

Definitive Guide to Functional Logic Zeus Settings And Z-Works

After thousands of miles I can finally get to go an accurate interpretation of the behavior of the Brose engine installed on the Specialized Turbo Levo.

After rivers of words, thoughts, comparisons, I came to understand that the bike behavior is heavily influenced by a regulation, that of the motor current.

In addition to limiting the maximum available current, then in combination with i 3 eco / trail / turbo mode sliders, set a maximum roof to power output (turbo 50 cm 50 means the engine will deliver to maximum 50% of 50% of the power, then 25% total), the adjustment of the motor current heavily affects the service / pedaling.

100% assistance is fixed on fixed values, 1: 1 in echo, 2: 1 in track and 3: 1 in turbo. It means that if our legs push 10 watts, the echo mode adds 10 watts, 20 track and turbo 30, this until reaching the power values set.

Coming down to the value of the motor current up to the value of 20 the service ratio is gradually increasing, with considerable push on the pedals.

At current 20, the service ratio is "up to" 2: 1

It means that if our legs give 10 the engine delivers 10/20/30 as well before, but if needed, perceived by the pedal push sensor, the engine can deliver up to twice that power. With motor current 100 the engine adds 1/2/3 pairs of legs to our, always and however, at current 20 the motor can "not" add 2/4/6, then in Constant pedaling rate returns to 1/2/3 as indicated on the sliders.

However, cm100 can also reduce assistance to zero more quickly. This gives the feel of an extra pedal fluid, natural and pleasant, given the greater sensitivity of the engine to the input of our legs.

If pushing on the pedals is not as constant as it may be on one long and steep climb, consumptions gain great benefit and fatigue reduces, than you might think.

Obviously the cursors can not be positioned higher than half, as the engine can not deliver more than 100% of the power, indeed, in this even if not 100, but up to 99.

Using Mission Control the maximum limit to enjoy in a way perceptible of this behavior, in all 3 modes, is the Turbo set to 45.

The engine delivers 45% of the power, but can "discharge" it to need "up to" 90%

Of course, to get closer to the 99% limit, you should raise the cursor of the turbo up to 49, but Mission Control does not allow it, working step by step of 5. Turbo 50 causes the output from this mode while echo and trail, for lower strength, there are still.

For example, 15/30/45 cm 20 will flow "up to" 30/60/90, a 15/30/50

instead it will erupt in eco and trail "up to" 30/60%, while turbo will deliver only the 10%, fixed (20% of 50% = 10%)

To change the parameters differently from what Control Mission does you need another application on the nRf Connect genre, available either for Android and for iOS. With this we can go to insert custom parameters like code 020531 to bring the turbo to 49.

Not comfortable because it assumes knowledge of all codes necessary for the values to be set, as well as for the parameters from

change. Relatively simple operations talking about a single value, extremely complex and risky if we talk about all the parameters adjustable by Mission Control, well 6.

An app for Android and others probably came up for this born.

The setting is 15/30/45 cm20, then finished in 15/30/49 cm20 by a user German has so far been the most widely used. She had never thought of doing so lower the engine current below 20.

But what happens under 20 cm? Good question...

Below 20 cm, approaching zero, the average power delivered to the pedal constant is always the one set on the eco / trail / turbo cursors. So turbo 50 will always deliver 50% of the power, at least up to 10 ohms.

Descending with the motor current from 20 to 10, the dispensing always takes place more responsive and pushing service reports are beginning to rise dramatically.

This means that if our legs give 10 watts, the engine to the you have to give it 50, but 100, to get assistance 10 to 1.

As the assistance rises to very high peaks, it also falls to the levels very low, even zero, when power is not required.

It does not mean going downhill, it also means just in the two dead pedal points without pedals unlock when the thrust passes from one leg to the other, the power resumes instantly, to resume an instant later.

He enjoys enormously the pleasure of pedaling, and also consumes himself they lower drastically, at least speaking of varied paths. Uphill steady and steep, while with zeus cm20 it is more difficult than with a Default setting and consumption are comparable when approaching current 10 fatigue decreases drastically, being the engine

sensitive to the demands of our legs, but consumption they necessarily get up.

The maximum level of turbo regulation is variable in relation to the motor current. their product must NOT exceed the value of 990, then in Mission Control turbo 45 for 20 = 900 cm, maximum value reached.

At lower currents it is enough to divide 990 for the motor current for to have the turbo's maximum value level, rounded to default.

Current Example 17 (990: 17 = 58.23). Turbo Max then 58

I have grouped all the settings with a motor current from 20 to 10 below the

item "Zeus Settings" for a purely formal question.

Zeus Settings can never reach 100% of the power available, for a simple math conversion issue hexadecimal values. 90/99% maximum achievable, depending on the used app.

We arrive today at Z-Works, with engine current ranges from 0 to 9. No calculations are required until the engine current threshold of 9 is reached to set the various modes. the sliders all go up to 100. The power provided "at regime" is always the one indicated, but the excursion of the service ratio, here at very high levels. From 0: 1 to 10/15 and maybe beyond, arrived here is rather difficult to view and interpret data than on Mission Control screens move like crazy.

It is difficult to list all the possibilities offered by this setting, it will be just sum up some parameters

- The current ranges from 0 to 9. With current at 0 the bike reaches its maximum reactivity. The pedal response follows the speed of thought, more than our muscles. With current at 9 the behavior is most "relaxed"

- The setting is extremely sensitive to acceleration adjustment.

Settled on echo the behavior remains relatively soft, on race it becomes lightning

- The maximum power is reached with turbo at 50, but in this case the increase in this value, even up to 100, does not lead to exit from mode, it simply increases the reactivity and the relationship of assistance. While at 50 the power comes "up to" 100 only to the need, turbo 100 delivers 100% of the power for longer time. Anyhow it remains sensitive to push and cadence, so it can also go down drastically towards zero power

- The service relationship, though reaching levels that seem to tend in infinite, varies considerably to thrust on the pedals, combined however even with cadence and speed. then overcoming a obstacle can reach 10/15: 1, but soon after it drops progressively up to 1: 1 and even less. That is why the Bikes now seem to have their own intelligence. Hence the name "set to variable assistance "

They may seem like "crazy" settings, in reality, if they do well managed, they are the most enjoyable, efficient and even parsimonious, there can be

Good fun