

<b>Title</b>	<b>Demonstrate knowledge of aircraft reciprocating powerplant maintenance practices</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>8</b>

<b>Purpose</b>	<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>
----------------	---

<b>Classification</b>	Aeronautical Engineering > Aircraft Powerplant Maintenance
-----------------------	--

<b>Available grade</b>	Achieved
------------------------	----------

---

### 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, *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.

<b>Replacement information</b>	This unit standard and unit standard 28136 replaced unit standard 7241.
--------------------------------	---

<b>Planned review date</b>	31 December 2024
----------------------------	------------------

**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

<b>Consent and Moderation Requirements (CMR) reference</b>	0028
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact ServicelQ [qualifications@serviceiq.org.nz](mailto:qualifications@serviceiq.org.nz) if you wish to suggest changes to the content of this unit standard.