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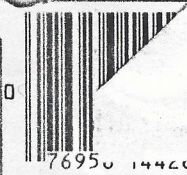
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**G**eneral Motors. The very name has come to symbolize Big Business. Faceless, cold-fish committeemen clustered in smokey, leather-lined rooms to pay homage to The Bottom Line. Old, gray men, conservative as the clothes in their closets, taking no risk before its time. True or not, that's the perception.

The business of such men, lest anyone forget, is not making cars, or trucks, or components, or friends. Their business is making money, great trainloads of it, for themselves and their stockholders, something that General Motors has been very successful at doing for most of its 75 years. And you don't make the maximum amount of money in a mature industry, they'll be happy to tell you, by taking chances. You let your smaller, hungrier competitors take the risks, then you wait and watch and, if something works, you move in and find a way to do it better and more profitably.

That's why there was a Mustang two-and-a-half years before a Camaro, a Bronco before the Blazer and, more recently, a LeBaron convertible before the Riviera. That's why current Camaros, Firebirds, and even the mighty Corvette are powered by modernized versions of an engine that was introduced in the 1955 Chevrolet. That's why the only overhead camshaft in GM's inventory triggers the valves of a German Opel-designed, Brazilian-built 1.8-liter (J-car) four, and why there is *still* no GM-built 5-speed transmission. →

*Big business gets bigger as GM reaches its 75th anniversary*

by Gary Witzenburg

ILLUSTRATION BY DARRELL MAYABB



# A Diamond for the General





## A Diamond for the General

There have been exceptions—some of which (rear-engined Corvairs and aluminum-engined Vegas come to mind), unfortunately, proved disastrous—but most GM products throughout most of our lifetimes have been as conventional as the men who signed the budgets to design, develop, and produce them.

Thankfully it has not always been so. General Motors owes its very existence and its early success to a gaggle of very unconventional men. Dreamers and inventors. Men with vision and guts, vision to see the future and guts to reach out boldly for it.

### Oldsmobile

Ransom Eli Olds said he invented an automobile because he couldn't stand the smell of the horses on his father's farm. An expert machinist, he started building engines when he was barely out of high school (around 1882) and claimed to have screwed together his first crude internal-combustion-powered conveyance in 1886. Four years later, in partnership with his father, he founded the Olds Gasoline Engine Works, and in two years' time was sole owner of what had become a very successful engine business. He also became America's first auto exporter by shipping a 3-wheeled steam car to an eager buyer in India, who had read about it in a *Scientific American* article.

By 1896, Olds could be seen tooling around what passed for streets in Lansing, Michigan, in a spindly, gasoline-powered buggy of his own design. He attracted the attention of some wealthy investors, who put up most of the capital to incorporate the Olds Motor Vehicle Company and moved it southeast to the bustling industrial city of Detroit. A lot more engines and very few (highly unprofitable) luxury cars were built in the next four years until, lying awake worrying about the company's losses one night, Olds had a brilliant idea: What America really needed was a simple, inexpensive, easily repaired, single-cylinder runabout that almost any ordinary citizen

could operate, understand, and afford to buy.

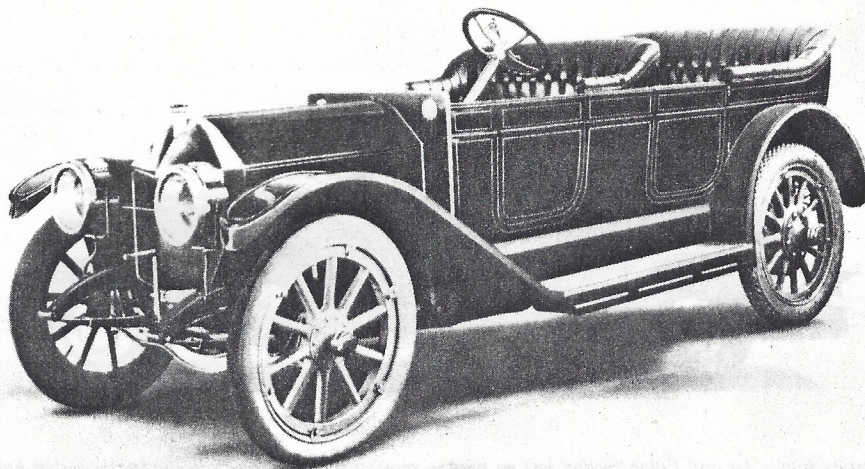
He labored day and night developing a prototype and drawing up the blueprints to produce it; and then, one day early in 1901, when it was just about ready, a workman accidentally set off an explosion that burned the plant to the ground in a matter of minutes. No lives were lost, and a brave and fast-thinking employee named James J. Brady had managed to save the prototype, but the prints were gone. They gamely started over, disassembling the car, mak-

