
EXP • LN7
The People Formula

The algebra that brings a new automobile to life is made up of many equations. In the end, of course, it is the sum of the parts that counts. However, one important element is often overlooked. It is what we at Ford Motor Company think of as the "social ingredient," because it reflects the varied and complex reasons why people choose and enjoy the automobiles they buy and how they use them.

All of Ford's historic, best-remembered, trend-setting cars and trucks share a decisive feature: They were right for the life and times of the people they served.

Both the times and ways of life have changed a lot in recent years so that Ford's concern to factor the social ingredient into its products is, if anything, stronger than ever.

Therefore, in introducing our new sportcoupes for the '80s, we thought it might prove interesting if we documented the mix of evolving lifestyles, values, aesthetics, economics and technologies that helped define Ford EXP and Mercury LN7.

This booklet is their calling card—we call it "The People Formula."

. . . a large number of people insist on something more: they want their cars to have personality, flair–a certain difference . . .

Judged by any standards, the 1970s marked a major crossroad in America's way of life. Vietnam . . . Watergate . . . urban blight . . . stagflation . . . SALT talks . . . energy crises . . . EPA . . . ERA—each contributed to social and economic changes that swept the country and affected almost every sector of the population.

For the auto industry, the change was nothing short of revolutionary, unfolding in the unfamiliar context of government regulation, aggressive foreign competition and a massive conversion to fuel-efficient vehicles. As successive energy shocks drove gasoline prices higher, speed limits lower and mass transit experts to Washington, rigorous government standards for automotive emissions, safety and damageability—as well as fuel economy—seemed to mandate function at the expense of anything else.

Not surprisingly, some people began to conclude that the American love affair with cars was through. And many Americans finally acknowledged, however reluctantly, that their big, prestigious, powerful vehicles would probably have to go.

But they weren't ready yet to give up all the personal satisfaction and excitement of car ownership. Ford Motor Company wasn't ready to surrender either. A lot may have changed; the old status symbols might be under attack; but we decided to take nothing for granted. Ford built its reputation on the old-fashioned notion that its customers really are right and should be listened to before new car programs are finally approved.

So we put principle into practice. Back in the mid-'70s when Ford began laying its design foundation for the '80s, we committed our worldwide design and engineering resources to the development of the most technically advanced, small fuel-efficient cars ever made in North America. In the fall of 1980, we introduced the first of our all-new World Cars—Ford Escort and Mercury Lynx.

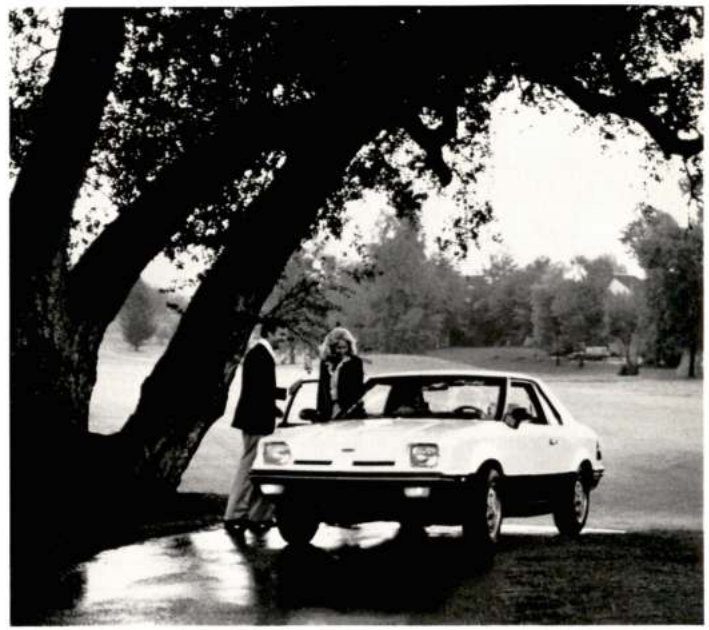
But Ford knew they couldn't be everything to everyone—nothing is—and had already done its homework to see how best to satisfy as broad a cross-section of American car buyers as possible. We talked to lots of people—from Malibu Beach to Boston, from Montreal to Dallas. We listened to college students and performance buffs, to housewives and homeowners, to suburbanites and city dwellers, to executive men and executive women.

What we found was that most people were becoming as seriously concerned about the cost of automobiles and gasoline as they were about the cost of housing and food. They placed great stock in quality, safety and value for their money. They were, for all practical purposes, practical.

But a very large number of people also insisted on something more: They wanted their cars to have personality, flair—a certain "difference."

Some frankly admitted that if they had all the money in the world and times were different, they would toss practicality to the winds and get the hottest luxury performance car around. Others would opt for a one-of-a-kind by one of Italy's custom designers. And many wondered wistfully if Ford would ever consider bringing back the first classic Thunderbird.

The inquiry confirmed what Ford has always




MHL·865
PEPSI


NEW PIONEER
RE
OLDIES AND GOODIES
ANTIQUES
HATS
SILVER


PSYCHOLOGY


MERCURY

. . . almost a third of new-car buyers are "singles;" 39% are women; 42% are younger than 35 . . .

