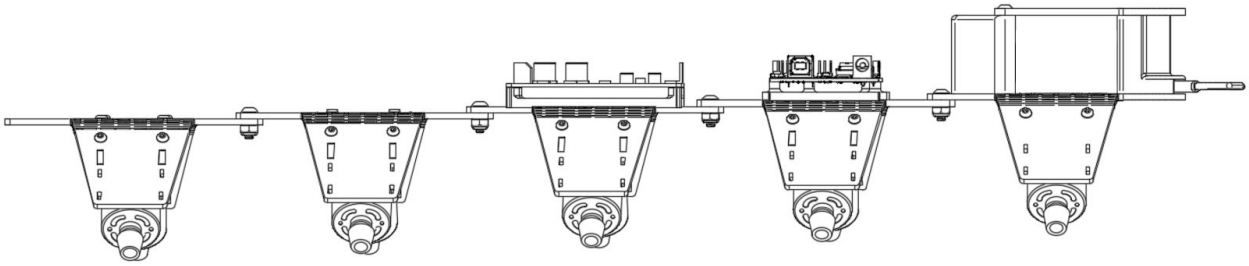
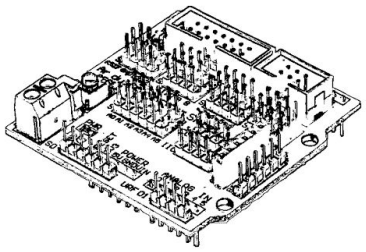
Final Wiring

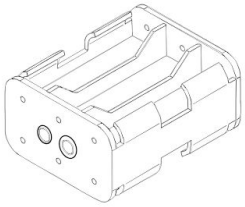
Items required:



Assembled Make-A-Pede

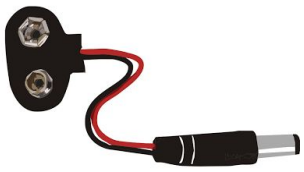


Sensor Shield



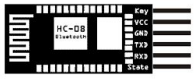
6AA Battery holder

"I" Battery Snap

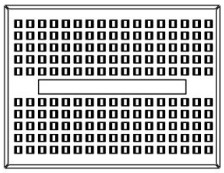


"T" Battery Snap

Rubber Band

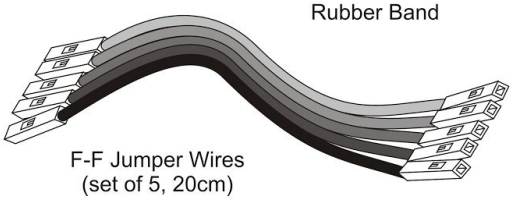


Bluetooth Module

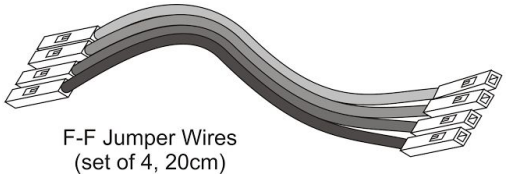


Breadboard

Battery Extension Cable

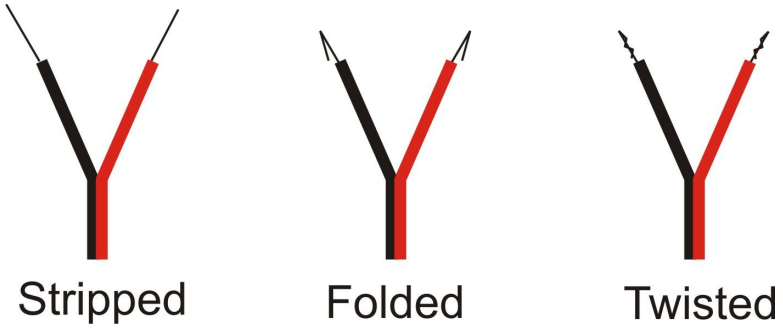


F-F Jumper Wires
(set of 5, 20cm)