ing new prints from the parts and duplicate parts from the prints. The result proved well worth the effort, as some 600 of the little toboggan-shaped, cart-sprung, "curved-dash" Oldsmobiles were sold that year and 2500 the next. It was America's first successful mass-produced gasoline-engined car.

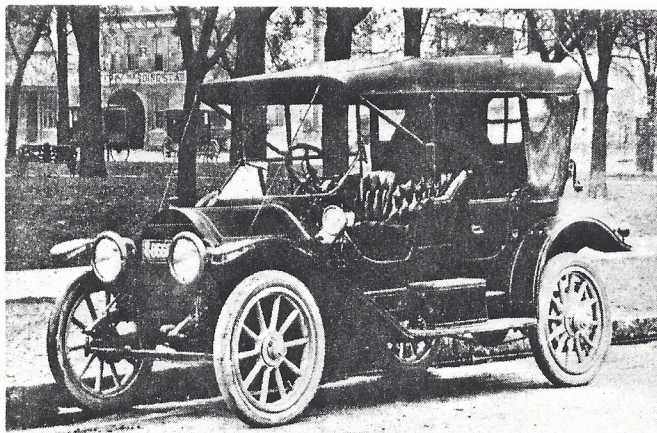
Olds' target for the car had been 500 lb at a dollar a pound. Like many of his modern counterparts, he overshot the intended weight by 40% and the price by \$150, but it didn't seem to matter. Thanks to some



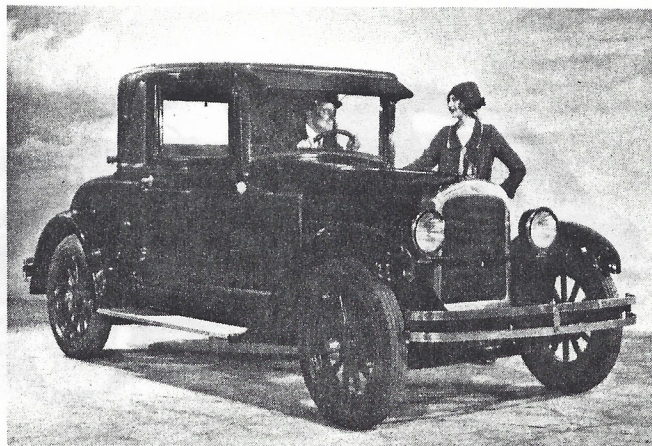
Racing was wheel-to-wheel even in 1905—but only for a few New York City blocks, as two Olds runabouts set out on the first cross-country dash. "Old Scout," on the left, was the winner, covering the 4000 miles to Portland in 44 days.



The first Chevrolet, introduced in 1911. Sales of this Louis Chevrolet/William Durant-inspired nameplate were good enough to help put Durant back at the helm of GM.



The 1912 Cadillac may have looked pretty much like its contemporaries, but it had one big—albeit invisible—difference that changed the industry: self-starting.



The Pontiac nameplate officially appeared on the scene in 1926, when this coupe, GM's 5 millionth car rolled off the line. The Pontiac division began as Oakland, in 1908.



creative publicity programs, including a Detroit-to-New York endurance run, the car's popularity continued to climb. One pair of enterprising New York agents got that city's attention by doing stunts on Fifth Avenue, getting themselves arrested for speeding and knocking over a bicycle policeman. In 1903, Olds declared that the automobile had become a utility rather than a luxury, and his sales hit 4000. His factory, which embodied the first tentative steps toward a moving assembly line, was claimed to be the world's largest auto

plant. Some 5500 Oldsmobiles were built and sold in 1904, but by then Olds' backers (he owned only 5% of the stock) wanted to move into the more profitable luxury-car field. He left the company that year, eventually to head a new car company called Reo.

