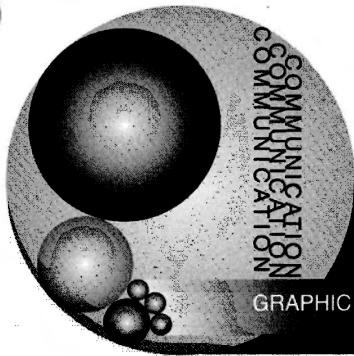


Name \_\_\_\_\_

Date \_\_\_\_\_ Score \_\_\_\_\_

# Lithographic Press Operation and Troubleshooting



## Learning Objectives

After studying this chapter, you will be able to:

- Identify the different types of equipment and fundamental principles used to operate a sheet-fed offset press.
- Describe how to set up and operate the feeding system of a press.
- Demonstrate the procedures used to prepare and adjust the press cylinders in a printing system.
- Prepare and maintain fountain solutions for use in a dampening system.
- Operate and make adjustments to an inking system.
- Summarize the components and operational methods used in a press delivery system.
- Recognize common problems related to the operation of an offset press and make corrections to the system.

Answer the following questions. Write your answer in the space provided.

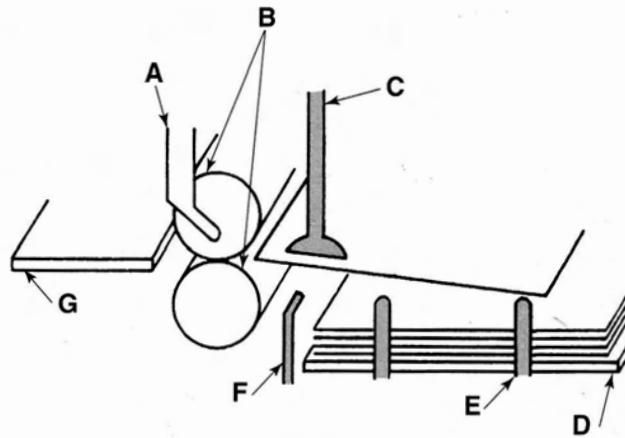
1. A press operator familiar with the design of a(n) \_\_\_\_\_ can use many of the same guidelines and techniques when operating other presses. 1. \_\_\_\_\_
2. What type of press is often found in small commercial print shops and in-plant printing operations?  
\_\_\_\_\_
3. Explain the function of each press cylinder in a three-cylinder printing system.
  - A. Plate cylinder \_\_\_\_\_  
\_\_\_\_\_
  - B. Blanket cylinder \_\_\_\_\_  
\_\_\_\_\_
  - C. Impression cylinder \_\_\_\_\_  
\_\_\_\_\_
4. Each press cylinder must be properly aligned and \_\_\_\_\_ to provide the amount of pressure necessary to transfer images to paper. 4. \_\_\_\_\_

5. \_\_\_\_\_ positioned along the edges of the paper on the feeding platform are used to separate the top sheet from the rest of the stack by producing streams of air.
- a. Paper guides
  - b. Side guides
  - c. Sheet separators
  - d. Sucker feet

5. \_\_\_\_\_

6. Identify the equipment used by the sheet-fed press feeding system below.

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_
- E. \_\_\_\_\_
- F. \_\_\_\_\_
- G. \_\_\_\_\_



7. Describe the typical procedure used to set up and operate the feeding system of a sheet-fed press.

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8. When a sheet of paper reaches the \_\_\_\_\_, the side guides bring the paper into register with the printing system.

8. \_\_\_\_\_

9. During a press run, an even distribution of \_\_\_\_\_ and \_\_\_\_\_ must reach the plate surface.

9. \_\_\_\_\_

10. Explain the method used to mount a plate onto the plate cylinder of a press.

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Name \_\_\_\_\_

11. Describe the typical procedures used to set up a three-cylinder printing system.

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12. To allow for different thicknesses of plates and blankets, the surfaces of the plate and blanket cylinders are \_\_\_\_\_ from the cylinder bearers. 12. \_\_\_\_\_

13. A recommended \_\_\_\_\_ is typically used as a blanket wash during cleanup of the press. 13. \_\_\_\_\_

14. A conventional dampening system uses a rotating \_\_\_\_\_ roller to transfer fountain solution intermittently across the rollers. 14. \_\_\_\_\_
- fountain
  - distributor
  - form
  - ductor

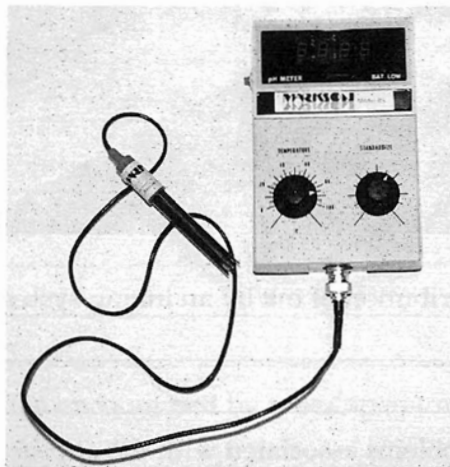
15. Why are molleton covers commonly used with the rollers in a conventional dampening system?

