

SLEEPER STROKER  
DON STAFFORD'S YAMAHA RZ500

# TWEAKED, NOT TAMED

King Kenny's contender  
straightens up and flies right

WORDS GUY ALLEN  
PHOTOS BEN GALLI



## SLEEPER STROKER

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1. R6 clip-ons have been mounted below the top triple-clamp, but the riding position is not that radical.

2. Custom Nitron shock is slightly longer than stock, but the rear wheel is smaller.

If you get to know Don Stafford, long-time racer, race bike engineer and former Yamaha dealer, you'll soon learn there are two things he reckons he can't or would prefer not to do: restore motorcycles and build road bikes. He's half right. We've yet to see him tackle an end-to-end resto.

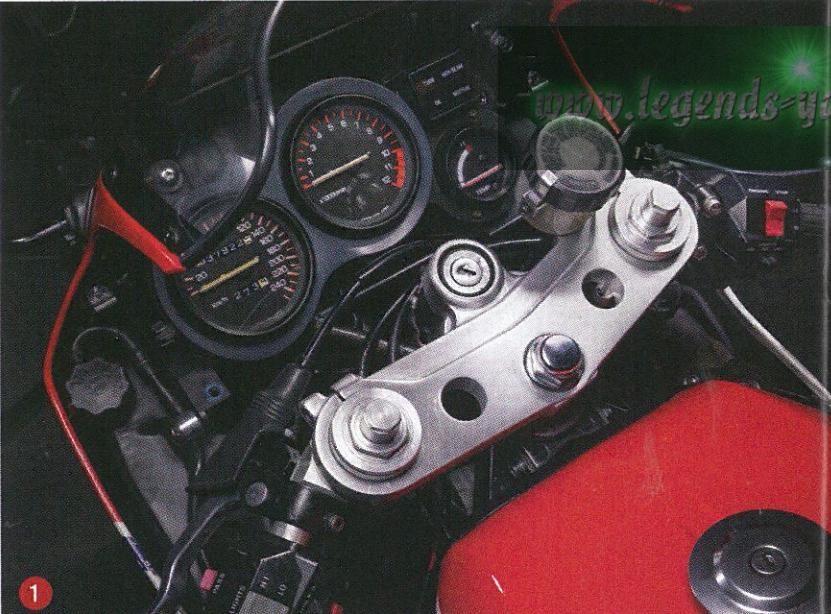
As for road bikes, I beg to differ. A warmed-up MT-01 he created several years ago as an Over Racing promo platform is my favourite example – fast, loud and sharp. And now this: a 1984 Yamaha RZ500 with a twist.

### STROKER GENIUS

Let's wander back into 1983-84 to get a handle on the thing. Two-stroke motorcycles were still mainstream. The likes of the Yamaha RZ250/350 and Suzuki RG250 series were very much alive, but there was no question four-strokes had comprehensively taken over as dominant road-going performance motorcycles.

However, the hero international race series, the 500cc grands prix, was still a two-stroke world. For Yamaha, Kenny Roberts was still King Kenny and for the 1983 season he was riding a second-gen V4. While upstart Freddie Spencer was to win the title for Honda, Yamaha was well underway with its plans to release a GP replica for the road.

The rumours started in late 1983 and were rife by early 1984. This was serious. You have to remember that this, at the



time, was a one-of-a-kind announcement: you will soon be able to buy a proper grand prix-replica motorcycle. Same engine capacity, same configuration, similar looks, and fast.

Though nominally listed at \$5200, by the time the first examples arrived here in the third quarter of 1984 – and it was never big volumes – they were selling at a significant premium.

With a claimed 88 horses (64kW) and a dry weight of 180 kilograms, they had serious power for the day in a diminutive and light package.