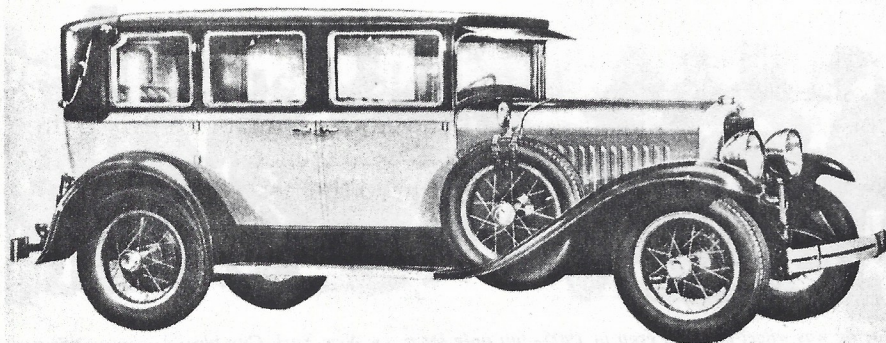
Now headed by one Samuel Smith, who was the major stockholder, Oldsmobile moved back to Lansing in 1905 and set about expanding its marketing horizons. Some 6500 of the little curved-dash runabouts were sold that year, but that car's

days were numbered. Even by 1905 standards, the chain-driven 1563cc Oldsmobile was sadly underpowered and crudely primitive. The higher-priced models turned out to be unprofitable, however, and by 1906 the company was essentially broke and deeply in debt. It struggled on for two more years before becoming one of the financially weakest elements in Billy Durant's fledgling General Motors empire.

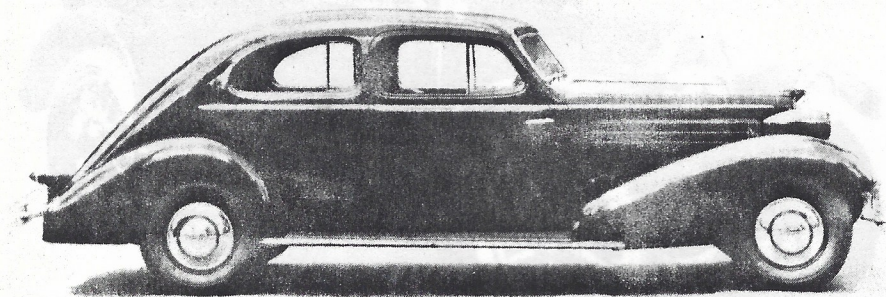
## Cadillac

Henry Martyn Leland was a skilled gunsmith and toolmaker with very high standards of precision manufacture. He was 57 at the turn of this century and running a successful Detroit company called Leland and Faulconer, which built, among other things, engines for the infant auto industry. In 1902, he advised a man named William H. Murphy not to liquidate his failed auto company (the Detroit Automobile Company, whose chief engineer had been Henry Ford) but to reorganize it to build a new-design car using Leland's high-quality engine. Murphy agreed, and the Cadillac Automobile Company (named for the French explorer who founded the city of Detroit) was born. The first Model A Cadillac car was completed in October 1902 and displayed at the New York Auto Show the following January. Initial orders were strong, but production difficulties, a fire in the plant, and growing numbers of owners returning their cars for repair dragged supply further and further behind demand. Finally, on Christmas Eve, 1904, Murphy and his partners persuaded a reluctant Leland to take over management of their company as well as his own. Cadillac and L&F were merged and the resulting organization was renamed The Cadillac Motor Car Company.

