**Unit: Manual Motor Controls Hands On Test: 1**

**Title: Stop/Start with ESTOP Circuit for Single Phase Motor CLO# 1,2**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Station \_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Evaluate student’s motor circuit design skills.
2. Appraise student’s wiring skills associated with a motor control circuit.
3. Student shall prove their understanding of a simple motor control circuit.

**Assessment**

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

**Instructions**

Use the back side of this page to design a stop/start motor control circuit using two momentary pushbuttons. The circuit will also utilize a latching mushroom head pushbutton to act as an “ESTOP” as well. Whenever the motor is running, the green light shall come on and the red light shall be off. When the motor is not running, the green light shall be off and the red light shall be on. If the ESTOP is pressed the motor, if running, shall stop and all lights shall be off. Use the space on the opposite side of this page to design your circuit. You may ask the instructor to look over your schematic, but any instructor help shall be a deduction in points. You may wire the circuit without the instructor reviewing your drawing, but you may **not** energize the circuit once wired. Double check your drawing and wiring. Ensure to label all wires with the appropriate wire numbers. Once you are ready for a grade, have your instructor review the drawing and wiring before energizing and testing the circuit.

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|  |  | Black | Red |
| Forward | Counter Clockwise (CCW) | A | 5 |

*Motor Jumpers*

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