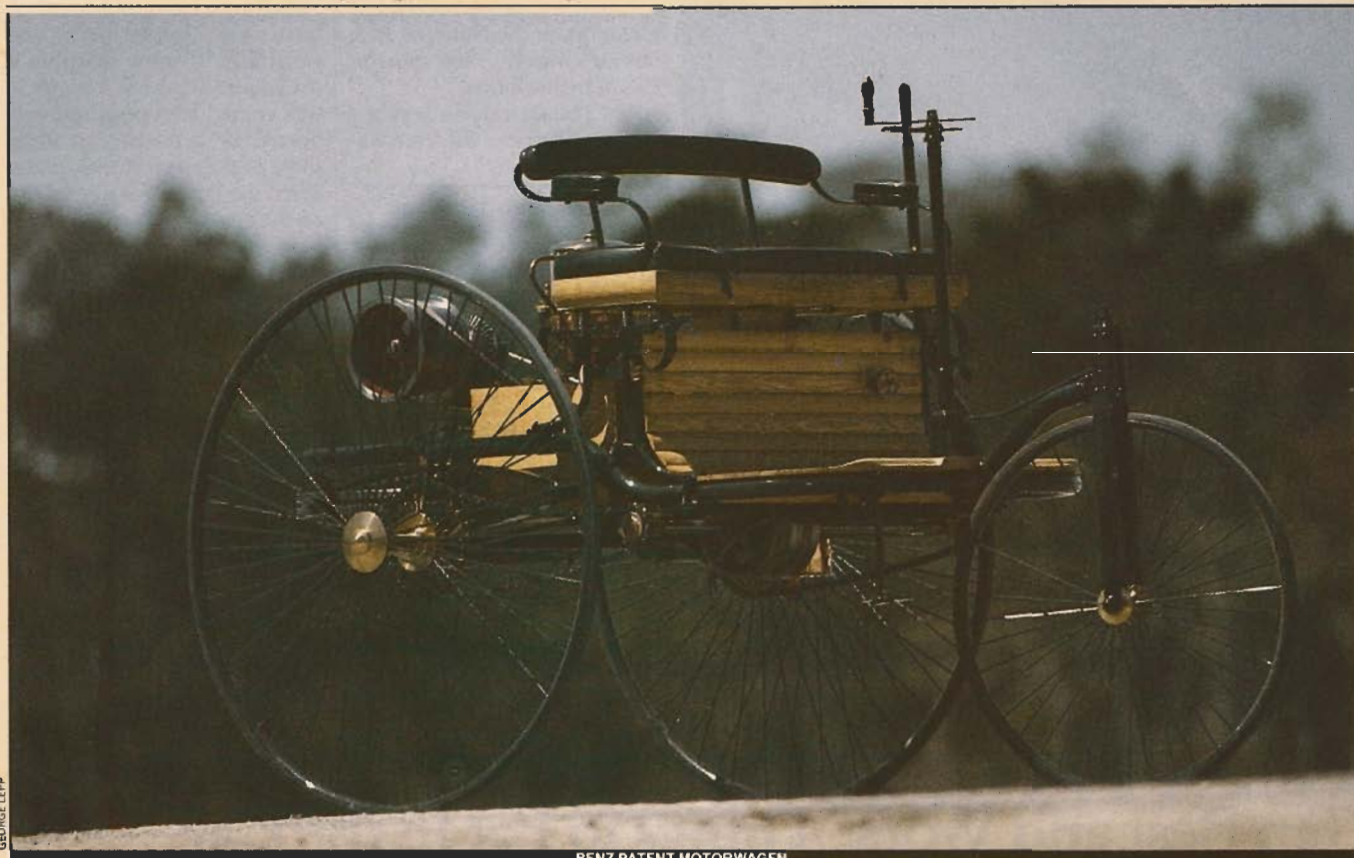


CARS THAT CHANGED THE WORLD

The road to immortality is paved with good inventions.



BENZ PATENT MOTORWAGEN

BY RICH CEPPOS

• The automobile has changed life on our planet forevermore. A mere hundred years ago, personal transportation was smelly, dirty, rough-riding, slow, and prone to whinnying. Today, it is quick, reliable, and as comfy as a living room. The modern automobile represents all of the good things technology can do for people.

If there is one undeniable truth about the automobile, it is that it has always been too important to take for granted. From its wispy beginnings to the present, it has left an indelible tire print on history. The automobile is inarguably the central artifact of our civilization—at once a basic tool and a symbol of power and status. Above all, it remains the most efficient means of individual

transportation ever devised.

With a solid century of automobiling under our belt, it's high time to celebrate the outstanding vehicles that have altered the course of history, automotive and otherwise. Herewith, in chronological order, the Ten Best Cars That Changed the World. Without them, who knows what road life might have taken?

