

# Q WEEKEND



## ROAD WARRIOR

THE MAD MAX ANIMATOR DREAMING UP A WORLD-BEATING SUPERBIKE IN HIS QUEENSLAND SHED.

BRUCE McMAHON



# FRONT RUNNER

**It's a road warrior with a revolutionary edge, hatched in the hills of outer Brisbane by *Mad Max* animator Ray Van Steenwyk.**

STORY **BRUCE McMAHON**  
PHOTOGRAPHY **DAVID KELLY**

**N**ot far beyond Brisbane's north-western city limits stands a concrete-floored, tin-roofed, one-bedroom shed, hidden in a tangle of scrub and guarded by a bully Brahman steer. Just off the sweeping curve of a road that snakes up a mountain where weekend warriors exercise their brutal machines, this tidy shack perched in green Samford Valley is home to a modern-day da Vinci, a once-nomadic film animator, a dreamer and engineer.

In this shed sits the brainchild of Ray Van Steenwyk, 54 – a naked two-wheeler with a revolutionary front end, a piece of engineering that may herald a major shake-up in the business and sport of motorcycling. This is the prototype Motoinno TS<sup>2</sup>, a “triangulated steering and suspension system” with hub-centre steering up front – no telescopic forks. A second quicker through corners than a race-bred Suzuki 750.

Van Steenwyk's love of motorcycles began at 16 with dirt bikes in his hometown of Sydney. He loved them, but knew he'd never be Evel Knievel. “I was never that good a rider. Couldn't do a wheelie on the things, came off too many times,” he says. In his early twenties, Van Steenwyk took a hiatus from riding. Threatened with divorce by his then-wife, he didn't get on a bike for some years. “If only you'd known,” laughs his business partner, Colin Oddy, director today of the pair's Brisbane-based Motorcycle Innovation outfit. “You could've kept riding.”

When Van Steenwyk's divorce came through in 1991, he saddled up again. He fell for old bikes,

rebuilt them and rode for leisure. Among them was a 1942 BSA 500, and he lusted over the tractor-like 1942 Harley-Davidson WLA. He was charmed by early BMWs, would have loved a 1927 model. These old crates taught the man new lessons about riding and engineering.

When not riding the Brisbane hinterland, Van Steenwyk was spending months, often years, working on animation for films around the world. He trained as an art director under designer and artist Ken Done and photographer Graeme Davey. Through producing commercials and video clips for bands, then doing animations for commercials, he was propelled into television and film work. He was an early master of computer-generated animation.

Today, Van Steenwyk is an artist-for-hire of some regard, collaborating with English director Ridley Scott on *Prometheus* and also lending his skills to blockbusters *The Incredible Hulk* and *The Matrix Reloaded*. He worked on both of the *Happy Feet* animated features for Australian director George Miller, and his most recent big job was Miller's *Mad Max: Fury Road*, a fittingly high-speed chase film up for Monday's Best Picture Oscar.

Like all the best animators, Van Steenwyk is most successful at his job if you don't know he's doing it. “The thing you don't want [people] to see is that it's animated, so they wouldn't even recognise what I've done,” says Van Steenwyk, lighting a ready-rolled cigarette. “I've animated [*Mad Max*] characters in [*Fury Road*]'s sandstorm ▶

**STEEL HORSE** VAN STEENWYK WITH HIS PROTOTYPE MOTOINNO OUTSIDE HIS SHED IN THE SAMFORD VALLEY

sequence. In that toxic storm, the War Rig is driving along and there's another car chasing it and all the guys on the back of this car, and the car itself, get sucked up into the vortex."

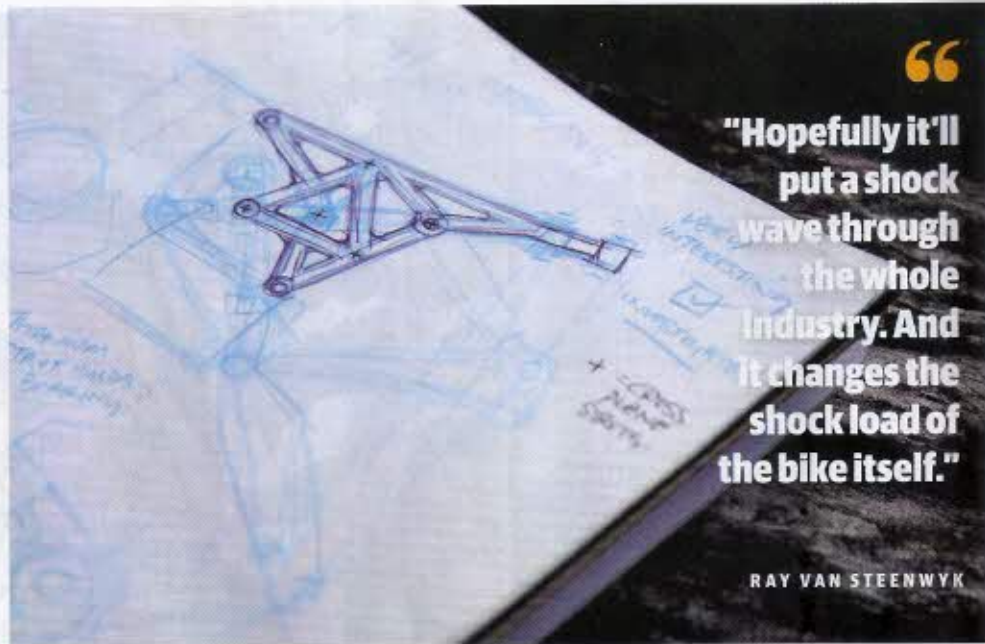
**B**ack in the mid-1990s, Van Steenwyk's life of flying around the world, working for film studios, came to a screeching halt for eight months when he was hit with chronic fatigue syndrome. Laid up, he began drawing designs for a hub-centre steered motorbike, looking for solutions to a century-old problem. Since the early 1900s, motorbikes have relied on forks to hold the front wheel in place, much like pushbikes. Any early advances or innovations were stalled by the outbreak of World War II, and attempts since then have not been too successful or acclaimed.

