



Australian Government

AVIY0088 Operate helicopter on solo navigation flights

Release: 1

AVIY0088 Operate helicopter on solo navigation flights

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to control a helicopter in normal flight in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes, navigating a helicopter to remote locations, operating in controlled and uncontrolled airspace, performing circuits and approaches, and complying with airspace requirements.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

If the Manual of Standards is amended after the publication of this unit of competency, the delivery of the unit must be in accordance with the latest Manual of Standards as published by CASA.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Conduct operational communication using an aeronautical radio

- 1.1** Effective communication is maintained with others on operational matters
- 1.2** Communication is conducted effectively in unfamiliar, stressful or non-standard situations
- 1.3** Phonetic alphabet is applied
- 1.4** Numbers are transmitted
- 1.5** Transmissions are made using standard aviation phraseology
- 1.6** Plain English is used effectively when standard phraseology is inadequate
- 1.7** Relevant responses are received to transmissions
- 1.8** Transmissions are responded to and correct action taken
- 1.9** Communication errors and misunderstandings are recognised and managed effectively
- 1.10** Clarification is sought in the time available if a message is unclear or uncertainty exists
- 1.11** A variety of regional accents are understood and respected
- 1.12** Communication is effectively conducted in unexpected, stressful or non-standard situations using standard phraseology or plain English

2 Maintain effective lookout

- 2.1** Traffic separation is maintained using a systematic visual scan technique at a rate determined by traffic density, visibility and terrain
- 2.2** Radio listening watch is maintained, and transmissions interpreted to determine traffic location and intentions
- 2.3** Airspace-cleared procedures are performed before commencing any manoeuvre

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| 3 | Maintain situational awareness | 3.1 | All aircraft systems are monitored using a systematic scan technique |
| | | 3.2 | Information is collected to facilitate ongoing system management |
| | | 3.3 | Flight environment is monitored for deviations from planned operations |
| | | 3.4 | Flight environment information is collected to update planned operations |
| 4 | Assess situations and make decisions | 4.1 | Problems are identified |
| | | 4.2 | Problems are analysed |
| | | 4.3 | Solutions are identified |
| | | 4.4 | Solutions and risks are assessed |
| | | 4.5 | A course of action is decided on |
| | | 4.6 | Plans of action are communicated as appropriate |
| | | 4.7 | Tasks are allocated for action as appropriate |
| | | 4.8 | Actions are taken to achieve optimum outcomes for the operation |
| | | 4.9 | Progress is monitored against plan |
| | | 4.10 | Plan is re-evaluated to achieve optimum outcomes |
| 5 | Recognise and manage threats | 5.1 | Relevant environmental or operational threats are identified that are likely to affect the safety of the flight |
| | | 5.2 | Competing priorities and demands that may represent a threat to the safety of the flight are identified |
| | | 5.3 | Countermeasures to manage threats are developed and implemented |
| | | 5.4 | Flight progress is monitored and assessed to ensure a safe outcome, or actions are modified when a safe outcome is not assured |
| 6 | Prepare documents and | 6.1 | Relevant navigation charts are selected and prepared |

flight plan		for the intended flight
7 Conduct pre-flight actions and procedures	6.2	A suitable route and altitude are selected considering weather, terrain, airspace, Notice to Airmen (NOTAM) and alternate landing areas
	6.3	Meteorological forecasts, NOTAMs and operational information applicable to the planned flight are obtained and interpreted
	6.4	Planned flight is determined if it can be conducted under the applicable flight rules and taking account of the beginning and end of daylight times
	6.5	Except for the Restricted Pilot's Licence navigation endorsement and the Private Pilot License, critical point (CP) and point of no return (PNR) locations are calculated and documented
	6.6	A flight plan to the planned destination and alternates are completed
	6.7	Suitable flight notification for search and rescue (SAR) purposes are lodged
	7.1	All required pre-flight administration documentation is completed
	7.2	Information contained in the required pre-flight operational documentation is obtained, interpreted and applied
	7.3	Special aerodrome procedures are identified
	7.4	All relevant radio and navigation aid facilities to be used during the flight are identified as applicable
	7.5	The suitability of the current and forecast weather conditions for the proposed flight is determined
	7.6	Weight and balance, in-ground and out-of-ground effect hover performance (rotorcraft only), take-off and landing performance, and fuel requirements are calculated based on environmental and operational conditions using the aircraft documents
	7.7	Aircraft serviceability is determined for the proposed flight

