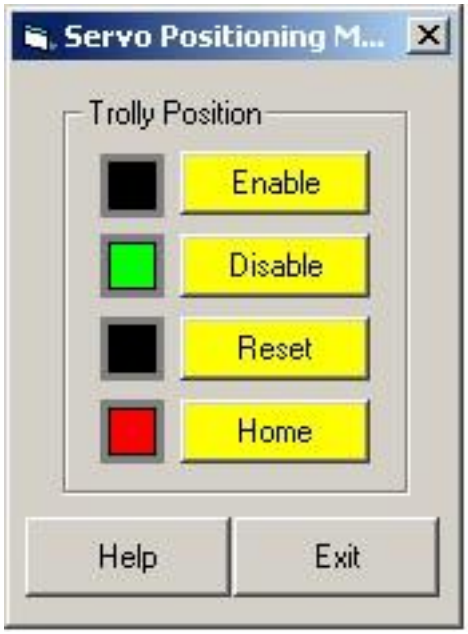
Much the same as for the numeric keyboard with the addition of Alpha and in a standard QWERTY keyboard layout.

7.1.7 Servos

The Servos are the small motors in your Rapid Stop that control the positioning of the saw and trolley.

They are a very accurate device that can position their output shaft to within 0.1 degrees. This output is then run through a gear drive which increases the accuracy even further. There are some mechanical losses in the belt drive and chain drives that control the actual position of the saw and trolley but accuracy of 0.01 degrees or better than 0.1 mm are still achievable on a well-maintained system.

Calibration on the servos is performed in the setup screen under the “Trolley” and “Saw” tabs.



7.1.7.1 Enable

This will enable the servo. When enabled a servo will maintain its position and effectively lock onto the correct position. The green light will indicate next to the Enable button when the servo is enabled.

7.1.7.2 Reset

When disabled you can move the trolley or saw by hand. The servo will feedback the position but not control the position. The green light will indicate next to the Disable button when the servo is disabled.

7.1.7.3 Home

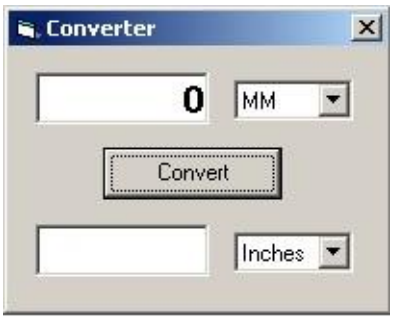
This will home the servo to a homing proximity sensor located on the machine. The red light next to the Home button will change to green when the servo is homed.

Warning: the servo will move at a slower speed towards the homing proximity sensor to locate a known position (as setup in the “Saw” or “Trolley” tab of the setup screen).

7.1.8 Converter

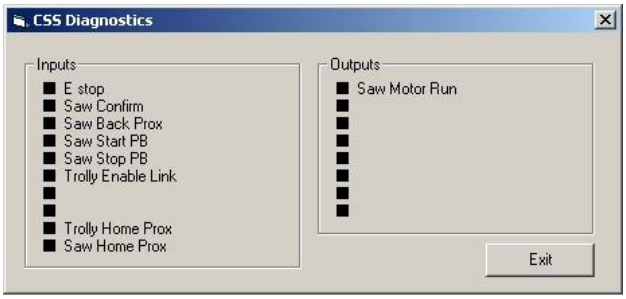
The converter will convert imperial and metric values.

Use the Screen Keyboard to enter the number and the units that you wish to convert from and the units to convert to then press the “Convert" button.



7.1.9 Diagnostics

The Diagnostics window allows the operator to quickly check the state of the relevant inputs and outputs, this expatiates any fault finding.



7.1.10 Updating Software

Download the latest update from http://www.cyberlogix.co.nz/spida.

Run the setup file and follow the on-screen instructions. The current configuration settings in CSSConfig.ini will be retained so there should be no need to recalibrate, etc.

7.1.11 Reinstalling Software Using Ghost Disk

Before installing new software using a Ghost disk, it is important that before you begin the configuration file is copied to a floppy disk. This way the current settings on your CSS software will be recovered. The file CSSConfig.ini is located under the main c:\ root directory.

Insert the Ghost disk into the drive and restart the computer following the onscreen instructions.

When the installation is complete, copy the CSSConfig.ini file back into the main c:\ root directory. All previous configuration settings should now be retained.

Because Ghost disks are created less frequently than software versions it may be necessary to update the software after reinstallation.

7.2 Saw Setup

7.2.1 Accessing Setup

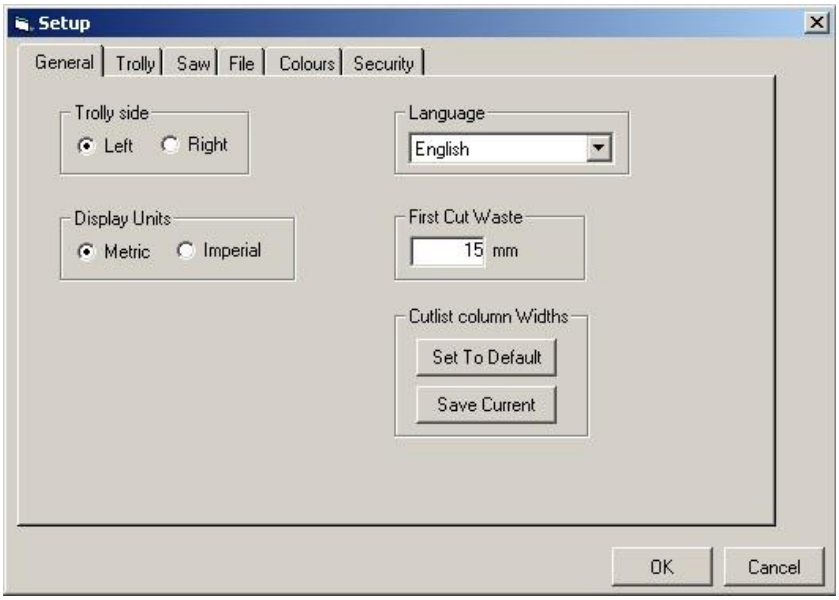
To access the Setup screen, click on the "Tools" menu at the top of the screen and then "Setup ". You will be prompted for a username and password. When you click on the username or password boxes a Screen Keyboard will pop up so that touch screen users can enter in the required information. When you have entered the username and password click on “OK” to open the setup screen.

The setup Screen consists of the following tabs:

General Tab Trolley Tab Saw Tab File Tab Colors Tab Security Tab

7.2.2 General Tab

The General Tab enables you to set the following items up for your saw:



7.2.2.1 Trolley Side

When looking at the saw from the operating position this setting determines which side the trolley is on in relation to the saw.

7.2.2.2 Display Units

Metric or Imperial. This setting will determine how files are displayed on the screen regardless of how the file was created or saved i.e. if a file is created in metric but you select imperial the file will be converted and displayed in imperial.

7.2.2.3 Language

Selects the language format.

7.2.2.4 First Cut Waste

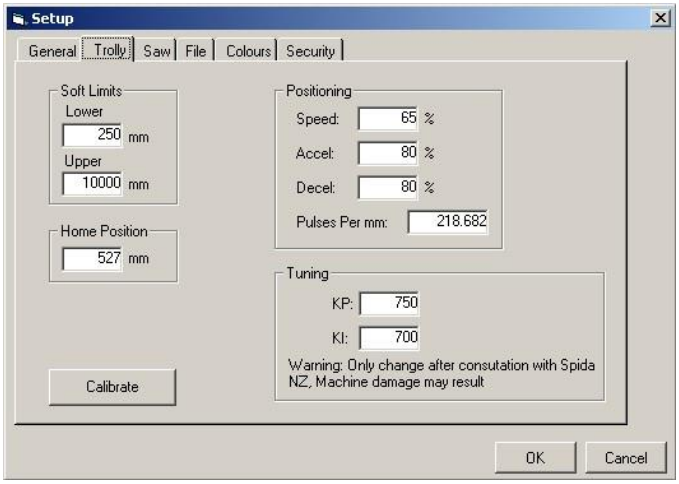
This setting is used when drawing the member on the screen - it has no effect on the cutting of the members.

7.2.2.5 Cut-list Column Widths

Set to Default - Defaults to the custom member column width setup. Save Current - Saves the current member column widths.