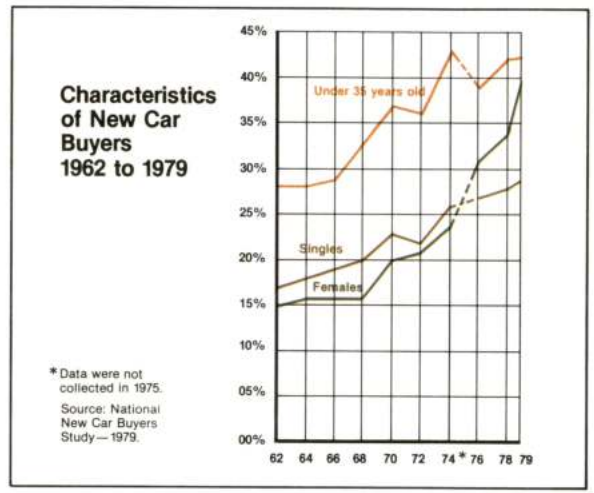
known: Above all, motorists are individuals, with special needs and tastes and perceptions. There is no such person as "the average car owner." Everybody's cars are very personal possessions, and owners want them to express something of themselves and their way of life.

In short, the love affair between Americans (and Canadians and Germans and Italians and Japanese, too, we found) and the automobile endures . . . it's just that people, or more precisely, their lifestyles have changed.

It was decided, therefore, to take a deeper look at exactly how lifestyles were evolving in North America. So, with the help of demographic experts, we explored pretty thoroughly how Americans were living and working and having fun in a changing world and what these new influences meant to automobile design.

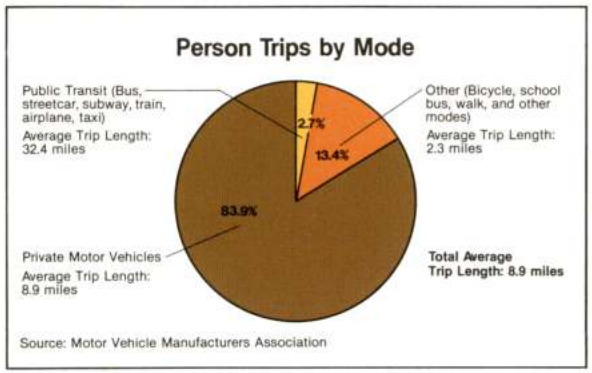
The research turned up a lot of relevant facts and insights:

- *Item Number One* was the extraordinary growth of "singles." Of course the word "singles" defies a single definition. Singles are mostly young, but many are older; they are often trend-setters, but some are conservative; they are both men and women; and some are heads of households. But what was most astonishing was the discovery that almost a third of all Americans who buy new cars come under the "singles" heading. Moreover, this segment of the market (although it is really too diverse to be called a segment) has almost doubled in just two decades, and marriage and divorce trends suggest that it will continue to grow.
- *Item Number Two* is related: Families and households are changing radically. While the number of households is increasing, the number of people in them is declining to the point where more than half now consist of only one or two individuals. In addition, almost 50 percent of all families have no children at home, while about 40 percent more have only one or two. So there is no doubt that a lot of people buy cars for their use alone or with a very close friend, perhaps, and occasionally with a small child or two.
- *Item Number Three* has to do with women. They account for more than half the population both in the U.S. and Canada, and for almost $33 billion worth or around 40 percent of new-car purchases every year. And they are the principal drivers of an even larger number of cars, no matter who actually purchases them. As often as not, these contemporary women are working—out in the world, up on the trends, increasingly influential and independent, often juggling career, family and shopping, and pursuing personal pleasures in what time is left or on the way to something else. Of course, we didn't need experts to tell us how the influence of women has grown in America in recent years. And we have known for a long time that there is no sense in labeling cars "for women," because style and personality vary as much among women as among men—and sex often makes no difference to the kinds of cars people buy. In fact, we didn't need to get very deeply into statistics to know that what women probably want and need most is an attractive, dependable little car in which they feel comfortable and which they can load up with a lot of assorted bundles. We knew, too, that it behooves Ford to factor their opinions and needs into new product equations.
- *Item Number Four* concerns the so-called "youth" market, which specifically includes all those under 25 and is not like any other group. Of every ten young car-buyers, seven are single; two are married couples without children; only one heads a family. By the time they are 34 and assuming a greater role in society, half are married, but most retain the values they identified with when they were younger.

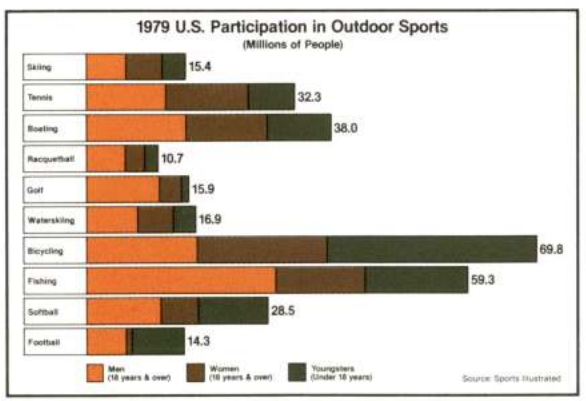


The youth group is expected to decline slightly in the '80s relative to the rest of the population—the median age will rise from 29.4 to 31.5. But today's youth are becoming better educated and going to work sooner, so they are likely to put increasing economic power behind their typically individual tastes.

- *Item Number Five* underscores an important bias these modern lifestyle groups all share. As a recent *New York Times* study confirmed, more than half the potential new-car buyers in the 1980s will be thinking small—but singles, mini-households, women and young people (all the way up to 34) continue to express a consistent preference for high-quality, fun-to-drive, small sporty cars. And going along with these priorities are good gas mileage and exciting design—preferably, with a recognizably international look, because it seems they also lean toward "foreign flair," although they cannot always afford it.
- *Item Number Six* deals with the extent to which Americans still love to use their private vehicles.