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| 8 | Comply with airspace procedures while navigating | 8.1 | Airspace restrictions and dimensions applicable to the flight are identified |
| | | 8.2 | Air traffic clearances are obtained and complied with, as applicable |
| | | 8.3 | Airspace procedures applicable to the airspace classification are complied with throughout the flight |
| 9 | Conduct departure procedures | 9.1 | Cockpit is organised to ensure charts, documentation and navigational calculator are accessible from the control seat |
| | | 9.2 | All departure procedures, clearances and noise abatement requirements are complied with |
| | | 9.3 | Planned track on departure is established within 5 nautical miles (nm) of airfield or alternative procedure applied, if required |
| | | 9.4 | Estimated time of arrival (ETA) for first waypoint is calculated |
| 10 | Navigate aircraft en route | 10.1 | A navigation cycle is maintained that ensures accurate tracking, and track correctional techniques are applied to re-establish track prior to waypoint or destination |
| | | 10.2 | Heading to achieve a nominated track is maintained |
| | | 10.3 | ETAs (± 2 minutes) for waypoint or destination is maintained and revised |
| | | 10.4 | Track is maintained in accordance with published flight path tolerances in controlled airspace |
| | | 10.5 | Navigation is performed using accepted map-reading techniques |
| | | 10.6 | Navigation and fuel log is maintained to monitor tracking, ETAs and fuel status |
| | | 10.7 | Appropriate techniques are used to obtain a positive fix at suitable intervals |
| | | 10.8 | Awareness of route, en route terrain, en route and destination weather is maintained, and changing weather conditions are reacted to correctly |

- 10.9** Pre-descent and turning point checks are performed
- 10.10** Appropriate radio communication is maintained and listening watch with Air Traffic Service and other aircraft conducted if radio is fitted and used
- 10.11** Aircraft is configured as required for environmental and operational conditions including turbulence, holding and maximum range
- 10.12** Awareness of search and rescue times (SARTIME) is maintained and revised as required
- 10.13** Aircraft systems are monitored, fuel and engine are managed to ensure aircraft is operated to achieve flight plan objectives

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the AVI Aviation Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is not equivalent to AVIY0062 Control helicopter in normal flight.

Links

Companion Volume Implementation Guides are found in VETNet' -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY0088 Operate helicopter on solo navigation flights

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required actions to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when controlling helicopter in normal flight
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using relevant controls, including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems associated with controlling a helicopter in normal flight
- turning a helicopter with the following parameters:
 - level turns
 - climbing turns with 20° bank angle

- powered descending turn with 30° bank angle
- using instruments to monitor helicopter performance
- working collaboratively with others when controlling helicopter in normal flight
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- application of a height/velocity diagram/graph
- application of heading and track
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations
- cause and effects of retreating blade stall
- circuit operations, patterns and procedures
- circumstances and procedures for the use of carburettor heat
- conditions leading to loss of tail rotor/anti-torque control during descent
- dangers of wind shear, turbulence and wake turbulence
- effect of turning and acceleration on magnetic compass accuracy
- forces and moments acting on a helicopter and precautions to manage their effects
- functions, and primary and secondary effects of all helicopter controls
- hazards and risks when controlling a helicopter in normal flight and precautions for controlling the risks, including:
 - in a climb
 - in a turn
 - in straight and level flight
- helicopter instruments and monitoring helicopter performance
- managing non-normal and emergencies in the circuit area
- operational documentation, including:
 - minimum equipment list (MEL)
 - maintenance release
 - weather forecasts
 - local observations
 - Notice to Airmen (NOTAM)
 - global navigation satellite system (GNSS) receiver autonomous integrity monitoring (RAIM) information
 - En Route Supplement Australia (ERSA)
 - Aeronautical Information Package (AIP)
- principles of aerodynamics
- problems that may occur when controlling a helicopter in normal flight and appropriate action that should be taken in each case

- procedures for setting power in normally aspirated, turbocharger, supercharged or turbine engines
- procedures for the use of trim controls if appropriate
- primary and secondary effects of helicopter controls
- recognition and avoidance of settling with power/vortex ring state
- relevant sections of CASRs and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- rotational and induced airflow
- theory and application of best rate and angle of climb
- use of instruments to monitor helicopter performance and significance of colour coding
- vortex ring state
- wind shear, turbulence and wake turbulence.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

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