

## "Heart surgery" & "Tommasini carbo plus"

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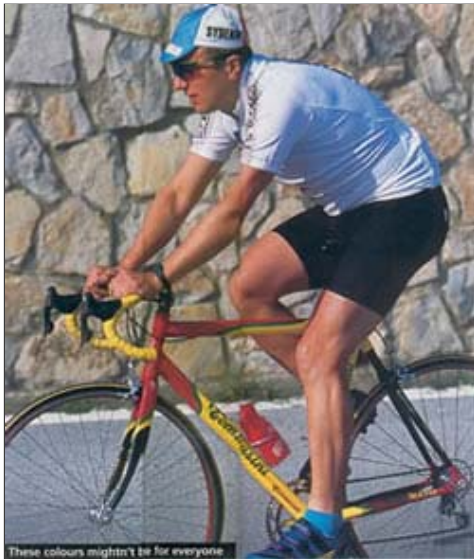
"Tommasini carbo plus"



"Heart surgery"

### TOMMASINI CARBO PLUS

**Not only did this test take place on the much-lauded roads of Tuscany, serendipity clearly played a part in providing the bike in question**



These colours mightn't be for everyone

YOU know when you're on a good 'un. Not so much by the way everything 'falls readily to hand' - the bike either fits or it doesn't - as by that feeling of confidence fostered by well-dialled, vice-free handling and flawless onstruction. And indeed, five minutes beyond Castagneto Carducci's Hotel Zi Martino, I knew I was on a good 'un.

As it happens, the Tommasini Carbo Plus-framed steed allocated to me did fit. There it was, sitting in the workshop out the back of the Tommasini factory in Grosseto, just as prepared for Team Grassi-Mapei's under-23 star Daniele Bennati. Record 10-speed groupset, 3T bars and stem, bulletproof 36-spoke wheels and treaded Michelin training rubber, all assembled around a frameset of contemporary design and finished off with a colour scheme that could only be described as striking. Or bilious. Even leant against a wall it looked about right, its mildly sloping top tube married to a 3T THE stem of suitable proportion delivering, thanks to its upward orientation, a moderate drop to the bars. A quick saddle height and setback adjustment, and it fitted like the proverbial glove. Pleasing though this always is, it does not guarantee a favourable review. If anything, that familiar riding position removes one filter that might disguise the source of a handling quirk. That such a quirk might blight the Carbo Plus seemed unlikely from the moment we left the hotel for a spin around the Etruscan hills, for from the first pedal stroke it was apparent that this was a bike of rare accomplishment. Rare rigidity too.

The best racing bikes are those that don't ride as light as they feel; light weight all too easily translates into power-sapping flex; the opposite effect, that of excessive rigidity in a machine that feels made of paper, may be harder to achieve, but it has been and will be again.

The Tommasini was neither, instead providing a feeling of rock-solid dependability worthy of something built in Nottingham around 1930. This is, of course, a proper racing



Pear-section down tube

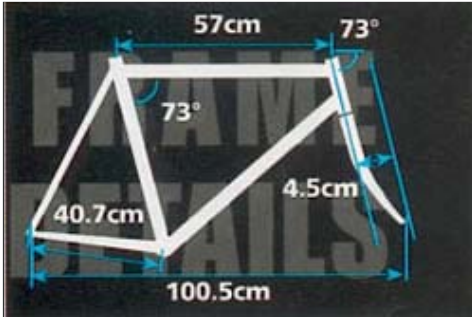


Build quality is top-notch



bike, built by the Grosseto factory for one of Tuscany's most promising riders, and one with a ferocious sprint. It is sturdy first, fancy second, although hefting it prior to the ride gave no hint. Heavy it is not, with an all-up weight including pedals well under 18lb despite the workmanlike wheelset.

Given that Campagnolo92s Record groupset is a known quantity, and that there is nothing that might be considered 'experimental' on the machine, this is well within the ballpark



### IMMACULATE CONCEPTION

Quite why the bike should have felt so massively imperturbable is harder to fathom, but the way Tommasini frames are made gives a clue.

