



Australian Government

Department of Education, Employment and Workplace Relations

DEFCA007B Perform an individual free fall parachute descent carrying combat equipment

Release: 1

DEFCA007B Perform an individual free fall parachute descent carrying combat equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit covers the competency required to perform a free fall parachute descent carrying combat equipment that commences from an altitude below 12 000 feet above ground level.

The differentiation between DEFCA006B Perform an individual free fall parachute descent (the prerequisite unit) and this Unit of Competency is that combat equipment adds considerable weight and bulk, and will affect situational awareness, individual free fall positions and manoeuvres, stability, canopy control and manoeuvre, and landing.

Application of the Unit

Application of the Unit

The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite Unit/s	DEFCA006B Perform an individual free fall parachute descent
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Employability Skills Information

Employability Skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for free fall parachute descent	1.1 Instructions to conduct a free fall parachute descent are received and details are confirmed with supervisor as necessary 1.2 Appropriate equipment is selected, inspected for serviceability, fitted and packed, in accordance with standard procedures 1.3 Unserviceable equipment is quarantined and reported, in accordance with standard procedures
2. Complete on board aircraft procedures	2.1 Aircraft is boarded, and self and equipment are positioned and secured, in accordance with standard procedures 2.2 Verbal and non-verbal communication is used effectively with other personnel on board 2.3 On board procedures and individual safety checks are carried out when instructed by authorised personnel, in accordance with standard procedures 2.4 Signs and symptoms of altitude induced conditions in self and others are monitored and any anomalies are reported to supervisor
3. Exit from the aircraft and descend by free fall	3.1 Aircraft is exited using approved techniques within permitted tolerances 3.2 Stability in free fall flight is established and maintained 3.3 When necessary, instability is recovered during exit and free fall 3.4 Situational awareness is maintained 3.5 Individual free fall positions and manoeuvres are carried out in accordance with standard procedures 3.6 Verbal and non-verbal communication is used to communicate effectively with other paratroopers as required
4. Control a ram-air canopy descent	4.1 Parachute is activated to open at a designated time or height in accordance standard procedures 4.2 Relevant drills are conducted to detect and rectify activation malfunctions, and routine opening problems, in accordance with procedures 4.3 Descent is controlled using canopy control and manoeuvre techniques 4.4 Controllability checks and malfunction drills are conducted as required

5. **Land on a drop zone**

4.5 **Contingency and emergency situations** are assessed and the correct drills are applied to rectify the situation

5.1 Designated **drop zone marking and wind indicators** are identified and target approach is planned

5.2 **Target approach techniques** are applied in accordance with standard procedures

5.3 Combat equipment is lowered at the correct height during approach as required, and in accordance with standard procedures

5.4 **Landing** is completed, in accordance with **environmental conditions** and to the degree of accuracy required

5.5 **Emergency landing** is completed, as required, in accordance with standard procedures

5.6 Harness release and drag procedures are applied in accordance with standard procedures and **drop zone** is cleared

6. **Complete free fall post descent procedures**

6.1 **Post descent de-servicing** of parachute equipment is conducted in accordance with standard procedures

6.2 Performance during the individual free fall parachute descent is **reviewed**

6.3 **Documentation** is completed accurately and clearly in accordance with standard procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- communicate effectively
- interpret instructions
- provide reports and appropriate documentation
- situational awareness

Required Knowledge

- activation and malfunction drills
- application of problem solving procedures
- canopy control techniques
- controllability checks
- design, characteristics, construction and capabilities of free fall parachutes
- effect of environmental conditions on parachuting
- effects of turbulence on the canopy
- exit techniques
- free fall positions and manoeuvres
- health and safety hazards of parachuting
- inspection procedure/routine
- landing techniques
- log books and descent folders
- malfunction and emergency drills
- safety checks
- signs, symptoms and treatment of:
 - decompression illness
 - hyperventilation
 - hypothermia
 - hypoxia
- stability recovery procedures
- theory of flight and canopy control
- verbal and non-verbal communication

