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WARNING ALL OPERATORS SHOULD READ AND FULLY UNDERSTAND THIS MANUAL, BEFORE THE USE OF THIS ITEM OF EQUIPMENT. If the operator believes this machine is in an unsafe condition or it is unsafe to use, you are under no obligation to use this equipment. Please report such conditions of this equipment to your employer. 3. SAFETY AND HAZARD ANALYSIS 5

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1. MANUAL REGISTER

I confirm that I have read and understood the contents of this operation manual.

NAME	SIGNATURE	DATE



2. SAFE OPERATING CONDITIONS

Read the following safety information before using this equipment.

WARNING	CAUTION		NOTICE
Indicates a hazardous situation that, if not avoided, will result in death or serious injury.	Indicates a hazardous situation that, if not avoided, will result in minor or moderate injury.	Operator's important practices and failure to follow the instruction may result in damage to the equipment.	Important installation, operation, or maintenance information.

	Caution: Be sure that all operators who are to use the machine have familiarised themselves with this manual and fully understand the operation of the machine prior to starting it. To reduce the possibility of injury, pay special attention to and follow all safety precautions mentioned in this manual.
Ŕ	Be alert and aware of any human movement around the machine. Know where your co workers are when operating the machine.
	Wear clothes which are not loose fitting; your machine has moving components which may snag any loose-fitting clothing resulting in possible injury. Keep hands away from moving parts.
	When shutting down the machine after each shift, remove any foreign objects such as tools and wood scraps from the machine area.
	Do not leave the machine running when unattended. Turn the power off at the main isolator when not in use.
	Long hair should not be worn around moving machinery. Wear a hat or net which will contain cover loose hair in compliance with OHS regulations.
	Hearing protection & safety glasses should be worn.
	Before starting the machine at the beginning of each shift:
	Do a general overall machine inspection for loose fittings, fasteners.
—	Ensure that the machine is not running at excessive speed or is vibrating.
	Check that safety control equipment is working properly.
	Report all faults immediately and ensure repairs of any faults that are found are completed before starting work.
	Only trained personnel should operate the machine.
	Do not lean into the line of fire of the nailing tools.
	Never perform any maintenance while the machine is in operation.
	Observe and obey all warning decals.
Ŕ	Ensure that all personnel are outside the safety area of the machine when it is working.



2. SAFE OPERATING CONDITIONS

When locating the machine within the factory production area, due attention should be given to a clear working area around the machine and the movement of completed trusses from the work area.

The operation of the machine should be confined to competent trained personnel only, who are responsible for the safe operation of the machine and its environment. These operators are to be responsible for a routine inspection of components and ensuring that the machine is not operated in an unsafe condition.

NOTE IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT. CALL PRYDA EQUIPMENT SERVICE TEAM IF YOU NEED ANY FURTHER INFORMATI	S DN.
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3. SAFETY AND HAZARD ANALYSIS

The purpose of the AutoWall machine is to produce timber wall frames quickly in a uniform and repeatable manner. The operator is required to load the top and bottom timber plates of the wall manually and manufacture the wall frame using the "Autowall32" software to locate the stud positions. The studs are then manually loaded in position and nails are fired to secure the stud to the top/bottom plates. This process is continuous until the complete wall frame is built as per the design specified.

The following is a summary of the hazards and risks identified on Autowall. A full Plant Hazard Identification, Risk Assessment and Controls Measures Checklist are shown below.

HAZARD	HOW SEVERE	HOW LIKELY	RISK REDUCTION
Entanglement in	Severe crushing	Very Unlikely	Zone perimeter guarding, sensors, two hand control operation and emergency stops have been fitted to the AutoWall machine
spreaders and clamps			Operator training to educate on hazards.
			Place warning stickers on the AutoWall machine
Electrical shock	If cable can be allowed to drag and snag rubbish, cable breach could leave cable live causing electrocution	Very Unlikely	Operator to be responsible to ensure the area around and under the machine is always clear of debris.
cable failure			Installation electrician is to ensure appropriate safety switches and all parts (especially cable) earthed correctly.
Machine has 415 & 240 volt power supply	Unauthorised access to electrical controls could result in death by electrocution	Very Unlikely	Ensure all power cabinets are locked and key removed. Use warning decals to warn of danger.
Frames being conveyed strike personnel	Up to minor bruising	Possible	Zone perimeter guarding to be in place. Operator training to educate on hazards.
Pinch/Crush points between timber and nail tools	Severe crushing	Very Unlikely	Zone perimeter guarding, sensors, emergency stops and siren all in place. Educate operators on correct use of machine and all fitted safety devices



3. SAFETY AND HAZARD ANALYSIS

Systems of work consist of timber being brought up to the equipment on trolleys, direct delivery system, forklifts or transferred manually from other sub-assembly lines, which introduce hazards of falling timber and forklifts operating in the area. The timber is loaded manually into the infeed roller tables. Studs are then manually transferred into position and nails are fixed using pneumatic nailing tools. There is a hazard of getting splinters, scratch and cuts from the edges of the timber during this process.