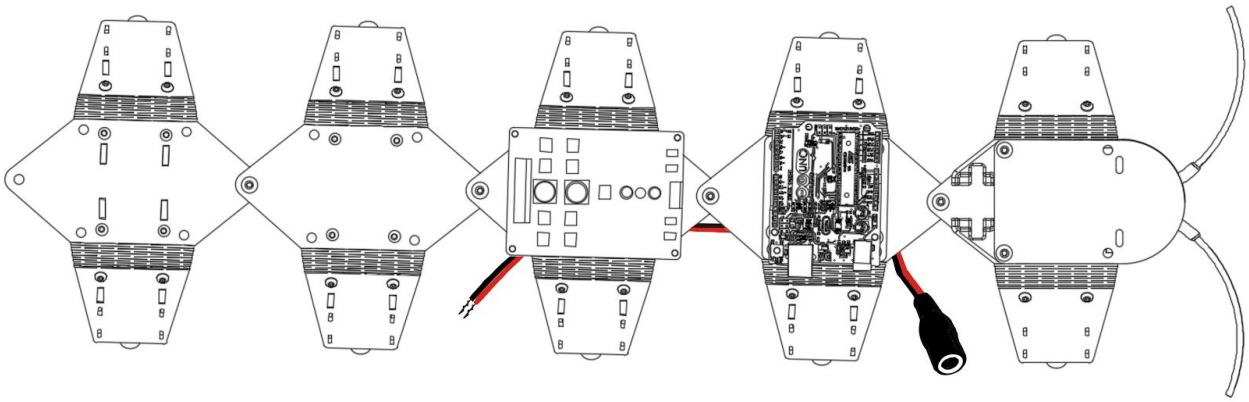


F-F Jumper Wires
(set of 4, 20cm)

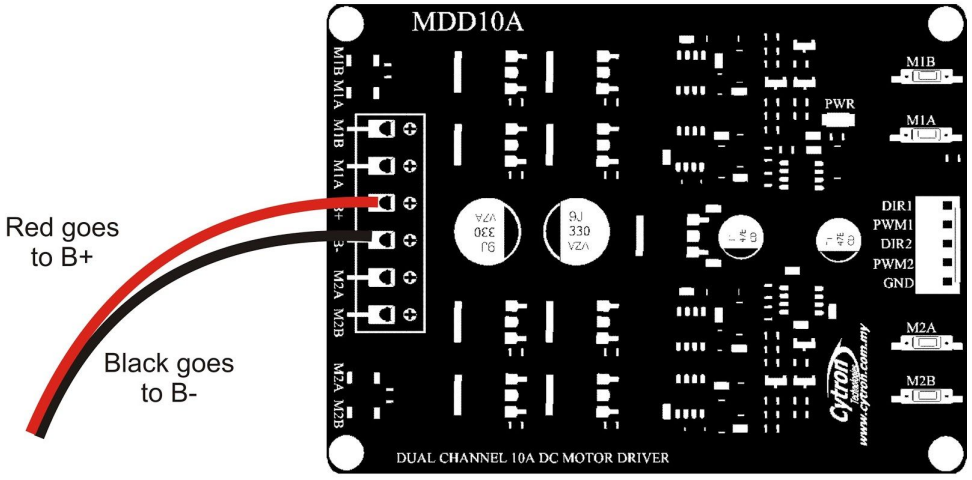
Step 1: Strip 5/8" of the insulation off the wires on the battery extension. Fold the stripped ends at about the halfway point and twist together.



Step 2: Feed the battery extension through the segment supports along with the other wiring. The ends should come out as shown below. Loosen the center 2 screw terminals on the motor driver board and insert the 2 wires in as shown below. Tighten the screw terminals until snug.

