



Australian Government

PUAFIR315B Navigate from an aircraft

Release 3

PUAFIR315B Navigate from an aircraft

Modification History

Release	TP Version	Comments
3	PUA12 V2.1	Editorial changes.
2	PUA12 V2	Content reviewed Pre-requisite unit PUAOPE003B Navigate in urban and rural environments (Fire sector specific) removed Application of the Unit added Method of assessment added
1	PUA00 V8.1	Primary release on TGA

Unit Descriptor

This unit covers the competency required to navigate from an aircraft using visual techniques. Aviation operations occur in a heavily regulated environment. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

This unit applies to personnel required to obtain accurate intelligence information of fire activity and fire control progress from an aircraft.

This unit is required for roles within the Australasian Inter-service Incident Management System (AIIMS) such as Air Observer, Air Operations Manager, Air Attack Supervisor and Incendiary Operations Supervisor. All of these roles have a responsibility for providing intelligence to support planning and operations.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUAFIR209B Work Safely around aircraft (Fire specific)

Employability Skills Information

This unit contains employability skills.

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 Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for flight	1.1 Incident and/or task information is obtained. 1.2 Relevant maps and navigation equipment are gathered and checked. 1.3 Information and navigation techniques are applied to plot positions on a map or navigation chart, and to determine current location and destination within accepted tolerances. 1.4 Aircraft is selected and performance capabilities are considered.
2. Determine and plan a safe flight route	2.1 Preliminary flight route is determined using available information. 2.2 Assessment of hazards, topographical features and other considerations along proposed flight route and at destination is undertaken. 2.3 Preliminary flight route is modified in accordance with outcomes of hazard assessment. 2.4 Records are prepared in accordance with organisational requirements. 2.5 Pilot is briefed on task requirements, planned flight route and relevant information in accordance with organisational requirements.
3. Navigate to destination	3.1 Pilot is directed to follow planned route as required. 3.2 Record of proposed route and navigation aids are used to maintain compliance with planned route. 3.3 Location is determined by identification with ground features. 3.4 Current location is regularly verified within accepted tolerances. 3.5 Amendments to flight route are undertaken in accordance with changes in environmental factors, fire behaviour and operational requirements. 3.6 Lost en route procedures are implemented when required. 3.7 Unanticipated difficulties are reported in accordance with organisational procedures. 3.8 En route and arrival reporting information is transmitted in accordance with organisational procedures.
4. Complete post navigational activities	4.1 Report is completed in accordance with organisational policies and procedures.

4.2 Navigational equipment is maintained according to operational standards and manufacturer specifications.

Required Skills and Knowledge

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

Required Skills

- communicate effectively through verbal and written instructions, use of intercom and radio system and hand signals
- conduct grid/magnetic north conversions
- conduct latitude/longitude conversions
- handle maps and undertake orientation using navigational aids
- identify natural and cultural features
- operate effectively in an aircraft for extended periods
- solve problems

Required Knowledge

- alternate route strategies such as diversion due to weather or aircraft tactical issues, implementing lost procedures, use of global positioning system (GPS) and aircraft navigational equipment
- cartographic symbols and legends
- communication processes
- grid/magnetic conversion
- map and chart types
- marginal information on a map including contour interval, datum information, distance, grid references, latitude and longitude, legend, North point, scale
- methods for determining current location
- route planning techniques and calculations

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 competency in this unit

Assessment must confirm the ability to:

- plot a navigational route
- maintain accuracy within accepted tolerances when following route
- maintain positional awareness
- effectively react to changes in the operating environment necessitating re-planning of a course.

Consistency in performance

Competency should be demonstrated in a number of simulated and actual situations.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in simulated environments followed by assessment by an accredited operator on-the-job.

Specific resources for assessment

Access is required to:

- equipment used in operational navigation
- support agencies such as meteorological bureaus
- different maps including topographic, WAC (World Aeronautical Chart) and VEC (Visual Enroute Chart) charts for aerial navigation

Method of assessment

In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook.

Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment.

Assessment may occur in an operational environment or in an agency-approved simulated work environment. Forms of assessment that are typically used include:

- direct observation
- interviewing the candidate
- journals and workplace documentation

- third party reports from supervisors
- written or oral questions

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.

<i>Incident and/or task information</i> may include:	• data gathering • establishing incident access • establishing radii • locating incident • plotting fire fronts • rates of fireline construction
<i>Maps</i> may include:	• aerial photographs • aeronautical charts • digital maps • en route supplement (airfield orientation, contact information, runway information) • infrared line scan imagery • street directories • topographical maps • vegetation maps
<i>Navigation equipment</i> may include:	• area plotters • communications equipment • computers • digital displays • GPS • magnetic compass • planimeters • protractors • romers • scale rules • watch/stopwatch • writing equipment
<i>Plot positions on a map</i> includes:	• defining or plotting incident location • delineating search areas • planning access and egress routes • plotting proposed or alternate flight routes • plotting areas
<i>Accepted tolerances</i> may include:	• prevailing weather and environmental conditions • relating the margin of error allowable as determined by the nature of the task/incident terrain
<i>Performance capabilities</i> will	• airstrip length

be determined by:	• engine type • flight rules • load capability • persons on board • pilot ability • range • speed • weather
Hazards may include:	• danger/prohibited/restricted areas • ground resources • lack of visibility • masts/aerials • other aircraft • smoke • spot fires • terrain • weather conditions • wires
Topographical features may include:	• airfield location • altitudes for controlled airspace • cultural • dangerous/prohibited/restricted areas • elevation • flight corridors • hydrology • orientation • other aircraft • navigational aids (physical and electronic) • potential hazards • relief • vegetation
Other considerations may include:	• Aboriginal and Torres Strait Islander sacred sites and other areas of cultural significance • controlled airspace/restricted airspace • hazardous areas • military areas • radio frequencies (mandatory broadcast zones or common traffic advisory) • seasonal factors • wilderness areas
Pilot briefing may include:	• communications procedures

	• duration and flight to be flown • flight hazards • passengers • prominent terrain features • purpose of flight • route to be flown
Determining location may include:	• aircraft instrument cross referencing • GPS • grid and latitude/longitude conversions • magnetic conversions • plotting • time and distance calculation • visual determination from map information
Environmental factors may include:	• fire behaviour • need to match transportation mode to terrain • time of day • weather conditions
Reporting requirements may include:	• assessment of safety procedures utilised • completion of logs • flight following • input to debriefs • journal records • pre-departure briefing • sitreps

Unit Sector(s)

Not applicable.