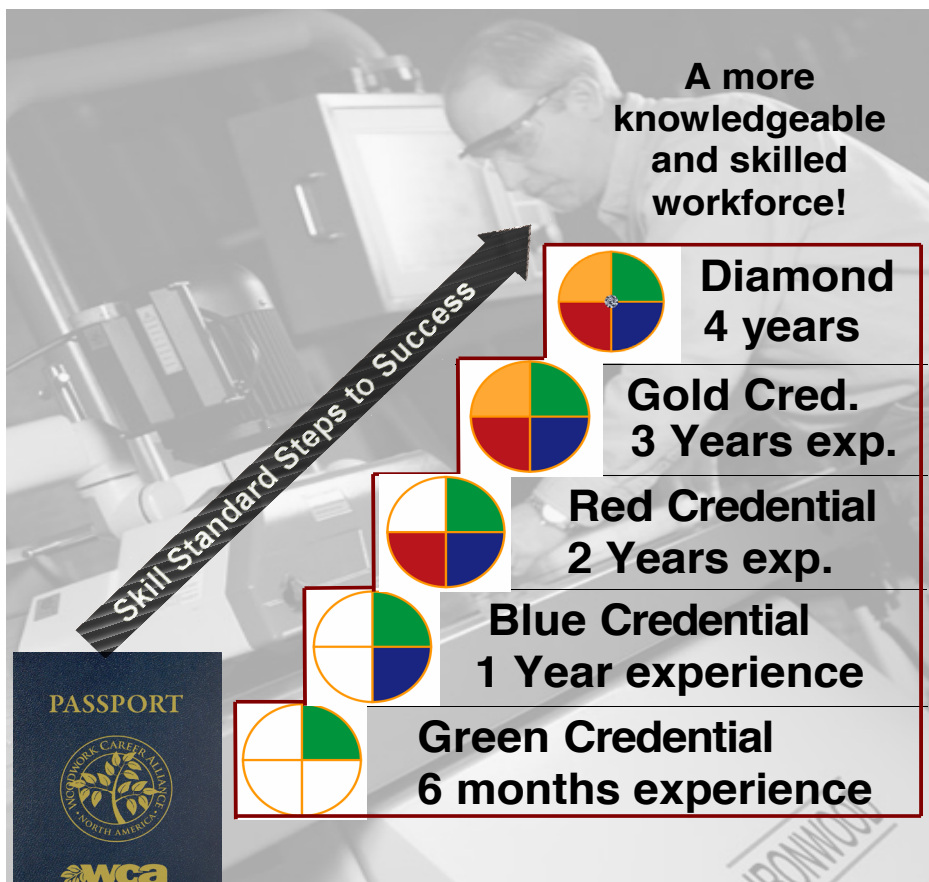


ASE Guidelines

Handbook for WCA Accredited Skill Evaluators & Educators



240 Points
Master Project

180 Points
Gold Project

120 Points
Red Project

60 Points

30 Points

Handbook for WCA Skill Evaluators

This Handbook is prepared for Candidates for *WCA Accredited Skill Evaluator* in recognition of their dedication to our industry, and as a tool and keepsake for future use in their career as a Skill Evaluator.

Select Accredited Skill Evaluators [ASE] will be nominated in the years to come for positions as Accredited Chief Evaluators [ACE]. Some will be invited to become faculty at future sessions, passing their knowledge on to the next generation of Evaluators.

Support and Forums

The Woodwork Career Alliance of North America maintains a number of portals for virtual support of its mission.

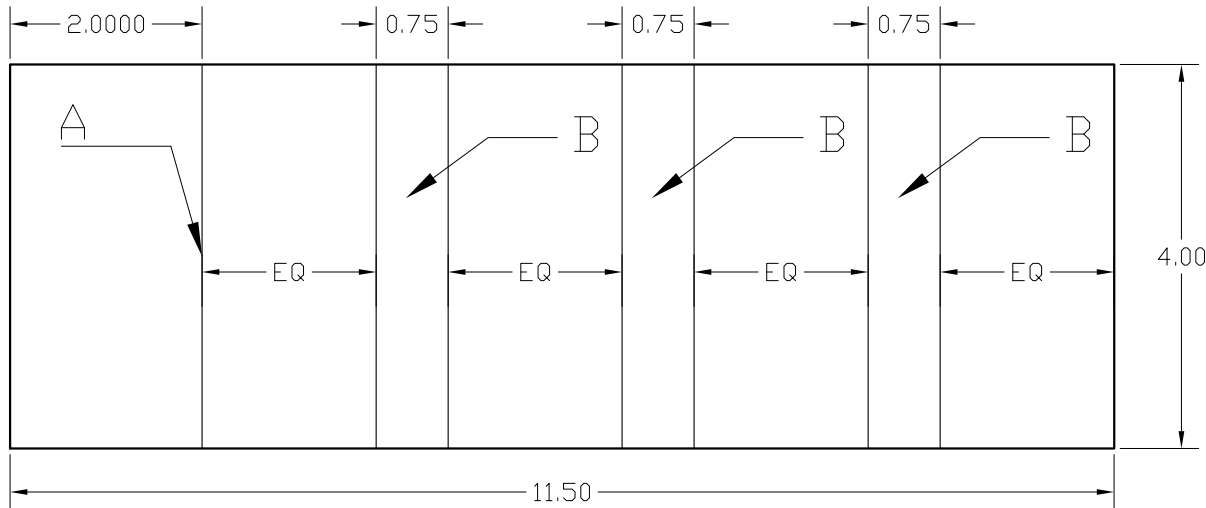
Evaluators will join the internet community through the use of the [Box.com](#) and Web sites listed in the body of this Handbook.

“The future is here,” said William Gibson, “it’s just not widely distributed yet.”

