

PALLET NAIL™

All things nail and nailing

OPERATION & SAFETY MANUAL



PN55C, PN70C, PN90C, PN100C,
PN100EPAL, PN130C

www.palletnail.eu



INTRODUCTION AND SAFETY WARNINGS

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BEFORE COMMENCING USE OF THIS TOOL, ALL OPERATORS SHOULD READ AND UNDERSTAND THIS MANUAL INCLUDING THE TECHNICAL TABLE AT THE REAR OF THIS MANUAL. THESE INSTRUCTIONS SHOULD BE KEPT FOR FUTURE REFERENCE, IF YOU HAVE ANY DOUBTS OR QUESTIONS ABOUT SAFE OPERATION CONTACT US IMMEDIATELY. NOT ALL TOOLS WORK THE SAME WAY BE SURE TO UNDERSTAND THE MODEL IN QUESTION AND THE SPECIFIC SEQUENCE OF OPERATION.

PALLET NAIL models are designed for Industrial purposes and built to offer reliable and efficient service providing they are used correctly and in accordance with our recommendations. Warning: Additional Safety measures may be required depending on the location and work to be completed, if unsure please contact us.

Pallet Nail cannot take responsibility for any malfunctions or drop in tool performance if our products are used with accessories or fasteners which do not meet the requirements established by Pallet Nail and the specific instructions enclosed. The tool and the noted fasteners should be considered as a single safe working system. Only those authorized agents of Pallet Nail or other experts* are permitted to conduct repairs or service and must give due regard to the safety, operating and maintenance instructions in this manual. (* those as a result of experience or professional training, have sufficient knowledge in the field of fastener driving tools and that are able to evaluate correctly the safe condition of said tools.

Tables, stands, jigs for adaption or mounting of tools must be designed and built to accommodate the safe fixing and use of tools without any damage or infringement of the tool build integrity or safety operating system.

WARRANTY

All PALLET NAIL models come with a 90 day warranty which ensures workmanship and materials will be free from defect, we withhold the right to replace or repair at our discretion. This warranty is non transferable and does not cover damage or performance resulting from normal wear, neglect, abuse or accident. To obtain warranty service, you must return the product at your expense together with proof of purchase the PalletNail™ regional office or regional warranty repair centre.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES. PalletNail™ / First Fix Fasteners Ltd SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SAFETY INSTRUCTIONS

It is essential that EYE PROTECTION that which gives both front and side protection from flying particles is ALWAYS worn by the tool operator and others in the work area when loading, operating or servicing this tool. Severe eye injury can occur from flying fasteners and debris, the employer and/or user must ensure that proper eye protection is worn. All aspects of the work environment and all types of machinery being used should be considered before the appropriate level of eye protection is defined, however a minimum level of eye protection with equal or greater protection defined in EN166 and in accordance with relevant standards should be used.

ADDITIONAL PERSONAL PROTECTION MEASURES

Noise is a common hazard in the work place and exposure to it can result in hearing damage, therefore it is important that the user and employer ensure hearing protection at an appropriate level for the equipment and environment are used. Other environments may call for high-visibility clothing, protective foot wear or apparel, if required the employer must ensure this is used.

CONNECTIONS AND SUPPLY

ONLY USE REGULATED AND CLEAN COMPRESSED AIR AS A POWER SOURCE.

If the air system to be used is capable of exceeding 9.6 bar a pressure reducing valve should be fitted downstream to ensure the correct operating pressure is not exceeding. Failure to follow these measure could result in the tool bursting and causing possible injury.

DO NOT use bottled gases

DO NOT connect or use oxygen and combustible gases as an energy source for pneumatic tools.

The fittings for connection of the tool should be such that they cannot leave the tool charged in any way once disconnected, failure to do this can result in tools remaining charged after disconnection and may result in injury. Check the supply connection is safe and the tool discharges correctly and tools cannot hold pressure once disconnected.

Before connecting tools to the air supply ensure the tools discharge area is pointed away from everyone in the working area, including the operator. Making sure a sufficient thickness of material which is big enough to accommodate the fasteners full dimensions and a margin for error, place the discharge area of the tool over the material. The body, limbs and hands must be clear of the tools trigger, safety trip mechanism and discharge area, the tool can be connected to the air supply.

