





They're here too!

"The fantastic 125"

Report M. Voltini & P. Cosaro – Photos C. Avolio

This is an era that's been marked with an evolutionary change for the new KF classes. The new homologation for the new 125-gear class, ex-ICC and now KZ, has almost passed unnoticed. So off we go to see how a couple of these new engines, which some define as "fantastic", actually work on the field in Lonato: the Maxter MXV (mounted on CRG chassis) and a TM K9c (mounted on a Birel chassis).

Everyone on the field, from drivers to mechanics and from manufacturers to sports authorities are keen to see how things go after all the attention has been turned to the new engines for the KF classes, that is, the new direct drive 125 with electric start, the same that have taken over from the 100 cc. But then again, we mustn't forget that with the last homologation we have also seen some new engines for the gear class 125, the ex-ICC now known as KZ. So we decided to test these newcomers too, although not revolutionary they do draw the attention of karters who compete in the last traditional class of national and international karting, and we had the opportunity of trying them too at Lonato in the presence of two manufacturers. One was Tm, the most important as far

as the gear class is concerned; the other is Maxter, newer to the scene, but just as well known. The first with a K9 model mounted on a Birel chassis, the one used by Laudato, which hadn't been set up for this track, scene of our test though (a bit over-steered). The other was a Maxter MXV that had been mounted on a Crg chassis. Not only, we didn't do the control test for these vehicles by ourselves, there were two karter friends of ours who kindly came along for the occasion. One being Samuel de Rossi who races in the 125 Club, for the Regional championship in Veneto and the other Paolo Cosaro, a fan of the "hard and unadulterated". He too races in the same class also in the northeast. So let's see how, with their help, the test went. You see, jumping from one kart to another can be quite a task (especially



MAXTER - CRG

Addresses and costs

MAXTER MXV

N.A.
with engine plate, Dell'Orto VHS30 carburettor, curved muffler with silencer

Maxter S.r.l.

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25017 Lonato (BS), Italy
Tel. +39-030-9133483
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www.kartcrg.com
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TECHNICAL FORM

Chassis	CRG - ROAD REBEL
Homologation	03/CH/08
Tube diameter	32 mm
Camber e Caster	neutral
Toe-in	3mm closed forward
Axle	M20, 50x2x1040
Front/rear hubs	STANDARD 6 Notches visible /STANDARD 140 mm
Front/rear height	STANDARD
Front/rear tread	121/140
Tyres	LeCont CIK M
Supplementary bars	Not fixed
Engine	MAXTER MXV
Homologation	2007-2015 45/M/15
Exhaust	Curved muffler with silencer
Ratio	18/24 - 18/25
Spark plug	NGK B10EGV
Carburettor	DELL'ORTO VHS30
Mixture	4 Elf HTX 909



for mechanics who have to keep on adjusting the pedals) and of course it doesn't help to coordinate perfectly for one vehicle to get the most out of it, but it does help to get a better idea of the difference between the two karts, especially the engines.

EASY "FOR EVERYONE"

Let's start with the CRG-Maxter, not bad at all, quite smooth round the fast corners of the track. In fact, the engine seems to make corner entry easier, helping the "less experienced" drivers, thanks to a not particularly sharp delivery and a longer extension range of use that also involves lower revs, those that take you to corner entry if you haven't got there as you ought to have done or perhaps with set up that wasn't perfect. Well, apart from the fact that it's better to keep the engine "lively", we must say that there's no problem with delivery, instead it helps whenever there are minor faults in driving or, during races, in duels against rivals because if we drop 100-200 revs round corners the engine doesn't go under-torque immediately. Also at "high" revs there's no "barrier", within which you have to change or your engine will block. We think the Maxter is a very easy engine, "almost universal", suitable for less experienced driver but whatsmore it helps in any difficult situation that could crop up when racing.



