Australian Government

Department of Education, Employment and Workplace Relations

AVIY5065A Operate a multi-engine helicopter

Revision Number: 1

AVIY5065A Operate a multi-engine helicopter

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to carry out take-off and departure procedures as a pilot in command of a multi-engine helicopter during visual, instrument and night conditions in normal, abnormal and emergency situations. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) and/or ADF; airspace control requirements and Day Visual Flight Rules (Day VFR), Night VFR, Instrument Flight Rules (IFR); and aircraft control principles, regulations, safety codes, protocols and procedures required when operating a multi-engine helicopter.

Use for ADF Aviation is to be in accordance with relevant Defence Orders and Instructions and applicable CASA compliance.

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

Work is performed under limited supervision.

This unit of competency is nominally packaged at Diploma.

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 describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate a multi-engine helicopter in all phases of flight	1.1 Normal multi-engine helicopter operations on ground and in flight are conducted in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
	1.2 Single engine operations contingencies for all phases of flight are anticipated and planned for
	1.3 Single engine operations contingency plan is briefed to crew members as required
2 Manage engine failure/malfunction	2.1 Helicopter control is maintained and/or regained (in simulated conditions)
	2.2 Failed/malfunctioning engine is identified and confirmed
	2.3 Power set on serviceable engine/s and helicopter configuration is adjusted to achieve desired aircraft performance
	2.4 Failed/malfunctioning engine is managed in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
	2.5 Decision to continue or abort approach/landing is made
	2.6 Decision height for landing is nominated
	2.7 Indicated airspeed is maintained at or above minimum level flight speed for one inoperative engine
	2.8 Air Traffic Control (ATC) or another agency capable of assistance is advised of situation and intentions
	2.9 Flight profile is flown from which a controlled landing could be achieved
	2.10 Recovery to a suitable landing site is evaluated and conducted in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
3 Perform rejected take-off with engine failure	3.1 Requirement for a rejected take-off is recognised (in simulated conditions)
	3.2 Rejected take-off procedures are implemented in accordance with Flight Manual/Pilot's Operating Handbook
	3.3 Contingency power on remaining engine(s) is applied if applicable
	3.4 Controlled landing in the rejected take-off distance available is performed
4 Conduct go-around or missed approach with engine failure	4.1 Requirement for a go-around or missed approach is identified and confirmed (in simulated conditions)
	4.2 Control of the helicopter is maintained
	4.3 Engine inoperative go-around is performed from decision height in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- Relevant OH&S and environmental procedures and regulations
- In Defence context, relevant Defence Orders and Instructions
- Aircraft performance limitations
- Markings on the performance instruments that apply to failed engine operations
- Normal and crosswind take-off/landing procedures
- Climb, cruise, descent procedures including airspeeds, configurations, method of drift allowance, setting of flight instruments and non-normal/emergency procedures
- Technique and procedures used during engine failure on take-off, the appropriate reference airspeeds, and the specific pilot actions required
- Technique and procedures for carrying out a rejected take-off after a engine/system(s) failure/warnings, including related safety factors
- Technique and procedures used to conduct a go-around or missed approach during engine failure on take-off, the appropriate reference airspeeds, and the specific pilot actions required

Required skills:

- Extract, calculate and apply all performance information applicable to the aircraft
- Identify and manage emergency and abnormal situations while maintaining control of the aircraft in accordance with Flight Manual/Pilot's Operating Handbook
- Identify the critical engine
- Control and manage the aircraft during flight with failed engine(s) in accordance with Flight Manual/Pilot's Operating Handbook
- Maintain compliance with relevant regulatory requirements
- Set priorities and manage workload to ensure safe task completion in the time available
- Apply relevant air safety practices and regulations
- Read and interpret instructions, procedures and information relevant to operating a multi-engine helicopter
- Communicate effectively with others when operating a multi-engine helicopter
- Complete documentation related to operating a multi-engine helicopter
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating a multi-engine helicopter
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others

REQUIRED KNOWLEDGE AND SKILLS

- Promptly report and/or rectify any identified problems that may occur when operating a multi-engine helicopter in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when operating a multi-engine helicopter
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when operating a multi-engine helicopter
- Monitor and anticipate operational problems and hazards and take appropriate action
- Monitor work activities in terms of planned schedule
- Modify activities dependent on differing workplace contingencies, situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment and operating environment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required when operating a multi-engine helicopter

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

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

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
- applying the underpinning knowledge and skills
- following relevant legislation and workplace procedures
- operating a multi-engine helicopter in all phases of flight in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
- managing an engine failure/malfunction in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
- performing a rejected take-off with engine failure in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook
- conducting a go-around or missed approach with engine failure in accordance with workplace procedures and Flight Manual/Pilot's Operating Handbook

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
- a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
- access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
- relevant and appropriate materials and equipment, and
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
- through activities in an appropriately simulated environment at the registered training organisation,

EVIDENCE GUIDE

and/or

- in an appropriate range of situations in the workplace

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.

Tasks may be undertaken in:	• variable weather conditions in accordance with Day Visual Flight Rules and Night Visual Flight Rules • simulated Instrument Meteorological Conditions (IMC) • IMC
Performance may be demonstrated in:	• multi-engine helicopter • multi-engine synthetic training device • variable air traffic conditions • variable weather conditions • variable flight situations • abnormal situations • classes of airspace as designated by the Civil Aviation Safety Authority
Night VFR environment may include:	• unaided • aided utilising night vision devices
Crew may include:	• single pilot • multi crew
Instruments may include:	• fitted flight instruments • head up display
Limitations may be imposed by:	• local noise abatement requirements and curfews
Classes of airspace are:	• those designated by the Civil Aviation Safety Authority • restricted and danger areas • Military control zones • Air Defence identification zones
Conditions may include:	• simulated IMC • simulated icing conditions • moderate turbulence • simulated hazardous weather • autopilot/flight director • FMS/other NAV system • simulation of emergency and abnormal procedures
Engine failures may occur:	• in flight • on ground • in hover • after take-off • during approach

RANGE STATEMENT

	• during landing
Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures • standard operating procedures
Information/documents may include:	• relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders pertaining to multi-engine helicopter operations • in Defence context, relevant Defence Orders and Instructions • Flight Manual/Pilot's Operating Handbook (POH) • Manual of Standards - Pilot Licensing (MOS-PL) • Aeronautical Information Publication (AIP) • relevant sections of Civil Aviation Advisory Publications (CAAP) • performance charts • operations manuals • approved checklists • workplace procedures and instructions and job specification • induction and training materials • conditions of service, legislation and industrial agreements including workplace agreements and awards
Applicable regulations and legislation may include:	• relevant Civil Aviation Safety Regulations and Civil Aviation Orders • in Defence context, relevant Defence Orders and Instructions • relevant state/territory OH&S legislation • relevant Australian Standards
Performance includes tolerances specified in either of:	• relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as: • Day VFR syllabus • Manual of Standards • relevant Defence documentation such as: • Defence Orders and Instructions • approved curricula and training documentation

Unit Sector(s)

Not applicable.

Competency field

Competency Field Y - Aircraft Operation and Traffic Management