

## Chapter two

# A brief history of three-wheeling

It is generally agreed by non-French motoring historians that the world's first motor car was the Benz Patent Motorwagen of 1885/1886. It was undoubtedly the first commercially available vehicle powered by an internal combustion engine.

This two-seater, weighing only 584lb (265kg), about half the weight of the modern 3 Wheeler, owed a lot to bicycle design, cycling having been a hobby of Karl Benz. The Motorwagen had three wheels, much like bicycle wheels. The front of these was steered by a tiller and the two rear wheels were driven via chains by what would today be called a mid engine.

Thus the first Benz had more in common, especially in its basic configuration, though not its intention, with modern American 'trikes,' or with the Trotter family's infamous delivery van in the British television series *Only fools and horses*, than with any Morgan three-wheeler.

Americans, perversely, refer to the M3W, which has two steered front wheels and a single driven rear wheel, as a 'reverse trike,' though Morgan three-wheeler enthusiasts ancient and modern assert that it is the Yanks (and Karl Benz) who put the single wheel at the wrong end.

In a series of scientific experiments, Jeremy Clarkson, the world-famous television clown, proved conclusively in his definitive review of the Reliant Robin that Karl Benz was lucky to have got away with it. Of course, in the 19<sup>th</sup> century there were neither product liability laws nor ambulance-chasing lawyers.

However, in one of many unusual and ironic twists in the tale of the modern Morgan 3 Wheeler, the existence of American trikes proved useful in the development of the Liberty ACE, which was without question an essential step in the story, though the Morgan Motor Company never went out of its way to acknowledge this debt.

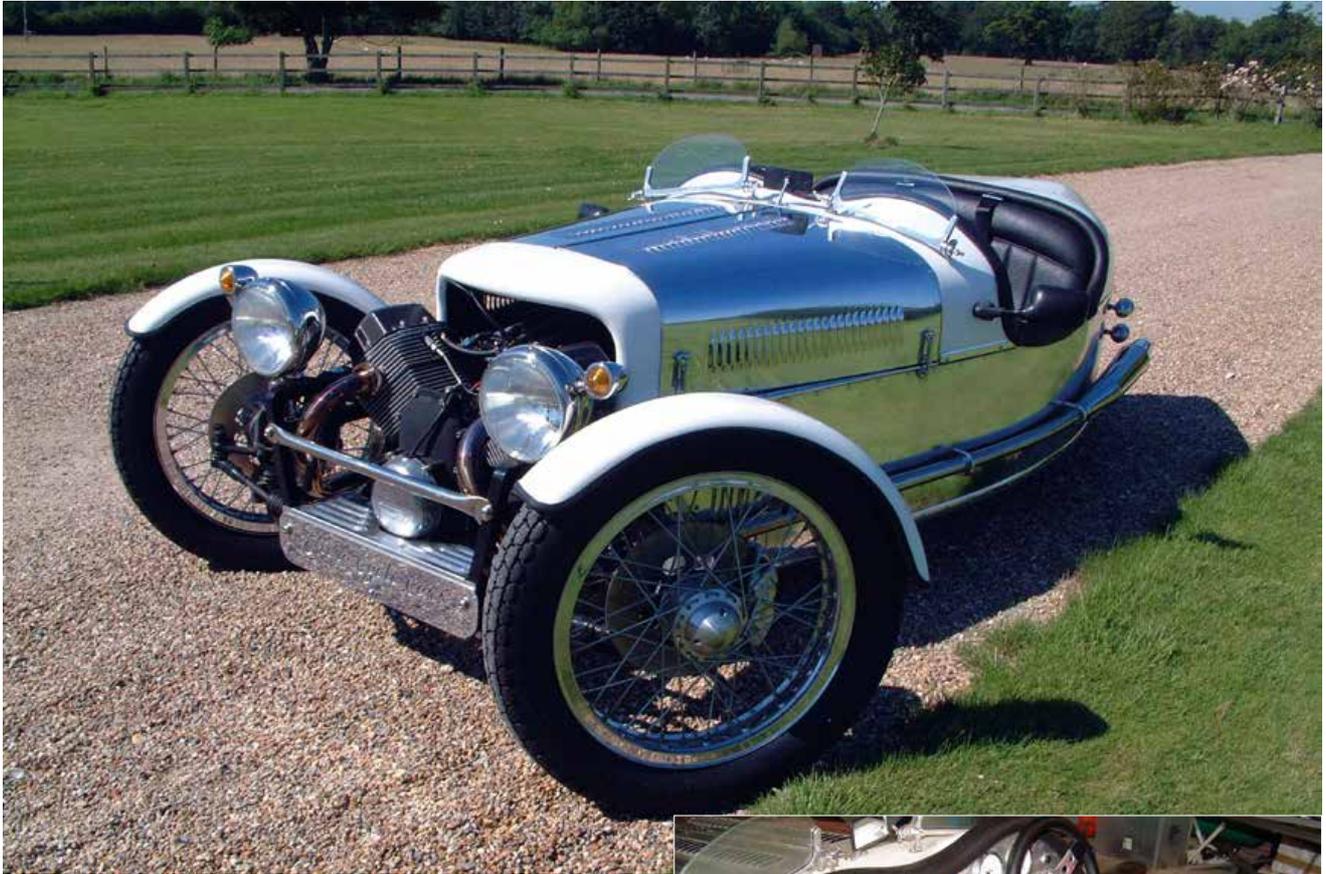
Was that first Benz really a car? Definitely, according to motoring historian Nick Georgano's introduction to *The Beaulieu Encyclopaedia*

