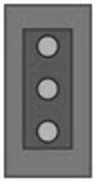
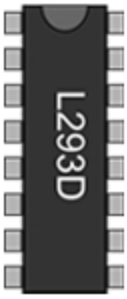
Circuits and Components Checklist

Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
Power switch			F1, F2, F3	Direction it is facing does not matter, but make sure to slide switch down (towards row 30, away from row 1), this is the "off" position	☐
Jumper wire			J2 to (+) bus	Color does not matter	☐
Jumper wire			Left side (+) bus to right side (+) bus	Color does not matter	☐
Jumper wire			Left side (-) bus to right side (-) bus	Color does not matter	☐
H-bridge motor driver			Left side: holes E15 to E22 Right side: holes F15 to F22	The semi-circular "notch" in one end of the chip must face up (towards row 15). You may need to bend the pins together slightly to get them to fit into the breadboard	☐
10 kΩ resistor			J16 to (-) bus	Brown, black, orange, gold stripes. Direction does not matter.	☐
10 kΩ resistor			J21 to (-) bus	Brown, black, orange, gold stripes. Direction does not matter.	☐

Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
10 kΩ resistor			A16 to (-) bus	Brown, black, orange, gold stripes. Direction does not matter.	☐
10 kΩ resistor			A21 to (-) bus	Brown, black, orange, gold stripes. Direction does not matter.	☐
Jumper wire			J15 to (+) bus	Color does not matter	☐
Jumper wire			J18 to (-) bus	Color does not matter	☐
Jumper wire			J19 to (-) bus	Color does not matter	☐
Jumper wire			J22 to (+) bus	Color does not matter	☐
Jumper wire			A15 to (+) bus	Color does not matter	☐
Jumper wire			A18 to (-) bus	Color does not matter	☐
Jumper wire			A19 to (-) bus	Color does not matter	☐
Jumper wire			A22 to (+) bus	Color does not matter	☐

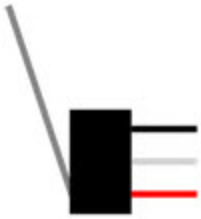
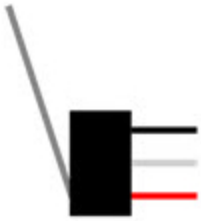
Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
Top lever switch			Red wire to (+) bus Black wire to B21 White wire to B16	See Figures 6 and 7 for mounting instructions	☐
Bottom lever switch			Red wire to (+) bus Black wire to I21 White wire to I16	See Figures 6 and 7 for mounting instructions	☐
Top motor			Red lead to H17 Black lead to H20	When the robot is driving forward, this is the "right" motor.	☐
Bottom motor			Red lead to C17 bus Black lead to C20	When the robot is driving forward, this is the "left" motor.	☐
Battery holder			Red lead to J1 Black lead to (-) bus	Do not insert batteries until circuit is complete	☐
AA battery			N/A	Insert into battery holder. Make sure (+) signs on batteries line up with (+) signs in battery holder	☐

Table 2. List of circuit components and locations.

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