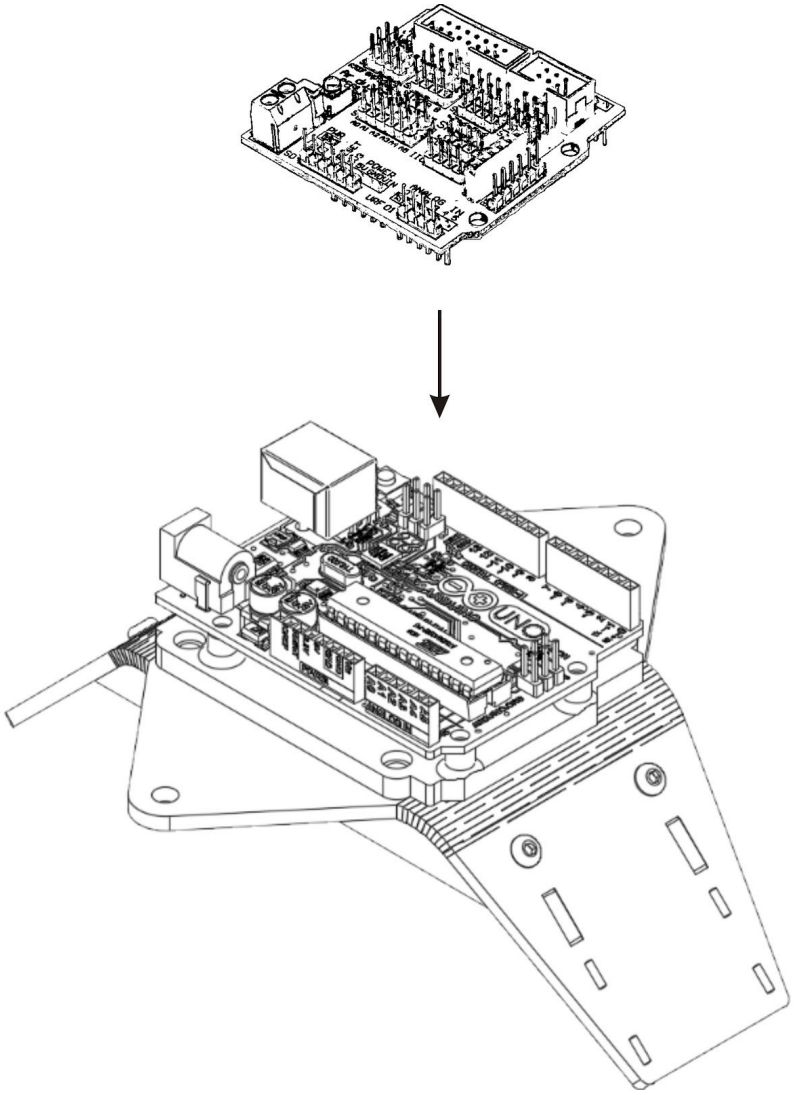


Left Side



Right Side

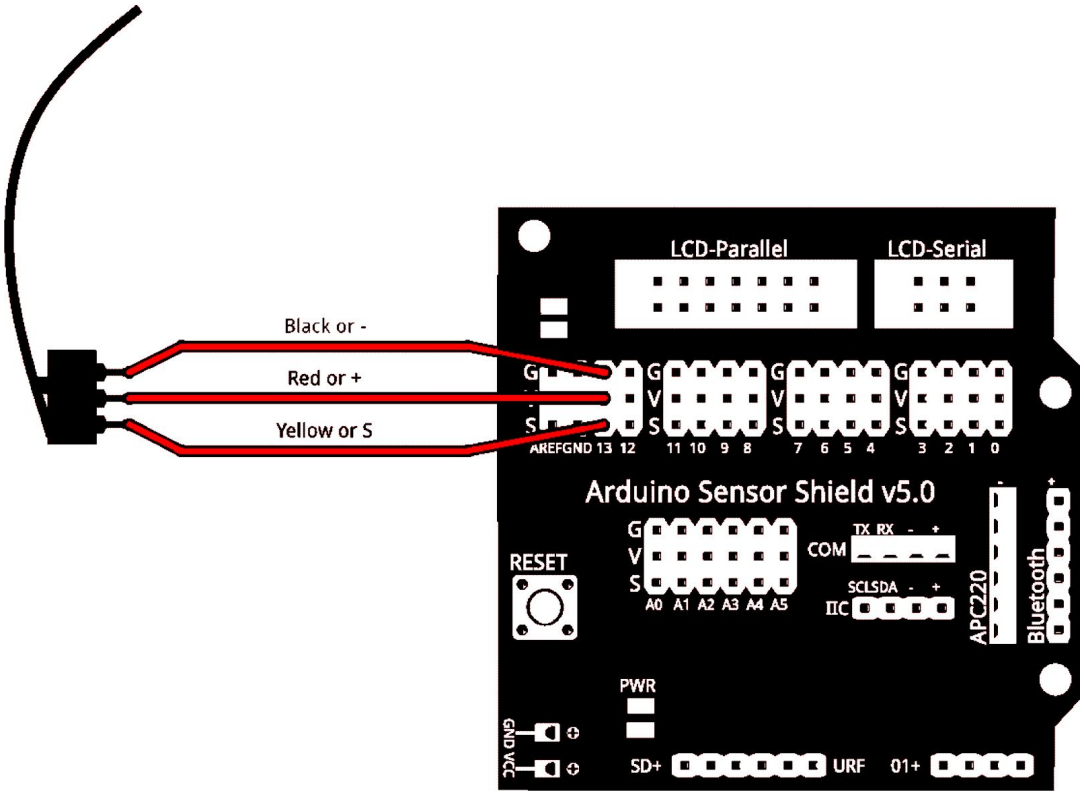
Step 3: Install the sensor shield by aligning its pins with the connectors on the microcontroller and pressing it firmly into place.