A cackling four-pot stroker stands out on the road these days as something a little mad

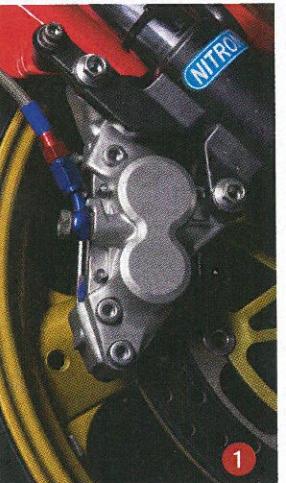


1. The FZR1000 four-spot calipers run smaller leading pistons. Braided hoses are a giveaway that this bike is not standard.

Not since Honda's CB750 Four, or Kawasaki's first-gen Z900, had four exhaust pipes generated such excitement. And on this bike, they exited on two decks.

Maybe four-strokes were taking over on the street, but when it came to the fabled Castrol Six-Hour production race of 1984 (see sidebar), RZ500s – though nothing else quite like them had existed before – filled a third of the entry list. And they won.

You need to look through the lens of that background to understand why people still get excited about these things. Even without that knowledge, a cackling four-pot stroker stands out on the road these days as something a little mad.



### THE MODS

Now here's the funny thing: in just a few years after the initial excitement, RZ500s dropped off the scene. In truth, they weren't great road bikes. By far their biggest issue was they handled poorly if not kept in top shape.

As a result, they quickly developed a reputation for being unstable – not entirely undeserved – and the thought of dealing with what was then a complex and sophisticated two-stroke as it aged was too much for the market. Values plummeted.

Their fortunes have changed over the past five years, and they're now collectable. However, that's not what drove Don to buy

his. "My son Craig bought one, and I said 'I hope you enjoy it'."

"He said, 'Dad, it's fantastic!' So I was watching one for sale online and I rang the guy. We got talking and it turns out he was a rep who came to my shop over the years.

"So I went down to Geelong and bought it. I didn't even ride it."

What happens next will make a whole lot more sense when you understand that Don has built a series of very fast race bikes over the years, most recently some slick Period 6 Yamaha FZR1000s.

"I was thinking about making it the way I wanted it. There was a set of FZR1000 wheels sitting there. That's how it started.



### THE OTHER GP CONTENDER

Suzuki responded to Yamaha's RZ500 with the square-four RG500. A steadier-handling package, it was sold during 1985-86 priced at \$5800 but discounted heavily a year later. It's very collectable too.

One thing I love is that Don has stuck to his anti-restoration shtick by leaving the cosmetics alone

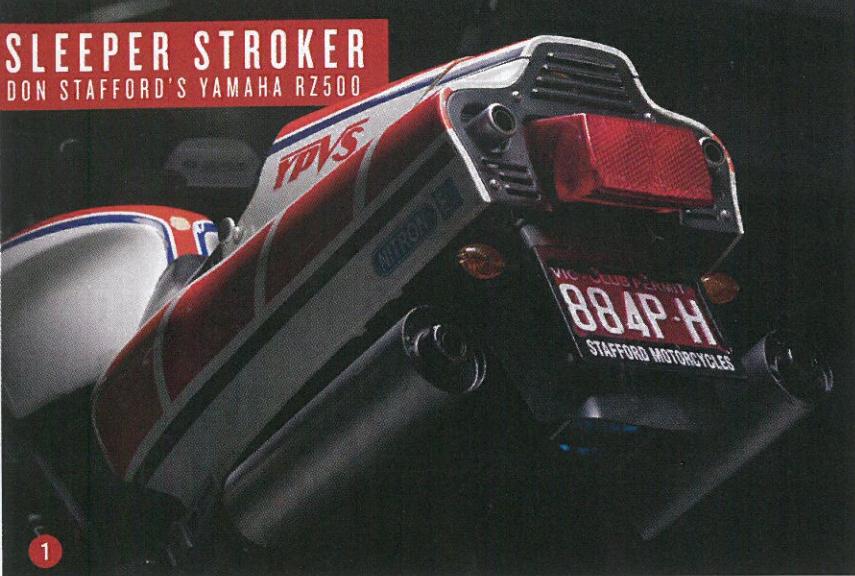
"And there was a set of upside-down forks from one of the race bikes I'd dismantled..."

