



C H A P T E R 1

Safety in the Small Gas Engine Shop

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.

Instructional Materials

Text

Review Questions
Suggested Activities

Workbook

Review Questions
Job 1, *Shop Safety*

Instructor's Resource

Reproducible Masters:
RM 1-1: *Fire Extinguishers and Fire Classifications*
RM 1-2: *Hazardous Material Reference Chart*
Lesson Slides (CD only):
LS 1-1: *Personal Protective Gear*
LS 1-2: *Lifting Technique*
Chapter Quiz

Reproducible Masters

RM 1-1: Fire Extinguishers and Fire Classifications. Use this reproducible master when discussing the various fire and fire extinguisher classifications. Be sure to mention that an extinguisher designed for use on chemical and electrical fires should be present in the small engine shop. Point out the locations of the fire extinguishers in your shop.

RM 1-2: Hazardous Material Reference Chart. This reproducible master can be used when discussing the hazardous materials encountered in the small engine shop. Be sure to point out specific materials that are found in your shop.

Lesson Slides (CD only)

LS 1-1: Personal Protective Gear. Use this lesson slide when discussing the types of personal protective gear that should be worn in the small engine shop.

LS 1-2: Lifting Technique. This lesson slide shows the correct and incorrect techniques for lifting heavy items. Point out that the back should be kept as straight as possible when lifting heavy objects. Recommend that students ask for help when moving heavy items.

Answers to the Review Questions

1. True
2. fall
3. gasoline
4. True
5. D. All of the above.
6. colorless, odorless
7. True
8. clothing, hair
9. B. legs
10. True
11. True
12. hydrogeng as
13. True
14. safe work practices

Answers to the Workbook

1. injury, death
2. everyone's
3. ignite (explode)
4. Keep the shop neat and clean, store rags in proper containers until discarded safely, and store flammable liquids in closed safety containers.
5. hot
6. toolbox, workbench
7. hydrogen
8. Gasoline has a low flashpoint and can be ignited easily.
9. gloves, goggles
10. D. All of the above.
11. Long hair should be worn up or secured under a cap.
12. A. Safetyg lasses
B. Safety goggles
C. Face shield
13. headphone type protectors, earplugs

14. Any order: air tools, power tools, engines operating under load, engine running in an enclosed space. Other answers may be accepted at the instructor's discretion.
15. safety shoes
16. drowsiness, headaches
17. A properly maintained ventilation system should be running and the doors and windows should be open.
18. respirator
19. pull
20. secure
21. guards, shields
22. A dead man switch automatically shuts a power tool off if the operator releases the control button.
23. Shut the tool/machine off, wait for it to stop completely, and unplug it.
24. Any three of the following: always wear safety goggles; never use it to clean hair or clothing; check all connections before turning on system; always hold hose nozzle tightly; and never set hose down without shutting off air nozzle.
25. A. legs
26. electricity
27. fraying, cracking
28. insulated
29. So they can be identified in an emergency.
30. The use of excessive speed can cause parts to break loose from the engine, causing personal injury.
31. guards, shields
32. 30,000
33. mufflers
34. C. monthly
35. B
36. C
37. The first aid kit should be located in a prominent location.
38. Occupational Safety and Health Administration (OSHA)
39. Student answers will vary. Evaluate individually.
40. Student answers will vary. Evaluate individually.

Answers to the Chapter Quiz

1. B. safety cabinets
2. B. Hydrogen
3. C. flash point
4. B. a cap
5. B. steel inserts
6. A. Carbon monoxide
7. D. 30
8. A. flammable liquids
9. False
10. True
11. False
12. False
13. risks
14. falls
15. shield