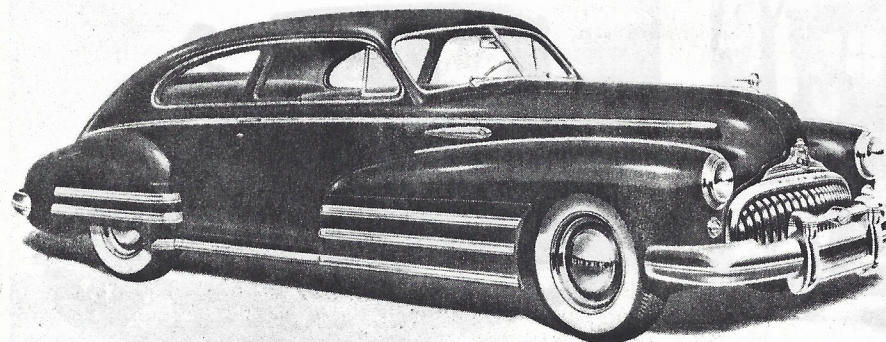
Leland went to work applying his unusually precise manufacturing and assembly practices to the single-cylinder Cadillac cars, and by 1908 more than 16,000 of them had been sold under various model designations. In March 1908, a 2-seat



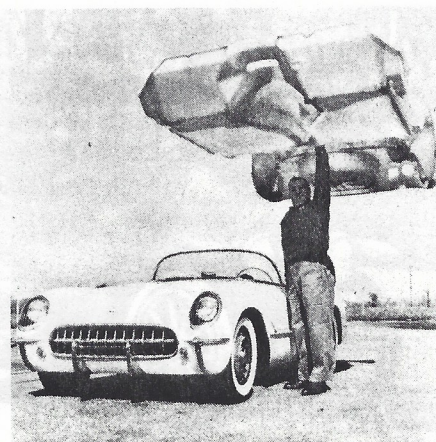
When LaSalle introduced this sedan in 1927, it marked the beginning of a new automotive institution—the design studio. The car was the first to have end-to-end styling attention, and led to the establishment of the Harley Earl era at GM.



Harley Earl's Art and Color Section lost no time in moving styling away from the boxiness that had previously dominated the industry. This 1934 Cadillac was the first car to embody streamlining, and is still handsome today.



Streamlining continued to dominate GM styling themes up to World War Two. This bullet-back Buick coupe, announced for 1942, saw only limited production.



Another GM first—first extensive use of fiberglass in a series-produced car—came with the radical new Corvette in 1953.



## A Diamond for the General

Model K runabout version won the coveted British Dewar trophy for engineering by demonstrating a level of parts interchangeability superior to anything else built in the industry's early years. Three Model Ks were randomly chosen by Royal Automobile Club officials, tested briefly at the Brooklands racing circuit, then completely disassembled. The parts were thoroughly mixed and some new replacement pieces added to the pile. Two Cadillac mechanics then reassembled the cars, and all three ran 500 trouble-free miles at Brooklands. One of them, also randomly picked, won its class in a 2000-mile reliability run the following June. Thus was Cadillac's quality reputation already cemented worldwide when Billy Durant cast his eager eyes on the firm later that year.

### Buick

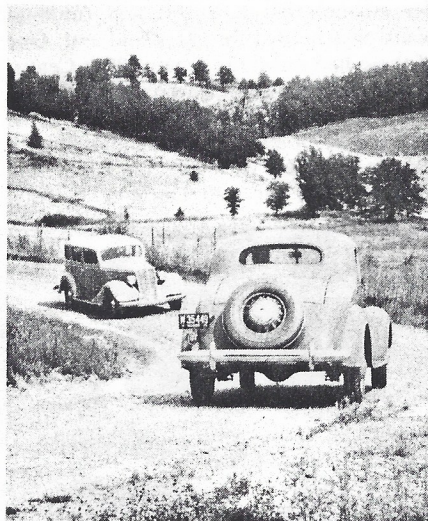
David Dunbar Buick was one of those gifted tinkers who helped make the practical motorcar a reality but benefited little from it himself. He was 47 in 1901, when he sold his profitable Detroit bathroom fixture firm and started tinkering with engines. His first design was a horizontally opposed twin, which was later improved with overhead valves. In May 1903, he built a car to carry the engine and founded the Buick Motor Company. With his debts rising and his capital gone, he soon sold the company to a wagon maker in Flint, Michigan (then the world's horse-drawn carriage-making capital), and moved there to manage it. But by the time the first production Buick, the 20-hp 2.6-liter Model B, was sold in August 1904, the new investors also had spent most of their money. In November, the struggling company was sold again to a millionaire Flint carriage maker, one William Crapo Durant. Buick's excellent car soon became nationally famous, and Durant built the firm into one of America's four largest auto makers with annual sales topping 8000 by 1908. But David Buick, who had found himself with a steadily decreasing management role and financial share as the company grew, left it that year, even as Billy Durant was formulating his dream of industry domination.

