

IT IS IMPROBABLE THAT THERE ARE  
 "WITCHDOCTORS" AT WORK TRYING TO OPTIMISE THE  
 PERFORMANCE OF SILENCERS



▶▶ SERGE RIOU, DEVIL EXHAUST MANAGER

programmed to leave 5 tenths of a second between the passing of two karts".

Despite repeated tests, there is still some doubt on this system also on behalf of **Joe Romano, head engineer at Alien Racing:** "I don't think this is the best way of reaching efficiency in controlling sound emission. There are several uncontrollable variables: what happens when a driver changes gear and the noise is amplified? Would the measuring level of those who change one metre before or a few metres after be effected? And what happens when karts are on each other's tail or in group?"

In fact, several drivers would be glued together when passing under the microphones, strangely enough impeding measurements. And what if the same driver was constantly attacked by other rivals throughout the weekend? An extreme case, maybe, but it is possible. What would happen in such cases? Boscolo's words are prophetic in defending the work of the federal set up: "Having decided to adopt limits, and we all agree that there just has to be a system of doing so. Any method can be contested, having its pros and cons. Perhaps, the new regulations on sound could have been introduced with the forthcoming season. In any case, sooner or later we would have had to adapt".

"Despite the fact that for our factory it is the first time in this field, we obviously approve the opportunity of this new change in regulations, judging from our experience having been involved with motorbikes since 1966, and therefore giving teams who choose us as partners in the Karting field, in the brief time requested by the Federation, an advantage."

At the moment, it looks as though the French factory is reaching agreements with several teams, setting aside the usual manufacturers involved in karting, although they had new material ready already for the last meeting in Wackersdorf, where the CIK/FIA had at first suggested setting up new limits.

“ WE HAVE BEEN USING ACCURATE AND RIGOROUS CONTROL CAPABLE OF MEASURING THE NOISE LEVEL DURING RACES (LAURENT ARNAUD, CIK/FIA) ”





# close up

SILENCERS



Above and below, some silencers that will be tested over the summer period by all the teams that are taking part in the KZ World Cup event. As you can see from the picture with Prague team mechanic it is a bit more difficult because of its size, bigger compared to the old silencers. So much so that teams complain about not having enough space as it is very close to the ends of the rear bumper.



**WITH THE NEW SILENCERS BEING TESTED - FABIAN FEDERER SAYS -  
ENGINE RESPONSE IS REACTIVE AT HIGH REVS.**

**THERE IS STILL A BIT OF DOUBT AT LOW REVS.**

### ADVANCED QUALITY BEFORE THE SUMMER HOLIDAYS

The quality is object of most criticisms from all around, however here too there are two schools of thought. On one side we have those who say that any technical changes in regulations should always be introduced in January, and not when the season is in course. In effect, it is hard to contrast this logic.

For example, think of the technical references on performance that are invalidated during the season by some decision taken from above: awareness and development of karts are in some ways reset during the season because the changes to silencers correspond to a different kart response: "With the new silencers that we are testing - says **Fabian Federer**, working with CRG to see kart reaction during y test in July - the engine's response is reactive at high revs, while at low revs there is still a bit of doubt. We are trying different types of silencers to find a solution that gives best homogeneity in response". Well, some manufacturers have saved on the extra work in July.

On the other hand, there are those who don't worry, like the more times over world champion **Danilo Rossi** head of DR Racing: "The system has been

necessary to meet the excess that has been seen more and more often on tracks lately. The CIK/FIA has given teams the opportunity of sorting themselves out on various occasions from 2011 and at the KZ World Cup in September they will be working seriously. Logically not everyone has conformed to the new regulations, but this depends on the individual way of working and doing things at the last minute. We are well organised and all this really doesn't affect us".

### HE WHO "ROARS" TOO LOUD, AT LEAST SAVES THE RACE

"As for the penalty - continues Danilo Rossi - logically it is the result of a compromise, but it is right to have an action in terms of lap time".