7.2.3 Trolley Tab

The Trolley Tab enables you to set the following items up for your saw:



7.2.3.1 Soft Limits

These are the upper and lower limits to the travel of the trolley. The trolley will be able to travel to these limits but not beyond during normal use.

7.2.3.2 Home Position

This is the measurement from the flange (or motor) side of the saw blade to the trolley pusher after it has completed its homing sequence.

7.2.3.3 Calibrate

This button will start and walk you through the Calibration of your trolley. Use this procedure if your saw is not cutting accurately.

7.2.3.4 Positioning

These settings control the speed and acceleration/deceleration of the trolley. You can also set the number of pulses per mm for the servo. This is the number of encoder pulses for each mm of travel and is normally around the 299 setting. Manually setting this is not normally required as the calibration procedure will set this. Changing this setting will affect the accuracy of all measurements of the machine and if set incorrectly can cause the Trolley to travel past the soft limits as set above.

7.2.3.5 Tuning

These should only be changed when instructed to do so by SPIDA or Cyberlogix - serious machine damage and/or personal injury can result if inexperienced personnel change these settings.

7.2.4 Saw Tab

7.2.4.1 Soft Limits

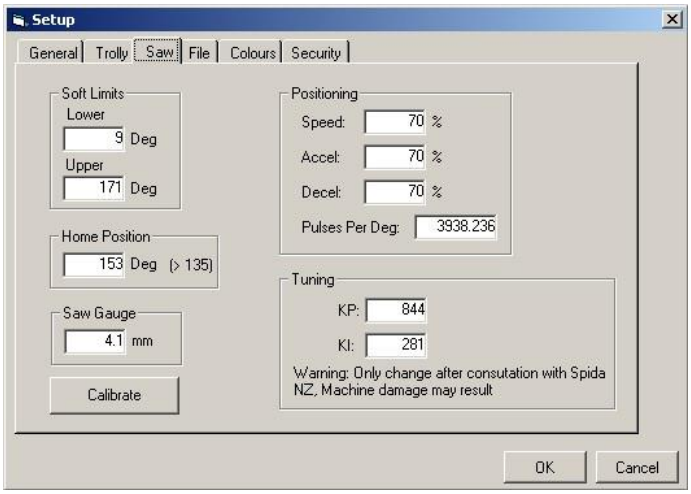
These are the upper and lower limits to the travel of the saw rotation.

7.2.4.2 Saw Gauge

This feature compensates for the thickness of the cutting blade installed on the saw.

7.2.4.3 Position, Home Position, Calibrate

Not Applicable to Rapid Stop.

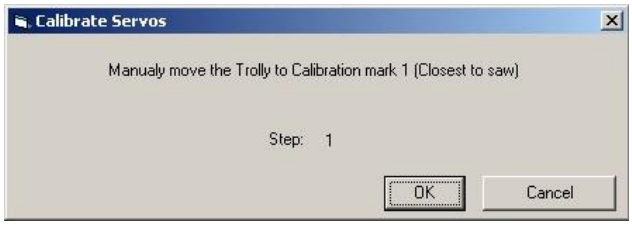


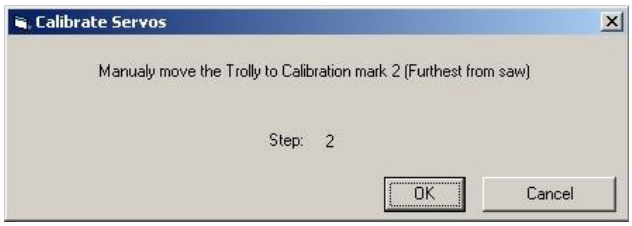
7.2.5 Calibration

7.2.5.1 Trolley Calibration

To calibrate the trolley lengths access setup and select the “Trolley” tab. Then click “Calibration” and you will see the trolley calibration screen. This calibration will adjust the "Pulses Per mm" on the “Trolley” tab.

Follow the instructions on the screen to calibrate the trolley.





7.2.6 File Tab

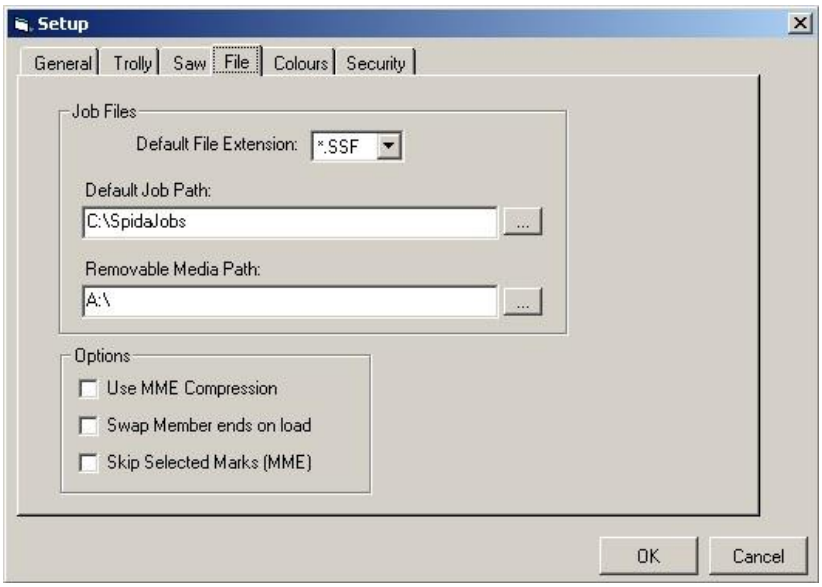
The file tab enable you to set the following items for your saw

7.2.6.1 Default File Extension

Select the most commonly used file extension for your site.

7.2.6.2 Default Job Path

This is the path that the operator will be taken to when they open a job - the operator can browse to other locations but every time they select “Open Job” this folder will be selected.



We do not recommend that you store your jobs on a remote machine. The Default is C:\SpidaJobs. For system safety, the job folder must contain the word "jobs” before the auto delete function will operate.

7.2.6.3 Removable Media Path

This is the path to your removable media that you typically use for transferring jobs to this computer. When the operator selects “Copy Files from Removable Media” from the File Menu then all files in this location will be copied into the default job path as specified above.

7.2.6.4 Options

Use MME Compression:

Select this option to use the similar member compression available in the Mitek MME format (it will have no affect for any other file types).

Swap member ends on load:

This option is mainly for plate marking. If the marks on the plate don't match the panel image, then this will reverse all plates on loading of the job.

Skip Selected Marks (MME):

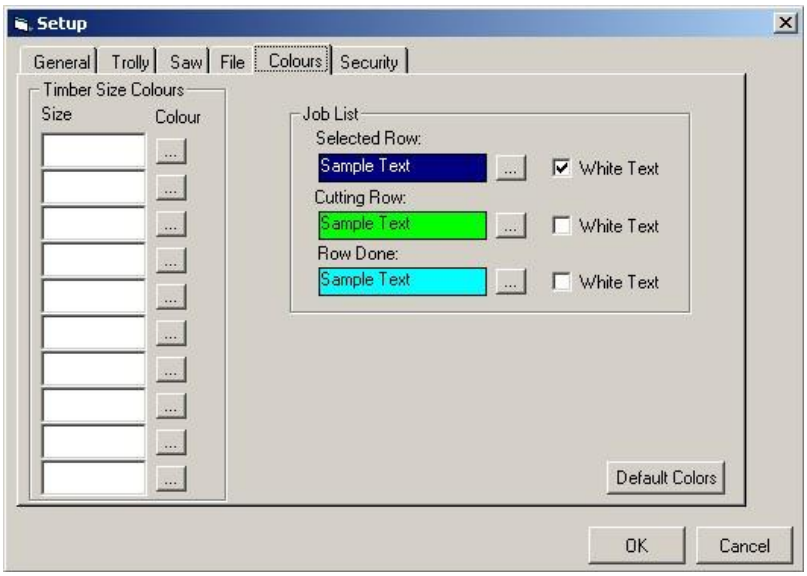
Any marks/trenches preceded with a tilde ~ symbol will be excluded.

7.2.7 Colors Tab

Used for changing the default colors in job list.

For Timber Size Colours type in the timber size then press the dotted button beside the cell to select a colour. Once selected timber of this size will then be written in this colour on the main screen.

