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Freeman PE20V2183

Freeman F20 20V Cordless 21 Degree 3-1/4” Framing Nailer Instruction Manual

Model: PE20V2183

Safety Information Product Components Setup Operation Maintenance Troubleshooting Specifications Warranty & Support

1. Safety Information

Always read and understand all safety warnings, instructions, illustrations, and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

General Power Tool Safety Warnings

- **Work Area Safety:** Keep work area clean and well lit. Cluttered or dark areas invite accidents. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
- **Electrical Safety:** Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Personal Safety:** Always wear eye protection. Use safety glasses or goggles. Wear hearing protection when operating the nailer. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.
- **Tool Use and Care:** Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed. Disconnect the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.

Specific Nailer Safety Warnings

- Always assume the tool contains fasteners.
- Do not point the tool at yourself or anyone nearby.
- Do not actuate the tool unless the tool is placed firmly against the workpiece.
- Keep hands and body parts away from the discharge area.
- Use only fasteners specified for this tool.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

2. Product Components

The Freeman F20 20V Cordless 21 Degree 3-1/4” Framing Nailer comes as a combo kit, including the nailer, a 4.0Ah Lithium-Ion battery, a rapid charger, a canvas bag, and a belt hook. Familiarize yourself with the main parts of the nailer:



Figure 2.1: Labeled diagram of the Freeman F20 Cordless Framing Nailer, highlighting key components such as the large capacity die-cast air cylinder, ergonomic handle, 20V MAX battery, alloy hook, power button, brushless motor, driving mode selector, push nail block, and depth adjustable mechanism.

- **Brushless Motor:** Provides superior performance and efficiency, driving up to 750 fasteners per charge.
- **20V 4.0Ah Lithium-Ion Battery:** High-capacity battery for cordless portability, featuring a power level indicator and 90-minute recharge time.
- **Rapid Charger:** For quick recharging of the 20V Lithium-Ion battery.
- **Magazine:** Holds 21-degree plastic collated full round head framing nails from 2" – 3-1/4" L and 0.113" – 0.148" diameter.
- **Tool-free Depth Adjust:** A wheel for easy adjustment of nail driving depth.
- **Dual Mode Firing Selector:** Allows switching between single fire and bump fire modes.
- **Textured Rubber Grip:** Designed for maximum comfort and improved accuracy.
- **LED Light Indicator:** Alerts for low battery and tool function status.
- **Belt Hook:** For convenient carrying and storage during work.



Figure 2.2: The complete Freeman F20 Cordless Framing Nailer combo kit, showcasing the nailer, its 20V battery, the rapid charger, and the included canvas carrying bag.

3. Setup

3.1 Battery Installation and Charging

1. Ensure the battery is fully charged before first use. Connect the rapid charger to a power outlet and insert the 20V 4.0Ah Lithium-Ion battery. The charger's indicator light will show charging status. A full charge takes approximately 90 minutes.
2. To install the battery, align the battery pack with the receptacle on the tool's handle and slide it in until it clicks securely into place.
3. To remove the battery, press the release button on the battery pack and slide it out.

3.2 Loading Nails

This nailer is compatible with 21-degree plastic collated full round head framing nails ranging from 2" to 3-1/4" in length and 0.113" to 0.148" in diameter.



Figure 3.1: A user demonstrating the Freeman F20 nailer in action, with an overlay detailing the compatible nail sizes and angles (21-degree round head nails, 2" to 3-1/4" length, 0.113" to 0.148" diameter).

1. Pull back the pusher assembly until it locks into place.
2. Insert a strip of compatible nails into the magazine, ensuring the nail heads are properly seated in the channel.
3. Release the pusher assembly, allowing it to push the nails forward until they are ready for firing.

3.3 Adjusting Depth of Drive

The tool-free depth adjustment allows for quick and easy changes to the nail driving depth, accommodating various materials and project requirements.



Figure 3.2: A visual representation of the nailer's safety mechanism, the selector for dual driving modes (single fire and bump fire), and the tool-free depth adjustment wheel, which can be turned by hand to set the desired nail depth.

Simply turn the depth adjustment wheel located near the nose of the tool by hand. Turn clockwise to increase driving depth (nails driven deeper) and counter-clockwise to decrease driving depth (nails driven shallower).

4. Operation

4.1 Selecting Firing Mode

The Freeman F20 nailer offers dual firing modes for versatility:

- **Single Fire Mode:** For precise fastener placement. The trigger must be pulled for each nail driven.
- **Bump Fire Mode:** For rapid fastening. Hold the trigger and press the contact trip against the workpiece to drive nails quickly.

