

OVERWEIGHT, but fast and very loud

AS WE unloaded Team Obsolete's 350cc Benelli for testing at Mallory Park circuit, my mind wandered back to when I'd seen it before restoration. Lying in Robert Iannucci's New York workshops, it had looked more like a pile of junk than an exotic Italian grand prix racer.

TO chief Iannucci had obtained the ex-works Benelli from a German racer in 1981, in a crashed and dismantled state.

So you can imagine my surprise at walking into TO's race shop a few months ago, and seeing the Benelli fully restored. The task had taken most of a year: Robert told me that over 100 hours of work went into repairing the crash damaged exhausts alone. The engine had been rebuilt at Robert Gallina's equipe in Italy and the machine was ready to be fired up.

TO's workshops are in downtown Brooklyn, next door to the 84th precinct of the

That's our opinion of Team Obsolete's Daytona-winning ex-Renzo Pasolini 350cc Benelli four/John Cronshaw

New York City Police Department. Nevertheless, we pushed the works multi out into the street and bump-started it, setting off several car alarms in the process. After a few minutes, happy that all was well, we retreated to the workshop.

The Benelli had been prepared for the American Historic Racing Motorcycle Association's Daytona meeting in March.

AHRMA holds a race meeting a few days before Daytona at Roebing Road, Georgia, and this was to be its try-out. Sadly it rained and water in the magneto put a stop to the Benelli's first outing.

So TO still had little idea what to expect in Florida. Many of the settings had to be guessed, but the four ran well in practice and needed only minor changes. As reported in the May issue of *CB*, the Benelli won the 350 GP race and was leading

the 500 premier event until over-exuberance caused rider Dave Roper to crash.

Damage was superficial, but preparation for the Benelli's next planned outing, the 350cc Classic Manx Grand Prix in early September, took longer than anticipated.

Then, when the machine was air-freighted to Britain from New York in August, customs officials needed more satisfying than usual that the Italian works machine would indeed be re-exported immediately after its Isle of Man visit.

But as things turned out we were able to fit in a day track testing at Mallory, before taking the machine across the Irish Sea for Manx practice. Dave Roper came along too, straight off the plane from America that morning.

With the machine unloaded from the van, a few adjustments were carried out. The handlebars felt high for me so we lowered them by about an inch. We opted to fit the largest rear sprocket available, 50 teeth, to the rear wheel, having calculated that even this would leave the Benelli a little overgeared for Mallory.

While I changed into my leathers, my mechanic Stuart Feber and Roper bump-started the bike. It burst gruffly into life, but would run only on the two right-hand cylinders: the left cylinders were still gulping for sufficient mixture. The trick here is to hold a constant throttle and wait patiently until all four cylinders cut in cleanly, which they duly did. The Veglia rev counter needle flicked back ➡



PHOTOGRAPHY MARTYN BARNWELL

CB track tester John Cronshaw hurtles the booming Benelli around Mallory Park. Cronshaw races for Team Obsolete in the United States and was a member of the Benelli's back-up squad at the Manx Grand Prix



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continued

and forth: 8000-10,000, 8000-10,000. What a glorious sound!

As I got aboard, I noticed how small it feels. It's obvious that Italian works bikes were tailor-made for the compactly-built Pasolinis and Agostinis of this world and not my 5ft 11in or Roper's 6ft 2in.

I sat warming the engine for a few minutes, getting the feel of the oversquare 52 x 40.6mm gear-driven dohc engine. There is no flywheel effect: the needle on the tacho drops down as fast as it flicks up.

To pull away, I snick into first gear, put about 10,000rpm on the clock and gently feed in the clutch. You cannot plod along on this machine like you can on a single.

Changing into second, I found I'd let the revs drop below 8000rpm and right out of the power band. Clearly, the Benelli needed to be worked high in the rev range. Dip the clutch, and bring it back to 10,000-12,000rpm then change was the order, as I completed a few laps.

Before long I had enough confidence to put the machine to work, crossing Mallory's start-finish line tucked in behind the screen with the tacho needle on a 14,000rpm red marker set at 12 o'clock.

