



Australian Government

SISOCYT001 Set up, maintain and repair bicycles

Release: 1

SISOCYT001 Set up, maintain and repair bicycles

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to select, set up and maintain bikes used for recreational cycling activities. It requires the ability to set up bikes to meet the requirements of pre-planned cycling activities and terrain, as well as for participant characteristics. It covers the ability to maintain and repair bike system components. Repairs can be completed both at base and in the field during activities.

This unit applies to any type of organisation that delivers outdoor recreation activities including commercial, not-for-profit and government organisations.

It applies to personnel working at all levels including activity assistants, support staff and leaders.

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

Pre-requisite Unit

Nil

Competency Field

Cycle Touring

Unit Sector

Outdoor Recreation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1. Select and set up bikes.

PERFORMANCE CRITERIA

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

- 1.1. Identify, from activity plans, characteristics and abilities of participants, and activity terrain and route.
- 1.2. Select bikes to meet needs, size and proportions of riders and activity conditions.
- 1.3. Make required adjustments to ensure bikes are correct fit for riders and suitable for terrain requirements.

2. Maintain and repair bicycles.
- 1.4. Complete pre-departure safety and serviceability checks and action faults according to organisational procedures.
 - 2.1. Use personal protective equipment and safe manual handling techniques throughout all activities.
 - 2.2. Interpret and follow maintenance schedules and manufacturers' instructions.
 - 2.3. Inspect bikes periodically to identify additional repair and maintenance requirements.
 - 2.4. Clean bikes and parts using appropriate cleaning agents to prevent corrosion and deterioration.
 - 2.5. Complete periodical maintenance on bicycle system components to restore equipment to optimum working condition.
 - 2.6. Complete repairs according to reports or in response to incidents as they arise, at base or in the field.
 - 2.7. Refer complex repair and maintenance requirements to technical specialists.
 - 2.8. Complete maintenance records according to organisational procedures.
 - 2.9. Assemble an in-field repair kit for use during activities.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS	DESCRIPTION
Reading skills to:	- interpret factual activity plan information and maintenance schedules in familiar formats - interpret potentially unfamiliar and complex manufacturer instructions and specifications.
Writing skills to:	complete basic documents requiring factual information including fault tags and maintenance records.
Numeracy skills to:	- complete bike measurements to approximate best fit for participants - complete basic calculations involving ratios to dilute cleaning products - identify and calculate accurate bicycle system settings and adjustments from specifications.
Planning and organising skills to:	manage own timing to complete bike preparations, repairs and maintenance within departure deadlines.

Technology skills to:

- use specialist bicycle tools and equipment.

Unit Mapping Information

No equivalent unit

Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>

Assessment Requirements for SISOCYT001 Set up, maintain and repair bicycles

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- according to activity plans for three cycling activities operated in three different conditions:
 - select bicycles suited to conditions
 - assemble an in-field repair kit, including tools and spare parts, suited to conditions
 - adjust a total of three bicycles to suit the size of different participants and collectively make the following adjustments:
 - saddle position and height
 - handlebar height and width
 - distance from saddle to handlebars
 - position of gears and brakes
- complete pre-departure safety and serviceability checks on a total of two bicycles to include those for:
 - legally required accessories e.g. bells, reflectors, lights
 - handlebars and plugs
 - wheels, hubs and spokes
 - suspension
 - headsets
 - tyre condition and tyre pressure
 - chains and gears
 - brakes
 - bolts or quick release skewers
- clean and service the following bicycle systems, collectively across two different bikes:
 - frame
 - drivetrain
 - steering
 - brakes
 - suspension
 - wheels and hubs
 - tyres, including two puncture repairs
 - accessories

