

BETA FACTORY VISIT

Getting to know what Beta is really all about

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Beta
motorcycles

Beta is a brand that is really starting to make its presence known in the worldwide market. In South Africa this is thanks in no small measure to the excellent marketing job the distributor, Cayenne, is doing and of course to the fact that the bikes are pretty much enduro ready and they have very good two stroke offerings. I was fortunate enough to visit the factory in Florence, Italy and meet some of the key people behind the brand.

What you need to know about Beta, the company

Many enduro and MX riders might be forgiven for thinking Beta is a pretty new brand on the market. In fact the company is one of the oldest motorcycle manufacturers. Founded in 1904 by Giuseppe Bianchi they specialised in building bicycles. In 1940 they switched to motorcycles and the two men running the company, Enzo Bianchi and Arrigo Tozi, joined their initials to form the name "Beta". They were first successful in competition as early as the 1950's and in the '70s Beta began to specialise more in off road bikes. Initially they built motocross and enduro bikes, then focussed on trials bikes where they have achieved enormous success from the early '80s - 7 Trials Outdoor World Championships, 6 Trials Indoor World Championships, 7 European Championships and over 100 National Championships all around the World. I even noticed an older Rally bike amongst the museum in their reception area.

In 2004 Beta began producing 4-stroke enduro bikes, introducing 2-stroke models in 2012. The company is still owned by the Bianchi family and is currently run by Mr. Lapo Bianchi.

The Factory

I was in seventh heaven spending a day exploring the factory and in deep conversation with technical people and Mr. Bianchi himself – I loved the whole environment and the pride in the brand that you feel from the staff.

My guide through the factory was Veronika, who took pride in showing me the massive parts storage warehouse and distribution, then the two main production lines, the parts receiving and quality checking, engine assembly lines, engine testing and right through to the finished bike crating and shipping area.

In relative terms it is a fairly small factory which employs about 120 staff, but everything looks very well organised, clean and high-tech. The technicians look like proper artisans who know what they are doing. Quality control is obviously an important agenda at Beta as they have quality checks at various stages. Firstly where parts from outside suppliers are received – a team of quality inspectors randomly inspect every second part for any defects. After every engine is assembled it is run on a test bench hooked up to a computer in a special test room to check for correct performance.

Every bike that comes off the production line is quality checked and inspected before it passes through to the completed bike warehouse to await crating and shipping.

Two parts of the factory were strictly off limits – the Research Development and Design Centre, and the Machining Centre. In the RDD Centre they are obviously working on future developments and designs; in the Machining area they receive engine and other castings which are machined on CNC machines. I could see into this area from a distance and the machinery looked impressive ... would have loved to have been allowed in.

Although they have two main production lines and more than 30 different models, they currently don't run them concurrently. By focussing their resources on running one model at a time Beta is able to roll a bike off the line approximately every 7 minutes (trials) or 11 minutes (enduro).

The Bikes

Although Beta is one of the most successful manufacturers of trials bikes, moving into the enduro market was a vital and strategic move for the company. The introduction of 2-stroke enduro models has also been a big boost for the company as the worldwide interest in 2-stroke machines has seen resurgence in recent years.

I was lucky enough to meet and spend some time with Federico Tozzi, an engineer who was very much a part of the development of the Beta 2-stroke motor. I mentioned to him how impressed we had been with just how good their first modern 2-stroke motor turned out. He explained that about three

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>> The Beta HQ is stylish and high-tech

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Beta

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» Beta's philosophy is the bike has to have the right enduro feel



» One of the main production lines

years of development had gone into the motor and that in many ways it was an advantage to be starting from scratch rather than trying to improve an existing engine that perhaps has been around for many years and was based on old technology.

For example they knew the motor would need a starter motor and they could decide on the very best place to locate it rather than have to bolt it onto the side like a retrofit part. They could base every aspect on modern technology before tooling up and going into production.

Beta's philosophy – it's all about the feel

Lapo Bianchi is the driving force behind Beta's success, at least recently anyway. Fortunately he was able to spare some time for me and our meeting gave me a whole new understanding and appreciation for the brand. What an inspiring man - he is as hands on as anyone else in the company and actually tests all new models before they

go into production. "I'm not the best rider" he says, "but I think I have become quite good at knowing how an enduro bike should feel, how it should deliver its power and how it should handle. For me it is not critical to have the most powerful or fastest enduro bikes but it is essential that the power is easy to use, smooth and provides good torque and traction. That is what Beta is all about, the feel of the bike. It has to be competitive of course, but it must also be a lot of fun to ride".

With this in mind you tend to take a closer look at the design and technology used in Beta engines. The 2-stroke motor has a very cleverly designed power valve system as well as "booster ports" and "resonator chambers" in the cylinder which all works to provide a broader powerband and a very smooth torque curve. If you have ridden the Beta's you will know that this is definitely a strong point.

I enquired as to why Beta seemed to be lagging behind the field in terms of using fuel injection on the 4-stroke bikes. In my mind I imagined the reason would be the cost of development or the priority to shed weight. I was wrong but I really enjoyed the discussion we had for the next 20 minutes on this subject. "We have a bit of an ongoing dispute with the development team split on this subject", he said (grinning). "I stand on the side which feels that you still get better power delivery, especially at lower rpm, from a carburettor."