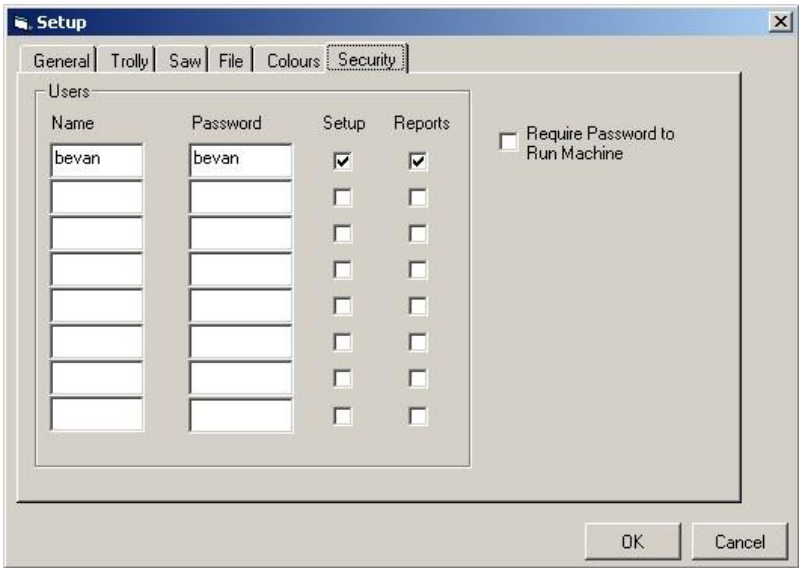
Selected Row, Cutting Row, and Row Done can be custom coloured by pressing the dotted button next to the cell you want changed. You can also specify white text if the colour chosen is dark.



7.2.8 Security Tab

Enter the user name and a password for each user. Checking either the Setup box or the Report box will allow the user to access the setup menus or access the reports.

Checking the Require Password box will require an operator to logon before being able to run the machine.



7.3 Menus

7.3.1 File Menu

7.3.1.1 Copy Files from Removable Media

This will copy the files from the removable media path selected in the Setup File Tab.

To change which removal media device is used, change the option in Tools>Setup>File Tab.

7.3.1.2 Open Job

This will open the Open file dialog box so that you can Open a Job File.

7.3.1.3 Auto Delete Jobs Over 30 Days old

When a job has not been accessed (opened or used for cutting) for over 30 days then the job will be deleted from the job folder (turn on this option through the Setup File Tab).

For system safety, the job folder must contain the word “jobs” (in upper or lower case) before auto delete will be performed.

7.3.1.4 Exit

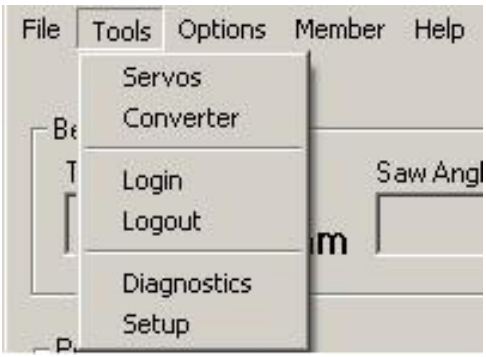
This will shut down the CSS software and return you to the Windows desktop.

7.3.1.5 Shut Down Computer

This will shut down the CSS software and show the Windows shutdown dialog box so that the computer can be shut down or restarted.

7.3.2 Tools Menu

7.3.2.1 Servos



This will take you to the Servos Screen. Alternatively clicking 'servos' at the bottom of the main screen will also take you to the servos screen.

7.3.2.2 Converter

This is a imperial and metric Converter to convert from any units to another unit.

7.3.2.3 Login

When activated (through the Options>Setup>Security Tab) this requires users to login before they can operate the saw.

7.3.2.4 Logout

This will logout a registered user after they have finished using the saw to prevent unauthorised use of the machine.

7.3.2.5 Diagnostics

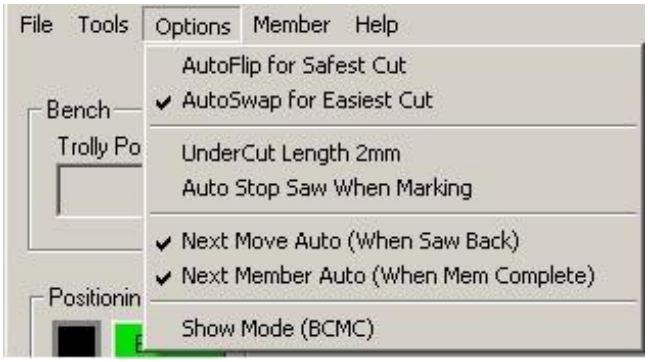
This enables the user to locate and diagnose a fault with a machine.

7.3.2.6 Setup

This provides a number of tabs for setting up different aspects of the CSS machine and software. More in Accessing Setup .

7.3.3 Option Menu

All options are enabled when the tick is next to the option. Clicking the option toggles the tick. The options are saved and will be recalled when the software starts.



7.3.3.1 Auto Flip for Safest Cut

This setting applies to trusses only and has no effect on plates.

The member will be flipped when the cut would be wedging the waste into the saw on the saws return stroke.

7.3.3.2 Auto Swap for Easiest Cut

This setting applies to trusses only and has no effect on plates.

The member will be end swapped when the first end cut is calculated to be harder for an operator to perform than the other end i.e. a single cut end will be the first cut if available.

7.3.3.3 Under Cut Length 2mm

2 mm. will be undercut all members

7.3.3.4 Auto Stop When Marking

This setting applies to plates only and has no effect on trusses.

The saw will stop when the last cut is performed on a member before any marking is started. This is preferred by some operators for safety when marking.

7.3.3.5 Next Move Auto (When saw back)

When the saw is returned to the fully retracted position the saw and trolley will auto setup for the next cut.

7.3.3.6 Next Member Auto (When member complete)

When the member is fully completed (the quantity required is also cut) the next member in the list will be selected for you. You will still need to click Start Member before the saw will setup for this member.

7.3.4 Member Menu

7.3.4.1 Go To

First - goes to the first member in the cutting list.

Last - goes to the last member in the cutting list.

7.3.4.2 Find

To find a member in the cutting list enter all or part of the members 'Panel' identification code or its 'Member' name. Press the Find Again button if you wish to find the next member in the list with a similar name.

7.3.4.3 Flip Board Vertically

This flips the member vertically. Alternatively, the “Flip” button on the main screen can be used.

7.3.4.4 Swap Ends Horizontally

This swaps the member horizontally. Alternatively, the “Swap” button on the main screen can be used.

7.3.4.5 Toggle Done Status

This toggles the selected member as being completed or not. A completed member can be toggled off if it needs to be recut, or a yet to be cut member can be toggled on if it is no longer required. Alternatively, the Toggle button on the main screen can be used.