Use the selector switch on the tool to choose between single fire and bump fire modes.

4.2 Driving Nails



Figure 4.1: A user demonstrating the Freeman F20 nailer in a framing application, driving nails into wooden studs to construct a wall frame.

1. Ensure the battery is charged and nails are loaded.
2. Select the desired firing mode (single fire or bump fire).
3. Place the nose of the tool firmly against the workpiece where the nail is to be driven.
4. For single fire, pull the trigger to drive a nail. For bump fire, hold the trigger and repeatedly press the nose against the workpiece.
5. The brushless motor efficiently drives up to 90 pieces per minute.

4.3 Applications

This framing nailer is ideal for a variety of construction applications, including:

- Framing walls and structures
- Installing subfloors
- Roof decking

- Pallet and shipping crate assembly
- Wood fencing



Figure 4.2: A collage illustrating various construction applications for the Freeman F20 nailer, including house framing, deck building, and subfloor installation, demonstrating its versatility in different building scenarios.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your Freeman F20 Framing Nailer.

5.1 Cleaning

- Always disconnect the battery before cleaning.
- Wipe down the tool with a clean, dry cloth after each use to remove dust and debris.
- Keep the magazine and nose area free of obstructions.

5.2 Battery Care

- Store batteries in a cool, dry place away from direct sunlight and extreme temperatures.
- Do not store batteries in a discharged state for extended periods.
- Use only the provided rapid charger for charging.

5.3 Internal Maintenance

The nailer features a patented anti-seize gear and an S7 steel drive blade designed for extended life and easy maintenance.



Figure 5.1: A detailed diagram illustrating the internal components of the nailer, specifically highlighting the patented anti-seize gear which reduces friction and wear, and the S7 steel drive blade, known for its high strength and durability, contributing to extended tool life.

For fast maintenance and hassle-free drive blade replacement, the tool is designed for easy access by removing just 5 screws.



Figure 5.2: An exploded view of the nailer's head, demonstrating how to easily access internal components for maintenance or drive blade replacement by simply removing five screws.

If you are unsure about internal maintenance, it is recommended to consult a qualified service technician.

6. Troubleshooting

This section provides solutions to common issues you might encounter with your Freeman F20 Framing Nailer.

Problem	Possible Cause	Solution
Nailer does not fire	Battery is low or not installed correctly. No nails in magazine. Safety mechanism not engaged.	Check battery charge and ensure it's securely seated. Load nails. Ensure nose is firmly pressed against workpiece.
Nails not driven flush	Depth adjustment set too shallow.	Adjust the depth setting to drive nails deeper using the tool-free depth adjustment wheel.
Nail jams	Incorrect nail size or type. Debris in magazine.	Ensure correct nails are used. Clear any debris from the magazine and nose area. Refer to maintenance section for clearing jams.
LED indicator light blinking	Low battery or tool malfunction.	Recharge the battery. If the issue persists after charging, consult the warranty and support section.

The LED light indicator warns of low battery and indicates if the tool is functioning properly. Pay attention to its signals for early detection of issues.

7. Specifications

Detailed technical specifications for the Freeman F20 20V Cordless 21 Degree 3-1/4” Framing Nailer (Model PE20V2183).

Feature	Specification
Model Number	PE20V2183
Power Source	Battery Powered
Voltage	20 Volts
Battery Type	Lithium Ion (4.0 Ah included)
Nail Compatibility	21 Degree Plastic Collated Full Round Head Framing Nails
Nail Length Range	2" – 3-1/4" L
Nail Diameter Range	0.113" – 0.148" diameter
Firing Modes	Single Fire, Bump Fire
Motor Type	Brushless
Fasteners Per Charge	Up to 750
Fasteners Per Minute	Up to 90
Item Weight	9.3 pounds
Product Dimensions	13.88 x 4.13 x 14 inches
Included Components	Nailer, 20V 4.0 Ah Lithium-Ion Battery, Rapid Charger, Canvas bag, Belt Hook

8. Warranty & Support

8.1 Warranty Information

The Freeman F20 20V Cordless 21 Degree 3-1/4” Framing Nailer is covered by Freeman's Professional 1 Year Limited Warranty. This warranty covers defects in material and workmanship under normal use and service.
Please retain your purchase receipt as proof of purchase for warranty claims.

8.2 Customer Support

For technical assistance, troubleshooting beyond this manual, or warranty service, please contact Freeman customer support. Refer to the official Freeman website or product packaging for the most current contact information.
When contacting support, please have your product model number (PE20V2183) and purchase date readily available.

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