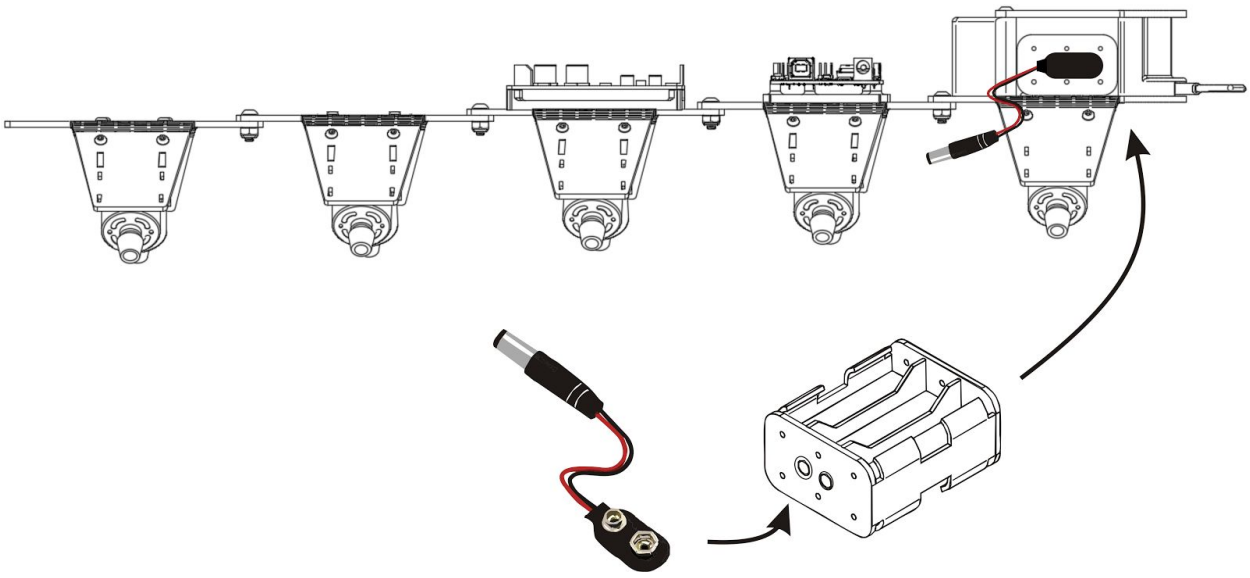
Step 4: Using the tags on the wires (these **<u>may not</u>** match the order of the wires on the switch in the diagram below), connect the antenna sensor wires to the sensor shield as follows:

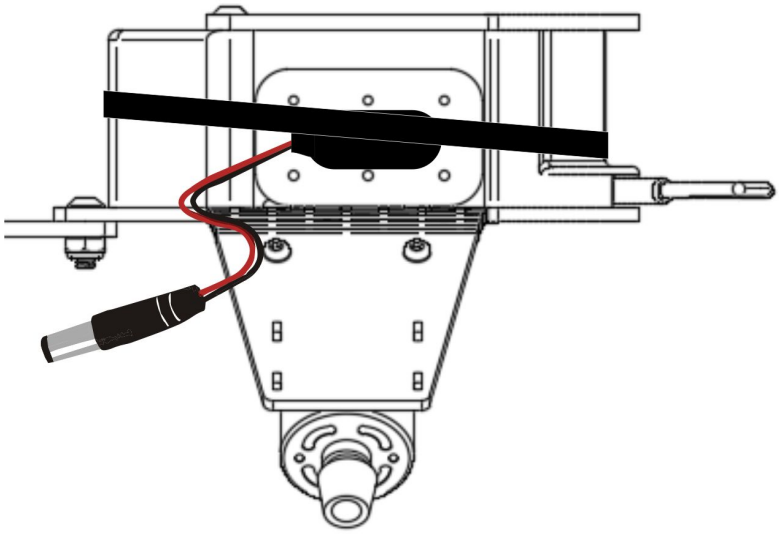
<u>Right antenna sensor:</u>
Wire labeled with a black tag (or “-” tag) connects to port 13, G pin
Wire labeled with a red tag (or “+” tag) connects to port 13, V pin
Wire labeled with a yellow tag (or “S” tag) connects to port 13, S pin

<u>Left antenna sensor:</u>
Wire labeled with a black tag (or “-” tag) connects to port 12, G pin
Wire labeled with a red tag (or “+” tag) connects to port 12, V pin
Wire labeled with a yellow tag (or “S” tag) connects to port 12, S pin