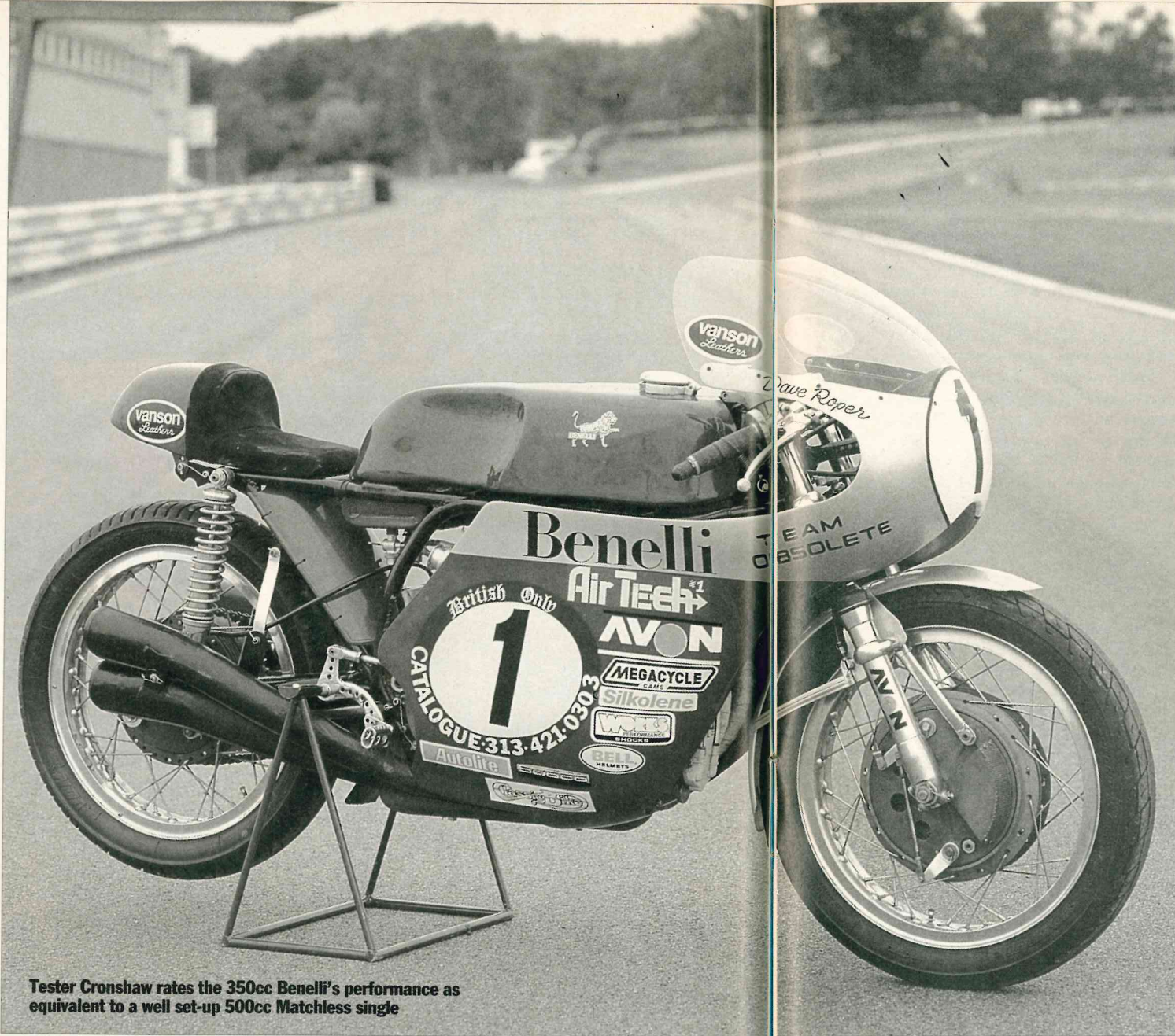
When the sweeping Gerards bend looms up, it's down two gears as quickly as possible, keeping the engine wailing.

There's a little front-end patter, which disappears when you feed the power back on. Although recent re-surfacing work has made this long bend far better than it used

to be, transferring weight from front to back had the rear end hopping around a little.

The five-position adjustable Ceriani rear shocks felt over-damped and the hard springing, apparently an attempt to overcome this, seemed wrong. I'm sure work on the rear suspension can improve the minor handling problems. On the whole the steering felt precise, with no tendency to weave under heavy braking.

Team Obsolete augmented Benelli's orig-



Tester Cronshaw rates the 350cc Benelli's performance as equivalent to a well set-up 500cc Matchless single

inal friction-type steering damper with a hydraulic item to cope with the Isle of Man's notorious bumps and ripples.

Feeding the power on as you round Gerards means a change up to sixth gear. This proved awkward on full lean, with the gear lever on the right and the shift pattern being down-for-up.

