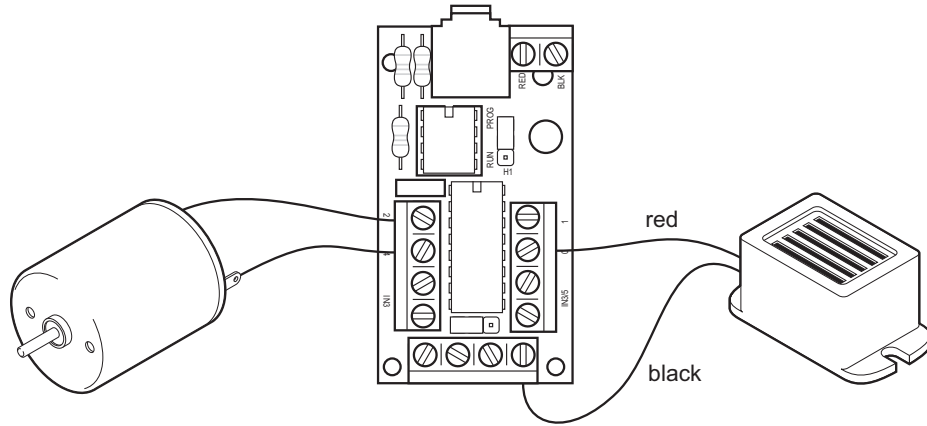


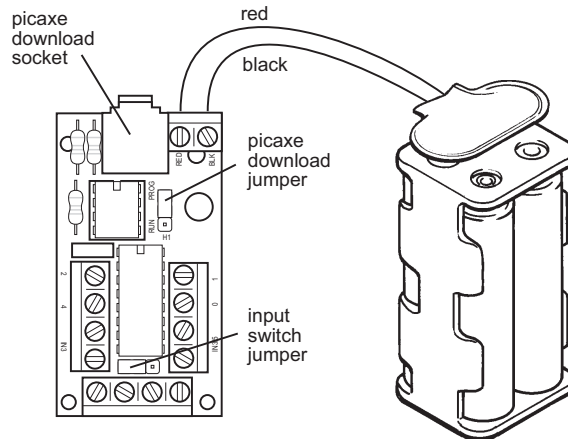
### The 8 pin Motor Driver Board (AXE023)

The 8 pin motor driver board provides 4 outputs on pin numbers 0,1,2 and 4. Pin 3 is used as an input.



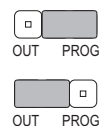
The outputs can be used individually to driver electronic devices such as buzzers and signal lamps. To connect outputs in this way the red wire is connected to the terminal block at the side of the board and the black wire is connected to 0V (G) at the bottom of the board.

The outputs can also be used in pairs to give forward-reverse stop control of motors, so the board will drive up to two motors. To connect motors in this way the two wires from the motors are connected to the pair of outputs (0 and 1 or 2 and 4) at the side of the board.



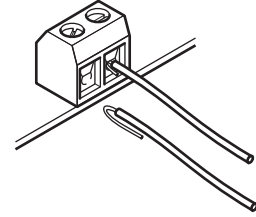
Power should be connected to the board via a battery snap, which can be threaded through the two large holes to create a stronger connection point. The PICAXE-08 microcontroller will function at battery voltages between 3 and 6V (do not use a 9V PP3 battery). When using electrically 'noisy' components (e.g. motors or buzzers) it is recommended a capacitor (e.g. 100uF 16V electrolytic) is soldered in the optional capacitor holes to help smooth the power supply.

Note that the jumper must be used to connect the serial output (PROG position) during a download, or the output pin 0 (OUT position) during normal operation, as both functions share the same microcontroller leg.



### Connecting Wires to the Board

To make stronger connections it is suggested that when connecting wires the 'bare end' of the wire is folded back over the insulation so that both the insulation and the bare wire are tightened into the cage of the screw terminal. This makes a stonger joint than just connecting the bare wire alone.



### Controlling Motors.

Motors are controlled by pairs of outputs as shown by the table below.

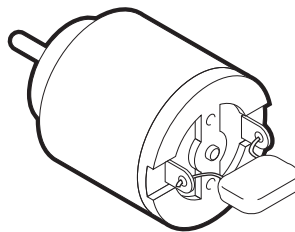
Note that there is a 1.5V voltage drop within the L293D driver chip and so, for instance, if a 6V supply is used the motor voltage will be 4.5V.

The chip is designed to run warm in use. This is normal.  
The direction of rotation of the motors is defined as follows:

Pin 0	Pin 1	Motor A	Pin 2	Pin 4	Motor B
off	off	off	off	off	off
on	off	forward	on	off	forward
off	on	reverse	off	on	reverse
on	on	off	on	on	off

### Noise Suppression on motors:

Note that motors should be suppressed by soldering a 220nF polyester capacitor across the motor terminals to prevent electrical noise affecting the circuit.



### Connecting the Input Switch

Only pin3 can be used as an input with the motor driver board, and the input header (H2) below the L293D chip must be in the left hand side position (pin5 cannot be used with the PICAXE-08 system as this is the serial input pin).

However two switches may be connected to the board, one either side as shown below. Note that when switches are connected like this they are connected in parallel, so either of the switches can be pressed to activate the input.

