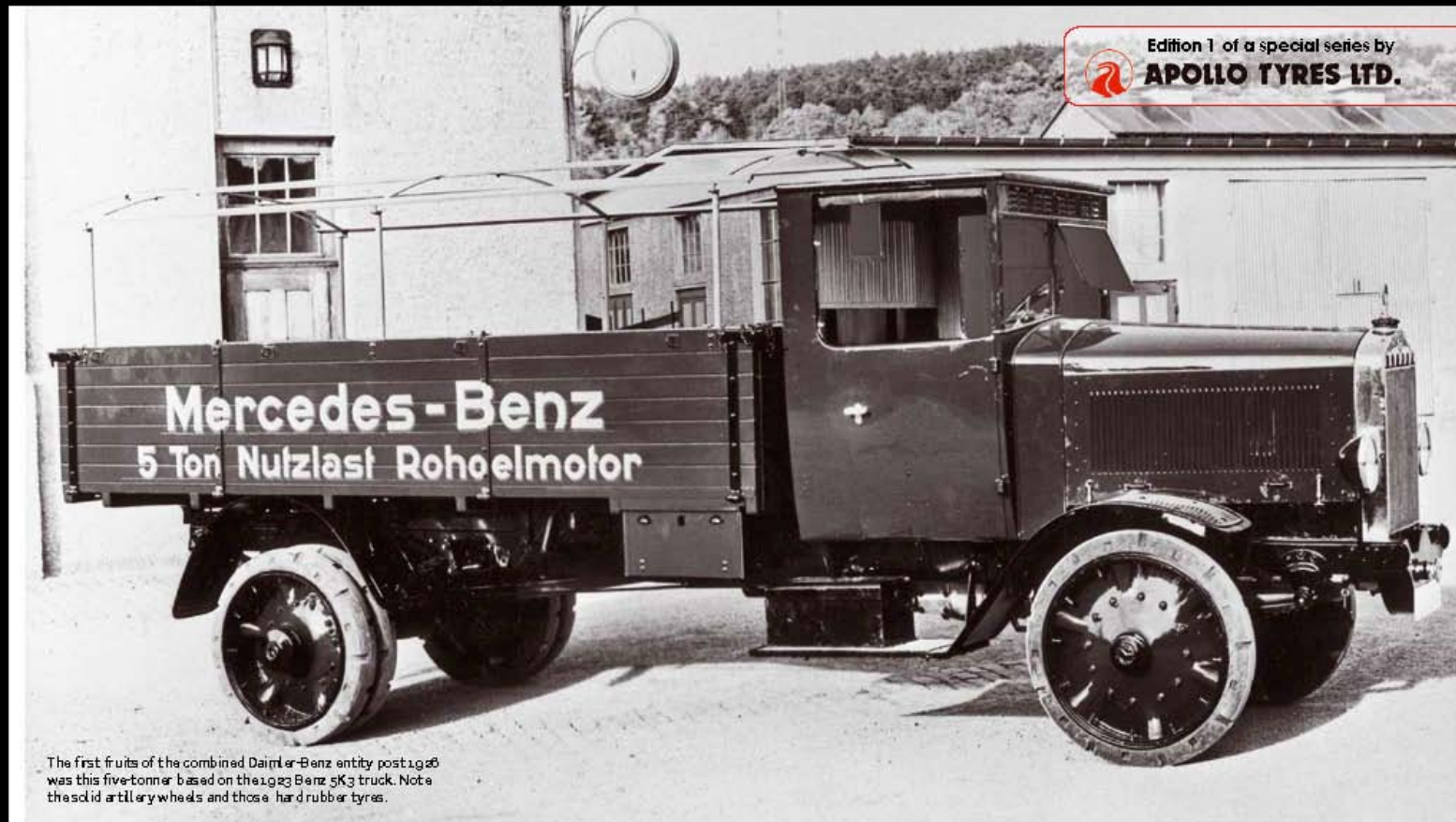


**UNSTOPPABLE**

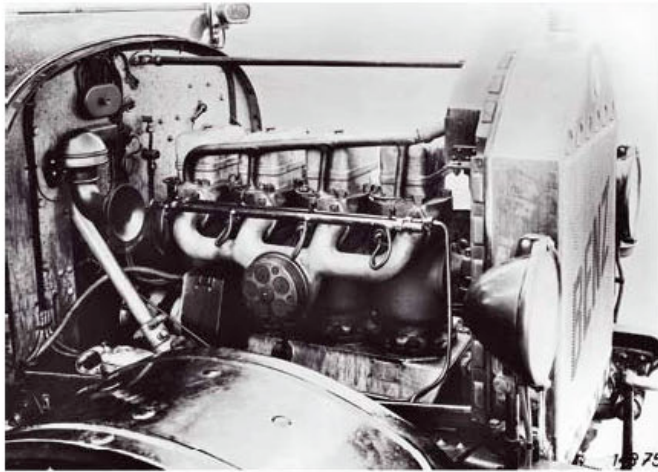
## **CVS GO DIESEL!**

Diesel as a load propellant appeared on the scene in 1923 with Benz introducing a 5-tonner followed almost immediately by Daimler and then by MAN. Pre-chamber combustion and direct injection got loads off the ground and the haulage business has never looked back from this fuel since then.