1886 Benz Patent Motorwagen

In the beginning, there were many beginnings. No one man invented the automobile. Like so many historic breakthroughs, the first self-propelled vehicles were a synthesis of bright ideas and budding technologies that came together at the right place and the right time.

For engine developer-cum-

dreamer Carl Benz, the right time was January 29, 1886, the day he was issued a patent for an invention titled simply "Vehicle with Gas-driven Engine." Even at that early date, though, Benz was not clearly ahead of the pack. Gottlieb Daimler, for example, assembled his own motor carriage the same year.

History, in its need to tie events into neat, manageable bundles, has settled on Benz's brilliant three-wheeled horseless carriage as the first true automobile—and it's as good a place as any to start keeping score. The 101-year-old Patent Motorwagen embodied two ingredients essential to the modern automobile: a lightweight chassis and an engine fueled by petroleum. Benz's single-cylinder powerplant incorporated a number of design features that survive to the present: positive

actuation of its valve gear, a carburetor with a float bowl, and an ignition system comprising a battery, a coil, breaker points, a condenser, and a spark plug.

Most important, Carl Benz's dream car represents the first successful step taken by an automotive pioneer. The Benz Patent Motorwagen, and the other early machines like it, constitute the genesis of the automobile. Before, man had dreamed. Now he could drive.

1907 Cadillac

For many years, Cadillac advertisements heralded the division's products as "the standard of the world," a claim that fit perfectly with Detroit's longstanding tradition of overexuberant self-promotion. The most surprising thing about this slogan is that it is rooted solidly in fact. Way back



CADILLAC MODEL K



FORD MODEL T

in '07, Cadillac gave the motorcar a shove into the future.

The big breakthrough pioneered by Cadillac was interchangeable parts. In the first few years of the twentieth century, production techniques were so primitive that parts from two supposedly identical cars could not be interchanged. For example, a piston from one Cadillac Model K would not work in another Model K's engine—at least not without a lot of hand fitting.

Enter Henry Leland, a brilliant, self-made engineer and pioneer in precision machine tools. According to an extensive article in *Automobile Quarterly*, Leland set up shop in Detroit in the late 1890s, producing both precision castings and complete automobile engines. After taking charge of the floundering Detroit Auto-

motive Company, which was then renamed Cadillac, he instituted his principles of precision with the 1907 models.

The next year, the point was driven home. Under the watchful eye of Britain's Royal Automobile Club, three Cadillacs were disassembled, their parts scrambled, and then reassembled with no special fitting. They ran perfectly.

It was a feat no other manufacturer of the time had dared, an achievement that truly made Cadillac "the standard of the world." It also paved the way for a historic development. Without interchangeable components, the mass production of the automobile would have been impossible.

1914 Ford Model T

The Ford Model T has earned its place in history many

times over. The record shows that Ford produced it for twenty years, selling a total of fifteen million units. The Model T put the country on wheels. All that would be more than enough reason for enshrinement, but the Tin Lizzie's contributions go even further.

In 1914 the Model T was entering its eighth year of production. It already had a strong following, thanks to its ruggedness, simplicity, and low price. Sales in 1913 had swelled to 168,000.

But the success of the first seven years is a mere footnote to the two breakthroughs that came next. In 1914, the Model T went into mass production, becoming the first automobile to be built on a moving assembly line—a process, as we all know, that revolutionized automaking and virtually every other industry. The famous slogan "Any color you want as long as it's black" came about with the 1914 models, when Ford dropped alternative colors in order to speed production. Sales virtually doubled overnight, and, thanks to vastly improved productivity, Ford lowered prices again and again. In a textbook display of economy of scale, the price of a Model T plummeted from \$825 in 1908 to \$260 in 1925.

The profits brought about by mass production allowed Henry Ford to make a second revolutionary change in 1914: he began sharing his wealth with his workers. Ford cut back the workday from nine hours to eight and instituted the world's

first five-dollar-per-day wage.

Not only did this generous act win hearts the world over and provide Ford workers with a much-improved standard of living, it also created a vast new market for the Model T: the workers themselves. Automobiles don't come any more influential than this.

1927 La Salle

Before the 1927 La Salle burst onto the scene, mass-produced cars were designed with nary a thought toward styling. Bodies simply covered the machinery and sheltered the occupants. The cars that delighted and inspired came from coachbuilders like Fleetwood and LeBaron—and from overseas.

All of that changed when Cadillac general manager Lawrence P. Fisher and GM president Alfred P. Sloan lured a flamboyant young custom coachbuilder named Harley Earl from Los Angeles to Detroit. Earl had gained a following with a string of beautiful custom cars built for Hollywood movie stars. Cadillac's plan was to introduce a new motorcar, positioned between Buick and Cadillac in GM's model hierarchy. Its main attraction would be its appearance: it would be the first mainstream car to be "styled."