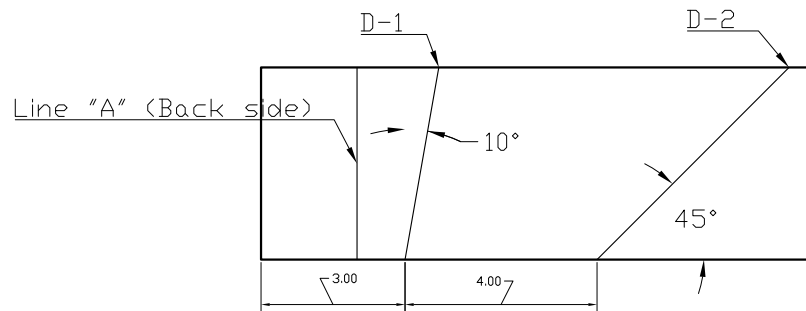


Name:

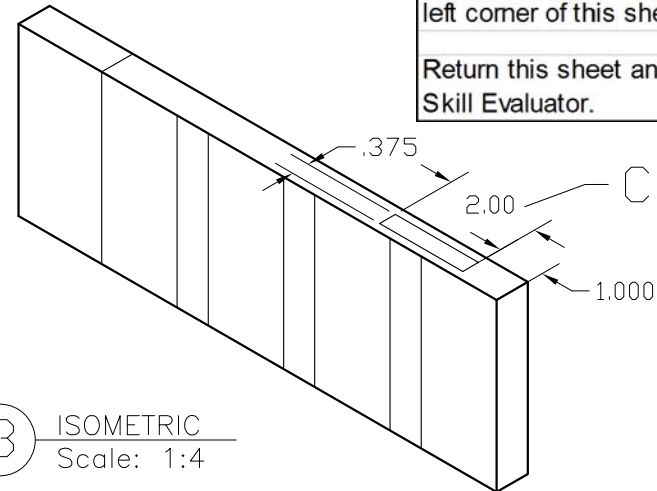
Date:



1 FRONT SIDE of STOCK
Scale: 1:2



2 BACK SIDE of STOCK
Scale: 1:4



3 ISOMETRIC
Scale: 1:4

Instructions:

Complete a review of the General Considerations and accomplish both Level 1 & Level 2 Pre-Operation Checklists with your Evaluator.

Important: Orient the stock correctly!

Perform the following at Level 1:

- Put an "X" on the end of the stock which is not square
- Layout line "A" around all four sides of the stock
- Layout parallel lines "B" as shown
- Layout mortise "C" as shown
- Layout 45° line D-2 as shown

Perform the following at Level 2:

- Layout 10° line D-1 as shown

Enter your name and date in the upper left corner of this sheet.

Return this sheet and the widget to your Skill Evaluator.

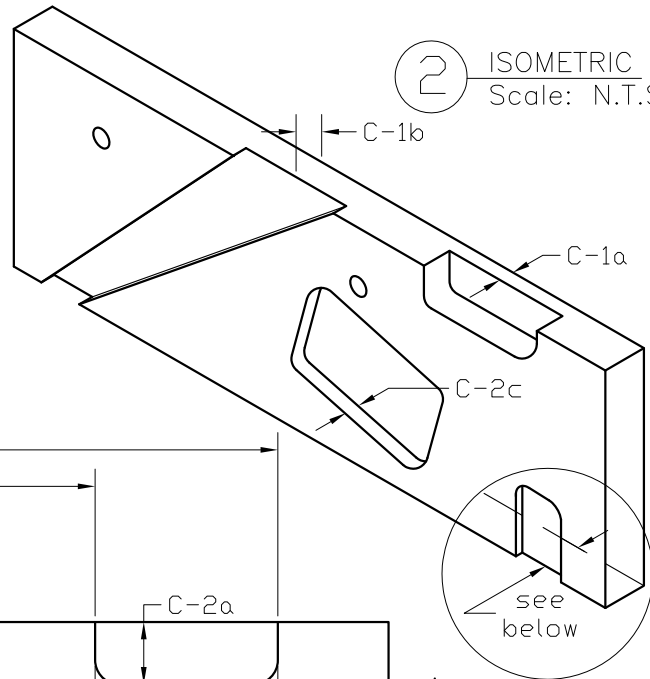


DRAWN BY: Patrick Molzahn
PROJECT: WCA SKILL STANDARDS
DRAWING TITLE: Layout Widget
DATE: 3/05/12

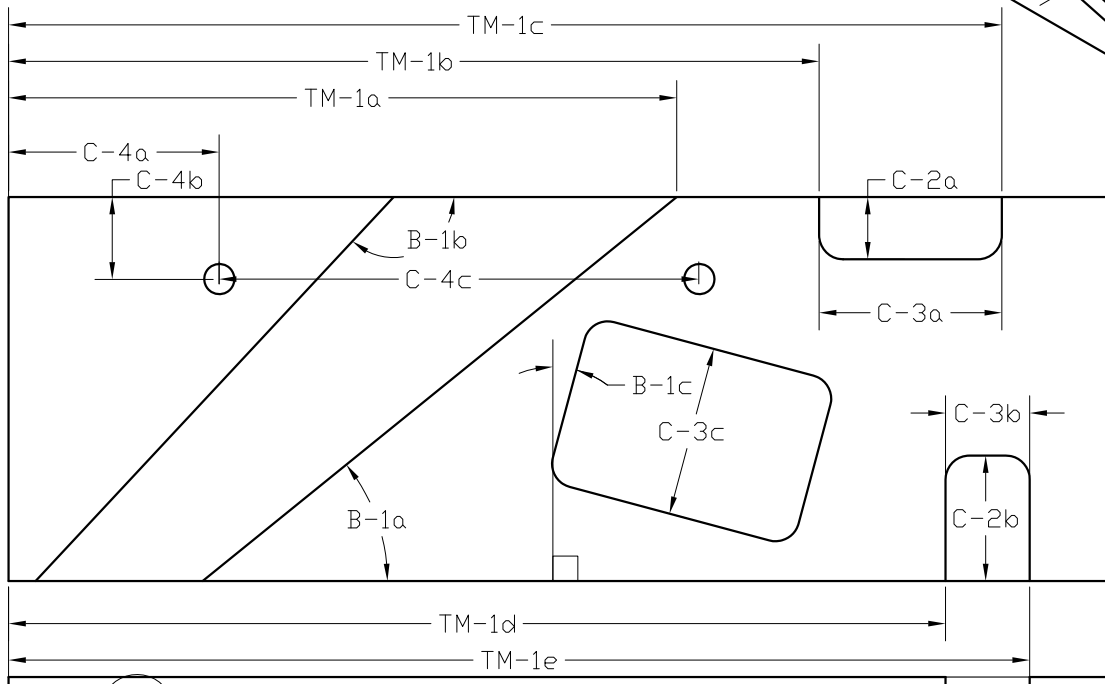
SHEET: 1 of 1
SCALE: As Noted
VERSION: 3

