

MPS Quick Shifter Installation Instructions



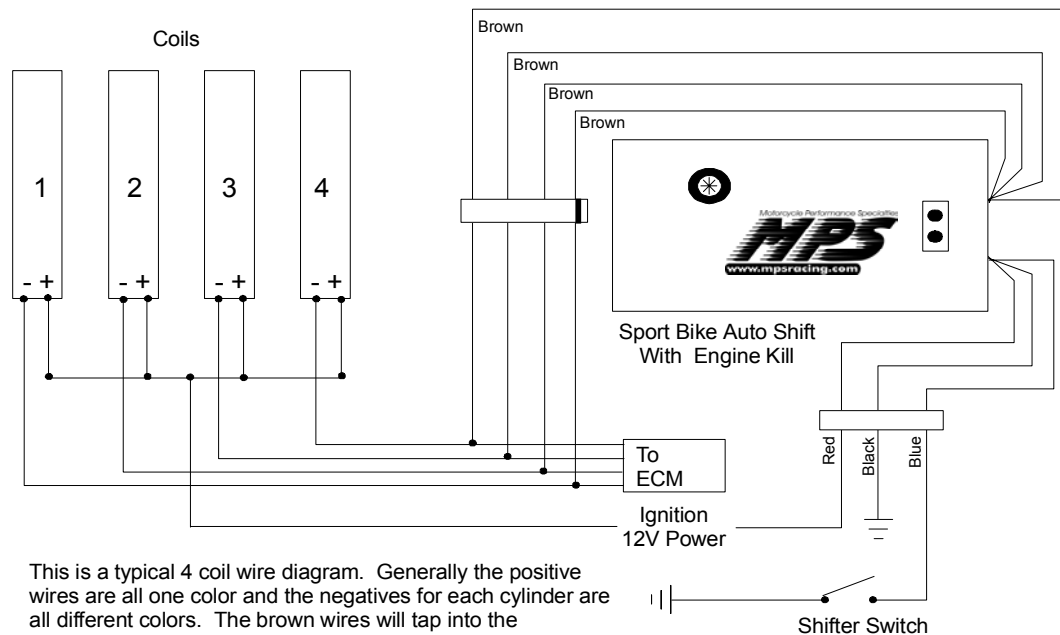
The first thing to do is remove the seat, fuel tank, and possibly the front fairing if equipped. You will need plenty of room to work.

Shifter Switch Mounting – You will need to fabricate your own bracket for the switch. There are a lot of ways to mount the switch. Basically, the better the mounting the better the unit will operate. Switch adjustment is critical to proper operation. Mount the switch so the spring is pulling the pin out of the switch when the shifter is up shifted.

Electrical Connections – You will need to locate and test a few things on your bike before you start wiring. A good ground, a ignition switched 12 volt power source, and the ignition coils.

Control Box Wiring

Coils –Most four cylinder motorcycles use either an individual firing system or a waste spark system. Waste spark is by far the most common. All four cylinder bikes with only two coils use a waste spark system. Most late model four cylinder sport bikes use waste spark systems even though they have four individual coils. Some of the newest fuel injected bikes (Hayabusa, GSXR1000, ZX12) that have cam sync sensors are individual firing. The Sport Bike Engine Kill has four brown wire leads that are connected to the negative of each individual coil on a four coil system. On a two coil system you will use only two brown wires. Some two coil systems will not have enough kill time. If you experience a kill time that is to short you can ground the remaining two brown wires. This will increase the kill time.



This is a typical 4 coil wire diagram. Generally the positive wires are all one color and the negatives for each cylinder are all different colors. The brown wires will tap into the negatives of each coil.

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You can either solder the brown wires to the coil leads (recommended) or use the provided scotchlok splices

Power, Ground, and Activation Lead – The red wire is connected to a ignition switched 12 volt power source. Do not attach direct to battery! The black wire is connected to a good ground, preferably the battery negative post. The blue wire is the activation lead. When a ground is applied to this wire the unit kills the motor for the specified time period. The blue activation lead is connected to the green/yellow lead on the shifter switch.

Shifter Switch – The shift switch has two wires. The black wire is connected to a good ground and the green/yellow wire is connected to the blue activation lead on the kill box.

Shifter Switch Adjustment – To adjust the shifter switch, unplug the shifter switch green/yellow wire from the kill box. Using a test light, clip the test light to the positive side of the battery. Test the light by probing a known good ground. The light should light up. Put the probe in the green/yellow wire lead from the shifter switch. Move the shifter with your hand. Just as you start to feel pressure on the shifter or slightly later is when the switch should operate. The test light will light when the switch is operated. You can fine-tune this adjustment later, after you have ridden the bike.

Setting Kill Time – Kill time is the amount of time the engine stays dead between gears during a shift. Generally the shorter the kill time the quicker the shift. The proper kill time will

Kill Time
Adjustment
Potentiometer



vary from bike to bike. It's generally better to start with too much kill time and work your way quicker. We generally start at around 75 ms. of kill time. The Kill Time is adjusted via a small potentiometer accessed through the grommet on the front of the unit. Using a small screwdriver Carefully turn the pot

clockwise to the end of its travel. This is 100 ms of kill time. Now, carefully turn the pot screw counterclockwise to the end of its travel. This is 50 ms of kill time. Halfway in between is 75 ms. The pot only goes from 7 o'clock to 5 o'clock so don't force it, they break easily!

Testing The System – With the bike in neutral, bring the rpm up to around 3000 rpm and pull out the spring to operate the swifter switch. You should hear a slight hesitation in the engine each time you pull out the spring. If you don't hear a hesitation the brown wires are probably not hooked up correctly or the shift switch black wire isn't grounded properly. With these preliminary tests done you can put the bike back together and go for a ride! Shift it at lower rpms first to make sure it is in fact operating properly. If you have any more questions we have a Frequently Asked Questions page at our web site as well as the telephone tech support. Thank you for your purchase of this MPS product. All products sold by MPS are for use at closed course competition events and not for use on public streets or highways.