Earl brought his considerable talents to bear and created a production-line car with the tasteful design hallmarks of the most attractive custom-built automobiles. Unabashedly copying the Hispano-Suiza, Earl gave the La Salle a curvaceous roofline, side-mounted spare tires, and many other touches that other mid-priced sedans of the time lacked.

The 1927 La Salle was an instant smash and was soon followed by many more expensive imitations. It was so successful in its early days that Earl was asked to establish GM's first styling department.

The La Salle project brought with it one other basic building block of automotive design. With the La Salle, Harley Earl introduced Detroit to the full-sized clay model, a styling concept he had pioneered during his coachbuilding days. After the 1927 La Salle, the face of automobile design was literally never the same again.



LA SALLE

1940 Jeep

Born just before America entered World War II, the Jeep came into the world with responsibility weighing heavily on its shoulders. The design of the original "Light Command and Reconnaissance Car" was drawn up for the army in the summer of 1940 by the American Bantam Car Company and was pressed into production before the year was out—an extraordinary feat in itself.

The Jeep didn't win the war for the Allies, but it did its share. More than 600,000 Jeeps were built during the war, most of them by Willys and Ford. They did everything from leading infantry charges to hauling cannon over impossible terrain, and they proved so useful that the army didn't significantly change the basic specifications of its half-ton utility vehicle until just a few years ago.

After the war, Willys produced a civilian version of the Jeep, and it proved every bit as versatile out of uniform as in. Farmers, forest rangers, and construction engineers alike reveled in the sturdiness and go-anywhere ability of the four-wheel-drive fireplug.

More recently, the Jeep became the catalyst for a bona fide automotive movement. Off-roading clubs sprung up wherever there were mountains or mud flats. Aftermarket suppliers made it possible to build Jeeps capable of leaping tall boulders in a single bound. And dozens of manufacturers



JEEP

have built all manner of permutations on the 4wd theme.

Through it all, the basic Jeep has remained very much the same. It's more civilized, less tippy, and quite a bit more capable now, but AMC doesn't dare tinker with the basics too much. In the Jeep's case, no one wants the technology to get in the way of the magic.

1949 Volkswagen Beetle

The Beetle began cutting a swath through history long before it assaulted the sensibilities of red-blooded Americans. Along with the construction of the autobahn network, it was conceived as a cornerstone of the Third Reich's program for rehabilitating the economy of prewar Germany. Before production could start, however, the war intervened.

During wartime, the Beetle's

mechanicals were drafted for use in the Kübelwagen, Germany's answer to the Jeep. After the conflict, the Beetle helped to motorize Europe. And then, in 1949, it invaded America.

Though sales were slow the first few years, the Beetle ultimately paved the way for imports in this country by making hundreds of thousands of Americans believers in the verities of cheap, reliable, and compact transportation. The Beetle also went a long way toward institutionalizing the idea of German craftsmanship.

All enthusiasts can rejoice that the Beetle gave birth to the Porsche. The earliest Porsches were basically rebodied, souped-up Beetles, and the urge to build Beetle-based specials has never abated—witness the dozens of such kit cars still on the market.

Just for good measure, the Beetle was a key player in a second political movement. In sixties America, the basic, honest values embodied by the Beetle made it the ultimate anti-Establishment car.

In 1949 just two Beetles were sold here. By the time the Bug was retired in 1980, Americans had made room for 4.7 million copies, nearly a quarter of the world total to date—though final figures are not yet in, because Mexico is still building Bugs. When a car lives this long, you know it's more than just another pretty face.

1958 Edsel

The Edsel gave America a new metaphor for failure. For many years after its stunning flop, calling anything an "Edsel" amounted to the most scathing of insults. The expres-



EDSEL PACER



MORRIS MINI-MINOR



VW BEETLE

sion lingers on at the fringes of our lexicon today.

Beyond serving as fodder for a decade or so of one-liners, the Edsel experience had some sobering ramifications for an America in the midst of a postwar consumer binge, it was one of the very first clues that the country's boundless optimism and euphoric economic growth might actually have some limits after all.

When the Edsel was introduced in the late summer of 1957, the economy had stopped in its tracks and the mid-priced segment the car was aimed at was close to half its former size. On top of that, the public didn't accept the Edsel's looks. Its fate was sealed by a plague of quality problems. Production staggered on into the 1960 model year before the plug was pulled. Only 110,847

Edsels were sold.

For Ford, the Edsel was a lesson in the vicissitudes of the market. The company had engaged in the most intensive pre-production consumer research in history—most of it the wrong kind. The bulk of the effort had focused on coming up with a suitable name for the new model rather than tracking consumer needs and market fluctuations.