More than 87 percent of households own one or more—42.6 percent own two—and 84 percent of all "person-trips" are made in cars on more than four million miles of highways, roads and streets in the U.S. and Canada. Despite the so-called energy crises, preliminary government data indicate that Americans continue to log more than a trillion miles a year: 41.6 percent for business; 33 percent for recreation, including vacations; 19.3 percent for family errands; and 4.9 percent for educational or civic purposes. But interestingly, most trips are relatively short—the average length of a one-way trip is less than nine miles; furthermore, two or fewer people are the usual crew. All most people need to drive most of those trillion miles, therefore, is a lively little car that is dependable, efficient and good-looking.



- *Finally, Item Number Seven* which Ford's designers found extremely relevant is the recent boom in the number of men, women and children participating in outdoor sports of all kinds. More than 15 million North Americans take to the ski slopes every year (a 100 percent increase since 1973); more than 32 million compete on tennis courts (a 60 percent increase since 1973); 16 million play golf; almost 11 million have taken up racquetball; 38 million are boating enthusiasts. Countless millions also run, jog, swim, surf, bike and hike on the thousands of roads, beaches, parklands, mountains and trails of North America. And untold numbers also go as spectators to their favorite sports.

Like many American enthusiasms, the sporting craze has spread throughout the economy, spawning special interest magazines, television programs, vacation packages, social events, clothing, shops, catalogs filled with personalized sporting goods, even hair styles. It also seems to coincide with a perceptible rise in Americans' interest in sporty cars.

When Ford designers and product managers began to fit together all the pieces of their lifestyle study, they could see a definite pattern from which they were able to define the social ingredients of a car that would be specifically suited to the '80s.

They concluded that the social evolution that had begun in the 1960s with the assertion of personal identity and individuality had clearly become embedded in our cultural continuity. Large numbers of Americans had abandoned traditional standards and tastes for new values, new aesthetics, new lifestyles—lifestyles that reflect increased affluence and leisure time, as well as a new awareness and concern about the environment.

The effect of these trends on car buying—which is, after all, what Ford set out to discover—is an important, growing demand for a highly personal car that says something about its owner and makes a practical contribution to his lifestyle or hers.