8 Parts Identification

8.1 Top Level Assembly, 1202RSCOM

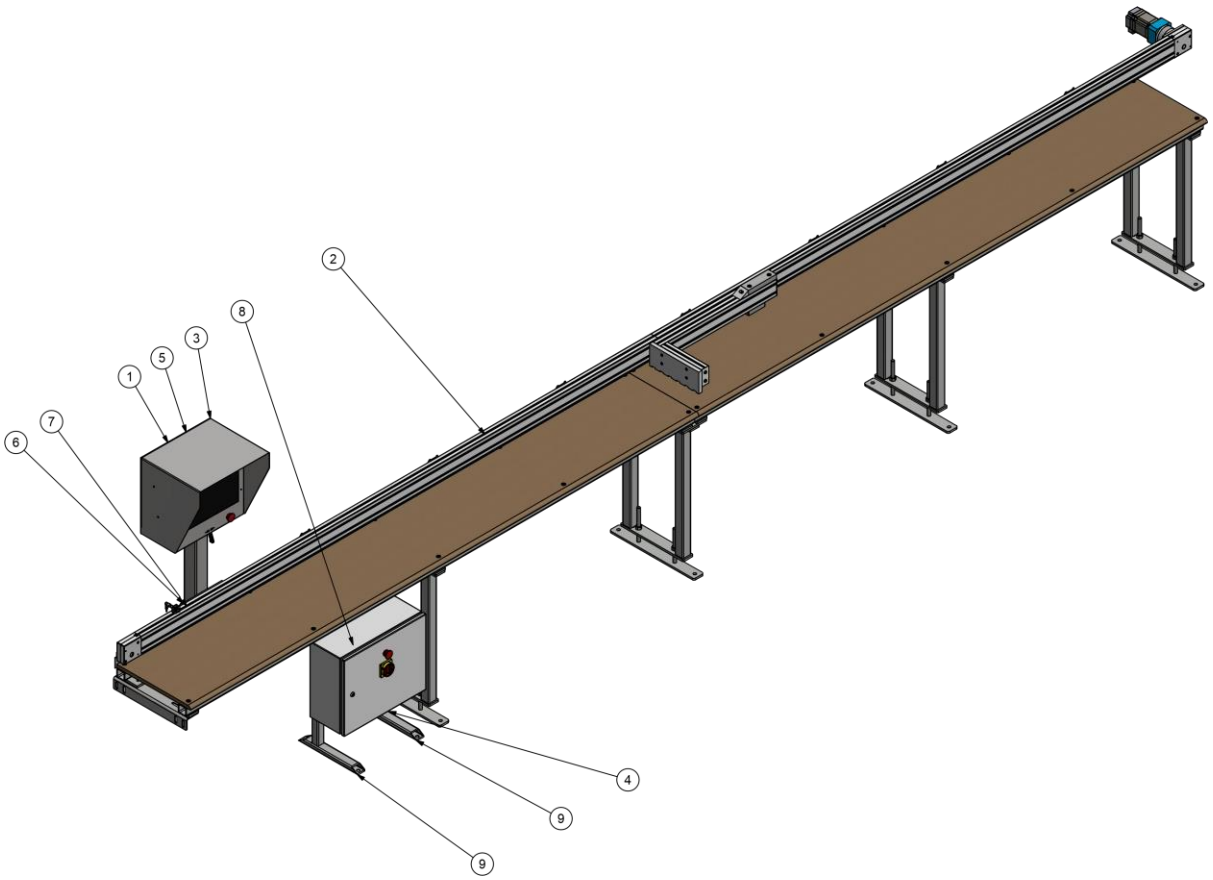


Figure 2, Top Level Assembly

Table 3, Top Level Bill of Materials

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	0605000	Multi Monitor Assembly
2	1	1202000	Rapid Stop Table (6m)
3	1	ECOM-WES7G5	Comp. Loaded with Spida Software
4	1	EEHW	Electrical Enclosure Hole and Window
5	1	EKRS	RS Comp Automation Kit
6	4	HWCSM825	Hex Socket Head Cap Screw M8x25
7	4	MT21-1351	M8 Sq Nut - Posn Fixing
8	1	NAMEPLATE	Serial Number Plate
9	2	SMPBKT13	Computer box bracket

8.2 Table Assembly, 1202000

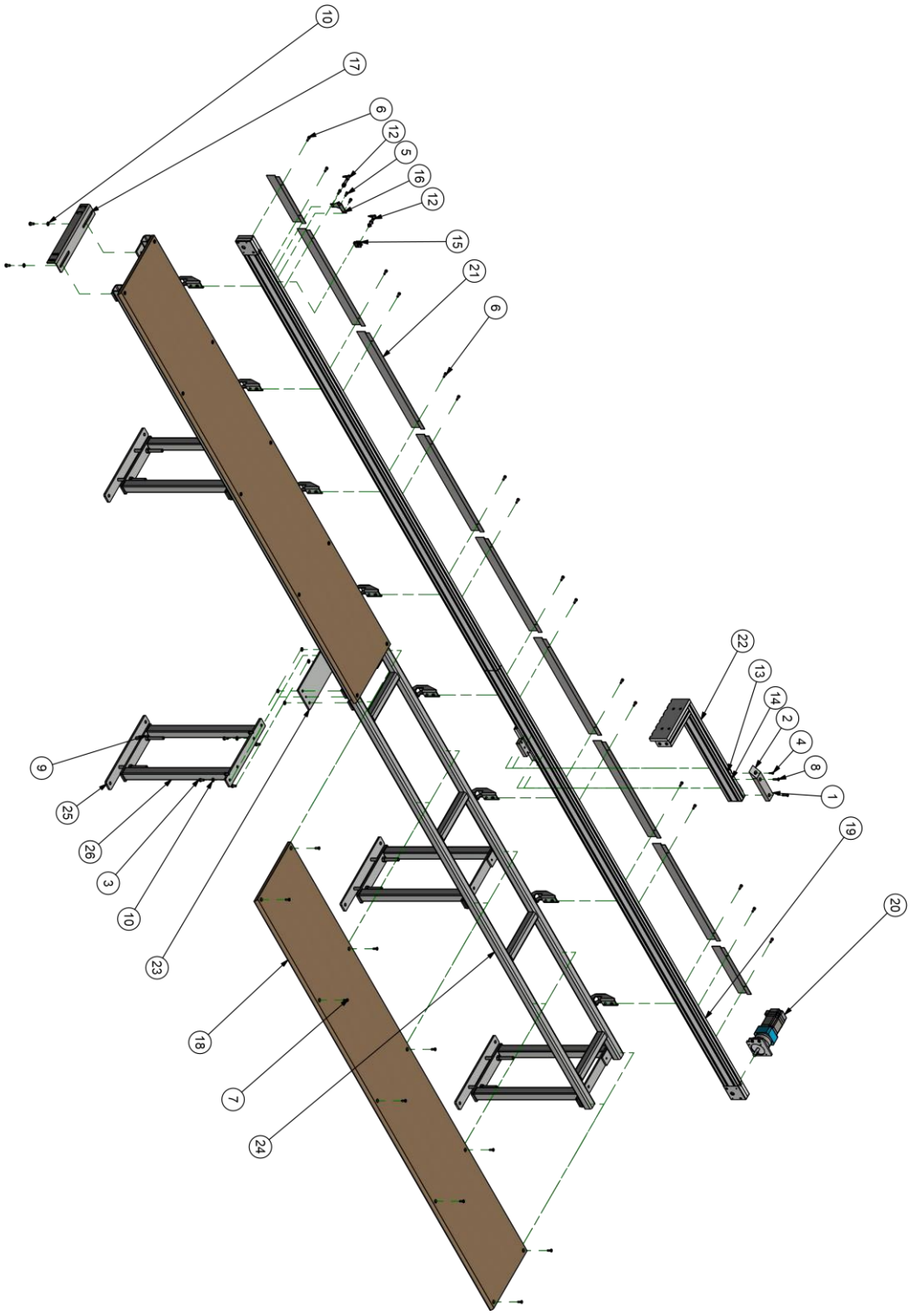


Figure 3, 1202000 Table Assembly

Table 4, 1202000 Bill of Materials

ITEM	QTY	PART NUMBER	DESCRIPTION
1[1]	1	1202409	CSS Sensor Block
2[1]	1	1202412	Ski Jump
3	14	HWBHM1020	Hex bolt M10x20
4	1	HWCSM620	Hex Socket Head Cap Screw M6x20
5	2	HWCSM816	Hex Socket Head Cap Screw M8x16
6	34	HWCSM820	Hex Socket Head Cap Screw M8x20
7	20	HWCSM825CS	Hex Socket CSK Cap Screw M8x25
8	2	HWCSM835CS	Hex Socket CSK Cap Screw M8x35
9	16	HWNHM16	Hex nut M16
10	14	HWWFM10	Washer Flat M10
11	13	HWWFM8	Flat Washer M8
12[1]	1	IME12-04BPSZCOS	SICK, Proximity Sensor
13	1	MT21-1330-2	M6 Sq Nut - Posn Fixing
14	38	MT21-1351	M8 Sq Nut - Posn Fixing
15[1]	1	MT28.0120	MiniTec Prox Bracket 12mm Dia.
16[1]	1	SMPBKT01	Sensor Bracket
17	1	SMPBKT11	Saw Connector Brkt
18	2	SMPBT3100-450-18	Bench top 3100x295x18
19	1	SMPGPFA6300	Fence assembly
20	1	SMPGPGK1	Motor/gearbox kit - Straight box
21	5782.000 mm	SMPGPSG	Fence Trolley Guard - Aluminium Extrusion
22	1	SMPGPTK1	Stop
23	1	SMPPLT08	Table Connection Plate - Long ver.
24	2	SMPTB02	Outfeed Table Frame
25	4	SMPTBF01	SMP - Foot v.1
26	4	SMPTBL02	SMP - Leg v.2

Note:

1 Depending on what Machine the Rapid Stop is being used with determines what sensor configuration is required.

8.3 Fence Assembly, SMPGPFA6300

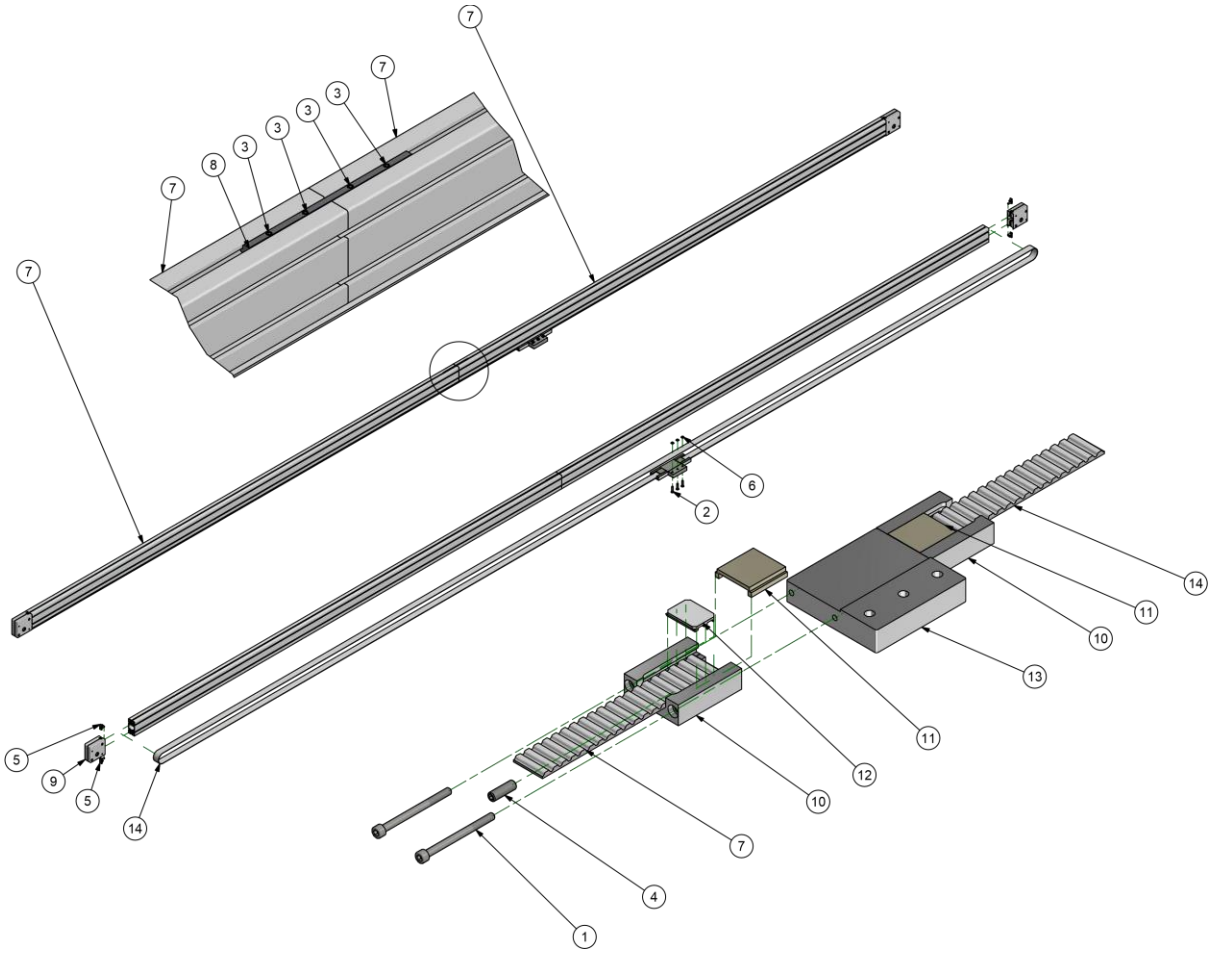


Figure 4, Fence Assembly SMPGPFA6300

Table 5, SMPGPFA6300 Bill of Materials

ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	HWCSM675	Hex Socket Head Cap Screw M6x75
2	3	HWCSM835CS	Hex Socket CSK Cap Screw M8x35
3	8	HWSSM68	Hex socket set screws M6x8
4	2	HWSSM825	Hex socket set screw M8x25
5	4	MT21-1018	Power Lock Fasteners
6	3	MT21-1351	M8 Sq Nut - Posn Fixing
7	6300.000 mm	SMPGP9045	Guide Profile
8	2	SMPGPJB81	T-slot bar 180
9	2	SMPGPPB45	Pulley Block assembled
10	2	SMPGPTB - 01	Belt tensioner body
11	2	SMPGPTB - 03	Tension bloc slider
12	2	SMPGPTB-02	Tension block insert
13	1	SMPGPTC	Tensioner connector
14	13000.000 mm	TRTIB-AT10/32	Timing Belt AT10/32

8.4 Trolley/Stop, SMPGPTK1

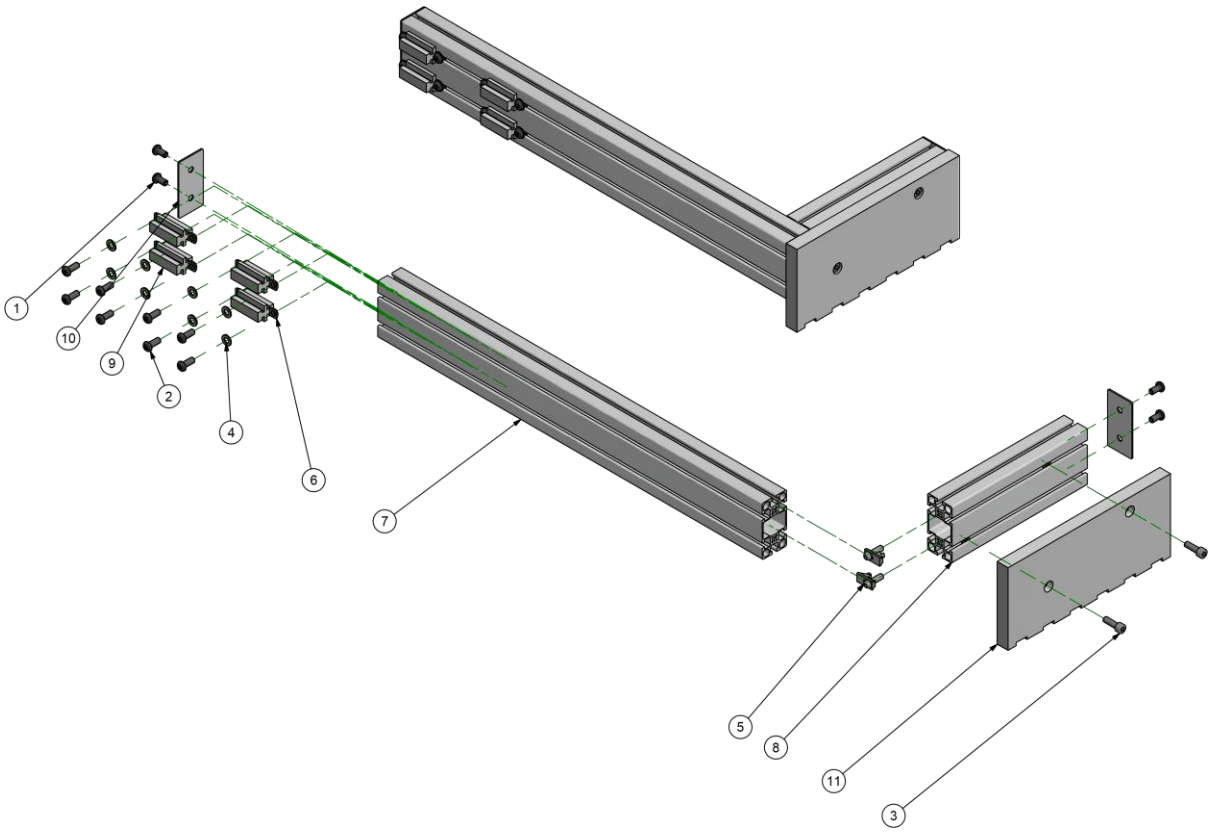


Figure 5, Trolley/Stop Assembly (SMPGPTK1)

