BLIPPER XDIAVEL by

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 October 10th 2018 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.

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 undermenues 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"

Upshift killtime. It can be adjusted within 20÷99ms. Default 60ms.

2.2 Downshift rpm "rL"

The "Blip" will not work below 2,000rpm. 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 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.



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.

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 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.

2.8 Pushing/Pulling"CE"

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

2.9 Normally Open/Closed circuit "OC"

Set it to "**C**", otherwise bike will nost start.

2.10 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. Default is **00**.

2.11 Smoothness "rr"

Higher values mean increase in smoothness. Initially set the ideal upshift rpm. Visualization: /1000.
Default is **12**.

2.12 Model bike "tt"

Type of firwmare. Don't change it. If accidentally changed, set: 1**4**.

We **SUGGEST** (not mandatory) these settings:

t	60
rL	02
SL	55
L	17
tS	80
LS	16
CE	E
OC	C
1A	04
Rr	05

3. CONNECTIONS

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

3.1) Fix Main Board on the frame (left side)

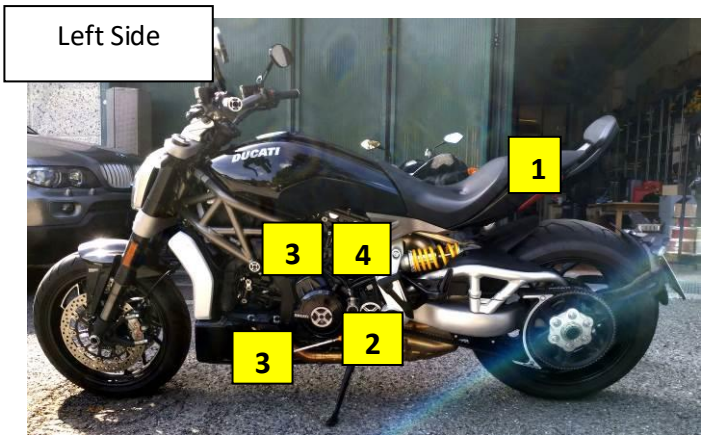
3.2) Load Cell Installation (left side)

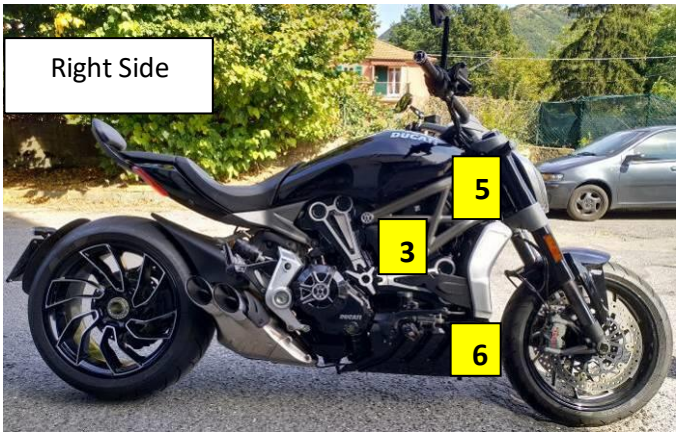
3.3) Coils connector installation (right side)

3.4) Gearshift Connector (right side)

3.5) APS Connector. (right side)

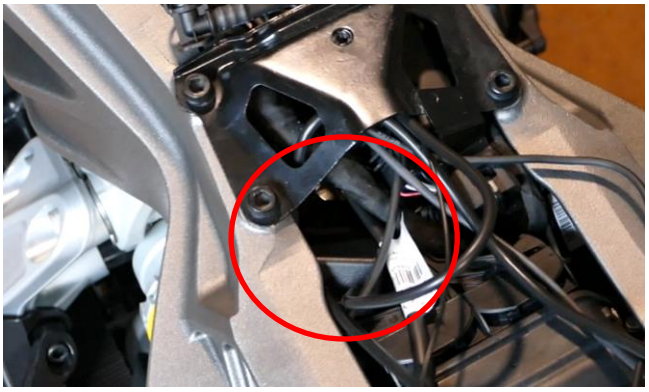
Reference pictures for following operations:





3.1 Fix the Main Boards on underseat





If present connect the black ground to the battery.

3.2 Load Cell installation

Install sensors and rod with uniball links on both the ends. Most bikes have stock uniballs. Sensor has "magic threads" i.e. both right and left. Connect the sensor to the shiftrod. Once you have connected it, measure the shift-rod and cut it to customize it. After connecting, tighten the nuts and ensure the grub screws to avoid disconnections due to vibrations.

WARNING: Sensor and rod must be hardly tightnened between 4 nuts. A not proper fixing could cause troubles on functioning



Check that the shiftrod does not rub or touch anything, as this could impair sensing. Try to fix sensors that does not get in connection with heated parts while riding. Make sure wire has a slight bend/loop so that it does not tighten up and pull the sensors up or down while shifting. It's suggested to fix the wire that goes inside the sensor with hose clamps. **Warranty does not 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 Coils connector installation.

Take the coils harness:

3.3.1: Coils are located in:

Below right and left frame covers:



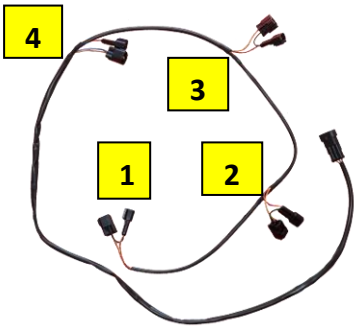


Below the lower fairing on the left side



Remove all covers and holders.

