



Suits you sir! Racing Dave (in Nationwide Accessories-supplied riding gear) aboard the M. S. Coombes-built Suzuki M109R trike

TWO'S COMPANY, THREE'S ... A LOT OF FUN!

Traditionally, trikes have existed in a strange sort of parallel universe to motorcycles. Not the latest, converted two-wheelers though, as Racing Dave found out when he rode Christchurch specialist Custom Sports Trikes' latest Suzuki M109R-based creation.

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Up to now, it seems that there were three kinds of road-going trikes. Firstly, there were those made from VWs (slow and ghastrly). Then there were their monstrous second cousins powered by V-8 car engines (fast and ghastrly). And closer to (our motorcycle) home there were the ones made by converting perfectly good touring bikes such as Gold Wings to three wheels (luxurious and ghastrly).

Now there's a fourth, and I quite like it.

Chris Gale is the General Manager of Christchurch engineering company MS Coombes Ltd, and together with his business partner Shane Backhouse, have seen an opportunity to produce a new category of trike, a sporting version.

They own a company called Custom Sports Trikes, and their first prototype is the machine you see here. It is obviously a converted Suzuki

M109R 1800cc cruiser, and has been certified road legal as a motorcycle. Thus, there is no seat belt, but a helmet must be worn.

When I rode Sport Zone Suzuki's two-wheeled demonstrator in 2006, I said; "The smooth running engine is splendid – accurately fueled by the injection system, it responds urgently to any throttle input. Almost too sensitive around town, there is an abundance of power for passing. In top gear, it blasts past any traffic, but if you chop it down a cog, it will rocket past. This is one hefty engine that is just as happy revving near the redline as it is thrusting through the mid-range."

HOW THEY MAKE 'EM

So this is a good choice for the trike, for as well as that great engine there is the maintenance-free shaft drive, stepped sideways by a purpose-built gearbox, to the Ford Sierra differential centered on the rear axle.

Despite the independent look, and the

exposed axles, this machine has a live rear end, and retains a swing arm that still pivots where the donor Boulevard's one pivoted, and uses the standard rear shock on standard settings. In fact, with some mechanical skill and a day's work, the trike can become a bike, as all the new parts may be replaced with the original discarded components.

Other than the shortened exhaust (which when under load at high revs produces a note similar to that of an F5000 racecar yet is near soundless when cruising), the Boulevard is unchanged from the swing arm pivot forwards.

Behind that swing arm the diff is a third lower in ratio than the original Suzuki one, so despite the increase in weight from 315kg (dry) to 440kg fully fuelled and ready to ride, the trike has excellent acceleration, yet cruises smoothly and happily at its new open-road speed limit revs of 4000 rpm.

The 215/40 x 17 rear tyres, on their custom-made wheels (which have the spokes cut to the



Dynamics earned a big thumbs up from Racing Dave



same pattern as the rear brake discs) and under their close-fitting mudguards, are narrower than the massively wide single 240/40 x 18 tyre on the M109R, but with two of them presenting their full tread width to the road, their grip is prodigious, and only under exceptional circumstances will spin occur.

HOW YOU RIDE 'EM!

Naturally, I found that circumstance, and it was on the climb to Hilltop from Little River. I'd quickly become confident with the riding style to get the best from the Suzuki's unusual handling, and although completely stable at speed on any roads, the forces at the handlebars are high during spirited cornering.

While lane changing is barely more than the result of thought, and hand pressure on the bars, to really work the M109R on a winding road takes some effort, and high G-loadings are found by high effort on the bars. Which makes me think that it will be interesting to monitor the life of the front wheel bearings.

Line selection in corners is as accurate as you wish, and bumps do not affect the steering. Interestingly, whatever the front wheel runs over makes no difference to the feel, but the action of the rear wheels over bumps can give a shimmy to the chassis. I suspect this is because of the relatively high unsprung weight at the rear.

At the same time, the steering stays unaffected, and the adjustable steering damp-

er eliminates any risk of twitching bars causing excitement in the hands of the rider.

Spirited cornering is aided by body position, so just as you might slip to one side of the seat on a motorcycle to improve cornering, so on the trike you lean into the bends.

YEP YOU STILL LEAN...SORT OF

At extreme cornering speeds I found I could nearly touch the handlebar end with my helmet, but this is only nearing the limit. On the road to Little River are many bends signposted at 55 or 65 km/h, and these can safely be taken at 100 km/h. This is unlike the two-wheeled M109R, which has severe cornering limitations imposed by its minimal ground clearance.

On the smoother corners towards Hilltop, the trike was charging up the hill in third gear, and on several bends the load on the inside rear wheel reduced enough to enable the power to overcome grip, and light up that tyre. It sounds like the clutch slips, but it's rubber against asphalt that howls, leaving a gentle reminder that maximum cornering speed has been reached.

