Cagiva Raptor 125

MV AGUSTA/CAGIVA, freshly infused with new capital from its latest financial reorganization, is finally turning out new product. In addition to the long-awaited 1000cc versions of the F4 and the promised Agostini-signature models, the company will make a strong effort to generate greater sales revenue from the other end of the displacement range.

This is the 2004 Raptor 125, obviously a water-cooled *ring-ding,* by the shape of its snake-swallowing-a-hedgehog exhaust pipe and compact radiator. It's a very pretty piece, employing a massive alloy chassis finished in racy flat black, as well as a stylish "gull wing" pattern swingarm to keep the pipe tucked in tight for maximum cornering clearance, and to deliver maximum street credibility for its pilot.

The braking performance should be equally eye-ball popping, as the lightweight machine uses relatively enormous stoppers; a copiously perforated and fully-floating 320mm disc up front with full-tilt 4-piston Brembo *Series Oro* caliper, and an appropriately smaller drilled 230mm disc with two-piston caliper at the back; retarding a pair of swoopy six-spoke 17" light alloy wheels.

Suspension is likewise ambitious; inverted 40mm Marzocchi forks fore and a Sachs monoshock aft; both modified/tuned to give an improved ride and even better handling. All in all, Italian youngsters should be thrilled to attack city traffic on one of these sleek machines. *Bella!*

New 996cc Moto Morini Taking Shape

MOTO MORINI HAS been in suspended animation since the late 1980s when the Cagiva Group, the then-owners of the marque, decided to put production on ice. However, with the current resurgence of so many once-famous brands, the illustrious identity is now in the course of re-animation, and who better to do it than the successful engine producer Morini Franco Motori of Bologna, whose name suggests a family connection.

The *old* factory last produced a range of 500cc, 72° V-twins, designed by the famous Ing. Franco Lambertini.

The first *new* Moto Morini motorcycle will be a 996cc V-twin, this time in 87° configuration—the brainchild of that same man, now Designer and Chief Engineer of the project. Photos show the brand-new engine on the test bench fitted with a multitude of sensors with custom built software monitoring its development process.

The unusual 87° crank angle was chosen to give the engine both compactness and rigidity, and should prove to be nearly as smooth-running as a 90° design.

Photos reveal that the engine uses an integral crankcase/cylinder block design, with "wet" cylinder liners pressed into the cylinder blocks. Its modern, narrow-angle 4-valve heads have DOHC driven by a combination of chain and gears, with forced lubrication to plain-bearing shafts via a gear driven trochoidal pump. The gearbox is a six-speed quick-change unit, and the wet clutch is hydraulically operated. Fueling is handled via Magneti Marelli components with the injectors mounted "showerhead"-style above 54mm throttle bodies. Other details are undecided, as the intensive development process continues.

Moto Morini Designer, Luciano Marabese

While Franco Lambertini spends his time on the engine unit, designer Luciano Marabese (above) will be responsible for the styling. Born in 1948, he has a fine reputation, having designed for HRD (Italy), the Piaggio/Gilera Group (producing a variety of machines from the Dakotas to the KK and KZ models and other Design Award winners), and since then has worked with Aprilia and Moto Guzzi (on the well-received California, Griso and Breva models). He's obviously well able to produce some classic Italian designs for the new Moto Morini range, so we suspect the first new Moto Morini will be worth the long wait!

—Doug Jackson

Terra Modena Supermotard Breaks Cover At Last

NOT EVERY NEW Italian motorcycle must wear a resurrected historic name badge to justify its existence. Terra Modena is a brand-new-from-the-ground-up Italian company that has just announced their first motorcycle, the *SX2 Supermoto*, designed specifically for racing. It either wins races or it doesn't; associations to the past would mean nothing if it fails.

Terra Modena is the result of a liaison between two existing racing companies: I-TEA led by Dario Calzavara and HPE, belonging to one Piero Ferrari; both originally involved with Formula 1 auto racing in Modena. Also involved with the project is IWC, the International Watch Company of Switzerland.

The SX2 is powered by an all-new engine, designed and built by Terra Modena with the close collaboration of the Milan Polytechnic Institute, which is equipped with extensive dyno and laboratory facilities.

The liquid-cooled single cylinder unit is fitted with a contra-rotating balance shaft, features four titanium valves opened by DOHC (gear-driven), and displaces 449.6cc (98mm bore x 59.6mm stroke). The cylinder bore is Nicasil-lined for heat dissipation and long life, and the engine block uses an aluminum crankcase fitted with magnesium covers.

The crankshaft is a pressed-together unit, suggesting a ball-bearing lower end, and the piston is forged aluminum, to withstand a compression ratio of 13:1. A state-of-the-art digital integrated injection/ignition system is used and the throttle uses two injectors, one mounted high and one low, for excellent response and strong performance at all rpm.

The gearbox is a six-speed cassette type to allow easy ratio-changes trackside, and interestingly, the shifter is said to be "desmodromic-roller operated" (apparently it has no return springs to break and leave you stuck in one gear). The wet multi-disc clutch is hydraulically operated and fitted standard with a back-torque limiter to prevent wheel hop under heavy deceleration. Both electric and kick-starting is provided.

The rolling chassis is equally impressive. Described as "split-cradle with peripheral girders," it is made all in 6062 aluminum alloy and extensively milled. The swingarm is in the same material.

Above: Dario Calzavara, Piero Ferrari and Georges Kern

Ohlins provides the rear monoshock, which is naturally fully adjustable, and forks are the latest 50mm Shiver units from Marzocchi. In addition, the fork rake is adjustable. Notable, too, is the use of titanium for the rear sub-frame.

Marchesini has provided ten-spoke aluminum alloy rims/hubs with reduced mass but structurally very rigid, and tires are Dunlop radials. Front brake is a 320mm floating disc with a six-piston caliper from Brembo and the rear disc utilizes a single piston caliper.

The current plan is to produce 35 SX2 models this year, 150 in 2005 and 1000 annually by 2007, with a conversion kit being made available to make the bike street-legal if required. In addition, Terra Modena plans to extend the range, even to include enduro models, but always adhering to the high standards established in this, its first-ever creation.

—Doug Jackson

"Back To The Future" Taiwanese Style

MOPEDS ARE NOT usually featured in World Motorcycling, but this is a novel one. Featuring a stylishly robust oval-top tube frame, it carries its diminutive motor inside the frame like a real motorcycle, and exhausts through a long, zoomie upswept silencer. To sustain the "chopper" styling, the wheelbase is very long, although the actual dimension is not given, and up front it rides on rather unusual cast alloy forks with a short horizontal suspension unit mounted on the top. There is no rear suspension—a true hardtail. The power unit is a 38cc (40mm x 22.5mm) two-stroke that features a ceramic coated cylinder bore, with CDI ignition and an output of just 1.9 hp, but good for a cruising speed of 30 mph. The transmission uses a centrifugal clutch and starting is by pull cord. The fuel tank capacity is one gallon giving a range of nearly 100 miles. The factory claims that handling and comfort is excellent. Made in Taiwan, it's called the "3G."

—Doug Jackson

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