

AirMaintenance Update

Open Book Exam 2025

**Please complete the exam
Using BLACK ink!**

Open Book Exam 2025

AIRMAINTENANCE UPDATE is Transport Canada approved for recurrent training. This is our 23rd exam, published annually in our June-July anniversary issue, in accordance with our agreement with Transport Canada. The exam consists of questions based on articles appearing in all six issues from the past year: June-July 2024, August-September 2024, October-November 2024, December 2024-January 2025, February-March 2025, April-May 2025.

You will require all six issues in order to write the exam. If you are missing any issues, call (604) 214-9824 or email chrissie@amumagazine.com. A 75 percent pass rate is required in order to qualify for your 16 hours toward RT. The questions in the exam are arranged in order of their appearance in AMU magazine according to issue and individual article.

The exam can also be downloaded from our website as an Adobe Acrobat PDF file. Answers should be printed in the spaces provided and must be drawn directly from the text of the articles in order to be considered correct. All questions requiring a longer answer than the space allowed must be typewritten on a separate sheet of paper.

Completed exams should be submitted to:
AirMaintenance Update
Unit 100 – 6660 Graybar Road
Richmond, BC, Canada V6W 1H9

The exam must be postmarked no later than October 31, 2025. We will mark your test and return it along with documentation supporting your submission. We will keep a copy of your written test and results on file for future reference, and a copy will be forwarded to Transport Canada. Once again, good luck to all participants!

Your Contact Information. Please, Use BLACK INK !

For a prompt and accurate response to your 2025 Exam answers, please fill in the following information (print clearly)

Name

Address

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Phone

Email

INSTRUCTIONS: Finish all of the following sentences presented in this exam: and Use BLACK ink !

**June - July 2024
(Volume 23/Issue 1)**



Transport Canada: Reports and Comments

01. The aircraft maintenance manual procedure for seat installation has a caution note stating: “do not turn internal pin inside hexagonal head screw...”

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02. Discussion of turnbuckle inspection usually focuses on swaged cable terminals such as part number (P/N) AN170 or similar that are threaded into ...

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03. Positive gear retraction/extension can be problematic when push-pull (conduit) cable function has been degraded, or otherwise described as ...

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04. Because of the blocked breather points, the crankcase was pressurized, and oil was forced through ...
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Raising the Bar: Catastrophe at the Die Cast Level

05. Irregularities caused by porosity cannot be detected through ...
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06. C450 is a custom stainless-steel alloy that provides improved mechanical strength and fatigue properties as compared to ...
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Off-Ramp News

07. E-Jets converted to freighters will have over 50 percent more volume capacity, three times the range of large cargo turboprops, and up to 30 percent lower operating costs than...
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08. NAV Canada recently sent out a reminder that May 16 marked the coming into force of the Canadian Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements Mandate for aircraft flying in...
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09. The ADS-B mandate is a crucial step in the direction of ...
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**August-September 2024
(Volume 23/Issue 2)**



Air Target 2045

10. Hydrogen contains more energy per kilogram than today's kerosene, and also has the advantage that the residual product of combustion is mainly ...
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Transport Canada: Reports and Comments

11. It is worth noting that the absence of a taper pin in the torque tube will not allow the landing gear to be ...
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12. Pilatus specifies in their MLG Component Maintenance Manual (CMM) that up to “25,000 flying hours or 30,000 landings (whichever comes first), the overhaul of the MLG is done ‘on condition’ and requires the disassembly, cleaning, check, repair (if necessary) and ...

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13. Transport Canada Civil Aviation (TCCA) has received several similar Service Difficulty Reports (SDRs) which indicate broken magneto mount flanges and/or adapters as well as ...

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Raising the Bar: Failure to Communicate

14. The occurrence aircraft, a de Havilland DHC-6-300 Twin Otter, is a twin-engine turbo-prop aircraft that features a high wing with struts, a fixed landing gear, and ...

