



Australian Government

MEA342 Apply basic aircraft power plant design characteristics

Release: 2

MEA342 Apply basic aircraft power plant design characteristics

Modification History

Release 2. Equivalent to MEA342 Apply basic aircraft power plant design characteristics with amended prerequisite codes.

Application

This unit of competency requires application of basic knowledge of propulsion and power plant selection for aeroplanes and rotary wing aircraft, piston engines and propellers/rotors, turbo prop, gas turbines and gas turbine/rotor.

The unit is part of Diploma and Advanced Diploma training pathways. It is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation Safety Authority (CASA).

Pre-requisite Unit

MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA154	Apply work health and safety practices in aviation maintenance
MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Competency Field

Aeronautical engineering

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1. Research and evaluate the types of aeroplane and rotary wing aircraft power plant and their relative advantages and	1.1	The types of aeroplane and rotary wing aircraft power plant are identified and compared in terms of relative advantages and disadvantages
	1.2	Types of propeller are identified and compared in terms of relative advantages and disadvantages

disadvantages

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| | 1.3 | Turbojet and turbofan performance is compared in terms of relative advantages and disadvantages |
| | 1.4 | Maintenance requirements for aircraft power plants are identified |
| 2. Apply basic power plant and propulsion system selection processes | 2.1 | Given required aeroplane use and performance characteristics an appropriate type of power plant is determined |
| | 2.2 | An appropriate type of propulsion system is selected |
| | 2.3 | Given required rotary wing aircraft use and performance characteristics an appropriate type of power plant is determined |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Types of aeroplane and rotary wing aircraft power plant include:

- Piston engine (petrol or diesel)
- Rotary
- Turboprop or gas turbine and rotor
- Turbofan
- Turbojet

Types of propellers include:

- Fixed pitch
- Adjustable pitch
- Constant speed
- Contra-rotating
- Tractor
- Pusher

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

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