

Safety Warning: Pneumatic Nail Guns

Nail gun injuries are largely associated with framing tools with contact trip triggers. Contact triggers allow the gun to discharge a nail anytime the nose piece and the trigger are both depressed. The user can hold the trigger down and bump fire the gun. This means users can shoot a co-worker or themselves if they bump against the nose piece when the trigger is depressed. Because the center of gravity of the tool is at the trigger, it is natural to carry the tool with a finger on the trigger. Contact triggers allow inadvertent firing if the nose hits the wood surface or a previously placed nail following the recoil associated with firing the tool. This can cause the second nail to ricochet and become airborne.

Risk factors for injury

- Tools with contact triggers carry twice the risk of acute injury of those with sequential triggers; sequential triggers require that the nose be depressed before the trigger is pulled in order to fire.
- Lack of training in safe tool use is also a risk factor for injury.

Some other factors that contribute to injury risk include:

- Use of non-dominant hand.
- Working in awkward positions.
- Speed of work.
- Lack of eye protection.
- By-passed safety mechanisms.
- Improper placement of body when using the tool.

Users cannot prevent second firing!

Nailers with touch tip [contact] triggers are susceptible to double firing, especially when trying to accurately place the nailer against the work piece during toe-nailing. In awkward positions the user is less likely to hold the nailer firmly enough to counter the nailer's recoil. The recoil and firing of the second nail occurs well before the trigger can be released. Sensitive triggers in conjunction with nailer recoil can also lead to inadvertent firing of another nail. The second nail can ricochet off the first nail and cause injury, or miss the work piece entirely to strike a body part of the victim. — Consumer Products Safety Commission,

Engineering Report, 2002

Dangers largely unrecognized

Nail gun injuries are:

- The leading cause of 'struck by' injuries in residential carpentry.
- Responsible for nearly 40,000 visits to U.S. emergency departments each year.
- The most common cause of tool-related hospitalization in the entire construction industry— not just among wood framers.
- Among the most costly work-related injuries in residential carpentry.
- Inflicted by a co-worker over 10% of the time.

Nail gun injuries:

- Most often involve puncture wounds to the hands and fingers caused by discharged nails.
- Also involve other body areas and internal organs.
- **Can cause death.**

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What can be done to prevent injuries?

Only use framing nail guns with sequential triggers

Because injuries including fatalities can result from use of framing nail guns as they were designed:

- Ask for a tool with a sequential trigger.
- Only buy tools with sequential triggers.

Most manufacturers will retrofit older guns.

Users need training in safe tool operation

Just because the tools are easy to use, does not mean they are easy to use safely. If you are a new user, ask for training.

- Follow manufacturers' directives; read the instruction manual.
- Wear eye protection.

You should know how to:

- Adjust the compressor.
- Safely load and remove nails; you should know what to do if the tool jams.
- Maintain the tool.
- Brace work materials without putting any body parts in the line of fire.

Things to remember

- Do not press the trigger of the gun unless the nose of the gun is firmly pressed against the work material.
- Avoid nailing into knots and metal; nails are more likely to ricochet. Dense laminated beams can also be difficult to penetrate and cause ricocheting.
- If you are having trouble reaching where you want to place a nail, consider a hammer.
- Only use nails designed for the tool you are using.
- You cannot react fast enough to remove your finger from the trigger following recoil after firing to prevent a second, inadvertent firing of a nail.

NEVER shoot towards yourself or a co-worker.

NEVER walk around with your finger on the trigger.

NEVER adjust the nail gun or clear jams when it is connected to the air supply.

NEVER remove or by-pass safety devices, sequential triggers, or nose piece springs.

NEVER use a defective tool. Malfunctioning tools should be tagged and taken out of use until they have been properly serviced.