

Lesson #2: Pneumatics Nailer & Stapler

Objectives

Students will be able to...

- Identify the major components of both the pneumatic nailer and stapler and be able to demonstrate the safe operation of each tool.

Common Core Standards

LS 11-12.6
RSIT 11-12.2
RLST 11-12.2
Health and Safety 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6
Responsibility and Flexibility 7.7
Technical Knowledge and Skills 10.0, 10.2
Demonstration and Application 11.1
Cabinetmaking and Wood Products Pathway A 4.1
Residential and Commercial Construction Pathway D2.1, D3.1

Materials

Pneumatic Nailer and Stapler Identification and Safety Packet

Lesson Sequence

- Pass out the *Pneumatic Nailer and Stapler Identification and Safety Packet*. Complete the identification section of each tool as a class. Answer any questions students may have (30 minutes).
- Have students complete the safety portion of the pneumatic nailer and stapler identification and safety packet. (20 minutes)

Assessment

Check for understanding through questioning. Monitor student's answers on the safety portion of the pneumatic nailer packet.

Accommodations/Modifications

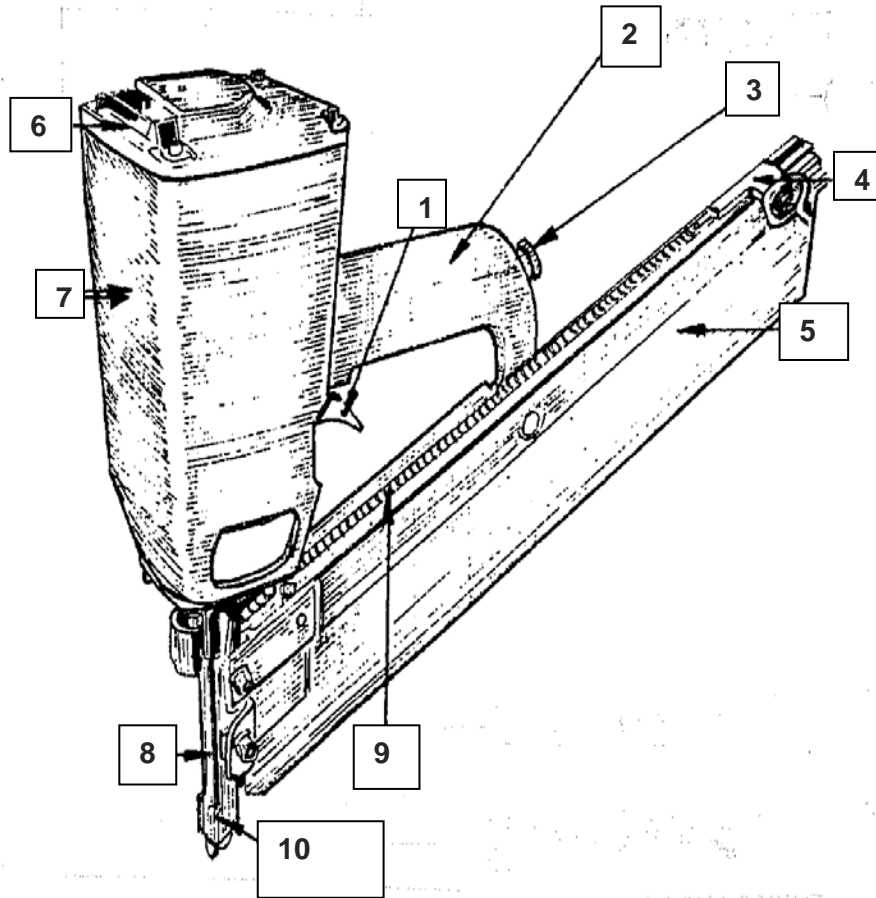
Check for Understanding

Highlight Important Information for Students Ahead Of Time As Needed

One on One Support

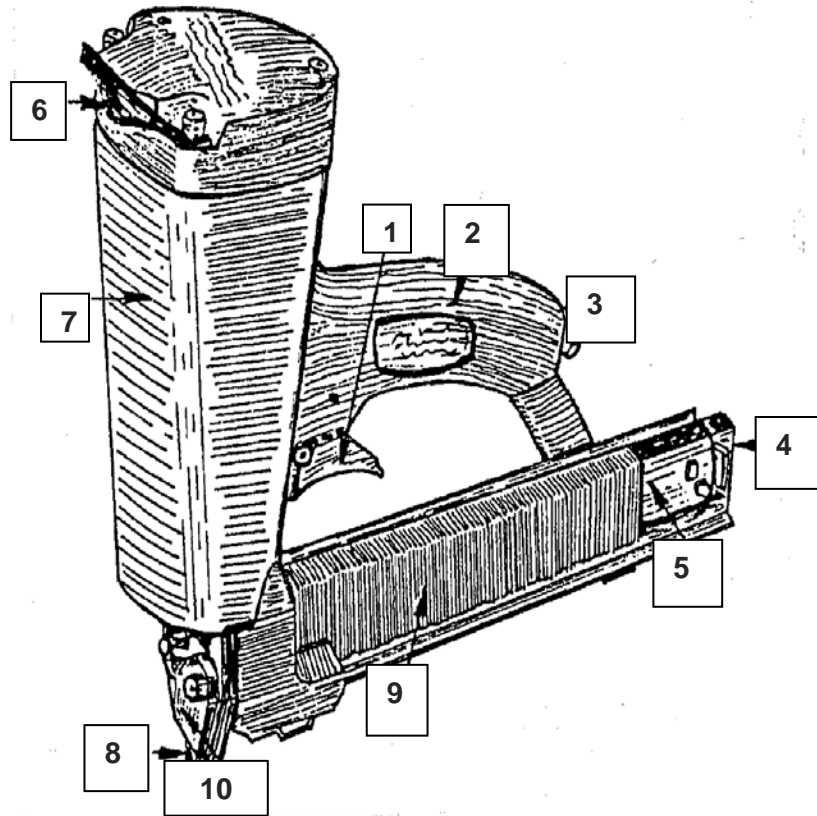
Pneumatic Nailer and Stapler Identification and Safety

Part 1: Identify the numbered parts on the *nailer* illustrated below.