I immediately wanted to dispute that but in listening I learned some interesting things – Lapo Bianchi certainly knows a lot about engines. A lot of it went over my head

but what I understood about what he said was that a carburettor provides only what the engine demands of it. A fuel injection system provides the engine with what the electronic control unit (ecu) tells it to provide. The ecu has been programmed and works off the data fed into it. On average fuel injection will give very good or even excellent fuelling whereas he maintains a well jetted carburettor responds perfectly to the engines requirements and provides that feel he is looking for. Experimenting with fuel injection is an ongoing project though.

This is definitely an interesting debate especially for us here in Africa because we have other factors which come into play, like – our fuel is rubbish and can cause problems with fuel injection systems ... but on the other hand poorly jetted bikes is very common here which makes a strong case for fuel injection. Suffice it to say that what is most important to Beta is the "enduro feel" of their bikes and they are not about to compromise that for what might be a good marketing move.

I spent about six hours at Beta but could easily have enjoyed another six hours. I came away with an all new respect and appreciation of the brand, its people and philosophies. The company has not just survived but actually grown in the midst of a severe economic recession because of good leadership, innovation and the right products. The brand is being well accepted in the USA (where Dirt Rider recently chose the Beta 300RR as "Bike of the Year"), and in Australia, Europe and South Africa. Beta is here to stay and set for a bright future.

2014 Beta Model Preview

If you have had your ear to the ground at all you might well know that Beta has listened to the market feedback on their current range and has reacted positively.



» An early MX bike

The new larger and now translucent fuel tank (9.5 litres) on the 2-strokes will be well received and the improvements to suspension just had to happen. But there are a lot more improvements too:

Sachs forks

Probably the most criticised aspect of the 2013 range, the forks have received a lot of attention. Internal cartridges and valving have received a complete overhaul. Tolerances and friction have been reduced, a new top cap makes adjustments and servicing easier, oil flow has improved whilst new oil reduces friction and temperatures. These changes are said to provide a smoother feel and better absorption of big hits.

Sachs Shock

Revised valving and a completely new rear spring should provide more stability and give riders more confidence.

Chassis

- Numerous small improvements have been made to the frame mainly to reduce tension and stress areas and the engineers have been able to reduce frame stress to a minimum.
- New brake disc rotors are harder for improved durability.

Bodywork/ Styling

- New colouring featuring red and white plastics and new graphics and seat cover design provide eye-catching styling.
- A new front fender provides a more appealing design as well as more rigidity and better protection for the rider from throw up from the front wheel.

- A new seat base which is more rigid and stronger now fits the frame better and provides improved comfort, ergonomics and fit.

4-stroke Engines

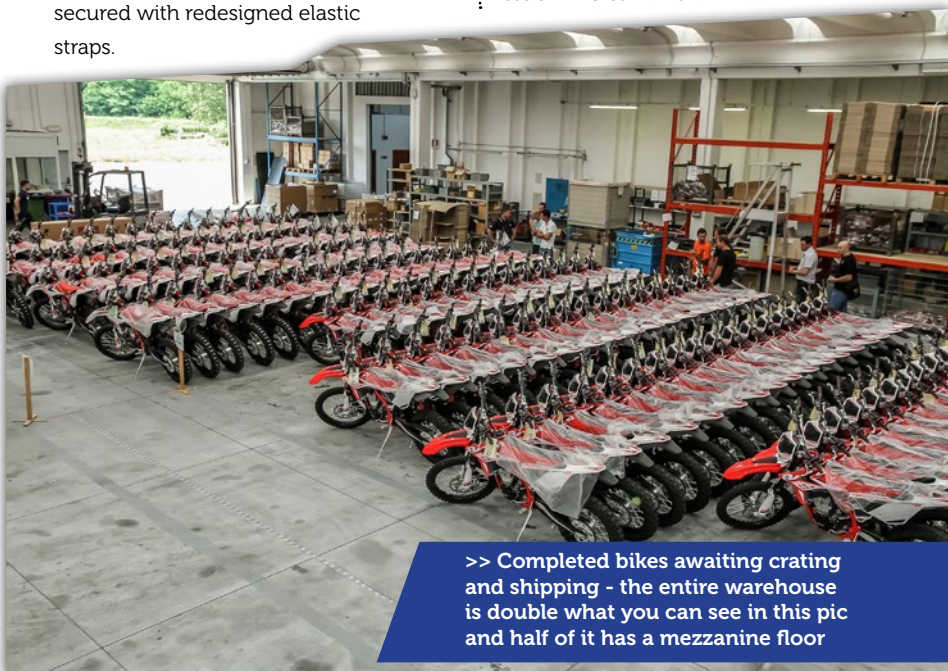
- The 350 boasts a new piston the design of which increases reliability whilst reducing oil consumption.
- All the 4-stroke engines offer improved reliability courtesy of a new countershaft, new bearings and gearbox design.
- In the gearbox the shift drum geometry has been improved for easier and more precise shifting.

2-Stroke

- The battery and CDI box are better secured with redesigned elastic straps.

- The silencer has an improved fit to ensure better reliability and longevity to the silencer body and mounting points.
- A new oil level inspection screw has been added to the internal clutch casing for ease of checking the gearbox oil level.
- The 250cc 2-Stroke motor features a new flap on the exhaust valve which improves grip on the exhaust during the closing phase for better performance at low rpm and a smoother transition throughout the power range.

The 2014 models should be here by the time you read this and we expect to include a full test in the December issue – we can't wait!



» Completed bikes awaiting crating and shipping - the entire warehouse is double what you can see in this pic and half of it has a mezzanine floor