NAME: _____

CS 495 AUTONOMOUS ROBOTS TAKE-HOME QUIZ I

Winter 2000
Instr. Jeffrey Horn

Handed out: Wed. April 5, 2000
Due: Friday, April 7, 2000

Look this stuff up in your textbook! And go buy one too.

QUESTION 1: Draw an "H-bridge" circuit (for controlling the direction of one motor):

Label the switches "A", "B", etc., and tell me what the states ("O"pen or "C"losed) must be for the following behaviors:

BEHAVIOR:

forward _____
reverse _____
stop _____
start-a-fire (i.e., short the batt.s!) _____

QUESTION 2: Draw a "dual H-bridge" circuit for controlling the direction of TWO motors, each driving a separate wheel of a differential drive robot. Try to use a MINIMAL number of switches for. control.

Label the switches as in Q1, and then tell me what the state ("O" or "C") of each switch should be for the following behaviors:

forward _____
reverse _____
turn left _____
turn right _____
stop _____
start-a-fire _____