

Setting up and Running the CNC Router to Level 1 Performance Standards



Review the following level 1 WCA Skill Standards Pre-Operation Checklist. (They can also be found in the WCA Skill Standards book on page 156.)

Level 1:

- a. Verifies machine is properly guarded and safety mechanisms are in place and positioning.
- b. Demonstrates knowledge of and proper use of all machine specific controls.
- c. Verifies vacuum pod Gaskets or table surface gaskets are free of cuts, tears, and defects.
- d. Inspects material for nails, staples or foreign materials before processing.
- e. Verifies scrape and offal is removed from the machine prior to processing material.

Nested-Based CNC Machining Center Level 1-Routing Activity

Given a CNC Nested base machine that is properly set up and adjusted, calibrated with the correct CNC G&M code program, tooling, and stock present, machine the parts.

Performance Standard

Part is machined to within the dimensional tolerance of plus/minus 0.1 mm or 0.004”.

CNC Routing Activity Steps

1. Student will set up smart phone in video stand and start recording with themselves, the CNC router, and the controller in view of the camera.
2. Student will verbally and with action verify that all pre-operation checklist items are adhered to at the CNC Router.
3. Student will verify the pre-loaded G&M code program and place the material onto the CNC router spoilboard in the proper location.
4. Student will activate vacuum switch to secure part to spoilboard.
5. Student will run the program and machine part.
6. Student will verify with a digital caliper that the part is within spec.
7. Student will email video link to teacher when completed.
8. Video must 7 minutes or less in length.

Grading Rubric-points assigned to each task:

SPECIFICATION/TASK/SKILL	POINTS POSSIBLE	POINTS EARNED
Student talked about/demonstrated all five pre-operation checklist items	15	
Student set up smart phone in stand and record the activity with themselves, the CNC Router, and the controller in view.	5	
Student verified the G&M code program at CNC router.	5	
Student made sure the part was in proper placed	5	
Student will active vacuum to secure part to spoilboard	5	
Student ran the G&M code program and machined the part	5	
Student verified the machined part was within tolerance spec.	5	
Student emailed video link to teacher	5	
Video was 5 minutes or less	5	
TOTAL POINTS	55	