On the exit, the needle nudges 14,000 rpm. Shifting into top loses you 800rpm before bursting out onto Mallory's Stebbe straight. My head is under the screen for what seems only a second before the Benelli rockets into the Esses. Before popping up from behind the fairing, I dab the brakes and change down two gears, feeding the power back in to pull through the corners.

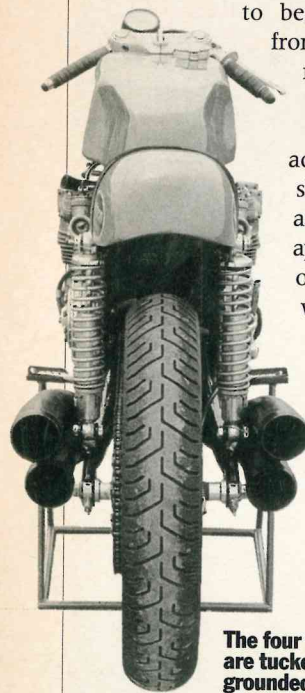
Here the Benelli felt fine changing direction from right to left, and could be placed accurately. I did not expect that because the four had felt top-heavy at rest.

Only at Mallory's Hairpin did the Benelli give the feeling of dropping into a corner. On the run into the Hairpin from the Esses I would change into sixth gear, before going hard on the brakes, and finding downward gears as fast as my right foot could move.

Riders of single-cylinder racers of the type I'm more familiar with often say they find six speeds a pain at the short, tight Mallory circuit.

Seven speeds on a multi at the Leicestershire track really is hard work. Shifting from sixth down to first, whilst keeping

It had to be worked high in the rev range



The four exhaust megaphones are tucked out of way. Nothing grounded during our test

Manx disaster

Straight after John Cronshaw's test, the Benelli went to the Manx Grand Prix for Dave Roper's Junior Classic ride. In the race, he shot into an early lead, but crashed little more than halfway round his first 37.73-mile lap of the Mountain Course.

'We will not be deterred by this piece of bad luck,' Robert Iannucci said afterwards.

Though looking crumpled after the incident at Kerrowmoor, the Benelli is repairable. Iannucci hopes to preserve its originality as much as possible: a torn seat cover will be glued rather than replaced, for example.

Roper sustained a dislocated hip and broken right ankle.

Some people see entering ex-works machines in the Classic Manx as an easy route to a win. But the whole Benelli adventure was a mechanical, as well as financial risk of the highest order. Any engine failure was likely to be greeted with disapproval from historic machine devotees, and sneers from Iannucci's racing rivals.

And a lowly placing behind over-the-counter singles would have debased the glorious Benelli name.

To save the precious metal from overwork, a Team Obsolete AJS 7R was taken to the Manx as a practice machine. For the first time since the MGP Classic started in 1983, TO did not contest the 500 race, needing to concentrate effort on the 350.

A main bearing failure on the 7R meant the four was used for more practice than had been intended. Roper's best lap — keeping plenty in reserve — at 96.43mph, put him fourth among the 350s.

Taking Quarter Bridge at a dead-slow pace

because of oil on the road in the final training session, Roper toppled off the machine, but only damaged the fairing.

The team's main concern was heavy oil consumption, first discovered at Daytona. Each of the engine's camboxes has several external drains, but it appeared that oil was building up in the crowded boxes and finding its way down the guides.

One steady lap of the Mountain Course consumed half a litre, so the team planned to inject a litre of oil into the wet sump using two 500ml syringes during a fuel stop halfway through the four lap race.

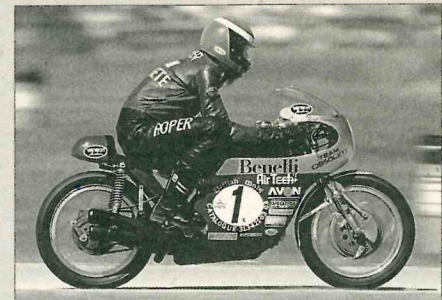
The front brake was improved by re-

lining with Ferodo AM4 material. A check on the shim-and-bucket valve clearances between practice and racing showed all was well: TO has rarely had so little trouble with an engine at the Manx.

The sight and sound of the Benelli was a major talking point at the Manx, so the spill meant a big disappointment for spectators stationed beyond Kerrowmoor.

Roper says he turned too late at the left-hander on the tree-lined Sulby-to-Ramsey section. 'The bike steers real slow: probably because the rear shocks are over-damped. But the engine seemed to be going better than ever: I was revving to 13,000rpm and headed for a 100mph lap.'