### General Motors

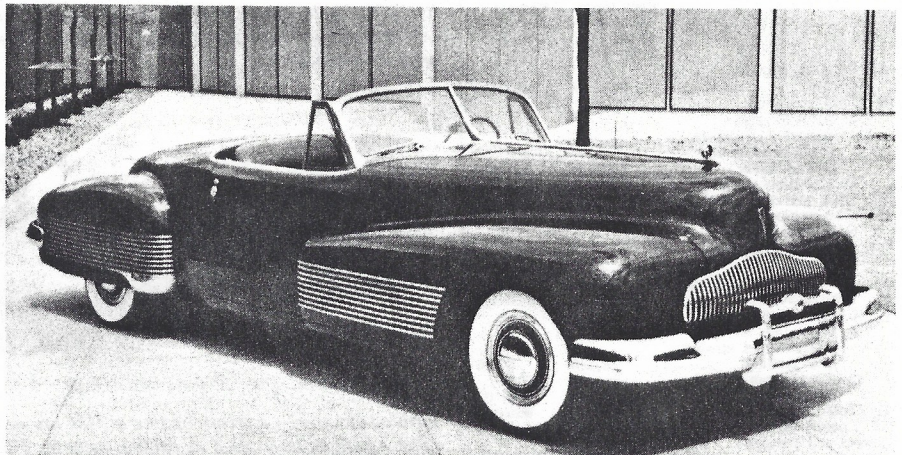
Born into a wealthy family, Durant could have lived a leisurely life had he chosen to. But he started in business at the age of 16, and by the turn of the century, at age 40, headed the nation's largest cart and carriage-making company. When he acquired the ailing Buick Motor Company, he had little idea of what made cars run but big ideas about building and selling them. He figured that a single car maker was dangerously dependent on fickle public taste, but that a large organization of smaller companies, turning out a variety of products, could prosper regardless of which way the

market winds shifted. Also that in-house component makers could supply the various parts and pieces far more cheaply and efficiently than outside suppliers ever could.

With Buick riding high in 1908, Durant arranged a meeting with the other three leading makers—Ransom Olds, Henry Ford, and Benjamin Briscoe (of Maxwell-Briscoe)—and proposed that they merge. It almost came together then and there, but the irascible Ford suddenly demanded \$3 million in cash (instead of an exchange of stock) for his company, prompting Olds to do the same. There was no way Durant could raise that much gold on short notice, so he decided to go it alone. On Sept. 16, 1908, he formed the General Motors Corporation (incorporated in New Jersey), which then absorbed Buick. Next he took over the ailing Oldsmobile organization, whose sales barely topped 1000 cars that year, and then acquired 20 more companies in quick succession, including Leland's Cadillac (for \$4.5 million cash) and a struggling new auto maker called Oak-



*GM's proving grounds looked peaceful in this 1935 photo but by that time was already the scene of hectic testing activity—an average of 21,000 miles daily on 23 miles of roads. Located near Milford, Michigan, the grounds were established in 1924.*



*The idea of a concept car was unknown until Harley Earl designed this slick convertible—the Y-Job—in 1938. Its pioneering concepts included disappearing headlights and an automatic tonneau cover.*

land. The latter had started in Pontiac, Michigan (named for the famous Indian chief), in 1893 as the Pontiac Buggy Company, switched to auto manufacture in 1907, and changed its name to Oakland.

