

Track Test:

The

birel

M32

By Mike Unger

OK, I expect that even if you are a pure beginner to the sport you have heard of Birel right? Birel was started by Umberto Sala in the small town of Lissone France in the early 50's. Umberto Sala driven by his passion for engines and racing started making his first karts out of his metal shop. Sala's chassis were called 'Birel' which is the family's nickname in the same town. After a number of years and with significant success in the karting world the metal shop was closed and Umberto focused all his attention to the production of karts. Throughout the years Birel would collect numerous world championships with drivers like Terry Fullerton, Eddy Cheever, Corrado Fabi, Lake Speed, Mike Wilson, and Mika Hakkinen among others. Through their success they have become one of the largest manufacturers of karts and karting equipment in the world.

I also expect that if you are reading this in North America then you also know MRP Motorsports. They are the North American importer for Birel

chassis and Freeline components. Well then if you know all of that I would like to share with you my experience testing out one of Birel's latest karts the M32 at Michiana Raceway Park (formerly South Bend Raceway Park).

The Kart

The M32 is a chassis designed for the 100cc and TAG classes. The frame is made of 32mm tubing with a single bend at the waist. The design is a simple four rail design with removable side bar, rear bar and two position (yes 2) front bar. The dual front bar system is unique and until I had seen the M32 I had never seen such a system. I was excited to test the effects.

The rear end of the kart features the Birel hybrid brake caliper which is a unique hydraulic/mechanical system designed to reduce heat build up in the fluid as well as provide great stopping power. The caliper is supported with a steel bracket which is designed to provide stiffer support and





Gary Lobaugh (right), owner of MRP, has developed one of the strongest karting businesses in the industry, and credits his success to formulation a good business plan, and sticking to it.



- 1** The front spindles are a box section design allowing for stiffer tie rod to stub axle attachment.
- 2** The front spindles have extra washers between the yoke and the spindle allowing front ride height adjustability.
- 3** The spherical castor camber adjusters on the Birel make changing front end geometry a snap.



less caliper flex for better pedal feel. The rear bearing cassettes feature adjustable ride height for even more adjustability. The rear bearing cassette holders are supported by gusseted bearing holders for added rigidity. The M32 I tested had a Rotax engine package on it and Birel make a very nice aluminum exhaust brackets for the Rotax. Axle is your choice of either a 50 or 40mm.



The front end of the kart has spherical castor camber adjusters and reinforced spindle yokes for added strength. The front spindles are a box section design offering improved rigidity over traditional designs. The steering shaft has adjustable pickup points for the tie rods offering the ability to slow down or speed up the steering rates as well as changing the steering efforts.

Overall the Birel M32 has the typical Birel attention to detail. The pedals are cast aluminum with a nice blue anodized finish. The steering wheel is a very sharp embroded flat top design. The kart I drove was fitted with a Tillet seat with two bolt-on seat struts on each side. The bodywork was the typical Birel red CIK 03 with Birel decal kit. Overall sitting in the pits it was a very good looking and well finished kart, but looking good in the pits doesn't help you run at the pointy end of the class now does it? It was time to take it to the track. With the support of Tim Giesser, Mark Miller and multiple karting champion and MRP factory driver Mike Lobaugh it was time to hit the track. The engine on the kart was a newly rebuilt Rotax and the tires were Bridgestone YHCs.

Marc Miller, Director of Marketing and Brand Development, and Mike Unger discuss characteristics of the kart prior to hitting the track.



Hitting The Track

It has been at least 4 years since I had been to MRP in South Bend, and since that time they have reconfigured the track adding a Monza style turn to the last section. This addition improved safety while adding a very exciting and challenging turn to the already technical racetrack. For the first session I decided to run at least 10 laps and get a feel of the kart and try to grasp the Monza section of the track that was not familiar to me. The initial setup was

with the front bar in the rear position, side bar in and castor set at plus 0.5mm.

For the first two laps Tim instructed me to not bring the engine up on the pipe as it would need to warm up. This was also good for me since I also needed to warm up and figure out the new Monza turn. The first time into the Monza I completely over drove it yet the M32 behaved so well that my expectation is that from the sidelines it didn't look so bad. The steering effort was of medium weight with very powerful and fast turn in. The front end of this kart was a little quicker than me for the first

few laps and I needed to slow down my steering inputs to drive the M32 smoothly. The rear end was very stable and well planted and the braking system was very progressive and easy to control. The Rotax was very smooth and powerful. I took Tim's advice and was smooth with the accelerator pedal and the engine responded well. If I was very abrupt with the pedal the engine would hesitate just slightly so taking Tim's advice was the way to go. After about 10 laps I brought it in to talk it over with the MRP crew and try some of the multiple adjustments on the chassis.