DO NOT depress the safety trip or pull the trigger mechanism while connecting to the air supply as this could cause an unintended activation of the tool and potential injury.

The air supply should disconnected before:

- A) Any adjustments are made
- B) Clearing of jammed fasteners
- C) Repair or service of the tool is undertaken
- D) When moving to a different work area, accidental actuations can occur, which could cause possible injury.

Tools should also be disconnected when not in use!

A compressor of sufficient size and power should be used, ensuring pressure and flow is adequate to ensure pressure drops do not interfere with tool performance. To understand correct pressure settings and volume of air required consult the technical table at the rear of this manual.

Safety and best tool performance

- Ensure the air is filtered and dried wherever possible as this will reduce the amount of dirt and water entering the air system and tools connected to it, this maintains the performance of tools for longer and reduces wear and damage to most pneumatic tools.
- Water traps, Filters, Dryers, in-line oilers and air pressure regulated can be easily introduced to most air circuits and offer protection from cold weather issues where water can freeze air connectors and tools.
- Pressure regulators should have a working range of 0-8.79 bar
- Hoses with quick disconnecting fittings and 1.5 times the maximum working pressure of the air systems or 10.6 bar should be used.
- The pressure should not defer from the minimum or maximum pressures for the model being used.
- Working In-line oilers work well at ensuring regular and measured oiling is in place, but must be checked regularly to ensure correct function.
- A few drops of oil added daily in the air inlet works well if in-line oilers are not in place.
- Only use pneumatic airline oil (Mobil Velocite Oil No. 10 or equivalent) as other oils can contain detergents or additives which can damage seals and O-rings prematurely, and also can lead to poor tool performance and general issues.

SAFE LOADING OF FASTENERS

Only compatible fasteners of correct type and dimensions as noted in this manual should be used.

Before commencing to load the tool:

- 1) **DO NOT** Place a hand or any part of the body in fastener discharge area of the tool
- 2) **DO NOT** Point the tool at yourself or anyone else
- 3) **DO NOT** pull the trigger or depress the safety trip, accidental actuations can occur, which could cause injury.

To load, follow the below steps:

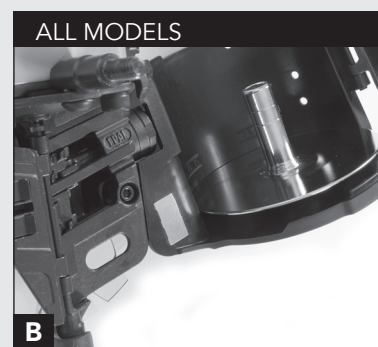
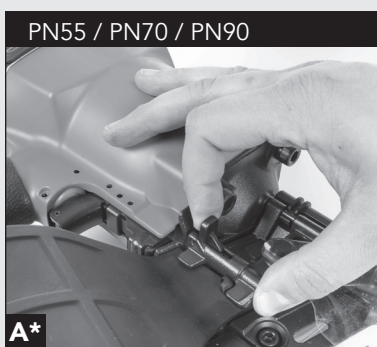
A* Pull down on the door latch / lift door latch.

B Open door and magazine cover.

C Adjust the magazine to suit the intended fastener length by twisting and lifting the tray to desired position.

D Insert the nails over the magazine post. Unwind nails and insert the head of the nails into the top most channel as shown.

E Close the magazine and the door should shut smoothly yet firmly.



EXHAUST ADJUSTMENTS



The PN90 model comes with an adjustable exhaust system, loosen the cap bolt as shown, place exhaust in desired direction and re-tighten (clockwise).

SAFETY INSTRUCTIONS FOR TOOL OPERATION

Always show diligence and handle the tool carefully giving full consideration to all the information included in this manual and with particular attention to the warnings below:

