

Water and Fuel Systems Maintenance (WFSM) Set B Volume 3 Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. At what pressure in psi does the pantograph pressure control valve relieve excess pressure during refueling?**
 - A. 45**
 - B. 55**
 - C. 65**
 - D. 75**

- 2. What is an important environmental concern related to fuel systems?**
 - A. Excessive flow rates**
 - B. Water contamination**
 - C. Temperature fluctuations**
 - D. Pressure stability**

- 3. What happens to the main valve during pantograph flushing based on action from solenoid B on the 58AF-9-1 defuel/flush valve?**
 - A. It opens when the solenoid energizes**
 - B. It closes when the solenoid energizes**
 - C. It opens when the solenoid deenergizes**
 - D. It closes when the solenoid deenergizes**

- 4. How much pressure in psi is the type 4 refueling control valve adjusted to maintain pressure at the skin of the aircraft?**
 - A. 40**
 - B. 45**
 - C. 50**
 - D. 55**

- 5. Which of the following components is part of the 302AF fueling and defueling valve system?**
 - A. Flange gasket**
 - B. Vacuum control switch**
 - C. Pressure differential control (DCHS-2)**
 - D. Coupling poppet**

- 6. If the pump is running, but no fuel is delivered, what should be your first diagnostic step?**
- A. Check the pump**
 - B. Check all valves**
 - C. Review the as-built drawing**
 - D. Check the fuel storage tank**
- 7. At what percent full does the switch assembly automatically energize the fuel transfer pump on the product recovery tank in a Type 3 system?**
- A. 65**
 - B. 70**
 - C. 75**
 - D. 80**
- 8. What is a backflow preventer?**
- A. A device that increases water pressure in the supply line**
 - B. A device that prevents contaminated water from flowing back into the clean water supply**
 - C. A device that filters impurities from water**
 - D. A device that measures water consumption**
- 9. What is triggered to close the main valve in a flush mode system?**
- A. Energization of the solenoid**
 - B. Deenergization of the solenoid**
 - C. Mechanical engagement**
 - D. Manual override**
- 10. How can the closing feature and rotary disc assembly of the 413AF-5A high level shut off valve be tested?**
- A. Using a manual tester on the HLV**
 - B. Pushing the test button on the pumphouse**
 - C. Pushing the test button on the pump control panel (PCP)**
 - D. Using a manual tester on the high-level shutoff float assembly**

Answers

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1. D
2. B
3. A
4. B
5. C
6. C
7. B
8. B
9. A
10. D

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Explanations

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1. At what pressure in psi does the pantograph pressure control valve relieve excess pressure during refueling?

- A. 45**
- B. 55**
- C. 65**
- D. 75**

The pantograph pressure control valve is designed to maintain proper fueling pressure during the refueling process. When the pressure exceeds a specified limit, the valve opens to relieve excess pressure, ensuring safety and preventing damage to the fueling system. The correct answer indicates that the relief valve activates at a pressure of 75 psi. This setting is specifically designed to protect the integrity of the system and maintain optimal operating conditions for refueling. Other pressures listed, such as 45, 55, and 65 psi, do not accurately represent the operational threshold for this particular valve. Each of those options is set lower than the threshold for the pantograph system, which can lead to inadequate pressure management and potential risks during refueling operations. Therefore, 75 psi is the optimal and safe setting for effective management of excess pressure during the refueling process.

2. What is an important environmental concern related to fuel systems?

- A. Excessive flow rates**
- B. Water contamination**
- C. Temperature fluctuations**
- D. Pressure stability**

Water contamination is a significant environmental concern related to fuel systems for several reasons. Fuel systems can inadvertently allow water to mix with fuel, resulting in a range of detrimental effects. Water in fuel can cause corrosion within the fuel tank and the fuel delivery system, leading to the deterioration of equipment and increased maintenance costs. Additionally, water contamination can enhance microbial growth, resulting in the formation of sludge and other harmful byproducts that can clog filters and injectors, impacting engine performance and reliability. From an environmental standpoint, the presence of water in fuel can also lead to leaks and spills, which may ultimately contaminate surrounding soil and groundwater. These environmental contaminants can pose risks to ecosystems, wildlife, and human health. Thus, managing water contamination is essential to ensuring both the integrity of the fuel system and the protection of the environment. The other options involve various states of the system, such as flow rates, temperature, and pressure. While these factors are important for maintaining fuel system efficiency and performance, they do not carry the same level of environmental risk as water contamination does. By focusing on preventing water contamination, fuel systems can operate more effectively while minimizing their environmental impact.

