



Australian Government

MSTTX3011 Set up, adjust and monitor a machine for TCF production

Release: 1

MSTTX3011 Set up, adjust and monitor a machine for TCF production

Modification History

Release 1. Supersedes:

- LMTTX3011A Set up, adjust and maintain circular knitting machines
- LMTTX3012A Set up, adjust and maintain flat knitting machines
- LMTTX3013A Set up, adjust and maintain spinning machines
- LMTTX3014A Set up, adjust and maintain carding machines
- LMTTX3015A Set up, adjust and maintain tufting looms
- LMTTX3016A Set up, adjust and maintain domestic sewing machines
- LMTTX3020A Identify and correct weaving process faults
- LMTTX3021A Apply knowledge of weaving processes to production requirements
- LMTTX3022A Set up and operate weaving looms for production

Not equivalent

Application

This unit of competency covers the skills and knowledge required to set up, adjust and monitor machines used in a textile enterprise. It includes set up for production and the conduct of sample runs, problem solving, repair and preventative maintenance.

This unit of competency applies to the operation of one or more machines and the repair, adjustment, maintenance and testing of the machine/s to ensure efficient working order. Discretion and judgement may be required, for both self and others, in planning and selecting processes, procedures or outcomes.

The application of the unit and the evidence requirements may focus on one or more industry sectors or workplace contexts and will be determined by operational conditions and production requirements.

This unit does not cover all repair and adjustment functions associated with the machine operation. Skills not covered by this unit include repairs or adjustments associated with general engineering (fitting), electrical and electronic systems, and fluid power systems, according to the nature of the set up, repair or adjustment, and the workplace practices of a particular enterprise.

Work may be conducted in a variety of environments, such as operational workplace activities, restricted space, hazardous, controlled or exposed conditions.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Textile production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--|-----|---|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| | | | |
| 2 | Prepare to set up, adjust and maintain machines | 2.1 | Interpret specifications and production requirements to determine required machine settings for textile product |
| | | 2.2 | Interpret, reference and apply documentation relating to machine settings, operation and maintenance, according to the needs of the task |
| | | 2.3 | Select, prepare and use tools appropriate for the machine and task to set up machine for operation |
| | | 2.4 | Set up machine according to required specifications for operation or product change, including fixing required attachments and operation run at optimum quality and efficiency levels |
| | | 2.5 | Identify and undertake preliminary operations, as required, and follow required procedures to prepare materials and equipment |
| | | 2.6 | Instruct machine operators of any special operating requirements |

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|---|---|-----|---|
| 3 | Test machine settings | 3.1 | Start, operate, stop, re-start and monitor machine operations in accordance with manufacturer requirements to produce textile material or product |
| | | 3.2 | Operate machine in accordance with manufacturer and workplace instructions to test settings against specifications and operational standards |
| | | 3.3 | Examine textile materials, fibres, yarn, product or sample to identify required adjustments to machine settings or pattern specifications |
| | | 3.4 | Conduct or organise quality tests as required to ensure optimal production outcomes are achieved |
| | | 3.5 | Identify and document required adjustments, and adjust machine settings accordingly |
| | | | |
| 4 | Diagnose problems | 4.1 | Monitor machine operation to assess operational efficiency and safe operation in accordance with workplace procedures |
| | | 4.2 | Communicate with operator to identify the nature and extent of machine or faults |
| | | 4.3 | Assess product to identify faults, and examine textile product to assess possible impact on operational problems |
| | | 4.4 | Identify and analyse problems and faults to determine root cause |
| | | 4.5 | Establish fault diagnosis and determine strategy for repair, including replacement of yarn or parts, or refer to relevant personnel |
| | | | |
| 5 | Operate machine and communicate outcomes | 5.1 | Return machine to optimal performance through repair of faulty operation or replacement of fibres, yarn or machine parts |
| | | 5.2 | Test machine and produce sample to ensure problems have been fixed |
| | | 5.3 | Set machine to run at optimum quality and efficiency levels to produce required quantity and quality of |

product

- 5.4 Set electronic process monitoring safely and to correct functions, as required
- 5.5 Maintain records and prepare reports, where necessary
- 5.6 Document adjustments to machines and patterns and communicate to appropriate personnel
- 5.7 Document operational instructions

