Correlation of

***Modern Cabinetmaking,* Molzahn, DeWerd, Umstattd**

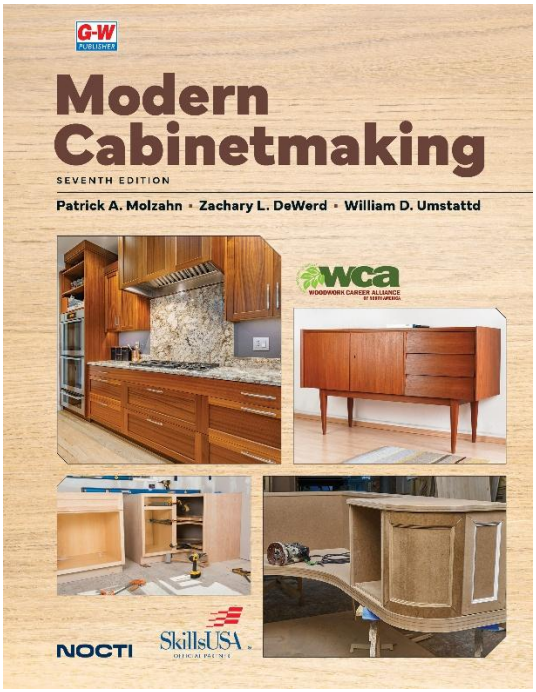
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to

Woodwork Career Alliance: 6. Boring

The content of the text and Lab Workbook correlates to Woodwork Career Alliance (WCA) skill standards. The WCA establishes a benchmark to measure and recognize an individual's skills and knowledge. The WCA skill standards help ensure that students are prepared for rigorous industry standards, and provide a pathway for advancement for professional woodworkers.

The WCA skill standards define the minimum requirements for specific woodworking machine operations. Using the WCA skill standards in a wood training program can help you, your students, and your program obtain industry recognition. The *Modern Cabinetmaking* textbook and Lab Workbook are correlated to the performance standards, helping prepare your students for certification.



Boring Considerations

- Pre-Operation Checklist is a prerequisite for ANY operation.
- Operations are properly guarded.
- Safe hand positions are used.
- Appropriate stance is utilized for optimum balance and part control.
- Sharp appropriate tooling is furnished from the tool room.
- Appropriate and safe feed rate is demonstrated while controlling stock movement.
- Proper evacuation of chips is monitored to prevent bit binding or material burning during operation.
- Proper evacuation of chips is monitored to prevent inaccurate placement, bit binding, or material burning during operation.
- Suitable backing material is available to minimize back blow-out.
- Stock is held securely in position and/or against the fence/stop as appropriate.

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- Stock is held securely against the fence or fixture as appropriate.
- Stock is held securely in position and/or against the fence as appropriate.
- Stock is supported as necessary.
- Proper stance and hand position are demonstrated.
- Demonstrate appropriate feed rate to control cutter movement and waste removal relative to the size and type of material being shaped.
- Drill press is allowed to come up to speed before cutting.
- Depth gauge is adjusted to correct depth and is properly used.
- Drill press is allowed to come to a complete stop prior to changing tooling.
- Drill bits are allowed to come up to speed before cutting.
- Operator clears machine and cleans work area after use.
- Required OSHA-approved personal protective equipment is worn.
- Lock-out/tag-out procedure is in place and followed.
- Process is completed in a timely manner.

Line Bore

Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
Pre-Operation Checklist				
1	—	**Performance Standard 1.** Verifies table, fence, and stops are clear of chips or other obstructions.	Chapter 27	—
1	—	**Performance Standard 2.** Verifies guards, if any, are in place.	Chapter 27	—
1	—	**Performance Standard 3.** Demonstrates knowledge of all machine specific controls.	Chapter 27	—
1	—	**Performance Standard 4.** Verifies dust collection operable/operating, if applicable.	Chapter 27	—
1	—	**Performance Standard 5.** Verifies depth gauge is set securely.	Chapter 27	—
2	—	**Performance Standard 1.** Installs and/or adjusts table, fence, and stop(s).	Chapter 27	—
2	—	**Performance Standard 2.** Installs or adjusts guard, if any.	Chapter 27	—