The operator should be a mature and responsible person who should have experience in frame making and alert at all times. Operators should be appropriately suited for this manual process. The operator should also understand English and be trained in the basic daily maintenance of the machinery.

Prior to shipping, the machine is to be inspected by the customer to ensure conformance as detailed for the job. The machine cannot be allowed to be removed from the manufacturing premises until all checks and tests have been completed and properly documented.

In the event of an emergency occurring, the machine can be stopped immediately by activating the safety lanyard on the infeed side of the machine or the operator using the emergency stop buttons. In the case of personnel being injured, the machine should be isolated, have the power isolated and should not be restarted until a full report and investigation have been carried out. In the event of minor or severe mechanical failure, the machine should be isolated and tagged off until the appropriate repair personnel can safely and competently repair the machinery and re-commission it.



4. INTRODUCTION

The Australian designed and manufactured AutoWall (AW) provides a method of assembling timber components and nails to make a complete wall frame, whereby, through the whole process, most components are handled by people. The finished product is either stacked manually or automated.

This machine is designed to secure the studs to the top/bottom plates for the final stage wall frame manufacturing. The AutoWall offers the operator to locate the stud positions through the software and enables the operator to secure nails easily and uniformly.

The AutoWall (Figure 1) is a robust machine to assemble the wall frame specifically designed to increase the levels of productivity within the truss plant. The machine can be used to build walls between 1800mm- 3600mm height and for timber thicknesses between 70-90mm.



FIGURE 1



5. STANDARD MACHINE SPECIFICATIONS

GENERAL REQUIREMENTS/SYSTEM		
Min. Height Overall	1600mm	
Min. Width Overall	5000mm (5400mm optional)	
Length Overall	Standard 7m including infeed roller	
Weight (approx.)	750 Kg	
Min. Wall height (typ.)	1800mm	
Max. Wall height (typ.)	3600mm	
Min Wall Length	900mm in auto & 35mm in manual (short panel mode)	
Timber thickness	70 or 90mm	
Drive speed	12 m/min nom	
Safety features	 Operator lanyard emergency stop Zone perimeter guarding Sensors to prevent activating nailing tools when there is no stud or top/ bottom plates Standard emergency stop push buttons 	

EQUIPMENT SPECIFICATIONS		
Nailing tools x4	Paslode PF350-S fitted with extended magazine & magazine guard (part# 1X2000)	
PLC	Siemens S7-200 – CPU 226	
Variable Speed Drive (VSD) x 2	SEW MC07B0008-5A3-4-00	
Drive motors x 2	SEW SA37 DRN71M4/TH/EK8S 0.37Kw	
Horizontal shift motor	SEW S47 DRN63M4 0.18KW 8.7rpm	
Encoder	SICK DFS60B-S4PA10000	

POWER REQUIREMENTS		
Max current load	20 A	
Voltage	415V 3 phase with a neutral & earth	
Air pressure	70psi -100psi (4 – 7 bar)	

IT IS EXPECTED THE CUSTOMER WILL SUPPLY SITE ELECTRICAL, PNEUMATIC & DATA INSTALLATION AND CONNECTIONS WITHIN A SHELTERED SITE.