- | | | | |
|----|-------|-----|-------|
| 1. | _____ | 8. | _____ |
| 2. | _____ | 9. | _____ |
| 3. | _____ | 10. | _____ |
| 4. | _____ | | |
| 5. | _____ | | |
| 6. | _____ | | |
| 7. | _____ | | |

Identify the numbered parts on the *stapler* illustrated below.



- | | | | |
|----|-------|-----|-------|
| 1. | _____ | 8. | _____ |
| 2. | _____ | 9. | _____ |
| 3. | _____ | 10. | _____ |
| 4. | _____ | | |
| 5. | _____ | | |
| 6. | _____ | | |
| 7. | _____ | | |

Part 2: Safe Operational Procedures for the Nailer or Stapler

1. Study the operation, maintenance, and safety manual(s) for specific model and type of nailer or stapler.
2. Check the air pressure gauge, lines, and all connections for leaks and proper operation.
3. Operating air pressure for both tools should be between 70 and 100 PSI, 90 PSI will produce best performance. Never exceed 120 PSI for operating a nailer or a stapler.
4. Check the air inlet plug (male connector) and air couplet (female connector) to make sure the plug and coupler match.
5. Connect only male connectors to the tool so high-pressure air can be vented from tool when the line is disconnected. A female quick coupling could trap air in the tool leaving it live for one extra, unexpected shot.
6. Make all adjustments on the tool before loading nails or staples.
7. Lubricate the tool according to manufacturer's recommendation. If oil is added into airline with a lubricator, lubricating the tool will not be necessary; however, the lubricator should be checked on a daily use basis.
8. Select size and type of nails or staples for the machine and the job to be completed.
9. Follow correct procedures for loading the tool. Be sure that airlines are disconnected for loading.
10. The tool should never be used as a hammer or dropped; the tool housing may be cracked or weakened making it unsafe. Do not engrave or stamp the main housing, this could weaken the housing unit.
11. After the tool is cleaned, lubricated, adjusted, and loaded with the proper nails or staples, properly connect the tool to the airline for operation.
12. Carry the tool by the handle only, not by the airline, and keep fingers away from the trigger. Always keep nosepiece aimed toward the ground, and never pointed toward anyone.
13. The tool should be operated only when in contact with the workpiece. Use caution when nailing thin materials or near corners or edges to avoid driving the fastener through or away from the workpiece. The tool should always be placed squarely on the surface or workpiece to be nailed to avoid the danger of fasteners ricocheting off the surface.
14. When not using the tool or if leaving the work area, disconnect it from the airline.
15. Disconnect the airline when attempting to clear a jam or when repairing the tool.
16. Do not attempt to adjust or remove the work contacting element. If it is not working correctly, do not use the tool. This is a "safety" on most nailers or stapler and it will not fire until the element contacts the workpiece.
17. When work is completed, disconnect the unit from the airline, shut off the air supply to the tool hose, and vent the compressed air from the hose with an air nozzle.
18. Remove the fasteners from the tool, clean tool, and place in proper storage.

Part 3: General Safety Practices

1. Wear industrial quality eye protection, hearing protection, and proper clothing when working with this tool.
2. Obtain permission from the instructor to use the air nailer or stapler.
3. Always assume the tool is loaded.
4. Never point the tool at anyone, even if the airline is disconnected.
5. Disconnect airline when not in used or when leaving the work area.
6. Carry the tool only by the handle, not by the hose.
7. Make sure the work-contacting element is in good working order and in contact with the workpiece before depressing the trigger.
8. Use matching air connectors and couplings.
9. Select correct nails or staplers manufactured for the tool.
10. Do not remove or tamper with the work-contacting element.
11. Use only regulated air pressure; never use bottled air or gases to power the tool.
12. Use only recommended air pressure; under pressure operation may be as dangerous as over pressure operation.
13. The nailer and the stapler are a tool, not a toy.

Part 4: Completion questions

1. The recommended air pressure for most air nailers or stapler is _____ PSI.
2. Always assume the tool is _____.
3. The power source for the tool should _____, not bottled air or gas.
4. Carry the tool only by the _____ with the _____ in a safe position.
5. The _____ should always be in contact with the workpiece before the tool is fired.
6. Only _____ connectors should be fitted to the tool.
7. Stamping or engraving on the _____ could weaken the tool causing it to be unsafe.
8. The fasteners are held in the _____ portion of the tool.
9. The tool should be _____ daily unless oil is added directly into the air line.
10. Another name for the air tool is a _____ tool.

Pneumatic Nailer and Stapler Identification and Safety – *Answer Key*

Nailer ID:

1. Trigger
2. Handle
3. Compressed air inlet
4. Follower
5. Magazine
6. Exhaust air outlet
7. Housing
8. Driver
9. Nails
10. Nosepiece

Stapler ID:

1. Trigger
2. Handle
3. Compressed air inlet
4. Follower
5. Magazine
6. Exhaust air outlet
7. Housing
8. Driver
9. Staples
10. Nosepiece

Part 4:

- | | |
|---------------------------|---------------------|
| 1. Between 70 and 100 | 7. The main housing |
| 2. Loaded | 8. magazine |
| 3. Regulated air pressure | 9. lubricate |
| 4. Handle; nosepiece | 10. Pneumatic tool |
| 5. Nosepiece | |
| 6. male | |