

BLOW BY BLOW ACCOUNT

If you've recently returned from an extended stay on another planet, you could be forgiven for thinking that Pat Jackson's Formula 27 Blade pioneered the installation of a bike engine in a kit car. Not so as the Triking has been doing it for twenty years.

Words and pictures: Ian Hyne

But of course, there's a difference. While today's crop of ultra-high revving, multi-cylinder, multi-cam, multi-valve, big power superbike engines represent the cutting edge of two-wheeled technology, the Triking's Moto-Guzzi Vee-twin is stone-age in comparison. Push-rods and two-valve heads can't match the screaming power outputs of modern motorcycle muscle such that you'll never see a Moto Guzzi lining up on a World Superbike grid. It leaves that to parent company Aprilia so where, one might ask, does the Moto Guzzi fit into the market place? Well, it's a rugged, robust and reliable sports touser which, although lacking the ultimate punch of its twenty first century stablemates, is still no slouch. Despite its lesser complement of between 75 and 90bhp, it has good, solid torque and you can open the throttle at around 50mph and top gear

will see it all the way to 110 where it will happily sit all day long.

These performance talents coupled with its transverse lay-out and shaft drive made the Guzzi engine a perfect candidate for the Triking when Tony Divey first penned his Morgan inspired trike all those years ago and it's a unit that has given sterling service ever since. The original 850, 950 and 1,000cc twin carburettor engines have now given way to the 90bhp 1,064cc Efi unit and though it gives a little more power to the 800lbs trike, it's still not enough for some.

While Tony Divey's personal development programme has taken him down the route of ever lighter weight and pretty standard engines in his 600lbs Triking Superlite project, the other half of Triking in the form of Alan Layzell, has been down the route of more power. Lots of it. For this he has built a

special engine round an Eaton twin-screw supercharger normally seen attached to the V8 of an Aston Martin or Jaguar XK8. The result as far as the rolling road could record before the trike parted company with the roller was 128bhp @ 6,800rpm and 101ft lbs @ 4,150.

In respect of power, there's definitely more in there. Even though the blower is only set at 1/2 bar boost, they reckon there's a good 140bhp in the machine and while 140bhp is top territory for a four Guzzi twin, it's the solid torque that is the blower's outstanding contribution. From 3,000 right up to 6,500 it's giving over 100ft lbs.

So what's Alan done and how has he done it especially as a significant proportion of opinion said you couldn't blow a Vee-twin due to the uneven pulses and the engine's natural vibration? This engine represents a couple of years of solid research, tinkering, experimentation and special parts manufacture. The basis of the unit is an 1,100cc Guzzi block and crank which has been polished and balanced. To cope with the higher revs, it has Carillo rods with special American manufactured pistons which lower the compression ratio to 8.5:1 and up the capacity to 1,230cc. The camshaft is a one-off designed and manufactured by Alan Allard whose father's book is still the best source of information and guidance on forced induction engines.

The timing gear has been changed to a gear-driven system rather than by chain but the distributor remains a mechanical unit with a modified ignition retard mechanism. Although it works fine, Alan acknowledges that an electronic system would be preferable.

On top of it all sits the M92 Eaton twin-rotor blower which is belt-driven off the modified crank. It sucks through a 1 3/4" SU carburettor and force feeds the motor at 1/2 bar pressure while it has a maximum boost pressure of 30psi.

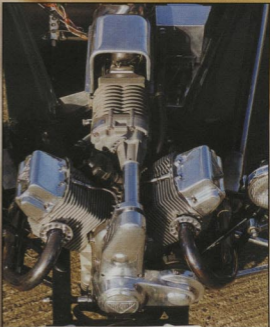
The result is a fine example of slightly flawed mechanical genius A) because the increased power exacerbates the grip problems of all single rear-driven trikes in creating a massive superiority of the former over the latter and B) because the engine is not cost-effective to produce. That said, these slight practical peccadilloes in no way detract from the huge excitement and equally great enjoyment of driving it.

On top of the engine, this car with its highly appropriate registration number of V2 TRK is fitted with the full monty in terms of Triking's extensive extras list and tops out at about £24,000. It's got a Ford five-speed box in place of the old Toyota unit that used to provide the alternative to a non-reverse equipped motorcycle linear box. It also has 11" floating front discs clamped by four-pot aluminium calipers. It has a painted finish in British Racing Green which brilliantly shows off the polished metal of the wheels and engine especially on a sunny day and it has that distinctive private registration plate.

On first sight, the car doesn't look any different to a standard Triking. It's only as you take a closer look that you notice the absence of the twin carburettors poking from behind the cylinders and take in the extended snout of the blower drive poking out from under the apron of the bonnet panel and disappearing into the drive-belt cover casting fitted to the front of the engine.



