



OPERATION MANUAL

FINISH ROLLER (FNR)

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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.

[illegible]

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.
	<p>Before starting the machine at the beginning of each shift:</p> <p>Do a general overall machine inspection for loose fittings, fasteners.</p> <p>Ensure that the machine is not running at excessive speed or is vibrating.</p> <p>Check that safety control equipment is working properly.</p> <p>Report all faults immediately and ensure repairs of any faults that are found are completed before starting work.</p>
	Only trained personnel should operate the machine.
	Never perform any maintenance on the machine while it is running.
	Observe and obey all warning decals.
	Do not adjust nailplates whilst the machine is operating.
	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.
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3. SAFETY AND HAZARD ANALYSIS

The purpose of the design is to press nailplates into timber evenly and quickly in a uniform and repeatable manner. The operator is required to turn the Finish Roller (FNR) ON and OFF. This roller process is continuous. When the truss is pressed, it continues through FNR and out onto the gravity fed roller system (optional equipment).

The following is a summary of the hazards and risks identified on Finish Roller press. 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 415V 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
Trusses being conveyed strike personnel	Up to minor bruising	Very Unlikely	Ensure safety exclusion zones are clearly identified and all personnel are clear of these areas during operation
Roller crushing operator hand/appendage	Severe crushing	Unlikely	Reach distance guarding must be in place prior to the press operation Operator training to educate hazard Place warning stickers on the FNR press
Personnel being caught in Finish Roller Press	Severe crushing	Unlikely	Zone perimeter guarding and emergency stops all in place. Educate operators on correct use of machine and all fitted safety devices

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 understand English and be trained in the basic daily maintenance of the machinery.

Before shipping, the press is to be inspected and results written by the Pryda test quality assurance system 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 instantaneously by either striking one of emergency stops or by pulling the emergency lanyard on the outfeed side.

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 Finish Roller (FNR) is designed to press the nailplates into the timber for the final stage pressing of Timber Roof Trusses. The process involves feeding the roof truss with partially embedded nailplates through the Finish Roller for the final pressing.

The FNR carries out the pressing operation when the infeed roller system offers the truss to the machine. This means that pressing is done on a continuous basis.

The standard FNR system is a robust fabricated steel pressing system specifically designed to increase the levels of productivity within the truss plant.

The system has a 4.35 m (approx.) wide pressing capacity.



5. STANDARD MACHINE SPECIFICATIONS

SPACE REQUIREMENTS/SYSTEM	
Minimum Height Overall	2.3m
Minimum Width Overall	4.96m
Length Overall (approx.)	2.8m incl. safety fence
Weight (approx.)	6 tonnes

PERFORMANCE	
Effective Pressing Length	Unlimited
Effective Pressing Width	4.35m
Standard Timber Thickness	35mm
Pressing Speed	32 m/min (nom.)
Operation hours/day	8hr typically
Safety Features	<ul style="list-style-type: none"> • Operator lanyard emergency stop • Zone perimeter guarding • Standard emergency stop push button

POWER REQUIREMENTS	
HER Max Running Load	Supply -20 Amps max
Voltage	415V, 3-phase with a neutral (5-wire), 50 cycles

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

It is expected the customer will supply site electrical installation and connections, within a sheltered (or protected) site.

6. SAFETY COMPONENTS

The standard 4.96 wide x 610 dia. FNR is a robust, heavy duty nail plate roller press designed to achieve a linear throughput pressing speed of 32 metres/minute at the lowest practical power consumption. The advantages of continuous pressing over the more common stop-start platen pressing system include minimal labour for the operation, more uniform power consumption, less wear and tear on machinery, and significantly higher production output.

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

The safety system consists of emergency stop controls and guarding arrangements which ensure a high level of operator protection from moving parts. These rapidly stop the machine in the event of an emergency.

The Finish roller press is enclosed behind sheet metal guarding, which ensures optimum protection from moving parts. These can be removed for maintenance purposes but must be fixed in place during operation.

