Australian Government

Department of Education, Employment and Workplace Relations

AVIY4062A Perform an aerobatic sequence

Revision Number: 1

AVIY4062A Perform an aerobatic sequence

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to design and perform an aerobatic sequence while remaining within the aircraft's structural and engine limitations and the pilot's physiological limitations during visual flight. 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 AD; airspace control requirements and Day Visual Flight Rules; and aircraft control principles, regulations, safety codes, protocols and procedures required to perform an aerobatic sequence.

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

Operations are conducted within a variety of operational contexts within the Australian aviation industry.

Work is performed under limited supervision.

This unit of competency is nominally packaged at Certificate IV.

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 Design an aerobatic sequence	1.1 Performance parameters are identified based on physical limitations of the pilot and structural limitations of the aircraft 1.2 A sequence of aerobatic manoeuvres is designed that meets a specified requirement 1.3 Practical transitions are included between aerobatic manoeuvres 1.4 Performance parameters are identified based on a combination of aircraft attitude, power setting, altitude and speed that provide go-no-go guidance for safe completion of all manoeuvres above safety height
2 Perform aerobatic sequences above specified safety height	2.1 Specified sequences of manoeuvres are completed in accordance with aerobatics design 2.2 Performance parameters required for safe completion of the manoeuvre are achieved prior to commencement 2.3 Orientation with display axis is maintained 2.4 Energy potential of the aircraft is managed to ensure completion of manoeuvres and sequences of manoeuvres within aircraft structure and minimum height limits 2.5 Failure to achieve performance parameters (energy requirement) to complete a manoeuvre is recognised and aircraft is managed to regain control above safety height 2.6 Height at or above a specified altitude is maintained

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
- In Defence context, relevant Defence Orders and Instructions
- Relevant OH&S and environmental protection procedures and regulations
- Energy management principles applicable to aerobatic sequences
- Minimum height requirements to complete nose low (including pull through) to maintain above minimum height within the normal operating parameters of the aircraft
- Minimum height required to recover from a spin in the aircraft type being flown
- Unusual attitude recovery technique
- Aerodynamic principles applicable to the performance of aerobatic sequence
- Aerobatic sequence performance parameters
- Go/no-go performance criteria
- Aircraft limitations for the aircraft flown
- Environmental factors impacting the performance of aerobatic sequence
- Regulatory requirements applicable to the performance of aerobatic sequence

Required skills:

- Compensate for the secondary effects of controls
- Recognise situations which may require a precautionary landing or abandonment
- Compensate for meteorological effects on display sequence
- Operate the aircraft within its limitations, achieving optimum performance
- Identify symptoms of loss of control
- Select and use relevant equipment during aerobatics sequence
- Use instruments to monitor aircraft performance
- Recognise approaching maximum performance limitations of the aircraft
- Recognise approaching minimum safe altitude
- Communicate effectively with others when performing an aerobatic sequence
- Read, interpret and follow instructions, regulations, procedures and other information relevant to performing aerobatic sequence in an aircraft
- Complete documentation related to performing aerobatic sequence
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when performing aerobatic sequence
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and

REQUIRED KNOWLEDGE AND SKILLS

interactions with others

- Promptly report and/or rectify any identified problems that may occur when performing an aerobatic sequence in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when performing aerobatic sequence
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the performance of aerobatic sequence
- 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, 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 clothing and equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required to perform aerobatic sequence

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
- designing a sequence of aerobatic manoeuvres that meets a specified requirement and includes practical transitions between aerobatic manoeuvres
- identifying performance parameters that provide go-no-go guidance for safe completion of all manoeuvres above safety height
- completing specified sequences of manoeuvres in accordance with aerobatic design
- achieving performance parameters required for safe completion of manoeuvres prior to commencement
- maintaining orientation with display axis
- managing energy potential of aircraft to ensure completion of manoeuvres and sequence of manoeuvres within aircraft structure and minimum height limits
- recognising failure to achieve performance parameters to complete a manoeuvre, and managing aircraft to regain control above safety height
- maintaining height at or above a specified altitude

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

EVIDENCE GUIDE

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, 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 (VFR)
Performance may be demonstrated in:	• single engine aircraft • multi engine aircraft • variable air traffic conditions • variable flight situations • abnormal situations • classes of airspace as designated by the Civil Aviation Safety Authority
Aircraft may include:	• fixed wing • helicopter • other commercial or military aircraft
Crew may include:	• single pilot • multi crew
Instruments may include:	• fitted flight instruments • heads up display
Limitations may be imposed by:	• local noise abatement requirements and curfews • airspace endorsements
Aerobatic sequence area may include:	• flight training area • aerobatic box • display lines • audience lines and display axis
Specified requirements may include:	• stakeholders • display area • audience composition
Practical transitions may include:	• wingovers • modified entry and/or exit speeds
Imposed limitations may include:	• environmental • aircraft configuration
Dependent on the type of organisation concerned and the local terminology used, workplace procedures may be referred to as:	• company procedures • enterprise procedures • organisational procedures • established procedures • standard operating procedures
Information/documents may	• relevant sections of Civil Aviation Safety Regulations and

RANGE STATEMENT

include:	Civil Aviation Orders • 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) • En Route Supplement Australia (ERSA) • relevant sections of the Civil Aviation Advisory Publications (CAAP) • 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 • relevant Bureau of Meteorology, International Civil Aviation Organization (ICAO) and or World Meteorology Organization (WMO) publications
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 state/territory environmental protection legislation • relevant Australian Standards
Performance includes tolerances specified in either of:	• relevant licence and aircraft 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