3. What happens to the main valve during pantograph flushing based on action from solenoid B on the 58AF-9-1 defuel/flush valve?

- A. It opens when the solenoid energizes**
- B. It closes when the solenoid energizes**
- C. It opens when the solenoid deenergizes**
- D. It closes when the solenoid deenergizes**

The main valve opens during pantograph flushing when solenoid B on the 58AF-9-1 defuel/flush valve is energized. This action allows for the flow of fluid, which is essential for the flushing process to occur effectively. In the context of the defuel and flush operations, energizing the solenoid activates the valve mechanism, leading to the opening of the main valve. This is critical for ensuring that the system can perform its intended function, allowing for the proper clearance of fuel or water through the system. Understanding how solenoids function within control systems, particularly in fuel and water systems, clarifies how energizing a solenoid results in opening the relevant valves. This principle is significant for ensuring system integrity and efficiency during the flushing operations.

4. How much pressure in psi is the type 4 refueling control valve adjusted to maintain pressure at the skin of the aircraft?

- A. 40**
- B. 45**
- C. 50**
- D. 55**

The type 4 refueling control valve is specifically designed to maintain a pressure of 45 psi at the skin of the aircraft during refueling operations. This pressure is crucial for ensuring a safe and effective refueling process, as it helps to prevent over-pressurization and ensures that fuel is delivered at the correct rate without causing damage to the aircraft's fuel system. By maintaining this specific pressure, the valve helps to optimize performance and safeguard the integrity of both the refueling system and the aircraft's structure. Understanding the operational parameters of the refueling control valve is essential for personnel involved in maintenance and safety checks within aviation fuel systems.

5. Which of the following components is part of the 302AF fueling and defueling valve system?

- A. Flange gasket**
- B. Vacuum control switch**
- C. Pressure differential control (DCHS-2)**
- D. Coupling poppet**

The pressure differential control (DCHS-2) is an integral part of the 302AF fueling and defueling valve system. It plays a vital role in maintaining proper fuel flow and pressure regulation within the system. This component ensures that fuel is transferred safely and efficiently by monitoring pressure differentials and making necessary adjustments to keep operations within desired parameters. In a fueling and defueling system, maintaining the correct pressure is crucial for preventing spills, leaks, or other hazardous conditions that could arise from imbalanced pressure levels. The DCHS-2 specifically helps to control the pressure differences that can occur during the processes of fueling and defueling, thus contributing to the overall safety and efficiency of the operations. Other components like flange gaskets, vacuum control switches, and coupling poppets serve their own functions in fueling systems but do not specifically refer to the pressure differential control which is fundamental to the 302AF valve system's operation.

6. If the pump is running, but no fuel is delivered, what should be your first diagnostic step?

- A. Check the pump**
- B. Check all valves**
- C. Review the as-built drawing**
- D. Check the fuel storage tank**

The first diagnostic step when a pump is running but no fuel is being delivered should focus on understanding the system's design and layout. Reviewing the as-built drawing provides critical information about the configuration of pipes, valves, and system components. This initial step helps to identify any potential issues in the layout that could affect fuel delivery, such as closed valves or blocked passages that may not be apparent just by inspecting the pump or valves directly. Understanding the construction and arrangement of the entire system enables you to pinpoint where the problem might be occurring and ensures you don't overlook critical components that may not be situated directly next to the pump. Without this foundational knowledge from the drawings, troubleshooting can become inefficient and may lead to unnecessary checks that do not address the underlying issue.

