

















03/17/2016

## Zagros Robotics Wiring Example of Basic Line Follower

**Zagros Robot Starter Kit - Gabbit or Magician Version - Line following and Maze Solving Robot wiring with the following core components:**

- Sparkfun Redboard or Arduino Uno
- Sparkfun Ardumoto motor driver shield
- Pololu QTR-8RC RC Reflectance Sensor Array
- Battery holder with built in or added switch
- Gear Motors
- Jumper wires

**See the attached diagrams which illustrate connecting the jumper wires as follows (wire color noted as used in diagram) :**

-  Ardumoto Digital pin 2 - QTR Sensor pin1
-  Ardumoto Digital pin 4 - QTR Sensor pin2
-  Ardumoto Digital pin 5 - QTR Sensor pin3
-  Ardumoto Digital pin 6 - QTR Sensor pin4
-  Ardumoto Digital pin 7 - QTR Sensor pin5
-  Ardumoto Digital pin 8 - QTR Sensor pin6
-  Ardumoto Digital pin 9 - QTR Sensor pin7
-  Ardumoto Digital pin 10 - QTR Sensor pin8
-  Ardumoto GND - QTR Sensor pin GND
-  Ardumoto 5V - QTR Sensor pin VCC
-  Ardumoto Terminal A 1 - Black wire of Left motor
-  Ardumoto Terminal A 2 - Red wire of Left motor
-  Ardumoto Terminal B 3 - Black wire of Right motor
-  Ardumoto Terminal B 4 - Red wire of Right motor
-  Ardumoto Terminal VIN (+) - Positive/Red wire from battery holder (switched)
-  Ardumoto Terminal VIN (-) - Negative/Black wire from battery holder

**Note :** Digital Pin 3 is skipped and used by the Ardumoto motor driver. Ardumoto also uses pins 11, 12, and 13.

**Important :** While the Gabbit should run proper with the connections noted, switching of the red/black motor wires, and/or the A/B side of the Ardumoto may be necessary with other robots. Follow these instructions to install the necessary drivers and programs and run the "MotorDirTest" sketch to confirm your wiring of the motors is correct.

[http://www.zagrosrobotics.com/files/ZagrosArduinoInstallation\\_03172016a.pdf](http://www.zagrosrobotics.com/files/ZagrosArduinoInstallation_03172016a.pdf)

Robot Components available at <http://www.zagrosrobotics.com/>

## Example where jumpers and connections are made directly:

*Wire colors between Ardumoto and QTR-8RC are for clarity and do not need to match colors of jumper wires.*