On our visit to the Tommasini factory we watched as one of the workmen offered a carbon-fibre wishbone up for alignment.

Not only was the mitring of the tubes immaculate, but the carbon-fibre wishbone moulding was left in place while the mitre was cut.



The tube was then tack-welded in place for welding, and the wishbone removed until heat treatment and anti-corrosion finish were complete. Only then would it be bonded in place, the mitre at its top end matching the inside of the single stay tube to ensure a perfect, void-free joint at minimal extra weight. Besides, Irio Tommasini doesn't exactly seem preoccupied by saving every last gram. His brochure quotes 'minimum' weights for each model, clearly implying that larger examples will be heavier.

The top-end Carbo Light is 'at least' 1.18kg,

which while more than acceptable is not quite cutting-edge.

There's an even lighter, all-aluminium design named Fusion, but this sits in the middle of the catalogue.

The impression is of a firm more interested in building reliable, fine-handling and durable competition material than in stuff better calculated to please the cafe stop crowd. Suits me, just like the test bike.

Tread hard on the pedals, away she goes; sit on a nice meaty gear on the flat, and she's stable as you like; ride tempo on a climb, and the combination of light weight and stiff transmission makes it feel, if not effortless, then surprisingly rewarding. Attack a twisting descent and... well, there's a bit of understeer.

There's an interesting comparison here with the Omega tested in CW April 13, which I had been riding just a week previously. Where the Kent-built machine steered so tightly it required an almost sedated touch, the Italian flyer required a firm push and subsequent guiding hand to hold the same line. Given the choice, I'd probably prefer the latter, simply because it is that much more relaxing.

One of 11 models in the Tommasini range, the Carbo Plus features a Columbus Carve carbon-fibre rear end and Columbus Airplane tubing drawn to the company's own pear-section profile.

It has an integral 1 1/8 in headset and carbon-fibre fork, and is made in 13 standard sizes plus made-to-measure and sloping editions. Every Tommasini frame gets a cathoporesis anti-corrosion treatment before painting, which is done in-house in a variety of designs including 'Team', 'Cometa' and 'Carbon'. You could even ask for a Team Grassi-Mapei finish if you really wished, in the sure knowledge that the resulting machine would be a good 'un.

Or, to put it another way, a machine of uncommon integrity.

### HEART SURGERY

Tucked away in Tuscany is Tommasini, a small frame-builder with a big reputation for crafting the haert of the bike with precisio and passion





Twenty-two thousand, nine hundred and thirty, er...

**GREASY** noisy, dirty places are bike factories; places where metal is heated, bashed about, formed, joined and treated for subsequent strength and durability, rather than places where delicate operations may be carried out in the most clinical of conditions.

Except, that is, for a room on the first floor of a small manufacturing installation in Tuscany where TIG-welding is carried out in what many would view as an unnecessarily sanitary environment. Not so the remainder of the Tommasini establishment, which is everything a bike factory should be including the home of gnarled old artisans who have forgotten more about filing and fettling than most of us even imagined it was possible to know.



The most skilled TIG-welder in the world?

It says much for the status and ability of Irio Tommasini that these craftsmen, with the possible exception of the inhabitant of The Room, go about their tasks unheralded and anonymous.

Take the operative responsible for assembling aluminium frame tubes. He works in a space largely given over to massive jigs designed to make the cutting to size and precise alignment of tubes as accurate as possible. The techniques involved are the same as those used by frame-builders everywhere; once the length of each tube and the angle of each mitre has been decided, the tube is cut to leave an edge that fits precisely the matching tube.



Mitring approaches perfection



Another frame nears completion

Once cut, the tube may be placed in position in the jig. Provided the mitre is made correctly, the jig does nothing more than hold the two tubes in position while they are tack-welded, but any inaccuracy is made very obvious. Gaps, of course, are bad news when TIG-welding thin tube walls, and a maximum of 0.1mm is allowed. Judging by the fit of the tubes installed when we passed by Tommasini's man meets such tolerances without really trying.



Carbon stays are removed before the real welding work begins

### THE RIGHT WAYS

So far, so run-of-the-mill. The latest technological developments have made life a little more interesting. The big buzz of the moment is carbon-fibre, which has been made more accessible to frame-builders through the development of chain and seat stays pre-moulded and designed to be bonded in place.

