

FDNY COF to Operate and Maintain Air Compressors (A-35) Practice Exam (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 is a common sign of oil deficiency in an air compressor?**
 - A. An increase in air temperature**
 - B. Increased friction and unusual noises**
 - C. Reduced air pressure**
 - D. Frequent shutdowns**

- 2. How often should oil levels be checked in an air compressor?**
 - A. Once a week**
 - B. Every time the compressor is used**
 - C. Once a month**
 - D. Only during annual servicing**

- 3. Why is it important to test compressed air periodically?**
 - A. To check for leaks in the system**
 - B. To ensure it is free from contaminants**
 - C. To monitor energy consumption**
 - D. To prevent equipment wear**

- 4. What type of air compressor uses a piston to compress air?**
 - A. Rotary screw compressor**
 - B. Centrifugal compressor**
 - C. Reciprocating air compressor**
 - D. Diaphragm compressor**

- 5. What could be a consequence of not maintaining an inspection log for air compressors?**
 - A. Improved operational efficiency.**
 - B. Compliance issues and potential fines.**
 - C. Increased performance of the compressor.**
 - D. Enhanced safety protocols.**

- 6. If an air leak is noticed in the compressor system, what should you do?**
- A. Ignore it and continue working**
 - B. Call for maintenance support**
 - C. Immediately shut off the compressor and repair the leak**
 - D. Reduce the compressor's pressure setting**
- 7. Which electrical component should be inspected for evidence of defects during regular maintenance?**
- A. Power supply**
 - B. Motor starter**
 - C. Air compressor motor**
 - D. Pressure switch**
- 8. What is a significant risk if dust is drawn into the compression cylinder?**
- A. Reduced efficiency of the compressor**
 - B. Fire due to heat in the cylinder**
 - C. Lower pressure output**
 - D. Increased noise during operation**
- 9. What component is used to cool the air between stages in a multi stage air compressor?**
- A. A heater**
 - B. An intercooler**
 - C. A compressor cooler**
 - D. A pressure regulator**
- 10. What maintenance task is typically required after a certain number of hours of operation?**
- A. Filter cleaning**
 - B. Oil change**
 - C. Temperature check**
 - D. Calibration of gauges**

Answers

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

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Explanations

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1. What is a common sign of oil deficiency in an air compressor?

- A. An increase in air temperature**
- B. Increased friction and unusual noises**
- C. Reduced air pressure**
- D. Frequent shutdowns**

A common sign of oil deficiency in an air compressor is increased friction and unusual noises. When there is insufficient oil, the moving parts of the compressor experience more friction than they are designed to handle, leading to wear and tear. This can manifest as grinding, squeaking, or other unusual sounds that indicate that the compressor is not operating smoothly. The lubrication provided by oil serves to create a barrier between metal components, reducing friction, which in turn minimizes wear and prevents overheating. When the oil level is low, not only does the friction increase, but it can also generate heat due to the lack of proper lubrication. Continuous operation under these conditions can lead to serious mechanical failure and damage to the compressor. In contrast, while other signs like an increase in air temperature, reduced air pressure, and frequent shutdowns may also relate to various operational issues, they are not as directly indicative of oil deficiency as the sounds and friction mentioned. These symptoms could arise due to a variety of factors, including mechanical failure or external issues unrelated to oil levels. Therefore, recognizing unusual noises alongside the sensation of increased friction is a vital diagnostic step in maintaining compressor health.

2. How often should oil levels be checked in an air compressor?

- A. Once a week**
- B. Every time the compressor is used**
- C. Once a month**
- D. Only during annual servicing**

Checking the oil levels in an air compressor every time the compressor is used is crucial for several reasons. Proper lubrication is essential for the efficient operation of the compressor, preventing excessive wear on internal components and reducing the risk of mechanical failure. Oil plays a vital role in cooling, sealing, and cleaning the compressor, hence ensuring that it has the right level before use is imperative for optimal performance. Frequent checks help identify any leaks or oil consumption issues early on, allowing for timely maintenance actions that can prevent more significant problems down the line. This practice promotes not just the longevity of the machine but also safety, as insufficient oil levels can lead to overheating and potential breakdowns during operations. Additionally, maintaining the correct oil levels can help in achieving the manufacturer's expected performance specifications, ensuring that the compressor operates effectively and efficiently.