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Workplace procedures include one or more of the following:**
- requirements prescribed by legislation, awards, agreements and conditions of employment
 - SOPs
 - work instructions
 - PPE
 - oral, written and visual communication
 - quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
 - housekeeping
 - tasks related to environmental protection, waste disposal, pollution control and recycling
 - WHS practices

- Australian Standards include:**
- the relevant industry or Australian Standards that are current at the time this unit is being undertaken

WHS practices:

WHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and include one or more of the following:

- hazard identification
- induction training
- hazard control
- risk assessment
- implementing risk reduction measures specific to the tasks
- manual handling techniques
- SOPs
- PPE
- safe materials handling
- taking of rest breaks
- ergonomic conditions of workplace
- following marked walkways
- safe storage of equipment
- housekeeping to keep work area safe
- reporting accidents and incidents
- environmental practices
- safe disposal of chemical and hazardous substances

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>

Assessment Requirements for MSTTX3011 Set up, adjust and monitor a machine for TCF production

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices, manufacturer operational guidelines
- applying relevant standards
- interpreting production specifications accurately
- performing sample runs and analysing results to ensure quality outcomes
- identifying and correcting product related faults and making repairs or corrections, within scope of own responsibilities and manufacturer operational guidelines
- identifying and making appropriate machine readjustments and repairs, according to own responsibilities, workplace procedures and manufacturer specifications, on at least two (2) occasions
- starting, operating, stopping, re-starting and monitoring at least one (1) machine in accordance with manufacturer requirements to produce textile material or product, on at least two (2) occasions
- determining root cause and solving operational problems or referring to relevant personnel
- setting and operating machine safely and correctly to run at optimum quality and efficiency levels to produce required quantity and quality of product
- applying work health and safety (WHS) and workplace procedures
- maintaining accurate records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- setting up and adjustment requirements for the identified machine
- specifications for operation of particular machines
- textile production machines and equipment used in the enterprise:
 - machines for knitting :
 - circular knitting machines
 - electronic and automatic flat knitting machines
 - machines for spinning:
 - spinning machines
 - drawing machines
 - roving machines
 - twisting machines
 - winding machines
 - carding machines:
 - burr handling systems
 - air filtration equipment
 - combs
 - doffer waste system
 - blending systems
 - compressed air and hydraulic systems
 - tufting looms:
 - winding machines
 - finishing equipment
 - other ancillary equipment
 - domestic sewing machines:
 - lockstitch and chain stitch sewing machines
 - overlock sewing machines and sergers
 - high volume automatic and manually operated hem, selvedge and embroidery sewing machines
 - weaving machines:
 - weaving looms
 - broadloom
 - narrowloom
 - all shuttle types
 - Jacquard looms
 - microprocessor or computer-controlled looms
 - dyeing machines
 - finishing machines
 - ancillary machines typically used in the textile production sector concerned, including:

- production and service equipment used in the enterprise
- loading and unloading equipment
- labelling machine or printer
- packaging machine
- stud machine
- folding machine
- typical products produced by textile production machine, including knitting, sewing, weaving, spinning, carding, tufting and finishing machines:
 - fibres, including polyester, cotton, wool, viscose and rayon
 - yarns, including ring spun, open-ended spun, air jet spun and friction spun
 - fabrics
 - finished products, including socks, sweaters, towels, sheets, blankets, carpets, rope and twine, mops and industrial textiles
- product specifications required for machine
- machine methods and the various types of effects they can produce
- sewing, knitting, weaving, spinning, carding methods and the various types of products and effects they can produce
- fibre types and their method of production
- fibre attributes and parameters
- yarn characteristics, twist and application
- yarn counts and quality indicators
- fabrics and knit effects
- production process and types of production
- pattern specifications
- factors affecting machine performance, including yarn strength, sizing and ambient conditions
- machine manufacturer specifications
- fault identification in materials and textile products, and methods of repair, including threading faults, joining of yarn and tensioning, and setting of clearances, limits and fits
- identification of machine faults and methods of repair, including removal and replacement of faulty or worn parts, and re-setting or re-programming of controls and sensors
- WHS and environmental aspects of relevant enterprise activities
- quality practices
- workplace procedures
- recording and reporting practices

Assessment Conditions

- Assessors must:
 - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator

- have vocational competency in setting up, adjusting and monitoring a machine for TCF production, at least to the level being assessed, with relevant industry knowledge and experience.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.

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