Ford also learned from the Edsel failure that it could not become another General Motors. The Edsel dealer franchise had been a bid to match GM's multidivisional structure, and it had gone awry.

For Ford, the Edsel disaster was character-building. The company is no doubt stronger today for having survived the most notorious marketing failure of modern times.

1960 Morris Mini-Minor

The guidelines for the modern automobile were laid down in 1938 and 1939, the year the Morris Mini-Minor was introduced in August 1959. Ever since, engineers the world over have been paying homage to the original econobox by building tens of millions of copies of it.

The Mini-Minor, together with its sister, the Austin Seven, was the first small car to combine all the elements we take for granted in today's high-efficiency world: a tiny, space-efficient unit body, front-wheel drive, a transversely mounted engine, and a combination transmission and driving axle. All of these pieces had existed previously, but they had never been arranged in such a well-thought-out, efficient whole.

The creation of the Mini was

about as close to a one-man job as any postwar automobile has ever been. It was the single-handed work of a modest genius named Sir Alec Issigonis. The car's design and construction shows in every detail. To maximize the interior space of his 120-inch-long breadbox, Issigonis had Dunlop develop special ten-inch-diameter tires that allowed significantly smaller wheelhouses to be used. Independent suspension and rubber springs were specified, and the rear springs were positioned horizontally to save space. Every available nook and cranny in the interior was converted to storage space.

Sir Alec's marvelous machine has been a dizzying success—and deservedly so. More than five million Minis have been built, and the car is still in limited production today.



AUDI QUATTRO



DATSUN 240Z

That's praise of the highest order, but there is something even more significant about the Mini: every econobox born in the last quarter-century has basically been a copy.

1970 Datsun 240Z

Try to remember back to 1970 and the kinds of sports cars that dominated the affordable strata of the market then. Germany gave us the Porsche 914, Britain offered the MGB and the Triumph TR6, Italy exported the Fiat 124 and the Alfa Romeo Spider, and Japan shipped us the Datsun 2000. Such cars were generally suited more to Sunday-afternoon fun at the local gymkhana or to unwinding country roads than to real transportation. They were typically slower than American sedans of the time and much less comfortable.

The Datsun 240Z changed all that and more in one fell swoop. The original Z-car was Japan's first mass-produced, mid-priced, no-excuses GT. It rolled off the ship with more than enough stop, go, and turn ability to satisfy the tweed-jacket sports-car set. And that was the easy part. Datsun's breakthrough was a mother lode of sophistication that had previously been reserved for the more expensive European GTs, like the Porsche 911.

All at once, the 240Z was in a class by itself. It was solid, smooth-riding, quiet, roomy, and comfortable enough for Interstate jaunts. It came with plenty of standard equipment, and it offered sufficient cargo room. Best of all, its \$3600 base price was irresistible.

The 240Z permanently changed the way the world

thinks of Japanese cars. A world-class automobile in a highly prestigious international market, it served notice that no segment of the automobile business would ever again be safe from the determined efforts of the Far Eastern manufacturers. In other words, the 240Z is the first car that well and truly won the Japanese some respect.

1981 Audi Quattro

When Audi R&D chief Ferdinand Piëch and chassis engineer Jörg Bensinger borrowed some parts from a VW Iltis 4wd military vehicle, grafted them onto a garden-variety Audi 4000, and rambled about in the woods around Ingolstadt, they probably didn't have an inkling that they would change the world. But soon after their first 4wd progeny rolled off of the

assembly line in 1981, they found themselves playing Pied Piper to carmakers everywhere.

Audi was not the first to equip a passenger car with 4wd. Jensen offered full-time 4wd on a large high-performance sedan way back in 1965. Subaru had a part-time system on its popular wagon in 1976. And AMC adapted a cumbersome full-time system to its creaky old Concord in 1980.

It was Audi that captured the automotive world's attention, however, and did so by making a modern full-time 4wd system standard equipment on its hottest-ever sedan—and then touting it as the wave of the future. To drive its point home, Audi entered the World Rally Championship with the Quattro and revolutionized the sport by destroying the two-wheel-drive competition. Then Audi showed its faith in all-wheel drive by offering it as an option on every model line it builds.

The rest of the world still isn't quite sure what to make of all this. It's a well-accepted fact that 4wd is superior to two-wheel drive in snow or muck, or on a loose rally stage, but no one has yet proved that it's the answer for ultimate dry-road handling.

None of this has stopped a veritable landslide of carmakers—including BMW and Mercedes—from offering 4wd road cars of all sizes and descriptions. Whatever the future of 4wd turns out to be, the Quattro must be credited with making the world take a long, hard look at it. ●