



Australian Government

Department of Education, Employment and Workplace Relations

RTC3310A Operate specialised machinery and equipment

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the functions involved in operating specialised machinery and equipment. It requires particular skills and knowledge to operate specialised agricultural, horticultural or conservation and land management machinery. An ability to perform pre-operational checks on machinery, assess work requirements, determine work plans, monitor performance and maintain records is also required. In addition, it requires knowledge of licensing requirements, workplace safety, and positive environmental practices associated with the operation of machinery. Judgement and discretion combined with the ability to work under minimal supervision is necessary.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
1 Select and prepare specialised machinery and equipment for use	1.1 Specialised machinery and equipment is selected and prepared to job requirements and confirmed against work plan .
	1.2 Routine pre-operational checks of specialised machinery and equipment are completed to manufacturers specifications and enterprise requirements .
	1.3 OHS hazards in the workplace are recognised, risk assessed and minimised according to enterprise requirements.
2 Operate specialised machinery and equipment	2.1 Machinery and equipment is operated in a safe and controlled manner and monitored for performance and efficiency.
	2.2 Risks to self, others and the environment are anticipated and minimisation strategies implemented accordingly.
	2.3 Suitable personal protective clothing and equipment is selected, used, maintained and stored according to OHS requirements.
	2.4 Environmental implications associated with machinery operation are identified, assessed and reported to the supervisor.
3 Complete and report on specialised machinery and equipment operation	3.1 Shut-down procedures for specialised machinery and equipment are completed to manufacturers specifications and enterprise requirements.
	3.2 Specialised machinery and equipment operational records are completed and maintained according to enterprise requirements.
	3.3 Malfunctions, faults, irregular performance and damage to specialised machinery and equipment

are detailed and reported according to enterprise requirements.

- 3.4 Specialised machinery and equipment is cleaned, secured and stored according to OHS and enterprise requirements.

Required Skills and Knowledge

Not applicable.

Evidence Guide

What evidence is required to demonstrate competence for this standard as a whole?

Competence in the operation of specialised machinery and equipment requires evidence of the ability to effectively utilise their respective various components, controls and features to perform specific tasks. It involves selecting the appropriate machinery and equipment for the job, determine operating methods, provide solutions for faults or breakdowns, demonstrate emergency operating procedures, evaluate performance and maintain records. Evidence must also be demonstrated in safe workplace and environmentally responsible practices. The skills and knowledge required to operate specialised machinery and equipment must be **transferable** to a different work environment. For example, this could include different machinery, equipment, workplaces and environments.

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

Components, controls and features of specialised machinery and equipment and their functions.

Risks associated with the operation of machinery and equipment in different weather and difficult terrain conditions.

Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS, and the use and control of hazardous substances, chemical and biological agents.

Relevant State/Territory legislation, regulations and Codes of Practice with regard to licensing, roads and traffic requirements, and the use and control of specialised machinery and equipment.

Environmental impacts and minimisation measures associated with the operation of specialised machinery and equipment.

Personal protective equipment and when and how it should be used.

Enterprise policies with regard to specialised

machinery and equipment use, recording and reporting routines.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

Operate specialised machinery and equipment in normal and adverse conditions to industry standards.

Demonstrate emergency operating procedures in normal and adverse conditions.

Attach and detach a range of three point linkage implements, front-mounted and PTO operated equipment.

Demonstrate safe and environmentally responsible workplace practices.

Obtain relevant licences and permits.

Interpret manufacturers specifications, work and maintenance plans, and MSDS.

Communicate faults, malfunctions and workplace hazards, report and maintain operational records.

Measure and calculate volumes, load weights, consumption and servicing requirements.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

1. How can **communication of ideas and information (1)** be applied?
Information and ideas with regard to specialised machinery and equipment, their components and application to complete work tasks may be discussed with colleagues and the supervisor.
2. How can **information be collected, analysed and organised (1)**?
Information with regard to performance, faults and maintenance may be observed and monitored for analysis and organised by records and reports.
3. How are **activities planned and organised (1)**?
Activities involving maintenance and repairs to specialised machinery and equipment may be planned and coordinated around work schedules or sequenced as required.
4. How can **team work (1)** be applied?
Team work may be applied in communication, methods and procedures to complete maintenance and repairs to complete work tasks.
5. How can the use of **mathematical ideas and techniques (1)** be applied?
Mathematics may be applied in the calculation and measurement of load weights, distance, consumption, and oil and fuel requirements.
6. How can **problem-solving skills (1)** be applied?
Specialised machinery and equipment breakdown, faults or malfunctions will need to be arranged for repair or replacement to meet work plan requirements.
7. How can the **use of technology (1)** be applied?
To access, communicate, measure and record information with regard to maintenance, usage and performance of specialised machinery and equipment.

