



Australian Government

MEAAVI0037 Test, align and troubleshoot aircraft synchro and servo system components

Release: 1

MEAAVI0037 Test, align and troubleshoot aircraft synchro and servo system components

Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA252 Test, align and troubleshoot aircraft synchro and servo system components.

Application

This unit describes the skills and knowledge required to apply hand skills, test equipment and knowledge of analogue theory to test, align and troubleshoot synchro and servo components from fixed and rotary wing aircraft that are repaired or overhauled in aviation maintenance workshops during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MEA201 Remove and install miscellaneous aircraft electrical hardware/components

MEAAVI0038 Use electronic test equipment

MEA296 Use electrical test equipment in aviation maintenance activities

Competency Field

Aviation maintenance

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. Test synchro and servo system components	1.1 Prepare and connect synchro and servo system components to the appropriate test equipment or rig in accordance with standard enterprise procedures 1.2 Perform functional testing on components, or cycle components through prescribed test procedures, for evidence of serviceability or malfunction in accordance with maintenance

	manual while observing all relevant work health and safety (WHS) requirements 1.3 Identify and record faults or unserviceabilities in required maintenance documentation
2. Align synchro and servo system components	2.1 Adjust synchro and servo system components until operating within prescribed limits or tolerances in accordance with maintenance manuals and standard enterprise procedures to meet specifications
3. Troubleshoot synchro and servo system components	3.1 Use available information from maintenance records and inspection and test results to assist in fault determination 3.2 Troubleshoot faults and unserviceabilities using maintenance manual fault diagnosis guides and logic processes 3.3 Locate synchro and servo system component faults and identify and record causes of faults in required maintenance documentation 3.4 Determine requirements for rectification of faults

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret maintenance manuals, inspection procedures and specifications (allowable limits).
- Writing skills to record and report on defects and faults and their causes.
- Numeracy skills to interpret and communicate technical information.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA252 Test, align and troubleshoot aircraft synchro and servo system components.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>

Assessment Requirements for MEAAVI0037 Test, align and troubleshoot aircraft synchro and servo system components

Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA252 Test, align and troubleshoot aircraft synchro and servo system components.

Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- perform testing, alignment and troubleshooting on aircraft synchro and servo systems and components applicable to the enterprise, including at least one of the following:
 - air data computers
 - auto pilot servos
 - remote position indicators
- recognise the serviceability state and repair requirements for each of the following:
 - synchro/servo system error detection devices
 - direct current (DC) and alternating current (AC) synchronous components
 - gyroscopic instruments (mechanical, electro-mechanical, vacuum/pressure types)
 - flight control servo devices
- perform functional testing by applying logic processes to isolate synchro and servo system component faults
- apply testing procedures, cleanliness requirements and safety precautions at all times, and as relevant to the system components being maintained.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- component and system operation
- the basic function and operation of synchro and servo system components to enable testing for fault isolation or confirmation and to determine repair or overhaul requirements and serviceability status post-repair or overhaul
- basic principles and functions relating to synchro and servo system components and associated with:
 - advanced analogue fundamentals
 - synchronous systems
 - gyroscopes
- work health and safety (WHS) practices for aircraft synchro and servo systems

- maintenance manuals for aircraft synchro and servo systems.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in testing, aligning and troubleshooting aircraft synchro and servo system components. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to testing, aligning and troubleshooting aircraft synchro and servo system components
 - tools and equipment specified in maintenance documentation
 - general and special-purpose tools and test equipment required for testing, aligning and troubleshooting aircraft synchro and servo system components.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>