

RTC2307A**Unit Descriptor****Unit Sector****Operate machinery and equipment**

Operate machinery and equipment

No sector assigned

ELEMENT**PERFORMANCE CRITERIA**

- | | |
|---|---|
| 1. Prepare machinery and equipment for use | <ul style="list-style-type: none">1.1 Machine and equipment is selected appropriate to job requirements and confirmed against a work plan1.2 Routine pre-operational checks of machinery and equipment are carried out to manufacturers specifications and enterprise requirements1.3 Equipment is securely attached and calibrated for operation to manufacturers specifications1.4 Faulty machinery and equipment is identified, safety tagged, and reported to supervisor according to enterprise requirements1.5 Occupational Health and Safety hazards in workplace are identified, risk assessed and reported according to enterprise requirements |
| 2. Operate machinery and equipment | <ul style="list-style-type: none">2.1 Machinery and equipment is operated in a safe and controlled manner, and monitored for performance and efficiency2.2 Risk to self, others and the environment are recognised and minimised according to enterprise and Occupational Health and Safety requirements2.3 Suitable personal protective clothing and equipment is selected, used, maintained and stored according to Occupational Health and safety requirements2.4 Environmental implications associated with machinery operation are identified, assessed and reported to the supervisor |
| 3. Check and complete machinery and equipment operation | <ul style="list-style-type: none">3.1 Machinery and equipment shut-down procedures are carried out to manufacturers specifications and enterprise requirements3.2 Machinery and equipment operational records are maintained according to enterprise requirements3.3 Machinery and equipment damage, malfunctions or irregular performance are recorded and/or reported according to enterprise requirements3.4 Machinery and equipment is cleaned, secured and stored according to manufacturers specifications and enterprise requirements |

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	With regard to the performance and efficiency of machinery and equipment may be observed and recorded for analysis and organised by reports	1
Collecting analysing and organising information	Information and ideas with regard to machinery and equipment, safety procedures and their application may be discussed with colleagues and the supervisor	1
Planning and organising activities	Involving maintenance and repairs to machinery and equipment may be planned and coordinated around work schedules or sequenced as required	1
Working with others and in teams	May be applied in methods and procedures to complete maintenance and job functions to achieve work plan requirements	1
Using mathematical ideas and techniques	May be applied in the calculation and measurement of load weights, distance, consumption and oil and fuel requirements	1
Solving problems	Machinery and equipment breakdown, faults or malfunctions will need to be arranged for repair or replacement to achieve work plan requirements	1
Using technology	To communicate, measure and record information with regard to maintenance, usage and performance of machinery and equipment	1

RANGE STATEMENT

Machinery and equipment

may include

- hydraulic equipment
- stationary engines
- spraying equipment
- stump grinders
- mulches and chippers equipment
- powered trailers and three point linkage equipment
- excludes
 - chainsaws
 - tractors
 - vehicles and earth moving equipment

Work plans

may include

- pre-operational and safety checks
- routine maintenance procedures
- designated job tasks
- equipment
- resources and materials for use
- supervisors instructions
- timeframe for work completion and reporting requirements

Pre-operational checks

may include

- 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, Power Take Off (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

Enterprise requirements

may include

- standard operating procedures (SOPs)
- industry standards
- production schedules
- Material Safety Data Sheets (MSDS)
- work notes
- product labels
- manufacturers specifications
- operators manuals
- enterprise policies and procedures
 - including waste disposal
 - recycling
 - re-use guidelines
- Occupational Health and Safety procedures
- supervisors oral or written instructions
- work and routine maintenance plans

Occupational Health and Safety requirements

may include systems and procedures for

- the safe operation and maintenance of machinery and equipment, including hydraulics, and guarding of exposed moving parts
- hazard identification, assessment and reporting
- emergency operating and defensive driving procedures
- ensuring working loads are secure and within working specifications
- safe lifting, carrying and handling
- appropriate use, maintenance and storage of personal protective equipment
- outdoor work including protection from solar radiation
- passengers only been carried where there is a seat provided by manufacturers
- protection of people in a workplace
- protection from hazardous noise, mechanical vibration, and organic and other dusts

Occupational health and safety hazards

may include

- exposure to loud noise and fumes, solar radiation, dust, ergonomic hazards associated with posture and vibration, hazardous substances (fuel, oils, fertilisers), oil and grease spills
- it may also include
 - the presence of bystanders
 - livestock and wildlife
 - difficult terrain and varying gradients
 - potholes
 - ditches
 - gullies
 - embankments
 - obstacles, eg, rocks, logs, fences, debris, buildings
 - extreme weather conditions
 - electricity
 - overhead powerlines
 - mechanical malfunctions and exposed moving parts
 - other machinery including hydraulics