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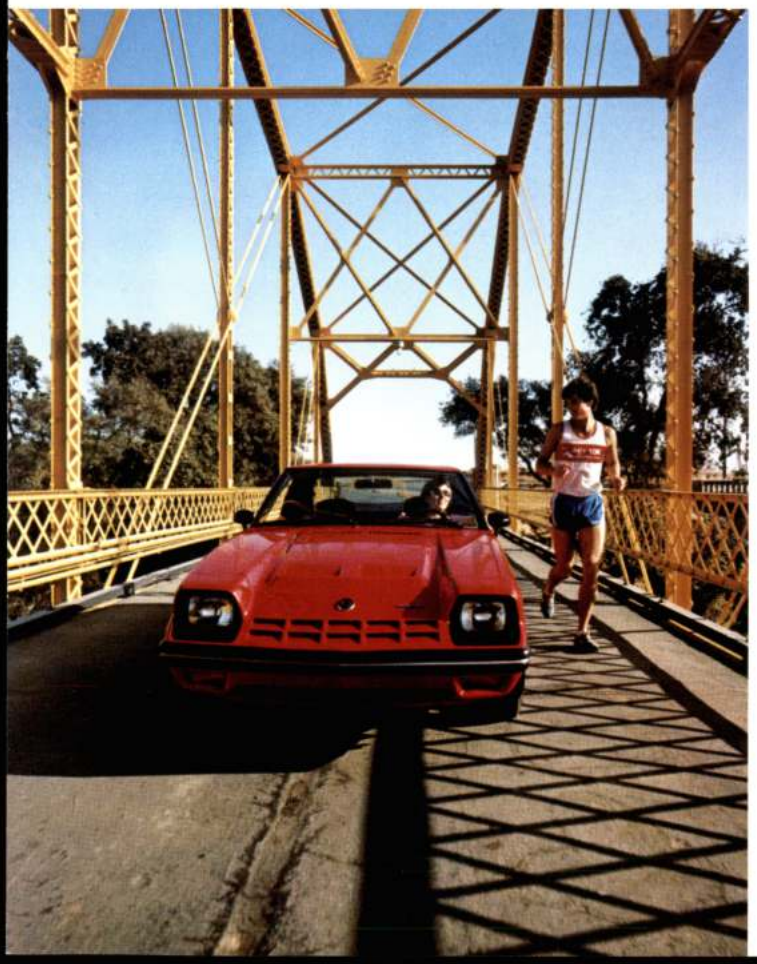
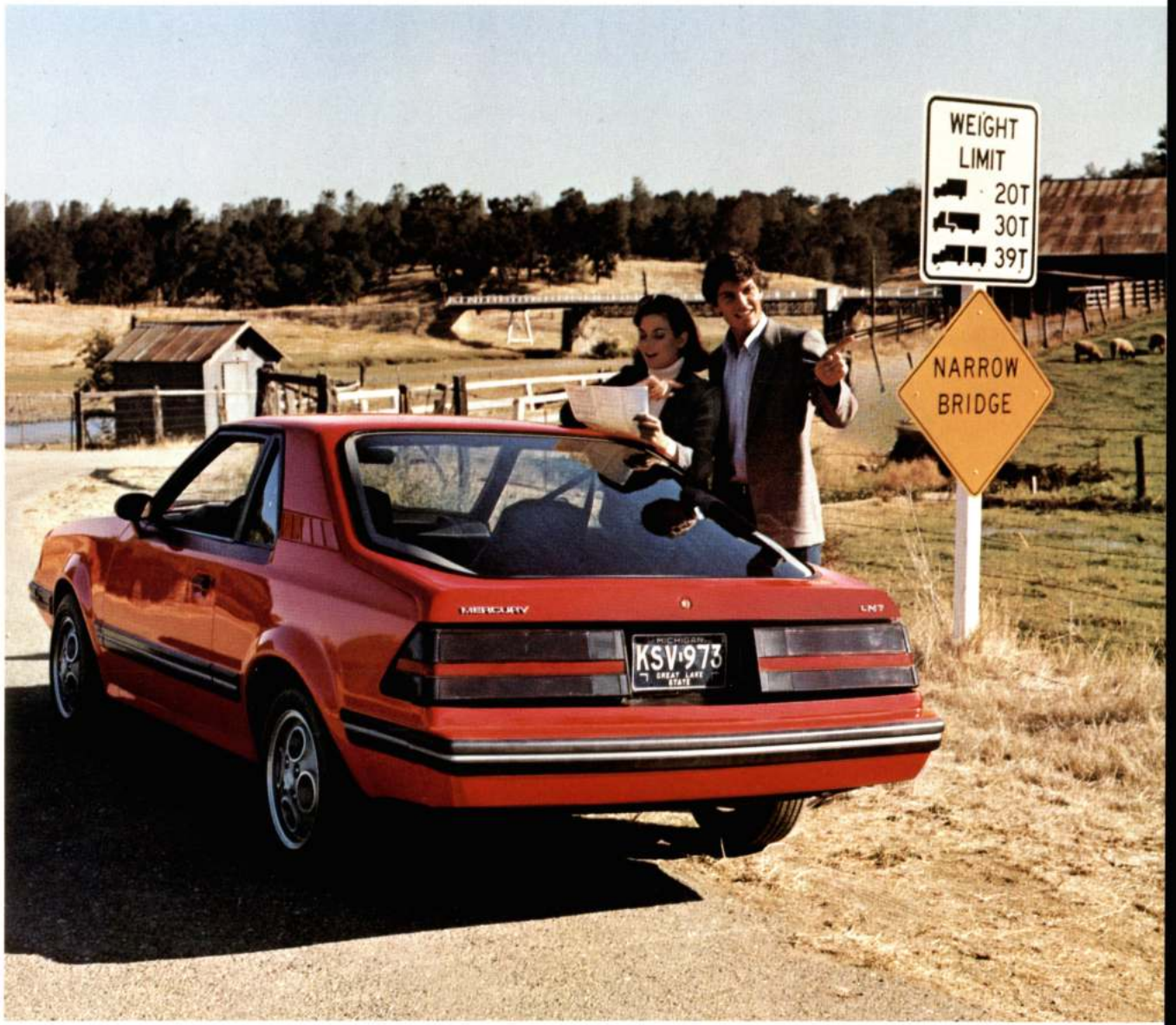




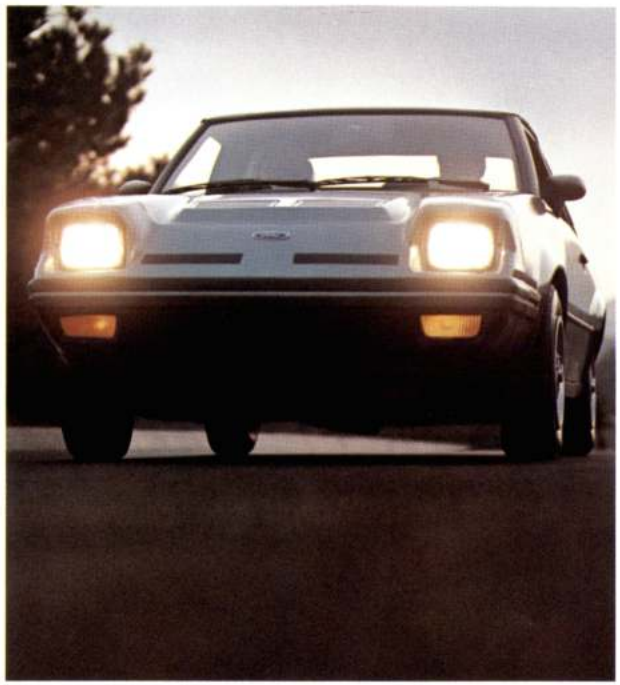
When we looked a little more closely at our research, we realized that changing lifestyles called for a new kind of American car for the 1980s: fun to drive, but good on fuel . . . lively and responsive, but reliable and safe . . . functional, but distinguishable on the highway . . . exciting, but easy to maintain . . . chic, but sporty . . . sporty, but real value for the money.

