pryda

OPERATION MANUAL

SUB-COMPONENT NAILER (SCN)

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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.

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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	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.
	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.
	Never perform any maintenance while the machine is in operation.
	Observe and obey all warning decals.
	Do not lean into the line of fire of the nailing tools.
	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'S EQUIPMENT SERVICE TEAM IF YOU NEED ANY FURTHER INFORMATION.**

3. SAFETY AND HAZARD ANALYSIS

The purpose of the Sub-component nailer machine is to prepare the stud assembly evenly and quickly in a uniform and repeatable manner. The operator is required to load the studs and noggings (or blocks) manually to build a subassembly and nails are fired to secure them. This sub-assembly is then later used to make the wall frame.

The following is a summary of the hazards and risks identified on the SCN machine. A full Plant Hazard Identification, Risk Assessment and Controls Measure Checklist is available on request.

HAZARD	HOW SEVERE	HOW LIKELY	RISK REDUCTION
Electrical shock caused by power cable failure	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 cables have no defects before turning ON the machine Installation electrician is to ensure appropriate safety switches and all parts (especially cable) earthed correctly
Machine has 240V 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
Scratches/cuts while loading timber.	Up to minor bruising	Very Unlikely	Operator training to educate hazard. Operator to wear appropriate PPE.
Pinch/Crush points when Nail tools and stud clamps are engaged	Severe crushing	Unlikely	Zone perimeter guarding, sensors, emergency stops in place. Operator training to educate hazard. Place warning stickers on the Autowall machine.

Systems of work consist of timber being brought up to the press on trolleys or forklifts or transferred manually from other sub-assembly line, which introduce hazards of falling timber and forklifts operating in the area. The timber is loaded manually on the assembly table and nails are fired in position. There is a minimal risk of getting scratches/cuts during the timber handling process.

The operator should be a mature and responsible person who should have substantial experience in all facets of truss making and be of sound body and mind and alert at all times. Operators who have medical (i.e. drug and alcohol problems) or other stress-related conditions which can cause the operator to lose concentration, should be avoided at all costs. The operator should also have an understanding of English and be trained in the basic daily maintenance of the machinery.

Before shipping, the machine is to be inspected and results written by the Pryda test quality assurance team as detailed for the job. The press 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 either pressing the emergency stop on the operator control panel or by turning OFF the isolator switch on the electrical cabinet.

In the case of personnel being injured, the machine should be isolated, have the power and air supply 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 Sub-component nailer (SCN) is specifically designed to increase the levels of productivity within the wall framing machine. It allows for the safest possible method of nailing noggins and blocks of studs prior to fitting in to prefabricated wall frames. The stud sub-assembly is then transferred to the wall frame assembly line through conveyors.

The SCN assembly table offers the operator to locate the nogging position across the stud and enables the operator to clamp all components prior to nailing, ensuring both components are tight and securely fitted. Correctly positioned skew nails will provide rigid joints. Easy adjustment of nailing tools allows for 70 and 90mm timber. Quick and easy selection of the required nailing pattern improves safety and maintenance. Further, the machine also has provision to use a portable saw machine (optional) to cut the noggings and studs to the required length as part of the pre-assembly stage.

5. STANDARD MACHINE SPECIFICATIONS

GENERAL REQUIREMENTS/SYSTEM	
Height Overall (excluding monitor console post)	1155mm
Depth Overall	1000mm
Length Overall	3800mm
Weight (approx.)	350 Kgs
Timber Thickness	70x35mm up to 100x50mm
Safety features	• Sensors to prevent activating nail tools when there is no (or undersized) timber in place. • Standard emergency stop push button. • Two hand operator control functions
Maximum Noggin Length	565mm
Work Height	910mm

EQUIPMENT SPECIFICATIONS	
Nailing tools x4	Paslode PF350-S (or similar) fitted with magazine guard (part# 1X2000)
Safety Relay	Sick Flexisoft
Sensors x3	SICK HTB18-P4A2BB

POWER REQUIREMENTS	
Max currrent Load 9.027 mm	10 A
Voltage	240V Single phase with a neutral
Air pressure	70psi -110psi (4 – 8 bar)

For specific layout and quantities refer preliminary G.A. drawing.

