



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

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Saskatchewan  
Apprenticeship and  
Trade Certification  
Commission

# DESCRIPTION OF THE AIRCRAFT MAINTENANCE ENGINEER TECHNICIAN TRADE

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

**Training Requirements:** To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1800 hours each year. Total trade time required is 7200 hours and at least 4 years in the trade.

There are four levels of technical training delivered by Stevenson Aviation & Aerospace Training Centre, Red River College, Winnipeg and Southport, Manitoba:

Journeyman to apprentice ratio for this trade is 1:2

All individuals interested in indenturing in this trade must contact: Registrar, Apprenticeship Manitoba at (204) 945-4647 for information regarding registration and training.

The information contained in this document serves as a guide for employers and apprentices and briefly summarizes the training delivered at each level of apprenticeship training. An apprentice spends approximately 15% of the apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

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

## Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program, and receive journeyman certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language. Applicants whose first language is not English must have a minimum Canadian Language Benchmark Assessment of six (CLB6).

Note: A CLB assessment is valid for a one-year period from date of issue.

Designated Trade Name	Minimum Class Requirements		Recommended /Assets
	Mathematics <small>(one of the following)</small>	Science	
Aircraft Maintenance Technician	<b>WA 10 or F 10 or P 10 or Math 10</b>	10	<b>2, 6, 7</b>
<b>WA - Workplace and Apprenticeship; F – Foundations; P – Pre-calculus; 1 Biology 10; 2 Chemistry 20; 3 Physics 20; 4 Biology 30; 5 Chemistry 30; 6 Physics 30; 7 English and Math at Level 30</b>			

# TRAINING PROFILE CHART

This Training Profile Chart represents Stevenson Aviation and Aerospace Training Centre technical training at the topic level.

Level One	Transcript Code
Ground Handling	AMEG-1015
Aviation Math and Physics	AMEG-1017
Tools and Equipment	AMEG-1018
Airframe Fuel Systems	AMEG-1019
Aircraft Hardware	AMEG-1020
Hydraulic/Pneumatic Systems	AMEG-1022
Landing Gear	AMEG-1023
Structures Assembly and Rigging	AMEG-1025
Rotary Wing Theory of Flight	AMEG-1026
Human Factors	AMEG-1027
Weight and Balance	AMEG-1029

Level Two	Transcript Code
Composites	AMEG-2001
Reciprocating Engines	AMEG-2002
Propellers	AMEG-2003
Aircraft Structural Materials	AMEG-2004
Wood and Fabric	AMEG-2005
Dynamic Drive Systems	AMEG-2006
Vibration Analysis	AMEG-2007

Level Three	Transcript Code
Drawings	AMEG-3001
Metallic Structures	AMEG-3002
Maintenance Procedures	AMEG-3003
Turbine Engines	AMEG-3004
Environmental Systems	AMEG-3005

Level Four	Transcript Code
Canadian Aviation Regulations	AMEG-4001
Instruments	AMEG-4002
Avionics	AMEG-4003
Ice and Rain Protection	AMEG-4004
Electrical	AMEG-4005
Non Destructive Testing	AMEG-4006

**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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### **District Offices**

Estevan (306) 637-4930

La Ronge (306) 425-4385

Moose Jaw (306) 694-3735

North Battleford (306) 446-7409

Prince Albert (306) 953-2632

Saskatoon (306) 933-8476

Swift Current (306) 778-8945

Yorkton (306) 786-1394