See if we can be more explicit: regulations state that sound must be measured over the entire racing weekend, including qualifiers and heats, after which there are approbations if there need be: 3 grid places for each decibel extra (values read during qualifiers), or 3 seconds to be added to race lap time, always for one decibel over the stated value.

Now, where is the compromise that Danilo Rossi mentioned?

It lies in silencers not being homologated.



## EEC NOISE

It is, in fact interesting to see how the European Economic Community has set protection value already as from 2003 for workers "at risk".

La 2003/10/CE Communitarian Directive have been translated in practical terms by EEC countries, and obviously Italy included. Here we are getting ready in 2006 "value limit shown" in 8 working hours is fixed at 87 dB (art.49-quater D.Lgs 195/06). So, there are 21 decibels that separate a worker's ears from "risk" inside a metal-mechanic factory, from that of a mechanic on a karting circuit, where if truth be known the working hours are even more. Probably, from this point of view, it would have been better to reduce sound level limit even more. And yet, as we have read, not everyone would agree to it.

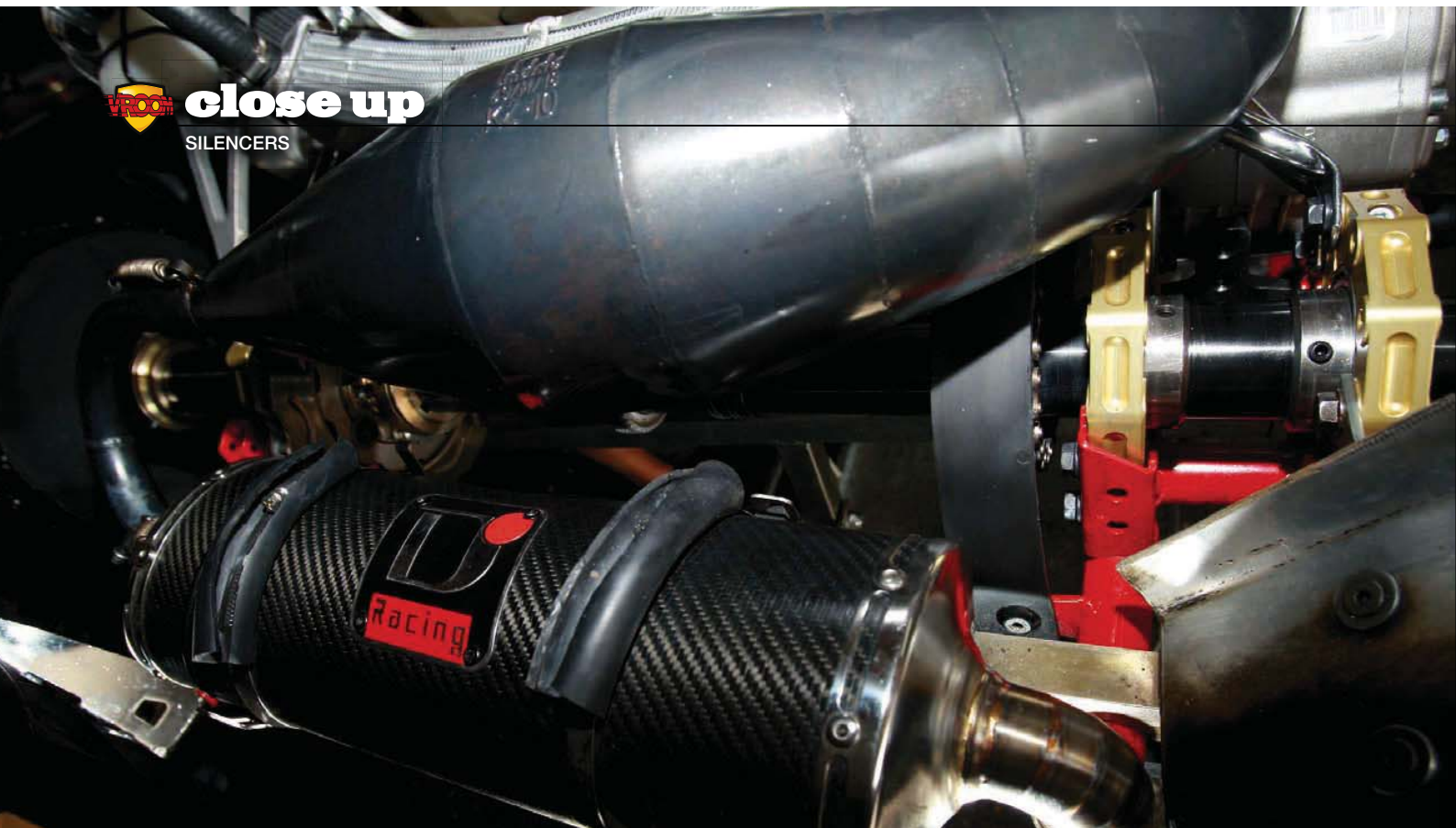
If they are not homologated, they cannot be checked. And "listening" is the only way to sanction is to give a penalty.