3. Why is it important to test compressed air periodically?

- A. To check for leaks in the system
- B. To ensure it is free from contaminants**
- C. To monitor energy consumption
- D. To prevent equipment wear

Testing compressed air periodically is crucial primarily to ensure it is free from contaminants. Contaminants such as water, oil, dust, and particulate matter can negatively impact both the performance and lifespan of equipment that relies on compressed air. If the air is not clean, it can lead to inefficient operation, compromise product quality, increase maintenance costs, and cause premature failure of air-driven tools and systems. While checking for leaks, monitoring energy consumption, and preventing equipment wear are also important factors in an air compressor system's operation and maintenance, the specific focus on the purity of compressed air directly relates to avoiding contamination that could affect operational efficiency and safety. Thus, prioritizing the cleanliness of compressed air helps maintain reliability and productivity in operations that depend on compressed air systems.

4. What type of air compressor uses a piston to compress air?

- A. Rotary screw compressor
- B. Centrifugal compressor
- C. Reciprocating air compressor**
- D. Diaphragm compressor

The type of air compressor that uses a piston to compress air is the reciprocating air compressor. This design utilizes one or more pistons that move up and down within a cylinder, creating a vacuum that draws air into the chamber. As the piston moves back down, it compresses the air, which is then discharged through a valve. Reciprocating compressors are known for their ability to produce high pressures and are widely used in applications requiring a steady supply of compressed air. They can also be found in various configurations, including single-stage and multi-stage designs, to accommodate different pressure requirements. The other types of compressors mentioned operate on different principles—rotary screw compressors use two interlocking screws to compress air, centrifugal compressors utilize a rotating impeller to accelerate air and convert that energy into pressure, and diaphragm compressors use a flexible diaphragm to compress the air without any mechanical contact, which is ideal for sensitive applications needing contamination-free air. Each of these systems has its unique advantages but does not involve pistons in the compression process.

5. What could be a consequence of not maintaining an inspection log for air compressors?

- A. Improved operational efficiency.**
- B. Compliance issues and potential fines.**
- C. Increased performance of the compressor.**
- D. Enhanced safety protocols.**

Maintaining an inspection log for air compressors is crucial for ensuring compliance with regulations and industry standards. Without this log, there can be significant consequences such as compliance issues. Regulatory bodies often require that equipment like air compressors be regularly inspected and maintained to ensure they operate safely and efficiently. Failing to keep a record can lead to penalties or fines if an inspection reveals that required maintenance has not been performed. Additionally, the log serves as a documented history of the compressor's maintenance, allowing for transparency and accountability. It helps in tracking any potential problems that could lead to equipment failure, poor performance, or even safety hazards. Overall, the absence of an inspection log can create an environment that may compromise safety and operational standards, making the responsibility of maintaining such records imperative for all operators and owners of air compressors.

6. If an air leak is noticed in the compressor system, what should you do?

- A. Ignore it and continue working**
- B. Call for maintenance support**
- C. Immediately shut off the compressor and repair the leak**
- D. Reduce the compressor's pressure setting**

When an air leak is detected in the compressor system, it is crucial to immediately shut off the compressor and repair the leak. This approach ensures safety and efficiency in operations. Continuing to operate the compressor with a leak can lead to further system damage, increased energy consumption, safety hazards, and a longer-term impact on the operational integrity of the compressor. Addressing leaks promptly helps maintain system pressure, reduces wear and tear, and prevents potential accidents that could arise from high-pressure release or failure of components. While calling for maintenance support is important for long-term repairs and ensuring the system is operating correctly, it should occur after taking immediate action to shut down the compressor when a leak is discovered. Ignoring the leak or simply reducing the pressure setting will not resolve the underlying problem and can expose personnel and equipment to risks. Therefore, the best course of action is to prioritize safety by turning off the compressor and addressing the leak directly.