NOTES: Solid Wood Block (Maple)
TOOLS REQUIRED: Tape Measure, Pencil, Bevel & Protractor or Combination Square with Protractor Head, Calculator ok

Name:
Date:
Serial # (if inscribed):



2 ISOMETRIC
Scale: N.T.S.



1 FRONT VIEW
Scale: 1:2

Instructions:		
Using a caliper, record your measurements to the nearest .000"		
Calipers: Measure Thickness		
C-1a	_____	
C-1b	_____	
C-1c	_____	
Calipers: Measure Depth		
C-2a	_____	
C-2b	_____	
C-2c	_____	
Calipers: Inside Dimension		
C-3a	_____	
C-3b	_____	
C-3c	_____	
Calipers: Center Distance		
C-4a	_____	
C-4b	_____	
C-4c	_____	
Tape Measure: Measure Lengths (record your measurements to the nearest 1/32")		
TM-1a	_____	
TM-1b	_____	
TM-1c	_____	
TM-1d	_____	
TM-1e	_____	
Bevel: Measure Angles		
B-1a	_____	
B-1b	_____	
B-1c	_____	



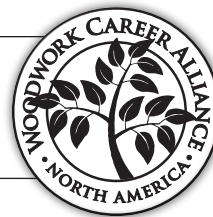
DRAWN BY: P.Molzahn
PROJECT: WCA SKILL STANDARDS
DRAWING TITLE: Measurement Widget
DATE: 5-6-15

SHEET:
SCALE: As Noted
REV #: 5

NOTES: Min. Score 80%
TOOLS REQUIRED: Tape Measure,
Pencil, Calipers, Bevel &
Protractor or Combination
Square with Protractor Head.

A Potential Sequence for Green Level Certification (30 points in 1 day)

A Potential Sequence for Green Level Certification (30 points in 1 day)				
	Machine	Operation	Material Requirements	Notes
***	Layout		3/4x4x11.5 Solid Stock	
***	Measurement		Measurement Widget	
1	Straightline Rip	Rip blanks using laser	1 pc. 4/4 x 6+/- x 72"+/-	
2	Jointer	Face Jointing		Stock length 2x outfeed length
3	Jointer	Edge Jointing 1st edge		
4	Planer	Planing for Thickness		Target Thickness .780"
***Crosscut board to approx 24" lengths				
5	Sliding Panel Saw	Crosscut Solid Lumber	Use 1 piece at 24"	Target Length: 23.5" UNO
6	Widebelt Sander	Sanding Solid Wood	Sand all pieces	Target Thickness .750"; finish at 180 grit; sand 1 piece to 80 grit with cross grain scratches for Random Orbital exercise
7	Table Saw	Rip		Rip 1 piece to 5" and one to 1-1/2"
8	Table Saw	Narrow Rip		Alt. Select from up to 10 additional Table Saw operations
9	Table Saw	Edge Rabbet with a Dado		
10	Portable Router	Edge Profile		Install tooling (NEW 1/4" roundover bit)
11	Drill Press	Drill Holes to Spec'd Location & Depths		
12	Shaper	1/2"x1/2" Rabbet	Approx 3/4x4x21"	
13	Miter Saw	135 degree miter		Use 1.5" stock
14	Random Orbit Sander	Sand Solid Lumber		Use 80 grit cross-grain scratched piece from Widebelt
15	Band Saw	Rough saw parts from a Pattern		Separate Material



02

Sawing

2.5 Straight Line Rip Saw

2.5.2 Rip multiple (3 or more) Solid Stock Blanks to a Specified Width Using a Laser Sight Line.

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded and covered.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Ensures anti-kickback fingers are free of debris and functioning properly.
- ▶ Ensures chain oiler (if equipped) is functioning properly.
- ▶ Verifies dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects and properly installs correct blade.
- ▶ Verifies Chain Groove Insert is intact to prevent fall off from binding
- ▶ Calibrate fence (and laser - if equipped) for alignment with blade
- ▶ Sets fence properly (dimension, parallel to blade and track, properly locked down).
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
- ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
- ▶ Stock is supported at in-feed and out-feed.
- ▶ Blade is completely stopped before clearing jammed materials.
- ▶ Proper stance and hand position are demonstrated.
- ▶ Stock is held securely against the fence (when utilized).
- ▶ Required OSHA approved personal protective equipment is worn.
- ▶ Operator is aware of work zone and safety precautions to others.
- ▶ Correct body posture utilized during machine operation.
- ▶ Operate machine safely, standing clear of kickback zone.
- ▶ Material properly staged at in-feed and out-feed.
- ▶ Clears machine and cleans work area after operation.
- ▶ Lock-out/Tag-out procedure is in place and followed.
- ▶ Criteria/Performance standard requirements will apply to all operations, unless otherwise noted.
- ▶ Material is suitable for its intended purpose and checked prior to cutting for bowing, cupping, twisting, surface cracks, knots, sap, wood worm, grub holes, rocks, staples, nails and gun shot.
- ▶ Initial trimmed cut edge is evident on entire length of material and exhibits smooth uniform saw marks with minimal burning and no back cut heeling.
- ▶ Trimmed edges are straight and parallel.
- ▶ Process is completed in a timely manner.

Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:

Level 2:	Performance standard:
Given material of uniform thickness with an irregular edge and machine set up and ready to use, rip material using a laser sight line.	<input type="checkbox"/> Average outcut thickness < 3 mm (1/8")[.125"] at minimum point. <input type="checkbox"/> Edge is straight to within ±0.4 mm (1/64")[0.0156"] in width along entire length of material.



03

Milling

3.1 Jointer

3.1.1 Face Jointing

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Verifies in-feed and out-feed tables are free of debris prior to machining.
- ▶ Ensures dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Inspects knives for wear or defects.
- ▶ Installs and/or properly adjusts guard.
- ▶ Verifies and/or properly adjusts fence 90° to in-feed/out-feed tables.
- ▶ Verifies out-feed table is set to manufacturer's specification.
- ▶ Sets depth of cut appropriately.
- ▶ Verifies tables are clean and polished to facilitate smooth material movement.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Safe hand position and/or push blocks are used when appropriate.
 - ▶ Appropriate stance is utilized for optimum balance and part control.
 - ▶ Stock is fed in smooth, continuous motion past cutter head.
 - ▶ Grain direction as well as bow/warp are correctly identified and appropriately considered for feed.
 - ▶ Out-feed table is appropriately utilized for purposes of facing/straightening.
 - ▶ Stock is supported at out-feed.
 - ▶ Machine and work area are cleaned after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given rough sawn, unjointed material 900-1200 mm (3-4') long and a width of 100-150 mm (4-6"), a target thickness, and machine set up and ready to cut, face joint material.	<input type="checkbox"/> Face deviation does not exceed ±0.4 mm (1/64") [0.0156"] per foot from a flat plane.	<input type="checkbox"/> Board exhibits minimal tear out.
	<input type="checkbox"/> Face jointed thickness allows for final processing to target thickness.	<input type="checkbox"/> Board is free of snipe.
	<input type="checkbox"/> Machined surface exhibits a uniform smoothness between 15-25 knife cuts per inch (KCPI).	<input type="checkbox"/> No burn or hesitation marks are visible on surface being machined.
		<input type="checkbox"/> Face is marked to indicate jointed surface.

Level 2:	Performance standard:	
Given rough sawn, unjointed material at least twice the length of out-feed table and a width of 100-150 mm (4-6"), a minimum target thickness, set up and adjust machine, face joint material.	<input type="checkbox"/> Meets Level 1 performance standard.	



03

Milling

3.1 Jointer

3.1.2 Edge Jointing First Edge

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Verifies in-feed and out-feed tables are free of debris prior to machining.
- ▶ Ensures dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Inspects knives for wear or defects.
- ▶ Installs and/or properly adjusts guard.
- ▶ Verifies and/or properly adjusts fence 90° to in-feed/out-feed tables.
- ▶ Verifies out-feed table is set to manufacturer's specification.
- ▶ Sets depth of cut appropriately.
- ▶ Verifies tables are clean and polished to facilitate smooth material movement.
- ▶ Meets Level 1 performance standard.

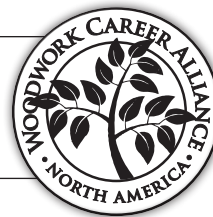
Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Safe hand position and/or push blocks are used when appropriate.
 - ▶ Appropriate stance is utilized for optimum balance and part control.
 - ▶ Stock is fed in smooth, continuous motion past cutter head.
 - ▶ Grain direction as well as bow/warp are correctly identified and appropriately considered for feed.
 - ▶ Out-feed table is appropriately utilized for purposes of facing/straightening.
 - ▶ Stock is supported at out-feed.
 - ▶ Machine and work area are cleaned after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material jointed one face and rough sawn edge, 900-1200 mm (3-4') long and a width of 100-150 mm (4-6"), a minimum target width, and machine set up and ready to cut, edge joint first edge.	<input type="checkbox"/> Edge is 90° to face of board, measured along entire edge.	<input type="checkbox"/> Machined surface exhibits a uniform smoothness between 15-25 knife cuts per inch (KCPI).
	<input type="checkbox"/> Edge deviation does not exceed ±0.4 mm (1/64") [0.0156"] from a flat plane.	<input type="checkbox"/> Edge is free of snipe.
	<input type="checkbox"/> Edge jointed width allows for final processing to target width.	<input type="checkbox"/> No burn or hesitation marks are visible on surface being machined.

Level 2:	Performance standard:	
Given material jointed one face and rough sawn edge, at least twice the length of out-feed table, a minimum target width, set up and adjust machine, edge joint first edge.	<input type="checkbox"/> Meets Level 1 performance standard.	



03

Milling

3.2 Planer

3.2.1 Planing for Thickness

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Verifies dust collection operable/operating.
- ▶ Ensures paths of in-feed and out-feed have no obstructions to material and operator.
- ▶ Staggers loading to ensure entire width of bed is used.
- ▶ Minimum part length is observed.

Level 2

PERFORMANCE STANDARD:

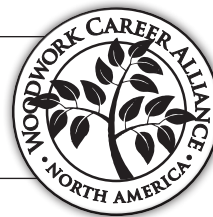
- ▶ Inspects knives for wear or defects.
- ▶ Verifies tables are clean and polished to facilitate smooth material movement.
- ▶ Proper stock removal rates are selected given material type.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Tool/Machine Manufacturer's safety rules and guidelines are followed.
 - ▶ Demonstrates knowledge of and proper use of all machine specific controls.
 - ▶ Material is well supported at both in-feed and out-feed tables.
 - ▶ Spot check dimensions following the operation.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Assesses stock for suitability to determine whether the finished material size can be achieved.
 - ▶ Grain direction is correctly identified and appropriately considered for feed to reduce tear-out.
 - ▶ Similar amounts of material are removed from both faces of the board.
 - ▶ Loose chips and debris are removed from in-feed table before placement of all stock after every pass.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material (flattened on one side), a target thickness greater than 6 mm (1/4") [0.25], feed rate pre-selected, and machine set up and ready to cut, plane material to specified thickness.	<input type="checkbox"/> Final planed surface exhibits minimal tear-out or chip-out. <input type="checkbox"/> Proper incremental adjustment made on each pass to reach specified thickness. <input type="checkbox"/> Sets optimum initial thickness prior to first pass based on maximum thickness or species of material.	<input type="checkbox"/> Final thickness dimension tolerance is ±0.4 mm (1/64") [0.0156"] across entire surface of material. <input type="checkbox"/> Planed surface is free of or has minimal snipe (taking into account what is normal for a given machine).
Level 2:	Performance standard:	
Given material (flattened on one side), a target thickness greater than 6 mm (1/4") [0.25"], set up equipment and plane material to specified thickness.	<input type="checkbox"/> Verifies/sets feed speed to meet surface quality specification - 15-25 knife cuts per inch (KCPI). Variations accepted for accommodation of difficult grain patterns and materials with defects. Any tear-out must be able to be removed without excessive sanding, scraping, etc.	<input type="checkbox"/> Meets Level 1 performance standard.



02

Sawing

2.4 Sliding Table Saw

2.4.2 Cross Cut Solid Lumber

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Ensures splitter/riving knife is in place and aligned with blade (if equipped).
- ▶ Verifies proper throat plate is installed and properly aligned with surface of table (if equipped).
- ▶ Verifies position and condition of scoring blade.
- ▶ Verifies dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects, properly installs and aligns correct main and scoring blades.
- ▶ Installs and properly adjusts blade guard.
- ▶ Correct rotational speed is set according to the diameter blade installed and material being cut.
- ▶ Installs and properly adjusts throat plate (if equipped).
- ▶ Sets fence properly (dimension, parallel to blade, properly locked down).
- ▶ Ensures sliding table operates smoothly and is properly aligned.
- ▶ Installs and properly adjusts splitter/riving knife (if equipped).
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Meets Level 1 performance standard.

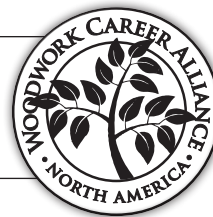
Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, miter gauge, or fixture as appropriate.
 - ▶ Fence is positioned clear of cut-off when crosscutting.
 - ▶ Material is pushed completely past the blade before releasing it.
 - ▶ Clears machine and cleans work area after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material and machine set up and ready to cut, safely crosscut lumber to 90° using crosscut fence with preset stop to a specified length.	<input type="checkbox"/> Dimension tolerance is ±.0.4 mm (1/64") [0.0156"] in length.	<input type="checkbox"/> Cut surfaces exhibit uniform saw marks with minimal burn marks.
	<input type="checkbox"/> Angle of cut is 90° to the face.	<input type="checkbox"/> Ensures both ends are cut square.
	<input type="checkbox"/> Angle of cross-cut is 90° to the edge.	<input type="checkbox"/> Cut is free of tear-out.

Level 2:	Performance standard:
Given material, set up machine to safely crosscut lumber using fence and stops to multiple given lengths.	<input type="checkbox"/> Meets Level 1 performance standard.



07

Sanding

7.2 Wide Belt Sander

7.2.1 Sanding Solid Wood

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies dust collection operable/operating.
- ▶ Ensures paths of in-feed and out-feed have no obstructions to material and operator.
- ▶ Minimum part length is observed.
- ▶ Material is properly supported at in-feed and out-feed.

Level 2

PERFORMANCE STANDARD:

- ▶ Correct sanding head(s) are selected and engaged.
- ▶ Sets optimum initial thickness prior to first pass based on maximum thickness or species of material.
- ▶ Installs appropriate grit/type of belt for given operation.
- ▶ Checks and adjusts (when required) abrasive belt tracking.
- ▶ Verifies proper adjustment of platen(s).
- ▶ Inspects and clears moisture traps and drains.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
- ▶ Tool/Machine Manufacturer's safety rules and guidelines are followed.
- ▶ Verifies tool is properly guarded.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Proper stance and hand position are demonstrated.
- ▶ Inspect for evidence of defective finish conditions such as but not limited to chatter marks, streaking or part hesitation.
- ▶ Spot check sanded dimensions following the operation.
- ▶ Abrasive belt conditions are monitored, analyzed and changed as required.
- ▶ If required select proper program from controller or Programmable Logic Controller (PLC).
- ▶ 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.

Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given machine already set up, adjusted, with material ready, sand to the specified grit and thickness.	<input type="checkbox"/> Correct surface is sanded. <input type="checkbox"/> Proper incremental adjustment made on each pass to reach specified thickness. <input type="checkbox"/> Staggers loading to ensure entire width of belt and bed is used. <input type="checkbox"/> Demonstrates ability to monitor load meter.	<input type="checkbox"/> Pieces fed in correct direction with regard to grain. <input type="checkbox"/> Desired thickness within specified tolerance ± 0.1 mm [0.004"] side to side is achieved. <input type="checkbox"/> Inspects sanded parts for visible defects.

Level 2:	Performance standard:	
Given specifications, set up machine to sand to the specified feed speed, grit and thickness.	<input type="checkbox"/> Proper feed speed selected. <input type="checkbox"/> Sanding heads are set for correct stock removal (grit compensation) if utilizing multiple heads. <input type="checkbox"/> Proper abrasive grit installed.	<input type="checkbox"/> Multiple head machine started in proper sequence and time delay. <input type="checkbox"/> Meets Level 1 performance standard.



02

Sawing

2.1 Table Saw

2.1.1 Ripping

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded and covered.
- ▶ Verifies saw setup using a test piece.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Verifies splitter/ripping knife is in place and aligned with blade (excluding Dado blades).
- ▶ Verifies proper throat plate is installed and properly aligned with surface of table.
- ▶ Verifies dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects and properly installs correct blade.
- ▶ Installs and properly adjusts blade guard.
- ▶ Installs and properly adjusts throat plate.
- ▶ Sets fence properly (dimension, parallel to blade, properly locked down).
- ▶ Installs and properly adjusts splitter/ripping knife.
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Meets Level 1 performance standard.