You can see where this is going. The RZ started with a 16-inch front and 18-inch rear wheel, with 120 and 130 section tyres, plus early '80s suspension and brakes. Even by the standards of the day – particularly with a short wheelbase – it wasn't a recipe for great handling.

Now it's wearing what is effectively a second-gen FZR1000 undercarriage: 17-inch wheels at both ends with a giant 180-section rear, four-pot front brakes and discs, early R6 rear brake, a USD fork and a custom-made Nitron shock. The latter

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1



2

1. Controlling the heat from the top expansion chambers under the seat was a major issue for Yamaha despite the double skins.

2. Stafford doesn't believe in repairing every dent and scratch.

3. Fairing panels had to be spaced out slightly to allow for the wider FZR triple-clamps, but there was no trimming involved.



3

is about a centimetre longer than stock, while the overall effect has the bike sitting higher, with a more tail-up stance.

That must have been a challenge to squeeze in? Not as much as you'd think. Incredibly, the FZR triple trees bolted straight in. Don confesses to considering getting something custom-built, but dismissed it.

There were two fitting issues. Up front, the fairing brackets had to be spread with spacers to make room for the wider triple-clamps, though the fairing itself was left untouched.

Out back, the rear tyre threatened to rub on a right-hand exhaust. That could've been bad news, but Don was pleasantly surprised to discover the expansion chamber was double-skinned so he was able to cut and shut the pipe without hurting the critical parts.

He had some reservations about using the FZR wheels and considered fitting some exotic Marchesinis. Why? "The FZR rear wheel is very heavy. With no sprocket it weighs 18 kilos – that's a lot of weight to control. One of our race wheels is 11-12kg!" In the end, his head ruled his heart. "It is a road bike," he points out.

# Don's handling mods have transformed it, without ruining the looks



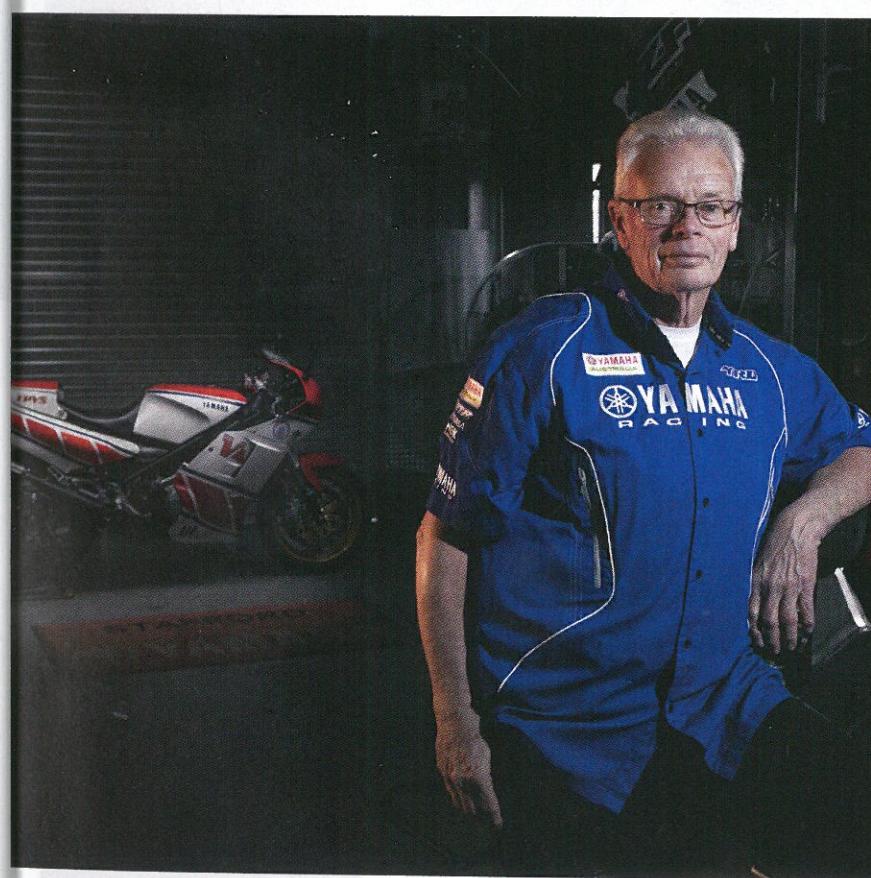
Finishing off the package is a set of R6 clip-ons and handgrips, fitted below the top triple-clamp, rather than above it as they were on the stocker. Though that sounds radical, it's surprisingly comfortable and far from being an extreme lean-forward stance.

