



# C H A P T E R 1

## Safety in the Small Gas Engine Shop

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

### Learning Objectives

After studying this chapter, you will be able to:

- Explain why a clean, well-organized shop is extremely important.
- List several dangers associated with working in a small engine shop.
- Explain the importance of maintaining and using tools properly.
- Describe methods for minimizing the risks involved in working with small engines.
- Explain the function of OSHA.

**Instructions:** After studying the chapter, complete the following questions and problems.

1. Failure to adhere to safety rules in the small gas engine shop could lead to serious \_\_\_\_\_ or \_\_\_\_\_.  
1. \_\_\_\_\_  
\_\_\_\_\_
2. Why is it important to study the evacuation routes and be aware of your location whenever you are working in the shop?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Gasoline gives off vapors that can \_\_\_\_\_ if exposed to sparks or flames. 3. \_\_\_\_\_
4. Name three practices that should be followed to minimize fire hazards in the small gas engine shop.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Never pour gasoline into the tank of a(n) \_\_\_\_\_ engine. 5. \_\_\_\_\_
6. Tools that have been used should always be picked up and placed neatly in a(n) \_\_\_\_\_ or on a(n) \_\_\_\_\_. 6. \_\_\_\_\_  
\_\_\_\_\_
7. The highly flammable gas given off by batteries during charging and discharging is \_\_\_\_\_. 7. \_\_\_\_\_

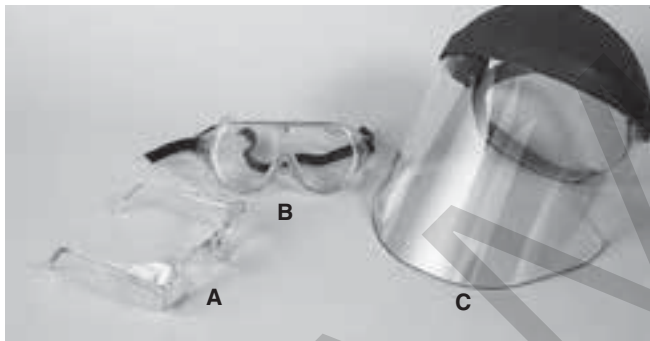
8. Why should gasoline *never* be used as a cleaning solvent? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. When working with solvents, always wear rubber \_\_\_\_\_ and safety \_\_\_\_\_. 9. \_\_\_\_\_  
\_\_\_\_\_

10. When working with small gas engines, \_\_\_\_\_ should not be worn. 10. \_\_\_\_\_  
A. loose-fitting clothing  
B. jewelry  
C. neckties  
D. All of the above.

11. How can long hair be worn safely when working around engines, implements, and moving machinery? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Identify the types of eye and face protection shown below. 12. A. \_\_\_\_\_  
B. \_\_\_\_\_  
C. \_\_\_\_\_



13. Two types of ear/hearing protection that can be worn are \_\_\_\_\_ and \_\_\_\_\_. 13. \_\_\_\_\_  
\_\_\_\_\_

14. List four common sources of excessive noise. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. To prevent foot and toe injury, \_\_\_\_\_ should be worn. 15. \_\_\_\_\_

16. Carbon monoxide (CO) is a gas given off by running gasoline engines. Breathing small amounts of carbon monoxide will cause \_\_\_\_\_ and \_\_\_\_\_. 16. \_\_\_\_\_  
\_\_\_\_\_

17. When running an engine in the shop, what precautions should be taken to avoid inhalation of carbon monoxide fumes? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

18. For protection against the inhalation of dust and toxic fumes in the shop, a(n) \_\_\_\_\_ should be worn by the technician. 18. \_\_\_\_\_
19. To prevent injury, it is best to \_\_\_\_\_ wrenches toward your body. 19. \_\_\_\_\_
20. When using hammers, handles must be in good condition and hammer heads must be \_\_\_\_\_ so that they do not come off. 20. \_\_\_\_\_
21. Power tools should have all \_\_\_\_\_ and \_\_\_\_\_ in place. 21. \_\_\_\_\_
22. What is the purpose of a "dead man switch" on power tools? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
23. Before making any adjustments to a power tool or machine, what should you do? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
24. Compressed air is very useful in the shop, but it can also be hazardous when improperly used. List three safety rules to follow when using compressed air. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
25. When lifting heavy objects, you should always lift with your \_\_\_\_\_. 25. \_\_\_\_\_  
A. legs  
B. back  
C. arms  
D. All of the above.
26. \_\_\_\_\_ is the most common cause of shop fires. 26. \_\_\_\_\_
27. Before using electrical equipment, check wires for \_\_\_\_\_ or \_\_\_\_\_. 27. \_\_\_\_\_
28. All electrical equipment should be properly grounded or double \_\_\_\_\_. 28. \_\_\_\_\_
29. Why should circuit breaker switches be labeled? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

30. Why should you *never* operate engines at speeds exceeding those recommended by the manufacturer?

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31. When an engine is running, all \_\_\_\_\_ and \_\_\_\_\_ should be in place. 31. \_\_\_\_\_

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32. Engine ignition systems produce voltages as high as \_\_\_\_\_ volts and can cause electrical shock. 32. \_\_\_\_\_

33. In addition to wearing ear/hearing protection, make sure engines are always operated with the \_\_\_\_\_ installed. 33. \_\_\_\_\_

34. Explain why it is important to locate the eyewash station(s) in your work area and know how to use them before you need them. \_\_\_\_\_

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35. All fire extinguishers should be inspected \_\_\_\_\_. 35. \_\_\_\_\_  
A. weekly  
B. yearly  
C. monthly  
D. bimonthly

36. If there is a gasoline or oil fire in the shop, a Class \_\_\_\_\_ fire extinguisher should be used to put it out. 36. \_\_\_\_\_

37. Where should the first aid kit be located? \_\_\_\_\_

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38. All businesses and industries are required to follow safety regulations established by a governmental organization called \_\_\_\_\_. 38. \_\_\_\_\_

*Research and write complete answers to the following questions.*

39. Explain why safety is so important in the outdoor power equipment industry. \_\_\_\_\_

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40. Explain the benefits for a technician who works in a safe, clean working environment. \_\_\_\_\_

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