

Setting a Hundred-Year Standard

Remembering Panhard and Levassor, the company that invented the first manual transmission.

Alex Cannella, Associate Editor

20th century French automobile company Panhard and Levassor were always unconventional.

Sometimes, their deviations from the norm didn't quite pan out. For example, one car, the Panhard and Levassor Dynamic, featured the driver seat in the middle of the car, with passengers on either side, for a few years before the design was scrapped as awkward and impractical.

But while Panhard and Levassor's innovations sometimes ended in a few evolutionary dead ends, some also resulted in a lot of the automotive industry's first big steps that are still standard practice today.

They were the first to start mounting the engine on the front of the car. Before the turn of the 20th century, when automobiles were more still mostly motor buggies, the engine was often mounted behind the driver's seat. Levassor, the designer of the duo the company was named after, had been frustrated by previous, unsuccessful automotive designs that followed in the common rear-engine tradition of the day. So instead, he mounted a Daimler-patented 1.2 liter V-twin engine to the front of the car and connected it to a rear-wheel drive to work, a setup known as the *Système Panhard*. Even if you don't know it by name, you're no doubt familiar with it. After all, a lot of modern cars have been built on its basic principles.

Panhard and Levassor's *Système Panhard* might be the company's most well-known concept, remembered for the many firsts it brought to automobile design that have become ubiquitous today. But the *Système Panhard* also contained a world first that is of particular interest to us gear folk. Levassor replaced the then-traditional belt drives with the world's first ever manual transmission and clutch on an automobile.

It was just a simple three-speed sliding gear transmission that could never hold a candle to anything on the market today. But the *Système Panhard*'s transmission was the dominant design up until 1928, when Cadillac innovated upon it with the synchromesh transmission, and conceptually, it remains the embryonic foundation for many of the basic principles for most transmissions we build today.

Within a decade, the *Système Panhard* had been adopted by most major car manufacturers, including Daimler themselves, as well as their main competitor at the time, Benz. Levassor himself went on to popularize his system's design by driving his own cars on several cross country races, most notably winning a 730-mile race from Paris



to Bordeaux and back, before the hobby ultimately claimed his life in 1897 in a fatal racing accident. Panhard, the other mind of the pair, would pass on, as well, a decade later.

The company's innovations didn't stop after its two founders had passed, however. Most notably, they eventually developed the "Panhard rod," an early suspension rod that you can still find on some cars today.

But here again, Panhard and Levassor the company continued to put out less well-known innovations for transmission systems. It was never anything huge or flashy, but fundamental steps forward towards what we commonly recognize today as a modern transmission. Enclosed gearboxes in 1895. Quadrant changing four-speed transmissions in 1903. Gated manual shifts in 1910. The list goes on, and certainly isn't limited to just transmission technology.

After WWII, Levassor's name was eventually dropped from the company title, and Panhard continued making cars until 1967. The company's glory days as a trendsetter well behind it, it was absorbed by Citroën and has been bouncing around since until it most recently ended up in the hands of Renault Trucks Defense, part of the Volvo Group.

Ironically, the trends the company set have outlasted the company itself, and will continue to do so long into the future. But that's no reason to forget the names of both the company and the inventors that created the foundation for the modern automobile: Panhard and Levassor. ⚙️