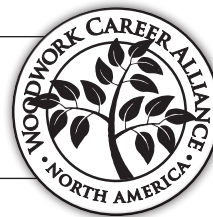
Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, miter gauge, or fixture as appropriate.
 - ▶ Fence is positioned clear of cut-off when crosscutting.
 - ▶ Material is pushed completely past the tooling before releasing it.
 - ▶ Clears machine and cleans work area. Process is completed in a timely manner.
 - ▶ Required OSHA approved personal protective equipment is worn.
 - ▶ Lock-out/Tag-out procedure is in place and followed.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:
Given material with one straight edge and machine set up and ready to cut, rip material to a specified width (> 100 mm [4"]) using the fence.	<input type="checkbox"/> Dimension tolerance is ±0.4 mm (1/64") [0.0156"] in width along entire length of material. <input type="checkbox"/> Angle of cut is 90° to the face. <input type="checkbox"/> Cut surfaces exhibit uniform saw marks with minimal burn marks. <input type="checkbox"/> Cut is free of tear-out.

Level 2:	Performance standard:
Given material with one straight edge, set up machine, and rip material to a specified width (> 100 mm [4"]) using the fence.	<input type="checkbox"/> Meets Level 1 performance standard.



02

Sawing

2.1 Table Saw

2.1.2 Ripping Narrow Stock

(< 13 mm [1/2"]) (< 13 mm [1/2"])

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded and covered.
- ▶ Verifies saw setup using a test piece.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Verifies splitter/riving knife is in place and aligned with blade (excluding Dado blades).
- ▶ Verifies proper throat plate is installed and properly aligned with surface of table.
- ▶ Verifies dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects and properly installs correct blade.
- ▶ Installs and properly adjusts blade guard.
- ▶ Installs and properly adjusts throat plate.
- ▶ Sets fence properly (dimension, parallel to blade, properly locked down).
- ▶ Installs and properly adjusts splitter/riving knife.
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Meets Level 1 performance standard.

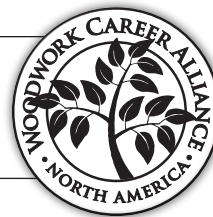
Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, miter gauge, or fixture as appropriate.
 - ▶ Fence is positioned clear of cut-off when crosscutting.
 - ▶ Material is pushed completely past the tooling before releasing it.
 - ▶ Clears machine and cleans work area. Process is completed in a timely manner.
 - ▶ Required OSHA approved personal protective equipment is worn.
 - ▶ Lock-out/Tag-out procedure is in place and followed.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:
N/A	

Level 2:	Performance standard:
Given material with one straight edge, set up machine, Given material with one straight edge, set up machine, install the correct blade, and rip material to a specified width (<= 13 mm [1/2"]) using the fence. Note: Splitter may be removed if necessary. Rip material to a specified width (> 100 mm [4"]) using the fence.	<input type="checkbox"/> Dimension tolerance is ±.0.4 mm (1/64") [0.0156"] in width along entire length of material. <input type="checkbox"/> Cut is free of tear-out. <input type="checkbox"/> Angle of cut is 90° to the face. <input type="checkbox"/> Cut surfaces exhibit uniform saw marks with minimal burn marks.



02

Sawing

2.1 Table Saw

2.1.5 Edge Rabbeting with a Dado Set

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded and covered.
- ▶ Verifies saw setup using a test piece.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Verifies splitter/riving knife is in place and aligned with blade (excluding Dado blades).
- ▶ Verifies proper throat plate is installed and properly aligned with surface of table.
- ▶ Verifies dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects and properly installs correct blade.
- ▶ Installs and properly adjusts blade guard.
- ▶ Installs and properly adjusts throat plate.
- ▶ Sets fence properly (dimension, parallel to blade, properly locked down).
- ▶ Installs and properly adjusts splitter/riving knife.
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, miter gauge, or fixture as appropriate.
 - ▶ Fence is positioned clear of cut-off when crosscutting.
 - ▶ Material is pushed completely past the tooling before releasing it.
 - ▶ Clears machine and cleans work area. Process is completed in a timely manner.
 - ▶ Required OSHA approved personal protective equipment is worn.
 - ▶ Lock-out/Tag-out procedure is in place and followed.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:
Given material and machine set up and ready to cut with sacrificial fence installed, cut an edge rabbet to specified dimensions.	<input type="checkbox"/> Dimension tolerance is ± 0.4 mm (1/64") [0.0156"] (both depth and width of rabbet along entire length). <input type="checkbox"/> Cut is free of tear-out.
	<input type="checkbox"/> Inside corner of rabbet is 90°.
	<input type="checkbox"/> Cut surfaces exhibit uniform saw marks with minimal burn marks.
Level 2:	Performance standard:
Given material, set up machine, cut an edge rabbet along length of material to specified dimensions.	<input type="checkbox"/> Creates or installs a sacrificial fence for the operation.
	<input type="checkbox"/> Meets Level 1 performance standards.



04

Shaping

4.7 Portable Router

4.7.1 Edge Profile

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Ensures operational path has no obstructions to material and operator.
- ▶ Verifies sole plate is installed correctly and tight.
- ▶ Verifies depth adjustment bolt is securely tightened.
- ▶ Verifies depth collar functions smoothly.
- ▶ Verifies jigs and/or fixtures are secure and operating effectively.
- ▶ Verifies switch is off before plugging in tool.