Evidence Guide

EVIDENCE GUIDE

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

Assessment must confirm the ability to:

- perform nine solo free fall parachute descents from an aircraft at an altitude below 12 000 feet above ground level
- demonstrate parachute activation at varying heights from the ground with at least one activation occurring within 10 seconds of exiting the aircraft
- carry, as a minimum, the following combat equipment (or the equivalent in weight and size):
 - individual load carrying equipment
 - field pack and cover
 - personal weapon
- demonstrate correct servicing, fitting and setting of:
 - automatic activation device
 - altimeter
 - audible altitude warning device
- personal apparel
- parachute
- demonstrate the following individual free fall manoeuvres:
 - box position
 - poised pull position
 - forward glide
 - back slide
 - turns left and right
 - hard arch/wide spread position
 - wave-off
- identify and respond to the following activation malfunctions:
 - a high speed malfunction (hard pull, floating ripcord handle, complete malfunction, pilot chute in tow, bag lock, horseshoe malfunction, streamer and premature release of the three rings)
 - a low speed malfunction (line over, slider hang-up above the cascades, broken suspension line, pilot chute over or in the front cell, rip or tear in canopy, brake lock, broken steering line and two canopies flying)
- demonstrate the following canopy control and manoeuvre techniques:

EVIDENCE GUIDE

- turns (full glide, half brake depression, half brake fly off, full brake, rear riser and front riser)
- stalls (steady state and dynamic) and stall recovery
- flying modes (full glide, half brakes, full brakes, front riser, rear riser)
- demonstrate the correct drills for an emergency landing on or in buildings, trees, wire and water.

Permitted tolerances are:

- achieving stability within 1 000 feet of exiting the aircraft
- achieving stability within 1 000 feet of becoming unstable during free fall
- completing exits with a deviation of no more than 45 degrees off the aircraft heading
- completing turns are within 45 degrees of the specified heading
- conducting forward glide for a minimum of 5 seconds with no more than a 45 degrees deviation off the specified heading
- landing safely within 25 metres of the target
- pulling the ripcord within 250 feet of the planned opening height with a deviation of no more than 45 degrees off the specified heading.

Consistency in performance

Competency must be demonstrated over a minimum of nine solo parachute descents carrying combat equipment supported by simulated opening problems, malfunctions and other contingencies and emergencies that could be expected in the workplace.

Assessment should be conducted in a timeframe and in a range of contexts and conditions that allows for evidence to be gathered on the correct application of free fall parachute skills and techniques carrying combat equipment, consistent with the Range Statement and the operating environment.

Context of and specific resources for assessment

Context of assessment

Competency must be assessed during the preparation and performance of actual free fall parachute descents carrying combat equipment, although due to safety limitations, assessment of the individual's response to routine opening problems, malfunctions and other contingencies and emergencies will need to be undertaken in a simulated environment.

EVIDENCE GUIDE

Specific resources for assessment

- Access to:
- aircraft and air
- crew
- parachutes
- suitable air space
- suitable land drop zone
- parachute training facilities that provides adequate simulation
- parachute packing facilities/matted undercover area
- communications equipment
- transport to and from airport and drop zone.

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. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Equipment may include

Combat equipment:

- field pack and cover
- harness equipment single point release (HESPR)
- individual load carrying equipment
- light stick
- navigation aids
- night vision equipment
- personal radio
- personal weapon and sling
- operational sustainment requirements including:
- ammunition
- spare clothing and field equipment
- rations
- water
- weapon sleeve

Parachute equipment:

- altimeter
- audible altitude warning device
- automatic activation device
- hook knife
- live drop parachute and reserve parachute
- personal apparel:
- boots
- coveralls or field uniform
- gloves
- goggles
- helmet

Inspecting equipment for serviceability include

Servicing parachute instruments
Setting parachute instruments

Standard procedures may include

Civil Aviation Safety Authority (CASA) manuals and regulations
Defence instructions and publications
Job guides, other publications
Manufacturers' handbooks, industry specifications and

RANGE STATEMENT

technical instructions
Occupational health and safety (OH&S) regulations
Operating procedures
Procedure manuals
Routine Orders
Written and verbal orders