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The M32 has a removable 4th sidebar rail, giving you a variety of adjustment options.

For the next session we narrowed the rear slightly to get the rear end to be a little more planted and to get it to work better with the very solid front end. We also decided that I would run 5 laps and then I would quickly slip into the pits and remove the front bar. This would give me a good indication of the how the kart responded to the narrowing the rear as well as understanding the effect of the front bar. So with the MRP crew all understanding the plan off I went.

Now that I was familiar with the track and the engine all warmed up I immediately went to pushing the M32 to its limits. The change of the rear end was most apparent in the Monza turn. The rear end was more planted and would step out less under trail braking. With the rear end a little more narrow it worked better with the powerful front end overall giving me a more balanced feel. After 5 hot laps I

slipped back into the pits to have the MRP crew remove the front bar.

I exited the track, rolled into the end of the pit out for the waiting MRP crew. Mark quickly loosened one of the front bar clamps and slid it to the side removing it from being a factor in the stiffness of the chassis. I pushed the starter button to the Rotax and back out on the track I went. It wasn't very long to understand the effect of the front bar being removed. The front was now a little dull and a little slower. It wasn't like the kart was terrible or anything it just wasn't as quick and responsive as it was with the bar in. After 5 hot laps I was in again to talk it over.



The MRP crew was not surprised by my comments about removing the front bar. As it turns out the only time they remove the front bar is on extremely bumpy tracks where a little more frame flex will soak up the bumps and help keep the tires on the ground. For the next session we decided to try the front bar in the front position for the first 5 laps and then, like last time, slip into the pit and remove the side bar to understand that effect. At this point I was having a blast. Having such a profession crew to help out with the test was a huge help.



Removable front torsion bar offers two additional connection points on the chassis, providing endless adjustability.

With the plan set I went out to the track for my last session. With the front bar in its most forward position the kart had even more powerful turn in and even more sharp response. I was surprised with the effect and had to slow down my steering inputs even further than with the bar in the rear position. The kart was still composed and fairly well balanced but not as good as it was with the front bar in the rear position. After 5 laps I slipped back into the pits for a quick change to remove the rear bar.

Without me even getting out of the kart Marc had the rear bar clamp slid forward and back out to the track I was. Now with the front bar in the front position and the

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22150	4.5/10.0-5	4.25"	10.00"	32"	5.0-5.5"	5"	5.5"	R60	\$40.00
22250	6.0/11.0-5	6.0"	11.00"	34"	7.0-7.25"	7.00"	7.75"	R60	\$45.00
22350	7.1/11.0-5	6.75"	11.00"	34"	8.0-8.25"	8.25"	8.50"	R60	\$50.00

SUPER KART TIRES

Item Number	Tire Size	Tread Width	Approx. Dia	Approx. Circ	Recom. Rim	Measured Rim	Section Width	Compound	2007 MSRP
22650	4.5/10.5-6	4.5"	10.5"	34"	5"	5"	5.25	R55	\$42.00
22850	7.1/11.0-6	7.25"	11.00"	35"	8"	8"	8.25	R55	\$52.00

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1 Attention to detail separates Birel from most other chassis manufacturers.

2 The rear cassette holders are reinforced with welded gussets and multiple height positions. Notice the vented & drilled brake rotor.

3 Attention to detail is apparent in the anodized aluminum pedals with torsion springs and positive adjustable stops.

4 The Rotax version for the M32 comes with very nice machined exhaust supports.

5 The M32 for the test was fitted with a sealed Rotax engine ready to go.

side bar out the kart was turning much more flat in the corners. The chassis had a little more flex now and it seemed to blend the front better with the rear. In the Monza the rear end was the most settled and gave me the best feel for the rear end. Again the M32 behaved well and was quite composed.

At the end of the session I went into the pits for the last time. After discussing the feel of the kart with the MRP crew we all came to the conclusion the best setup on that day would have been to

have the front bar in the rear position, side bar removed and the rear end narrowed like it was in the second session. The kart performed well and even when we made a change that I did not like the kart was still composed and drivable. The Rotax was smooth and powerful and when the throttle pedal was applied smoothly I was rewarded with a good responsive and progressive power delivery.

Conclusion

Overall I have to say the M32 has one of the most responsive front ends I have ever driven. I am of the opinion that it is difficult to have too much front grip so this kart fits that bill well. The multi position front torsion bars are a very cool feature making an already very flexible kart even more adjustable. Even with all of those adjustments, the kart stayed composed every session no matter what the setting. The kart responded as expected to all of the changes that were made and in a matter of 4 or 5 sessions I was to a point that I had a setting I would be confident to race with. The great technical support of the MRP crew and its 88 dealers nationwide make the Birel M32 a formidable package in the karting world. **NKN**



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