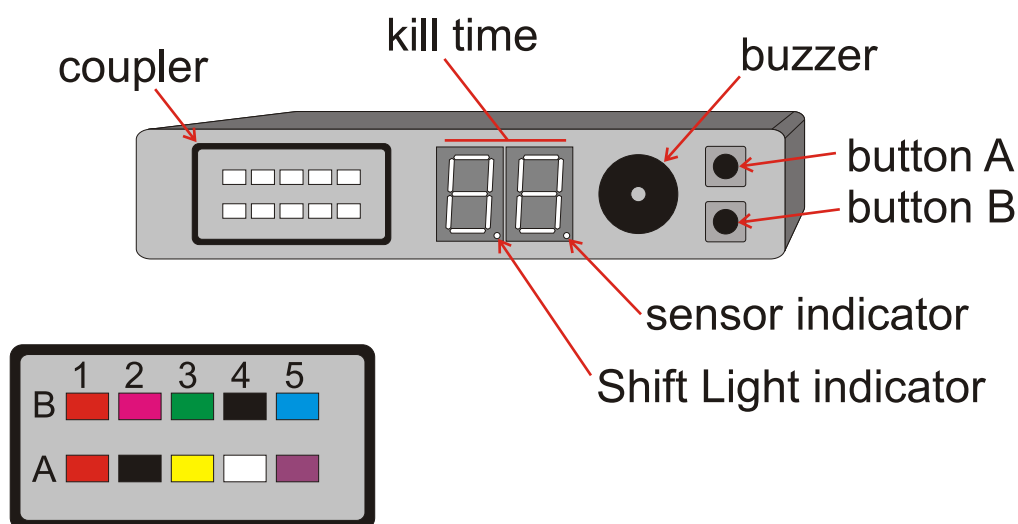




The Shifting ContRoll 2.2 unit is used for quicker upwards shifting into higher gear by an interruption of a torque by ignition and fuel injection cut-off. The Quickshifter ECU unit is controlled by a microprocessor and it is very easy to change the engine kill time (by two buttons). The engine kill time is possible to adjust depending on the actual gear (only for motorcycle with a gear position sensor). The QS unit also allows to activate the shifting light in a pre-set RPM. All outputs have an overload (short circuit) protection.

You can easily check the shift sensor function by an alarm and dot on a screen. The displayed time value corresponds with the whole engine kill time, that is a period during which the ignition is switched off. Injectors are activated 5ms before the ignition coils start. After the ignition and injection interruption, the whole engine operation proceeds the same way as before the interruption, cylinders connect automatically step by step.

The Shifting ContRoll unit is intended only for special circuits and is not homologated for common road use. Improper use may cause a damage of parts of motorcycle. Use always helmet by riding.



- A1 - power supply +12V (10-18V)
- A2 - ground
- A3 - 12V output to ignition coils (max. current 12A)
- A4 - 12V output to injectors (max. current 12A)
- A5 - negative output to Shifting light (max. current 6A)
- B1 - positive output to Shifting light (max. current 6A)
- B2 - input from gear position switch
- B3 - input from shifting sensor
- B4 - (ground)
- B5 - tachometer input

QS unit connection

All ignition coils and all injectors have +12V supply, the same as all the injectors. Colors of wires may vary on different motorcycle models. The general connection is on wiring diagram below. Connection for your specific bike is on www.QS.vyrobce.cz.

1) Interrupt the +12V supply wire to ignition coils. Connect the red wire from the QS unit (connector A1) into the wire with 12 volts (after putting the key into the ignition there is a +12V on). Connect the second yellow wire from the QS unit (connector A3) into the wire leading to ignition coils.

