

The SGRACE_BLIPPER 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 Dec 20th 2017 in Rev. 1.0. 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. 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. 2.4 and 2.7), the display will show "--".

In case of failure, the display will show an "E" followed by a number. Give this code to the assistant.

2. 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 undermenus press upper or both buttons. System will go out of programming session if no button is pushed except the "r" menu. Also during programming, the quickshifter is disabled.



WARNING: Act only on the following setup options.

2.1 Signal time programming "t"

Set at the maximum allowed value. Upshift timing will be regulated by the original APRILIA ECU and not by the SGRACE_BLIPPER.

2.2 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" are the lower rpm limit level.

2.3 Downshift timing "SL"

To set the downshift timing; adjust the preferred timing of the "blip" at "rL" rpm (see par. 2.2).

2.4 Upshift Pre Load adjustment "L"

The default value is fixed at "16" however it's possible to change the load necessary to apply on the sensor for having the upshift signal. Shift lever should move through the spring load in gearbox until gear resistance can be sensed. If rpm is above the set value at par. 2.8, The panel LED should show "--" for a while. If this happen too early or too late; then change the preload setting.

2.5 Actual Load displaying "S"

Entering in this menu it's possible to read the actual load value. Useful feature for preload adjustment and for gearbox check and maintenance.

2.5.1 Max Load displaying "--"

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.

2.6 Downshift Timing "tS"

Set the "Blip" timing within 20÷98ms at 8,000 rpm.

Default timing is set at 63ms. Consider that the blip timing at 12,500rpm will be 70ms higher.

In the between the CPU will interpolate the value.

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 recommend to initiate the process with high value and reduce it during the tests on the road.

2.7 Downshift Pre Load adjustment "LS"

The default value is fixed at "16" however, it's possible to change the load necessary to apply on the sensor for having the downshift signal. Try to select the lower gear by switching off the engine and keeping the ignition on. Shift lever should move through the spring load in gearbox until gear resistance can be sensed. If rpm is above the set value at par. 2.8, The panel LED should show "--" for a while. If this happen too early or too late; then change the preload setting.

2.8 Minimum rpm limit "Sr"

Set rpm value below which the system is not cutting. Visualization: /1000.

2.9 Pushing/Pulling "CE"

Referring to the upshift, "C" to set pushing, "E" to set pulling.

3. CONNECTIONS

Please following the following steps to install Blipper in your ZX10:

3.1) Fix Main Board on the frame (underseat)

3.2) Load Cell Installation (left side)

3.3) Coils connector installation (undertank)

3.4) Gearshift Connector (left side)

3.5) APS Connector. (front undertank)

Reference pictures for following operations:

LEFT SIDE



3.1 Fix the Main Board under rear underseat or anywhere easy to be accessed.

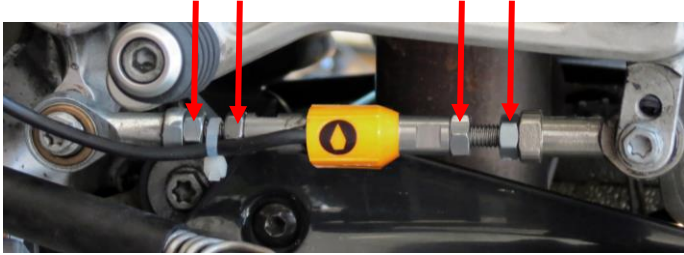
Fix the black box, if present, on the leftside of the seat frame



Connect the black ground to the battery.

3.2 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. Sensor failure could occur of acting on the cover.

3.3 Upshift Connection.

Locate the OEM upshift connector, on left side following the wire coming from OEM quickshifter sensor.



Remove the OEM quickshifter and replace with IRC one.

3.4 Coils connector installation.

Connect the male/female 2 ways **BLACK** connectors (POWER LABELED) to one of the coils.

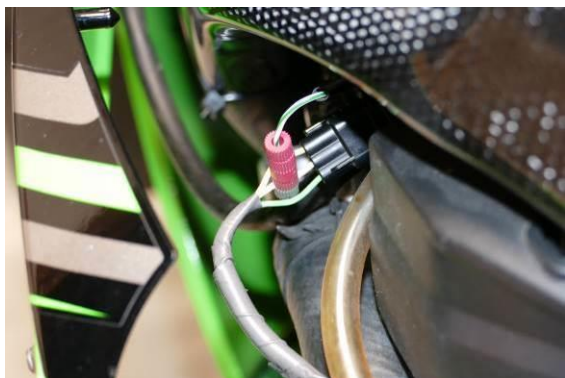


No matter which one. We usually connect to one of the sides:



3.5 Gearshift Connector

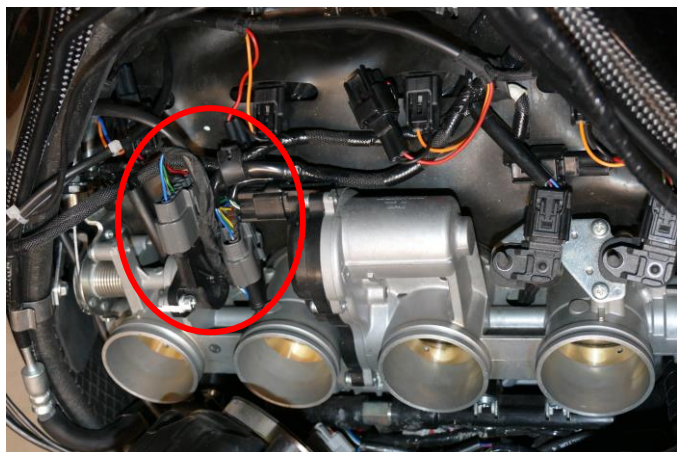
Locate the OEM gearshift connector. It's on the left side of the frame. No need to completely remove the fairing



Connect our Yellow free wire to the central White wire through a Ring Rap or, better, a soldering.

3.6 APS CONNECTOR

Locate the APS connector in the left of the engine cylinder head.



Disconnect it and connect in the between the IRC's one.

4. 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:

4.1 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.

4.2.1 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".

4.2.2 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".

4.2.3 Now check the downshifting in 3-2 and 2-1 gears. Is the downshifting "harsh"? Increase "1A".

4.4.1 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, if instead it is too smooth, reduce this value. Eventually change the parameter "t".

4.4.2 For NO Upkit users: Set "OC" to "O".

5. TROUBLESHOOTING

5.1 bike doesn't start

- Check upkit harness to the coil is well installed as per 3.2.
- Check "OC" set in C.
- Check ground wire on battery ground, not to the frame.
- Check you don't have "E1" on the display. If yes, contact your dealer.
- Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1
- If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

5.2 System continuously cut or blipping even if the foot isn't acting on the pedal:

- Check ground wire on battery ground, not to the frame.
- Check you don't have "E1" on the display. If yes, contact your dealer.
- 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, check it eventually replace it.

5.3 Blipper works, upshifting no:

- a. Check "CE" according to above par. 2.8.
- 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, check it eventually replace it.
- g. Check the "upkit" harness is well installed according to par. 4.3.

5.4 Upshift works, blipper no:

- a. Check "CE" according to above par. 2.8.
- 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, check it eventually replace it.

5.4 System works in reverse manner:

- a. Check "CE" according to above par. 3.8.

5.5 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".

5.6 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.

5.7 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.

5.8 During blipping bike push ahead.

- a. If at higher rpm (above 8,000rpm) Reduce "tS".
If at lower rpm, reduce "SL".

6. WORKING CONDITIONS

10÷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.