

Autoblipper - = BMW S1000RR 2010-2014 Manual

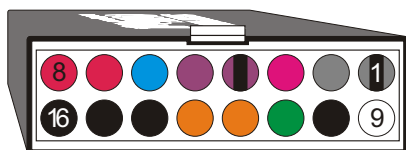
Autoblipper control unit "Shifting ContRoll Autoblipper" (hereinafter referred to as AB) is used for clutchless shifting by downward. Upwards shifting is controlled by stock ECU

For setting of AB unit use software *AB-ContRoll* and cable with USB-micro connector. For download go to www.QS.vyrobce.cz/AB_EN.htm.

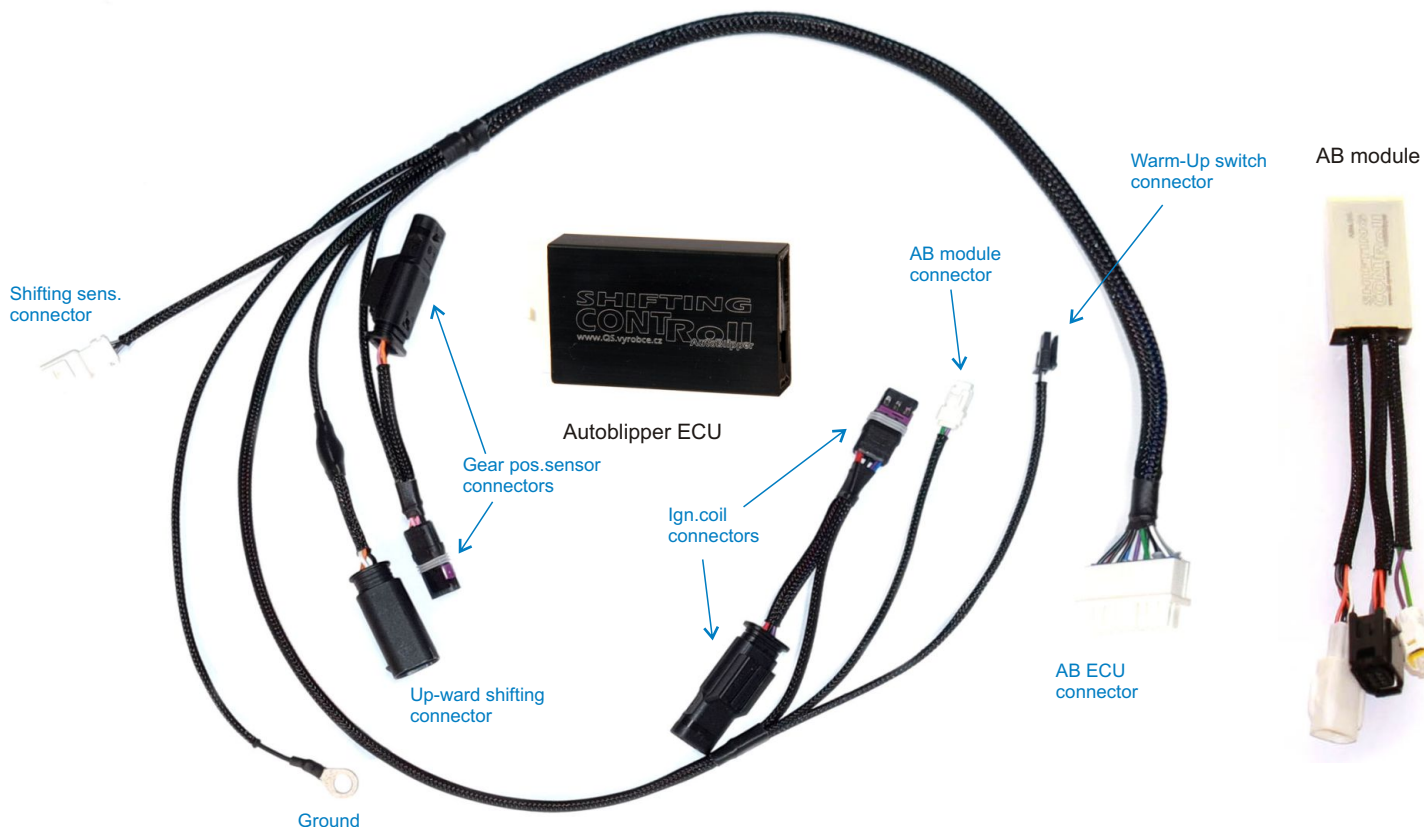
QS unit can be used on closed road only. Incorrect use or connection may result damage of motorcycle parts or cause an injury.