Other than the drive-belt casing and the oil cooler, there's little exterior sign to betray the presence of the supercharger. ...



... but lift the bonnet and it's a different story. The installation is beautifully engineered and manufactured. It works beautifully too.





Indeed, hop aboard and set off at a moderate pace and there's little to betray the presence of the blower other than in an enhanced smoothness to the engine's normally staccato beat. That said, it's exactly what Alan was seeking to achieve. He didn't want all that power arriving in a surge. Instead he wanted solid power and torque when he felt like using it and that means from 3,500rpm upwards. And he's got it.

This is without doubt the smoothest Triking I have ever driven for both ride and engine refinement. It's a combination that puts you at ease and when a car feels this good and there's little or nothing on the rural Norfolk roads, you give it a bit of throttle. At 800lbs, a standard Triking with about 80bhp gives you 220bhp per ton so it's far from slow. Even though peak power comes between 6,000 and 7,000rpm, it's still quick at the bottom end. The blown car is a bit more so but when you hit 3,500rpm, it comes on song smooth, strong and right up to 6,500 where it starts to tail off. Just as well really as once an engine is blown it'll carry on revving until the valves bounce. They reckon this one is good for up to 10,000 but if the power's no longer coming there's little point in keeping your foot down. When you go up a cog, you get that wide band of torque all over again.

Any snags? Not really. Theoretically, supercharging produces turbo-lag in reverse. Being belt-driven from the crank, the additional power and torque is ever present but if you're flat-out and suddenly lift off, the blower still has a charge of fuel/air mixture to force into the cylinders, thus physics says the engine could give the brakes a hard time initially. Indeed, Tony Divey recalls a supercharged Alfa Romeo that regularly displayed this mechanical Achilles' Heel which caused a few unscheduled collisions. That said, it's not a trait that seemingly manifests itself in spirited use of the supercharged Triking on which the brakes are superb. Like turbos, superchargers can create excess heat but under the cow of the Triking, it's well cooled by the air that whistles round it.

What you do notice as your confidence builds is the ease with which rear end grip can be broken. With such a solid and controllable front end, you are soon piling into the bends with little complaint but even gentle throttle for the exit can have the back tyre skating round as you opposite lock to keep it all on track. It's far from alarming as the Triking is a beautifully balanced car that displays enormous feel. But it's not just in the corners. As I was building my confidence to work the blower, I never had the throttle anywhere near the limit of its travel. And with such solid thump coming from up front, the inescapable conclusion was that any more urge from the driver's right foot would have the wheel spinning all that urge away.

The back end is the standard Moto Guzzi, swing arm which limits the size of tyre that will fit between its forks. Depending on the make, the fattest tread comes from a 155 or 165 70x15" and it's just not enough to contain the urge that's generated up front. The second chink in the car's performance armour is that it doesn't like low revs and high gears. Alan is well aware of this and already has plans to modify the car's gearing to solve what is a pretty simple problem to overcome.

Overall, I thought this car was terrific, small warts and all. It speaks volumes for the technical and manufacturing expertise that has kept Triking firmly at the top of the three-wheeler tree throughout its life and it's a shame the car seems likely to remain a one-off. Even so, that doesn't mean Triking performance has reached the limit of its development. Tony Divey's development path of reduced weight has shaved 200lbs off the car's standard complement and got it down to just 600lbs which, with a standard 80bhp engine is delivering nearly 300bhp per ton. In addition, he's modified the drive to incorporate a chain-driven Sierra differential with a third disc brake at the back. The new rear end can take a much fatter 205 section tyre to go some way towards reducing the grip problems of a potent trike but you still need to be on your toes. The only slight drawback is that it's very much a stripped out racer while Alan's approach retains the Triking's comfort and civility.

So, if you would like to examine a unique vehicle and possibly make it your own, give Alan a ring as, having overcome all the technical challenges the project threw up, like all development projects, it has served its purpose as far as the company is concerned and is now surplus to requirements. But I warn you, it's not cheap. Without the engine the car stands at over £20,000 so be prepared for a sizeable bill. Of course, you're welcome to haggle but, nice lad that he is, Alan's still a hard commercial nut. That said, if you do strike a deal, you'll drive away in a unique car that the same amount of money will never again be able to buy.

For full details contact Alan Layzell or Tony Divey at Triking Cyclecars, Marlingford, Norwich, Norfolk NR9 5HU. Tel: 01603 880641.



The rear aluminium cover lifts off to reveal the 1 3/4" SU carburettor and air filter lying neatly on the tunnel top.



Even though the Superlite has comparable performance, it's a stripped out racer while Alan's approach retains the Triking's comfort and civility.

