



Australian Government

Assessment Requirements for FWPCOT3289 Load and prove operating program for CNC machine

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has loaded and proved the operating program for a computer numerical control (CNC) machine and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- selected the correct CNC program file for the job
- loaded the operating program
- proved the operating program
- checked that all safety mechanisms are in place and that the machine is set correctly for the required operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation CNC machines
- benefits of CNC machines
- type of products produced using CNC machines
- operational program software
- computing coding language used in the CNC programs being used
- function keys and operating system of the machine computer control system being operated
- procedures for accessing computer-controlled programs installed in the machine controller, including:
 - posting appropriate program to the machine
 - selecting tool specified by the program and for the material to be machined
 - selecting appropriate speeds and feeds

- hazards associated with loading and proving programs for CNC machines
- safety precautions to be taken when loading and proving operating programs for CNC machines
- methods for:
 - starting and stopping the machine in normal and emergency situations
 - handling and storing program files
 - loading, executing, editing and exiting operating programs
 - setting machine datums for each machine axis being used
 - identifying and dealing with error messages and faults on program or computer-controlled machine
 - placing the machine into correct operating mode and accessing program edit facility, in order to enter tooling data such as tool datums, positions, lengths, offsets and radius compensation
 - using tool posts, magazines and carousels and identifying the tools in relationship to the operating program
 - conducting trial runs, using single block run, dry run and feed and speed override controls
 - interpreting first and third angle drawings, metric measurements, workpiece reference points and system of tolerancing
 - checking before machine is operated in full program run mode
 - expressing machine tool and workpiece movements in terms of Cartesian coordinates
- purpose of tool compensation, including tool diameter, wear, nose radius, tool length
- industry standard profiles, lengths, cross-sections and tolerances and applicable terminology.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC machine
 - CNC operating program
 - personal protective equipment (PPE) for loading and proving operating programs for CNC machines
 - template documents for recording outcomes of setting up and calibration activities
- specifications:
 - manufacturer instructions for loading and proving program for CNC machine
 - work order with specific instructions for loading and proving program for CNC machine
 - workplace procedures for loading and proving program for CNC machine.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>