- Only use the tool for the intended purpose of its design.
- Do not use the tool as a hammer.
- Check the safety trip mechanism is operating correctly frequently.
- **DO NOT** engage in horseplay
- **ONLY** pull the trigger when the tool is directed at the intended work piece and fastener firing is intended, as injuries can occur if the tool touches something other than the target work piece and can be activated by mistake.
- Ensure others are at a safe distance from the tool while tool in operation accidental actuations can occur, which could cause possible injury.
- Due to recoil of driving fasteners tools with safety trips can bounce and unwanted fasteners can be driven so it is important to keep hands and body away from the discharge area of the tool.
- Do not use the tool if any trip mechanism or trigger are not working correctly as accidental driving of a fastener may result.
- Do not modify or interfere with the correct operation of the safety trip mechanism.
- Driving fasteners on top of each other or close to the edge of the work piece can cause ricochets or loose flying fastener and wooden splinters, potentially causing injury.
- Never point the tool at yourself or anyone else.
- Never place ANY part of the body in fastener discharge area of tool while the air supply is connected.
- Understand the sequence of operation for the model in question and ensure it is appropriate to your task and working location.
- Do NOT modify the tool without written permission from PalletNail / First Fix Fasteners.
- DO NOT Tamper, block or bypass the trigger or safety trip in any way that could render the tools safety features inoperable.
- DO NOT hold the tool in such a way that if recoil should occur that any part of the body of the user of those in the work area could be affected.
- Disconnect the air supply when moving from one place to another and never carry the tool with the trigger pulled.
- Carry the tool by the handle NOT the hose!
- Tools should be disconnected from the air supply when not in use.
- Punching or engraving the tool can weaken the tools integrity and should be avoided.
- DO NOT use the tool if the warning labels are eligible
- DO NOT continue to use a tool that fails to function correctly or that has leaks.
- STOP using your tool and notify PalletNail / First Fix Fasteners if your tool continues to function incorrectly or in doubt of it operation.

SEQUENCE OF OPERATION

Two modes of operation are offered by PALLET NAIL for the Coil-Nailer models, these both incorporate a safety trip mechanism but work very differently.

1. CONTACT TRIP – BLACK TRIGGER (Reference 1 in Technical Table, column O)

To allow for rapid placement of fasteners in many types of application Contact trip models allow for the trigger to remain pulled and the tool to fire a fasteners each time the safety trip is depressed. However this means that a fastener is fired every time the safety trip is touched and can lead to a fastener being driven into anything which touches the safety trip, potentially causing injury. Due to recoil of driving fasteners, tools with safety trips can bounce and unwanted fasteners can be driven so it is important to keep hands and body away from the discharge area of the tool. These models are labelled with the following symbol “do not use on stairs or ladders”.
(Insert symbol)

Any models marked the with the “do not use on stairs or ladders” symbol must NOT be used where the intended work includes moving in a work area and involves the use of ladders, stairs or similar structures.

To check the tool is operating correctly CONTACT TRIP models (1) follow these steps:
Before performing sequence checks remove all fasteners from tool.

CONTACT TRIP OPERATION

- A) With the trigger NOT being depressed by your finger, depress the safety trip against the work piece.
NO FIRING MUST OCCUR.
- B) With the tool removed from off the work piece and, ensuring the tool discharge area is NOT pointed at yourself or others, pull the trigger. **NO FIRING MUST OCCUR**
- C) With the tool removed from off the work piece, depress the trigger with your finger. Press the safety trip against the work piece. **FIRING MUST OCCUR.**
- D) Without touching the trigger, press the safety trip against the work piece then pull the trigger.
FIRING MUST OCCUR.

2. SEQUENTIAL TRIP RED TRIGGER (Reference 2 in Technical Table, column O)

This type of operation needs the user to depress the tools safety trip against the work piece before the trigger can be pulled. For additional fasteners to be fired, the trigger must be released and the tool removed from the work piece, then repeating the above sequence the tool can be fired. Allowing for a more precise placement of fasteners it is often used for crating, etc. where accurate positioning of fasteners is required, while reducing the possibility of firing an unwanted second fastener. As this system requires the safety trip to depressed first it reduces the possibility of a fastener being fired accidentally if the operator has the trigger depressed.

To check the tool is operating correctly SEQUENTIAL TRIP models (2) follow these steps. **Before performing sequence checks remove all fasteners from tool.**

SEQUENTIAL TRIP OPERATION

- A) With the trigger NOT being depressed by your finger, depress the safety trip against the work piece.
NO FIRING MUST OCCUR.
- B) With the tool removed from off the work piece and, ensuring the tool discharge area is NOT pointed at yourself or others, pull the trigger. **NO FIRING MUST OCCUR.**
- C) With the tool removed from off the work piece, depress the trigger with your finger. Press the safety trip against the work piece. **NO FIRING MUST OCCUR.**
- D) With the tool removed from off the work piece, depress the safety trip against the work piece, pull the trigger.
FIRING MUST OCCUR.

