Motor Controls Lab #14 DC Drive JD Jones

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Points 100

In this lab you will be wiring up a DC motor drive. You will use the LabVolt trainers for this lab. You will have to modify the circuit to have the motor turn on and off with a selector switch. Put the selector switch into the diagram. The fuses are 10 and 4 amps respectively.

Tasks to complete:

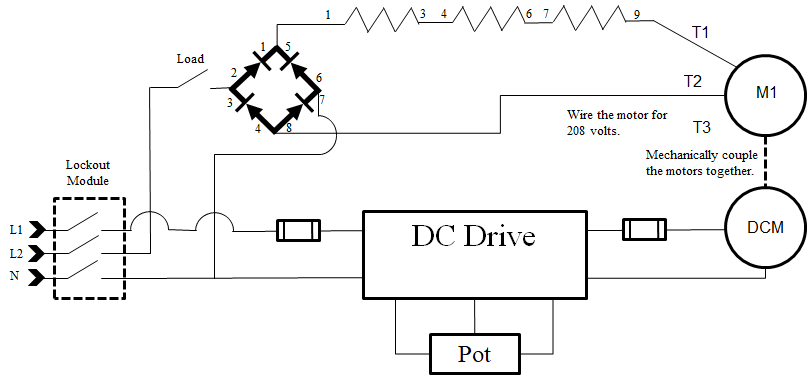
A) Hook up the motor and drive.

B) Turn the motor on and off with a selector switch.

C) Control the speed of the motor with the pot.

D) Adjust the current value.

E) Adjusting the IR comp



Set all the pots to the middle of the range

Set the Min speed to 500 rpm

Set the Max speed to 1500 rpm

Turn off the motor

Be ready to adjust the current/torque pot while reading the current of the DC motor.

Turn on the DC motor

**What value would you set the Torque or Current Limit too \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Now lets go through the IR comp

1. What happens when the IR comp is turned fully counter-clockwise?
2. What happens when the IR comp is turned fully clockwise?

Now set the IR comp so the speed stays constant with and without the load.

Points for

A) Hook up the motor and drive. 10 pts

B) Turn the motor on and off with selector switch. 10 pts

C) Control the speed of the motor with the pot. 15 pts

D) Adjust the current value. 10 pts

E) Measuring the current value with a meter without help. 15 pts

F) Correct wire colors. 10 pts.

G) Wiring the IR comp circuit correctly the first time. 25 pts.

H) Safety glasses and all grounds are connected. 5 pts

INSTRUCTOR’S INITIAL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_