3.3.2: For an easy installation, take the coils harness:



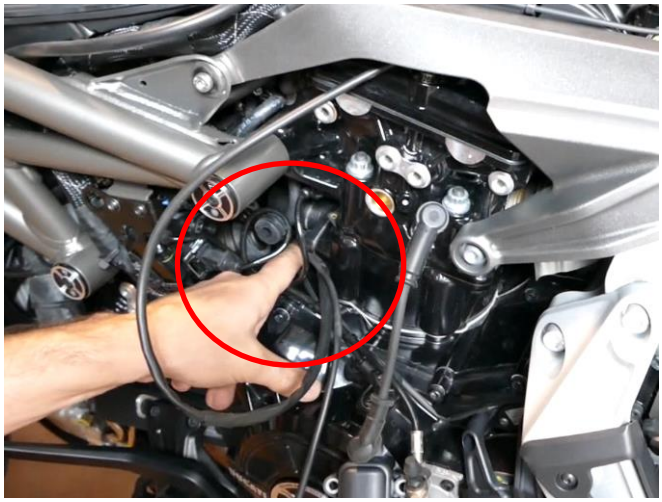
Connect 1 and 2 into the 2 lower fairing coils.

Connect 3 on left side frame coil

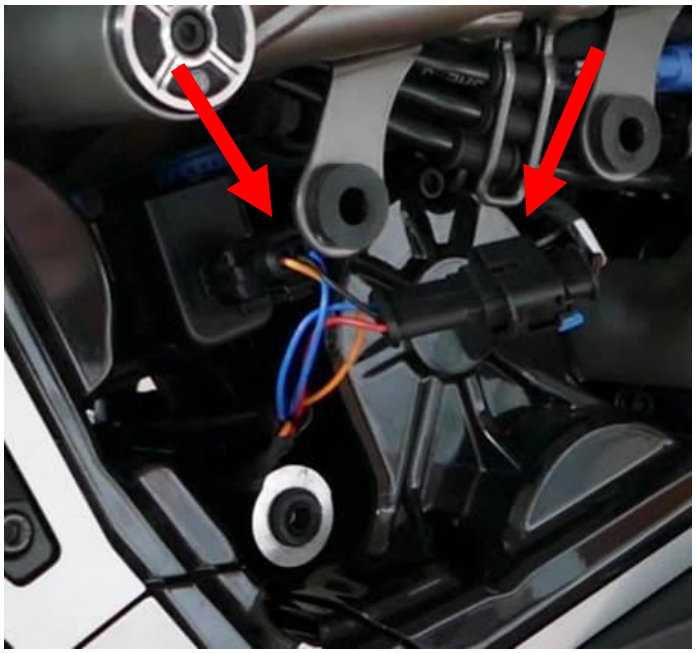
Connect 4 on right side frame coil.

Pass the wire closed to the frame taking care that the wire not touch hot parts and connect the harness to coils placed:

To pass from 3 to 4, insert the harness into the space between the 2 cylinders as per below picture taking care it doesn't touch the cylinder heads.



3.3.3: Disconnect the OEM connector and put IRC bypass in the between:



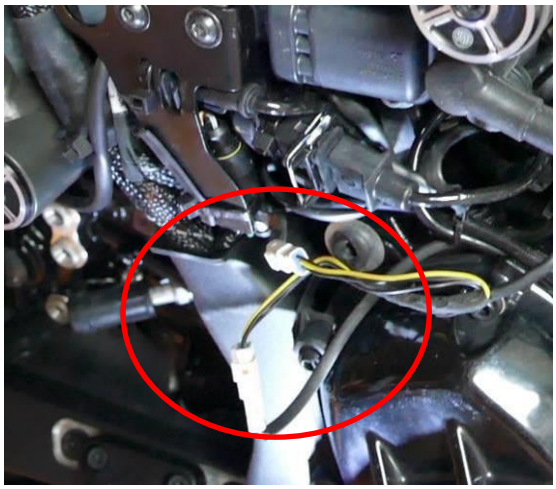
3.3.4: Connection to the electronic board

Connect the 3 way female connector of the coils harness to the male connector coming out from electronic board



3.4 Gearshift Connector

Locate the white 3 way gearshift connector on the left side underseat. It is near the coil



Unplug it and connect the IRC bypass in the between.

3.5 APS Connector

Locate the APS connector on the right side of the bike.



Unplug it and connect the IRC bypass in the between.

WARNING: Check that when handlebar is turned clockwise no part of the bike goes in touch with the APS connectors.

3.6: Ground

Connect the black ground wire to the battery (under lower fairing right side).



3.7: Final fixing

WARNING: Properly fix all the wires using hose clamps avoiding contacts with the hot engine.

Wires must be maintained closed to the frame. Use hose clamp to assure this.

4. QUICK PRESETTING SUGGESTIONS

The sytem is provided fully working. Just properly set “CE” to immediately enjoy the blipping. However all parameters are set in safety way. Every rider must properly adapt the sysem to his 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”.

4.3.1 For Upshifting on coils 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”.

5. TROUBLESHOOTING

5.1 System continuosly cut or blipping even if the foot isn’t acting on the pedal: check the sensor. Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.3.1.

5.2 Blipper works, upshifting no: Check “OC” and properly set as per above suggestions. Check the connection to the upshifting unit (IRC or OEM or additional module or remapping).
5.3 System works in reverse manner: check and properly set “CE”.

6. 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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