



Australian Government

Department of Education, Employment and Workplace Relations

HLTART406C Modify and maintain wheelchairs

Release: 1

HLTART406C Modify and maintain wheelchairs

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTART406B Modify and maintain wheelchairs	HLTART406C - Modify and maintain wheelchairs	Unit updated in V5. ISC upgrade changes to remove references to old OHS legislation and replace with references to new WHS legislation. No change to competency outcome.

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to modify and maintain wheelchairs

Application of the Unit

Application

This unit applies to workers within a rehabilitative environment requiring a broad knowledge base in assistive technology and the ability to apply solutions to a defined range of typical problems

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Determine client requirements

- 1.1 Review prescriptions from relevant health professionals to confirm that required information has been provided
- 1.2 Discuss and agree upon requirements with clients and *relevant health professional*
- 1.3 Specify *wheelchair* type, size and options to meet client requirements

2. Select wheelchair

- 2.1 Assess wheelchairs for suitability in relation to mechanical, dimensional, environmental and maintenance factors
- 2.2 *Select* wheelchair to meet client requirements
- 2.3 Document specifications for *modification* in accordance with organisation policies and procedures

ELEMENT**PERFORMANCE CRITERIA****3. Modify and fit wheelchair**

- 3.1 Select appropriate materials to modify wheelchair
- 3.2 Modify wheelchair using *hand tools* and/or machinery in accordance with WHS requirements, relevant standards and manufacturer's requirements
- 3.3 Arrange to fit modified wheelchair with client in accordance with organisation policies and procedures
- 3.4 Program electric wheelchairs to client requirements
- 3.5 Give the client clear and precise information about proper use, maintenance and function of the wheelchair and/or its modifications
- 3.6 Ensure prescribed seating and positioning devices are safe and secure

4. Undertake wheelchair repairs and maintenance

- 4.1 Obtain clear and precise information about problems with the wheelchair
- 4.2 Change wheelchair tyres
- 4.3 Respoke and true spoked wheelchair wheels
- 4.4 Diagnose electrical wheelchair faults
- 4.5 Recondition electric DC motors
- 4.6 Repair wheelchair upholstery using appropriate upholstering tools
- 4.7 Diagnose controller and systemic wheelchair faults using appropriate diagnostic tools
- 4.8 Maintain and replace ball and roller bearings
- 4.9 Dismantle and assemble wheelchairs and wheelchair components

5. Keep accurate records

- 5.1 Establish and maintain records in accordance with organisation policies and procedures
- 5.2 Store records in line with organisation policies and procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes:

- Awareness of the safety and environmental aspects of relevant organisation activities
- Awareness of workplace procedures including:
 - recording/documentation processes/techniques
 - relevant WHS standards/legislation
 - regulatory requirements
 - health funds/policies
 - codes of practice
- Awareness of the range and characteristics of commercially available wheelchairs and how they can be used to meet specified client requirements
- Awareness of the relative clinical, practical and other advantages/disadvantages of commercially available wheelchairs
- Awareness of wheelchair construction and standards including
 - terminology
 - wheelchair test and performance requirements
 - diagnostic and definitive construction
 - modification processes
 - materials
 - tools and equipment used
- Awareness of procedures involved in adjusting off the shelf wheelchairs
- Awareness of procedures involved in maintaining and repairing commercially available wheelchairs
- Awareness of other practitioners in the field and in related fields including their roles, capabilities and limitations
- Awareness of safety implications of use of wheelchairs as seats in motor vehicle
- Awareness of risks of electrical fires in powered wheelchairs
- Knowledge of the organisation policies in relation to the scope of the role of the rehabilitation technician
- Knowledge of prevention of electrical overload in powered wheelchair circuitry

REQUIRED SKILLS AND KNOWLEDGE

Essential skills:

It is critical that the candidate demonstrate the ability to:

- Assess integrity of wheelchair frame and structural components
- Communicate effectively with clients and relevant others
- Conduct fittings
- Evaluate, problem solve and address a variety of commercially available wheelchair problems
- Fit and modify wheelchairs to meet client requirements
- Identify design problems and bring them to the attention of the appropriate person
- Identify powered wheelchair control requirements and program the controller accordingly
- Maintain records
- Make wheelchair adjustments
- Measure fundamental angles, masses and lengths
- Select appropriate materials and techniques
- Use hand tools and machinery to undertake adjustments and modification as required

In addition, the candidate must be able to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Apply procedures and processes including reporting requirements
- Communicate effectively with the client to obtain clear and precise information about problems with the wheelchair
- Communicate effectively with the client to give clear and precise information about proper use, maintenance and function of the wheelchair and/or its modifications
- Communicate with work colleagues, associates and clients including
 - teamwork
 - client confidentiality
 - interpersonal skills
- Manage time and workload
- Read and make engineering drawings or sketches
- Use literacy skills required to fulfil job role in a safe manner
- Use numeracy skills required to fulfil job role

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate this competency unit:

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Observation of workplace performance is essential for assessment of this unit
- Consistency of performance should be demonstrated over a period of time and a range of workplace situations
- Where, for reasons of safety, space, or access to equipment and resources, assessment takes place away from the workplace, the assessment environment should represent workplace conditions as closely as possible

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

EVIDENCE GUIDE

Context of and specific resources for assessment:

- Assessment should replicate workplace conditions as far as possible.
- Simulations may be used to represent workplace conditions as closely as possible.
- Where, for reasons of safety, access to equipment and resources and space, assessment takes place away from the workplace, simulations should be used to represent workplace conditions as closely as possible.
- Resources essential for assessment include:
 - access to an appropriate workplace where assessment can take place

Method of assessment

- Observation in the work place
- Written assignments/projects
- Case study and scenario as a basis for discussion of issues and strategies to contribute to best practice.
- Questioning
- Role play simulation

Related units:

The following units should be undertaken before or in conjunction with this unit:

- MEM10002B Terminate and connect electrical wiring
- MEM18030B Diagnose and rectify low voltage electrical systems
- MEM18004B Maintain and overhaul mechanical equipment
- MEM18006C Repair and fit engineering components

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Wheelchairs may include:

- Manual wheelchairs
- Powered wheelchairs
- Mobile standers
- Powered scooters
- Powered tricycles and quad bikes
- Custom made mobility devices

Relevant health professional may include:

- Rehabilitation engineer
- Medical practitioner
- Occupational therapist
- Physiotherapist
- Orthotist

Selection may include

- Environmental considerations for the wheelchair
- Service life of the wheelchair
- Wheelchair cost benefit
- Ability to service and maintain the wheelchair
- Local wheelchair availability
- User abilities and safety

RANGE STATEMENT

Modification may include:

- Adaptation of commercially available therapeutic components for use on the wheelchair
- Design and manufacture of unique components and/or devices for use on the wheelchair
- Adaptation of alternative manufacturer's components to the wheelchair

Hand tools and machinery may include:

- Hand tools
 - general maintenance tools,
 - general metal and plastic cutting tools,
 - general metal and plastic forming tools,
 - general soldering tools machinery
- sewing machines
- pneumatic tools
- lathes
- milling machines
- grinders
- welders
- saws
- knives
- Power tools
 - drill
 - angle grinder
 - jig saw
 - linisher
 - grinder
 - guillotine
 - lathe
 - drill/mill
 - power hacksaw
 - bandsaw
 - router
 - planner
 - power saw

Unit Sector(s)

Not Applicable