RANGE STATEMENT

Verbal and non-verbal communication may include	Aircraft visual and audible warning devices Hand signals Panels and markers Plot boards Radio communications Voice commands
On board procedures may include	Exit procedures Fitting of parachuting and combat equipment Performing drills or procedures directed by air crew or despatchers Safety checks Stop drop and aborted sortie procedures
Individual safety checks may include	Arming the automatic activation device Automatic activation device pin checks Individual parachute equipment checks in aircraft
Altitude induced conditions may include	Decompression illness Hyperventilation Hypothermia Hypoxia
Approved techniques to exit the aircraft may include	From the ramp: • back off • dive • pivot From the side door: • back off • dive • pivot
Permitted tolerances include	Achieving stability within 1 000 feet of exiting the aircraft Achieving stability within 1 000 feet of becoming unstable during free fall Completing exits with a deviation of no more than 45 degrees off the aircraft heading Completing turns within 45 degrees of the specified heading Conducting forward glide and the track for a minimum of 5 seconds with no more than a 45 degrees deviation off the specified heading Landing safely within 25 metres of the target Pulling the ripcord within 250 feet of the planned

RANGE STATEMENT

opening height above ground level with a deviation of
no more than 45 degrees off the specified heading

RANGE STATEMENT

Situational awareness may include

Monitoring altitude/height
Orientation to target and/or aircraft
Position of other paratroopers

Individual free fall positions and manoeuvres may include

Back slide
Box position
Delta position
Fast fall
Forward glide
Hard arch/wide spread position
Heading maintenance
Poised pull position
Slow fall
Turns left and right
Wave-off

Activation malfunctions may include

A high speed malfunction:

- bag lock
- complete malfunction
- hard pull
- horseshoe malfunction
- floating ripcord handle
- pilot chute in tow
- premature release of the three rings
- streamer

A low speed malfunction:

- brake lock
- broken steering line
- broken suspension line
- line over
- pilot chute over front cell
- rip or tear in canopy
- slider hang-up above the cascades
- two canopies flying

Routine opening problems may include

End cell closure
Pilot chute hesitation
Premature brake release
Slider hang up below the cascades
Twists

Canopy control and manoeuvre techniques may

Flying mode:

- half brakes

RANGE STATEMENT

include

- full brakes
- full glide
- front riser/trim tab
- rear riser

Stalls:

- dynamic
- steady state

Turns:

- full glide
- half brake depression
- half brake fly off
- full brake
- front riser
- rear riser

RANGE STATEMENT

Controllability checks include checking	If canopy requires more than 50% opposite toggle to counter a turn If canopy stalls/collapses after conducting left or right 90 degree full glide turn If canopy stalls prior to 50% brakes
Malfunction drills apply when	Canopy is deemed uncontrollable
Contingency and emergency situations include	Collisions: • in free fall • under canopy Combat equipment moving or coming undone Emergency abandoning of aircraft Entanglements Loss of stability on exit or in free fall Tumbling and somersaulting during free fall Uncontrolled or involuntary turns in free fall
Drop zone marking and wind indicators may include	Alphanumeric marker panels Geographic features Smoke Streamers and flags Wind sock
Target approach techniques may include	High wind approach Standard approach
Landing may include	Dynamic stall landing (flared landing) Half brake parachute landing roll
Environmental conditions may include	Turbulence Variable altitude Variable temperatures Variable weather conditions Wind: • high • low
Emergency landing may include landing in or on	Buildings Trees Vehicles Water Wire

RANGE STATEMENT

Drop zone may include	Known or designated Land or water Open country
Post descent de servicing may include	Cleaning parachute and equipment Inspecting parachute and equipment, and identifying faults Rectifying or reporting defects with the parachute and/or combat equipment in accordance with standard procedures
Reviewing performance may include	Obtaining feedback from supervisors, and individuals on parachuting performance and taking corrective action Viewing video of flight and correcting faults
Documentation may include	Descents folder Paratrooper log card

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s Nil