Except for Buick and Cadillac, most of these companies had two things in common: They were financially weak and, therefore, available. In acquiring them, Durant spent himself heavily into debt and soon proved better at building an empire than running one. Two years later he was forced into a crippling bailout deal with a bankers' syndicate, lost control, and resigned. The bankers set about making General Motors profitable, while Durant returned to Flint to establish the Little Motor Car Company. And he put a famous Swiss-born mechanic and race driver named Louis Chevrolet (who had worked for him at Buick) to work on a new high-priced, high-powered car to be called the Durant-Chevrolet. With Chevrolet's prototype complete, he then organized the Chevrolet Motor Company of Michigan in November 1911. Both the \$650 4-cylinder Little and the \$2150 6-cylinder Chevrolet were instant successes in 1912, their first year on the market, with some 3500 of the former and 2999 of the latter sold.

Next Durant moved Chevrolet to Flint and set up several assembly plants in other areas of the country. Louis Chevrolet returned from a trip abroad and, seeing what Durant was up to, quit to pursue his own interests. Little expired in 1915, but the Chevrolet thrived; and in September of that year, Durant consolidated his various enterprises into a new Chevrolet Motor Company, incorporated in Delaware and funded largely by the wealthy DuPont banking family. Then he and DuPont began exchanging Chevrolet stock five-to-one for General Motors shares, a very attractive proposition for GM shareholders who had not seen a dividend in five years. Before long, he strode into the corporation he had founded and lost and announced to everyone's shock that he controlled it again!

Cadillac, meanwhile (still being run by Leland), was on a roll. In 1910, it had been



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C. Total paid circulation.....	748,061	752,924
D. Free distribution by mail, carrier or other means: Samples, complimentary, and other free copies.....	25,163	30,605
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William J.N. Porter  
 Senior Vice President

## A Diamond for the General

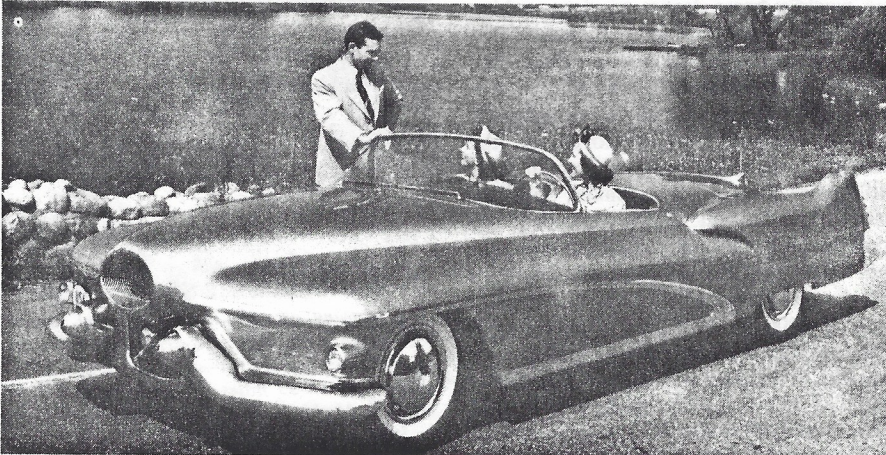
first to offer a closed body as standard equipment; and the next year had introduced the first practical electric ignition, lighting, and self-starter system. A joint development with engineer Charles F. Kettering's Delco Laboratories, the self-starter in particular was a momentous breakthrough because it allowed nearly anyone to start and operate a motor vehicle without risking the traditional arm-breaking crank. For this, Cadillac had been awarded its second Dewar trophy, the only auto maker ever to have won two. Kettering also helped develop the industry's first water-cooled V-8 engine, a 5150cc 70-hp unit that was introduced in September 1914 as standard equipment in all 1915 Cadillacs.

Buick too was doing fine and in 1916 produced an amazing 125,000 cars. A large part of its reputation, interestingly, had resulted directly from racing. In 1909 alone, the marque had scored 166 firsts (90% of the events entered), including the first event ever run at the new Indianapolis Speedway. Oldsmobile in 1910 introduced a car of such colossal proportions (11.5-ft wheelbase, 42-in. wheels, 11.6-liter 6-cylinder engine) that a double-step running-board was needed for entry and exit. One of these had raced the famous 20th Century Limited train from New York to Albany and won, causing the model's name to be changed to "Limited." Oakland, sort of a Subaru of its day with solid but unexciting products, had survived Durant's 1910 fi-