*of the Automobile* (The Stationery Office, 2000), in which he eruditely argued with himself about what should be included in the authoritative three-volume set of doorstops of which he was Editor-in-Chief:

"A more difficult problem is posed by the distinction between a tricycle and a 3-wheeled car. Early tricycles, such as the De Dion Bouton, were no more than motorcycles with a third wheel, but from about 1903 a type of vehicle appeared which used the frame, saddle, engine and final drive of a motorcycle with two wheels in front, and a body, often of wickerwork, for a passenger. Known as tri-cars, they were still of motorcycle descent, but gradually the driver's saddle became a seat and the handlebars were replaced by a steering wheel, giving them the appearance of a tandem car on three wheels. With makes such as Riley, it is impossible to decide at which point they became cars."

Probably the first British attempt at a production car was the Knight. Built in Farnham, Surrey, from 1896, it was also a tricycle, based on the Benz model with one front wheel. It was produced in very limited numbers before the Knight company switched to four-wheelers and then quietly evaporated.

H F S Morgan was not the first engineer to produce a 'reverse trike.' That achievement should be credited to a gifted English engineer named Edward Butler (1862-1940). His Petrol Cycle was produced by the Merryweather Fire Engine Company in Greenwich (south London). It went on sale in 1888, though it is not clear whether anyone ever bought one. In fact, Butler had displayed his first prototype at the Stanley Cycle Show in London in 1884 – so, at that stage, he was ahead of Karl Benz, conceptually as well as chronologically. If he had continued, I am confident that he would have become convinced of the



*The Aero Merlin, with Moto Guzzi engine and driveline, in production since 1992. (Courtesy Arthur Rayner)*

“Divey recalls: ‘He said, ‘Gawd, what is that?’ then jumped into it and disappeared up the road for ages – I was quite worried, and so was Colin Chapman when he appeared. Eventually, Chapman had a drive as well and both men pronounced the Triking a great little car.”

That original prototype is claimed to have covered more than 600,000 miles (almost a million kilometres), which makes it in all probability the world’s most-travelled three-wheeler.

The Triking currently produced is essentially the same as that 1978 model, but it has been developed steadily over the years. The biggest

*Aero Merlin interior, with circle-polished dashboard, a feature which also appeared in the Liberty ACE. (Courtesy Arthur Rayner)*





*Stealing the show – Matthew Humphries and Robert Gibson at the unveiling of the new M3W at the 2011 Geneva Salon; both have since left Morgan. (Courtesy MMC)*

new 3 Wheeler. Many people were, and still are, under the impression that the MMC had literally started with a blank sheet of paper.

In the end, very little, if anything, of the ACE made it through to the Morgan assembly line. Or at least, there's nothing obvious at first glance, and all the components in the driveline are entirely changed from nose to tail. I shall return to this point later in this chapter.

Starting from the front end, apart from the S&S engine with its wider Vee, which is there because the MMC could not reach an agreement with Harley-Davidson, both the standard version and subsequent variations of the Morgan's exhaust system are unlike the ACE's pipes.

The double-wishbone front suspension designs are similar in dimensions and construction, but Morgan made some serious errors in deciding the ride height, and made a specific and obvious error in

the original design of the steering arms. The ACE's steering rack is mounted low down, ahead of the engine, while the Morgan's is higher and behind the engine.

Mark Reeves emphasizes Matthew Welch's remark that Morgan did not like the forward-mounted rack, feeling that it gave a " ... kit-car look." However, the ACE's suspension/steering layout looks geometrically sounder. Pete Larsen says that it would have been relatively simple to mount the steering rack behind the engine on the ACE, though he concedes that it would allow " ... a very small window to locate the rack." The ACE also has slightly wider, smaller-diameter front wheels.

The bodywork is not radically transformed, but again the details are changed. The dummy radiator of the Morgan, behind the engine, is wider and of an altered design, while its beetle-back is raised and its curvatures more complex.

*On their grand tour, Mr and Mrs Reid of Dumfries and Galloway in their M3W, with Fairbourne screens, and the Superdry of Monsieur et Madame Mouren of the Var.  
(Courtesy Donald Reid/Raphaël Mouren)*





*Reeves' highly modified 2012 M3W, with 128in<sup>3</sup> engine, reduced ride height, adjustable dampers, smaller wheels, and no mudguards. Note the slip angle of the loaded tyre. (Courtesy Jay Stride/MMC)*