Statistics from the 1960s indicate that the Benelli should have much more speed than current 350 classic hardware. On this machine, or one very similar, Pasolini lapped at 103.87mph in the 1968 TT, and was timed at 152.50mph through Motor Cycle's Highlander speed trap at the 1967 event.



Lanky Dave Roper looks cramped while winning on the tiny Benelli four at Daytona

Specifications 1967 350cc BENELLI

ENGINE		Rear suspension	swinging arm with twin Ceriani units
Type	dohc transverse four	Tyres	(front): 90/90 x 18 Avon AM20 (rear): 110/80 x 18 Avon AM22
Bore x stroke	52 x 40.6mm	Brakes	(front): Ceriani 230mm double-sided t/s drum (rear): Oldani 200mm s/s drum
Capacity	344.9cc	Wheelbase	5 1/2 in (146mm)
Compression ratio	11:1	Weight	344lb (156kg)
Carburation	4 x 30mm SS1 Dell'Orto	Fuel capacity	4 1/4 gal (19 litres)
Output	64bhp @ 13,800rpm	Oil capacity	5 1/2 pints (3 litres)
Electrical	Mercury magneto	PERFORMANCE	
TRANSMISSION		Top speed	152mph (est)
Clutch	dry, multi-plate		
Gearbox	7-speed		
CYCLE PARTS			
Frame	tubular		
Front suspension	35mm Ceriani telescopic fork		

that peaky engine in the power band ready for the exit from the Hairpin, can be a strain.

Once, I only managed to change down as far as second, and all but stalled the Benelli on the exit. To beat a top-class single-cylinder rider here on the Benelli, it would be important to be in the right gear at precisely the right moment. Fortunately, the gearbox has a very good, positive change and the seven ratios are well spaced.

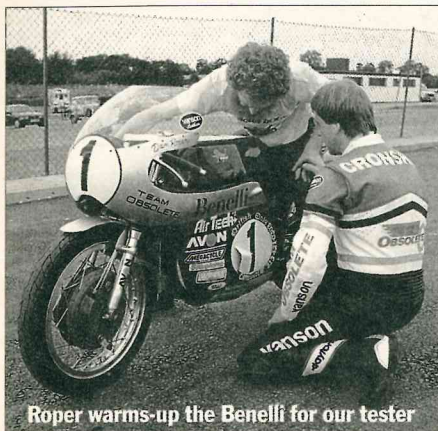
Braking into the Hairpin is a good test for any motorcycle. Weighing 344lb with fuel (we weighed the bike during the test), this 350 is no lightweight. The drum brakes, a Ceriani 230mm double twin-leading-shoe anchor at the front, and an Oldani at the rear worked fairly well. But the lever really had to be squeezed hard to get what was needed from the ➡➡➡

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continued

front brake, which was lined with an old-type of brown friction material rather than the more effective Ferodo AM4 green linings.

Fanning the dry eight-spring clutch at around 12,000rpm, the front end gets a little light as the transmission bites before a change to second for the bus stop chicane. Flicking through here in second gear was

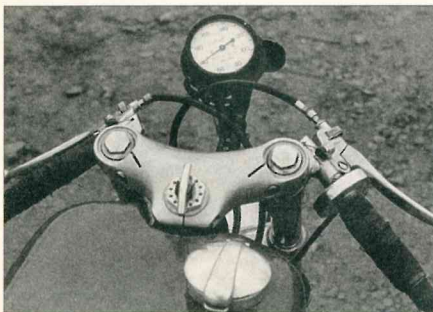


Roper warms-up the Benelli for our tester

no problem for the Benelli, which skimmed the rumble-strip on the exit before heading down the hill onto the start/finish straight.

The Pesaro factory's figure for the 1967-68-type four's output was 64bhp at 13,800rpm. That compares with MV's claimed 62.5bhp/13,500rpm for its three, and the 41bhp/7800 you can expect from an AJS 7R single. To describe how the power of the 16-valve Benelli actually feels on a track, I would say it is as good as a well-prepared 500cc Matchless G50 single. However, it could prove more difficult to ride than the typical 350cc classics it races against. The four also demands professional team-style preparation: engine work means removal from the frame.

The Benelli's weight was surely a major drawback in its day, for its 350 MV arch-rival was a lot lighter at 265lb or so. Vic



Benelli's tachometer has red marker set at 14,000rpm. Maximum power is at 13,800

Challenging MV's might

The presence of four-cylinder Benellis greatly enlivened the grand prix scene in the late 1960s. After Honda's withdrawal at the end of 1967, the green and silver Italian four-strokes ridden with verve by Renzo Pasolini provided the only serious threat to Giacomo Agostini's MV Agusta cakewalk through the 350 and 500cc grands prix.