CORRECT FASTENER DEPTH

Being satisfied the tool is operating correctly, drive a fastener in to the work piece. If you require a deeper depth or drive increase the working pressure a little at a time to until the correct depth of drive is achieved. Do NOT exceed the maximum working pressure for the model in question. If fasteners are driven to deep reverse the above process of adjustment, again considering the working minimum pressure of the model in question.

OTHER SAFETY CONSIDERATIONS

NOISE (See Tool Data columns H,I & J)

Noise levels were measured in line with EN12549. These values are those for the specific tools in controlled conditions and do not consider noise development or noise levels or variables encountered at the point of use, including mounting of tools onto machinery, noise dampening materials, working tables, etc.

VIBRATION (see Tool Data columns K)

Vibration levels were measured in line with ISO/WD 8662-11. These values do not represent the influence on the hand-arm system when using the tool. This is determined by many variables including the force with which the tool is gripped, working angles/directions, the type of material being fastened, the material and design of tables, etc.

SAFETY INSTRUCTIONS FOR TOOL MAINTENANCE

Only those authorized agents of Pallet Nail or other experts* are permitted to conduct repairs or service and must give due regard to the safety, operating and maintenance instructions in this manual. (* those as a result of experience or professional training, have sufficient knowledge in the field of fastener driving tools and that are able to evaluate correctly the safe condition of said tools). When diagnosing problems or servicing take particular care and follow the warnings and guidance in all sections of this operation and safety manual.

In addition:

- Disconnect the tool from the air supply and empty the magazine before starting service or repairs.
- Genuine PALLET NAIL replacement parts are recommended. Do not parts that cannot guarantee equal performance to the original.
- Do NOT use modified parts.
- Service or repairs should be completed using a suitable O ring lubricant such as Magna-Lube G and ensuring internal parts are clean and lubed accordingly.
- For other pivoting or moving area a small quantity of oil on all moving surfaces and pivots, for best service also ensure oiling is completed by adding a few drops of Mobil Velocite Oil No. 10 into the air inlet of the tool, do NOT over oil and this has a negative effect on performance.
- Consult the Trouble shooting table for common issues
- Contact us if you are unsure of any maintenance, service or tool performance issues

DRIVER SETTING

Driver wear is the most common service/maintenance issues on most pneumatic nailers and will become deformed after repeated use. The driver can be re-dressed or adjusted by an expert * by up to 3mm, this can ensure that fasteners are driven straight & correct depth into the work piece, reduce jamming and feeding issues. The length of the driver can be measured and set at a position as noted in column S & T in the data table at the rear of this manual.

TROUBLESHOOTING

Disconnect the tool from the air supply and empty the magazine before starting service or repairs.

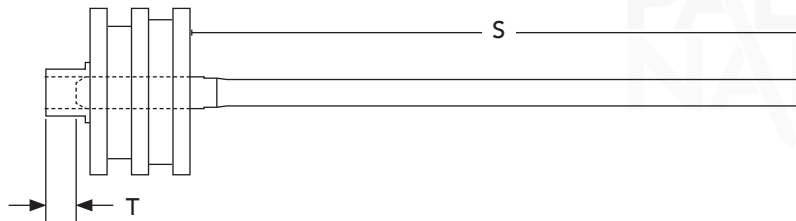
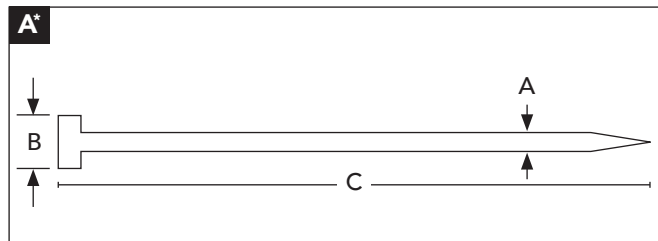
Contact us if you are unsure of any maintenance, service or tool performance issues