- across the services, collectively :
 - remove, adjust and refit a total of two components
 - identify a total of two worn or damaged components and replace
 - lubricate components
- complete maintenance records for each bike serviced.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational procedures for completing repairs, maintenance and safety and serviceability checks
- different types of bikes used for recreational cycling activities, their differing construction features and how features are suited to different surfaces and terrain:
 - road bikes
 - mountain bikes
 - hybrid bikes
 - fixed gear
- how these factors that affect the selection of bikes:
 - participant characteristics:
 - age, height, reach and weight
 - current cycling experience and skill level
 - fitness level and physical capabilities
 - injuries and medical conditions
 - emotional, behavioural and intellectual ability or disability
 - cycling surface:
 - sealed roads, formed bike paths or trails
 - unsealed surfaces - gravel roads, fire trails, single track, open or rocky ground
 - gradient of terrain
 - manufacturers' specifications for bike use
- bike sizing guidelines, and how to take measurements to suit rider size, for:
 - road bikes
 - mountain bikes
 - hybrid bikes
- types of adjustments made to bikes to suit participant characteristics, surface and terrain and how to make these:
 - saddle position and height
 - handlebar height and width
 - distance from saddle to handlebars
 - position of gears and brakes
 - suspension

- tyre pressure including range of suitable pressures
- types of pre-departure safety and serviceability checks, how to complete these and what tools would be used, to include those for:
 - legally required accessories e.g. bells, reflectors, lights
 - handlebars and plugs
 - wheels, hubs and spokes
 - suspension
 - headsets
 - tyre condition and tyre pressure
 - chains and gears
 - brakes
- components and key operational features of these bicycle systems:
 - frame
 - drivetrain
 - steering
 - brakes
 - suspension
 - wheels and hubs
 - tyres
 - accessories
- for each of the above systems:
 - how to remove, adjust and refit components
 - how to identify worn or damaged components for replacement
 - cleaning requirements and techniques
 - lubrication requirements, as relevant
 - types of repairs referred to specialist technicians
- for tyres, how to remove tubes, repair punctures and re-inflate
- different types of cleaning products and how these are used on different bike parts:
 - cleaning solutions and sprays for removing mud and dirt
 - degreasers for cleaning chains and other moving parts
 - brake cleaners
 - suspension solutions and sprays
 - rust prevention polishes and sprays
- types and use of tools and equipment used to maintain and repair bicycles including those typically used in the field
- spare parts typically carried in the field
- safe manual handling techniques for bending, lifting and carrying heavy equipment during maintenance tasks
- types and correct use of personal protection equipment for maintaining bicycles
- a range of formats for and inclusions of maintenance documents:

- fault tags and reports
- repair and maintenance reports.

Assessment Conditions

Skills can be assessed in the field or in an operational depot or a combination, provided that the situation is appropriate to the repair or maintenance task.

A depot can be:

- an industry workplace or
- a simulated industry environment set up for the purposes of assessment.

Assessment must ensure use of:

- personal protective equipment for repair and maintenance activities
- bicycles of different types which can include:
 - road bikes
 - mountain bikes
 - hybrid bikes
- spare parts for all bicycle system components
- tools used to maintain and repair bicycles:
 - Allen keys
 - cassette remover
 - chain breaker
 - chain whip
 - crank puller and crank wrench
 - pliers, cable cutting pliers
 - pressure gauge
 - pumps and connectors
 - puncture repair kit
 - screwdrivers
 - spanners: ring, open ended, shifting, two cone, pedal, headset, sockets and ratchets
 - spoke key
 - tyre levers
- lubricants
- cloths, stiff and soft brushes used for cleaning
- cleaning products for bikes to include:
 - agents for removing mud and dirt
 - degreasers
 - brake cleaners
 - suspension cleaners
 - rust prevention agents

- participant profiles
- activity plans
- manufacturer's cleaning, repair and maintenance instructions
- template maintenance documents:
 - fault tags and reports
 - repair and maintenance reports
- organisational:
 - procedures for completing repairs, maintenance and safety and serviceability checks
 - maintenance schedules.

Assessors must satisfy the Standards for Registered Training Organisations requirements for assessors, and:

- have a collective period of at least three years' experience with an organisation providing recreational cycling programs, or as a bicycle technician, where they have applied the skills and knowledge covered in this unit of competency; the three years' experience can incorporate full and or part time experience.

Links

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