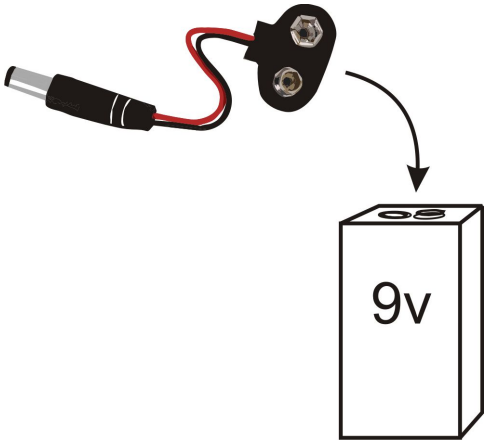


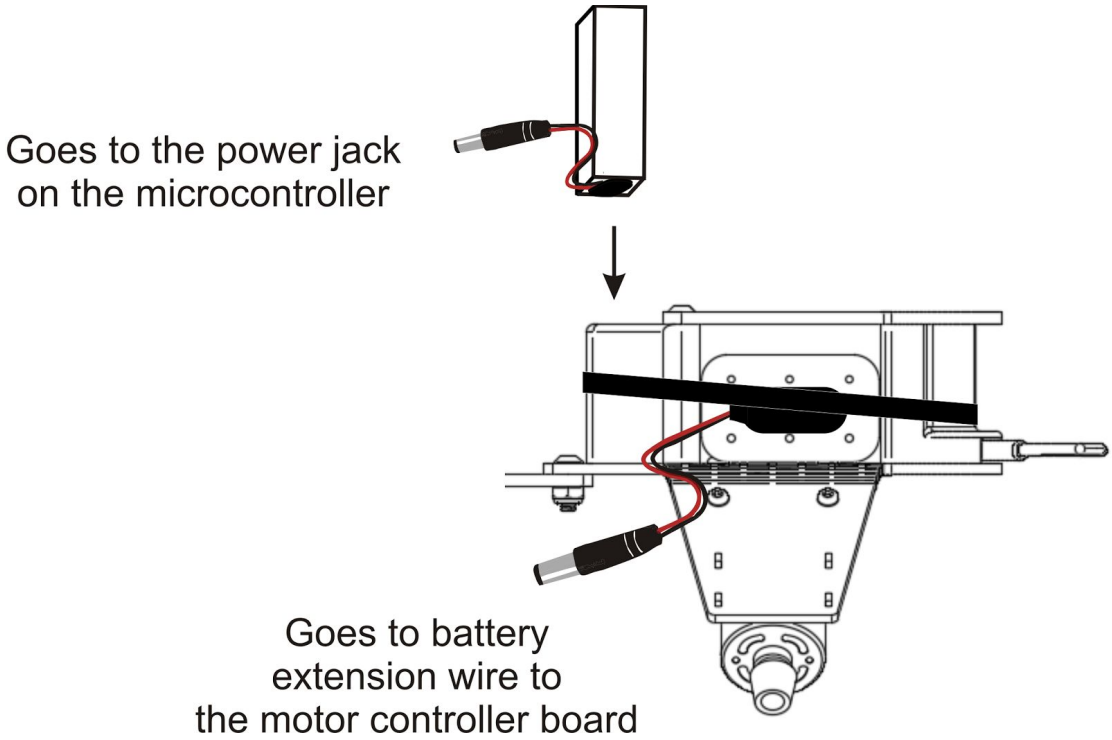
Step 5: Connect the “I” battery snap to the 6 AA battery holder and then install onto head segment as shown. Use the rubber band to secure the battery pack in the head segment. The battery will plug into the battery extension cable that you installed in step 2 when you are ready to test your Make-A-Pede.





Step 6: When you are ready to test your Make-A-Pede, attach a 9-volt battery to the “T” battery snap. Insert it upside down into the 9v battery holder on the head segment feeding the wire under the rubber band and out the bottom of the holder. Plug it into the microcontroller power jack when ready to test.

