

PLC124 LAB 2.2: AC THREE PHASE MOTORS

Student Name: _____

Student ID: _____

LAB OUTCOMES:

Upon completion of this lab procedure, the student should be able to:

1. Wire a three motor.
2. Reverse the direction of rotation and vary the speed of of a three phase motor.
3. Measure and explain current and voltage on a three phase motor.
4. Troubleshoot a AC motor circuit
5. Interpret electrical prints with motor circuits

LAB PROCESS:

****Extremely Important** – It is important that everyone working in the lab with rotating machinery must wear approved safety glasses, whether you are working on a motor or not.

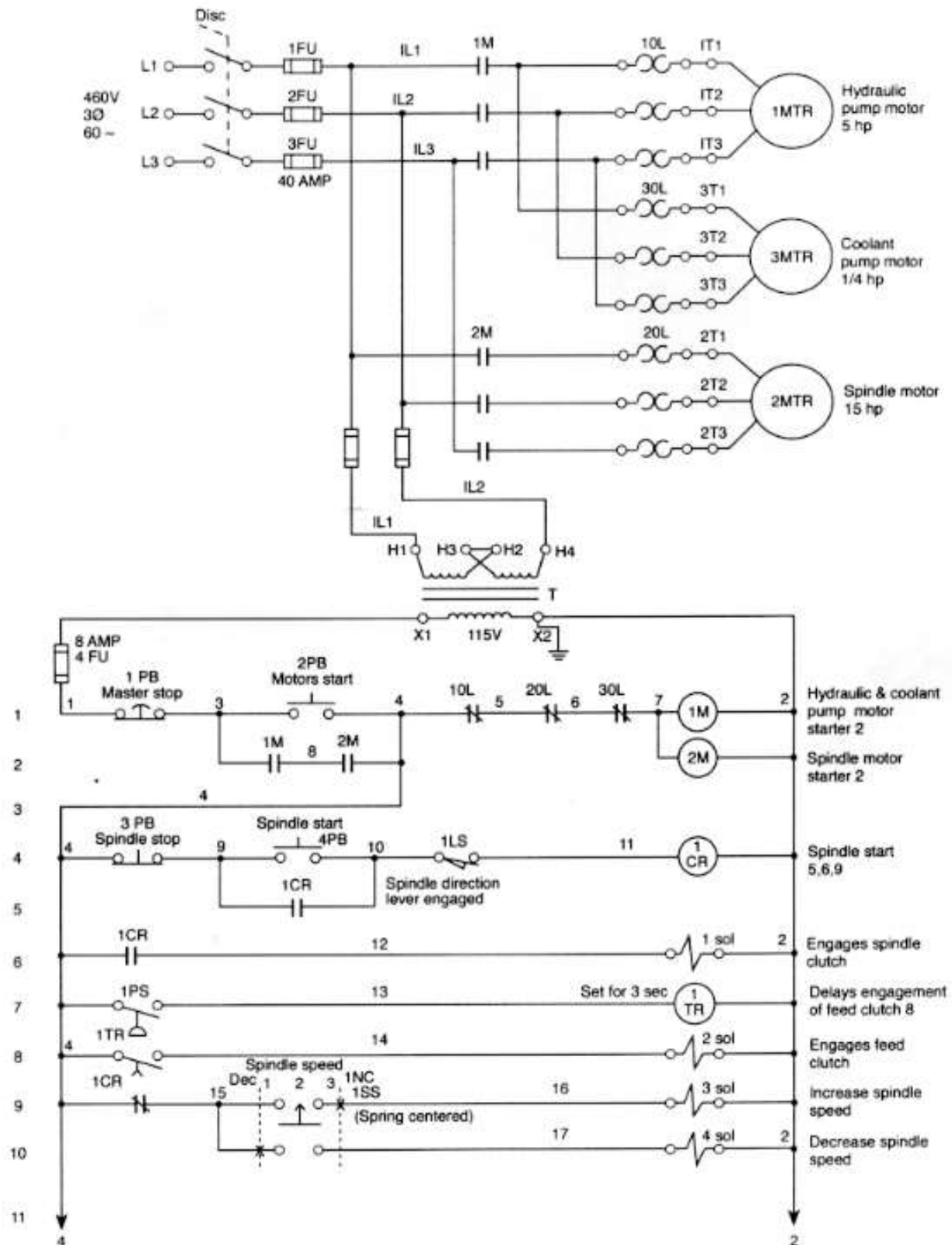
Secure a Machines Training unit, and mount a three-phase motor (See figure 1) to the left side of the training unit. Ask the instructor for help if the machine is too heavy to put into place. If there is a coupling on the motor shaft or not, secure a coupling guard over the unit.

Warning: Do not run a rotating machine with a key stock in the key way.

Part 1:

1. Lock out and tagout the emergency stop pushbutton on the Machines Training Unit.
2. Wire a 9 lead dual voltage three phase motor.
3. Interpret the nameplate data of the three phase motor.

4. Reverse the rotation of the three phase motor.
5. Troubleshoot the power circuit of an industrial motor branch circuit.
6. Measure the current draw from a loaded three phase motor with a clip-on ammeter.
7. Single phase a loaded three phase motor and explain the change.
8. Explain how to vary the speed of a three phase motor.
9. Measure and explain the voltage on a 208 V three phase 4-wire system.
10. Interpret the electrical print with motor branch circuits on the following page.



The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

DOL DISCLAIMER:

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).