BLIPPER for CB1000R 17

The SGRACE is our latest high performance design. We have put an enormous amount of energy in the form of time, technology and knowledge to create a reliable and innovative product. It is a "Strain Gauge" sensor style that ensures long lasting performance. To bring this product into reality we have used all the manufacturing tricks, electronic formulae and rendered a keen eye on software support to make this happen. This product is encouraged to use in a on a closed circuit only. It is not homologated for road use. The manufacturer of this product is not liable for any injury or damage to the operator, vehicle, or third parties from the use of this product. **MADE IN ITALY**

DISCLAIMERS

- System setup must always be done when bike is at complete halt and is parked on stands.
- A wrong setting could affect, partially or fully, the system's effectiveness, ultimately damaging the gearbox.
- System setting is the responsibility of the user and not of the manufacturer. While fixing sensors, take extra caution to not damage while screwing and unscrewing the bike. It is a delicate product.
- The use of this product is at the total discretion of the private parties.
- Each system modification, both of hardware and software, as well as harness or single components, could affect the system functionality. It can do potential damage or cause injury to the user, vehicle, or to third parts and this will negate the product warranty.
- Installation must be done carefully It is mandatory that you follow instructions provided in the manual book. After installation it is highly recommended that you do proper test of the product before riding on.
- Installation is an extremely crucial setup for system efficiency. Be sure it is done by competent and specialized mechanic.

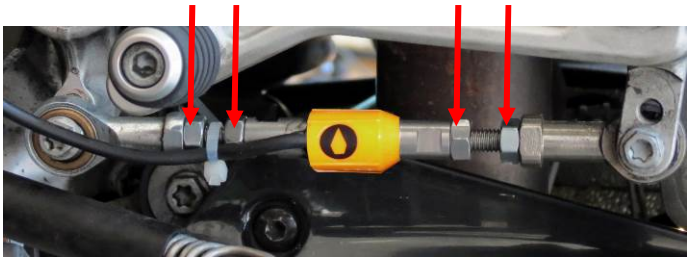
This manual is issued on May 27th 2019 in Rev. 5. It is the end user's responsibility to periodically visit the website www.irccomponents.it in order to check for revised and updated manual guides.

WARNING

Our blipper provides an additional throttle % when you need to downshifting. If the engine revs are high, near the red line, the system will provide this acceleration but the bike ECU will cut it to avoid the over revving with engine damage. Result is that the gear could be not engaged or not properly engaged.
We suggest don't pass the 80% of max engine revs when you start the downshifting.

1. CONNECTIONS

Sensor has "magic threads" i.e. both right and left. Connect the sensor (LABELED SENSOR) to the provided shiftrod. Cut it if necessary. Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations.



Install sensor and rod with uniball links on both ends, most bikes have uniballs stock, check that the shiftrod does not rub or touch anything. Put sensor far from very hot parts. Make sure wire has a slight bend/loop so it does not tighten up and pull at the sensor during up or down shift. Warranty doesn't cover ripped out wires.

WARNING: To adjust sensor positioning, act on the proper planes on it. Sensor failure could occur if acting on the cover.

2. DISPLAY

After switching on the system, the ECU makes a general check and, if passed, the display will show the firmware version.

WARNING: Do not start any process, setting or action on sensor until the above routine is completed.

When the pre load threshold has passed (par. 3.3), the display will show "**--**" .
In case of failure, the display will show an "**E**" followed by a number. Give this code to the assistant.

3. INITIAL SET UP

To set up initial program press both the buttons to enter into the system.
Push lower button to **scroll the menus forward**.
Push the upper one to **scroll the menus backwards**.
Press and maintain the lower button to enter into the various menus. However, to exit from the menu and undermenues press upper or both buttons. During programming, the quickshifter is disabled.
The sytem is provided fully working. Just properly set "**CE**" (par. 3.8) to immediately enjoy the blipping. However all parameters are set in safety way. Every rider must properly adapt the sysem setup to his own riding mode.



WARNING: Act only on the following setup options.

3.1 Upshift time programming "t"
The upshifting cut time can be adjusted within 20÷99ms. Default **60ms**.
3.2 Downshift rpm "rL"
The "Blip" will not work below 3,000rpm. Above this limit the timing of the blipper is automatically set in function of customer's choice. "rL" is the lower rpm limit level scale. Default **03**.
3.3 Downshift timing "SL"
Set the desired timing of the "blip" at "rL" rpm (see par. 3.2). Default **60**ms.
3.4 Upshift Pre Load adjustment "L"
The default setting is set at "**14**" and it can be customized according to the need. Keep the ignition on and engine off to try to select the upper gear. Shift lever should move through the spring load in gearbox until gear resistance is felt. The panel LED will display **"--"** for a while. If this happens too early or too late, then consequently change the preload set. Usually in the between **12÷17**.