Are there other competency standards that could be assessed with this one?

This competency standard **could** be assessed on its own or in combination with other competencies relevant to the job function.

There is essential information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

Range Statement

Range of Variables

The Range of Variables explains the range of contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in training and assessment may depend on the work situations available

What range of **specialised machinery and equipment** may be covered in this standard? Skidsteer loaders, self-propelled harvesters and pickers, front end loaders, irrigation equipment, scissor lifts, excavators, forklifts, land levellers, feed mixers, milking machinery, specialised turf equipment, specialised nursery equipment, livestock feeding systems, watering systems, filtering and pumping equipment, poultry performance monitoring equipment, cultivation equipment, fertilising application and grain handling equipment.

This unit does not include machinery and equipment covered under RTC2306A - Operate vehicles, RTC2307A - Operate machinery and equipment and RTC2309A - Operate tractors.

What may be included in a **work plan**? Pre-operational checks and maintenance procedures, designated job tasks, equipment, resources and materials for use, supervisors instructions, timeframe for work completion and reporting requirements.

What may be involved in routine **pre-operational checks** of machinery and equipment? Pre-start and safety checks including the service and maintenance of cooling system. Checking fuel, oils and lubricants, electrolyte levels, wheels, tyre pressure, fan belts, leads, lines, connections, air filters, brakes, clutch, gearbox, steering, lighting, and transmission. Inspection of safety guards, PTO stubs and shafts, and hitch and towing points. Checking and confirming equipment calibration settings and operating methods for turbo-charged engines. Observing and monitoring noise levels for correct operation. Preparation of independently powered tools may include cleaning, priming, tightening,

basic repairs and adjustments.

Identify and segregate unsafe or faulty equipment for repair or replacement.

What **enterprise requirements** may apply to this standard?

Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), OHS procedures, supervisors oral or written instructions, work and routine maintenance plans.

What **OHS** requirements may be relevant to this standard?

Systems and procedures for

- the safe operation and maintenance of specialised machinery and equipment.

- hazard and risk identification.

- emergency operating and defensive driving procedures ensuring working loads are secure and within specifications.

- appropriate use, maintenance and storage of personal protective equipment.

outdoor work include protection from solar radiation, hazardous noise, mechanical vibration and organic and other dusts.

protection of people in the workplace.

passengers are carried only when there is a seat approved by the manufacturer.

What **hazards** may be encountered in the workplace?

Exposure to loud noise and fumes, solar radiation, heat stress, fatigue, crushed by a roll over, dust, ergonomic hazards associated with posture and vibration, hazardous substances (fuel, oils, fertiliser), oil and grease spills, the presence of bystanders, livestock and wildlife, difficult terrain and varying gradients, potholes, ditches, gullies, embankments, obstacles (rocks, logs, fences, debris, buildings), extreme weather conditions, electricity, overhead hazards including powerlines, mechanical malfunctions and exposed moving parts, and other machinery including hydraulics.

How might safe and controlled operation of machinery and equipment be demonstrated?	<p>This may include:</p> <ul style="list-style-type: none">Appropriate selection and use of machinery and equipment.Using operational techniques for the specific terrain (on and off-road environments) and weather conditions.Maintaining working loads within specifications including ensuring hitch-points are operated at the correct height.
What personal protective equipment may be relevant to this standard?	Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, high visibility clothing, respirator or face mask, and sun protection (sun hat, sunscreen).
What environmental implications may be associated with the operation of machinery and equipment?	Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oil containers, chemical residues), and hazardous substances (fuel, fertiliser). Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities, soil disturbance and dust problems from high activity traffic (including irrigation equipment).
What procedures may be included in the shut-down of machinery and equipment?	Safe dismount procedures (including turning engine off), maintaining a clear thoroughfare, parking away from hazards, securing, refuelling, cleaning, engaging handbrake and removing vehicle keys.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

Unit Sector(s)

Not applicable.