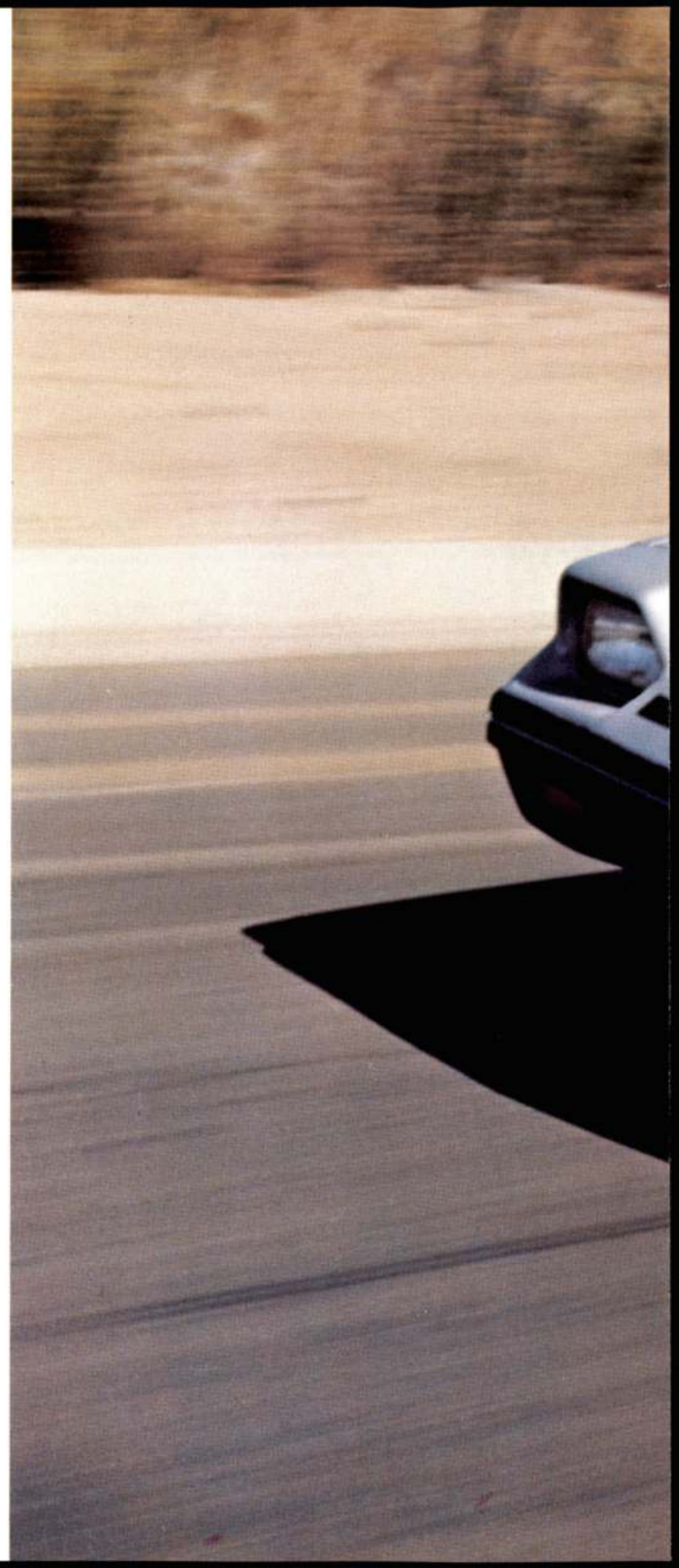
The new car also had to be well-equipped and well-appointed, so that anyone would be happy to take it to the office or the club . . . to Aspen or the Hamptons . . . to Four Seasons or the Disco . . . to Nieman Marcus or the A&P . . . three miles or 300 miles and more without ever having to fill up.

We also isolated a few things the new car did not have to offer: It was not essential to provide a lot of room for passengers, in-laws and neighbors. What was needed was a one-plus-one with room for all their etceteras or youngsters or the family pet. The good old two-seater—about the size of the original T-Bird, as many people put it— with a utility seat in the rear would be most suitable and desirable for the emerging lifestyles we were addressing.

Moreover, we discovered that a sporty car no longer has to be the hottest, fastest performance car in the world—with the temperament and price that always accompany it. The need was for a lively, modern car with technical credibility and style. Even top speed was no longer a major consideration. Performance was more appropriately defined in terms of how a car steers, handles, overtakes, rides and responds in critical situations—in other words, overall performance and handling, rather than simply straight-away acceleration.

Out of all this analysis and planning came the new American car for lifestyles of the '80s; something in a class by itself, with class all its own. It is a car with the magic of the '55 T-Bird and the affordability of the '65 Mustang—but tuned to tomorrow. It is in fact two cars—two sportcoupes we call Ford EXP and Mercury LN7.





. . . the need is for a lively, modern car with technical credibility, style and performance appropriately defined in terms of how it steers, handles, overtakes, rides and responds . . .

. . . the sportcoupes have the best aerodynamic ratings of any standard-equipped American cars on the road . . .

EXP and LN7 have a unique and distinguished technical heritage. From the outset, it was agreed that the platform on which Escort and Lynx had been built was ideally suited to sensible but distinctive sportcoupes. Ford drew on its top international automotive talents and skills to develop the high-technology package for its World Cars, and it had both the proven capability and the potential we were after.

The basic sportcoupe concept incorporated an advanced, fuel-efficient powertrain; a sophisticated suspension system and excellent handling; plus built-in serviceability. The coupes were to be fully equipped yet reasonably priced—a major objective. Our approach allowed us to concentrate engineering efforts in three key areas: superb aerodynamics, overall design, and fine-tuning the mechanicals.

At Ford's Design Center where the coupes began to take shape, the program generated an overriding sense of challenge and enthusiasm for the chance to experiment, to carve out a new idea for Ford and to put something different on North American roads.

The design team was carefully chosen: Most had extensive European experience in Germany, Britain and Italy. Several were racing buffs.

