



Australian Government

Department of Education, Employment and Workplace Relations

AVIY4008B Control aircraft solely by reference to full instrument panel

Revision Number: 1

AVIY4008B Control aircraft solely by reference to full instrument panel

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to perform all normal flight manoeuvres solely using the full instrument panel, including maintenance of straight and level flight, climbing and descending aircraft, performing a rate one turn, recovering from unusual attitudes, and re-establishing VFR conditions. 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 Defence; relevant airspace control requirements and Day Visual Flight Rules (Day VFR); and aircraft control principles, regulations, safety codes, protocols and procedures relevant to control of an aircraft solely by reference to the full instrument panel as part of commercial aircraft activities. Operations are conducted as part of commercial or military aircraft activities across a variety of operational contexts within the Australian aviation industry.

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

Work is performed under limited supervision.

This unit 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 Perform manoeuvres using the full instrument panel

- 1.1 Straight and level flight is maintained solely by reference to the full instrument panel
- 1.2 Aircraft is climbed and descended solely by reference to the full instrument panel
- 1.3 A rate one turn is performed onto a nominated heading solely by reference to the full instrument panel
- 1.4 Recovery from unusual attitudes is executed solely by reference to the full instrument panel
- 1.5 Adverse physiological sensations are accepted but ignored in accordance with established aviation practice
- 1.6 Corrective control movements are smooth
- 1.7 Instrument power sources are checked for serviceability and monitored in flight
- 1.8 Heading instruments are synchronised before take-off and regularly throughout the flight

2 Re-establish VFR conditions using the full instrument panel

- 2.1 Controlled flight is maintained solely by reference to the full instrument panel
- 2.2 Plan is developed that ensures re-establishment of visual flight
- 2.3 Safe altitude is maintained
- 2.4 Assistance is requested from ATS and/or emergency call to maintain safe operations
- 2.5 VFR conditions are re-established in accordance with regulatory requirements

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 procedures and regulations
- Principles of aerodynamics
- Functions and effects of all aircraft controls
- The function and limitations of flight instruments
- Pitot, airframe and carburettor icing and prevention/removal procedures
- Instrument failure warning flags and indications
- The physiological factors which may affect pilots during instrument flight
- The attitude and power requirements for respective conditions of flight
- Meteorological theory
- Full panel instrument scan technique
- Hazards that exist when controlling an aircraft by reference to the full instrument panel and related hazard control procedures and precautions
- Problems that may occur when controlling an aircraft by reference to the full instrument panel and action that should be taken in each case

Required skills:

- Perform manoeuvres and procedures solely by use of the full instrument panel
- Use instrument scan techniques applicable to the condition of flight
- Perform pitot/static and flight instrument system serviceability and functional checks
- Set the attitude indicator pitch datum for straight and level attitude
- Anticipate instruments lag in performance
- Compensate for the secondary effects of controls
- Perform trimming and balancing of aircraft
- Compensate for turning and acceleration errors
- Maintain orientation under simulated instrument flight conditions
- Control the aircraft by reference to the artificial horizon and gyro compass
- Confirm attitudes using performance instruments
- Interpret meteorological and NOTAM information
- Comply with regulatory requirements
- Communicate effectively with others when controlling an aircraft solely by reference to full

REQUIRED KNOWLEDGE AND SKILLS

instrument panel

- Read and interpret instructions, regulations, procedures and other information relevant to controlling an aircraft solely by reference to full instrument panel
- Interpret and follow operational instructions and prioritise workload
- Complete documentation related to controlling an aircraft solely by reference to full instrument panel
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when controlling an aircraft solely by reference to full instrument panel
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when controlling an aircraft solely by reference to full instrument panel in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when controlling an aircraft solely by reference to full instrument panel
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when controlling an aircraft solely by reference to full instrument panel
- 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 controlling an aircraft solely by reference to full instrument panel

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
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

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, 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.

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| Tasks may be undertaken in: | <ul style="list-style-type: none">• variable weather conditions in accordance with Day Visual Flight Rules• VMC with simulated IMC |
| Performance may be demonstrated in: | <ul style="list-style-type: none">• single engine aircraft• multi engine aircraft• synthetic training device approved by the appropriate authority• variable air traffic conditions• variable flight situations• abnormal situations• classes of airspace as designated by the Civil Aviation Safety Authority |
| Performance may be demonstrated on an aircraft with: | <ul style="list-style-type: none">• fully functioning dual controls• an electronic intercom system• dual control brakes• (if propeller-driven) a constant speed propeller• a cruise speed of at least 120 kts TAS at cruise power• a suitable means of simulating instrument flight conditions |
| Aircraft may include: | <ul style="list-style-type: none">• fixed wing• helicopter• other commercial or military aircraft |
| Crew may include: | <ul style="list-style-type: none">• single pilot• multi crew |
| Instruments may be: | <ul style="list-style-type: none">• fitted flight instruments suitable for instrument flight• head up display suitable for instrument flight |
| Limitations may be imposed by: | <ul style="list-style-type: none">• local noise abatement requirements and curfews |
| Classes of airspace may be: | <ul style="list-style-type: none">• as designated by the regulator• restricted and danger areas• military control zones• Air Defence Identification Zones |
| Unusual attitudes may include: | <ul style="list-style-type: none">• nose high and low• varying angles of bank and power settings• unbalanced flight |
| Adverse physiological sensations may include: | <ul style="list-style-type: none">• leans• disorientation |

RANGE STATEMENT

Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:

- airsickness
- 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 including Day Visual Flight Rules (Day VFR)
- 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)
- 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 state/territory environmental protection 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