

**Toolbox Safety Series**  
**Safe Use of Power Nailers and Staplers**



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**SESSION FOUR**  
**TOOL POWER SOURCES**

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# SAFETY IS EVERYONE'S RESPONSIBILITY.

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## 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.***

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## TOPICS FROM PREVIOUS SESSIONS

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**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**

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# TOOL POWER SOURCES

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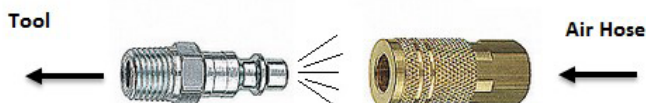
- There are three basic sources of power used to drive fasteners:
  - pneumatics (compressed air)
  - fuel
  - electrical
    - » power cord
    - » battery.

## Pneumatic power source

- Energy in the form of compressed air supplies the tool.
  - The compressed air must be pressure regulated.
  - The regulated pressure must not exceed the maximum air pressure marked on the tool.
  - If the regulator fails, the pressure delivered to a tool must not exceed 1.5 times the maximum rated tool air pressure or 200 psi, whichever is less.
  - Operating a tool with maximum air pressure is normally not required. Operate at a lower pressure determined by the type of fastener, workpiece material, and other conditions that allow the fastener to be properly driven.
  - An air hose delivering compressed air to the tool must have a pressure rating equal to or greater than the maximum pressure rating of the compressor.
  - Air must freely exhaust from a tool upon removal of the air source.

## Typical tool pneumatic quick-connect assembly

Follow manufacturer's requirements for air cleanliness, moisture content, and lubrication.



## Fuel power source

A fuel power system consists of a small cartridge filled with flammable gas and a battery for ignition. With the cartridge inserted into the tool, engaging the workpiece contact and pulling the trigger ignites the gas. The pressure of the expanding gas from the ignition of the fuel drives the fastener from the tool.

## Flammable fuel sources require that care be taken.

- Do not puncture, open, or attempt to refill a fuel canister.
- Do not smoke around a fuel canister or a tool with a fuel canister inserted.
- Do not incinerate or attempt to reclaim or recycle a fuel canister.
- Never spray canister contents toward face or eyes.
- Keep canisters away from children.
- Do not expose canister to temperatures above manufacturer's recommendation.
- Do not inhale gas.

## Electrical power source

The energy used to drive this type of tool would typically come from

- a plug-in power cord
- a battery.

## Prior to using a tool with a power plug

- Check power cords for bare or exposed wires.
- Check the power plug to make sure it has not been modified and that it fits into the outlet properly.
- Do not expose a tool to rain or wet conditions.
- Wet conditions in a work area or water in an electric tool can increase the chance of an electrical shock.
- Always plug the tool into a ground fault circuit interrupter (GFCI) outlet.
- Use the correct extension cord designed for outside use.
- Ensure the operating switch is turned off before plugging power cord into outlet.
- Do not use any tool with a switch that is not operating properly.

## **Prior to using a tool with a battery**

- Use only battery packs from the original manufacturer or that meet the manufacturer's safety and performance specifications. Use of any other battery pack may create a risk of injury or fire.
- Check battery for damage:
  - exposed or broken contacts
  - damaged housing
  - leakage.
- Dispose of old batteries per manufacturer's requirements.
- Never expose a battery to a fire.
- Use only manufacturer's authorized battery charger.
- Follow manufacturer's instruction on battery chargers to reduce overheating of the device.
- Avoid contact between battery terminals and metal objects. Contact could cause an arc and may result in a fire.

## **When not using tool**

- Disconnect air hose and ensure air discharges from tool.
- Remove any fuel cells or cartridges from tool.
- Unplug tool and properly secure cord
  - to avoid cord damage
  - to prevent an unintended discharge of tool
  - to reduce trip hazards on the jobsite.
- Remove battery to prevent unintended discharge of tool.
- Safely store battery in a cool, dry place to prevent damage.
- When a battery is not in use, keep it away from metal objects that could make a connection across the terminals. Shorting a battery could result in a fire or explosion.

## **Tool jams**

- Disconnect all power sources before attempting to clear any fastener jams.
- Follow manufacturer's procedures for removing a jam.

# THE FOLLOWING ORGANIZATIONS MAKE UP THE TOOL SAFETY ALLIANCE



## Tool Members

<p><b>KOKI HOLDINGS AMERICA LTD.</b> Metabo HPT Brand</p>	<p><b>PEACE INDUSTRIES</b> SPOTNAILS Brand</p>	<p><b>TECHTRONIC INDUSTRIES NA</b> Milwaukee Tool Brand Rigid Brand</p>	<p><b>STANLEY BLACK &amp; DECKER</b> Bostitch Brand DeWalt Brand Porter-Cable Brand Craftsman Brand</p>	<p><b>BECK AMERICA</b> FASCO TOOLS RAINCO TOOLS</p>
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	<p><b>MID-CONTINENT STEEL &amp; WIRE</b> Magnum Brand</p>	<p><b>PRIME SOURCE BUILDING PRODUCTS</b> Grip-Rite Brand</p>	<p><b>NATIONAL NAIL CORP.</b> Stinger Brand</p>	

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