6. SAFETY COMPONENTS

- 1. The walls are progressed through via drive wheels (Figure 2) to control the manual handling hazards associated with pushing and pulling the wall frames.
- 2. All operator functions (Figure 7) accessible from control panel.
- 3. 3 x timber detection sensors(Figure 3) on each side (fixed/moving) to prevent firing without backup timber.
- 4. All drive motors, toothed belts, sprockets, and shafts fully contained within painted sheet metal guards.
- 5. Horizontal drive motor, gear and rack fully protected by perforated sheet metal guard.
- 6. Two hand control to ensure safety of the operator.
- 7. Isolator switch (Figure 4) that is accessible from outside the main electrical cabinet.
- 8. Protective frame (Figure 6) over each table assembly to protect cylinders, hosing, valves etc.
- 9. Colour coded pneumatic circuits to assist with troubleshooting.
- 10. Integrated emergency stop system
 - a. When the emergency stop is activated, a warning message is displayed on the screen.
 - b. Emergency stop button (Figure 7) on Main operator's control panel.
 - c. Safety lanyard (Figure 5) along the full width of the machine (at operator side).
 - d. Any activation of the emergency stop circuit dumps all air from the pneumatic system and stops all electrical drive motors.



FIGURE 2



FIGURE 4



FIGURE 3







FIGURE 6









FIGURE 8 (LEFT VIEW)



FIGURE 9 (RIGHT VIEW)

FIGURE 10 (TOP VIEW)



(1) LH Spreader (switch)	(2) Stud Stops – L-Both-R (selector)	(3) Stud Stop – On / Off (selector)
(4) Start (push botton)	(5) Timber height - 70/90 (selector)	(6) RH Spreader (Switch)
(7) Clamp LH (push button)	(8) Preload (push botton)	(9) Auto/Manual mode (pushbutton)
(10) Feed/ Progess (push button)	(11) Clamp RH (push button)	(12) Fire (push button)
(13) LH Top Nail Tool (detent switch)	(14) LH Top Nail Tool (detent switch)	(15) Fire (push button)
(16) LR Top Nail Tool (detent switch)	(17) LR Top Nail Tool (detent switch)	(18) Jog Forward (push button)
(19) Jog Reverse (push button)	(20) Height In (push button)	(21) Height Out (push button)
(22) Emergency Stop (latching push button)	(23) Two-hand Control (push button)	

ITEM	USE
LH Spreader	Activates the left hand spreader so the plates remain guided on the encoder wheel.
Stud Stops – L-Both-R	This can be used so that only a particular stud stop is active or both are active. A reason for deactivating the stud stops is if a component is being fed through with a lintel, then the raising of the stud stop can sometimes clash with the lintel. Raising the lintel can raise the plate of the wall frame above the encoder which will then effect the accuracy of the position of further studs / components etc.
Stud Stops – On / Off	This will either turn both stud stops off or they are active as per the above switch's position.
Start	This signal's to the PLC that a new panel is starting (after the panel is loaded in the computer software). The stud stops and the plate stops will all activate when this button is first pressed. This is the starting sequence for processing a wall frame.
70/90	This raises / lowers the upper nail tools to suit the height of timber that is being used in the wall frame.
RH Spreader	Activates the right hand spreader so the plates remain guided on the encoder wheel.
Clamp Left- Both	Activates the left hand clamp. When the left hand clamp is activated, the side clamp is also activated, clamping the top and bottom plates hard against the stud. If the right hand clamp has not been activated, the left hand clamp will activate both clamps. Pressing the left hand clamp button again will release all the clamps.
Preload	Activates the encoder clamp rollers to ensure a positive contact between the drive wheels and the timber. There are two sets of rollers. Forward encoder clamp and rear encoder clamp. The rear clamp rollers activate immediately and the forward clamp rollers only activate when the wall frame has progressed through enough so that there will be timber between the rollers and the drive wheel. The rear clamp rollers will rise just before the end of the wall frame passes under it.
Short Wall	This light indicates if the wall length is too short for the machine to handle. Short walls can become jammed between the two encoder clamp rollers. When the light activates, do not process this wall. Short walls can only be put through manually on this machine.



