

Engine Fuel and Fuel Metering Systems Oral 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. What should be looked for during inspection of an engine-driven fuel pump?**
 - A. Leaks**
 - B. Security of mounting**
 - C. Maximum rated pressure**
 - D. Leaks and security of mounting**

- 2. Which device in the EEC system senses the power lever angle?**
 - A. Hydromechanical fuel control**
 - B. Power lever angle potentiometer**
 - C. Electronic fuel control unit**
 - D. Venturi**

- 3. How does the MAF sensor influence metering?**
 - A. It senses engine oil pressure.**
 - B. It directly measures fuel temperature.**
 - C. It estimates air mass entering the engine to adjust fueling.**
 - D. It provides an estimate of air mass entering the engine, which the ECU uses to compute required fuel quantity.**

- 4. Which of the following is an FADEC advantage?**
 - A. Requires no engine trimming.**
 - B. Constant idle speed with changes in conditions.**
 - C. Fully modulates active clearance control.**
 - D. Lowers fuel efficiency.**

- 5. What unit in a turbine engine fuel system is susceptible to the formation of ice?**
 - A. The fuel pump**
 - B. The fuel filter**
 - C. The fuel control**
 - D. The fuel nozzle**

- 6. Which option is NOT one of the three basic types of turbine fuel control units?**
- A. Hydraulic throttle control**
 - B. FADEC**
 - C. Hydromechanical electronic**
 - D. Hydromechanical**
- 7. What is the correct procedure to measure rail pressure with a Schrader-type test port?**
- A. Attach a fuel pressure gauge to the rail test port, relieve any stored pressure, turn the ignition on (engine off) to pressurize, read the static rail pressure, then compare to specification.**
 - B. Start the engine and read live rail pressure while the engine is running.**
 - C. Disconnect the fuel line and observe spray pattern.**
 - D. Disconnect the battery and measure voltage.**
- 8. Which statement about main fuel strainers is true?**
- A. They collect water and sediment and keep foreign matter out of carburetor**
 - B. They filter air**
 - C. They regulate ignition timing**
 - D. They lubricate the fuel system**
- 9. What data do modern metering systems primarily base fueling on?**
- A. Engine oil temperature**
 - B. Intake manifold vacuum**
 - C. Air mass via MAF sensor and injector calibration**
 - D. Battery voltage**
- 10. What is the action of a float-type carburetor accelerating system when the throttle is opened quickly?**
- A. Reduces fuel to prevent flooding.**
 - B. Supplies extra fuel during sudden increases in power.**
 - C. Maintains a constant fuel supply regardless of throttle.**
 - D. Shuts off fuel momentarily.**

Answers

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

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Explanations

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1. What should be looked for during inspection of an engine-driven fuel pump?

- A. Leaks**
- B. Security of mounting**
- C. Maximum rated pressure**
- D. Leaks and security of mounting**

Inspecting an engine-driven fuel pump focuses on two safety-critical checks: leaks and how securely the pump is mounted. Visible leaks around the pump or its fittings signal compromised seals or connections, which can lead to fuel loss, fire risk, and reduced fuel delivery. At the same time, the mounting must be secure—bolts or clamps tight and the pump firmly attached without looseness or wobble. A loose mount can cause vibration, misalignment with the drive, accelerated wear, or even failure and additional leaks. While the pump's maximum rated pressure is important for overall system design, a routine inspection centers on physical condition and proper installation rather than actively testing pressure capability. So looking for both leaks and secure mounting covers the essential checks.

2. Which device in the EEC system senses the power lever angle?

- A. Hydromechanical fuel control**
- B. Power lever angle potentiometer**
- C. Electronic fuel control unit**
- D. Venturi**

The lever position control input is what the engine control uses to decide how much fuel to meter. To do that accurately, the electronic engine control needs a direct, continuous measure of how far the power lever is moved. The power lever angle potentiometer sits on the power lever and turns the lever's angle into an electrical signal that the EEC can read. This signal tells the control exactly how much thrust is being requested, so it can adjust fuel flow accordingly. The other devices have different roles: a hydromechanical fuel control is the older metering mechanism driven by hydraulic and mechanical inputs rather than a direct electronic lever-sensing signal; the electronic fuel control unit is the computer that processes inputs including the lever angle signal; and a venturi measures air flow, not lever position. So the sensor that senses the power lever angle is the power lever angle potentiometer.

3. How does the MAF sensor influence metering?

- A. It senses engine oil pressure.
- B. It directly measures fuel temperature.
- C. It estimates air mass entering the engine to adjust fueling.
- D. It provides an estimate of air mass entering the engine, which the ECU uses to compute required fuel quantity.**

The essential idea is that fuel metering is driven by how much air is entering the engine. The MAF sensor measures the mass flow of air, typically in real time, and that information is sent to the engine computer. The ECU uses this data, along with other inputs like RPM and temperature, to determine how much fuel to inject in that cycle so the air-fuel ratio stays at the target value. In other words, when the MAF reports more air coming in, the ECU increases the fuel quantity; when it reports less air, it reduces it. This data is then refined by feedback from the oxygen sensor to fine-tune the mixture. That's why the statement that the MAF provides an air-mass estimate that the ECU uses to compute the required fuel quantity best captures how metering is controlled.

4. Which of the following is an FADEC advantage?

- A. Requires no engine trimming.
- B. Constant idle speed with changes in conditions.**
- C. Fully modulates active clearance control.
- D. Lowers fuel efficiency.