WARNING: A too high preload could affect the gearbox reliability and makes the shifting "harsh". A too low preload could cause unpredicted up/downshifting signal. Upshifting isn't dangerous, only bothersome cuts of the power for a while.An unpredicted downshifting can be dangerous because it "push" the bike ahead so proprely adjust this parameter.
3.5 Actual Load displaying "S"
To read the value of actual applied load select this menu. This feature is also useful for preload adjustments and to check gearbox wear. A too high preload could affect the gearbox reliability.
3.5.1 Max Load displaying "--"
At this point, pressing and holding the lower button, the display will show blinking "--" for about 10s. Afterwards it will show the max load value registered in this period. This feature is useful for preload adjustment and for gearbox reliability and maintenance.
3.6 Downshift Timing "tS"
Set the "Blip" timing within 20÷98ms at 8,000 rpm (consider it as high rpm). A too long timing allows gear in but then you'll feel the bike pushing a while. A too short timing doesn't allow a proper downshift. We suggest to start with high value and reduce it during the tests on road. Default Starting value **95ms**.
3.7 Downshift Pre Load adjustment "LS"
The default setting is set at "**14**" and it can be customized according to the need. Shift lever should move through the spring load in gearbox until gear resistance is felt. The panel LED will display **"--"** for a while. If this happens too early or too late, then consequently change the preload set. Usually in the between **12÷17**.
3.8 Pushing/Pulling"CE"
Referring to the upshifting, "C" Pushing, "E" Pulling. To properly set this parameter, engage the 2nd gear and try to put the 3rd. Look at the shiftrod: Is it compressing (C: Push) or extending (E: Pull)?
3.9 Normally Open/Closed circuit "OC"
"**C**": commonly closed circuit, for direct cut of coils (**must be set in case of direct connection to the coils**).
"**O**": commonly open circuit, default value for OEM quickshifters and for most all additional quickshifter module,
3.10 Increase of blipping timing in 3rd-2nd and 2nd-1st gears downshifting "1A"
Sometimes the lower gears needs a higher blippping timing to be properly engaged. 1A is the Increasing timing in 10 milliseconds. 01 means 10milliseconds. Higher values mean longer timings between 2nd and 1st gear. Default is **00**.
3.11 Smoothness "rr"
If Upkit isn't used, set it to "00".
If Upkit is used, higher values mean increase in smoothness. Default is **01**.
3.12 Bike Model "tt"
Type of firwmare. Don't change it. If accidentally changed, set at **9**.

4. INSTALLATION

Please following the below steps to properly install your blipper on the bike:

4.1) Fix Main Board underseat.

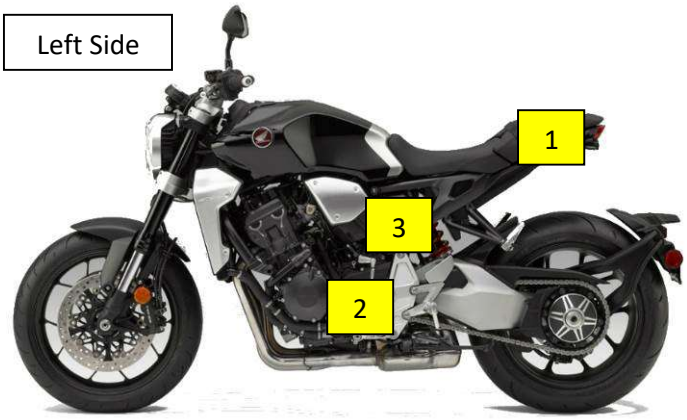
4.2) Load Cell Installation (left side)

4.3) Gearshift Connector (left side)

4.4) Coils connector installation (right side)

4.5) APS Connector. (left side)

Left Side



Right Side



4. INSTALLATION

4.1 Fix the Main Board.

Usually the electronic board is fixed underseat. However wires are long enough to allow any positioning.