"TAILOR"MADE FOR LAUDATO

In the Birel-TM, the situation is quite different. The engine made in Pesare is definitely selective and prefers a smooth drive style. Its range of use seems much smaller than its present rival, but it pays back with a sturdier thrust. In brief, if you don't have any problems along the straight the situation requires more determination round corners. You have to be very careful not to go under torque, a situation that is a bit difficult for the TM to handle, even if it does improve after working on the carburettor adjustment. To give complete information, we must underline that this specific set up certainly didn't help; in fact, the fine-tuning wasn't ideal for this circuit so it was much easier to run into some difficulty, espe-



TM - BIREL Addresses and costs

TM K9C

Euro 3,300.00 (VAT included)
Engine bracket, muffler with silencer,
Dell'Orto VHS30 Carburettor, spark
plug

TM Racing S.p.A.

Via Fano, 6
61100 Pesaro, Italy
Tel. +39-0721-25113
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TECHNICAL FORM

Chassis		BIREL CR 31-SV
Homologation		1477 CH /08
Tube diameter		30/32 mm
Camber e Caster		neutral
Toe-in		2 mm open
Axle		F 50x2x1040
Front/rear hubs		40x75 mm HQ/50x100 mm HQ
Front/rear height		medium/high
Front/rear tread		5 spaces/140 cm
Tyres		LeCont CLK M
Supplementary bars		Small front
Engine		TM K9C
Homologation		2007-2015 39/M/09
Exhaust		Muffler with Elito silencer Homologated
Ratio		17/24
Spark plug		BRISK L10S
Carburettor		DELL'ORTO VHS30
Mixture		4% Bel Ray



Claudio Flenghi, Tm boss, with Manuel De Rossi

cially round corners, especially with a jagged entry and oversteering. A typical behaviour that does not help to maintain engine revs up in an engine such as this. Well, we got the idea that to get the best out of such an engine, you have to be like Laudato or at least like the more experienced drivers who are able to make the most of revs where it counts. In fact, even De Rossi tried with determination and by golly it worked.

THE OPINION OF THE "ADDED TESTERS"

Now word over to the other two protagonists of our test, Paolo Cosaro and Manuel De Rossi who wish to tell us their opinion about this unusual experience of theirs. Not just



the fact of being a test driver for Vroom, but finding themselves almost as "official test drivers" for important manufactures with their best mechanics.

MAXTER MXV

The engine is not made in series; it is tuned and set by the race team for tests.

FOR: it is "easy" to drive, torque is very flat and drawn, power is never lacking and also thanks to the chassis, you can feel the gradual but determined acceleration. It is ideal for drivers who don't have much driving experience. It is easy to keep at the right revs and allows for a certain amount of flexibility in changes that don't have to be perfect. Whether you change a bit before or after doesn't send engine out of torque. In fact the engine is always very "friendly" and easy to drive. It could be a good engine (especially in series) suitable for amateur drivers or newcomers who don't enter for "important" races.

AGAINST: Less power at high revs compared to the TM. You get the impression that it needs something else done to it; perhaps look into power at high revs, "pulled" at high

TECHNOLOGICAL

The main difference between the two engines that strikes us immediately is the different layout for the reed pack. On the Maxter MXV it is now vertical, while the induction duct is just after the reed pack on the engine made in Pavia, and it has a more evident upward tilt so as to shorten the distance between the fluid drawn in and ports.

Changes have also been made on gear selector of the Maxter MXV. It is sturdier and allows for better gearing. There's the version with horizontal pack, now called MXO, but is a 2004-2009 homologation.

Innovation also for transfer ducts on the K9C, especially the TT and exhaust, now there's an oval section for the end part, for a certain length before the port, also profiles and tilts are different too. So we have a completely new cylinder. To complete the job, also the cones of the end part of the muffler are different too. Gears and crank mechanism have remained the same. If you want you could ask the official network for a different preparation for connectors and coating for casing, connectors and honing for cylinder, conrod is polished and lighter and reeds.



THE REAL DRIVERS... THEN US



Paolo Cosaro and Manuel De Rossi, both from Villafranca, Verona, (I), are enthusiastic about the occasion that has been presented to them. This is how they lived this unforgettable day..