ITEM	USE
Feed/Progress	The feed progress button allows a wall frame to be progressed through without firing the nails. This could be because an error occurred when producing the frame, and it is being re-run to complete the last section of the frame, or it could be used during calibration of the machine.
Clamp Right	The right hand clamp will only clamp and release the right hand clamp. This is generally the first clamp that is used, as it secures one side of the frame, so that the other side can be adjusted.
Fire (12 and 15)	The two fire buttons must be held in together for the nail tools to fire. Each nail tool has a timber sensor that needs to be activated for the tool to fire.
Top / Bottom Gun Select (13,14 and 16,17)	Isolate the nail tools by pressing the corresponding button on the panel. When the tool is active, it will not be illuminated, and when it is not active, it will be illuminated. The layout of the buttons corresponds to the nail tool being referenced. Each side of the machine has three sensors. Two to detect plates, check outs, heads etc and one to detect studs. If there is no stud present, no nails will fire and both lights on the corresponding side of the control panel will be illuminated. If the stud has a checkout for a lintel (but the lintel is not present), the tool will fire into the stud, and the tool that is aimed at the check out will not fire. If there is a header beam (lintel) in the wall frame, and the machine stops at a location where there is not stud, then it will only fire a nail into the beam.
Emergency Stop (either mushroom button or pull chord)	The emergency stop button will release all potentially damaging energy from the operators work area when activated. Once the emergency stop has been activated, a restart procedure will need to be stepped through to continue production.
Jog Forward/Reverse	It is possible to increment the wall frame either forwards or backwards. Both plates will be moved the same direction.
Wall Height in / Height out	The moving side of the machine is adjusted for position by pressing either the "IN" or the "OUT" push buttons.
Auto/Manual Mode	Wall frame can be built either using the design file (through auto mode) or manually by using Jog forward/ Jog reverse push button to adjust the stud position.
Reset	If the emergency stop is activated, then reset button needs to be pressed to reactivate the machine back and continue production.



7.2 SEQUENCE OF OPERATION

7.2.1 START UP PROCEDURE

Before operating the AutoWall, the operator must have read the operation manual specifically regarding safety and have ensured that the relevant maintenance checklists have been carried out.

- 1. Turn on the wall frame machine at the main isolator. Check computer power supply is switched ON and turn ON the computer. Check that the emergency stops and safety lanyard are not activated. Please check that the reset light is not illuminated.
- 2. Check air supply and ensure that the gauge reads between 95 108 psi (6.5 7.4 bar).
- 3. Visually inspect nail tools and reload as necessary with the appropriate Paslode collated framing nails.
- 4. Check that all operator controls on the main console are in their appropriate positions.

LH & LH Spreader	Down
Stud Stops	ON and both active
• 70/90	Height is adjusted to suit the timber thickness (70mm or 90mm) being used
Clamp LH & RH	The clamps should be in the upper most position
Preload	The preload rollers should be raised
Tool Isolators	The tool isolators should be enabled (light should be ON) so that the nail tools are ready to fire

7.2.2 NORMAL OPERATION

- 1. Autowall32 program needs to be started manually when the computer is turned on.
- 2. Select file and then open the appropriate job.
- 3. Select the frame required to be manufactured and press TAG. This will only load 1 frame for production, or TAG ALL will select and load all frames
- 4. The current panel will now be loaded in the computer.
- 5. Press the start button on the operator console. The stud stops and plate stops will now activate.
- 6. Place the plates against the plate stops.
- Adjust the height of the machine so there is about a 3mm gap between the plates and the end of the stud (or component).
- 8. Insert the first stud (or component).
- 9. Adjust the position of the stud / plate on the right hand side so that they are lined up with the stops.
- 10. Clamp the right hand side.
- 11. Line up the stud / plate on the left hand line.
- 12. Clamp the left hand side.
- 13. Activate the plate spreaders.
- 14. Activate the preload rollers.
- 15. Press and hold in the two fire buttons. All selected or required tools will fire.
- 16. The wall frame will now progress on to the next nailing position.
- 17. Insert the required stud / component and repeat the clamping / nailing sequence.



G OPERATOR TO MAKE SURE THAT THE CORRECT TIMBER IS IN PLACE BEFORE FIRING THE NAIL TOOLS. IF UNSURE, ISOLATE THE APPROPRIATE NAIL TOOLS.



7.3 SOFTWARE CONTROLS (INC CALIBRATION)

7.3.1 MAIN SCREEN

The main screen displays (Figure 11) the relevant information for the current panel.

- Panel Panel number
- Bundle Bundle number
- Length Length of panel
- · Height Height of panel when assembled
- · Stud Length of Stud used to assemble the panel
- BP / TP Size, grade and length details of bottom and top plates
- · Component Description of the current component
- Width Timber width (thickness) of member being nailed
- · Position Position along the plate from the original starting position
- · Notes If the panel has a production note this will appear
- Tools (TOP/BOT) Nail tool on/off for each of the four tools. When Green, tool is active and it turns to Red colour when tool is inactive

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- · Stud forward Makes panel progress to next stud
- · Stud backward Makes panel progress to previous stud
- · Left /Right Arrow To choose the stud position
- Spanner Icon PLC Diagnostics
- Stop Stop a panel mid production
- **Pause** Pause a panel mid production
- · Zoom Out Makes panel picture larger
- · Zoom In Makes panel picture smaller

C:\Pryda Solutions\AutoWall32\jobs\239882-1.awf - AutoWall32
 File Setup Help



FIGURE 11



7.3.2 CALIBRATION

Please follow the below steps to calibrate the drive encoders. Ensure timber used for this procedure is straight, true and free from defects (eg. knots, bow, twist, etc.) We strongly recommend the use of LVL timber for the calibration process.

