

2020 Bot Wiring Hookup Checklist

Insert Arduino into Breadboard:

- Arduino D13 pin -> Breadboard [d1]
- Arduino D12 pin -> Breadboard [h1]

Battery Connections:

- Battery Red Wire (Battery 6V) -> Breadboard [+] Row, near [a30]
- Battery Black Wire (Battery GND) -> Breadboard [-] Row, near [a30]
- Jumper Wire .. Breadboard [a14] (Arduino GND) -> Breadboard - Back Row (Battery GND) near [a14]
- Jumper Wire .. Breadboard [c15] (Arduino VIN) -> Breadboard + Back Row (Battery 6V) near [a15]

Motor Driver Connections:

- Jumper Wire .. Motor Driver VCC -> Breadboard + Back Row (Battery 6V) near [a28]
- Jumper Wire .. Motor Driver GND -> Breadboard - Back Row (Battery GND) near [a28]
- Jumper Wire .. Motor Driver B-IA -> Breadboard [j3] (Arduino D10)
- Jumper Wire .. Motor Driver B-IB -> Breadboard [j4] (Arduino D9)
- Jumper Wire .. Motor Driver A-IA -> Breadboard [j7] (Arduino D6)
- Jumper Wire .. Motor Driver A-IB -> Breadboard [j8] (Arduino D5)

Wires may need to be swapped if a motor runs in the wrong direction

- Left Motor -> Motor B Screw Terminal
- Left Motor -> Motor B Screw Terminal
- Right Motor -> Motor A Screw Terminal
- Right Motor -> Motor A Screw Terminal

IR Receiver Connections:

- Jumper Wire .. Breadboard [a12] (Arduino 5V) -> Breadboard + Front Row near [j14]
- Jumper Wire .. Breadboard [i12] (Arduino GND) -> Breadboard - Front Row near [j12]
- Jumper Wire .. IR Receiver - (IR GND) -> Breadboard - Front Row near [j17]
- Jumper Wire .. IR Receiver Middle (IR 5V) -> Breadboard + Front Row near [j15]
- Jumper Wire .. IR S (IR Signal) -> Breadboard [j11] (Arduino D2)

IR LED and Resistor Connections:

- Resistor -> Breadboard [d19]
- Resistor -> Breadboard [h19]
- LED Long Lead -> Breadboard [j19] (Resistor)
- LED Short Lead -> Breadboard [j18]
- Jumper Wire .. Breadboard [b19] (Resistor) -> Breadboard [j1] (Arduino D12)
- Jumper Wire .. Breadboard [i18] (LED Short Lead) -> Breadboard [i10] (Arduino D3)

Arduino I/O Pin Mapping

| | | | |
|-----|----------------------|----|-------------------------|
| D12 | IR LED Data Output | D3 | IR LED Frequency Output |
| D10 | Left Motor Output A | D2 | IR Receiver Input |
| D9 | Left Motor Output B | | |
| D6 | Right Motor Output A | | |
| D5 | Right Motor Output B | | |