



# SHIFT

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## EVOLVING MACHINERY

The automobile has made great leaps and bounds over time, from the very first Motorwagen designed and built by Karl Benz to the speed chasing machines of the 90's. We list the greatest advancements in automotive technology over the years, and wrap up 2015 and usher in 2016 with a two part series. The first part covers the very first automobile, all the way up to the hybrids emerging at the close of the 20th century.

SHAER REAZ

**KARL BENZ MOTORWAGEN – PETROL ENGINE.**  
The genius of German inventor and engineer Karl Benz gave us the gift of petrol power with what many regard as the very first automobile, employing an internal combustion engine driven by a gearbox. It may have had three wheels and only 2 horsepower, but the format was essentially the same for every automobile afterward.



**FORD MODEL T - PRODUCTION LINE**  
It not as special as special as the way it was produced: Henry Ford completely revolutionised the automotive process by automating employing division of labour. The Model T was the very first mass produced vehicle and its importance and is hard to understate.



**FERRARI F40 - FIRST CAR TO BREAK 200 MPH**

The F40 was a beast among machines, and in 1988 was the first road car to cross 200 mph, thanks to a turbocharged V8. It

looked gorgeous and was responsible for kicking off the speed race that would last well into the mid-90's.

**CITROEN TRACTION AVANT – FRONT WHEEL DRIVE**  
The Traction Avant pioneered the idea of front wheel drive and forever changed the face of economy car design in today's world. Built as a way to gain more traction on the uneven roads of the 1930's, the Citroen was groundbreaking. The DKW Front came first,



**MERCEDES BENZ 260D – DIESEL ENGINE.**  
The first diesel engine was brought to the market by Mercedes Benz in 1936, and although that particular model was quite popular, the diesel trend would not catch on till decades later. They were sooty, inefficient and noisy, but they were significant.



**PORSCHE 959 - TWIN TURBO**

The 959 was the ultimate Porsche supercar for the road of its time, and was packed with tech that reshaped

supercars that came after. AWD, smart adaptive suspension and more aside, the 959's party trick was it's twin turbo setup.

**MICHELIN – RADIAL PLY TYRES.**  
Michelin introduced the first radial ply tyre in 1948, although they weren't popular before the 1960's. Road-holding and safety was much improved and tyre technology leapt forward.



**SAAB 92 – SAFETY CAGE.**  
The Swedish disposition for enhancing the safety of vehicles they produced can be tracked back to their generally harsh driving conditions, and Saab was an early innovator with their safety cage. It was an early version of the chassis construction found on modern cars, and protected passengers in the event of a roll-over.



**NASH STATESMAN – SEATBELTS.**  
The name was bureaucratic and so was the car. To keep America's bureaucrats and federal agents safe (not that they went around chasing criminals too much), the now defunct Nash added lap seatbelts that would morph into the modern 3-point restraining system, the first of which was available on the Volvo Amazon.

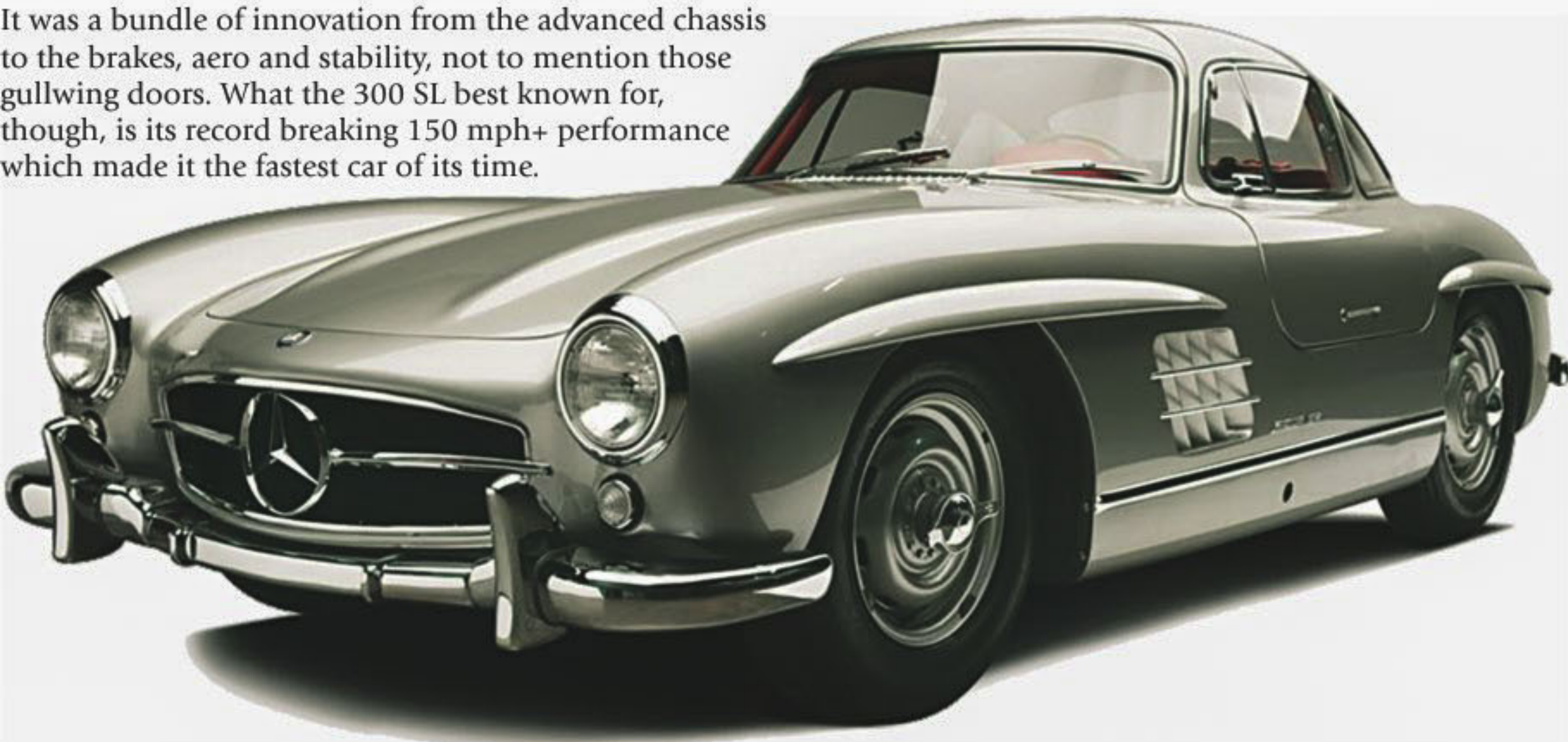
**BUGATTI EB110 – QUAD TURBO.**  
The 90s speed obsessed world saw a brief revival for Bugatti after more than 6 decades, and the result was a quad turbo monster that became the fastest car in the world...for three minutes. Or so it seemed. The engine would