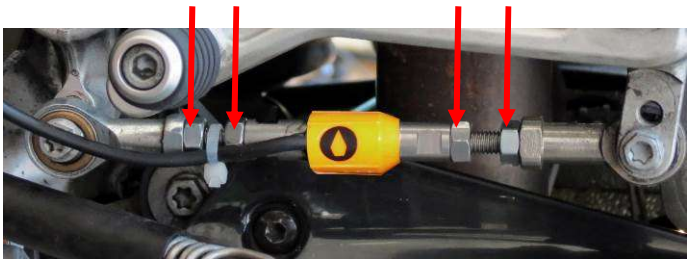
WARNING: Both electronic units must be far from hot surfaces. Temperatures above 70°C could compromise the functioning with serious effects on safety:



4.2 Load Cell installation



Sensor has "magic threads" i.e. both right and left. Connect the sensor (LABELED SENSOR) to the provided shiftrod. Cut it if necessary. Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations.

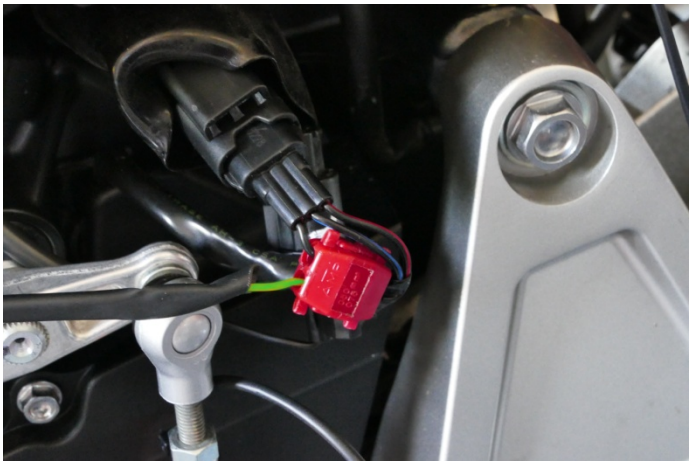


Install sensor and rod with uniball links on both ends, most bikes have uniballs stock, check that the shiftrod does not rub or touch anything. Put sensor far from very hot parts. Make sure wire has a slight bend/loop so it does not tighten up and pull at the sensor during up or down shift. Warranty doesn't cover ripped out wires.

WARNING: To adjust sensor positioning, act on the proper planes on it. Sensor failure could occur if acting on the cover.

4.3 Gearshift Signal

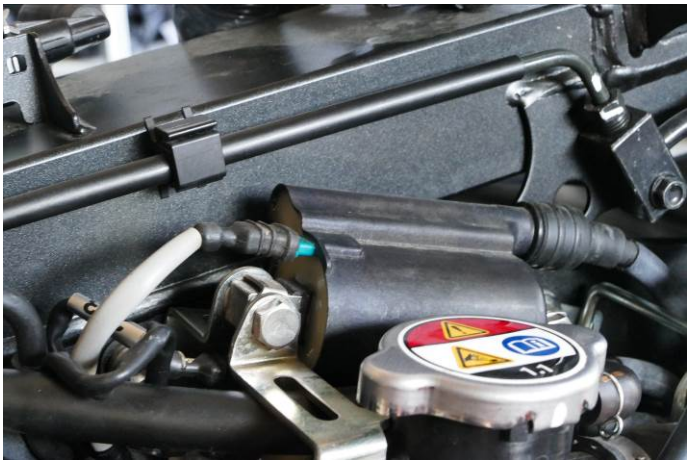
From the IRC orange box a **GREEN** wire comes out. Connect it to the black wire of the 3 way gearshift connector, through a soldering or a wire terminal connector. The connector is inside a soft cover just above the shiftrod on the right.



4.4 Coils harness installation.

WARNING: Be very careful. Wrong connections on coils can cause bike ECU burning

Remove Tank.
Locate the 2 coils under the tank on right side of the frame:

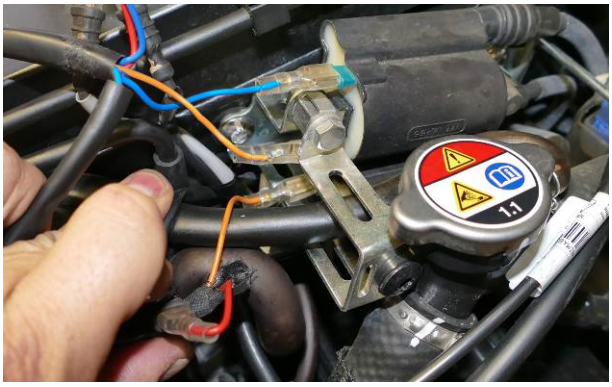


There are 2 green positions and 2 black positions.

Take the first IRC bypass with blue wires. Remove the upper OEM connector of the upper coil and put the IRC blue bypass in the between.

Now remove the lower connector and put the IRC Orange-Red bypass in the between.