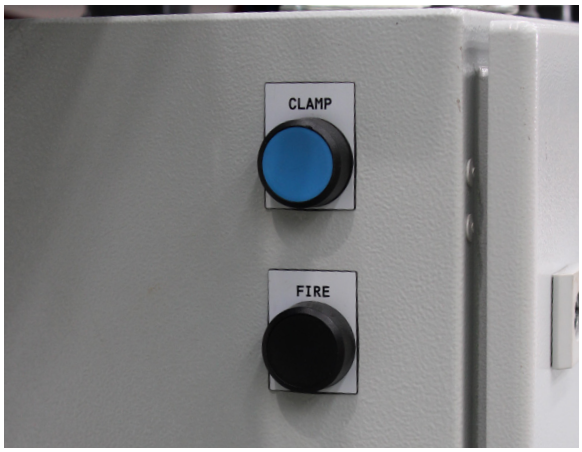
It is expected the customer will supply the site with electrical and pneumatic connections within a sheltered site. Data connections may also be required for Pryda Production Viewer screens

6. SAFETY COMPONENTS

The Pryda Sub-component Nailer (SCN) machine has used engineering controls where possible to reduce the risk associated with the hazards on this machine.

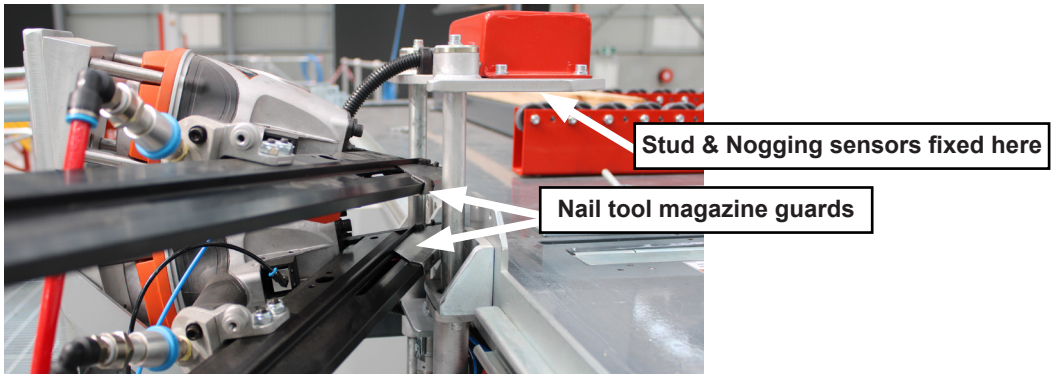
Safety has been one of the major design considerations in the development of the standard PRYDA SCN.

- Two-hand control for component clamping and nail tool actuation (the same controls are on the other side of the operator console).



- The side clamp actuates on low pressure, and then converts to high pressure once clamped.
- Emergency stop & Reset buttons on operator cabinet to release clamps at any time

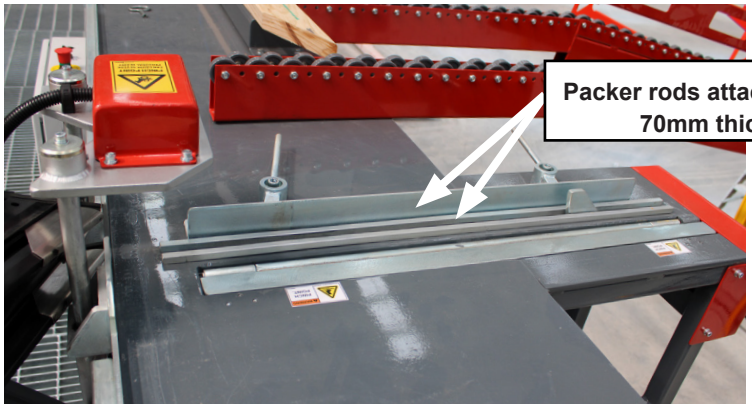
- Work pieces in close proximity of the operators to reduce bending and excessive movement.
- Positive safety (through use of sensors) on nailing tools preventing accidental firing when timber is not in place.
- Nail tools secured with extended magazine and safety guarding to secure nails in place and prevent exposure to outside of the tool.



7. OPERATING INSTRUCTIONS

The Pryda Sub-component nailer is simple to operate with only a few controls on the operator's control cabinet. Before operating the machine, the operator must have read the Operation Manual specifically regarding safety and have ensured that the relevant maintenance checklists (See Page 13) have been carried out.