Because aerodynamic principles were fundamental, management fostered a close working relationship between designers and aerodynamicists. A multi-stage aerodynamic program was fully integrated into the design process from its earliest phases.

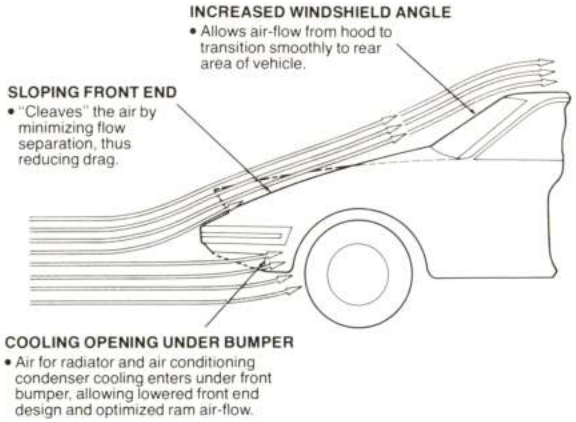
The first design objective was to make EXP and LN7 the epitome of aerodynamic automobiles, with the lowest drag coefficient of any standard cars built in North America. The second was to create cars with strong identities. Third, we set out to design

flexibility and affordability into the overall package. In short: function to form—with flair.

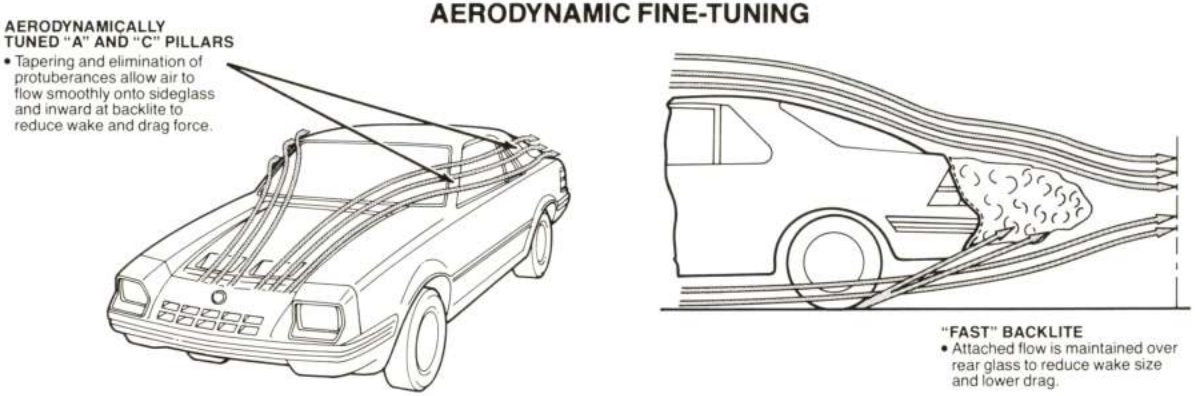
Ultimately, dozens of concepts were proposed and evaluated. Those that might raise costs too high or compromise functional goals were eliminated. But the basic design that was selected lived up to expectations: sloping hood, wedge front, high deck, low silhouette. The details provided additional sporty cues: the basic two-passenger configuration, fast windshield and raked A-pillar, fast backlite, refined molding details, clean underbody. The theme looked aerodynamic—and it was.

Air-flow tests run on ⅜ and full-scale clay models at the University of Maryland and Lockheed wind tunnels confirmed the basically fine aerodynamic shape.

The next step was to apply advanced air-flow management techniques to optimize the air-flow over, around and through the vehicle. Air-flow management is a meticulous, iterative process of tuning and juggling tradeoffs among cost, design, weight,



AERODYNAMIC FINE-TUNING



feasibility and aerodynamics to minimize wind resistance and optimize air intake under the hood.

Ford engineers took advantage of every possible opportunity to balance and integrate aerodynamic refinements—at the hood edge, the windshield header, both A and C pillars, the rear deck and backlite angle, around the greenhouse, the curve of the bumpers, the height and location of the fascias and valance panels.

In addition to the fine-tuning, a number of details were added to the design package for their functional value. The soft urethane front end and rear bumper, for example, offer several important advantages. They provide enormous design flexibility and permit better aerodynamic shapes. From the consumers' point of view, however, their most important advantages are improved fit and finish and quality control in production; minimized front and rear end appearance damage and lower repair costs; and immunity to corrosion.

The engineers also opted for a large backlite to increase visibility. Then they deliberately designed just one roof and quarter panel opening to accommodate both notchback and bubbleback glass, which the market seems to demand in about equal quantities. This resulted in considerable cost savings for both styles.

By the time the design and air-flow management engineers completed their work, the sportcoupes had undergone 550 test hours in the two wind tunnel facilities. In the process, more than 725 separate changes to the vehicle configuration had been tested—and the final package came in 10 percent better than its target. With a drag coefficient of .37 for the EXP notchback and .36 for the LN7 bubbleback, the coupes have the best aerodynamic ratings of any standard-equipped American cars on the road.