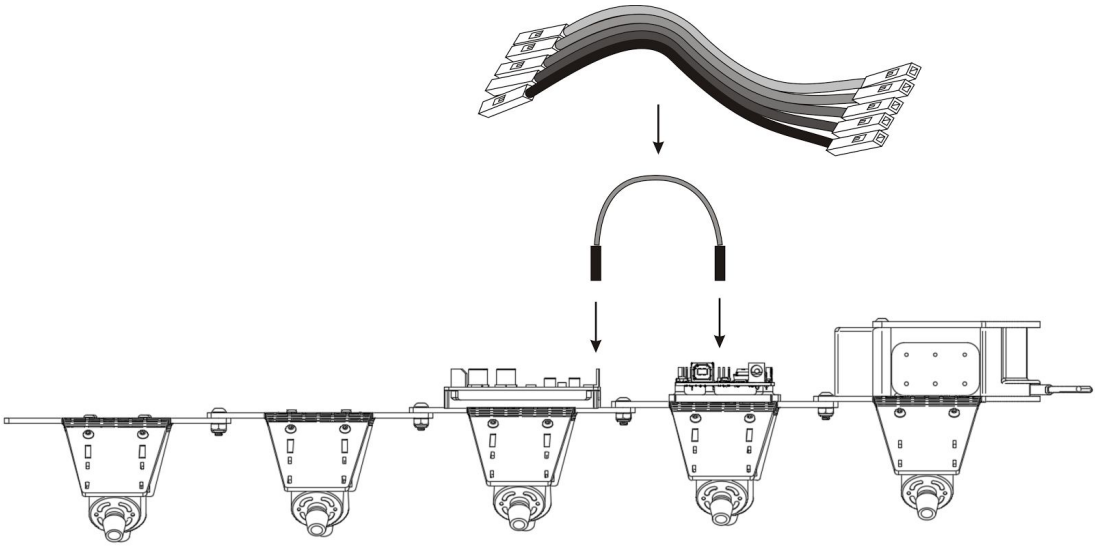


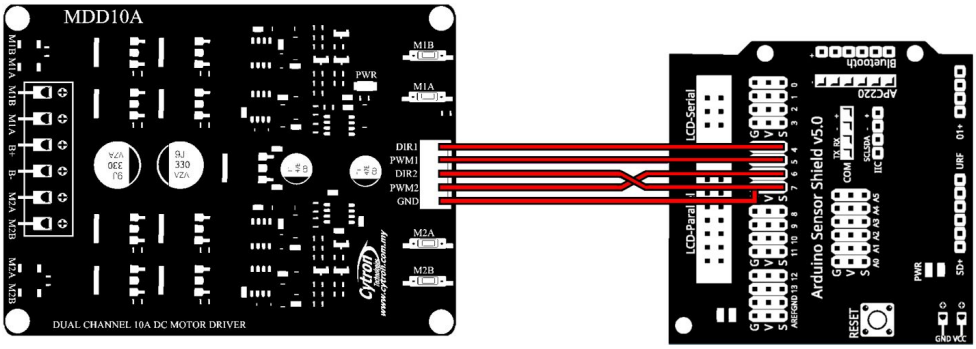


Step 7: Using the set of 5 F-F jumper wires connect the motor controller board to the microcontroller via the sensor shield.

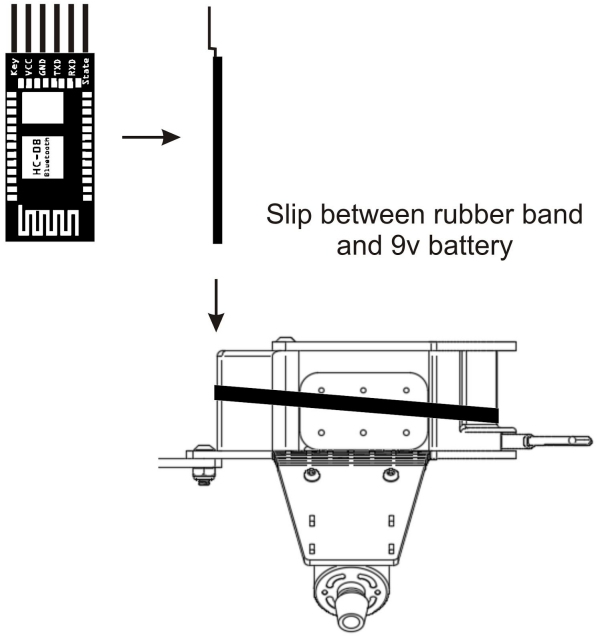
- Connect GND on the motor controller board → port 7, G pin on the sensor shield
- PWM2 → port 6, S pin
- DIR2 → port 7, S pin
- PWM1 → port 5, S pin
- DIR1 → port 4, S pin

Note that the PWM2 and DIR2 wires will cross each other.