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15. The DHC-6-300 fuel system consists of 2 main fuel tanks located in the belly of the aircraft beneath the passenger cabin and contains a total of 382 U.S. gallons (2574 pounds), of which 378 U.S. gallons (2548 pounds) are ...

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16. The maximum glide range for the DHC-6 is predicated on a descent gradient of 8.18% or approximately 2 NM of horizontal distance for every ...

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17. If flight crews descend rather than maintain altitude in fuel-critical situations where a possibility of fuel exhaustion is likely, the aircraft’s gliding distance will be reduced, increasing the risk of ...

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**October-November 2024
(Volume 23/Issue 3)**



Opinions: Steel the Indispensable Alloy

18. Although lighter weight materials are being explored, special steels remain indispensable for ensuring ...

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19. The demand for steel in aviation is also increasing due to ...

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Back to True

28. If the brake rotors are thicker on one side of the aircraft landing gear and thinner on the other, this can create a weight imbalance that can affect...

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29. Conventional rotary surface grinders (without technological enhancements) are a faster option than reciprocating surface grinders but can be problematic in ...

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AMU Chronicles

30. Fast forward to the present day and nearly all airline seats are still ...

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**December 2024-January 2025
(Volume 23/Issue 4)**



Opinions: The Consequence of Decisions

31. In fact, the efficiency difference is so great that a fuel-cell-powered plane would get about 50 percent more range than a H2ICE plane for ...

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32. The biggest fundamental issue with hydrogen as a fuel is...

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33. Another common talking point around hydrogen and its potential use as a fuel is that it is ...

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Transport Canada: Reports and Comments

34. Failure of main wheel tie bolts, otherwise known as thru-bolts by the type certificate holder, often result in ...

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Raising the Bar: Under Pressure

35. In order to operate the aircraft with other than aviation-grade fuel, such as MOGAS, a ...

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36. As of 01 February 2009, only 406 MHz ELT signals are monitored by ...

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Now Trending

37. GPS spoofing, also known as simulation, refers to the practice of manipulating or tricking a GPS receiver by ...

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AMU Chronicles

38. The D328eco is touted as being ideally suited to serve remote regions because ...

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**February-March 2025
(Volume 23/Issue 5)**



Transport Canada: Reports and Comments

39. Bell has received reports of model 412EPX helicopters experiencing loss of main transmission ...

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40. R44 Service Bulletin (SB)-62 identifies a failed throttle link where the bearing ...

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Raising the Bar: The Breakable Bond

41. Because there was also very little damage to the underside and to the sides of the fuselage, investigators determined that the aircraft ...

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42. The gas producer turbine nozzles contained minor metallic splatter that is consistent with high temperatures being present in the combustor section when ...

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The Composite Revolution

43. In 1978, Hartzell Propeller produced the first type-certificated primary structure composite propeller blade, a true monocoque design with ...

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44. The addition of carbon increased the capabilities of the design allowing composite blades on ...

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45. Due to the lower weight and corresponding lower moment of inertia, composite blade propellers can also enable a higher blade count, which can enhance performance across all flight spectrums, especially for ...

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**April-May 2024
(Volume 23/Issue 6)**



Opinions: Innovations Beyond the Horizon

46. To maximize fuel efficiency in propulsion, the physics of propulsive efficiency dictates that an engine should propel the largest possible volume of air at ...

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Transport Canada: Reports and Comments

47. Technicians should be aware that while troubleshooting electrical system anomalies on the A220 or any other aircraft platform, the integrity and electrical performance of crimped terminal lugs should not be assumed simply because ...

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Raising the Bar: Tangled up in Trees

48. The T53 series gas turbine engine has a 2-stage free-type power turbine, an external annular atomizing type combustor, and a 2-stage gas-producer turbine that drives a...

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49. A common issue is that the brazing alloy fails to bond one or both joining surfaces. This is normally caused by surface contamination but can also be the result of ineffective fluxing action or ...

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50. Another indicator of a poor brazing joint can be porosity in the joint (voids) due to excessive variable clearances, insufficient or uneven heating, or ...

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The End.



AirMaintenance Update