- 1. Follow the "start-up procedure" mentioned in section 7.2.1
- 2. Autowall32 program needs to be started manually when the computer is turned on.
- 3. After the Autowall software screen is loaded, select file and then open the appropriate job. **Please ensure that the job selected is not a short wall.**
- 4. Select the frame required to be manufactured and press TAG. This will only load the frame for production.
- 5. The current panel will now be loaded in the computer.
- 6. Press the start button on the operator console. The stud stops and plate stops will now activate.
- 7. Place the top and bottom plates against the plate stops. Recommended length of plates is 6m.
- 8. Mark the current timber location on both sides of the machine.
- 9. Engage left and right spreaders.
- 10. Select "Setup" from the menu options in the Autowall software screen and select "Calibration" to check the encoder scale factors. A screen as shown in Figure 12 will pop-up.



FIGURE 12

- 11. Type in the desired length of travel (recommended length is 5400mm with 6000mm timber) and click on "Move Forward by length".
- 12. Engage "pre-load" rollers and press "Start".
- 13. Measure the actual length moved for both fixed and moving side then type in the actual measured lengths in the respective cells on the screen. Ensure that the measurements are being referenced to the correct side of the machine.
- 14. Click on "Update PLC by factors", and the new scale factor for the encoder will be written to the PLC.
- 15. Disengage "pre-load" rollers and the left/right spreaders
- 16. Repeat steps 6-12 a few times and check if the length of travel is consistent within +/- 2mm tolerance. If not, then update the new lengths by following steps 13 &14.
- 17. If the calibration couldn't be achieved after following the above procedure then contact Pryda equipment team for assistance.

To get the best results from calibrating the encoders, run a dummy wall through that has a very large opening (eg. 6000mm wall with a 5000mm opening).



7.3.3 SETTINGS

a. Comms Port

b. Setup Timers

i. Tool trigger ON time

ii. Stud clamp delay

c. PLC Diagnostics

Comms port and Baud rate settings need to be set before running the machine. These settings will be done by Pryda team before installing the machine.

Communications	-		\times	
Other Settings				
PC Comm Port	COM 1	•]	
Comm Port Baud rate	38400	-]	

FIGURE 13

Settings		
PLC Timers		
Lool Trigger On Time (ms)	150 📩 📩	
Stud Clamp Delay (seconds)	0.6 ÷	
Database Settings		
Database:		
Jig Name:	y Get Wall Jig List	
Auto Settings		
Auto Eeed after nailing	Save Completed info to DB	
Auto Load next Panel	Reverse All Bundles	
Nail Settings		
Skip All Overs	C Skip All Jamb studs	
Skip All Unders	Skip All <u>P</u> rop studs	
	Update Scancel	
FIGURE 14		
Note: All time during installa settings witho	r settings will ir ation. It is not re out consulting F	nitially be setup by Pryda team ecommended to change these Pryda team.
This amount on nail tool actuation	of time (msec) ation cylinder.	the solenoid signal is kept on the
The delay tim activated and	e (msec) betw the clamps ac	een the clamp button being tivating.
Brings up the of the inputs a	PLC diagnosti and outputs on	cs screen displaying the values the PLC.



d. Exit Program

Exits the program.



e. About	Shows the version number of the program.		
f. Select File	<text></text>		
i. Raw Data	Not Active. A part of the original software that has been carried over.		
ii. Tag	Tags an individual wall frame for production. Multiple frames can be tagged, with the sequence of tagging designating the production order.		
iii. Un-tag	Un-tag's an individual wall frame.		
iv. Tag All	Tags all the wall frames in the order that they are displayed on the screen. Typically this is the production sequence that will allow the frames to be in the same order as the bundling list.		
v. Un-Tag All	Un-Tags all the wall frames.		
vi. Open File	<text></text>		
vii Done	Fxits the select file screen back to the main operator screen. Upon		

vii. Done

pon Exits the select file screen back to the main operator screen. exiting, any wall frames that are tagged will be loaded up into the PLC ready for manufacture.



