

# GB1: Italian thoroughbred

**T**he gathering pace of worldwide interest in the born-again singles class received added momentum on March 14 with the race debut at Misano of a brand-new prototype representing the first fruits of a new collaboration between two of Italy's leading manufacturers, Bimota and Gilera.

Ridden by Bimota test rider Gianluca Galasso, the 750cc Bimota GB1 finished fourth in the first round of the 1993 Italian Supermono Championship, in a race which also marked a victorious debut for the new Ducati Supermono which has been undergoing track tests since last June.

The new Bimota, on the other hand, was only completed three days before the race and turned a wheel for the first time in practice, making its debut performance all the more encouraging.

Gilera were, in fact, the first Italian factory to go SoS/ Supermono racing back in 1989,

**From desert sled to Supermono racer. Gilera took one of their redundant 750cc enduro engines from a bike which had run the Pharaohs rally, and gave it to chassis builders Bimota. After dusting out the motor, they produced a lightweight single cylinder racer with huge potential**

when Bimota's chief designer Federico Martini joined them to head up their engineering staff. Martini had long wanted to build a single-cylinder Bimota; the dohc Gilera Saturno engine was his favourite tool for the job, but he could never convince Bimota boss Giuseppe Morri that a market existed for such a bike.

On arrival at Gilera in April, '89, Martini developed an SoS racer based on the Gilera street single, with an overbored 556cc

engine, which duly won its first race at Monza in July that year, thus successfully marking the Gilera factory's return to road racing after a 30-year absence.

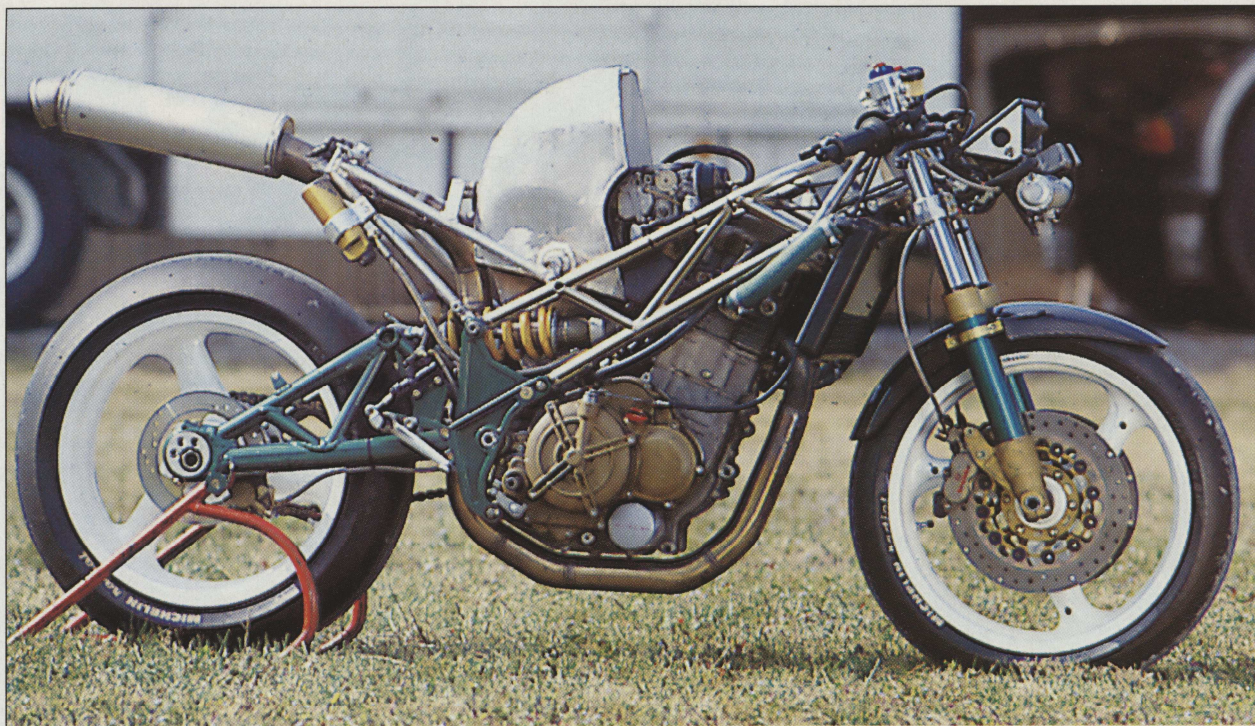
Fifty Piuma SoS race bikes with Martini-designed chassis were marketed thereafter, but the factory opted to concentrate on developing a bigger 750cc engine for African 'raid' rallies like the Paris-Dakar etc., rather than make a larger-capacity road racing single. That, however, was al-

ways Martini's intention, but after developing the 750cc Gilera desert sled to the point that it could defeat the works Yamaha twins to win the gruelling 1992 Tunisian Rally, his attention became more intensely focussed on Gilera's high-profile 250cc GP project, and development of the single was sidelined.