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
2	—	**Performance Standard 3.** Verifies stock hold downs are working properly.	Chapter 27	—
2	—	Meets Level 1 performance standard.	—	—
Operation—Line Bore Single Set of Holes to Specified Location and Depth				
1	Given stock, machine set up with bits installed, fence, location, and depth stops set, drill a single line of holes in proper position to specified depth and distance from edge and end of stock.	**Performance Standard 1.** All holes are drilled to proper depth ±0.4 mm (1/64") [0.0156"].	Chapter 27	—
1	Given stock, machine set up with bits installed, fence, location, and depth stops set, drill a single line of holes in proper position to specified depth and distance from edge and end of stock.	**Performance Standard 2.** All holes are drilled in proper position from end and edge of stock ±0.4 mm (1/64") [0.0156"].	Chapter 27	—
1	Given stock, machine set up with bits installed, fence, location, and depth stops set, drill a single line of holes in proper position to specified depth and distance from edge and end of stock.	**Performance Standard 3.** All holes are free of tearout at entry point.	Chapter 27	—
1	Given stock, machine set up with bits installed, fence, location, and depth stops set, drill a single line of holes in proper position to specified depth and distance from edge and end of stock.	**Performance Standard 4.** Sides of holes are smooth and free of burn marks.	Chapter 27	—

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
2	Given stock, a specification for starting position of first hole from end of stock, distance from edge of stock, and depth of holes, set up and adjust machine and drill a single line of holes in proper position to specified depth.	**Performance Standard 1.** Selects and sets proper speed for bit and material (if applicable).	Chapter 27	—
2	Given stock, a specification for starting position of first hole from end of stock, distance from edge of stock, and depth of holes, set up and adjust machine and drill a single line of holes in proper position to specified depth.	**Performance Standard 2.** Adjusts fence position and stop(s) properly.	Chapter 27	—
2	Given stock, a specification for starting position of first hole from end of stock, distance from edge of stock, and depth of holes, set up and adjust machine and drill a single line of holes in proper position to specified depth.	**Performance Standard 3.** Adjusts depth stop properly.	Chapter 27	—
2	Given stock, a specification for starting position of first hole from end of stock, distance from edge of stock, and depth of holes, set up and adjust machine and drill a single line of holes in proper position to specified depth.	Meets Level 1 performance standard.	—	—

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Single Spindle Drill Press

Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
Pre-Operation Checklist				
1	—	**Performance Standard 1.** Verifies table, fence, and stops are clear of chips or other obstructions.	Chapter 27	—
1	—	**Performance Standard 2.** Verifies guards, if any, are in place.	Chapter 27	—
1	—	**Performance Standard 3.** Demonstrates knowledge of all machine specific controls.	Chapter 27	—
1	—	**Performance Standard 4.** Verifies dust collection operable/operating, if applicable.	Chapter 27	—
1	—	**Performance Standard 5.** Verifies stock is held securely in position.	Chapter 27	—
1	—	**Performance Standard 6.** Verifies bit is installed securely and in the center of the chuck.	Chapter 27	
1	—	**Performance Standard 7.** Verifies depth gauge, if set, is set securely.	Chapter 27	
2	—	**Performance Standard 1.** Installs and/or adjusts table, fence, and stop(s).	Chapter 27	—
2	—	**Performance Standard 2.** Demonstrates ability to select and change speed appropriately.	Chapter 27	—
2	—	**Performance Standard 3.** Installs or adjusts guard, if any.	Chapter 27	—
2	—	Meets Level 1 performance standard.	—	—
Operation—Drill Holes to Specified Location and Depths				
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position to specified depth.	**Performance Standard 1.** Hole is drilled to proper depth ±0.4 mm (1/64") [0.0156"].	Chapter 27	Section Project 4-2 Section Project 4-7

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position to specified depth.	**Performance Standard 2.** Hole is drilled in proper position ±0.4 mm (1/64") [0.0156"].	Chapter 27	Section Project 4-2 Section Project 4-7
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position to specified depth.	**Performance Standard 3.** Hole is free of tearout at entry point.	Chapter 27	Section Project 4-2 Section Project 4-7
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position to specified depth.	**Performance Standard 4.** Sides of holes are smooth and free of burn marks.	Chapter 27	Section Project 4-2 Section Project 4-7
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position to specified depth.	**Performance Standard 5.** Verifies stock is held securely in position.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	**Performance Standard 1.** Selects and installs proper tooling.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	**Performance Standard 2.** Selects and sets proper speed for bit and material.	Chapter 27	Section Project 4-2 Section Project 4-7