Today will be difficult to forget. When we started practising kart racing, Vroom was the magazine used as a reference point, the "Bible" of karting, from which you could learn lots of things about karts, how they worked, what made it go, why it worked and who

the top drivers, mechanics and manufacturers on the scene. The chief editor got in touch with us and asked if we would like to do a test drive for Vroom, a real test, with "real" karts, which more real than our good old karts that we use for racing at least once a month, with "real" teams, serious ones, those that have "Birel" or "Maxter" on their trucks, and that's not because it is easy to use stickers on the karts they drive in "real" races, not at all like us. We aren't real drivers, we pretend to be, with our skill, while the true drivers are the likes of Laudato, and Thonan, but today we were driving their karts. When the Editor asked if we'd like to do the test, there wasn't a shadow of a doubt, the answer was immediate, of course we would. Opportunities like this can't be missed, if we don't jump at the chance, then, it means we don't deserve it. And if



36-year old Paolo Cosaro started practising kart racing in 1999 with the 100cc engines, and then moved to 125 cc in 2003, while Manuel, who is 28, started with the 125 gear class in 2001. Both race with the Lupa Karting Club managed by Gianfranco Boloni.



that were the case, there's no point in complaining.

What we have found in karting ("our" karting) the sort that is carried out at regional championships or Cup events) is that chances do crop up, but you must be there to grab them without giving it a second thought, get in the kart and drive. Today we're in the karting world, in the "bible" that guides us each month. We're in the kart that counts.

The karts, teams and the people that work there every day are there for us.

Crg/Maxter and Birel /TM were called for the track test and as usual they were pleased to be there and we felt that we really couldn't be too taxing on the mechanics, who far too often aren't left to work in peace. Our job would be simply to drive the karts and see how chassis, engine and tyres responded, what performance they'd be capable of, assessing the vehicle's behaviour on the track and then speak out our thoughts. Every time we

got out of the kart, we had a variety of opinions and were very careful not to speak too hastily, so as not to say anything stupid despite the fact that the mechanics were there for us.

We never thought of tampering with set up and carburetion, the test wasn't meant for that, used to working with the likes of Laudato and Thonan, we think that for CRG and Birel today isn't a test day, but a trip to the lake, near Garda, a few miles away.

And perhaps the karts too have understood the situation and race along the track sniggering under their nose cones and giving us the thrill of racing like "real" drivers.

Thanks to Vroom, having agreed to do the test, we are the real drivers today, if the worst came to the worst, we'd have still been there, with the forthcoming regional race and waiting for the next issue of Vroom to see if, at least, the photos in there made us look like "real" drivers.



revs and torque a little bit higher. It isn't "aggressive" like the TM.

TM K9C

The engine is new, mounted and run in on a test bench the night before. Chassis behaviour (set up for Laudato) and driving position especially have dimmed our opinion a bit..

FOR: Very powerful, as all the last generation K9C. Progression and power, which can easily be lowered with

carburetion (so TM experts here say) is good. When in torque you really feel the difference compared to the Maxter. A good driver would feel the benefit when racing.

AGAINST: difficult to keep at high revs therefore gear changing results less precise, it is not so suitable for amateur racing. You need to be more sensitive than with the Maxter to get the most out of it, in fact you need to be a more "professional" driver..

CONCLUSION – I think that the difference lies mainly in the development of the engines and in research for power and performance during use. It is more "aggressive" than the TM (a good driver can get a lot out of this engine). The Maxter is easier to drive (more suitable for beginners I'd say that the Maxter needs further development and research for power and aggressiveness at high revs, something that the TMK9, at its third evolution has had for some time now.



Temperature

During the track test in Lonato we concentrated on analysing the temperatures. In fact, it is important to keep an eye on all the values, especially the temperature of the engine, to make sure that you get the best performance. Besides it is important to say that maximum tolerance temperature that the engine must not exceed is 60°C, so as to avoid deformation of mechanical parts. Therefore the best working temperature is 50°C, a value that is subject to variation according to the number of laps covered, whether racing with others and logically depending on external temperature, which has been terribly hot over the



Unipro data

past few months and therefore really must be taken in consideration. The Unipro 6003 data acquisition system enables us to check maximum and minimum temperature for each lap. In our case, the temperature of the engine varies from 41.5°C minimum registered on opening lap (engine not warmed up) to 56.9°C maximum registered on lap 26. Note that despite thermal excursion exceeds 15°C, this happens gradually as the test progresses. In fact during the test, the average thermal excursion on the same lap varies from 1°C to 4°C, depending on reference lap, which means that the engine works properly.