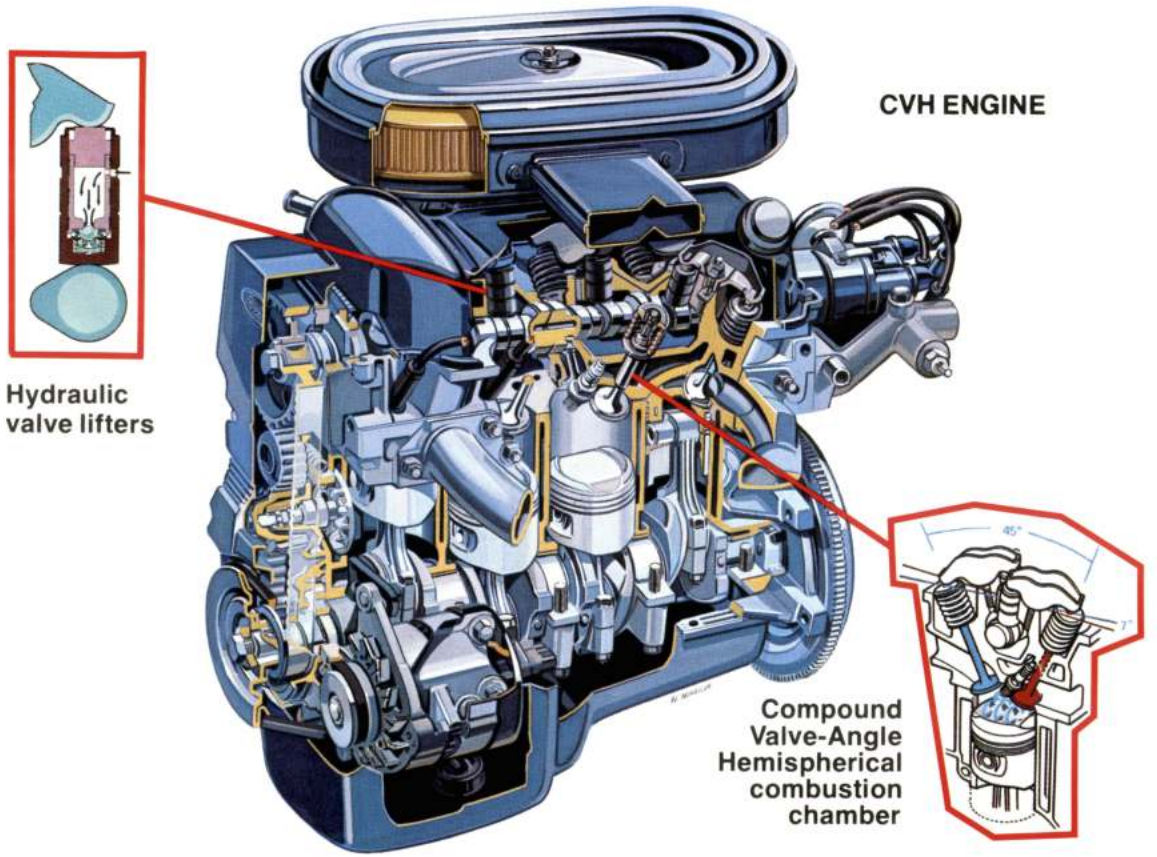
Moreover, they passed the "taste test," too. In design clinics all over Europe, the sportcoupe was so well received, Ford plans to export it across the Atlantic in the future.

. . . the CVH engine combines a "hemi-head" combustion chamber with innovations to make it Ford's most efficient powerplant ever. . .

The heart of the high-technology heritage of EXP and LN7 is Ford's Compound Valve-Angle Hemispherical (CVH) engine. CVH was developed in the 1970s by an international team of engineers, including several with past experience turning stock engines into powerhouses for Ford's highly successful racing programs.

The unique four-cylinder CVH engine—for which a record number of patents has been filed in the U.S. and Europe—combines the classic hemispherical ("hemi-head") combustion chamber with significant innovations that make it the most efficient non-turbo powerplant ever built by Ford. In addition to excellent fuel economy, CVH delivers lively performance, low emissions and low noise level.

Ford selected the hemi-head design because of its



considerable thermodynamic advantages, long demonstrated in high-output powerful racing engines. However, engineering the hemi-head for efficient consumer driving without the need for two camshafts required important technical innovations involving the combustion chamber itself, the compound valve angles and the contoured piston heads.

The hemispherical shape of the combustion chamber contributes to both engine efficiency and high power output. Ford has canted the plane of each valve in the CVH engine so that the port and valve are offset from the longitudinal and transverse center lines of each cylinder bore. This permits larger than normal valves which, in turn, increases the air-flow into the chamber and improves the overall power potential of the engine.

In addition, each piston and cylinder combustion chamber is fully machined and contoured so that it forces the gas/air mixture from the outer edges of the cylinder toward the center of the combustion chamber and the spark plug, which is located close to the chamber's geometric center. The mixture then fires very evenly, providing for efficient combustion and overall engine operation.