Level 2

PERFORMANCE STANDARD:

- ▶ Verifies collet and collet seat are clean and in good condition.
- ▶ Assures cutting tool shank is straight and true.
- ▶ Installs cutting tool properly.
- ▶ Verifies cutting tools are secure and free of defects.
- ▶ Verifies live bearing is clean and properly lubricated.
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Verifies face plate is free from obstructions, and calibrated to 90° with cutter.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
- ▶ Tool/Machine Manufacturer's safety rules and guidelines are followed.
- ▶ Stock is supported and secured from movement.
- ▶ Hands remain firmly on router throughout entire cut.
- ▶ Router is moved in smooth, continuous motion.
- ▶ Appropriate stance and hand position are utilized for optimum balance and part control.
- ▶ Router bit pointed away from body after completion of a cut.
- ▶ Appropriate direction of feed is used to prevent loss of router control (no climb cutting unless explicitly specified).
- ▶ Entrance and exit are clean and straight.
- ▶ Clears machine and cleans work area after operation.
- ▶ Required OSHA approved personal protective equipment is worn.
- ▶ Disconnect procedure is in place and followed by everyone.
- ▶ Process is completed in a timely manner.

Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material and machine set up and ready to operate, use a 6 mm (1/4") [0.25"] carbide quarter round bit with live bearing, machine quarter round profile on 1 edge and both ends of a solid wood board.	<input type="checkbox"/> No shoulder present in finished piece. <input type="checkbox"/> Shaped surfaces exhibit minimal tear-out.	<input type="checkbox"/> Machined surfaces exhibit a uniform smoothness with minimal burning or hesitation marks. Variations accepted for accommodation of difficult grain patterns and materials with defects.

Level 2:	Performance standard:	
Given material, set up equipment with 6 mm (1/4") [0.25"] carbide quarter round bit with live bearing, machine quarter round profile on 1 edge and both ends of a solid wood board.	<input type="checkbox"/> Meets Level 1 performance standard.	



06

Boring

6.1 Single Spindle Drill Press

6.1.1 Drill Holes to Specified Location and Depths

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies table, fence, and stops are clear of chips or other obstructions.
- ▶ Verifies guards, if any, are in place.
- ▶ Demonstrates knowledge of all machine specific controls.
- ▶ Verifies dust collection operable/operating, if applicable.
- ▶ Verifies stock is held securely in position.
- ▶ Verifies bit is installed securely and in the center of the chuck.
- ▶ Verifies depth gauge, if set, is set securely.

Level 2

PERFORMANCE STANDARD:

- ▶ Installs and/or adjusts table, fence, and stop(s).
- ▶ Demonstrates ability to select and change speed appropriately.
- ▶ Installs or adjusts guard, if any.
- ▶ Meets Level 1 performance standard.

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 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 as appropriate.
 - ▶ 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.
 - ▶ 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 completed in a timely manner.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
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.	<input type="checkbox"/> Hole is drilled to proper depth ± 0.4 mm (1/64") [0.0156"].	<input type="checkbox"/> Sides of holes are smooth and free of burn marks.
	<input type="checkbox"/> Hole is drilled in proper position ± 0.4 mm (1/64") [0.0156"].	
	<input type="checkbox"/> Hole is free of tear-out at entry point.	

Level 2:	Performance standard:	
Given stock marked for hole(s) to be drilled, set up and adjust machine, drill hole(s) in proper position to specified depth.	<input type="checkbox"/> Selects and installs proper tooling.	
	<input type="checkbox"/> Selects and sets proper speed for bit and material.	
	<input type="checkbox"/> Adjusts table properly.	
	<input type="checkbox"/> Adjusts depth stop properly.	
	<input type="checkbox"/> Meets Level 1 performance standard.	



04

Shaping

4.1 Spindle Shaper

4.1.1 Rabbeting

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Demonstrates knowledge of and proper use of all machine specific controls.
- ▶ Ensures paths of in-feed and out-feed have no obstructions to material and operator.
- ▶ Verifies jigs and/or fixtures are secure and operating effectively.
- ▶ Verifies hold-downs are positioned correctly at in-feed and out-feed for clearance to feed material.
- ▶ Verifies dust collection is positioned for effective chip removal.

Level 2

PERFORMANCE STANDARD:

- ▶ Verifies cutting tools are secure and free of defects.
- ▶ Installs cutting tool properly and verifies cutter rotation.
- ▶ Sets spindle rotation correctly.
- ▶ Sets spindle speed correctly.
- ▶ Verifies feed table is free of defects and clean.
- ▶ Verifies spindle height and/or angle are set to specified dimension(s).
- ▶ Installs and properly adjusts required jigs and fixtures.
- ▶ Adjusts In-feed and out-feed fences to yield correct profile with smooth entry into and exit from part.
- ▶ Sets In-feed and out-feed fences with appropriate clearance to cutter head.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Stock is fed in smooth continuous motion past tooling with proper feed rate while controlling stock movement and waste removal.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Material is fed against the cutter rotation when hand feeding.
 - ▶ Grain direction is correctly identified and appropriately considered for feed to minimize tear-out.
 - ▶ Demonstrate appropriate feed rate to control stock movement and waste removal relative to the size and type of material being shaped.
 - ▶ Stock is held securely against the fence, miter gauge, or fixture as appropriate.
 - ▶ Material is pushed completely past the tooling before releasing it.
 - ▶ Clears machine and cleans work area after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material and machine set up and ready to operate, shape a 12.7 x 12.7 mm (1/2 x 1/2") rabbet in edge of a 530 mm (21") board.	<input type="checkbox"/> Loads material with appropriate edge and face towards cutter head and table surface.	<input type="checkbox"/> Shaped surfaces exhibit a uniform smoothness, 15-25 knife cuts per inch. (KCPI), with no burning or hesitation marks.
	<input type="checkbox"/> Dimension tolerance of ±0.4 mm (1/64") [0.0156"] is held for the entire length of the rabbet.	
Level 2:	Performance standard:	
Given material, set up equipment with cutting tool, shape a 12.7 x 12.7 mm (1/2 x 1/2") rabbet in edge of a 530 mm (21") board.	<input type="checkbox"/> Meets Level 1 performance standard.	



02

Sawing

2.3 Portable Power Miter Saw

2.3.4 Cutting 135° Miter

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies blade guard is functioning properly.
- ▶ Confirms blade is installed securely.
- ▶ Confirms tables are level and square to fence.
- ▶ Ensures fence is free of obstruction in both directions.
- ▶ Verifies ample clearance for material movement in both directions.

