

OPERATE FARM TRACTOR

ISCED UNIT CODE: 0716 351 01A

TVETCDACC UNIT CODE: ENG/OS/AME/CR/01/4/MA

UNIT DESCRIPTION

This unit specifies the competencies required by a Farm Machinery and Equipment Operator Level 4 to operate farm tractor. It involves inspecting farm tractor systems, driving farm tractor, servicing farm tractor systems, maintaining and repairing farm tractor systems.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Determine force, work, energy and power	1.1. <i>Personal protective equipment</i> is worn based on OSHA 1.2.Define force, work, energy and power is determined as per work place procedures. 1.3.Forms of energy is identified as per work place procedure. 1.4.Simple calculations on force, work, energy and power is identified as per work place procedure.
2. Perform bench work	2.1.Personal protective equipment is worn based on OSHA 2.2. Bench work tools and equipment are identified as per work place procedure. 2.3.benchwork tools and equipment are maintained as per work place procedure.
3. Analyse physical properties of engineering materials	3.1.Personal protective equipment is worn based on OSHA 3.2.Engineering materials are identified as per physical properties. 3.3.Engineering materials are tested as per work requirements.
4. Carry out mechanical machining operations	4.1.Personal protective equipment is worn based on OSHA 4.2. Mechanical machines were identified as per the work carried out 4.3.Mechanical machine operations were Performed as per work requirements. 4.4.Recycling and reusing waste materials in machine

	<p>operations is identified as per work place requirement.</p> <p>4.5.Mechanical machines are maintained as per manufacturers specifications and manuals</p>
5. Apply geometry and measurements	<p>5.1.Obtain perimeter and areas of regular figures as per geometric rules.</p> <p>5.2.Volumes and surface area of Solids are Obtained using geometric rules</p> <p>5.3.Engineering problems are solved using Pythagoras theorem as per work requirements</p>
6. Inspect farm tractor systems	<p>6.1.Personal protective equipment is worn based on OSHA</p> <p>6.2.Farm Tractor system is identified according to manufacturer's manual</p> <p>6.3. Farm tractor inspection tools and equipment are assembled as per work requirements</p> <p>6.4.Farm tractor system inspection procedure is carried out as per operator's manual</p> <p>6.5.Farm tractor system inspection report is prepared as per work requirements.</p>
7. Drive farm tractor	<p>7.1.Personal protective equipment is worn based on OSHA</p> <p>7.2.Farm tractor starting procedure is carried out as per operator's manual</p> <p>7.3.Farm tractor is driven as per operator's manual</p>
8. Operate Farm tractor system	<p>8.1.Personal protective equipment is worn based on OSHA</p> <p>8.2.Tractor system parts and components are identified as per operator's manual.</p> <p>8.3.Farm tractor system and equipment inspection procedure is carried out as per operator's manual.</p> <p>8.4 Farm tractor equipment attachment/mounting procedure is carried out as per operator's manual</p> <p>8.5.Farm tractor is operated as per operator's manual</p>
9. Service farm tractor systems	<p>9.1.Personal protective equipment is worn based on OSHA</p> <p>9.2.Service schedule is prepared as per maintenance and service manual</p> <p>9.3.Pre-start checks are carried out as per operator's manual</p> <p>9.4.Routine scheduled service is carried out as per farm tractor</p>

	<p>service manual.</p> <p>9.5.A farm tractor system service report is prepared as per work requirements</p>
10. Maintain and repair farm tractor systems	<p>10.1. Personal protective equipment is worn based on OSHA</p> <p>10.2. Farm Tractor system maintenance and repair tools and equipment are assembled as per work requirements</p> <p>10.3. Farm tractor system faults are diagnosed as per manufacturer's manual</p> <p>10.4. Farm tractor systems are maintained and repaired as per manufacturer's manual</p>

RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. <i>Personal protective equipment</i> includes but not limited to:	<ul style="list-style-type: none"> • Gloves • Helmet • Face shields • Safety goggles • Safety boots • Overalls • Dust coat • Ear muffs • Face masks
2. <i>Tractor system</i> includes but not limited to:	<ul style="list-style-type: none"> • Cooling • Fuel • Lubrication • Ignition • Transmission • Electrical • Hydraulic

3. Farm tractor inspection tools and equipment includes but not limited to:	<ul style="list-style-type: none"> • Toolbox • Pressure gauge • Multimeter • Greasing gun • Onboard display tester • Torque wrench
4. Tractor system maintenance and repair tools and equipment includes but not limited to:	<ul style="list-style-type: none"> • Jack • Toolbox • Torque wrench • Pullers • Filler gauge • Ring squeezer

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

Required knowledge

The individual needs to demonstrate knowledge of:

- Different land surface condition
- Machinery shutting down procedure
- Different farm tools and materials
- Waste management and disposal methods
- Occupational safety and health procedures

The Required Skills

The individual needs to demonstrate the following skills:

- Logical thinking
- Problem solving
- Communication
- Analytical
- Record keeping

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none">1.1 Worn personal protective equipment based on OSHA1.2 Inspected farm tractor systems according to manufacturer's manual1.3 Prepared farm tractor system inspection report as per work requirements1.4 Serviced farm tractor systems according to service and maintenance manual.1.5 Diagnosed farm tractor system faults as per manufacturer's manual1.6 Repaired farm tractor systems as per manufacturer's manual
2. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none">2.1 Appropriately simulated environment where assessment can take place2.2 Access to relevant work environment2.3 Resources relevant to the proposed activity or tasks
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none">3.1 Practical3.2 Project3.3 Portfolio of evidence3.4 Third party report3.5 Written tests3.6 Oral assessments
4. Context of assessment	<p>Competency in this unit may be assessed in;</p> <ul style="list-style-type: none">4.1 Workplace or simulated workplace.

5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.
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