

Title	Demonstrate knowledge of aircraft reciprocating powerplant maintenance practices		
Level	4	Credits	8

Purpose	<p>This is a knowledge-based unit standard for people pursuing standards in the aircraft powerplant maintenance domain.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: aircraft propeller maintenance practices; aircraft reciprocating engine maintenance practices; and aircraft gearbox and transmission maintenance practices.</p>
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Classification	Aeronautical Engineering > Aircraft Powerplant Maintenance
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Available grade	Achieved
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Guidance Information

- 1 All tasks must be carried out in accordance with the standards required by the aircraft or equipment manufacturer.
- 2 Standard practices referred to are those in the aviation industry, examples include Great Britain – Civil Aviation Authority, CAP 562: *Civil Aircraft Airworthiness Information and Procedures* (CAAIP) (London: TSO) and United States – Federal Aviation Administration, Advisory Circular 43.13-1B, *Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair* (US Department of Transportation).
- 3 The scope of the system that this standard relates to is described in the applicable chapters of ATA iSpec 2200.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of aircraft propeller maintenance practices.

Range fixed and variable pitch propellers.

Performance criteria

- 1.1 Propellers are described in terms of types, function, construction, and operating principles.

- 1.2 Propeller systems are described in terms of purpose, function, and operating principles.
- Range controlling, braking, indicating, de-icing.
- 1.3 Propeller system components are described in terms of purpose, function, location and operating principles.
- 1.4 Maintenance of propellers is described in terms of standard practices.
- Range propellers include – propeller assemblies, propeller systems, propeller system components; maintenance includes – inspection, troubleshooting, removal, installation, balancing, adjustment, testing; disassembly and reassembly of propellers for shipping.
- 1.5 Safety precautions are described in terms of their application to propeller and propeller system maintenance activities.

Outcome 2

Demonstrate knowledge of aircraft reciprocating engine maintenance practices.

Performance criteria

- 2.1 Reciprocating engines are described in terms of their purpose, function, construction, and operating principles.
- 2.2 Reciprocating engine systems are described in terms of purpose, function, and operating principles.
- Range induction, fuel, exhaust, turbo and supercharging, lubrication, fire protection, ignition, cooling, starting, engine controls, engine indicating.
- 2.3 Reciprocating engine system components are described in terms of purpose, function, and operating principles.
- 2.4 Maintenance of reciprocating engines is described in terms of standard practices.
- Range reciprocating engines include – engine assemblies, engine systems, and engine system components; maintenance includes – inspection, troubleshooting, component removal and installation, adjustment, and testing.
- 2.5 Safety precautions for reciprocating engine maintenance activities are described in terms of standard practices.

Outcome 3

Demonstrate knowledge of aircraft gearbox and transmission maintenance practices.

Performance criteria

- 3.1 Gearboxes and transmissions are described in terms of their purpose, construction, and operating principles.
- 3.2 Maintenance of gearboxes and transmissions is described in terms of standard practices.
- Range for engine assemblies, engine systems, and engine system components; maintenance includes – inspection, troubleshooting, component removal and installation, adjustment, and testing.
- 3.3 Safety precautions for gearbox and transmission maintenance activities are described in terms of standard practices.

Replacement information	This unit standard and unit standard 28136 replaced unit standard 7241.
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Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 2014	31 December 2021
Review	2	26 March 2020	N/A
Rollover and Revision	3	30 May 2024	N/A

Consent and Moderation Requirements (CMR) reference	0028
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Ringa Hora Services Workforce Development Council qualifications@ringahora.nz if you wish to suggest changes to the content of this unit standard.