Level 2

PERFORMANCE STANDARD:

- ▶ Calibrates stops (if equipped).
- ▶ Verifies/adjusts miter/bevel scales, ensuring they are properly calibrated.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Demonstrates knowledge and proper use of all machine specific controls.
 - ▶ Stock is supported at out-feed.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, jig or fixture as appropriate.
 - ▶ Fall off is not allowed to clutter outfeed table.
 - ▶ Clears machine and cleans work area after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material and saw set up and ready to operate, cut profiled trim pieces to create an assembly totaling 135°.	<input type="checkbox"/> Combined angular tolerance (both pieces) ±0.5°.	<input type="checkbox"/> Cut is free of tear-out on exposed face of joint.
	<input type="checkbox"/> Profiled faces are flush when joined together.	
	<input type="checkbox"/> Dimension tolerance is ±0.4 mm (1/64") [0.0156"].	
	<input type="checkbox"/> Cut surfaces exhibit uniform saw marks without burn or defects.	

Level 2:	Performance standard:	
Select material and set up saw to cut profiled trim pieces to create an assembly totaling 135°.	<input type="checkbox"/> Correct blade installed and saw bed is clean.	<input type="checkbox"/> Meets Level 1 performance standard.
	<input type="checkbox"/> Saw fence is free from obstructions, and calibrated accurately at correct angle setting.	
	<input type="checkbox"/> Side tables are level and square.	



07

Sanding

7.4 Random Orbital Sander

7.4.1 Sand Flat Pieces of Solid Lumber

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is cleaned of excess sanding dust.
- ▶ Inspects condition of sanding pad.
- ▶ Confirms integrity of electrical or pneumatic connection.

Level 2

PERFORMANCE STANDARD:

- ▶ Maintains bearings and sanding pad.
- ▶ Maintains switches and connections.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Part table is flat and free of debris and defects.
 - ▶ Available dust control methods are used.
 - ▶ Equipment is cleaned with compressed air, when available, or bench brush prior to beginning.
 - ▶ Particle filtration (dust) mask is worn.
 - ▶ Parts are cleaned of grit and dust prior to sanding with the next finer grit.
 - ▶ Operator cleans tool and work area after use.
 - ▶ Required OSHA approved personal protective equipment is worn.
 - ▶ Lock-out/Tag-out procedure is in place and followed by everyone.
 - ▶ Process is completed in a timely manner.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:	
Given material and machine set up to operate, sand part(s) through specified sequence of progressively finer grits.	<input type="checkbox"/> A dimensional tolerance of ± 0.4 mm (1/64") [0.0156"] from flat is maintained.	<input type="checkbox"/> Pronounced orbital sanding marks are not present.
	<input type="checkbox"/> Edges are crisp, no apparent round over.	
	<input type="checkbox"/> All scratches, nicks and machining defects are removed.	

Level 2:	Performance standard:	
Given material and selection of abrasives, set up machine to sand part(s) through the appropriate sequence of progressively finer grits to a specified final grit.	<input type="checkbox"/> Inspects part for minimum defects suitable for the finish desired.	<input type="checkbox"/> Meets Level 1 performance standard.
	<input type="checkbox"/> Uses appropriate grits and compositions of sand paper for given operation.	
	<input type="checkbox"/> Installs sand paper on the device to maximize paper life.	



02

Sawing

2.2 Band Saw

2.2.1 Rough Saw Parts from a Pattern

Candidate Name: _____ Date/Time: _____

Evaluator Name: _____ Location: _____

Completed test successfully: Yes No (If no, reason:) _____

Pre-Operation Checklist

Level 1

PERFORMANCE STANDARD:

- ▶ Verifies tool is properly guarded.
- ▶ Verifies proper throat plate is installed and properly aligned with surface of table.
- ▶ Ensures dust collection operable/operating.

Level 2

PERFORMANCE STANDARD:

- ▶ Selects and properly installs correct blade.
- ▶ Installs and properly adjusts blade guard assembly to within 6 mm (1/4") [0.25"] of the given material.
- ▶ Installs and properly adjusts throat plate.
- ▶ Installs, adjusts and securely locks rip fence to specified measurement.
- ▶ Sets fence properly (dimension, parallel to blade, properly locked down).
- ▶ Verifies/corrects table at proper angle to blade.
- ▶ Meets Level 1 performance standard.

Considerations:

- ▶ Pre-Operation Checklist is a prerequisite for ANY operation.
 - ▶ Demonstrates knowledge and proper use of all machine specific controls.
 - ▶ Stock is fed in smooth continuous motion past blade with proper feed rate while controlling stock movement and waste removal.
 - ▶ Stock is supported at out-feed.
 - ▶ Push stick is used when required.
 - ▶ Blade is completely stopped before reaching to the rear or over it.
 - ▶ Proper stance and hand position are demonstrated.
 - ▶ Stock is held securely against the fence, jig or fixture as appropriate.
 - ▶ Material is pushed completely past the blade before releasing it.
 - ▶ Fall off is not allowed to clutter out-feed table.
 - ▶ Clears machine and cleans work area after operation.
 - ▶ 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.
- Please use back side for additional notes

Operation Checklist

Level 1:	Performance standard:
Given material, a pattern of a finished part, and machine set up and ready to cut, trace the pattern on the part and make the cut.	<input type="checkbox"/> Part is sawn out to required shape +1.6/-0 mm (1/16") [0.0625"] around entire part. <input type="checkbox"/> Cut is free of tear-out. <input type="checkbox"/> Angle of cut is 90° to the face. <input type="checkbox"/> Cut surfaces exhibit uniform saw marks with minimal burn marks.

Level 2:	Performance standard:
Given material, machine, and a pattern of a finished part, set up the saw, trace the pattern on the part, and make the cut.	<input type="checkbox"/> Meets Level 1 performance standard.