

272-T01

MECHATRONICS ENGINEERING TECHNOLOGY

NAME: _____

START DATE: _____/_____/_____

COMPLETION DATE: _____/_____/_____

TASK: T01 Pneumatic Systems

PERFORMANCE OBJECTIVE: After completing the pneumatic training system the student will build a pneumatic circuit from a diagram and it will function with 100% accuracy.

ENABLING OBJECTIVE: Complete Q01-Q24

TOOLS REQUIRED: Instructor theory lesson

SAFETY FACTORS: Complete Q01-Q02 and observe all school/classroom safety rules at all times

ACADEMIC ANCHORS:

M11.A.1.1.2 Express numbers using scientific notation

M11.A.2.1.1 Solve problems operations with rational numbers using rates and percentages

R11.A.1.3.5 Demonstrate after reading understanding of non-fiction text

R11.A.2.1.2 Identify meaning of content specific words used in text

CAREER & WORK ANCHORS:

13.2.11.E Demonstrate essential workplace skills.

PERFORMANCE CHECKLIST:

STUDENT CHECK	TASK TO BE COMPLETED	TEACHER SIGN OFF
_____	1. Identify academic anchors and complete learning guide AA01	_____
_____	2. View instructor theory lesson and info sheets	_____
_____	3. Complete training program on pneumatic trainer	_____
_____	3. Complete training program on pneumatic trainer	_____
_____	4. Review your notes and memorize symbols and components	_____
_____	5. Get quiz from instructor	_____

PERFORMANCE LEVEL:

MASTERY

SATISFACTORY

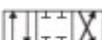
FAMILIARIZATION

INSTRUCTED/CANNOT PERFORM

BUCKS COUNTY TECHNICAL SCHOOL – May 4, 2021

INSTRUCTOR'S SIGNATURE

Directional Control Valve Symbols

-  2-position, 2-way, 2 ported
-  2-position, 3-way, 3 ported
-  2-position, 4-way, 4 ported
-  2-position, 4-way, 5 ported
-  3-position, 4-way, 4 ported Closed Center
-  3-position, 4-way, 5 ported Closed Center
-  3-position, 4-way, 5 ported Pressure Center
-  3-position, 4-way, 5 ported Open Center

Simple Pneumatic Valves

-  Check Valve
-  Flow Control
-  Relief Valve

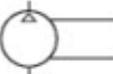
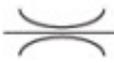
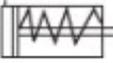
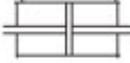
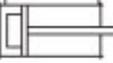
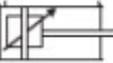
Lines

-  Main Line
-  Pilot Line



Actuator Symbols

-  Manual
-  Push Button
-  Lever
-  Foot Operated
-  Mechanical
-  Spring
-  Detent
-  Solenoid
-  Internal Pilot
-  External Pilot
-  Pilot Solenoid with Manual Override
-  Lever Operated, Spring Return
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	Accumulator		Direction of Flow
	Air Dryer		Exhaust Line or Control Line
	Air Motor (One Direction Flow)		Filter
	Air Motor (Two Direction Flow)		Filter (Automatic Drain)
	Check Valve (Spring Loaded)		Filter (Manual Drain)
	Compressor		Fixed Restriction
	Cylinder (Spring Return)		Air Motor (Two Direction Flow)
	Cylinder Double Acting (Double Rod)		Lubricator
	Cylinder Double Acting (Single fixed cushion)		
	Cylinder Double Acting (Two adjustable cushions)		
	Differential Pressure		

GRADING RUBRIC

	Instructed/Cannot 0 points	Familiarization 1 point	Satisfactory 2 points	Mastery 3 points
Safety	Student rarely follows industry standard safety rules	Student needs to be frequently reminded to follow industry standard safety rules	Follows all industry standard safety rules, but required one reminder.	Student always follows all industry standard safety rules
Task	Student is unable to complete task	Student requires frequent assistance to complete task, and/or is familiar with some parts of the task	Student requires very little assistance to complete task, or has only completed task once or twice, but completed it satisfactorily with little to no assistance	Student can perform task with no assistance and has completed the task many times with no errors.

Mastery = 6 points

Satisfactory = 4-5 points

Familiarization = 2-3 points

Instructed cannot perform = <2 points