



Title: **Sealing and Unsealing Circuit**

Job: 7

Course: Intro to Automation

Unit: Manual Motor Control

CLO: 2

Name \_\_\_\_\_

Grade \_\_\_\_\_

Date \_\_\_\_\_

**Objectives**

1. Student shall recognize the function of a sealing and unsealing control circuit.
2. Student shall interpret how this circuit can be used in a motor control scenario.
3. Student shall establish a foundation for creating a motor control circuit.

**Assessment**

Students shall demonstrate a comprehension of the objectives listed above by scoring a minimum of 75% on this Job. Grading shall be based on the Manual Motor Controls rubric.

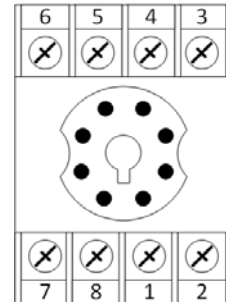
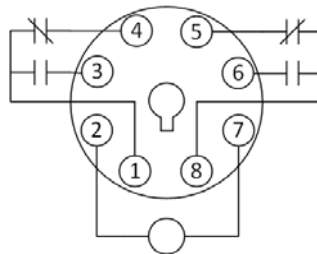
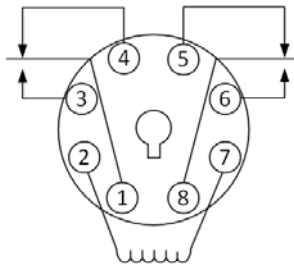
**Materials**

Inputs			Outputs		
Q	Input Device	Function	Q	Input Device	Function
0	Mushroom head PB		1	Green Pilot Light	
0	3P selector switch		0	Yellow Pilot Light	
0	2P selector switch		0	Red Pilot Light	
1	NC Pushbutton		0	Blue Pilot Light	
1	Dual Pushbutton		1	Eight-pin relay	
			0	Eleven-pin relay	

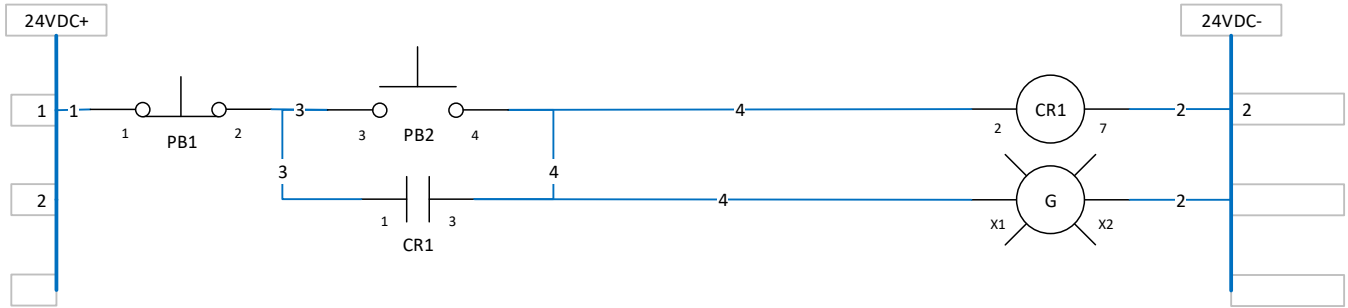
**Instructions**

Wire the schematic found on page 2. Ensure to use the proper colored wire and label all wires with the appropriate wire number. Have the instructor review your circuit before energizing the panel. After obtaining approval, energize the circuit and follow the steps in the table below.

**Diagram**



**Schematic**



1. After energizing the circuit, complete truth table below.

Step	PB1	PB2	Green Light
1	Not Pressed	Not Pressed	
2	Not Pressed	Pressed	
3	Pressed	Not Pressed	
4	Pressed	Pressed	

2. Why does the addition of PB1 allow the circuit to “Un-seal”?

\_\_\_\_\_

3. Write out the Boolean formula for this circuit. Remember that normally closed components are considered “nots” and normally open components are considered “equals”.

\_\_\_\_\_

4. Modify the circuit to have an additional pilot light to indicate that the circuit is “un-sealed”? Use the red pilot light to indicate “un-sealed”. Draw the complete circuit below.


5. Render the above circuit in a CAD-type package using the filename *MMC Job 7 – name.ext*.