



Australian Government

AVIY0047 Manage abnormal aeroplane flight situations

Release: 1

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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 manage abnormal aeroplane flight situations in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes managing engine failure after take-off, performing forced landings following engine failure, conducting precautionary search and landing, and managing on-board abnormal and emergency situations.

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 recreational, 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.

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

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Manage engine failure after take-off

- 1.1** Abnormal or failed engine indications are correctly identified
- 1.2** Control of aeroplane is maintained during emergency response procedures
- 1.3** Immediate actions are performed in accordance with pilot's operating handbook (POH)
- 1.4** Landing area within gliding distance is selected and emergency procedures performed in accordance with aircraft flight manual (AFM)/POH
- 1.5** Flight profile is flown, from which a controlled landing could be achieved
- 1.6** Air traffic services or other agencies capable of providing assistance are advised of situation and intentions

2 Perform forced landing following engine failure

- 2.1** Partial or complete engine failure condition is correctly recognised and appropriate emergency response identified
- 2.2** Control of aeroplane is maintained during emergency response procedures
- 2.3** Immediate actions are performed in accordance with POH
- 2.4** Recovery plan is formulated and explained, most suitable landing area within gliding distance selected and aeroplane manoeuvred to nominated landing area
- 2.5** Consideration is given to restarting engine as required, and engine is restarted as required
- 2.6** Optimal gliding flight profile is selected and flown, from which a controlled landing could be achieved
- 2.7** Air traffic services or other agencies capable of providing assistance are advised of situation and intentions
- 2.8** Passengers and/or flight crew members are updated on flight situation and are advised to adopt emergency

		positions, time permitting
	2.9	Aeroplane is landed ensuring safest outcome if engine restart is not achieved
3	Conduct precautionary search and landing	
	3.1	Flight circumstances are assessed and appropriate decision to perform a precautionary landing is made
	3.2	Intentions are communicated to other traffic or agencies as required
	3.3	Aeroplane is configured for inspection flight profile
	3.4	Landing area is selected and inspected for approach, landing distance, surface and obstacle clearance to ensure aeroplane can be landed safely
	3.5	Passengers and/or flight crew members are updated on flight situation and are advised to adopt emergency positions, time permitting
	3.6	Aeroplane is landed and secured and passengers managed as required
4	Manage on-board abnormal and emergency situations	
	4.1	Control of aeroplane is maintained during emergency response procedures
	4.2	Abnormal and emergency situations are correctly identified and managed in accordance with relevant emergency procedures and regulatory requirements
	4.3	Appropriate emergency procedures are followed in accordance with AFM/POH and published procedures while maintaining control of aeroplane
	4.4	Requirement for emergency evacuation of aeroplane is identified
	4.5	Emergency evacuation of aeroplane is executed as required

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.

Unit Mapping Information

This unit replaces and is equivalent to AVIY0019 Manage abnormal aeroplane flight situations.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY0047 Manage abnormal aeroplane flight situations

Modification History

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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 awareness of appropriate forced landing areas in aerodrome environments
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others, including when using radio
- compensating for the secondary effects of controls
- completing documentation related to abnormal aeroplane flight situations
- conducting flight with unreliable airspeed indications
- conducting precautionary search and landing
- ensuring compliance with relevant emergency procedures and regulatory requirements
- executing simulated emergency evacuation plans
- identifying aeroplane emergency evacuation conditions
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising workload
- managing engine failure after take-off
- managing on-board abnormal and emergency situations
- 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 aeroplane within its limitations and achieving optimum performance
- operating electronic communications equipment to required protocol
- performing forced landings following engine failure, including:
 - complete engine failure (simulated)
 - partial engine failure (simulated)
- performing various flight control functions simultaneously as required

- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising situations that may require a precautionary landing
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using relevant equipment in abnormal aeroplane flight situations
- 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
- using instruments to monitor aeroplane performance
- working collaboratively with others when managing abnormal aeroplane flight situations
- 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:

- action planning processes
- action required in an engine failure in flight, other than after take-off
- actions to be conducted following a forced landing
- aircraft performance in a glide (straight and turning)
- applicable engine failure and abnormal situation checklist items
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- causes leading to precautionary landings
- contents of flight manual and pilot's operating handbook (POH)
- controllability checks and external inspection procedures
- ditching procedures when specified in the aircraft flight manual (AFM), POH or company operations manual
- effects of partial engine failure on aeroplane performance with respect to straight and level flight and turning while maintaining level flight
- effects of partial engine power on performance, flight profile, range and landing options
- emergency radio procedures
- engine failure scenarios and procedures for partial and complete power loss
- factors affecting a stall
- factors to be considered when deciding whether to land immediately or proceed to a more suitable landing area after a partial engine failure
- forced landing scenarios and procedures
- functions and effects of all aeroplane controls
- hazard of sideslip at low altitude
- hazards associated with flying operations at low level

- hazards associated with turning an aeroplane at slow speed using large angles of bank while maintaining level flight following a partial engine failure after take-off
- height loss while gliding, including minimum height to achieve safe turns towards selected landing area
- in a Defence context, relevant Defence Orders and Instructions
- judging descent profiles in various configurations
- operation of safety/survival/life support equipment applicable to aeroplane type
- passenger control and briefing procedures for abnormal and emergency situations
- poor visibility configuration
- potential dangers of unbalanced flight at slow speed
- practical action plans for use in an engine failure after take-off
- pre-abandonment/emergency evacuation checks
- principles of aerodynamics
- prioritising activities during emergencies and non-normal situations
- relevant sections of aeronautical information package (AIP) related to abnormal and emergency flight situations
- relevant sections of CASRs and Civil Aviation Orders related to abnormal and emergency flight situations
- relevant sections of En Route Supplement Australia (ERSA) related to abnormal and emergency flight situations
- relevant WHS and environmental procedures and regulations
- suitable fields for forced landings and precautionary landings
- survival techniques following an emergency evacuation
- visual meteorological conditions (VMC).

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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