Gilera's rumoured intention to market a 750cc enduro to capitalise on their Rally successes never materialised, and, with the demise of their Rally team, the nine 750cc motors built to power the works desert racers were tucked away under dust sheets in a corner of Gilera's Corse's Velate base.

Until now. Belief that the growing interest in Supermono road racing around the world is fueling a viable market for high-tech street singles resulted in Gilera donating three of their 750cc Rally engines to a joint project with Bimota, for the specialist chassis manufacturer to build a trio of motorcycles, two to be





**Left:** Marconi's GB1 chassis design borrows heavily from the Ducati powered, DB2 Bimota road bike, and is built in three parts using three different materials



raced by the works Bimota team in the Italian Supermono series, while the third has gone to Gilera for them to carry out their own development tests on it.

In June this year, the two companies will meet to discuss the next step – if any. There are, however, three options, says Giuseppe Morri: either the project will be dropped for lack of a viable future, or else the two companies will agree to market a customer race bike in limited numbers at a high price, using 750cc motors that Gilera will effectively hand-build in small quantities; and/or thirdly, Bimota will develop a street version powered by the 600cc (actually, 558cc) Saturno engine presently fitted to the Gilera Northwest, suitably tuned to offer extra performance.

The GB1 is therefore very much a suck-it-and-see project, which does, however, appear to have a promising long-term future, judging by its performance in its debut race at Misano. There, the single bike so far completed, was fitted with an engine that had not even been serviced after completing the Pharaohs rally last year.

"We even had to clean sand out of the carburetors and the ignition," says Bimota designer Pierluigi Marconi. "And of course, the engine was in full rally trim when we raced it, with a soft cam and low compression. It is very heavily understressed, so there's a great deal of potential there, especially when we fit fuel injection to it, which we shall certainly do very shortly!"

The 105.5 x 85 mm engine measures 743cc, and at 47 kg. is only 3.5 kg. more than the Northwest/Piuma's 558cc motor, with which it shares the same general architecture, but not a lot else. That means that all the ma-

jor engine castings are special low-volume, sandcast components, but that the watercooled motor's four-valve cylinder head has twin overhead camshafts driven by a toothed belt, and is fitted with a five-speed gearbox (with at present rather wide ratios for off-road use), and counterbalancer.

Compression is a humble 8.2:1 at present, to cope with African fuel, as well as to permit such a Big Single to be kick-started via the boss on the right of the crankcases! However, the Mahle 2-ring piston is an ultra-slipper, semi-Heron design with substantial potential for road racing thanks to its very light weight, which should permit high revs in tarmac form. The Piaggio Group's chief designer Lucio Masut, who oversaw the design of this RC750R motor, must have had his eye on using it for road racing sooner or later!

**Marconi: 'There's a great deal of potential there, especially when we fit fuel injection'**

Bimota ran the engine on their dyno after receipt, and confirm Gilera's claim of 72 bhp at 7000 rpm at the gearbox, running on twin 38mm downdraught flatslide Mikunis. But Martini says he made a few small changes to the engine to assess its potential for road racing use, and obtained 78 bhp at 8500 rpm on the same carbs, but a more radical cam and revised ignition timing.

"I have no doubt we can easily obtain over 80 bhp with 40mm



flatslide carbs," he told me last year soon after the 'evoluzione' motor's dyno runs were completed. "And we should see at least 85 bhp with fuel injection he adds.

"The engine is also safe to 9300 rpm which, with the piston speeds entailed, is a very respectable figure. This is a pure-blooded racing engine with substantial potential for tarmac use."

His successor as chief designer at Bimota, Pierluigi Marconi, completely agrees: "We will fit the engine with fully-programmed TDD/Weber fuel injection, which will give a substantial power increase, as well as permit us to use wilder cam timing and higher revs than at present.

"Galasso complained that the engine wouldn't rev over 6500 rpm in the race, but the power comes in strongly at only 3000 rpm, which is nice for sand but much too low for tarmac! We shall be revamping the engine completely before the next race at the end of April, and hope to obtain a much better power to weight ratio than the Ducati Supermono, which is obviously our main rival."