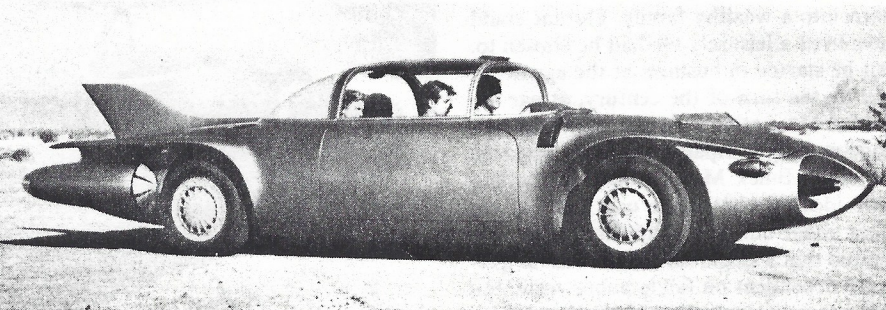
nancial crisis and was slogging along, updating and improving its line. And Chevrolet? In October 1915, Durant moved it directly into competition with Ford's cheap and hugely popular Model T with a \$490 strippo (no top or electrical system) Model 490. This bold move bore fruit, and Chevrolet sales hit 70,000 that year and nearly 126,000 the next.

In 1918, Chevrolet (which actually had "owned" its parent company for three years) was absorbed into a new General Motors Corporation along with the rest of the former General Motors Company and some other Durant properties, including Delco and the Hyatt Roller Bearing Company. From Delco the new corporation acquired super-engineer "Boss" Kettering, who would become its scientific mastermind and head its engineering and research departments. From Hyatt came Alfred P. Sloan, the brilliant but humorless autocrat who would later take GM's helm and set it on course toward becoming the world's largest auto maker.

Durant characteristically plunged into another expansionistic spending spree, enlarging existing plants and constructing new ones, building a new research laboratory and a massive 15-story headquarters in Detroit, and acquiring a number of additional companies including Fisher Body and refrigerator-maker Frigidaire. Asked why he wanted to get into the refrigerator business, he reportedly replied that refri-



By 1950, Harley Earl and his staff of stylists had completely discarded design conventions of the '30s, as their LeSabre show car demonstrates. Innovations included the wraparound windshield and an automatic top activated by rain.



Turbine power was a preoccupation at GM (as well as Chrysler) throughout the '50s, spawning several radical designs to be used as rolling testbeds. This one, the Firebird II, came along in 1956.



generators were a lot like cars because "they're both boxes with motors inside." Applying slightly better logic than that, he also moved GM into the financing business by organizing General Motors Acceptance Corporation in 1919.

It was during and just after World War One when GM lost two of its best and brightest managers, Henry Leland and Walter P. Chrysler, both of whom would found strong competitive companies (Lincoln and Chrysler). When it became clear that Durant was once again running GM


into an administrative mess and near-certain financial collapse, Sloan too almost left. At one point, he submitted a reorganization plan, which Durant approved and then completely ignored. As before Durant was forced into a banker bailout and resigned. One of the bankers was Pierre S. DuPont, who reluctantly became president and installed Sloan as executive vice president.

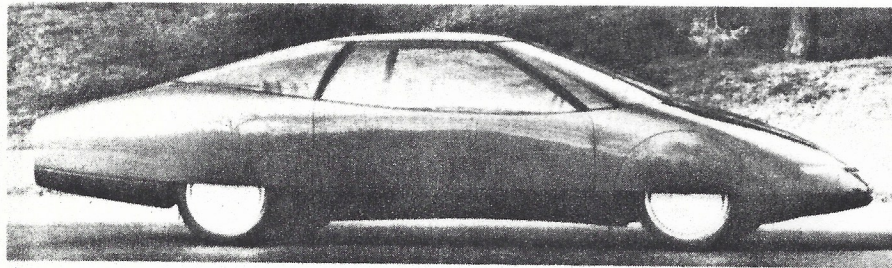
Sloan created the management system that would save General Motors and would come to be copied by countless oth-

er businesses ever since. It basically boils down to centralized management and budget control with committee decision-making and delegation of responsibility to the various divisions. Or, as Sloan succinctly put it, "Give a man a clear-cut job and let him do it." On the product side, there would be "a car for every purse and purpose," with each division serving up specific products for specific types of buyers. A distinct product pecking order would encourage customers to step up from one division to the next as their age and affluence increased; regular improvements and appearance changes would encourage them to do so more often than necessary. Sloan also recognized that, other things being equal, people would buy the product that most appealed to them aesthetically, so he created the automotive styling department as we know it by hiring a California custom car designer named Harley J. Earl in 1927.