- The Pryda Sub-component Nailer is designed to pre nail stud/noggin, stud/block and stud/block/stud sub components for wall frame manufacturing.
- Noggins ranging from 50mm in length up to 565mm in length can be attached to studs using this machine (minimum noggin length is determined by the length of the nails being used).
- The Sub-component Nailer can handle timber from 70x35mm up to 100x50mm. For 70mm timber thickness noggings with 90mm studs, additional packer rods (see picture below) that are provided along with the machine should be used to centralise the nog to stud depth.
- One person can efficiently operate the sub-component nailer.



The control cabinet has the following functions:

Clamp	The clamp button activates the vertical clamp and the side noggin clamp. There are two clamp buttons located on either side of the operator console. They must be both pressed in together for the clamp sequence to function.
Fire	There are two "Fire" buttons located on either side of the operator console. Pressing both of the fire buttons together will activate the nail tools. If there is no timber in place, the nail tools will not operate.
Side Clamp On/Off	The side clamp active switch either enables or disables the side noggin clamp when the clamp buttons are pressed.
Reset	Pressing the "RESET" push button will reset the system and release all clamps.
Emergency Stop	Activates the emergency shut-down system and immobilises the equipment.

7. OPERATING INSTRUCTIONS

The machine has a lockable main power isolator switch mounted on the top of the electrical control box. This switch should be turned off at the end of each shift. Before any maintenance or inspection is carried out on the machine, the isolator should be tagged in the off position.

When the SCN machine is first turned ON, the reset push button illuminates to show that the emergency system requires resetting. Further, it also illuminates when the emergency system has been activated and then cleared. The RESET push button will require pressing to reset the machine.

8. SHUT DOWN/ISOLATION

1. Inform employees that will be affected by the shutdown of the equipment.
2. If the machine is running, Press “STOP” button on the control cabinet otherwise skip to next step.
3. Turn OFF the Isolator switch which is located on the side of the control cabinet and perform lockout/ tagout procedure.
4. If required, Electrical contractor to perform lockout/tagout procedure at the main distribution board.

9. TROUBLESHOOTING

CONDITION	CORRECTIVE ACTION
Nail tools will not function	Check if timber is in place or not. Check if air is connected to the tools
Slide clamp will not activate	Check if “Side Clamp switch is selected to OFF Check air pipe connections Check air pressure is set to 100 psi
Vertical clamp will not activate	Check air pipe connections Check air pressure is set to 100 psi
Emergency stop & Reset not working	Electrician to check wiring

10. OPTIONAL EQUIPMENT

1. In-feed and out feed conveyors
2. Double length magazines
3. Intermediate conveyors
4. Stud / Noggin trolleys
5. Sub-component transfer conveyor

CAUTION

THE OPERATOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF ALL PERSONNEL WHILST IN CONTROL OF THE MACHINE.

11. MAINTENANCE CHECKLISTS

11.1 DAILY SERVICE CHECKLIST BY TRAINED OPERATOR

Operator Name: Date Week Beginning:

ITEM NO.	ITEM	M	T	W	T	F
1	Check that there are no loose mechanical or pneumatic fittings	☐	☐	☐	☐	☐
2	Check that nuts and bolts are firm	☐	☐	☐	☐	☐
3	Clean general work area for any potential hazards	☐	☐	☐	☐	☐
4	Check that there are no pneumatic leaks in the system	☐	☐	☐	☐	☐
5	Check the Isolator Switch is working correctly	☐	☐	☐	☐	☐
6	Test Emergency stop	☐	☐	☐	☐	☐
7	Test RESET button	☐	☐	☐	☐	☐
8	Check Air pressure is between 4 – 8 bar	☐	☐	☐	☐	☐

Any malfunction observed in the above checks must be reported immediately to your supervisor and production stopped. Resume production when directed by your supervisor.

11.2 MONTHLY SERVICE CHECKLIST BY TRAINED OPERATOR OR TECHNICIAN

Operator Name: Date Week Beginning:

ITEM NO.	ITEM	M	T	W	T	F
1	Daily service checklist items checked	☐	☐	☐	☐	☐
2	Check if fixing anchors (or bolts) are properly tensioned and there are no loose shims.	☐	☐	☐	☐	☐

Any malfunction observed in the above checks must be reported immediately to your supervisor and production stopped. Resume production when directed by your supervisor.

11.3 BREAKDOWN MAINTENANCE

If a breakdown occurs whilst operating, follow the procedures for both daily and monthly maintenance programs. If this does not resolve the problem, phone Pryda equipment service team to arrange for the nearest available technician to visit the site.

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