serve as the basis for the Veyron's world conquering abilities, and is extremely important. Add that to the fact that it relaunched

d one of the biggest automotive names in the formative years of the automobile, and its clear why it needs to be a highlight.



**MERCEDES 300SL – FIRST CAR TO BREAK 150 MPH.**  
It was a bundle of innovation from the advanced chassis to the brakes, aero and stability, not to mention those gullwing doors. What the 300 SL best known for, though, is its record breaking 150 mph+ performance which made it the fastest car of its time.



**MCLAREN F1 - FIRST CAR TO BREAK 230 MPH**  
The F1 needs no introduction, the fastest road going vehicle for almost a decade till the Veyron showed up. It had a gold plated BMW developed V12 that is still regarded by many as the greatest engine ever made. The impact the F1 had can be easily gauged by how well even non-car geeks recognise the car, largely thanks to the Need For Speed II game.

**JENSEN INTERCEPTOR – ANTI LOCK BRAKES.**  
The Interceptor was a weird mishmash of automotive genres: American V8 mowwoar, European handling and thuggish but sleek looks. Underneath it all was a feature that is as common today as it is important: antilock brakes.



**ACURA LEGEND – SATELLITE NAVIGATION.**



The Acura Legend, along with the Lexus LS, redefined executive level luxury worldwide and both were first attempts at luxury automobiles by mainstream brands, Honda and Toyota respectively. The Legend was stacked with electronic gadgetry, the fanciest of which was the satellite navigation. It made buyers feel like James Bond, the car telling them where to go and how to get there. Needless to say, the Legend was a huge sales hit in the US, where a complacent German luxury car industry allowed Lexus, Acura and eventually Infiniti to dominate from the get-go.

**ALFA ROMEO 156 - FIRST COMMON RAIL DIESEL ENGINE**

Co-developed with Bosch, the Fiat developed common rail diesel was a late advancement on the age old diesel formula. It made diesel engines considerably more efficient and environment friendly, leading to a massive shift towards diesel cars in Europe. The common rail diesel now powers everything from SUVs to family movers, with Volkswagen mired in scandal as well.



**TOYOTA PRIUS - FIRST MASS PRODUCED HYBRID**

People may hate the Prius, but there is no doubt the Toyota played a huge role in the push towards environmentally friendly vehicles. It's what created the whole "planet saving" hype, and led to the all-electric and alternative fuel heroes of today. The Prius would shape the rest of the 2000's.



**OLDSMOBILE TURBO JETFIRE – TURBO-CHARGING.**  
The first production turbocharged car is often mistakenly attributed to Porsche, but the Jetfire had a turbo in 1962. The modestly (!) named Jetfire was meant to be a technologically superior muscle car but it sank into the depths of anonymity and America just as quickly moved on from turbocharging.

**OLDSMOBILE TORNADO – AIRBAGS.**  
Another modestly named Olds was the first car to come with airbags (for the passenger), and like any other Oldsmobile, people neither cared nor bought one. It was a typical American land yacht and although popular among affluent Americans, it never had much of a following.



We wish our readers a Happy New Year. See you in 2016!