Not what our police friends would call 'a sustained loss of traction' and all the drama they bring to that, but more a momentary unloading of grip and this is safe and controlled. It's probably unnecessary to ride like that but it's important to know what happens at the limit of traction.

The front wheel, still shod with the Boulevard's original 130/70 x 18 Dunlop,

KR TEST SUZUKI M109R TRIKE

has the same rounded profile of any motorcycle front tyre, yet gives excellent feedback over all surfaces, despite the small (compared to the two rears) amount of rubber on the road. The only time this is noticed is under heavy braking, when the two Tokico radial calipers can lock the front wheel, although without any fuss.

AND IT'S GOT A PARK BRAKE!

Although there are two four-piston Wilwood calipers gripping the discs on the back axle, their effect was not as strong as I'd like, and since my ride Chris has bored out the master cylinder from 14 to 16mm diameter, and made a new piston, to give greater stopping power. The pedal is now firm, and the brakes effective. There is also a foot-operated parking brake, looking as if it's part of the original bike, which clamps a disc just in front of the diff.

All the staff at MS Coombes have worked on this project, and are rightly proud of the result. At the recent AutoX show in Christchurch, the Suzuki was awarded the prize for Best Trike.

Most of the design and construction has been carried out in-house, including the gears in the transfer gearbox that shunts the drive from the motorcycle drive shaft to the car diff. Four gears are required, as the rotation direction of the shaft must be reversed (or we'd have the fastest backwards-driving trike in the world), and the compact nature of the room available. Production versions of the Boulevard will have this gearbox built in aluminium, and with more finning for better heat dissipation.

WHAT, NO REVERSE?

The trike has no reverse gear, which is not an issue. Like any other heavy bike (Gold Wings excepted), you plan your moves, and when stopping must not allow the trike to face downhill in an area where you might become trapped. The steering lock, even with the wheelbase 50mm longer than the donor M109R, is such that U-turns can be accomplished on narrow country roads without using the gravel verge, so (dare I say it?) common sense will dictate parking manoeuvres.

While this prototype has no pillion pegs or luggage carrying capacity, both are choices that a potential buyer may consider, for Chris, Shane, and the staff at MS Coombes (344 St Asaph Street, Christchurch, phone (03) 366-7463) are in business to produce any such options that a customer desires. The trike's price is \$45,000 + GST, which, of course, includes a new 1800cc Boulevard. There is a DVD available for those with serious intent.

I may have been a bit harsh in my opinion of the various other three-wheeled conversions I've seen, but this Suzuki is genuinely sporty, well designed and well made, and a credit to the enthusiasm and skill of its builders.

I'd previously wondered why someone might ride a machine with all the disadvantages of a bike, and none of the advantages of a car, and now I know – despite the inability to lane-split or filter, it's great fun and a valid alternative to a motorcycle for those looking for something a bit different.

Try it; you might like it. 

SPECIFICATIONS SUZUKI BOULEVARD M109R TRIKE

ENGINE

Type: Liquid-cooled 54° DOHC 4-valve V-twin 4-stroke
 Displacement: 1783cc
 Compression ratio: 10.5:1
 Bore x stroke: 112 x 90.5mm
 Starting system: Electric
 Engine management system: CDI
 Fuel system: Fuel injection
 Clutch: Wet multiplate
 Transmission: 5-speed
 Final drive: Shaft

FRAME

Type: Tubular steel
 Swingarm: Modified production item
 Front suspension: USD-type telescopic fork
 Rear suspension: Link type w/ single coil-over sprint/damper unit

Brakes: Twin disc front, twin disc rear
 Wheels: Cast aluminium 18 inch front & twin 17 inch dia. rear
 Tyres: Single Dunlop 130/70-18 front & twin 215/40 x 17 car tyres rear

DIMENSIONS

Seat height: 705mm
 Wet weight: 440kg
 Fuel tank capacity: 19.5l
 RRP: Base bike \$20,990
 Trike-spec as delivered \$45,000 +GST

GEAR

Test bike: Custom Sport Trikes
 Helmet: AGV
 Leathers: AGV Sport
 Boots: Exustar
 Gloves: AGV Sport



Attention to aesthetic as well as mechanical detail has resulted in a Trike which combines the best features of a big-bore custom cruiser with those of a four-wheeler. Registration situation means that the Boulevard M109R trike is still thought of as a 'motorcycle' yet it will never fall over if you forget to put the stand down. Engineering nous of men behind the project is obvious both from the workmanlike way in which the final product has been presented to its ability to cover ground quickly and efficiently