And yet, if the sport level giving a variable penalty to the changing the seriousness of the infraction is what they want – just think of an unexpected contact during a race – on a technical level the Race Marshal's opinion shouldn't be subject to doubts or partiality: either you are conform to regulations, in this case within the 108 dB, or you are not conform to regulations.

If displacement limits set at 125cc, and we are caught at 126cc, we are excluded from the race irrevocably. Why

The four microphones for measuring sound above the traffic light bar. Top, Francesco Laudato's doubtful look, he still doesn't look satisfied by the "silence" made on the circuit...





“ THE SYSTEM MUST MEET THE EXCESSIVE NOISE THAT HAS BEEN BUILDING UP, MORE AND MORE OFTEN LATELY ON

THE TRACK. THE CIK/FIA HAS ALREADY GIVEN TEAMS A CHANCE TO SORT THEMSELVES OUT BEFORE EVENTS AS FROM 2011 AND THE KZ WORLD CUP IN SEPTEMBER SO THINGS WILL BE DONE SERIOUSLY AS PLANNED. ”

(DANILO ROSSI, DR RACING)



should we then remain in the race with just a few second penalty when the value is over the set decibel limit?

**Ronnie Sala (Birel):** *“the penalty in seconds is a system that is necessary to avoid that, for problems caused by acoustic pollution; they are thrown out of the World Championship. As far as we are concerned, there won't be any problems from silencers not conform to rules, because to tell the truth you don't have any benefit in terms of performance. As far as we are concerned, all in all, the new system is correct.”*

### THE DORMANT MIX UP BETWEEN PENALTY, PERFORMANCE AND NO HOMOLOGATION

The aim of saving the drivers' race is undoubtedly appreciated. Even if, in an environment where a hundredth of a second could mean pole position, it seems improbable that there are no “witchdoctors” working to optimize the performance of silencers, which are for reducing the fluid mechanic sound of the exhaust and hence compromise the power of the engine.

And perhaps this was what sparked it all off, the main fulcrum if not the only one, of the small acoustic revolution. The regulation limit would have come after the exasperation if the exhaust silencer system.

Without a homologation, these limits just cannot be said to be purely technical. They are trying to approve sound level and trying not to penalise the drivers too much, the same drivers who, once the race is over, will have to bear the weight of that penalty, although innocent, on their shoulders.

Again **Torreggiani (Elto)** confesses something to us: *“The situation was degenerating because silencers were becoming smaller and smaller, and there were some who looked to performance in this too.”*

Some would say nothing new in this...

And yet the freedom in the type of system is guaranteed by the Cik/Fia, that doesn't impose any sort of homologation yet, maybe, waiting for the first feedback after the first official experiments.

Or perhaps to help the entry of new manufacturers, just as it was during the tests in July, where Devil, a French factory that makes systems for motorbikes, came in force ready to super several teams, even official ones.