Table 6, Trolley/Stop Bill of Materials

ITEM	QTY	LENGTH	PART NUMBER	DESCRIPTION
1	4	1	HWCSM816BH	Button Head Cap Screw M8x16
2	8	1	HWCSM820BH	Button Head Screw M8x20
3	2	1	HWCSM825	Hex Socket Head Cap Screw M8x25
4	8	1	HWWFM8	Flat Washer M8
5	2	1	MT21-1018	Power lock fasteners
6	10	1	MT21-1351	M8 Sq Nut - Posn Fixing
7	1	710.000 mm	SMPGP9045	Guide Profile
8	1	250.000 mm	SMPGP9045	Guide Profile
9	4	50.000 mm	SMPGPDS	Slider for GP
10	2	1	SMPGPEP	Guide profile end cap
11	1	1	SMPGPPP1	Pusher Block

8.5 Gearbox Motor Assembly, SMPGPGK1

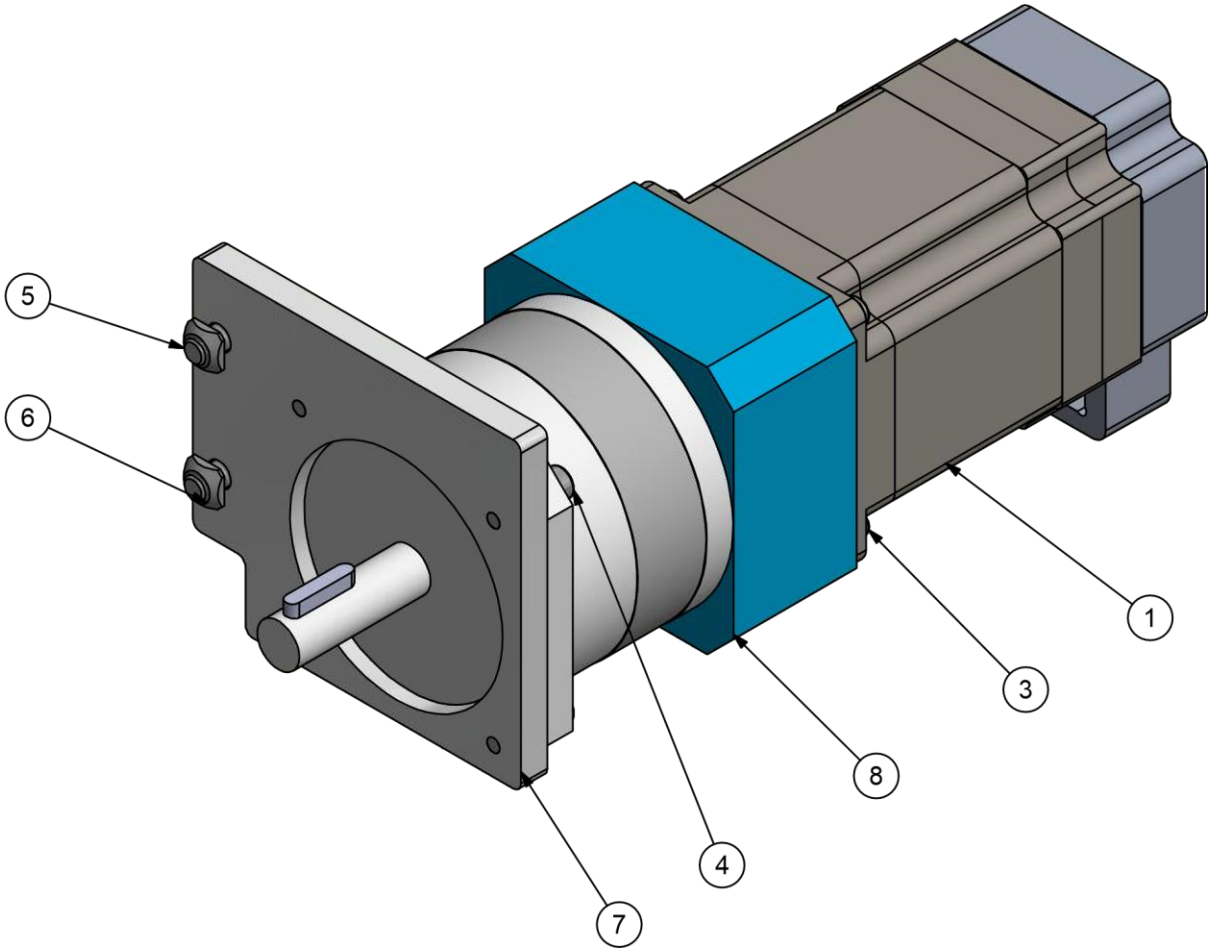


Figure 6, Gearbox Assembly SMPGPGK1

Table 7, SMPGPGK1 Bill of Materials

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	EMBLY343160V5K	BLY3473D Brushless 5000RPM 160VDC 44W Motor
2	2	HWCSM425	Hex Socket Head Cap Screw M4x25
3	4	HWCSM516	Hex Socket Head Cap Screw M5x16
4	4	HWCSM620	Hex Socket Head Cap Screw M6x20
5	2	HWCSM820	Hex Socket Head Cap Screw M8x20
6	2	MT21-1351	M8 Sq Nut - Posn Fixing
7	1	SMPPLT20	Mount Plate GB to Guide Profile
8	1	TRGB0901-NS-010-12-16	Gearbox - 34 Motor - 12mm input 16mm output

9 Maintenance

9.1 Maintenance Intervals

Before attempting any maintenance on the Rapid Stop, isolate from electrical supply.

Table 8, Maintenance intervals

Check	Day	Week	Month	½ Year
Belt tensioned	x			
Check that work area is clear	x			
Clean swarf and off cuts on and around machine	x			
Check stop sensor	x			
Guards in place	x			
Noises or Vibrations	x			
Clean aluminium extrusion slots	x			
Check timing belt tension		x		
Check emergency stops working		x		
Check Stop for accuracy		x		
Check for loose bolts			x	
Floor bolts for tightness				x

Failure to perform these checks as per schedule indicated in Table 8 may result in serious damage or a severe accident. Prior to operating the machine make sure that the machine is bolted down on a level floor and the drive motor is rotating in the correct direction (spindle rotation is to be in a clockwise direction when viewed on the front of the tailstock).

WARNING! Electrical power supply must be isolated from machinery and appropriate danger tagging in place whenever any maintenance is being performed on machinery. Any defects, which are found on inspection should be rectified immediately and reported to the supervisor for appropriate action.

9.1.1 Belt tensioned

Check than timing belt is at correct tension and free of any obstructions

9.1.2 Check that work area is clear

Keep work area clean and tidy and table is free of any obstruction before using Rapid Stop

9.1.3 Clean swarf and off cuts on and around machine

Clean and remove saw dust and/or swarf from on and around machine

9.1.4 Check stop sensor

Check proximity sensor is not damaged and in correct position, see 9.2 to reposition sensor.

9.1.5 Guards in place

Check that all guards are in place and securely fixed

9.1.6 Noises or Vibrations

Listen for any strange noises or vibrations and remedy any that occur.

9.1.7 Clean aluminium extrusion slots

Keep aluminium slots in fence clean and free of any dust of obstructions.

9.1.8 Check emergency stops working

Check that emergency stops are working and stop saw as required.

9.1.9 Check Stop for accuracy

To maintain accuracy regularly home and calibrate the Rapid Stop. See section 7.

9.1.10 Check for loose bolts

Check for loose bolts and fasteners on covers, leg, guards and table and tighten or replace as necessary.

9.2 Set Proximity Position

This maintenance need to be carried out whenever a sensor, lead or bracket is replaced.

Depending on type of saw the Rapid Stop is being used with determines the configuration of the proximity sensor. There are two configurations possible.

9.2.1 Vector Proximity Sensor Configuration

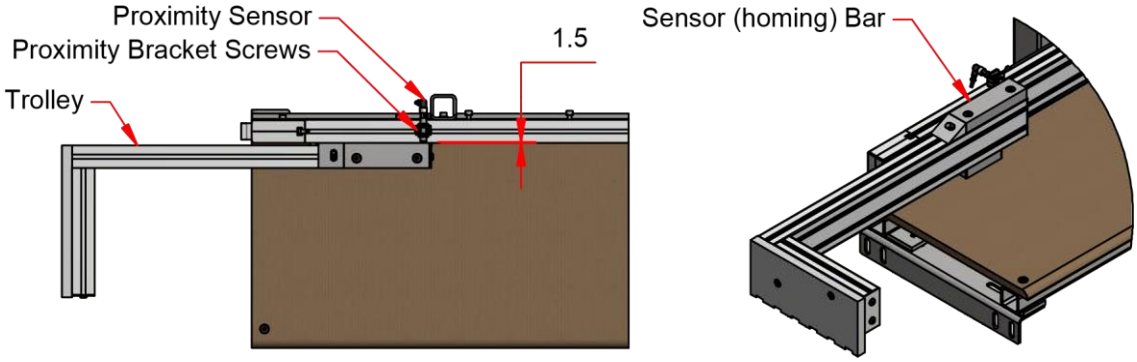


Figure 7, Vector proximity sensor configuration

- Power off saw and Rapid Stop.
- Push the trolley to the minimum position (closest to saw).
- Loosen proximity bracket screws.
- Position the proximity sensor to the rear of the sensor bar as shown in Figure 7.
- Tighten proximity bracket screws.
- Ensure there is a 1.5 – 2.5mm gap between face of sensor and sensor bar.

