

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Instructor: \_\_\_\_\_ Period: \_\_\_\_\_

# 4

## Power Tools & Equipment

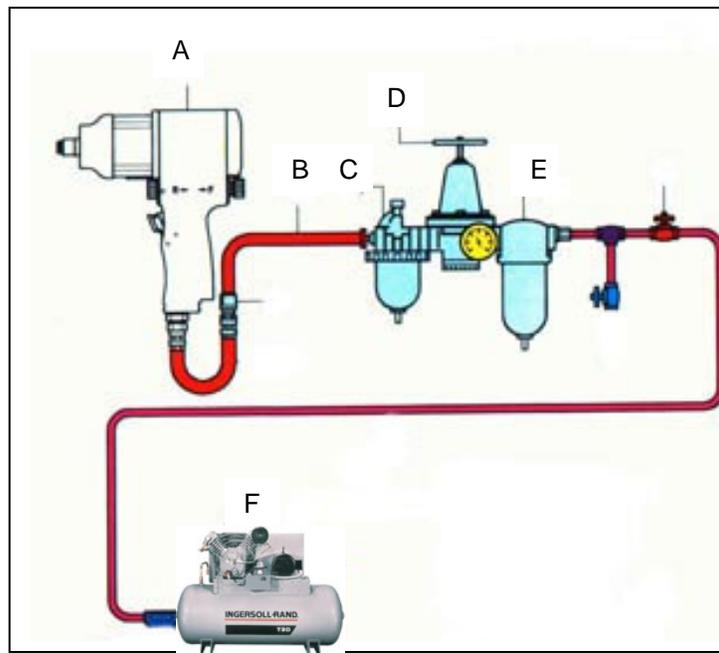


**Objective:** After studying this chapter, you will be able to select and use power tools properly.

### Compressed Air Systems

1. An air compressor is a machine by which \_\_\_\_\_ is drawn in, \_\_\_\_\_ into a tank or cylinder, and stored, so that its expansion or release may be utilized as a source of \_\_\_\_\_ power.
2. What is the recommended maximum operating pressure of a shop air compressor? \_\_\_\_\_
3. What tools are necessary to disconnect a "Quick Disconnect" coupling? \_\_\_\_\_
4. A pressure \_\_\_\_\_ sets and controls the compressor's operating pressure.
5. Identify the six (6) components of an air system:

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



### Air Tools

6. \_\_\_\_\_ tools or air tools are tools driven by \_\_\_\_\_ air supplied by a \_\_\_\_\_.
7. Air tools need to be periodically \_\_\_\_\_ to minimize \_\_\_\_\_ to assure \_\_\_\_\_ service life.
8. Air wrenches are designed to remove and install metal \_\_\_\_\_, \_\_\_\_\_.
9. Air impact rotation is typically controlled by a \_\_\_\_\_ or \_\_\_\_\_.
10. The technician must use great care not to \_\_\_\_\_ bolts, nuts, or fasteners when using an air wrench.
11. An air ratchet is used to work in \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ places where other tools might be \_\_\_\_\_ or \_\_\_\_\_ to use.

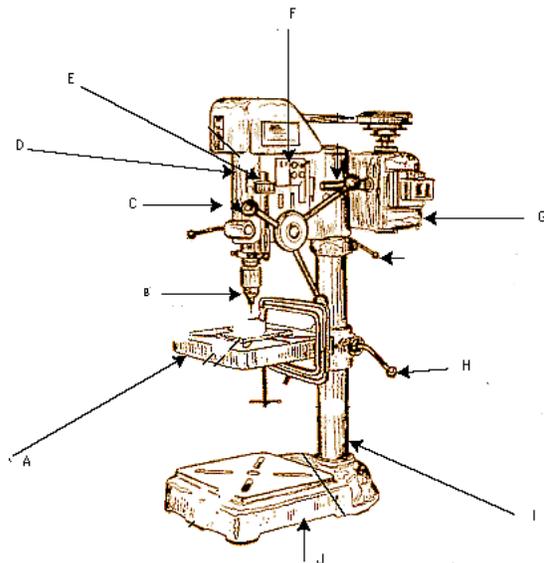
12. The drive-end of an air ratchet is typically \_\_\_\_ “ square, however, they also come in \_\_\_\_” or \_\_\_\_” sizes as well.
13. An air hammer is a device that uses highly pressurized air to drive a hammer into a work piece for \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
14. Whatever tip is used, it will be pounded \_\_\_\_\_ of times per minute into the targeted object, so operators must take \_\_\_\_\_ and use \_\_\_\_\_.
15. The air hammer must be placed directly \_\_\_\_\_ the work \_\_\_\_\_ to prevent the driven bit from flying out of the end of the tool and causing \_\_\_\_\_ or \_\_\_\_\_.
16. A solvent gun is used to clean \_\_\_\_\_ that do not fit into a solvent \_\_\_\_\_.
17. An air-powered blow gun is used to \_\_\_\_\_ or clean out the inside of \_\_\_\_\_ to \_\_\_\_\_ areas of \_\_\_\_\_.
18. List four reasons an air drill is ideal for some drilling jobs: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
19. Rotary \_\_\_\_\_ and \_\_\_\_\_ disks can be used with the air drill at \_\_\_\_\_ speeds to clean heavy \_\_\_\_\_ deposits and de-burr \_\_\_\_\_ metal edges easily.

