**Unit: Manual Motor Controls Job: 18**

**Title: ESTOP/Stop/Start with Auxiliary Contacts for 3-Phase Motor CLO# 1,2**

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

**Objectives**

1. Establish the use of a motor contactor and controlling a three-phase motor.
2. Define the connections to a motor contactor and auxiliary contacts and their terminal numbers.
3. Differentiate between needing to use a clapper relay for indicator lights verses adding a set of auxiliary contacts to a motor contactor.

**Assessment**

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

**Instructions**

Design a ESTOP/stop/start motor control circuit using two momentary pushbuttons. Whenever the motor is running, the green light shall come on and the red light shall be off. Whenever the motor is not running, the green light shall be off and the red light shall be on (even if stop button is pressed). Use the space on the opposite side of this page to design your circuit. Once complete, review your design with you instructor. After obtaining approval, you may wire your circuit. Ensure to label all wires with the appropriate wire numbers. Have your instructor review your wiring before energizing your circuit.



List two benefits in using auxiliary contacts over a clapper type control relay in this circuit.

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Render the schematic you designed using a CAD type software package on a classroom PC. Once complete, post the schematic to your student network folder using filename MMC Job 18 – *username.ext*