

Aviation Technology- Aircraft Maintenance and Structural Repair

Program Learning Outcomes

Learning outcomes represent culminating demonstrations of learning and achievement. In addition, learning outcomes are interrelated and cannot be viewed in isolation of one another. As such, they should be viewed as a comprehensive whole. They describe performances that demonstrate that significant integrated learning by graduates of the program has been achieved.

The graduate has reliably demonstrated the ability to

1. Service aircraft systems on large or small, fixed or rotary wing aircraft in accordance with manufacturers' specified instructions while adhering to Canadian aviation regulations and company standards.
2. Test, troubleshoot, and repair aircraft using accepted aviation techniques and practices.
3. Evaluate fixed wing and rotary aircraft structures including transparencies, materials and fasteners, furnishings and fabric coverings, and lines and conduits, to complete maintenance, assembly, fabrication and repair work on large and small aircraft.
4. Perform scheduled and unscheduled inspections on aircraft systems, airframes (including damage assessment, damage classification, and corrosion assessment), instruments, and related components to ensure they are in proper working order and meet standards of performance and safety.
5. Remove, fit, and install replacement airframe components.
6. Remove, install, and configure the aircraft power plant and accessories on both turbine and piston engines.
7. Diagnose malfunctions and defects or other problems in aircraft systems, metallic and composite structures, instruments, and related components using technical manuals, drawings, blueprints, engineering orders, and standards of performance and safety.
8. Complete minor and major structural repairs and modifications in accordance with technical manuals, standard practices, and safety precautions.
9. Identify and use design criteria to generate damage repair schemes.
10. Evaluate wear and fatigue on system and structural components to determine necessary repair or replacement tasks.
11. Complete airworthiness directive, manufacturer's service bulletin, and engineering modification tasks on aircraft systems and metallic and composite structures.
12. Dismantle and reassemble airframes, aircraft engines and electrical and electronic systems for repair and overhaul.
13. Evaluate the structural integrity of airframes prior to and during disassembly.
14. Interpret written instructions, schematics, manufacturer's specifications, technical drawings, manuals, and computer-based information while performing routine and unscheduled tasks.
15. Design and generate damage reports, shop sketches and rectification statements.
16. Identify and employ modern manufacturing techniques used in advanced composite and sheet metal structures.

17. Maintain detailed inspection, repair, maintenance, and certification records and reports to meet industry regulations and logbook requirements.

18. Perform all work in accordance with health and safety regulations, manufacturers' instructions and specifications, Transport Canada guidelines, and company practices, policies and procedures.