

AirMaintenance Update **open book exam 2023**

open book exam 2023

AIRMAINTENANCE UPDATE is Transport Canada approved for recurrent training. This is our 21st 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 2022, August-September 2022, October-November 2022, December 2022-January 2023, February-March 2023, April-May 2023.

You will require all six issues in order to write the exam. If you are missing any issues, call (604) 214-9824 or email chrisie@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 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, 2023. 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

For a prompt and accurate response to your 2023 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:

**June - July 2022
(Volume 21/Issue 1)**



TC Feedback

Finish the following sentences:

01. The Honeywell Maintenance Manual includes a caution for the fuel control unit (FCU) installation, stating that if the coupling between the FCU and fuel pump is not installed, the engine will ...

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02. It is common practice for many manufacturers to mate components together using...

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03. The securing hardware of the generator to its drive varies from basic stud mounts with nuts, to band clamps that encompass the generator and ...

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04. Please note that the IN/OUT markings on the fuel filter assembly casting are not visible when viewing through the under-wing filter access door as they are located on the top side of the casting inlet and...

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From Power to Pilotless

05. As it stands, biofuels are already in use and blended with traditional jet fuel of up to 50/50 in ratio – the maximum allowed under ...

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06. Hydrogen is being hailed as an important pathway to creating...

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07. Next generation avionics design is increasingly being geared towards ...

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Wings Through Time

08. The introduction of a new generation of lightweight, air-cooled radial engines revolutionizes aeronautics, making ...

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09. Boeing debuts the twin-engine 777, the biggest two-engine jet ever to fly and the first aircraft produced through ...

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**August-September 2022
(Volume 21/Issue 2)**



Passenger to Freighter Conversions

10. Historically, more than 90 percent of narrowbody freighters are ...

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11. Mid-size freighters are divided 50:50 between production and...

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Backcountry Workhorse

12. The use of wheel fairings is another of the Kodiak 900's ...

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13. As the Kodiak 900 sits higher in the rear than the Kodiak 100, a complete redesign of...

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14. The Kodiak 900 is powered by Pratt & Whitney Canada's 900-shaft horsepower PT6A-140A turboprop engine, which is tailored for the utility aircraft market and optimized for ...

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Raising the Bar

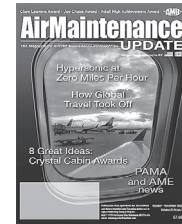
15. The Piper PA-31T is equipped with a 28-volt direct current electrical system powered by...

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16. The Piper PA-31T is equipped with two hydraulic systems: one for the retractable landing gear and landing gear doors and one for ...

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**October-November 2022
(Volume 21/Issue 3)**



Hypersonic at Zero Miles Per Hour

17. Above Mach 5, the temperature of atmospheric air as it rushes by is thousands of degrees and the pressure is ...

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18. If the incoming air is too hot, you really can't add more useful energy to the flow by...

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How Global Travel Took Off

19. The introduction of the Douglas DC-3 in 1935 also had a big impact on ...

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20. The airline [Laker] also found innovative ways to reduce fuel consumption and engine wear by introducing the reduced thrust take-off technique and faster climbs to obtain...

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Raising the Bar

21. The Bell model 212 is a utility helicopter powered by a ...

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22. The last opportunity to catch non-conforming material is when ...

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23. Reviewing the physical characteristics of the non-conforming pin against a conforming pin, the investigation determined that it would be unreasonable to expect the aircraft maintenance engineer to have been able to...

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24. The lack of training requirements for hardness testing within the standard operating procedures likely contributed to the procedure being ...

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AMU Chronicles

25. In the narrowbody segment, the re-engined A320neo variants have largely succeeded the...

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26. In the widebody arena, Airbus is replacing the original A330 with the...

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**December 2022-Jan. 2023
(Volume 21/Issue 4)**



TC Feedback

27. Maintenance personnel are advised to ensure that wheel bearings are properly greased and torqued to ...

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28. Transport Canada Civil Aviation (TCCA) would like to make operators and maintainers of similar models aware of these events, and urges everyone to be vigilant while inspecting the fuel pump area for ...

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29. Maintainers should be vigilant when replacing the power control cable and performing the ...

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30. Transport Canada Civil Aviation reminds operators and maintainers to strictly adhere to ICA, perform ground runs after maintenance, and have a colleague check the work performed before ...

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31. Maintainers and operators should investigate any brake pedal issues reported by the crew as BCVs with high time in service may be prone to ...

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32. To check the integrity of the internal brake valve spring, depress ...

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Flight Data Recorder

33. As recordings became digitized, the FDR and CVR combined into one unit called ...

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**February-March 2023
(Volume 21/Issue 5)**



Factors at Work

34. The last quartile of maintenance-related accidents occurred after ...

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35. ... the failure to perform a required preventive maintenance and inspection task category, the majority of the maintenance programs were not executed in compliance with federal regulations, nor with ...

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36. The fundamental feature of a helicopter’s design, a rotating wing, decouples the vehicle airspeed from that experienced by the airfoil or blade element on its ...

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37. ...rotating the wing raises a host of design and operational challenges and complexities, including issues related to vibrations and ...

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38. ...the likelihood of a helicopter to experience an accident decreases with ...

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Engine’s Actual Consumption

39. “One flight equals one cycle.” This has been the traditional method for measuring...

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40. The simple measurement used in old-fashioned lifing methods, is based on a worst-case scenario which might see parts removed well before ...

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Reports and Comments

41. Transport Canada Civil Aviation encourages owners, operators, and maintainers to submit a Service Difficulty Report if a fractured bearing roller is discovered during inspection of any helicopter model with a ...

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42. Soot is an obvious sign of exhaust gas leakage which should warrant a ...

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Raising the Bar

43. Safety culture within a company can be summarized as ...

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44. A structural fatigue test, completed as part of the primary structural element threat assessment, is intended to ensure the continuing airworthiness of a structural component, the failure of which could be...

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45. A dynamic load assessment helps determine the maximum damage size to be introduced into the ...

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46. The Van Horn composite main rotor blade is dimensionally (span and chord) the same as...

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**April-May 2023
(Volume 21/Issue 6)**



Vanquishing Vibrations

47. Theoretically, main rotor blades should all fly in the same plane and maintain...

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48. Experimentally it was found that the vibration information could be used to adjust pitch links and tabs to produce ...

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49. Early methods of balancing helicopter rotors were limited to static bubble balancing of rotor heads and weighing blades to be sure the rotor was ...

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50. With helicopter rotors, there is interaction between mass imbalance and ...

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..... The End.

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