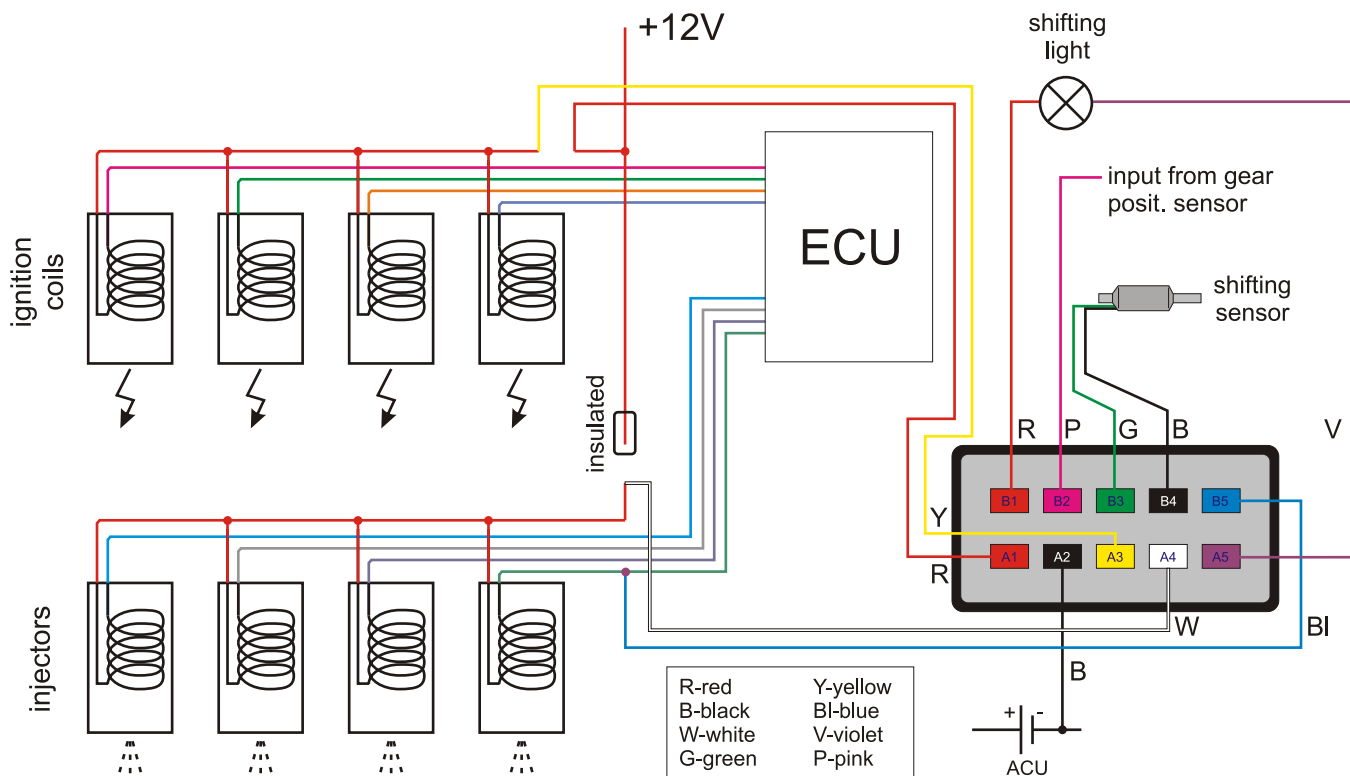
2) Interrupt the +12V supply wire leading to injectors. Insulate the live end and connect the white wire from QS unit (connector A4) into the wire leading to injectors. Insulate wire with 12volts.

3) Connect the black wire of the QS unit (connector A2) into the minus terminal or somewhere to a motorcycle frame.

4) Connect the shifting sensor to QS wiring harness (white, 2pins connector in QS bundle).

5) Connect the blue wire from the QS unit (connector B5) to a random injector or signal for speedometer if you want to use a shifting light. Use a wire with a different color on an injector (a controlled minus terminal by an engine ECU for a speedometer. Join the shifting light connector to the QS unit wiring harness black 2pin connector (connector B1 and A5).

6) Connect the pink wire from the QS unit (connector B2) into an output from the gear position sensor if you want to use a function of a different kill times for each gear.



Sensor instalation

Remove the stock shifting rod and replace it with a new rod with duralumin shifting rods with threads. Use the threadlocker to all thread joints. Fasten the cable by plastic cable tie to the shifting rod. The cable has to be free and without any contact with sharp edges by lifting.

Check the correct functionality of the sensor before run. Switch on the ignition (don't run the engine yet). The QS unit has to beep by an activation of the sensor (press a shifting lever higher gear). Free condition must be silent.

QS unit setting

Kill time is preset to 50ms. This time is optimal for most common sport motorcycles. You can change this time from 30ms to 80ms with the step of 2ms. Press the both buttons for more than 2sec for entering to a menu. The menu has four main parts:

SL=ShifLight - Shift Light settings

Start the engine. Push the button B in a required RPM.

GE = Gear gear learning

You must learn each gear of the QS unit if you want to use different kill times for each gear. Connect the pink wire from the QS unit to the output from a gear position sensor (Suzuki, Kawasaki, Triumph, Yamaha R1 from 2010 and some others).

St = Shifting time - kill time settings

The QS unit allows two modes of the kill time.

You can choose a Single mode the same kill time for all gears or a Multi mode - different kill times for each gear (only for a motorcycle with the gear position sensor).

The long kill time cause yank with motorcycle by shifting. The short kill time cause misshifting. Common time is 50ms in Single mode, or #1 - 80ms, #2 - 72ms, #3 64ms, #4 56ms, #5 50ms.

Following shifting lever will be moved to the end in the shortest time but don't be too aggressive.

SM = Shifting Mode

Automatic - preset mode, "Multi" when is voltage on B2 input, "Single" when is B2 not connected

Multi - Kill time for shifting is different for each gear (only for motorcycles with gear position sensor)

Single - Kill time for shifting is same for all gears

Mo = Mode

Almost all bikes use mode „A“. The ignition and injection is cut-off in the same time for a set-up period (common 50ms displayed time). Some Suzuki GSX-R turn a fault indicator (FI light) on, because the ECU engine detects more than 6 missing ignition. Use the mode „G“ in this case.

LP = Low rPm - low RPM for start QS

Start engine and hold required RPM and then press button B. QS will not operate under this set RPM.