Kit contains:

- AB unit
- Bi-directional shifting sensor
- AB module
- wiring harness Plug&Play
- fasteners, ties
- manual



| | |
|------------|-----------------------------|
| 1 | Input 2 |
| 2 | Input 1 |
| 3 | Input from gear pos. sensor |
| 4 | Output 2 (max 500mA) |
| 5 | Output 1 (max 500mA) |
| 6 | RPM input |
| 7 | + 12V out (max 1A) |
| 8 | Supply +12V |
| 9 | Input 3 |
| 10, 14, 15 | Sense ground |
| 11 | Accelerator input |
| 12, 13 | Output 3A + 3B (max 200mA) |
| 16 | Supply GND |

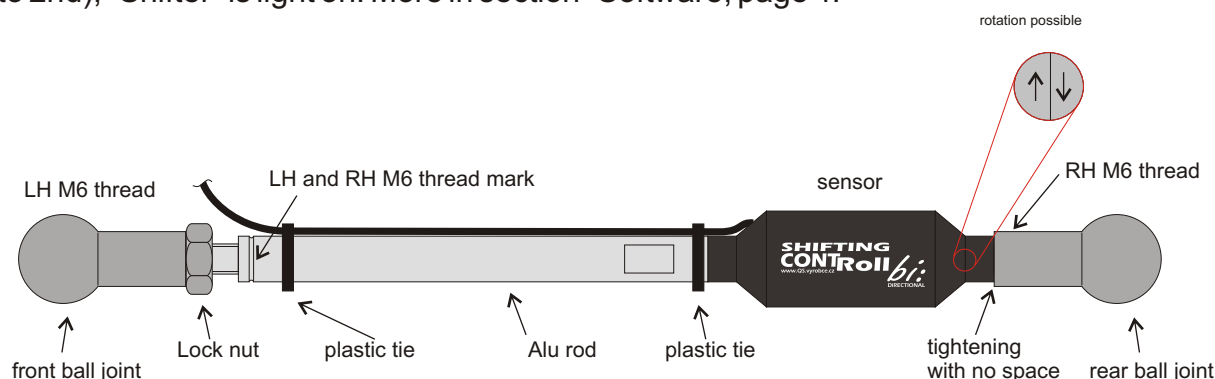


Sensor installation

Remove original shifting rod and replace with new shifting rod with Bi-directional sensor. Using Original Ball joints. Right side of sensor fully tighten the ball-joint (use lock agent). Rotation of sensor against tightened ball-joint is possible. Attach the left hand ball joint to the shifting arm (the angle between shifting arm and shifting rod should be $90^\circ \pm 10^\circ$) adjust to the ball joint and lock in place with nut.

Use cable ties to secure the shifter cable. Cable have to be free by shifting. 3 way female white connector is connected to AB wiring harness.

Check settings in software before first run. Go to bookmark "Monitor", section pedal move to lower gear (from N to 1st), "Blipper" is light on. When the shifting pedal move to higher gear (from N to 2nd), "Shifter" is light on. More in section "Software, page 4.



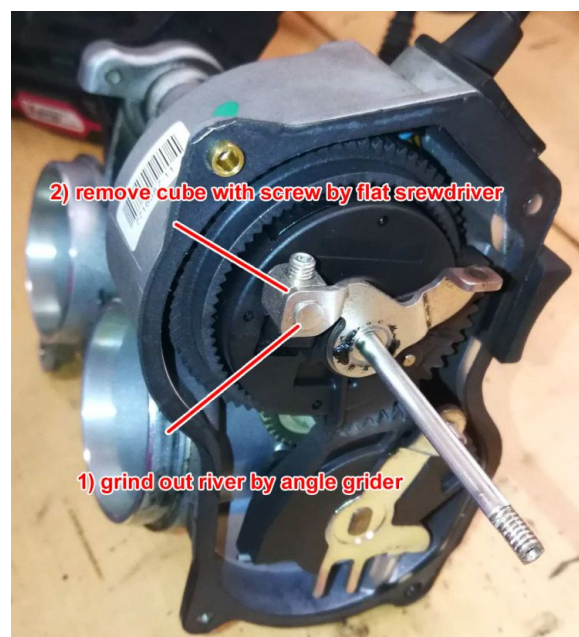
AB unit connection

S1000RR 2010-2011 ... throttle body 13547727908 (returning pin have to be removed)

