



Australian Government

Assessment Requirements for AVIY5023 Operate a multi-engine aeroplane

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.

Performance Evidence

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

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant air safety practices and regulations
- applying relevant legislation and workplace procedures
- calculating accelerate/stop distance
- calculating fuel flow and true airspeed with one engine inoperative
- calculating initial rate of climb and climb gradient for one engine inoperative after take-off
- calculating point no return (PNR) and equi time point (ETP)/critical point (CP) for one engine inoperative with maximum fuel
- calculating the speed beyond which take-off can no longer be safely aborted (V_1) for any specified take-off conditions
- communicating effectively with others
- completing relevant documentation
- controlling and managing aeroplane during flight with failed engine/s, in accordance with the aircraft flight manual (AFM)/pilot's operating handbook (POH)
- determining if range of aeroplane increases or decreases following an engine failure
- extracting, calculating and applying all performance information applicable to aeroplane
- identifying and correctly using equipment required to operate a multi-engine fixed wing aeroplane
- identifying critical/malfunctioning engine correctly
- identifying, and managing emergency and abnormal situations while maintaining control of the aeroplane
- 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
- maintaining compliance with relevant regulatory requirements

- 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 required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- setting priorities and managing workload to ensure safe task completion in the time available
- working collaboratively with others
- 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:

- airspeed limitations including:
 - velocity normal operations – V_{no}
 - velocity acceleration – V_a
 - velocity best angle of climb – V_x
 - velocity best rate of climb – V_y
 - velocity never exceed – V_{ne}
 - maximum flap extended speed – V_{fe}
 - velocity landing gear operations – V_{lo}
 - velocity landing gear extended – V_{le}
 - velocity landing gear down – V_{lo2}
 - maximum crosswind
 - turbulence penetration speed
 - maximum load factor
- conditions that would increase take-off decision speed (V_1)
- emergency airspeeds including:
 - velocity minimum control speed – V_{mca}
 - velocity safe single engine – V_{SSE}

- engine/s inoperative climb
- approach and final speed
- emergency descent
- best glide range speeds
- emergency procedures for
 - engine failure after take-off
 - engine fire on the ground and airborne
 - engine failure in the cruise
 - waste gate failure
 - propeller/turbine over-speed
- in a Defence context, relevant Defence Orders and Instructions
- markings on airspeed indicator that apply to failed engine operations
- methods of regaining control of an aeroplane with a failed engine that is flying at a speed less than V_{mc}
- normal and crosswind take-off and landing procedures:
 - climb
 - cruise
 - descent procedures including, airspeeds, configurations, method of drift allowance
 - setting of flight instruments
 - abnormal/emergency procedures
- other abnormal or emergency items as contained in the AFM/POH
- performance the aeroplane can achieve after reaching V_y or V_2 during asymmetric flight
- power, flight and configuration requirements that apply to V_{mc}
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS procedures and regulations
- safety implications of asymmetric flight below V_{mc}
- technique and procedure for carrying out a rejected take-off after engine/system/s failure/warnings, including related safety factors
- techniques and procedures used during engine failure on take-off, appropriate reference airspeeds, and specific pilot actions required
- techniques and procedures used to conduct an asymmetric go-around or missed approach during engine failure on take-off, appropriate reference airspeeds, and specific pilot actions required.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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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.

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

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 personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

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