Safe and controlled operation of machinery

may include

- appropriate selection and use of machinery and equipment
- using operational techniques for the specific terrain, eg, on and off-road environments) and weather conditions
- maintaining working loads within specifications including ensuring hitch-points are operated at the correct height

Personal Protective Clothing and equipment

may include

- boots
- hat/hard hat
- overalls
- gloves
- protective eyewear
- hearing protection
- respirator or facemask
- sun protection, eg, sun hat, sunscreen

Environmental implications	<p>associated with the operation of machinery and equipment may include</p> <ul style="list-style-type: none">• negative environmental impacts which may result from<ul style="list-style-type: none">• excessive noise and exhaust emissions• the incorrect use and disposal of maintenance debris, eg, oils, containers, chemical residues• hazardous substances, eg, 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 speed and frequent traffic (including irrigation equipment)
Shut down procedures	<p>may include</p> <ul style="list-style-type: none">• safe dismount procedures (including turning engine off), maintaining a clear thoroughfare, parking away from hazards, securing, engaging handbrake, removing keys, refuelling and cleaning
The sport and recreation industry	<p>covers</p> <ul style="list-style-type: none">• industry sectors of community recreation, fitness, outdoor recreation and sport• significant roles played by activity organisations, industry peak bodies, professional organisations• large volunteer base• high turnover of volunteers• high levels of part time and casual employment• irregular working hours• relatively few professional positions• workforce employed mostly in operational positions• mainly small business or self-employed personnel• slow to take up technology• over 2/3 of the sport and recreation industry have no formal/recognised qualifications• significant reliance upon industry credentials and involvement in the activity itself

EVIDENCE GUIDE

Critical aspects of evidence to be considered

- Assessment must confirm sufficient knowledge in the operation of machinery and equipment
- Assessment of performance should be over a period of time covering all categories from the Range Statements applicable to the learner's environment
- In particular, assessment must confirm the ability to
 - select and utilise various features and controls of a range of machinery and equipment to carry out tasks
 - carry out work and maintenance plans
 - determine appropriate operating methods
 - carry out routine maintenance and basic repairs
 - report faults and workplace hazards
 - monitor operation
 - maintain records
 - demonstrate safe workplace and environmentally responsible practices
 - transfer the skills and knowledge required to operate machinery and equipment to a different work environment, eg, this could include different machinery and equipment, workplaces and conditions of use

Interdependent assessment of units

- This unit must be assessed after attainment of competency in the following unit(s)
 - Nil
- This unit must be assessed in conjunction with the following unit(s)
 - Nil
- For the purpose of integrated assessment, this unit may be assessed in conjunction with the following unit(s)
 - Nil

Required knowledge and skills

- Required knowledge
 - Manufacturers specifications for servicing of machinery and equipment
 - Operating principles and operating methods for machinery and equipment
 - Principles of weight distribution with regard to load shifting and machinery movement
 - Procedures for cleaning, securing and storing machinery, equipment and materials
 - Potential risks and hazards associated with the operation of machinery and equipment
 - Legislation, regulations and Codes of Practice with regard to workplace Occupational Health and Safety, and the use and control of hazardous substances
 - Relevant State/Territory legislation, regulations and Codes of Practice with regard to licensing, roads and traffic requirements
 - Environmental impacts and minimisation measures associated with the operation of machinery and equipment
- Required skills
 - Operate machinery and equipment to industry standards
 - Demonstrate safe and environmentally responsible workplace practices
 - read and interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets
 - Interpret and apply instructions, communicate with work team and supervisor, record and report equipment faults, workplace hazards, and accidents
 - Measure and calculate volumes, consumption and servicing requirements

Resource implications

- Physical resources - assessment of this competency requires access to
 - personal protective equipment
 - machinery and equipment
 - appropriate documentation and resources normally used in the workplace
- Human resources - assessment of this competency will require human resources consistent with those outlined in the Assessment Guidelines. That is, assessors (or persons within the assessment team) should
 - be competent in this unit
 - be current in their knowledge and understanding of the industry through provision of evidence of professional activity in the relevant area
 - have attained the National Competency Standards for Assessment: BSZ401A, BSZ402A and BSZ403A

Consistency in performance

- Competence in this unit must be assessed over a period of time in order to ensure consistency of performance over the Range Statements and contexts applicable to the work environment

Context for assessment

- This unit of competency must be assessed in the context of a sport or recreation activity. For valid and reliable assessment the sport or recreation activity should closely replicate the work environment. The environment should be safe with the hazards, circumstances and equipment likely to be encountered in a real workplace
- Assessment of this unit of competence will usually include observation of processes and procedures, oral and/or written questioning on required knowledge and skills and consideration of required attitudes
- Where performance is not directly observed and/or is required to be demonstrated over a "period of time" and/or in a "number of locations", any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons

Essential Assessment Information

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 the **Assessment Guidelines**. Further advice may also be sought from the relevant **sector booklet**.