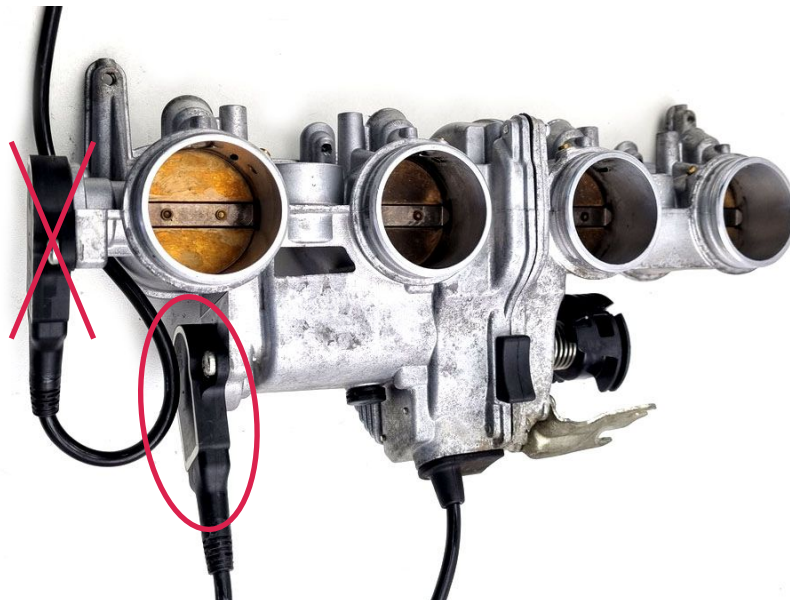
S1000RR 2012-2014 ... throttle body 13548521753 (no changes needed)

Throttle body 13547727908 (model 2010-2012)

- remove throttle body and unscrew it in half
- grind out rivet by angle grinder
- remove metal cube with screw by flat screwdriver
- put throttle body together and place back to motorcycle



- 1) Disconnect accelerator connector - look to the picture below. Insert AB module. Connect AB module to AB wiring harness by 2way white connector (with Green and Violet wires)



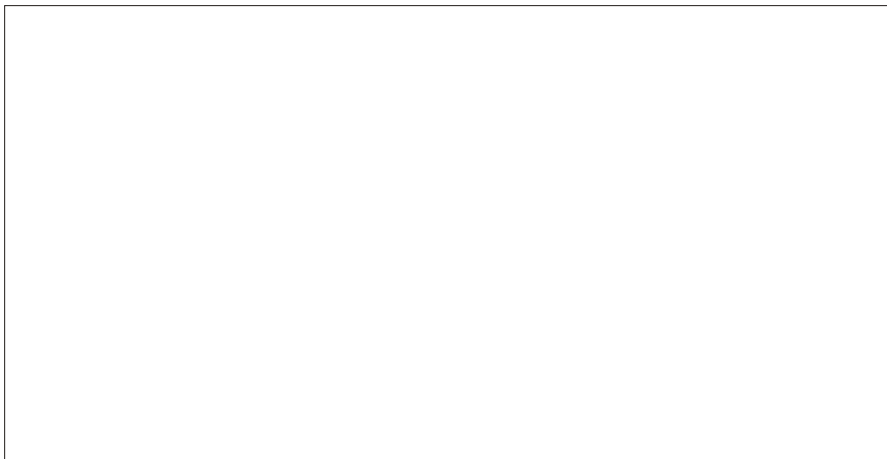
- 2) Disconnect connector from left ignition coil and insert AB wiring harness.



- 2) Disconnect 3 way black connector from Gear position sensor and insert Male and Female connectors on AB wiring harness. Connector is placed under fuel tank on the frame near rider seat.