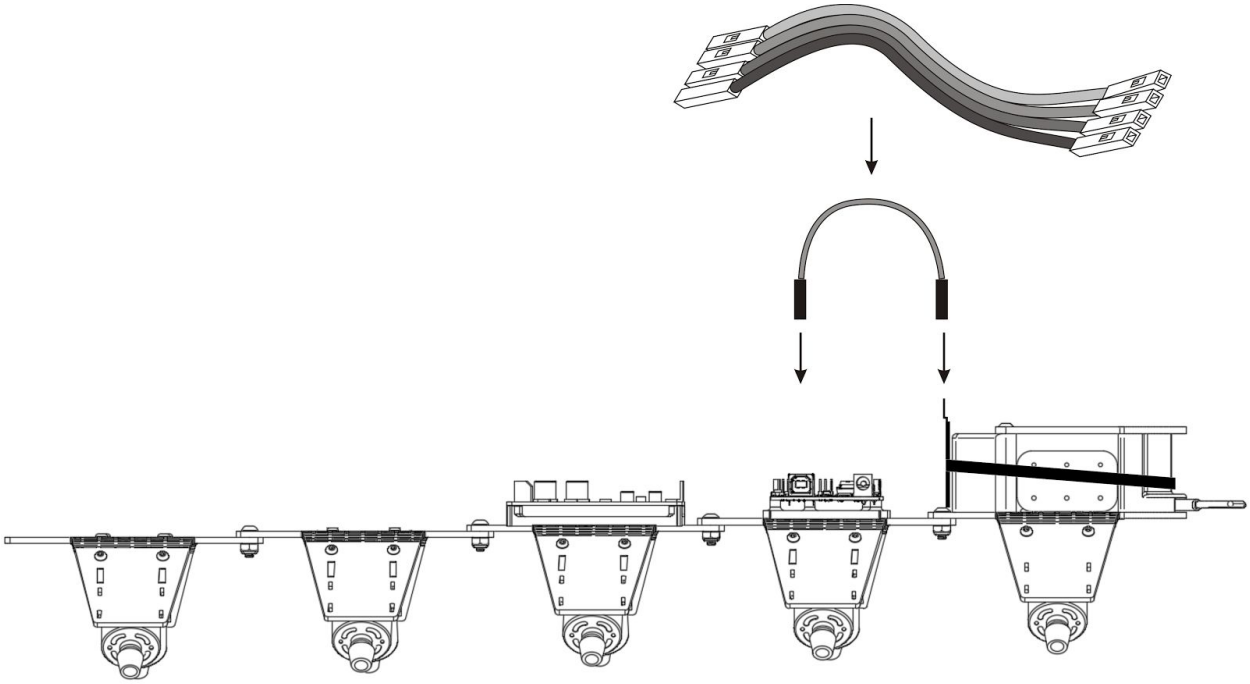


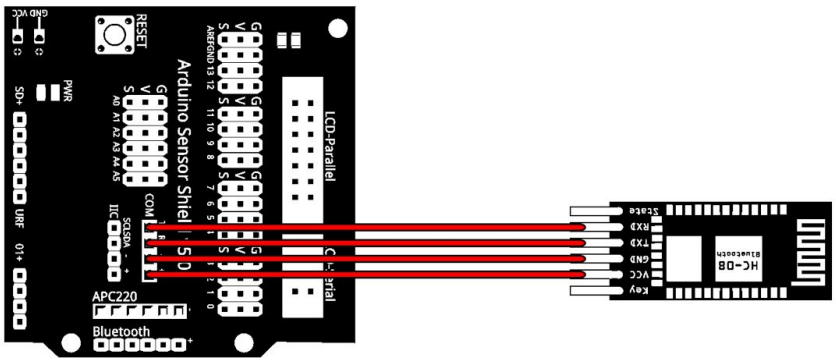
Step 8: Insert the bluetooth module into slot in the 9v holder.



Step 9: Using the set of 4 F-F jumper wires connect the bluetooth module to the microcontroller via the sensor shield as shown.

- Connect VCC on the bluetooth module → + on the sensor shield comport
- GND → -
- RXD → TXD
- TXD → RXD





Step 10: Peel the backing off the breadboard and press it onto the 4th segment.