One thing I love is that Don has stuck to his anti-restoration shtick by leaving the cosmetics alone. It has some minor rubs and scrapes and battle scars from the years, which he is perfectly content to leave. A nice touch is the retro shop stickers he added, with old seven-digit phone numbers.

### TAKING IT TO THE STREET

We got Don's grandson, the smaller and more life-sized Adrian, to do the honours for the ride shots, because I would've made it look like a PeeWee 50. After that, I pinched the RZ for a brief play in the nearby hills.

Don booted it into life with no fuss and kept it running while I strapped on a lid. Right, then into the saddle and give



### CASTROL SIX-HOUR WINNER

Once upon a time... or that's how the story should start, I guess. There was a fabulous production motorcycle race called the Castrol Six-Hour, run by the Willoughby Motorcycle Club out of Sydney. It ran from 1970 through to 1987.

Back in the early days, it was televised by the ABC with enthusiasts such as Will Hagon and John Smailes doing commentary. This was a major event. It started as an extraordinary endurance test around Amaroo Park, and then moved to Oran Park for the final three years.

It became a hugely influential challenge, much like the (then) Bathurst 500/1000 for cars. The rules were intended to highlight showroom motorcycles, running street tyres.

Motorcycle manufacturers fought over honours and, for several years, it was as much about the tyres as it was the motorcycles. If Pirelli won, for example, it shouted it from the rooftops and sold shiploads of Phantoms as a result.

In 1984, the field was extraordinary and read like a who's who of fast riders. Names like Gardner, Phyllis, Feeney, Baldwin and Merkel (yep, the Americans), Dowson, Pace, Willing, Campbell, Oldfield, Heyes, Gall, Chivas, Holden, Sayle, Middlemiss...where do you stop?

Three motorcycles dominated the entries: Honda VF1000R, Kawasaki GPz900R and Yamaha RZ500. Eleven of the 30 provisional entries were RZs.

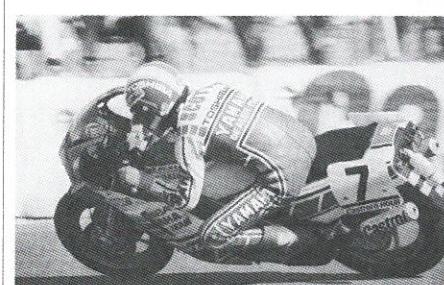
It was the last-minute pairing of Michael Dowson and Richard Scott who won, on an RZ500 backed by then-Dunlop importer Emerson Sport. The result was controversial, as Wayne Gardner and John Pace were on the same lap on their VF1000R, but the race was cut short to fit TV commitments.

Both bikes were running on vapour and some felt the Honda might have won if the extra couple of laps had been run.

Who came third? Neil Chivas and Robert Holden on (of all things) a Suzuki Katana 750, four laps down.

Just for the record, that was the only year a two-stroke won.