Pioneered by Pinarello with the original Prince in 1998, this technology has been taken up by almost the entire road bike industry, and has proven very reliable.

Quite how much it benefits a rider is less certain. Tommasini himself has his doubts, observing that the road bike market reeds plenty of innovation if it is to stay buoyant, and that

carbon-fibre stays are very popular. For sure, carbon stays add weight; the otherwise identical Carbo Light and Fusion frames weigh a minimum of 1,180g and 1,050g respectively,

but the latter is all-aluminium, It is also more straightforward, to build.

Most readers will be familiar with the appearance, if not the ride, of carbon rear ends, and with the way the 'frame' end of the moulding is housed inside a sleeve welded to the frame itself.

There are two ways to achieve this: the better way, used by Tommasini, is to mitre the sleeve and stay moulding together before tack-welding the sleeve with the stay in place, and then remove the moulding prior to welding the joint properly. This guarantees accuracy when the stay is finally bonded in place, exceptional strength thanks to the exact fit between surfaces, and the reliability of the bonded joint itself, since this is not subjected to heat during welding or any subsequent heat treatment.

This sequence is a bit long-winded, but at least the final joining process that of fixing the seat (and sometimes chain) stays - is done using an adhesive that takes time to cure, allowing the builder to ensure perfect alignment once the parts are assembled but before the adhesive has had time to harden.

## PRO CHOICE

Tommasini is not unique in taking the long route with carbon (the short one is to start with sleeve and moulding ready-bonded, and to mitre and then weld the sleeve while trying to avoid overheating and damaging the bonded joint), but may well be unique in offering at least one obscure but potentially important choice. Moving away from the jig station, we found various racks stacked neatly with unpainted frames awaiting the attentions of the sprayers nozzle, or at least some process that might precede it. Written on one were the words 'passo Inglese', meaning 'English thread'. Never mind that it should be 'British thread', a quick discussion confirmed that in addition to full custom frame-building on request, Tommasini will also provide a British-threaded bottom bracket shell if required. Purists may balk, feeling that a thoroughbred Italian frame should have an Italian thread (although Bianchi uses the BSC thread format), but there is a Lot to be said for being able to choose the more readily available in the buyer's own country.



## US CONNECTION

Moving onto the paint shop, we found, besides the usual scenes of decals being applied to part-finished frames, proof that Tommasini has a healthy slice of the retro market. Hanging from wall-mounted racks were numerous primer-coated frames and matching forks with unusually slender tubes. Around 50 per cent of the factory's annual production of 2,000 frames is built using steel tubing, and of this almost half is destined for the US, where Tommasini's traditionally styled and very pretty Tecno and Sintesi models have an avid following. The chrome plating

found on these models is done by a specialist firm nearby. With the exception of the stay mouldings and carbon-fibre forks, every other process carried out on site, including TIC-welding. Big deal, you might say. Unless, that is, you had been taken upstairs, past the huge secondary showroom, its walls covered with winners' jerseys and photos of the many stars of Italian cycling Tommasini-mounted in their early years, to a door like any other on the same floor. Our host knocked, opened the door and ushered us inside. There, in the middle of an expansive and otherwise empty room clear enough for surgery, sat one man between two piles of frames. Those in one were still tacked up, those in the other joined with beautiful, even welds clearly the work of a maestro. Shielding our eyes from the ferocious glare of the TIC arc,

we wafted as he finished a pass, the fumes exiting via a long duct to the outside air. Clearly, here was a factory where TIC-welding is taken very seriously, which is not surprising. Along with Ugo De Rosa, Tommasini pioneered its use in Italian frame-building, exhibiting his first TIC steel frame in ISSG. Such was his reputation that he was asked by Litespeed for advice when the Tennessee company began making their own frames. Pass finished, the welder lifted his mask and gave us a nod before turning back to his quest for the perfect bead.

Responsible for every TIC-welded Tommasini frame, and introduced to us only as Marco, here was the very man who went to Tennessee to show them how to do it.