

## **Aircraft Maintenance Engineer Technician *On-the-Job Training Guide***

*Aircraft Maintenance Engineer Technicians maintain, replace and repair all components of all types of aircraft; perform scheduled inspections; and check avionic systems.*

**Training Requirements:** 7200 hours (4 years) including four 9-week training sessions delivered by Stevenson Aviation & Aerospace Training Centre, Red River College, in Winnipeg and Southport, Manitoba.

The journeyperson to apprentice ratio for this trade is: 1:1

The information contained in this pamphlet serves as a guide for employers and apprentices. The pamphlet briefly summarizes the tasks to be covered by the apprentice during the on-the-job portion of apprenticeship training. An apprentice spends approximately 85% of the apprenticeship term working on-the-job, learning the skills of the trade from a certified journeyperson.

The content of the training components is subject to change without notice.



Employers are advised that the apprentice should be exposed to the following trade content over the term of apprenticeship.

Employers should refer to “A Guide to Course Content” for this trade to determine sequencing of training activity at the technical institute.

- Apply accident prevention principles and practices to the workplace
- Applies WHMIS
- Follows fire protection procedures
- Identifies basic ground servicing equipment and purpose
- Recognises aviation fuels and refueling procedures
- Identifies aviation grease types and performance
- Demonstrates acceptable practices for care of aircraft exteriors and interiors
- Uses and maintains hand tools
- Identifies common aircraft hardware specifications and standards organizations
- Recognises aircraft hardware types and use
- Identifies steel cable types/use
- Identifies types of non-metallic aircraft hardware
- Identifies methods of safetying aircraft hardware
- Interprets specifications and standards for fluid lines and fittings
- Recognises types of lines and fittings
- Fabricates lines
- Installs lines and fittings
- Repairs rigid lines
- Recognises basic fuel system requirements
- Identifies, diagnoses and repairs/replaces fuel system components
- Fuel, defuels & tests fuel tanks
- Understands hydraulic fluids, seals & fluid dynamics
- Installs/services/repairs hydraulic system components
- Verifies the correct functioning of hydraulic systems in an aircraft
- Recognises operation of pneumatic systems and components
- Identifies landing gear types and function of components
- Verifies landing gear alignment, retraction and maintenance
- Determines maintenance and repair for wheel assemblies
- Maintains brake assemblies
- Maintains skis and floats
- Identifies aircraft structure and airfoil construction
- Maintains flight controls, auxiliary lift devices and fuselage
- Identifies aerodynamic principles
- Maintains assembly and rigging
- Applies Aeronautics Act, Air Regulations and Canadian Aeronautics Code Series II
- Applies regulations of Personnel Licensing Handbook
- Applies ATA 100 System
- Locates and interprets information in technical, information & airworthiness publications
- Identifies stores procedures
- Follows log book procedures
- Defines reciprocating engines
- Recognises principles of energy transformation
- Identifies construction and design of reciprocating engines
- Diagnoses induction and exhaust systems
- Diagnoses engine fuel systems, ignition systems, lubricating and cooling systems
- Monitors engine maintenance and operation
- Identifies propeller principles, operation, governors and synchronizing systems

- Verifies propeller inspection, maintenance and ice control
- Identifies turbo propellers
- Repairs aircraft fabric & sheet metal
- Performs aircraft refinishing
- Treats corrosion
- Identifies composite materials
- Determines weight and balance in aircraft
- Completes electrical load analysis
- Recognises electron theory
- Uses Ohm's Law
- Recognises circuit elements and circuit arrangements
- Identifies alternating current
- Tests electronic control devices
- Identifies measuring instruments
- Inspects motors, generators and batteries
- Implements standard wiring
- Identifies electrical system
- Identifies turbine engines, design and construction
- Recognises principles of energy transformation
- Identifies turbine fuel, ignition and starting systems
- Operates and maintains turbines
- Identifies fire protection systems
- Demonstrates fire extinguishing
- Recognises pressure and temperature measuring instruments
- Identifies gyroscopic instruments
- Calibrates direction-indicating instruments
- Maintains pneumatic operated instrument systems
- Tests pitot/static systems
- Inspects fuel monitoring systems
- Monitors stall warning and angle of attack systems
- Monitors electronic instruments
- Lays out, installs, maintains other instruments
- Explains analog/digital electronics
- Maintains communication systems
- Maintains navigation systems
- Maintain radar & autopilot systems
- Identifies physiology of flight
- Services oxygen & pressurization systems
- Identifies air conditioning systems
- Inspects heating and rain control
- Inspects welding/welds
- Specifies non-destructive inspection

**Consider apprenticeship training as an investment in the future of your company and in the future of your workforce. Ultimately, skilled and certified workers increase your bottom line.**

**Get involved in the apprenticeship training system. Your commitment to training helps to maintain the integrity of the trade.**

**Do you have employees who have been working in the trade for a number of years but don't have trade certification?**

**Contact your local apprenticeship office for details on how they might obtain the certification they need.**

**Saskatchewan Apprenticeship & Trade Certification Commission**

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