And in 1969, the Pesaro factory temporarily reversed the two-stroke's ascendancy in the 250cc class when Benelli's new recruit, Australian Kel Carruthers, wrested the title back from Yamaha.

Founded in 1911 by six brothers, the Benelli company's first four-cylinder racer was an amazing supercharged liquid-cooled dohc 250cc four unveiled in 1939.

The air-cooled fours developed out of a 250cc machine revealed in 1960. Ridden by Silvio Grassetti, the Italian contender caused a stir when it finished third in the 1961 250cc Spanish Grand Prix, relegating Honda four rider Jim Redman to fourth.

Faster circuits were to reveal the Benelli's weaknesses, particularly insufficient engine lubrication. But from the end of 1963, Tarquinio Provini, former MV and Morini factory rider, assisted with vital improvements.

In 1964, he rode a lighter, lower, 15,000rpm 250, with seven speeds instead of six, winning every round of the 250cc Italian championship, and one GP, again in Spain.

Provini got a 350cc four-valve version for 1966, but his career ended with a heavy crash in that year's TT practice. His replacement was Pasolini, who had made his name on works Aermacchi singles. Renzo was a popular choice with Italy's Benelli fans, being a native of the motorcycle-mad Romagna region where Pesaro is situated.

During 1967, the year the test machine is believed to date from, Pasolini scored

two third places in 350cc grands prix behind Mike Hailwood's 297cc Honda six and Ago's MV three. In the following year 'Paso' cleaned up in both the 250 and 350cc Italian series, and finished second in the Lightweight and Junior TTs.

He was second in the 1968 350 Italian GP, backed up by Grassetti in third on another Benelli. At that meeting, the factory made a dramatic entry into the 500 category. Mike Hailwood was given a big Benelli, after he had rowed with Count Agusta over team orders to let Ago win. Mike the Bike fell on a wet track, but Paso finished second to Agostini on his 500.

Italian *Benellisti* were thrilled when Pasolini repeatedly beat Agostini in national early-season meetings in 1969. But the bespectacled rider dashed his chances of a world 350 title by crashing heavily in the first GP at Hockenheim. Despite missing the TT and falling again later in the season, Paso was runner-up in the 350cc world title and clinched the 250 and 350cc home series.

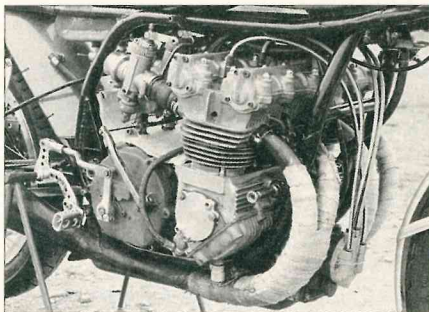
Pasolini returned to Aermacchi in 1970, and the troubled Benelli company sold out to Alessandro de Tomaso. Re-designed Honda-influenced 350 and 500cc racing fours, with inclined cylinder banks followed. They made history, however by winning 350 and 500 races at a Pesaro meeting in 1971, in the hands of the brilliant Finn Jaarno Saarinen, who then signed for Yamaha.



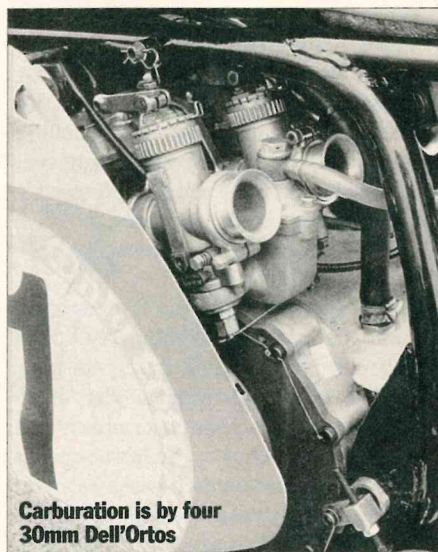
Pasolini at Brands Hatch in 1968

Willoughby, writing in *Motor Cycle* in 1968, described it as 'Hopelessly overweight'.

But I still think the bellowing 150mph four will take some beating in historic racing, especially on long, fast circuits. Until an MV appears, that is



For most engine work the dohc transverse four has to be removed from the frame



Carburation is by four 30mm Dell'Ortos