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	**Performance Standard 3.** Adjusts table properly.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	**Performance Standard 4.** Adjusts depth stop properly.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	Meets Level 1 performance standard.	—	—
Operation—Drill Holes Completely Through Material				
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 1.** Hole is drilled to proper depth ±0.4 mm (1/64") [0.0156"].	Chapter 27	Section Project 4-2 Section Project 4-7
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 2.** Hole is free of tearout at entry and exit points.	Chapter 27	Section Project 4-2 Section Project 4-7
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 3.** Sides of holes are smooth and free of burn marks.	Chapter 27	Section Project 4-2 Section Project 4-7

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	**Performance Standard 1.** Selects and installs proper tooling.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	**Performance Standard 2.** Selects and sets proper speed for bit and material.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	**Performance Standard 3.** Adjusts table properly and securely.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	**Performance Standard 4.** Adjusts depth stop properly and securely.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	**Performance Standard 5.** Installs chip breaker backer board or block.	Chapter 27	Section Project 4-2 Section Project 4-7
2	Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position.	Meets Level 1 performance standard.	—	—

Slot Mortiser

Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
Pre-Operation Checklist				
1	—	**Performance Standard 1.** Verifies tool is properly guarded.	Chapter 27	—
1	—	**Performance Standard 2.** Demonstrates knowledge of and proper use of all machine specific controls.	Chapter 27	—

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
1	—	**Performance Standard 3.** Verifies jigs and/or fixtures are secure and operating effectively.	Chapter 27	—
1	—	**Performance Standard 4.** Verifies hold-downs are positioned correctly and function properly.	Chapter 27	—
1	—	**Performance Standard 5.** Verifies dust collection is positioned for effective chip removal.	Chapter 27	—
2	—	**Performance Standard 1.** Verifies cutting tools are secure and free of defects.	Chapter 27	—
2	—	**Performance Standard 2.** Verifies table is free of defects and clean.	Chapter 27	—
2	—	**Performance Standard 3.** Verifies arbor height and table angle are set to specified dimension(s).	Chapter 27	—
2	—	**Performance Standard 4.** Installs cutting tools and verifies cutter rotation.	Chapter 27	—
2	—	**Performance Standard 5.** Installs and properly adjusts required jigs, fixtures, and/or stops.	Chapter 27	—
2	—	**Performance Standard 6.** Verifies fences are set with appropriate clearance to cutter head.	Chapter 27	—
2	—	Meets Level 1 performance standard.	—	—
Operation—Mortise to Location and Depth				
1	Given stock marked for single mortise, machine set up to work with cutter installed, fence, location, and depth stops set, create a slot mortise at the proper location to specified depth.	**Performance Standard 1.** Material is mortised to proper depth, width, and length ±0.4 mm (1/64”) [0.0156”].	Chapter 27	—

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
1	Given stock marked for single mortise, machine set up to work with cutter installed, fence, location, and depth stops set, create a slot mortise at the proper location to specified depth.	**Performance Standard 2.** Material is mortised in proper position ±0.4 mm (1/64") [0.0156"].	Chapter 27	—
1	Given stock marked for single mortise, machine set up to work with cutter installed, fence, location, and depth stops set, create a slot mortise at the proper location to specified depth.	**Performance Standard 3.** Mortise is free of tearout at entry point.	Chapter 27	—
1	Given stock marked for single mortise, machine set up to work with cutter installed, fence, location, and depth stops set, create a slot mortise at the proper location to specified depth.	**Performance Standard 4.** Sides of mortise are smooth and free of burn marks.	Chapter 27	—
2	Given a layout and stock ready to be mortised, set up and adjust machine to mortise in the proper position to specified depth.	Meets Level 1 performance standard.	—	—
Operation—Mortise Completely Through Material				
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 1.** Hole is drilled in proper position ±0.4 mm (1/64") [0.0156"].	Chapter 27	—

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Level	Objective	Performance Standards	Textbook Chapter(s)	Lab Workbook Material
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 2.** Hole is free of tearout at entry and exit points.	Chapter 27	—
1	Given stock marked for single hole to be drilled, machine set up to work with bit installed, fence, location, and depth stops set, drill hole in proper position.	**Performance Standard 3.** Sides of holes are smooth and free of burn marks.	Chapter 27	—

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