



Australian Government

AVIY0011 Conduct maintenance test flight activities

Release: 1

AVIY0011 Conduct maintenance test flight activities

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 conduct maintenance test flight activities, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes reviewing maintenance records and flight test schedules, planning and briefing maintenance test flight sequences, and conducting pre-flight inspections. It also includes conducting engine start and ground checks, performing maintenance test flight sequences, interpreting test flight data, and completing post test flight administration.

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 maintenance 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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| 1 Review maintenance records and test flight schedule | 1.1 Maintenance records are reviewed to determine scope of maintenance test flight activities

1.2 Maintenance authority briefings are participated in to establish maintenance actions required, components to be test flown and outstanding aircraft unserviceabilities to be reviewed

1.3 Test flight schedule requirements are reviewed to determine appropriate maintenance component assessment plan |
| 2 Plan and brief maintenance test flight sequences | 2.1 Meteorological conditions are reviewed for suitability to conduct maintenance test flight activities

2.2 Flight planning information and flight notifications are advised to appropriate air traffic or support personnel

2.3 Aircraft performance is calculated to establish safe and effective flight test operating range of conditions

2.4 Planned maintenance test flight sequence is checked against authorised flight test schedules to ensure only necessary components are assessed to determine serviceability

2.5 Maintenance test flight sequence is organised based on risk management and time effectiveness principles

2.6 Maintenance test flight plan is briefed to all relevant personnel |
| 3 Conduct pre-flight inspection | 3.1 Pre-flight operational inspections are conducted to ensure affected aircraft components are prepared for flight test review and assessment

3.2 Flight control, engine and system checks that can be functionally performed prior to engine start are checked and/or tested

3.3 Aircraft components assessed as unserviceable during pre-flight inspections are recorded and decision is made to proceed with all, or part of, flight test activity |
| 4 Conduct engine start | 4.1 Engine start sequence is conducted while noting applicable |

and ground checks		aircraft system cautions, warnings and indication responses in accordance with flight test schedule
5 Perform maintenance test flight sequences	4.2	Aircraft components assessed as unserviceable during engine start sequences are recorded and decision is made to proceed with all, or part of, flight test activity
	4.3	Applicable flight control and system checks are performed prior to or immediately on commencement of aircraft taxi
	5.1	Aircraft is flown within areas appropriate for conducting maintenance test flight sequences
	5.2	Maintenance test flight sequences are performed in a manner that minimises risk to crew or potential damage to aircraft and associated systems
	5.3	Amendments to flight test schedule are made as required that do not compromise the safety of flight and maximise the effective use of available time
	5.4	Aircraft components assessed as unserviceable during maintenance test flight sequences are recorded and decision is made to proceed with all, or part of, flight test activity
	5.5	Aircraft flight controls, engines or system components are reviewed and assessed against flight test schedule requirements and decisions are made on individual or system component serviceability
	5.6	Aircraft is recovered to appropriate landing areas for post-flight inspections
6 Interpret test flight data	5.7	Post flight engine, flight control and system checks are carried out in accordance with flight test schedule
	5.8	Aircraft components assessed as unserviceable during post-flight inspections are recorded and included in post-flight reports and maintenance documentation
	6.1	Information recorded during flight is analysed to determine individual system serviceability in accordance with appropriate technical and flight manual data
7 Complete post test	6.2	Data is reviewed to determine whether aircraft has passed test flight or requires further test flying of all, or part of, flight test schedule
	7.1	Aircraft is released back into maintenance authority control

- flight administration**
- 7.2 Aircraft components assessed as unserviceable during pre-flight activities, test flight activities and post-flight inspections are recorded in maintenance documentation
 - 7.3 Flight test results are communicated to appropriate maintenance authority representative and/or relevant personnel

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY0011 Conduct maintenance test flight activities

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:

- applying aviation risk management principles to maintenance test flight activities
- applying relevant aeronautical knowledge
- applying threat and error management principles to maintenance test flight activities
- assisting pilot in command as required with pre- and post-flight inspections including components that have been affected by maintenance activities
- communicating effectively with others
- identifying and justifying a decision to operate an aircraft during test flight activities
- identifying, analysing and rectifying problems associated with operating aircraft during test flight activities
- liaising with crew and/or maintenance personnel during test flight activities
- reacting appropriately to avoid hazardous situations and/or dangerous situations that pose risks to safety of flight and personnel
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reviewing and interpreting flight test schedules, instructions, procedures and relevant information
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight.

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:

- actions to be conducted following a forced landing over or at sea during test flight activities
- applicable checklist items
- application of test flight management and handling techniques:
 - normal procedures
 - abnormal situation procedures

- emergency procedures
- aviation maintenance documentation:
 - interpreting aircraft servicing and maintenance periods
 - analysing aircraft maintenance history
 - recording flight test results and test data
- crew and/or pilot responsibilities during test flight sequences
- emergency radio procedures
- hazards and risks when conducting maintenance test flight activities and procedures, and precautions for controlling the risks
- local air traffic control procedures and instructions
- problems that may occur when executing advanced helicopter manoeuvres and procedures, and appropriate action that should be taken in each case
- relevant sections of aviation maintenance regulations and orders
- relevant sections of aviation safety regulations and orders
- task and workload management during maintenance test flight activities
- test flight schedules:
 - interpreting flight test requirements
 - determining appropriate flight test sequences.

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

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