

## 1. Valve control and fuel hoses

We recommend installing three port solenoid valves in the following way;

- Port 1. Common – connected to the injector pump.
- Port 2. Open when energised (powered by 12v) – connected to the vegoil tank (via the heated filter and heat exchanger for the supply valve).
- Port 3. Open when unenergised (not powered) – connected to the diesel tank (via the diesel filter for the supply valve).

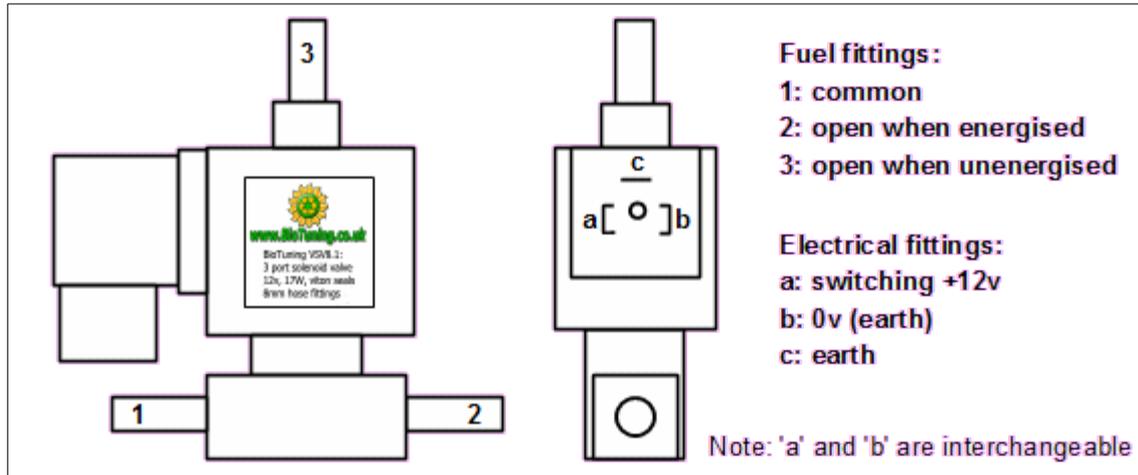
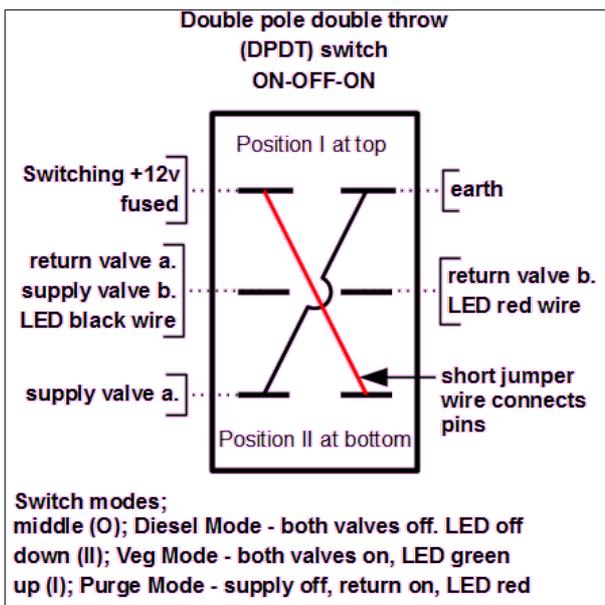


Figure 1. Hose and wire connections on the BioTuning 8mm solenoid valve for vegetable oil.

This convention is recommended in order to safeguard the engine and injector pump in the event of power loss to the valve since the vehicle will run on diesel when the valve is 'off'.

## 2. Wiring the BioTuning twin solenoid control kit

Having decided where the switch is going to be located, remove the trim as required to gain access to the wiring, fuse panels etc and use a voltmeter to locate a good switching source of 12volts; one which has +12v when the key is turned in the ignition and 0v when not. Remove the key from the ignition to ensure that the wires are not live when connecting the switch and valves. If you need to cut out a hole in the dash for mounting the switch it needs to be 22mm wide by 30mm tall. The switch wiring diagram is shown and is achieved by following the steps below;



1. With the pins of the switch facing you and the I position at the top, connect the top left pin of the switch to both a short (approx 8cm) length of wire and the switched power source using 8.75A wire via a 5 amp fuse if necessary. The connection on the switch can be made by crimping the wires into a 6.3mm female spade connector and pushing this over the pin of the switch. Connect the other end of the short wire to the bottom right pin.
2. Connect the top right pin to both a good earth and a short length (~8cm) of wire.
3. Connect the other end of this short wire and the supply valve connector 'a' to the bottom left switch pin, making use of any available grommets or cable runs to pass the wire through the bulkhead.
4. Connect both the return valve connector 'b' and the red wire of the LED to the right middle pin of the switch.
5. Connect the black LED wire, the supply valve 'b' and the return valve 'a' connector to the middle left switch pin.
6. Connect the 'c' connector of each valve to a good earth.

Find a suitable location close to the switch to mount the LED and drill an 8mm hole in which to mount the clip. Use cable ties to ensure that all cable runs are secure and can not come into contact with hot or moving parts. Make sure that the cables near the switch are secure and can't fall free, particularly around the driver's feet.

Test the valves. They can be heard operating in their energised state. At this time, check also that the indicator LED is lit correctly.