**LAP 7 Basic Pneumatic Circuits**

**Objectives**

1. Describe the function of a single-acting pneumatic cylinder and give an application
2. Describe the operation of a single-acting, spring-return cylinder and give its schematic symbol
3. Describe the function of a 3/2 pneumatic DCV and give an application
4. Describe the operation of a 3/2 pneumatic DCV and give its schematic symbol
5. Describe the function of a pneumatic motor and give an application
6. Describe the operation of a pneumatic motor and give its schematic symbol
7. Describe the function of a muffler and give its schematic symbol
8. List three common pneumatic motor designs and explain where they are used
9. Describe seven basic rules for drawing pneumatic schematics
10. Describe the function of pneumatic simulation software and name two applications
11. Describe the function of the pneumatic symbol library

**Skills**

1. Connect and operate a single-acting pneumatic cylinder using a 3/2 manually-operated DCV
2. Connect and operate a unidirectional pneumatic motor using a 3-way, manually-operated DCV
3. Draw a pneumatic schematic from the actual circuit connections on the machine
4. Connect a pneumatic circuit given a schematic
5. Design a multiple actuator pneumatic circuit
6. Use software to simulate a pneumatic circuit