7.4 EMERGENCY SHUT DOWN / ISOLATION

The Pryda AutoWall machine comes with an integrated emergency stop system. By pulling on the emergency safety lanyard or by pressing the emergency stop button, the AutoWall machine will dump all air from the system (after the receiver) and remove all power from the PLC outputs.

The AutoWall machine can be isolated both electrically and pneumatically for maintenance, repairs etc. The electrical isolator is on the outside of the electrical cabinet (Figure 18) and can be locked out. The air supply can be isolated using the isolation switch located next to the electrical cabinet (see Figure 19). Further, it is also recommended to install a lockable isolation valve at the main connection similar to the one shown in Figure 20 for additional safety. Lockable isolation valve should be installed by the customer at site.



FIGURE 18

FIGURE 19

FIGURE 20





8. MAINTENANCE CHECKLIST

WEEKLY CHECKLIST

Operator Name:

Date Week Beginning:

AREA	ITEM	М	Т	W	Т	F
GENERAL	Check all guards are bolted correctly					
GUARDING	Check for damages in fence guards					
	Ensure all e-stops are functioning properly					
SAFETY ELECTRICAL	Check reed switches are tight on cylinders					
	Check proximity switches					
	Check for damaged wire, plugs or conduits					
	Check for damage to stud stops					
MECHANICAL	Check for damage to plate stops					
	Check fence line bearings					
	Check fluid levels in oiler					
PNEUMATIC	Check for air leaks					
	Check for damage on timber clamps and preload rollers					
OUTFEED AND INFEED	Check rollers for damage (Monthly activity)					
PC	Archive or delete old PC jobs (Monthly activity)					

Once work completed, please initial below for the relevant day.

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ANY MALFUNCTION OBSERVED IN THE FOLLOWING CHECKS MUST BE REPORTED IMMEDIATELY TO THE SUPERVISOR AND PRODUCTION STOPPED. PRODUCTION ONLY TO BE RESUMED WHEN DIRECTED BY THE SUPERVISOR.

PRYDA RECOMMENDS TO GET ADDITIONAL MAINTENANCE CHECKS DONE EVERY QUARTER BY OUR QUALIFIED TECHNICIANS.



9. TROUBLE SHOOTING

SYMPTOM	PROBLEM EVALUATION	REPAIR PROCEDURE
Nail will not fire	 No air on the system One or more of the firing buttons/switches are faulty No timber in place All the tools are manually isolated 	 Check that the air is connected to the system. Check that the emergency stop is not activated. Check the firing buttons using the diagnostics screen. The nail tools will not fire if the timber sensors are not activated. Activate the tools.
Nails fire, however they do not drive home completely	 Insufficient air pressure Extremely hard timber being used Bent or broken driver blade in nail tool Air leak in nail tool 	 Check the air pressure on the filter regulator. Change the type / species o timber being used. Remove nail tool and have it serviced by an authorised service person. Check the nail tool or abnormal air leak noises etc. Remove nail tool and have it serviced by an authorised service person.
Stud stop will not raise or lower	 No air on system or damaged airline / fittings Button or switch is damaged or faulty Stud stop is isolated. Internal bush of stud stop is seized or clogged with foreign materials 	 Check that the air is connected to the system. Check that the emergency stop is not activated. Check the firing buttons using the diagnostics screen. Activate the stud stop. Remove stud stop from machine and have it serviced by a suitably trained person.
Plate stop will not extend or retract	 No air on system or damaged airline / fittings Button or switch is damaged or faulty Stud stop is isolated Internal bush of stud stop is seized or clogged with foreign materials 	 Check that the air is connected to the system. Check that the emergency stop is not activated. Check the firing buttons using the diagnostics screen. Remove plate stop from machine and have it serviced by a suitably trained person.
Wall frame is not manufactured to the correct length	 Calibration of machine is out Plates are disengaging from the encoder wheels The encoder is faulty 	 Calibrate the machine. Check for bowed or damaged timber. Check for other reasons why the timber may raise off the encoder wheels. Have a suitably qualified person check the encoder and replace where necessary.
The drive motors will not run	 The VSD has been overloaded and tripped out There is not power on the machine 	 If the VSD has been tripped out, let it sit for 10 minutes to auto reset. Some earlier models of the machine required the VSD to be manually reset. Connect power to the machine.