- 2) Connect 3way black connector (Male) on AB wiring harness instead stock QS sensor.

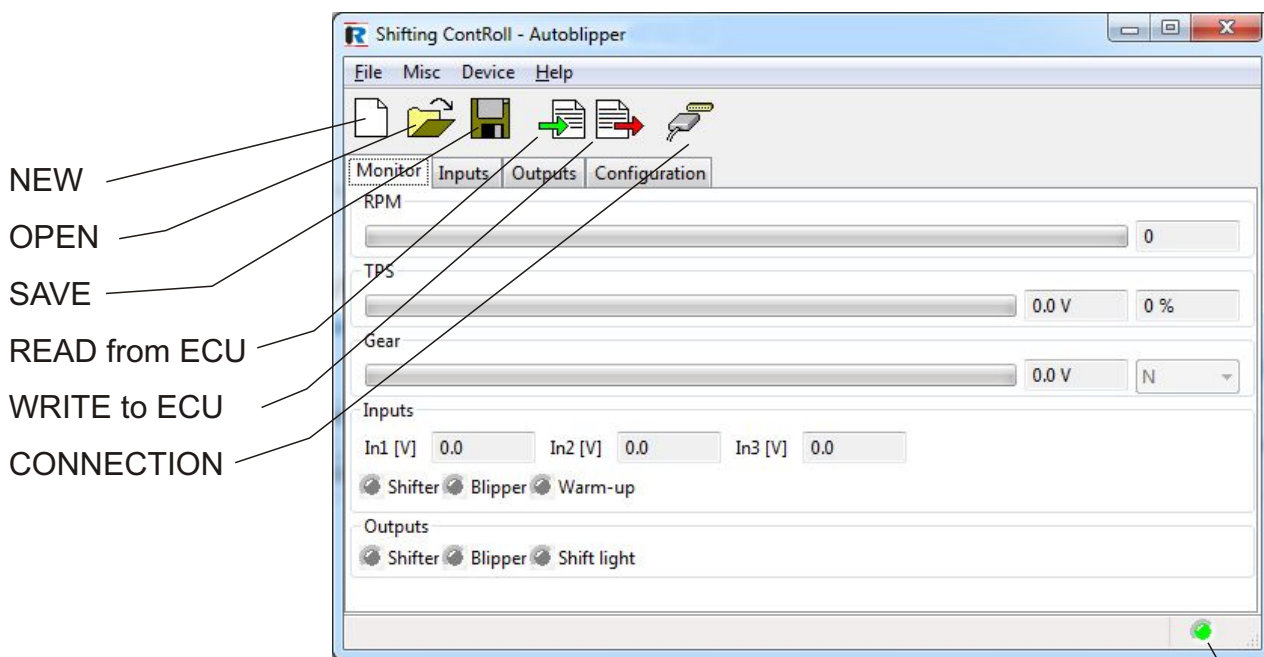


- 2) Place ring lug terminal (black wire on AB wiring harness) under bolt near starter.



AB unit setting

Download software Autoblipper and driver from web page www.QS.vyrobce.cz/ab_en.html



values are illustrative - not for your bike

Green= connected
Red= not connected

Monitor

RPM - display current RPM

TPS - display current accelerator position (%) and voltage (V).

Gear - display current gear and voltages (V) from gear position sensor.

If is not right, go to bookmark "Inputs"

Inputs - voltage on each inputs

Outputs -

grey = output is not activated

green= output is activated



web page Autoblipper

Inputs

In 1, 2, 3 - input setting

None = input is off

Blipper = AB module is activated by switch

Shifter = QS in stock ECU is activated by switch

Shifter/Blipper = input for sensor with analog output

WarmUp = engine will be faster warm-up by activation. Gearbox in neutral position is necessary.

NO = sensor is closed by force (Normal Open)

NC = sensor is open by force (Normal Close)

The screenshot shows the 'Inputs' tab of the configuration software. It includes sections for In1, In2, In3, Tachometer, and Analog input. In1 is set to Blipper with a Switch NO sensor. In2 is set to Shifter with a Switch NO sensor. In3 is set to None with a Switch NC sensor. The Tachometer is set to 1 pulse per 2 revolutions. The Analog input section shows a Blipper threshold of 500 mV and a Shifter threshold of 4500 mV. To the right, the 'Gear position[mV]' section lists values for gears 1 through 6: 1500, 5000, 2400, 3100, 4200, and 4650, each with a 'Get' button.

values are illustrative - not for your bike

Tachometer - amount of pulses on RPM input (pin 6) for 2 rev of crankshaft.