9.2.2 Apollo Proximity Sensor Configuration

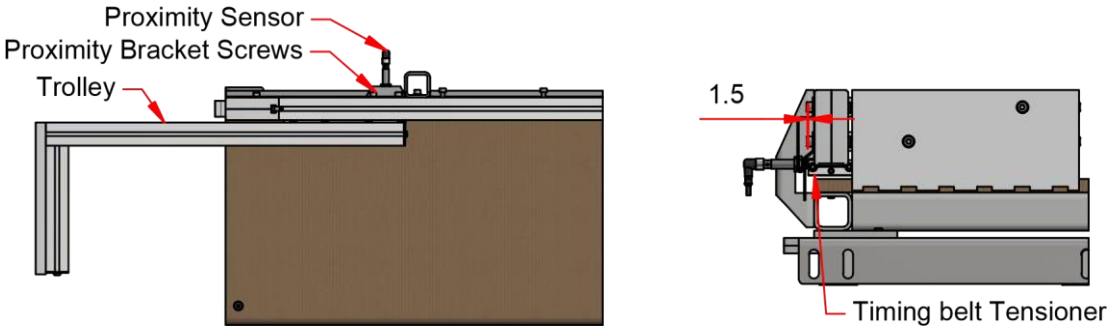


Figure 8, Apollo proximity sensor configuration

- Power off saw and Rapid Stop.
- Push the trolley to the minimum position (closest to saw).
- Loosen proximity bracket screws.
- Position the proximity sensor to the rear of the timing belt tensioner as shown in Figure 8.
- Tighten proximity bracket screws.
- Ensure there is a 1.5 – 2.5mm gap between face of sensor and timing bel tensioner.

9.3 Change/Replace Timing Belt

- Power off the saw.
- Remove all 16 cap head screws from the upright brackets at the rear of the out-feed table.
- Slide the complete fence away from the saw until the out-feed drive motor is clear of the table.
- Turn the whole assembly upside down.
- Loosen the belt tension adjusting grub screws in the belt attachment blocks underneath the pusher arm.
- Remove the cap head screws from the belt attachment blocks. There are two screws in each block.
- Remove the belt ends from the clamp blocks in the attachment blocks.
- Pull the old belt out of the assembly.
- Remove the grub screws which lock the pully blocks to the guide profile fence (there are two - one on top and one at the bottom at each end.)
- On the drive end, slide the motor assembly together with the pulley block, out of the guide profile fence.
- At the saw end, slide the bearing block clear of the the guide profile fence.
- With the fence still lying upside down, feed the new belt through the profile with the smooth side down until it protrudes from the other end.
- Orient the pulley block nearest the saw as it would be when attached to the profile, and feed the belt through it.
- Once the belt is through the bearing block, re-attach the block to the guide profile with the grub screw clamps.
- Orient the motor side pulley block, complete with motor and mounting plate, as it would be when attached to the guide profile.
- Feed the belt through the bearing block and re-attach the block, complete with motor and mounting plate, to the guide profile with the grub screw clamps.
- Attach the belt to the trolley unit by means of the belt attachment blocks.
- Set the tension of the belt by means of the tension adjusting grub screws in the attachment blocks, until the belt can just be pushed off the side of the guide profile. Do not over tighten!
- Replace the two 8mm cap head screws which attach the motor unit mount plate to the guide profile.
- Turn the whole assembly right side up.
- Place the fence back in its original location.
- Fit the 16 cap head screws through the upright brackets into the guide profile.
- Tighten the motor mounting screws.
- Plug the two cables back into the servo motor.
- Start the machine and follow the procedures for trolley calibration to ensure correct measurement.

10 Safe Operation

NOTE: The Spida Rapid Stop is to be operated in accordance with this manual. Deviation from this specified operation may result in incorrect cutting, measuring or injury.

10.1 User Warnings

- The set face of the length stop unit must be set so as not to allow its movement through the cutting pressing area of adjacent machinery.
- All machine and components should be inspected upon delivery and at weekly intervals for looseness, fracture, bends, sharp edges or surfaces and any other condition that may contribute to a human mishap or further deterioration of the machine. We suggest a log be kept for this purpose.
- When broken, damaged or loose parts (or any condition that may represent a hazard) are observed, corrective action should be taken immediately. Inadequate attention to maintain the machine can cause the premature failure of these parts. We suggest this information also be logged.
- The electrical boxes should be locked at all times to avoid casual entry by unauthorized persons, as touching live surfaces is hazardous.
- Split, broken, warped, twisted or timber with excessive wane should be avoided or used with caution because of the greater possibility of the timber not being held securely during manufacturing processes.
- The machine is not to be used for any other purpose than the measuring of timber components.
- Keep hands out of moving parts on the machine. Operators should be instructed not to extend fingers or limbs into or beyond the vicinity of the warning labels. The danger here is obvious – fingers in these areas will risk mutilation.
- Be sure the machine is completely free of foreign objects and that all guards are in place before power up.
- Any guards removed for maintenance or adjustments MUST be replaced before the machine is put back into service.
- It is dangerous to exceed the capabilities of the machine.
- Failure to perform the daily and weekly service checks as per the schedule may result in serious damage or a severe accident.

10.2 Manual Handling

- Ensure timber supply is via forklift or other support mechanism
- Ensure correct lifting techniques are adopted to transfer material to infeed of cutting line
- Suggest use of trolleys or bench at required height and location to minimize handling and twisting
- Ensure required PPE is worn
- Ensure correct and appropriate lifting techniques are used
- Material supply via gravity roller transfer system
- Avoid twisting torso when moving pre-cut members from transfer system to pressing surface of table
- Only lift components of weight which you assess to be within your limit
- Use machinery (forklift) for material decreed to be too heavy or ask for assistance from another worker

WARNING! This machine must only be operated by personnel who have been properly instructed in all aspects of the machine's safe operation. They must also be wearing the recommended protective clothing and have thoroughly read and understood this operation and service manual.

11 Hazard Identification

11.1 Vibration

The operator does not expect to encounter any vibration caused by the machine.

11.2 Noise

Hearing protection must be worn when operating or working near a saw.

11.3 Suffocation and Asphyxiation

The operator cannot be suffocated or asphyxiated due to lack of oxygen or atmospheric contamination. Saw dust, especially from chemically treated timber, may cause respiratory problems. It is strongly recommended that the operators wear approved dust masks and adequate ventilation is provided.

11.4 Slips, Trips and Falls

There is the potential to slip, trip or fall if good housekeeping practices are not adhered to and the work area is not kept free of saw dust, loose timber, and off-cuts.

11.5 Cleaning

The machine must be isolated from the power and locked at the main power isolation switch before any cleaning or maintenance is to be performed. The key is to be removed and kept by the personnel entering the cutting area. Gloves must be worn when handling sharp components to protect the hands from cuts or scratches

11.6 Ergonomics

The operator/s are required to be able to move freely around the front and rear of the machine for loading timber and removing the processed material.

The machine working height can be adjusted.

The machine cannot be operated while seated.

The operator/s are not required to climb onto or enter behind the machine while the machine is operating.

The operator/s must wear approved safety footwear, dust mask, eye protection and hearing protection.

11.7 Guarding

The machine MUST NOT be operated with any of the guards removed. The machine is fitted with steel guards.

11.8 Access

There is no requirement for the operator to access the confines of the machine during operations. Access to the cutting area for cleaning and maintenance must not be made unless the machine has been isolated from the power at the Main Power Isolation switch and the key removed.

11.9 Personal Protective Equipment (PPE)

Personal protective Equipment (PPE) is not supplied with this machine. The employer or end user is responsible to ensure that the correct type of PPE is supplied, that it is properly maintained and that the user is trained in the correct fitting of the PPE.

