Toolbox Safety Series

Safe Use of Power Nailers and Staplers

SESSION SIX

CHOOSING THE CORRECT TRIGGER FOR THE JOB

Presented by the ISANTA Power Tool Safety Alliance

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SAFETY IS EVERYONE'S RESPONSIBILITY.

Tool users must

- choose the correct tool to perform the task
- read and understand the owner's manual
- work in a safe manner
- maintain tools according to the manufacturer's requirements.

Employers must ensure

- the employee uses the correct tool for the intended work task
- the tool is in good working condition
- the employee has read and understands the manufacturer's instructions and has been properly trained on the tool's use
- the employee uses the appropriate personal protective equipment (PPE).

Coworkers must

- alert others in their surroundings of potential hazards associated with tool use
- use appropriate PPE
- ensure that proper training for tool use has been conducted.

This Toolbox series provides both owners and users of nailers and staplers with some basic information on the safe use of their tools.

ANSI standard SNT-101, ISO standard 11148 Part 13, OSHA standards, manufacturer's instructions and recommendations, safety and construction practices, and recommendations were used to develop this Toolbox Safety Series.

TOPICS FROM PREVIOUS SESSIONS

Session 1: Choose the Correct Tool for the Job

Session 2: Read and Understand All Safety, Use, and Maintenance Instructions

Session 3: Warning Labels and Symbols

Session 4: Tool Power Sources

Session 5: Tool Use and Care

CHOOSING THE CORRECT TRIGGER FOR THE JOB

From an operational point of view, different tools may have different trigger and actuation methods.

As a user of these tools, YOU MUST understand how different trigger systems work. This understanding is one step in preventing an unintended discharge of a fastener.

There are two primary types of actuation used in these tools:

- sequential actuation
- contact actuation.

Consistent with OSHA and NIOSH recommendations, new users of power fastening tools are strongly encouraged to begin with tools equipped with sequential actuation. These users must

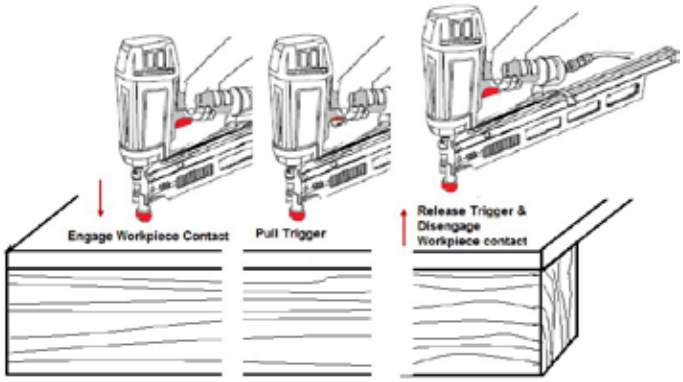
- understand the precise task to be performed
- understand how to select the proper tool for the task to be performed
- understand how the tool performs the required work
- understand how the trigger system influences the performance of the tool
- understand the safety requirements associated with the tool and trigger system
- have proper training and experience on a tool and trigger system before using other trigger systems.

Full-sequential actuation

"An actuation mode which allows single driving operations via the trigger after the workpiece contact has been operated. Further driving operations are only possible after the trigger and the workpiece contact have been returned to the non-driving position." (ANSI STD SNT-101 Section 2.3.5).

PROCESS

- Engage workpiece contact.
- Pull trigger.
- Release trigger.
- Disengage workpiece contact.
- Repeat to drive another fastener.



Single-sequential actuation

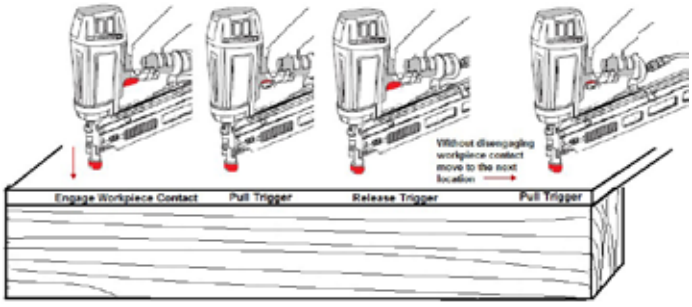
"An actuation mode which allows single driving operations via the trigger after the workpiece contact has been operated. Further driving operations are possible via trigger operation if the workpiece contact has remained in the operating position." (ANSI STD SNT-101 Section 2.3.8).

This initial process is the same as that for full-sequential actuation. (ANSI STD SNT-101 Section 2.3.5).