When carrying out maintenance of the press, the isolator switch on side of the control cabinet should be locked out with a tag and padlock.

There is one emergency stop on the electrical cabinet and lanyards (infeed & outfeed side) on the Finish roller Press. The machine is also enclosed by Zone Guarding.



The selection of power transmission components has been based on generous service factors being applied to already proven drive gear. The entire transmission has been designed with longevity and durability in mind.

7. OPERATING INSTRUCTIONS

The basic operation of the FNR press is very simple. Before operating the press, the operator must have read the Operating & Maintenance Manual specifically regarding safety and have ensured that the relevant maintenance checklists have been carried out.

The press has a main power isolator mounted on the side 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 press, the isolator should be tagged in the off position.



On the front door of the electrical control cabinet is an illuminated push button that, when the FNR press is first turned ON, it illuminates to show that the emergency system requires resetting. When the emergency system has been activated and then cleared, the Blue colour RESET button will flash and will require pressing to reset.

When the button is illuminated, the safety system has been actuated or the main power has been turned OFF and then restored; the machine should not function.

Mounted on the electrical cabinet control panel is a mushroom-head emergency stop button which, when struck, activates the emergency shut-down system, and immobilises the press.

The control cabinet has the following functions:

Roller Reset	Will flash BLUE when safety system has been activated and is ready to be reset.
Roller Start / Jog	When in “Roller Start” mode, pressing this will initiate roller start-up. The roller will take approximately 5 seconds to achieve full speed. When in “Roller Jog” mode, pressing this button will start the drive for the period the button is held down.
Roller Stop	Will stop the rolling function and initiate a rundown period. At a production break or the end of production, the stop button is pressed to turn off the drive. This is not intended to be used in an emergency stop situation.
Roller Run / Jog (selector switch)	This allows the press to be switched from run in one direction to jog mode. It is intended that the jog function is used to clear jams and not for normal operation.
Roller Fwd / Rev (selector switch)	This determines the drive direction. Fwd - When the “Start” button is pressed, the press will continuously operate in the forward direction. Rev - The reverse function is used to clear jams and not for normal operation. “Start” button need to be held on for the reverse function to work.

	CAUTION	THE OPERATOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF ALL PERSONNEL WHILST IN CONTROL OF THE MACHINE.
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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
Machine will not start	<p>Check the following items in the below mentioned order</p> <ol style="list-style-type: none"> 1. Check emergency stops are all released and RED status light is not illuminated 2. Power isolator on Control Box is ON 3. Safety system "Reset" button is illuminating in Blue 4. Emergency Stop lanyard reset 5. Main power supply turned ON 6. Electrician to check the following <ol style="list-style-type: none"> a. Check thermal overloads in control box b. Check circuit breakers in control box c. Check all 3 phases of incoming power 7. Check chain for damage
Machine starts & immediately stops	<p>Electrician to check the following</p> <ol style="list-style-type: none"> 1. Check overhead supply cable system for damage 2. Check wiring for loose, damaged connections
Machine strains when pressing	<ol style="list-style-type: none"> 1. Check timber thickness 2. Check roller to roller gap is set between 35 – 36 mm 3. Electrician to confirm VSD frequency (should be 35Hz)
Nailplates not completely pressed	<ol style="list-style-type: none"> 1. Check timber thickness to specification 2. Check if all timber components consistent thickness 3. Check upper/lower roller bearing mounts secure 4. Check roller to roller gap is set between 35 – 36 mm

10. SCHEDULE A - OPERATOR CHECKLIST

Operator Name:

Date Week Beginning:

AREA	ITEM	M	T	W	T	F
General	Check all guards are fitted correctly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Check correct operation of machine. Run it forward and in reverse.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	Ensure all e-stops are functioning properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Ensure truss alarm operating when covered (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Check all electrical cables for damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	Check correct plate embedment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Check masonry anchors are tight on Finish Roller press	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE MAKE PHOTOCOPIES OF THIS FORM FOR LOGGING MAINTENANCE

