RANKEN TECHNICAL COLLEGE

Title: **Sealing-Unsealing with ESTOP Circuit**   Job: 8

Course: Intro to Automation   Unit: Manual Motor Control   CLO: 2

Name _____   Grade _____   Date _____

Objectives

1. Student shall identify the function of a latching mushroom head (ESTOP) pushbutton.
2. Student shall classify input components that "break" the circuit versus input components that "make" the circuit.
3. Student shall develop a foundation for creating a complete 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
1	Mushroom head PB	ESTOP	1	Green Pilot Light	Energized
0	3P selector switch		0	Yellow Pilot Light	
0	2P selector switch		1	Red Pilot Light	De-energized
1	NC Pushbutton	Unseal	0	Blue Pilot Light	
1	Dual Pushbutton	Seal	1	Eight-pin relay	CR1
			0	Eleven-pin relay	

Instructions

Design a sealing/unsealing circuit using the two momentary pushbuttons listed above. The circuit will also utilize a latching mushroom head pushbutton to act as an "ESTOP". Whenever the circuit is "sealed", the green light shall come on and the red light shall be off. When the circuit is "unsealed", the green light shall be off and the red light shall be on. If the ESTOP is pressed, both lights shall be off. Use the space below to design the circuit. Once complete, review the design with the instructor. After obtaining approval, wire the circuit. Ensure to label all wires with the appropriate wire numbers. Have the instructor review the wiring before energizing the circuit. Render the schematic using a CAD type software package. Post the schematic to your *student share* folder using filename *MMC Job 8 –name.ext.*

Diagram
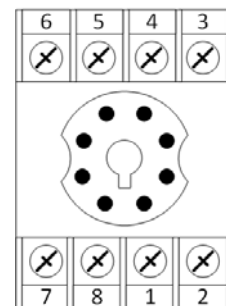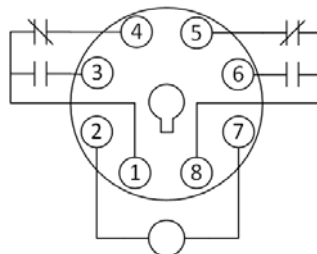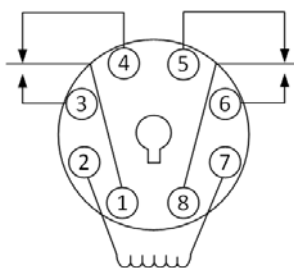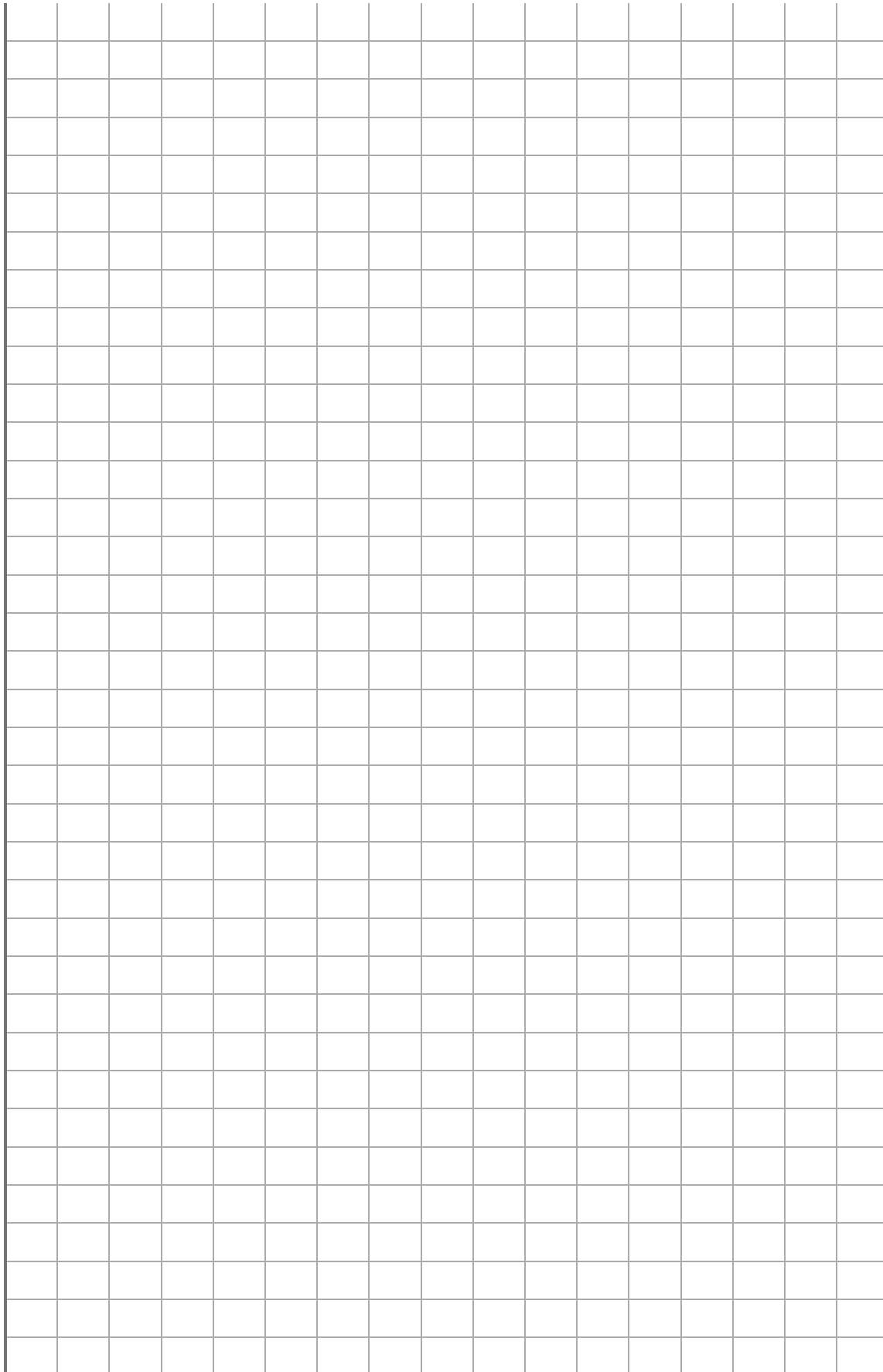
Discussed design _____   Checked wiring _____   Energized Test _____