LMFFT4005B Install and commission CNC software

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the installation and commissioning of CNC process and machine control programs in the furnishing industry.

Application of the Unit

Application of the unit	

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for software installation	1.1. Program format and operational intent is accurately determined and required applications identified
	1.2. Specifications are checked for required operating conditions
	1.3. Program instructions are checked for compliance with specifications
	1.4. Software timers are set to specification where required
2. Install automatic process machine control program	2.1. Appropriate program loading technique is selected
	2.2. External loading devices are correctly connected to automatic process machine control systems
	2.3. Machine control system is placed in correct operational mode to accept program loading
	2.4. Program is downloaded in accordance with manufacturer recommended procedure and enterprise requirements
	2.5. Checks are made during and after downloading to ensure accurate and complete data transfer
	2.6. External program loading devices and connections are disconnected from process and machine control system
3. Commission automatic process and machine control program	3.1. Operation of the equipment using the program is observed
	3.2. Outputs are checked and measured for compliance with specifications
	3.3. External inputs are checked for compliance with specifications, according to specified procedures
	3.4. Total operation is checked for compliance with specifications where applicable
	3.5. Location of program master copy storage is confirmed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
- collect, organise and understand information related to CNC installation and commissioning, including the relevant technical, regulatory, environmental and safety requirements   - communicate ideas and information to enable clarification of the requirements, coordination of work with site managers, supervisors, and other workers, and the reporting of work outcomes and problems   - plan and organise activities, including the preparation and layout of the worksite and the coordination of equipment, systems and materials to avoid any back tracking, workflow interruptions or wastage   - work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity   - use mathematical ideas and techniques to correctly complete measurements and calculations required during the installation and commissioning   - create and apply systematic problem solving techniques to anticipate installation and commissioning problems, avoid reworking and avoid wastage   - use the workplace technology related to the installation and commissioning, including calculators, measuring devices and other computing/computer-aided systems
Required knowledge
- computer science theory   - CNC control system characteristics, applications and limitations   - procedures and techniques for programming CNC equipment   - operation requirements of equipment and work systems to be programmed

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	

Critical aspects of evidence	• Locate, interpret and apply relevant information
	• Apply safety requirements throughout the sequence, including the use of personal protective clothing and equipment
	• Install and commission CNC software on at least two different machines and
	  • identify requirements of tasks and organise work to achieve goals and results
	  • select and install software programs for the CNC equipment
	  • select and apply appropriate loading techniques
	  • check and adjust machine operations and programming
	  • suggest improvements to CNC controlled operations and where authorised, negotiate changes
	• Modify activities to cater for variations in workplace cultures and environment
	• Work effectively with others

Resource implications	CNC equipment, software, production materials.
Method of assessment	Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts. Assessment should be by direct observation of tasks and questioning on underpinning knowledge. Assessment should be conducted over time and may be in conjunction with assessment of other units of competency
Context of assessment	Assessment may occur on the job or in a workplace simulated facility with relevant process equipment, materials, work instructions and deadlines.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Unit scope	• This unit covers the work involved in installing and commissioning of CNC process and machine control programs used in the furnishing industry • The installation and commissioning of CNC programs is undertaken in accordance with established enterprise procedures, and practices may include requirements recommended by manufacturers/developers
Unit context	• OHS requirements include legislation, building codes, material safety management systems, hazardous substances and dangerous goods codes and safe operating procedures • Work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, authorised handling procedures and organisation insurance requirements • Work requires individuals to demonstrate analytical and organisational ability, judgement and problem solving skills
Workplace environment	• Work may involve individual and team related activities in workplaces where the CNC equipment is either new or being substantially upgraded • Work is generally performed without other qualified assistance • Customers are normally internal
Machines	Machines requiring CNC software installation and commission include individual production/manufacturing or treatment machines and processing and machining centres
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulations and

RANGE STATEMENT	
	enterprise policies and practices
Information and procedures	• Manufacturer specifications and instructions • Procedures for installing and commissioning CNC programs • Organisation work specifications and requirements • Legislation/regulation/national and industry codes and practices relevant to the installation and commissioning • Quality and Australian standards and procedures

Unit Sector(s)

Unit sector	Furnishing Technology

Competency field

Competency field	

Co-requisite units

Co-requisite units		