7. At what percent full does the switch assembly automatically energize the fuel transfer pump on the product recovery tank in a Type 3 system?

- A. 65
- B. 70**
- C. 75
- D. 80

In a Type 3 system, the switch assembly is designed to automatically energize the fuel transfer pump when the product recovery tank reaches a specific level. For this system, the pump activates at 70 percent full. This percentage is specifically calibrated to optimize the transfer of fuel while preventing overflow or unnecessary operation of the pump. The threshold of 70 percent is ideal as it ensures that the tank has sufficient capacity to handle the incoming fuel and helps maintain operational efficiency. This setting prevents issues such as contamination and ensures that the fuel system operates within its designed parameters, making it crucial for effective maintenance and reliability. Understanding this specific percentage helps with adhering to safe operating practices and enhances the overall functionality of the fuel system.

8. What is a backflow preventer?

- A. A device that increases water pressure in the supply line
- B. A device that prevents contaminated water from flowing back into the clean water supply**
- C. A device that filters impurities from water
- D. A device that measures water consumption

A backflow preventer is specifically designed to ensure that water flows in only one direction, preventing contaminated water from flowing back into the clean water supply. This is crucial for maintaining the safety and quality of drinking water, as backflow can occur due to a change in pressure in the supply system, potentially allowing harmful substances to enter the potable water source. The primary function of a backflow preventer is to protect against situations where contaminated water from a source, such as irrigation systems or industrial processes, could contaminate the clean drinking water supply. This device ensures compliance with health standards and protects public health by ensuring that water remains uncontaminated. In contrast, devices that increase water pressure, filter impurities, or measure water consumption serve different purposes and do not pertain to the prevention of backflow in a water system.

9. What is triggered to close the main valve in a flush mode system?

- A. Energization of the solenoid**
- B. Deenergization of the solenoid**
- C. Mechanical engagement**
- D. Manual override**

The main valve in a flush mode system is designed to close upon the energization of the solenoid. When the solenoid is energized, it creates a magnetic field that causes the valve mechanism to trigger and shut, which is essential for controlling the flow and ensuring the system operates correctly during the flush cycle. This function is critical in various applications, as it helps prevent overflows and maintains the integrity of the fluid system. In contrast, if the solenoid were deenergized, it would typically allow the valve to open or remain in its open position, which is not the intended operation during the flush mode. Mechanical engagement usually refers to a different actuating mechanism which might be used in non-solenoid applications, while manual override would require human intervention, making the system less automated and efficient in flush operations.

10. How can the closing feature and rotary disc assembly of the 413AF-5A high level shut off valve be tested?

- A. Using a manual tester on the HLV**
- B. Pushing the test button on the pumphouse**
- C. Pushing the test button on the pump control panel (PCP)**
- D. Using a manual tester on the high-level shutoff float assembly**

The closing feature and rotary disc assembly of the 413AF-5A high-level shut-off valve can be tested effectively using a manual tester on the high-level shutoff float assembly. This method directly engages the float assembly, which is designed to work closely with the valve's operation. By utilizing a manual tester, you can simulate the circumstances under which the float assembly indicates a high level, thereby allowing you to observe whether the valve closes as expected. This testing method is significant because it directly assesses the functionality of the float assembly alongside the closing mechanism of the valve, ensuring that it will respond appropriately in actual operational scenarios. The manual tester provides a controlled environment to verify the operational integrity of the system and confirm that the shutting-off process occurs, thereby preventing overfills and potential hazards associated with high liquid levels. The other options do not specifically engage the float assembly directly. For instance, using a manual tester on the high-level valve itself would not account for the complete system's feedback mechanism, while pushing buttons on different panels may not reflect the conditions that initiate the high-level shut-off function. Therefore, utilizing a manual tester on the high-level shutoff float assembly stands out as the most effective method for ensuring the shielded safety feature of the system.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://wfsmsetbvol3.examzify.com>

We wish you the very best on your exam journey. You've got this!

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