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16. The \_\_\_\_\_ shown below is a device used to measure the pH value of a fountain solution. 16. \_\_\_\_\_



17. Recommended pH values for fountain solutions commonly range between \_\_\_\_\_ and \_\_\_\_\_. 17. \_\_\_\_\_

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18. Why should fountain solution be checked regularly and reformulated if necessary?

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19. A fountain solution with a pH value of 3.0 is \_\_\_\_\_ times as acidic as a solution with a pH value of 5.0.

20. List the typical steps involved in setting up a dampening system.

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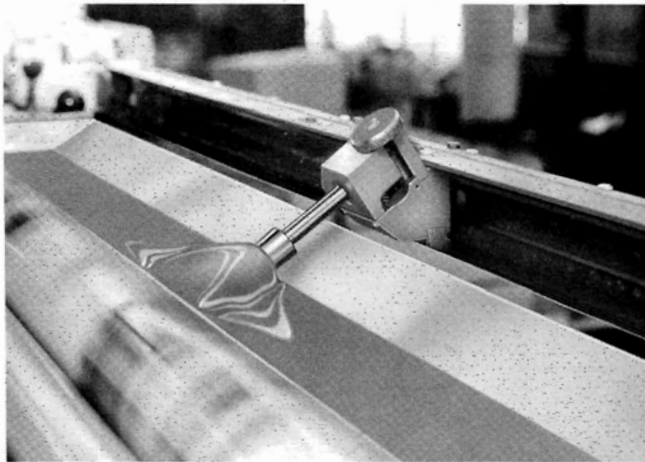
21. Describe a typical method for checking roller pressure.

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22. What device shown below helps maintain a consistent flow of ink from the fountain on a large press?



23. List two ways to adjust the distribution of ink by an inking system.

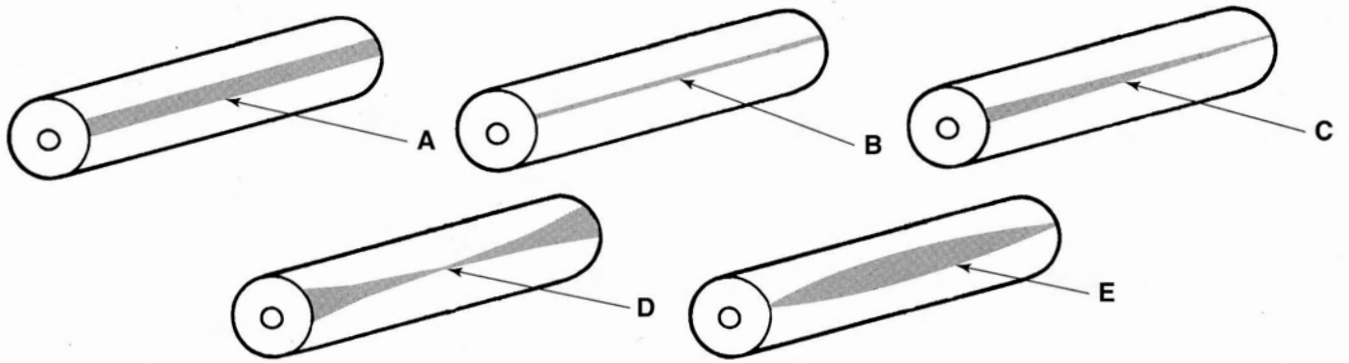
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24. Identify the different inking problems associated with the appearance of the ink stripes on the rollers on the following page.

- |          |          |
|----------|----------|
| A. _____ | D. _____ |
| B. _____ | E. _____ |
| C. _____ |          |

Name \_\_\_\_\_



25. List the typical steps involved in setting up an inking system.

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26. A delivery system is designed to transfer printed sheets from the press and stack them for \_\_\_\_\_. 26. \_\_\_\_\_

27. Explain how a chain delivery system removes and stacks paper as it leaves the press.

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28. Describe the setup procedures for a delivery system on a sheet-fed press.

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29. Why are printing problems often encountered by press operators?

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30. What is *chalking* and how is it caused? \_\_\_\_\_

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- 31. \_\_\_\_\_ is a buildup of ink on the ink rollers, plate, or blanket.
  - a. Blinding
  - b. Misting
  - c. Piling
  - d. Trapping

31. \_\_\_\_\_

- 32. \_\_\_\_\_ is a condition that occurs when a solid image prints unevenly or a faint, second image appears next to the original.

32. \_\_\_\_\_

33. What is *misregistration*? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 34. Identify three different causes of scumming and explain how it can be corrected.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 35. What condition describes the transfer of ink from one sheet to the back of another on a delivery pile?

\_\_\_\_\_