Now take the lower coil, disconnect the connector that goes to the black pin of the coil (not the green. It' remains in the central position between the 2 coils) and put the IRC Orange-Red bypass in the between. The final connections will be like in the following picture:



4.5 Locate the APS connector in the front right of the bike



Connect the IRC connectors bypass (APS LABELED) in the between.



4.6 Connect eyed **Black** wire (LABEL GROUND BATTERY)



directly to the battery or, if not possible, then to a common ground.

5. QUICK PRESETTING SUGGESTIONS

The sytem is provided fully working. Just properly set “CE” (par. 3.8) to immediately enjoy the blipping. However all parameters are set in safety way. Every rider must properly adapt the system to own riding mode.
These are some suggestions:

5.1 Preloads setting: Give power, don't start engine, don't touch the lever, enter in the menu, go to "S" and check that you read "00" or oscillating "01", not more. Then put 3rd gear and try to push the pedal in the upshifting way till you just “feel” the gears load, not till the upper gear enter. You should read values between "08" and "17". Set this value in “L”. Now try to push the pedal in the downshifting way till you just “feel” the gears load, not till the lower gear enter. You should read values between "08" and "17". Set this value in “LS”. LS should be around L. Difference mustn’t be higher than 2Kgs.

5.2.1 Blipping timings setting: concentrate on blipping in gears above 3rd and revvs above 10,000rpm. Is the bike “pushing” you after the downshifting? If yes, reduce “tS”. Is the downshifting “harsh”? Increase “tS”.

5.2.2 After setting the above, now concentrate on blipping in gears above 3rd and revvs around 5,000rpm. Is the bike “pushing” you after the downshifting? If yes, reduce “SL”. Is the downshifting “harsh”? Increase “SL”.

5.2.3 Now check the downshifting in 3-2 and 2-1 gears. Is the downshifting “harsh”? Increase “1A”.

5.4.1 For Upkit users: Set “OC” to “C”. We suggest to set “rr” at the beginning of red zone. If the upshifting are still “harsh”, increase this value, it instead it is too smooth, reduce this value. Eventually change the parameter “t”.

6. TROUBLESHOOTING

6.1 bike doesn’t start

a. Check upkit harness to the coil is well installed as per 4.2.
b. Check “OC” set in C.
c. Check ground wire on battery ground, not to the frame.
d. Check you don’t have “E1” on the display. If yes, contact your dealer.
e. Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1
f. If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

6.2 System continuosly cut or blipping even if the foot isn’t acting on the pedal:

a. Check ground wire on battery ground, not to the frame.
b. Check you don’t have “E1” on the display. If yes, contact your dealer.
c. Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1
d. If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

6.3 Blipper works, upshifting no:

a. Check “OC” according to above par. 3.9.
b. Check ground wire on battery ground, not to the frame.
c. Check that when upshifting the display will show "- -" for a while and that you can hear a "click". If no, properly set "L” according to the above 5.1.
d. Check you don’t have “E1” on the display. If yes, contact your dealer.
e. Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1
f. If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.
g. Check the connection to the upshifting unit (IRC or OEM or additional module or remapping).

6.4 Upshift works, blipper no:

a. Check “OC” according to above par. 3.9.
b. Check ground wire on battery ground, not to the frame.

a. Check that when downshifting the display will show "- -" for a while and that you can hear a "click". If no, properly set "LS" according to the above 5.1.
c. Check you don't have "E1" on the display. If yes, contact your dealer.
d. Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1
e. If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.
f. Check the connection to the upshifting unit (IRC or OEM or additional module or remapping).

6.4 System works in reverse manner:
a. Check "OC" according to above par. 3.9.

6.5 After blipping, especially at higher rpm, bike goes to limp mode
a. Check you are connected to APS not to TPS i.e. connect to the first connector you can, following the wires from the throttlegrip. Par 4.3
b. Reduce "SL" and "tS".

6.6 Gears aren't fully engaged during Upshifting or go out after a while:
a. Increase "t".
b. Check "L", according to above 5.1. Eventually increase/reduce it a couple of points and test.

6.7 Gears aren't fully engaged during Blipping or go out after a while:
b. Increase "SL" and "tS".
c. Check "LS" according to above 5.1. Eventually increase/reduce it a couple of points and test.

6.8 During blippping bike push ahead.
a. If at higer rpm (above 8,000rpm) Reduce "tS"
b. If at lower rpm, reduce "SL".

7. WORKING CONDITIONS

8÷17.5V; -20°C÷+95°C.

We value your business with us.
For any questions or troubleshooting queries, please contact us at:
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Enjoy your choice.