Differences between single-sequential and full-sequential actuation take place when additional actuation is made.

PROCESS

- Engage workpiece contact.
- Pull trigger.
- Release trigger.
- Re-engage workpiece contact.
- On some small fastening tools, it may be possible to slide the tool with the workpiece contact fully engaged to the surface.
- Pull trigger.



Contact actuation

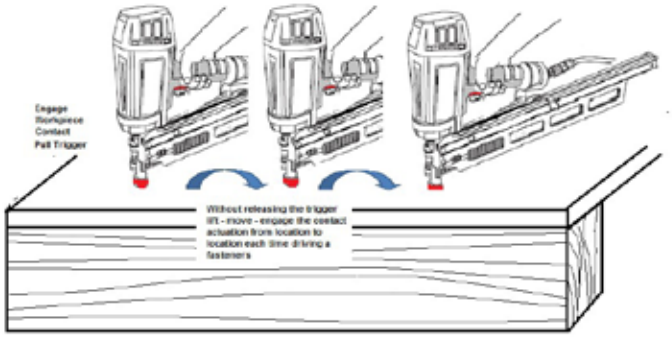
"An actuation mode which allows the tool to operate by operating the workpiece contact while the trigger is continually depressed and held." (ANSI STD SNT-101 Section 2.3.2).

PROCESS

- Engage workpiece contact.
- Pull trigger.
- Disengage workpiece contact (without releasing trigger).
- Move tool and re-engage workpiece contact.

OR

- Engage workpiece contact.
- Pull trigger.
- Release trigger.
- Slide tool while maintaining workpiece contact.
- Pull trigger.



There are also two additional trigger options:

- selective actuation
- automatic reversion.

Selective actuation

An actuation system that allows discrete selection of two or more of the following actuation systems:

- single-sequential actuation
- full-sequential actuation
- contact actuation with automatic reversion
- continual contact actuation or contact actuation

Automatic reversion actuation

"An actuation mode capable of contact actuation or continual contact actuation and where the tool becomes inoperable if a trigger is depressed without operation of the workpiece contact within the manufacturer's stated trigger time-out period." (ANSI STD SNT-101 Section 2.3.1).

Keep your finger off the trigger when not intentionally driving a fastener.

With a basic understanding of the triggers and actuation methods, the concept of keeping your finger off of the trigger when not intentionally driving a fastener is one of the most important safety messages.

An unintentional discharge of a fastener could occur if the trigger is engaged.

EXAMPLE

Carl has a roofing nailer in his hand. He carries the tool by the handle but leaves his finger on the trigger.

When moving along the roof, he slips. While trying to remain upright, the workpiece contact hits a metal pipe. The tool immediately discharges a nail, causing a ricochet.

Fortunately for Carl and the other workers in his immediate area, the ricochet misses everyone.

If Carl had kept his finger off the trigger, the tool would not have discharged a nail.

QUIZ

This quiz may have multiple correct answers. Its purpose is to be the first step in a discussion with your supervisor/foreman and fellow workers in regard to power-fastening tool safety. Please discuss these questions as a group with your co-workers and supervisor/foreman.

1. When a tool is configured for full-sequential actuation, what are the two primary operating controls on the the tool that must be actuated in order for the tool to operate?

2. Selective actuation allows the tool operator (worker) to "switch" operation of the tool between which modes?

3. Is the tool operator (worker) required to release the trigger during the operation of a single-sequential actuation?

4. In the example from the previous page, assuming the tool is in good working order, is there a particular trigger configuration that would not have discharged a nail even with Carl improperly keeping his finger on the trigger?

ANSWER KEY

This quiz may have multiple correct answers. Its purpose is to be the first step in a discussion with your supervisor/foreman and fellow workers in regard to power-fastening tool safety. Please discuss these questions as a group with your co-workers and supervisor/foreman.

1. When a tool is configured for full-sequential actuation, what are the two primary operating controls on the the tool that must be actuated in order for the tool to operate?

Answer: Workpiece contact and trigger.

2. Selective actuation allows the tool operator (worker) to "switch" operation of the tool between which modes?

Answer: Contact actuation with automatic reversion, continual contact or contact actuation, full-sequential actuation, and single-sequential actuation.

3. Is the tool operator (worker) required to release the trigger during the operation of a single-sequential actuation?

Answer: Yes

4. In the example from the previous page, assuming the tool is in good working order, is there a particular trigger configuration that would not have discharged a nail even with Carl improperly keeping his finger on the trigger?

Answer: Yes, full-sequential activation.

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