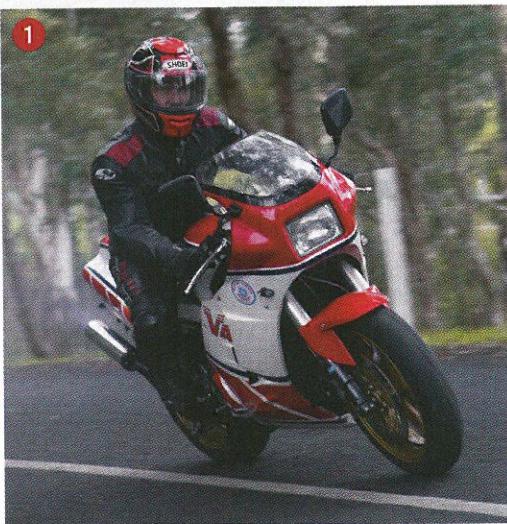
Recommended reading: *The Castrol Six-Hour Production Race* by Jim Scaysbrook, published by Rennicks.



## EEPER STROKER STAFFORD'S YAMAHA RZ500



LED indicators tidy up the frontal appearance of the bike.



it enough revs for the tight turn out of his yard, without bogging it. Jiggle the throttle on the way up the street, so that it runs clean and let it warm up. Two-strokes are different, not welcoming the blind indifference that a four-stroke with CV carbs (or injection) will tolerate.

As the road clears, you can feed in more revs and the cackle becomes a howl. God, that's a sexy note.

The RZ is one of the more flexible powerplants of its type, but the real action happens from 7000 to 9500rpm when it's making max horses. It's a brief and hackle-raising window of opportunity. Wonderful.

What I was most dreading was the handling. The last time I rode an RZ500 was when they were new, 34-ish years ago, and the two examples I threw a leg over were exciting but didn't fill you with confidence.

This one? Benign and surprisingly modern. Cackle and howling noises

aside, you could have been on any good road bike built in the past 20 years. Don's handling mods have transformed it, without ruining the looks.

He's done nothing to the engine, and reckons the last time he did a crank rebuild on one it had 80,000 road kilometres on the clock. This example is just fine.

The more you ride it, the more you realise it's picked up a huge amount of performance by just steering straight and handling properly. Really nice.

I roll back into his shed. Despite the decades of experience that prove he knows far more than me about this stuff, he's still concerned. "Was it alright?" he asks. If you decide to sell it, Don, call me first. •

**SPECS**

**YAMAHA RZ500/ RD500 (STANDARD)**

**ENGINE:**  
TYPE: Liquid-cooled, 50-degree V-four reed valve two-stroke with rotary exhaust valve  
CAPACITY: 499cc  
BORE & STROKE: 56.4 x 50mm  
COMPRESSION RATIO: 6.6:1  
FUEL SYSTEM: 4 x 26mm Mikuni

**PERFORMANCE:**  
POWER: 64kW (86hp) at 9500rpm  
TORQUE: 68Nm at 8500rpm

**TRANSMISSION:**  
TYPE: Six-speed, constant-mesh  
FINAL DRIVE: Chain

**CHASSIS & RUNNING GEAR:**  
FRAME TYPE: Perimeter square-section steel  
FRONT SUSPENSION: Conventional 37mm telescopic fork, air-assist, spring preload adjustable, anti-dive  
REAR SUSPENSION: Monoshock with spring preload and rebound damping adjustment

**FRONT BRAKES:** 267mm discs with twin-piston calipers

**REAR BRAKE:** 245mm disc with twin-piston caliper

**DIMENSIONS & CAPACITIES:**  
DRY/WET WEIGHT: 180/199kg  
SEAT HEIGHT: 780mm  
WHEELBASE: 1375mm  
FUEL CAPACITY: 22L

**WHEELS & TYRES:**  
FRONT: Cast aluminium 120/80-16  
REAR: Cast aluminium 130/80-18

**OTHER STUFF:**  
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