11.10 Recommendations

That the operator is trained, on induction of the dangers of accessing the machine operating area.

The electrical system is to serviced, by a qualified electrician only.

That all operators are walked through the operators' manual and all potential hazards are identified.

That good housekeeping is maintained at all times to avoid the risk of slips, trips or falls.

That approved eye and hearing protection is used at all times when operating the machine.

That approved dust masks and safety footwear are worn at all times when operating the machine.

That if the machine is not operating as efficiently as specified, the operator notify their supervisor who in turn take appropriate action and eliminate the problem if possible.

All guards and safety devices are not to be removed.

It is recommended that a yellow line be painted on the floor on a one metre (1000mm) perimeter surrounding the working area of the machine. To identify the work space to pedestrians.

WARNING! This machine must only be operated by personnel who have been properly instructed in all aspects of the machine's safe operation. They must also be wearing the recommended protective clothing and have thoroughly read and understood this operation and service manual.

12 Foreseeable Misuse

Through experience, SPIDA's technical staff have listed (in order of occurrence) the most common misuses of the machinery by operators, the symptoms that result and the rectification required to address the misuse and return the machine to optimal working order.

Table 9, Common misuse issues

MISUSE	SYMTOM	RECTIFICATION REQUIRED
Lack or Regular Calibration	Creeping measurements	Pushing the start button to calibrate the machine twice daily
Stop face damaged by timber	Sagging stop face may contact table or roller bed	Tightening of support screws, retraining of operator
Turning off the power prior to turning off the drives	No operation or loss of control data	Contact Spida to re-enter codes
Wing timber for material movement	Moving timber towards operator	Don not use for material handling

Any other misuse and resultant damage of the machine is deemed non-foreseeable as its occurrence is not consistent.

13 Distributor & Repairer Contacts

13.1 Agent/Distributor

Company Name: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

13.2 Automation Repairs

Company Name: _____

Address: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

13.3 Mechanical Repairs

Company Name: _____

Address: _____

Contact Person: _____

Ph.: _____ Fax: _____

Mobile: _____ Email: _____

14 Warranty

SM2012 Ltd, SPIDA Machinery, Tauranga, New Zealand, warrants the equipment listed below to the initial purchaser of the equipment only against defective workmanship and materials only, for a period of twelve (12) months from the date of shipment from SPIDA's factory, subject to the following conditions:

1. SPIDA extends the original manufacturer's warranty to SPIDA on buy-in items such as motors, saw blades and air cylinders or other such buy-in items but does not add its warranty herein described to such items.
2. This warranty only applies if:
   a. The attached copy of this warranty is signed by the initial purchaser and returned to SPIDA's address shown above within 14 days of shipment of the goods from SPIDA's factory.
   b. The equipment is installed by SPIDA or its licensed installer.
   c. Regular routine maintenance has been carried out on equipment in accordance with instructions in manual provided by SPIDA and proper housing and shelter provided for the equipment.
   d. The equipment is operated by competent personnel in accordance with the operating instructions set out in the manual provided by SPIDA and not otherwise.
   e. The equipment has not been subjected to alterations or repairs or dismantling without prior written approval of SPIDA. Any parts returned to SPIDA either for repair or consideration of a warranty claim consequent to an authorisation to dismantle must be shipped prepaid.
   f. SPIDA may, at its option, either repair or replace the defective part upon inspection at the site of the equipment where originally installed. The warranty does not cover the cost of freight, Labour or traveling for the removal or replacement of the defective parts,
   g. This warranty does not apply to any deterioration due to average wear and tear or normal use or exposure.
   h. In all warranty matters, including any question of whether this warranty applies to any claim, the decision of SPIDA is final,

This warranty is the only warranty made by SPIDA as the manufacturer and is expressly in lieu of and excludes all other warranties, conditions, representations and terms expressed or implied, statutory or otherwise, except any implied by law and which by law cannot be excluded. Neither SPIDA or its agents or servants will be liable in any way for any consequential loss, damage or injury including any loss of use, profits or contracts.

The law applicable to this warranty shall be the law of New Zealand and the parties hereto submit to the exclusive jurisdiction of the Courts of New Zealand.

Machinery/Equipment

The item bearing the following serial plate:

_____

Date of Shipment: _____

Signed by: _____

Name: _____

Position: _____

Acceptance of Warranty

I acknowledge and accept the contents of this warranty.

Signed by: _____

Name: _____

Company: _____

Position: _____

Date: _____

15 Electrical Drawings

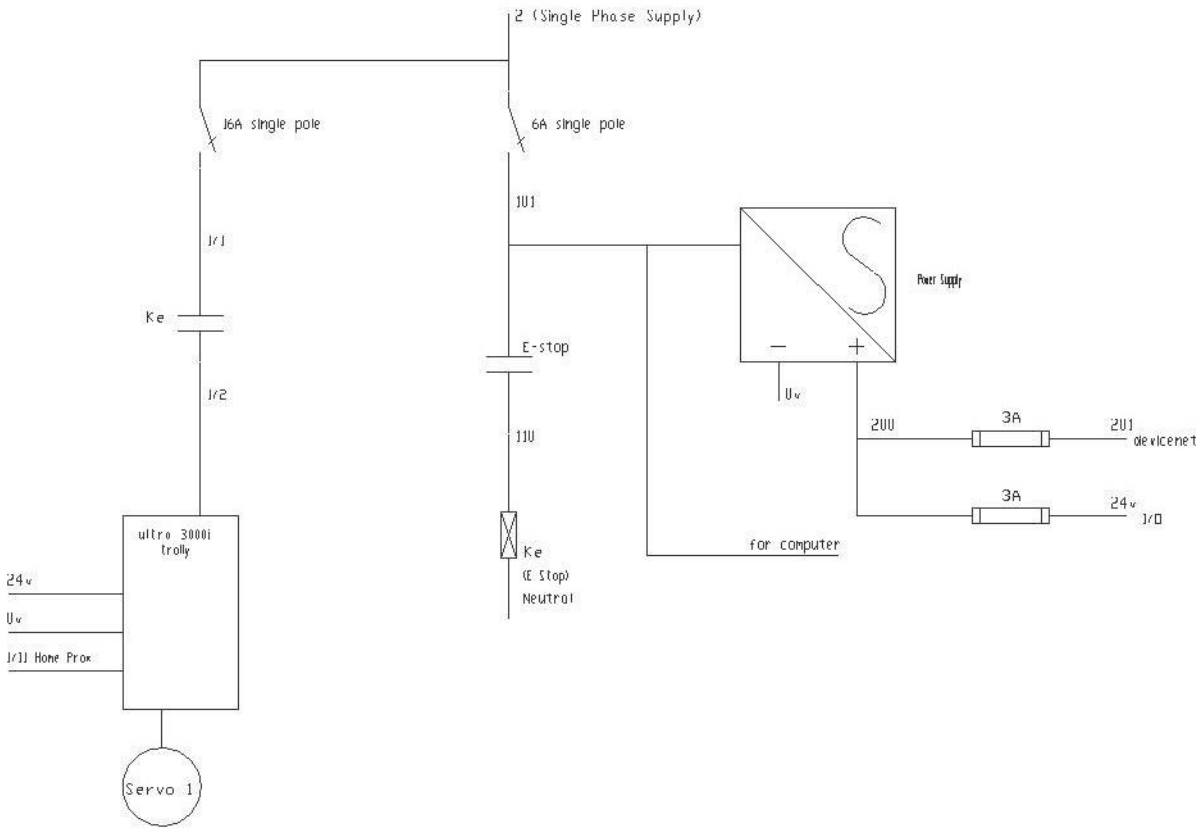


Figure 9, Electrical drawing

16 Training Certificate

Instructor: _____

Company: _____

I declare that:

- I have trained the person names below ("the trainee") in the safe operation of the machinery/equipment detailed in the training manual.
- The trainee has demonstrated an understanding of the safe operation of the machinery/equipment.
- The trainee has indicated the he/she has read and understood this training manual.

Signed: _____

Date: _____

Trainee: _____

Company: _____

Position: _____

I declare that:

- I have received instruction from the person named above ("the instructor") for the safe operation of the machinery/equipment detailed in this training manual.
- All information in this training manual was demonstrated and explained by the instructor.
- I have thoroughly read and understood this training manual.

Signed: _____

Date: _____

Witnessed by:

Name: _____

Company: _____

Signed: _____

Date: _____