Edition 1 of a special series by  
**APOLLO TYRES LTD.**

The first fruits of the combined Daimler-Benz entity post 1926 was this five-tonner based on the 1923 Benz 5K3 truck. Note the solid artillery wheels and those hard rubber tyres.



Uncluttered and uninhibited in its layout was the large four-cylinder 8.8-litre Benz diesel engine which powered the 5K3 truck of 1923. This engine used a Bosch injection system, had a prechamber compressor design and developed 45-50 hp at the then dizzy engine speed of 1000rpm. Truck design then was simply a large scale enhancement of the typical car front end from that era with normally a flat bed load body or a drop side body fitted to haul goods.

Once the torque thrust of the diesel was established on trucks it was but a matter of time before it got applied on to tractors - both industrial and agricultural. Again Benz was in the forefront of this activity and as the pic depicts the traditional form and layout of the tractor was already taking shape barring the solid steel wheels of course.



## APOLLO TYRES LTD.

### UNSTOPPABLE

Never wary of progress, never skeptical about success, Never scared of challenges, never tired of trying, Every step of the way we travel with our customers, On the "unstoppable" journey to success.

The story of the automotive road haulage industry is as old as the automobile itself. In fact the internal combustion engine and before that the steam engine had raised visions of making horse drawn goods movement redundant. In the early stages of development the automobile flattered only to deceive but as engines became more robust, ignition got more consistent and engineers began playing with chassis strength and length, omnibuses for people movement made an appearance followed immediately by vehicles for the post offices. These early postal vans were the first goods carriers in the world and all of them used the spark ignition engine.

To many in the industry the high torque needed to move laden vehicles was just not forthcoming in the spark ignition motors (read that as petrol engines) and in fact one Rudolf Diesel's "engine with compression ignition" (as the patent granted to him for this propulsion system in 1892 stated) seemed to have far more promise. Diesel had made a huge stationary self-ignition engine in 1893 at the MAN (Maschinenfabrik Augsburg-Nürnberg) works and this used an injection compressor to feed highly compressed fuel into its combustion chamber. It was a good beginning and the engine worked though early versions had a tendency to self-destruct on the test beds due to the strong vibrations. Even though it was great at delivering high torque its very size made it unviable for fitment in cars or trucks and it found its first application in the marine world.

Rudolf Diesel however was undeterred and he knew that his engine would have an automotive advent and soon. In fact in 1913, just a few months before his tragic death, he wrote: "the automobile engine will come, and then I will consider my life's work complete."

It was exactly ten years after his death that such an eventuality manifested itself. The credit of putting a diesel truck into series production goes to Benz & Cie. of Mannheim, Germany. Do note that the Daimler and Benz merger did not happen until 1926 and Benz was the major driver in diesel engine technology then. In fact it was Prosper L'Orange an employee with Benz who was at the forefront of trying to make Rudolf Diesel's dream come true. He began experimenting with more compact diesel engines suitable for use as motor vehicle propulsion systems. In 1909 he invented the prechamber injection process and patented the prechamber diesel engine. In the following years, L'Orange achieved three further breakthroughs - the funnel prechamber, the needle injector nozzle and the adjustable fuel-injection pump. These technical advances helped Benz to make many diesel engine truck prototypes in the period 1919 and 1921.

By 1923, Benz & Cie were ready and the first production diesel engine truck - the 5K3 - rolled out onto the market. This was equipped with a four-cylinder, 8.8-litre capacity prechamber diesel engine which produced anything between 45 to 50 bhp at 1000rpm. Even at that early phase in the life of the diesel engine, it was clear that it had an advantage over equal capacity petrol units: it required approx. 25 per cent less fuel than a comparable 5-tonner running on petrol.

Daimler Motoren Gesellschaft got cracking as well with its own diesel but after the two companies merged in 1926, the Benz diesel technology was adopted on all Mercedes-Benz trucks from thereon. MAN also got in almost immediately on diesel CVs and for both companies yet another famous name - Bosch - came across to help carry the mantle of diesel forward. From that day till today no one has been able to match diesel in the truck and bus world.