The rest, as they say, is history. Parked firmly on the bottom rung of the product ladder, Chevrolet (which a group of consultants in 1921 recommended be liquidated because they felt it could never compete effectively with Ford) became America's favorite car in 1929, just seven years after ex-Ford executive William S. Knudsen took over its leadership. Cadillac became "the standard of the world" in a market flooded with expensive luxury cars, foreign and domestic. Oldsmobile and Buick made their own marks, and Oakland (which introduced the Pontiac car in 1926 and changed its name to Pontiac Motor Division in 1932) late-bloomed into America's leading performance maker in the 1960s under Knudsen's son "Bunky" and such dynamic engineer/executives as Elliott M. "Pete" Estes (who later rose to GM's presidency) and John Z. DeLorean (who didn't).

Three months into its 75th year on earth, General Motors today is still the world's largest motor vehicle manufacturer, employing some 700,000 employees in 149 U.S. facilities, 13 Canadian plants, and additional operations in 29 other countries. In 1978, its best year yet, it sold a staggering 9,482,286 cars and trucks and made \$3.5 billion in the process. Like everyone else, it suffered through the early-'80s recession but is bounding back magnificently this year to what may be its highest-ever dollar profit.

Through August 1983, GM enjoyed a 60% share of the domestic new-car market (not including imports), demonstrating emphatically that the little-changed Sloan system continues to perform in the short run. But the aging General finds himself targeted on all sides by more aggressive and enlightened competitors. How much longer policy and thinking as old as the building it comes from can continue to succeed in the high-tech market of the 1980s remains to be seen. 



Concept cars coming from the GM studios today may look just as radical as the show cars of yesteryear, but they all have one focal point: aerodynamics. This one, the Aero 2002, executed for GM's anniversary, rates a 0.14 Cd.

## Styling and Engineering Innovations Since 1927

'27 Cadillac	Shatter-resistant safety glass
'29 Cadillac	Corrosion-resistant chrome plating and world's first "Synchromesh" transmission
'30 Cadillac	Industry's first V-16 engine
'38 "Y-Job"	U.S. industry's first styling concept car, set styling for '40 Buick
'40 Oldsmobile	First completely automatic transmission
'40 Oldsmobile/Cadillac	First turn signals
'48 Cadillac	The tail fin
'49 Oldsmobile/Cadillac	First high-compression V-8 engines
'49 Buick	First pillarless "hardtop convertible"
'50 Pontiac	First color-keyed interior
'53 Corvette	First production plastic body
'54 Firebird I	America's first gas-turbine-powered experimental passenger car
'55 Oldsmobile/Buick/Cadillac	Wraparound windshield
'55 Chevrolet	First low-priced modern V-8 engine
'55 Oldsmobile/Buick	The 4-door hardtop
1957	The magnificent Cadillac Eldorado
'59 Cadillac	The ultimate fin
1960	The rear-engined Corvair
'61 Buick Special	First domestic V-6 passenger car engine
'64 Pontiac GTO	First shot fired in the affordable musclecar wars
1966	Front-drive Olds Tornado and its '67 Cadillac Eldo stablemate
'67 all GM cars	The collapsible steering column
'67 Camaro Z28	First road-racing car for the street
1970	The aluminum-engined Vega
1972	The hideous experimental safety cars (GM sold five to the government that year for the token price of 20¢ each)
1973	The dreaded air bag (a '73 option)
'75 and later	The catalytic converter
'77 models	The "downsized" full-size car
1984	The New Corvette
'84 Pontiac Fiero	America's first mid-engined sports car