Indeed, which makes it all the more ironic that to create the GB1 chassis in which to house the Gilera engine, Marconi borrowed much of the technology and some of the components from this design for the Ducati-powered DB2 Bimota street bike launched at the end of last year, and now forming the basis of Bimota's 1993 production: 550 will be built this year in total.

The GB1 chassis is actually built in three parts and three materials: a fully-triangulated chrome-moly tubular steel spaceframe comprises the main section, with the swingarm fabricated from oval-section alloy tubing manufactured by Bimota themselves. This pivots in two chassis side-plates milled from solid billets of 7300 aluminium, and the weight of chassis and swingarm combined is just 6.5 kg.

Suspension is lifted straight off the DB2, with 41 mm Paioli forks

which Galasso says worked extremely well in track use, and a cantilever Ohlins rear mono-shock, with two-rate spring and progressive damping via internal valving.

Twin 280mm Brembo discs and four-pot calipers are fitted up front, with a 210mm fixed rear disc, which Galasso says he never touched once in the race because of the hefty inertia of the big single motor!

Wheelbase is a very compact 1330mm, with 52/48% forward weight bias. Yes, but what is the weight?

Get ready for a surprise: either Bimota have a set of scales that Weight Watchers Anonymous would kill for, or else they have the makings of an extremely competitive motorcycle. Weight is crucial in a minimalist formula like Supermono, and to scale 119 kg. with oil and water but no fuel, fitted with extremely heavy plastic (not carbon fibre) prototype bodywork and no serious attempt at lightening makes the GB1 already very competitive.

The 550cc Ducati Supermono presently scales only a couple of kilos less, with heaps of carbon to help it get there. And it's 200cc smaller in engine capacity...

For all Bimota's understandable caution in committing to a production target, it seems very probable that the street version of the GB1 will be launched at the Milan Show this November, in 600cc form, using the same chassis and body design - complete with ultra-flash and highly patriotic colour scheme!

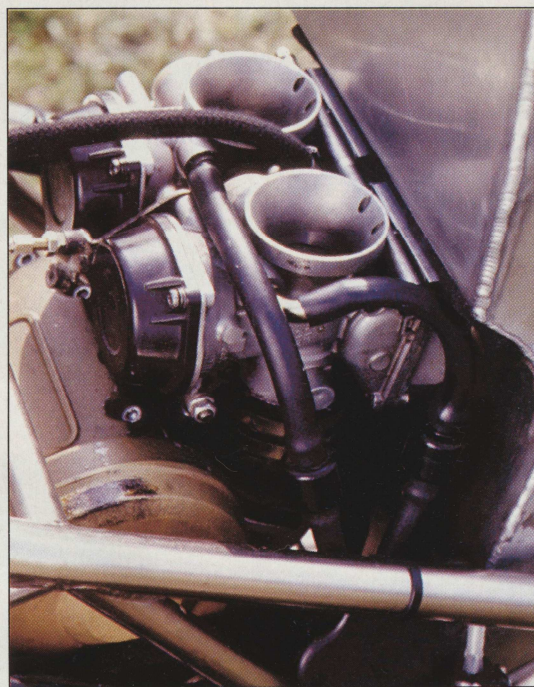
The only question mark is over the 750cc customer race version which, though it might be a Ducati-beater, would also exceed it on price because of the hand-built nature of Gilera's motors, if constructed in batch form.

But one thing's for sure: the days when the single-cylinder class could be viewed as a neo-classic hangover from the Manx Norton era are gone. The Bimota GB1 is symbolic of the way ahead for the Supermono class, on street and race track alike. ♦

**Alan Cathcart**

**Photos: Kyoichi Nakamuar**

**Top right:**  
38mm  
downdraft  
Mikoni's  
will be  
replaced  
with fuel  
injection.



**Middle:**  
743cc factory  
Gilera engine  
still has 'soft'  
cam timing  
and ignition  
to suit sandy  
going of the  
'raid' rallies.  
More radical  
tuning plus  
fuel injection  
will produce  
race winning  
power.  
**Bottom right:**  
Rear shock is  
by Ohlins.  
Front forks  
are borrowed  
from the DB2.  
**Bottom left:**  
Tubular  
chassis  
combined  
help keep  
overall weight  
to 119kgs -  
and the bike  
comes with  
heavyweight  
bodywork!