7. Which electrical component should be inspected for evidence of defects during regular maintenance?

- A. Power supply**
- B. Motor starter**
- C. Air compressor motor**
- D. Pressure switch**

The motor starter is critical for controlling the operation of the air compressor's motor, making its proper function essential for both performance and safety. During regular maintenance, inspecting the motor starter for evidence of defects is important because it helps ensure that the motor can start and stop reliably without electrical failures. Defects in the motor starter, such as worn contacts, loose connections, or other components that may exhibit wear or damage, can lead to improper motor function, possibly causing overheating, tripping of circuit breakers, or incomplete operation of the air compressor. These issues could also introduce risks of electrical hazards and equipment failure. While inspecting other components like the power supply, air compressor motor, and pressure switch is important for overall maintenance, the motor starter specifically plays a pivotal role in facilitating the electrical supply and control to the motor. Because it interacts closely with both the electrical and mechanical aspects of the compressor, ensuring it is defect-free is crucial for the unit's overall reliability and safety.

8. What is a significant risk if dust is drawn into the compression cylinder?

- A. Reduced efficiency of the compressor**
- B. Fire due to heat in the cylinder**
- C. Lower pressure output**
- D. Increased noise during operation**

When dust is drawn into the compression cylinder of an air compressor, it can indeed lead to a significant risk of fire due to the heat generated within the cylinder. The presence of dust can create several issues, including compromising the lubrication in the cylinder, leading to higher temperatures. Additionally, dust particles can accumulate and act as a barrier to the efficient dissipation of heat, increasing the risk of ignition, particularly if flammable materials are present. This makes the maintenance of clean air intake critical in preventing hazardous conditions within the compressor system. By maintaining an adequate air filtration system and ensuring that the compressor is kept free of dust and contaminants, the risk of overheating and subsequent fire can be mitigated. Understanding this risk underscores the importance of proper compressor operation and maintenance protocols to ensure safety and efficiency.

9. What component is used to cool the air between stages in a multi stage air compressor?

- A. A heater**
- B. An intercooler**
- C. A compressor cooler**
- D. A pressure regulator**

In a multi-stage air compressor, the component used to cool the air between stages is the intercooler. As air is compressed in each stage, it generates heat due to the increase in pressure. If this hot air were to be compressed in subsequent stages without cooling, it would lead to reduced efficiency and potentially damage the compressor. The intercooler serves to remove this heat, thereby lowering the temperature of the air before it enters the next compression stage. This cooling process increases the density of the air and improves the overall efficiency of the compression process. Additionally, maintaining optimal temperatures helps prolong the life of the compressor components. The design and function of the intercooler are essential for effective multi-stage compression, ensuring that each stage operates within safe temperature limits for optimal performance.

10. What maintenance task is typically required after a certain number of hours of operation?

- A. Filter cleaning**
- B. Oil change**
- C. Temperature check**
- D. Calibration of gauges**

The maintenance task required after a certain number of hours of operation is an oil change. Regular oil changes are essential for keeping air compressors operating efficiently and prolonging their lifespan. Over time, the oil in the compressor can become contaminated with dirt, debris, and moisture, leading to reduced lubrication and increased wear on internal components. By adhering to a recommended oil change schedule, typically outlined in the manufacturer's guidelines, operators can ensure that the compressor runs smoothly and maintains optimal performance. While filter cleaning, temperature checks, and calibration of gauges are important maintenance tasks as well, they do not occur at the same specific interval based on cumulative operating hours as oil changes do. Filters may need to be cleaned or replaced based on usage but are not necessarily tied to a set number of operating hours in the same way that an oil change is. Temperature checks and gauge calibration are crucial for proper monitoring and accuracy but are performed more regularly as part of routine checks rather than strictly after a specific number of hours.

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://fdnycofa35.examzify.com>

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

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