FAILURE	POSSIBLE CAUSES	CHECK METHOD	COUNTER MEASURES
No nail is ejected	NAIL Incorrect nails are loaded Abnormal nails are loaded (large-sized head, bent incorrectly chained etc.)	Check if recommended nails are loaded	Use recommended nails Remove abnormal nails and load normal nails
	MAGAZINE UNIT Push lever Defective nail feeder (deflected, bent or broken) Defective feed spring (worn or broken)	Check for abnormalities of nail feeding portion (deflected, worn, deformed broken)	Repair deformed parts
	Narrow or wide width of the magazine groove Worn nail head supporting portion of magazine Abnormal nail guide groove of blade guide (deflected, deformed or broken)	Load nails and confirm that they will move smoothly	Replace defective parts
	Adhesive fragment or wood dust sticking on the magazine or nail feeder		Remove adhesive fragment or wood dust
	Push lever	Check push lever movement	Replace
	OUTPUT UNIT – PISTON OR DRIVER Air pressure too low	Carry out idle driving and check the return of the driver blade	Check compressor
	Worn piston ring		Replace piston ring
	Defective piston bumper		Replace the piston bumper
	Defective bumper piece (deflection, worn or broken)		Replace the piece
	Defective O-ring (disconnected, deformed or broken)		Reassemble or replace the O-ring
	Defective driver blade (deflected, deformed or broken)		Replace
	Defect inside cylinder (adhesive or wood fragment, worn)		Check if the nailer drives at minimum operating pressure

FAILURE	POSSIBLE CAUSES	CHECK METHOD	COUNTER MEASURES
The driven nail is bent	Nails are inaccurately fed into the blade guide Incorrect nails are loaded	Refer to previous item	Refer to previous item
	Worn driver blade	Check if the driver blade is extremely worn or not	Replace the driver blade
	The wood is too hard	Check if the nails bend on softer wood or not	Stop using the tool
The driven nails do not fully penetrate the work piece (heads protrude)	The wood is too hard		Stop using the tool
	Air pressure is too low		Adjust the air pressure
	Worn or broken driver blade	Carry out idle driving and check if the driver blade protrudes from the blade guide nose	If the driver blade does not protrude from the blade guide – replace
	Incorrect driving depth adjustment	Check if the tip of the driver blade is excessively worn or not	Adjust the guide plate to the appropriate position
	Defective piston ring (worn or broken) Defective inner surface of cylinder (worn or rough)	Disassemble the output unit and check the inside and outside surfaces of the piston ring and cylinder	Replace the defective parts
Nails clog within the ejecting gate	Nails are inaccurately fed into the blade guide Incorrect nails are loaded	Refer to first item	Refer to first item Use designated nails
	Worn tip of the driver blade	Carry out idle driving and check if blade tip is worn or not	Replace
	Worn guide groove of the blade guide	Check the wear of the blade guide	Replace
	Work piece material is too hard		Stop using the tool

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Technical Data		PN55C	PN70C	PN90C	PN100	PN100EPAL	PN130C
A*	A = mm	2.1-2.3	2.3-2.9	2.5-3.3	2.5-3.8	3.5	3.05-3.8
	B = mm	5-5.7	5.7-7	6-7.2	6.5-7.5	8.6	7.5-8.6
	C = mm	25-57	45-70	45-90	57-102	70-90	75-130
B	Fastener Name	PNN	PNF			PNEPAL	PN130
C	Magazine Capacity	300-350	250-300	225-300		300	120-225
D	Tool Length mm	302	307	368	339	339	338
E	Tool Height mm	286	317	356	418	418	479
F	Tool Width mm	132	131	150	154		
G	Weight Kg	2.68	3.8	3.68	5.3		5.9
H	Noise LPA, 1S, D	86.7	102.8	88.2	89.3		92.3
I	Noise LWA, 1S, D	99	107.4	101.2	102.3		105.3
J	Noise LPA, 1S, 1M	81.5	94.4	88.2	83.9		86.6
K	Vibration m/s ₂	3.73	2.68	3.75	5.35		5.44
L	P max Bar / psi	8.4 / 120					
M	P min Bar / psi	4.9 / 70					
N	Air consumption per shot at 7 bar	1.24	2.3	2.87	4.68		4.8
O	Activation Type	Contact Trip					Seq Trip
P	Summer Lubricant	Mobil Velocite Oil No. 10					
Q	Winter Lubricant	Mobil Velocite Oil No. 10					
R	O-ring Lubricant	Magnalube-G					
S	New Driver Length mm	142.8	173.3	191.5	226.2	226.2	256
T	Max Depth inside the piston	N/A					



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