Holding idle speed constant as conditions change is a key benefit of FADEC. The digital engine control constantly monitors parameters like engine speed, temperatures, and ambient conditions, then precisely adjusts fuel flow and ignition timing to keep the idle target RPM. This automatic adjustment keeps idle steady when air density, bleed load, or engine wear vary, and it reduces the need for manual trimming and throttle input. The other statements aren't as accurate: trimming isn't entirely eliminated, active clearance control is a separate subsystem rather than something FADEC fully modulates, and FADEC's aim is to improve efficiency and control rather than lower fuel efficiency.

5. What unit in a turbine engine fuel system is susceptible to the formation of ice?

- A. The fuel pump
- B. The fuel filter**
- C. The fuel control
- D. The fuel nozzle

Ice formation in a turbine engine fuel system happens where moisture in the fuel tends to collect and freeze. The fuel filter is the key spot because water separates from the fuel and settles in the filter housing. When temperatures drop, that separated water can freeze, creating an ice plug that blocks or restricts fuel flow to the pump and onward through the system. That's why the fuel filter is the component most susceptible to ice formation — it accumulates water and sits in a cold path where freezing can easily occur. The other parts can experience icing under different conditions, but the filter's role as a water separator and its exposure to cold make it the prime site for ice blockage. Regular draining of any accumulated water helps prevent this problem.

6. Which option is NOT one of the three basic types of turbine fuel control units?

- A. Hydraulic throttle control**
- B. FADEC**
- C. Hydromechanical electronic**
- D. Hydromechanical**

Turbine fuel control units are categorized by how the fuel metering is controlled: a purely hydraulic/hydromechanical approach, a hybrid that combines hydromechanical elements with electronic sensing, and a full digital engine control. The three main types are hydromechanical, hydromechanical electronic, and FADEC (Full Authority Digital Engine Control). Hydraulic throttle control describes a mode or mechanism for opening and closing fuel flow, but it is not a recognized classification of the control architecture itself. Therefore, it isn't considered one of the three basic types.

7. What is the correct procedure to measure rail pressure with a Schrader-type test port?

- A. Attach a fuel pressure gauge to the rail test port, relieve any stored pressure, turn the ignition on (engine off) to pressurize, read the static rail pressure, then compare to specification.**
- B. Start the engine and read live rail pressure while the engine is running.**
- C. Disconnect the fuel line and observe spray pattern.**
- D. Disconnect the battery and measure voltage.**

Measuring rail pressure with a Schrader-type test port relies on getting an accurate, stable reading of the rail while the system is pressurized but not under injector load. The proper approach is to attach a fuel pressure gauge to the rail test port, first relieving any stored pressure so there's no risk of a spray when connecting the gauge. Then turn the ignition on with the engine off to activate the fuel pump and pressurize the rail, and read the static rail pressure. Finally, compare that reading to the specified value to determine if the system is within tolerance. This gives a clean baseline pressure that reflects the pump and regulator's performance without the variable effects of engine running and injector flow. Reading live pressure while the engine is running or attempting to observe spray patterns doesn't provide the correct baseline measurement, and measuring voltage by disconnecting the battery isn't relevant to rail pressure.

8. Which statement about main fuel strainers is true?

- A. They collect water and sediment and keep foreign matter out of carburetor**
- B. They filter air**
- C. They regulate ignition timing**
- D. They lubricate the fuel system**

Fuel strainers sit in the fuel line ahead of the carburetor to protect the metering system by catching debris and separating water from the fuel. The main purpose is to collect water and sediment and keep foreign matter out of the carburetor, preventing clogging of jets and passages and reducing corrosion from water contamination. This is essential for stable fuel delivery and smooth operation. The other statements don't fit because filtering air is the job of an air filter, ignition timing is set by the ignition system, and lubrication isn't the function of a strainer in the fuel path.

9. What data do modern metering systems primarily base fueling on?

- A. Engine oil temperature**
- B. Intake manifold vacuum**
- C. Air mass via MAF sensor and injector calibration**
- D. Battery voltage**

Modern metering bases fueling on the mass of air entering the engine. The ECU uses a MAF sensor to measure air mass flow and, together with known injector flow characteristics (injector calibration), calculates how much fuel to deliver each cycle to reach the target air-fuel ratio. This direct measure of air mass stays accurate across engine speeds, loads, and conditions, so the fuel amount can be precisely matched to the amount of air available for combustion. Intake manifold vacuum data can indicate engine load, but that approach is more typical of older or alternative systems (MAP/volume-based methods) and isn't the primary basis in most modern metering. Engine oil temperature mainly affects enrichment during cold starts or warm-up, not the core fueling calculation. Battery voltage can influence sensor readings and injector performance indirectly, but it isn't the primary data used to determine the fuel amount. The injector calibration ensures the commanded fuel aligns with the measured air mass to achieve the correct mixture.

10. What is the action of a float-type carburetor accelerating system when the throttle is opened quickly?

A. Reduces fuel to prevent flooding.

B. Supplies extra fuel during sudden increases in power.

C. Maintains a constant fuel supply regardless of throttle.

D. Shuts off fuel momentarily.

When you open the throttle quickly, the air rushes into the engine much faster than the normal fuel metering can keep up with. The accelerating system in a float-type carburetor is designed to handle this momentary mismatch by delivering a quick burst of fuel from the float bowl through a discharge nozzle into the incoming air. This extra fuel enriches the mixture just as the throttle opens, helping the engine respond smoothly and preventing a hesitation or bog that would occur if the mixture stayed lean. After that initial burst, the engine returns to the normal fuel supply guided by the main jets and metering system. The other options don't fit because reducing fuel to prevent flooding isn't the role of the accelerating system, maintaining a constant fuel supply ignores the need for a momentary enrichment during sudden acceleration, and shutting off fuel momentarily would cause a lean spike, not a smooth acceleration.

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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://enginefuelmeteringsysoral.examzify.com>

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

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