Analog input - setting for sensor with analog output

Blipper threshold = voltage for Blipper activation

Shifter threshold = voltage for Shifter activation

Gear position - voltages for each gear. Switch ignition On, don't run the engine. Shift 1st gear and push button "GET" for 1st gear. Do it again for other gears.

Autoblipper (downward shifting) is not activated on 1st gear.

Quickshifter (upward shifting) is not activated on 6th gear.

Outputs

Out 1, 2, 3 - output setting

None = output is off

Blipper = output for AB module activation

Shifter = output for QS activation

Shift Light = output is grounded when it reaches setting RPM. You can use it for shifting light.

The screenshot shows the 'Outputs' tab of the configuration software. It includes sections for Out1, Out2, and Out3. Out1 is set to Blipper. Out2 is set to Shifter. Out3 is set to None.

Configuration

Shift Light RPM = rev value for activate Shift Light

Delay = minimum time between two upward shiftings

Throttle position min. = minimum voltage from accelerator sensor

Switch ignition ON, don't touch on throttle and press "Get"

Throttle position max. = maximum voltage from accelerator sensor

Switch ignition ON, full throttle and press "Get"

Throttle position limit = maximum accelerator position for blipper activation (works below this value)

Min blipper RPM = minimum engine rev for blipper activation (works above this value)

Delay = minimum time between two downward shiftings

Active time = time of rev rising by WarmUp function

Inactive time = time of rev falling by WarmUp function

Temporarily act. Warm-up = click on this box when you want test TPS modul

| Monitor | Inputs | Outputs | Configuration | Maps |
|---|--------|---------|---------------|------|
| Quick Shifter | | | | |
| Shift light RPM | | | 10000 | |
| Delay [ms] | | | 100 | |
| Auto Blipper | | | | |
| Throtle position min. [mV] | 0 | Get | | |
| Throttle position max. [mV] | 5000 | Get | | |
| Throttle position limit [%] | 44 | Get | | |
| Min blipper RPM | | | 3000 | |
| Delay [ms] | | | 100 | |
| Warm-up | | | | |
| Active time [ms] | | | 200 | |
| Inactive time [ms] | | | 1300 | |
| <input type="checkbox"/> Temporarily activate Warm-up for testing | | | | |

values are illustrative - not for your bike

Maps

Blipper map - time of rev rising by blipper activation depend on RPM (rows) and Gear (columns).
When is no signal on GEAR input detected, values in column "2" will be used.

too short time = hard shifting or shift to bad neutral between gears

too long time = motorcycle jerk forward by shifting

| Monitor | Inputs | Outputs | Configuration | Maps | |
|-------------------------------|--------|---------|---------------|------|----|
| Autoblipper opening time [ms] | | | | | |
| RPM | 2 | 3 | 4 | 5 | 6 |
| 2000 | 80 | 80 | 80 | 80 | 80 |
| 3000 | 80 | 80 | 80 | 80 | 80 |
| 4000 | 80 | 80 | 80 | 80 | 80 |
| 5000 | 80 | 80 | 80 | 80 | 80 |
| 6000 | 80 | 80 | 80 | 80 | 80 |
| 7000 | 80 | 80 | 80 | 80 | 80 |
| 8000 | 80 | 80 | 80 | 80 | 80 |
| 9000 | 80 | 80 | 80 | 80 | 80 |
| 10000 | 80 | 80 | 80 | 80 | 80 |
| 11000 | 80 | 80 | 80 | 80 | 80 |
| 12000 | 80 | 80 | 80 | 80 | 80 |
| 13000 | 80 | 80 | 80 | 80 | 80 |
| 14000 | 80 | 80 | 80 | 80 | 80 |
| 15000 | 80 | 80 | 80 | 80 | 80 |
| 16000 | 80 | 80 | 80 | 80 | 80 |

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