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## **Electric Tools**

20. A bench grinder usually has a \_\_\_\_\_ and a \_\_\_\_\_ wheel.
21. List three (3) common uses for a bench grinder:  
 A. \_\_\_\_\_ B. \_\_\_\_\_  
 C. \_\_\_\_\_
22. List the four (4) essential rules to observe when safely operating a bench grinder:  
 A. \_\_\_\_\_ B. \_\_\_\_\_  
 C. \_\_\_\_\_ D. \_\_\_\_\_
23. Drill bits are made of \_\_\_\_\_ - \_\_\_\_\_ steel or \_\_\_\_\_ - \_\_\_\_\_ steel or **titanium**.
24. The drill bits are clamped into the drill \_\_\_\_\_ using the \_\_\_\_\_ to tighten it.
25. The drill motor is usually sized by the \_\_\_\_\_ diameter drill bit that will fit into the drill chuck.
26. The drill press gives you \_\_\_\_\_ and \_\_\_\_\_ drilling.
27. List the five (5) essential operating rules for a drill press:  
 A. \_\_\_\_\_  
 B. \_\_\_\_\_  
 C. \_\_\_\_\_  
 D. \_\_\_\_\_  
 E. \_\_\_\_\_
28. Identify the parts of the illustrated drill press shown:

- A. \_\_\_\_\_  
 B. \_\_\_\_\_  
 C. \_\_\_\_\_  
 D. \_\_\_\_\_  
 E. \_\_\_\_\_  
 F. \_\_\_\_\_  
 I. \_\_\_\_\_  
 J. \_\_\_\_\_



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## Hydraulic Tools

29. Hydraulic tools used high pressure \_\_\_\_\_ to exert the necessary forces.
30. List the correct locations under a vehicle to place a floor jack for lifting without damaging the vehicle: A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_
31. A \_\_\_\_\_ jack uses specially designed \_\_\_\_\_ to hold the transmission securely to the jack and allows the unit to be \_\_\_\_\_ as necessary to facilitate transmission installation.
32. An Engine Hoist can be used to remove and install engines or other heavy engine parts, such as \_\_\_\_\_ or cylinder \_\_\_\_\_.
33. A hydraulic \_\_\_\_\_ is used to remove, reassemble, and re-install bearings, gears, shafts, and other subassemblies requiring great controlled \_\_\_\_\_ or \_\_\_\_\_ force.

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## Shop Equipment

34. An \_\_\_\_\_ press is similar to a hydraulic press, but uses a screw type jack to exert force.
35. **Never** work under or around a vehicle that is raised and not supported by \_\_\_\_\_.
36. Once the engine has been removed from the vehicle, it can be mounted securely to an \_\_\_\_\_ to facilitate working on the engine.
37. A cold \_\_\_\_\_ tank contains a cleaning solution used to sanitize automotive parts and subassemblies before repair and reinstallation.
38. A \_\_\_\_\_ is an engine powered device that uses high-pressure water to remove heavy deposits of dirt and grease from automotive \_\_\_\_\_ and subassemblies.
39. Oxy-Acetylene torch is used to \_\_\_\_\_ metals.
40. Oxy- Acetylene welders can also be used for \_\_\_\_\_ **and** \_\_\_\_\_ metals.
41. Recharging an automotive battery produces a cloud of gas around the battery that is \_\_\_\_\_ and \_\_\_\_\_. To prevent this from happening, unplug the battery charger from the wall \_\_\_\_\_ disconnecting from the battery.
42. A. portable \_\_\_\_\_ provides light when working under the hood or under a vehicle.
43. \_\_\_\_\_ – can be used to start a vehicle with a dead battery by \_\_\_\_\_ to another vehicle that has a good battery.
44. A \_\_\_\_\_ is used by a technician to lay on when working under a vehicle, and should **always** be stood up out of the way when not in use.
45. Smaller, portable tool carts are also called \_\_\_\_\_ - \_\_\_\_\_ and are used to hold a limited number of tools for easy access for a specific task.
46. To protect the finish and visual appearance on any vehicle being worked on, a technician should **always** use \_\_\_\_\_.