



Australian Government

Assessment Requirements for MEAMEC0048 Maintain aircraft diesel engines

Release: 1

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Modification History

Release 1. Application changed. 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 MEA360 Maintain aircraft diesel engines.

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:

- maintain at least one item from each of the following groups:
 - two- and four-stroke diesel aircraft engines, main components and accessories or drives
 - super or turbo charging systems
 - control system, including full authority digital engine control (FADEC) (where applicable to enterprise)
 - starter system
 - fuel and air systems
 - cooling system (liquid or air as applicable to enterprise)
 - exhaust system
 - oil system (if dry sump)
- recognise external and internal signs of defects in aircraft diesel engines, components and system components through visual and physical inspection
- assist with testing of diesel engine and engine system operation, be able to operate systems, monitor indications, record parameters and recognise correct function
- compile engine condition monitoring records
- rig and adjust engine controls and systems, including FADEC systems apply system testing procedures that take into account all safety precautions associated with diesel engine system operation (including interfaces with FADEC systems), and awareness of dual inspection requirements associated with work on engine controls.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- work health and safety (WHS) procedures associated with engine and propeller maintenance, including lifting and handling of heavy objects and how to obtain personal protective equipment (PPE) and material safety data sheets (MSDSs)
- fault diagnosis techniques

- two and four stroke diesel aircraft engines and engine system layout and operation:
 - principles of operation of two and four stroke diesel engines
 - component function, construction and materials
 - engine operation
 - engine power, efficiency and performance
- diesel aircraft engine super or turbo charging systems
- diesel aircraft engine fuels and lubricating oils
- diesel fuel injection systems
- FADEC operation
- diesel aircraft engine induction systems
- diesel aircraft engine cooling systems (liquid and air)
- diesel aircraft engine exhaust systems
- system component operation, including electrical and instrument system interfaces
- dry sump lubrication systems
- removal and installation procedures for diesel aircraft engines and engine components
- diesel aircraft engine maintenance requirements and troubleshooting
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures.
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Assessment Conditions

The following conditions of assessment represent the requirements of the regulators Defence Aviation Safety Authority (DASA) and Civil Aviation Safety Authority (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 maintaining aircraft diesel engines. 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 maintaining aircraft diesel engines
 - tools and equipment specified in maintenance documentation
 - general-purpose tools and test equipment found in most routine situations.

Testing of engines fitted to helicopters (where auxiliary drive is not available) shall be carried out through the individual directing a pilot qualified on type.

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