Van Steenwyk doodled for months before he was well enough to head back overseas for work. He couldn't find a better front-end design and it was time to refocus. "I decided to cull everything, started throwing things out, and found all the stuff I'd been drawing, looked at it all again, ready to toss it, and then on one page I saw two designs, different parts of structures – and, putting those two together, came up with this." It was his eureka moment, and the Motoinno TS<sup>3</sup> was given form. Built around a Ducati 900SS, this prototype bike has been 18 years in the designing, building, testing, and now the marketing.

In 2008, Van Steenwyk resigned from a film project in Canada and headed home to Oddy's aid. The two are longtime mates. Oddy, 64, is a film producer. Convinced of the TS<sup>3</sup>'s potential, he's on board as the venture's project manager, the administrator chasing up funds and grants and marketing ideas. Oddy was told the prototype needed building before investors would come knocking. Van Steenwyk needed to get cracking.

It's cost roughly \$1.5 million in man-hours since then and close to \$380,000 – although the duo has been helped in part by a \$50,000 grant from the federal Department of Innovation, and 45 per cent tax offsets on research and development funds. Now the Motoinno pair are closing in on the last lap of this enduro. Van Steenwyk's baby is ready to catch the eye of the motorcycling world and debut on international racetracks.

While there's often another sceptic around the corner, Van Steenwyk and Oddy are encouraged by kilometres of testing, meticulous data collection, praise from experts and the willingness of others to lend a hand. Machinist and fellow biker Gordon Ghillie made the TS<sup>3</sup>'s components gratis; and Gold Coast car racer Paul Morris allowed the pair to use his Norwell track and workshop space for two years of early testing. There's been acclaim after two visits from



**TRIANGLES IN SYMPHONY** ... VAN STEENWYK'S SKETCH OF THE REVOLUTIONARY SYSTEM THAT HOLDS HIS SUPERBIKE'S FRONT WHEEL IN PLACE.

English rider and moto-journalist Alan Cathcart: "I doubt I ever went through the [Victorian race circuit] Broadford 'esses' quicker on any of the 50 or so bikes I've ridden there down the years than I did on the TS<sup>3</sup>." The late Australian racer and motorcycle suspension guru, Warren Willing, took one look, came back the next day and apparently put it more succinctly: "It's got me f.l.k.ed."

Motorcyclife.com.au's Steve McDowall was "absolutely blown away" by the TS<sup>3</sup>. "Back it off in a corner ... it just stays there. Accelerate in a corner ... it just stays there ... Like nothing I've ridden before."

The secret to the TS<sup>3</sup>'s steering and front suspension is the triangulated system holding the bike's front wheel in place. Van Steenwyk's innovation separates the steering from the suspension and braking. "The structure looks complex but it's very simple, and that triangulation is our patent," he explains. "This doesn't set up oscillation harmonics [as it does on telescopic fork bikes]."

On a traditional set-up, any forces on the wheels are multiplied three-fold by the stanchions of the front forks. Under braking, the forks flex, horizontally and laterally. The geometry of the steering changes. "It's already a bucking bronco you have to ride by the seat of your pants – this is a very different bike," says Oddy.

On the TS<sup>3</sup>, the energy is transferred directly back into the bike down low. So this

“**Hopefully it'll put a shock wave through the whole industry. And it changes the shock load of the bike itself.**”

RAY VAN STEENWYK

bike doesn't dive nastily under brakes and the suspension doesn't send disconcerting shudders back through the bars. It turns into corners smarter and runs a tighter line. It also weighs 40kg less than the factory Ducati. This, say the Motorcycle Innovation team and the experts, is a far more stable chassis to ride. And Australian testing against a Suzuki GSX-R 750 showed the Motoinno TS<sup>3</sup> to be a second faster through every corner, the rider able to take a more predictable and tighter line; there's more turn for less lean.

Now it's off to Spain in August – once the \$200,000 budget is covered – to strut a TS<sup>3</sup> in front of a junior Moto2 series for motorcycle racers making their way, let them have a ride and compare the Australian chassis to their race-bred machines. Success there is a good way to prove to major players that this chassis tucked up in a Samford shed could be the way of the future for the motorcycling world. Win on Sunday, sell on Monday.

"The ultimate dream," says a relaxed Van Steenwyk, "is to get into major manufacturing but we also want to create our own bike to keep our boutique motorcycle company running. We'd like to build a bike around the 1200cc Testastretta Ducati, a limited run of bespoke machines, all titanium and carbon, for up to \$200,000."

And what would you call that? The answer is quick, and smart: "The Shock Wave, because hopefully it'll put a shock wave through the whole industry. And it changes the shock load of the bike itself." The self-taught engineer pops a mint into a broad smile and rolls the Motoinno TS<sup>3</sup> back into his shed of dreams. ●