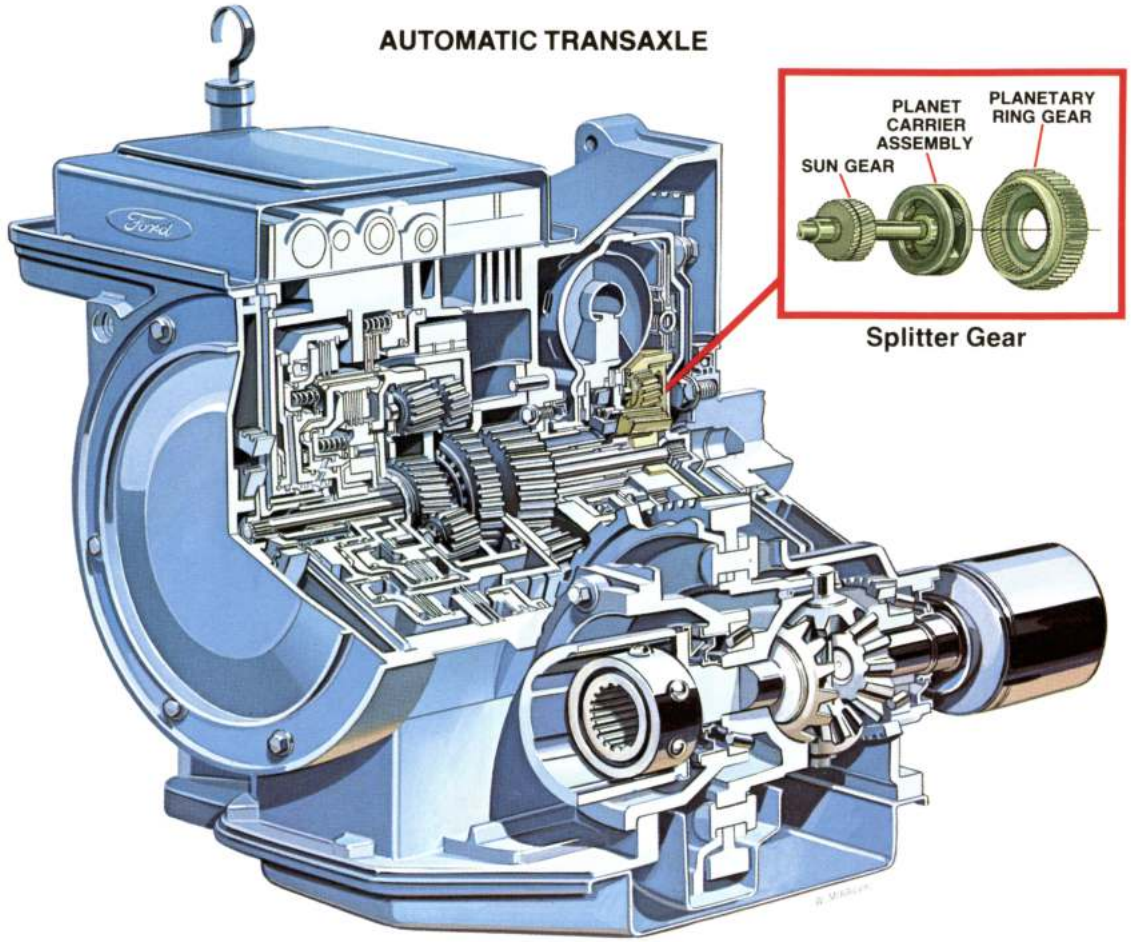
In place of the complex twin camshaft usually found in hemi racing engines, CVH has a single overhead camshaft with hydraulic tappets which are reliable, quiet and maintenance-free. To save weight, the CVH four-cylinder head is cast in aluminum.

The CVH engine also has been subjected to sophisticated design and testing techniques, such as "engine mapping." A computer was used to plot a graphic representation of the engine's potential—speed, torque, emissions control, fuel consumption, overall performance—and to construct a multi-dimensional map of emissions and fuel economy at each speed-torque point. The engine calibration was then adjusted at each point to balance various objectives. A Ford-designed control system verified the computer projections in actual vehicle tests. During the coupes' development testing, a larger diameter (2″), lower restriction exhaust system was installed to improve performance at high engine speeds.

Capitalizing on its extensive European experience with small engines, Ford conducted much of its CVH development work in Europe with a task force from North America assigned to coordinate the international technological effort. However, the CVH 1.6 liter engine for EXP and LN7 is produced in America at the Dearborn (Mich.) Engine Plant which was completely retooled with some of the most advanced manufacturing and quality control equipment, specifically for this program.

In addition to the CVH engine, the front-wheel-drive sportcoupes inherited two innovative, highly efficient transaxles from the World Cars.

The slick-shifting manual transaxle (MTX) features an overdrive fourth gear that cuts engine speed by 20 percent compared with conventional transmissions. (The top gear ratio is 0.8 to 1.) The notably smooth, quiet operation of the MTX is attributable to several design and manufacturing characteristics. An internal-gated shift plate, for example, precisely defines each gear position and permits use of a "no-



adjustment" external shift mechanism for better feel and reliability. And for improved performance in EXP and LN7, we have given the MTX a higher numerical final-drive ratio than its predecessor.

The MTX also has unusually good serviceability features, such as a self-adjusting clutch linkage that eliminates service adjustments for clutch disc wear during normal vehicle operation.

The advanced automatic transaxle (ATX), with its new Ford-patented "split-torque" concept, improves efficiency over conventional automatic transmission designs. The "splitter" design makes this possible by transmitting a large part of the engine's power output, or torque, by direct mechanical means in second- and third-gear ranges. The rest of the torque in second and third gears and all of the torque in first and reverse are transmitted from the engine to transmission hydraulically through the torque converter, as in most conventional automatics. Ford's split-torque approach eliminates most of the power loss resulting from torque-converter slippage, which is a serious cause of the lower fuel efficiency of automatic transmissions. ATX efficiency is greatest in third gear, where the split is 93 percent mechanical and only 7 percent hydrokinetic.

Other technical innovations and refinements aimed at smoother, quieter automatic operation include a torsional damper, new Ford long-life CJ fluid and special control components. As for ATX serviceability, the main valve body of the transaxle can be removed and serviced from above with the transaxle in place.

The ATX is only 14 inches long from rear face of engine block to pump cover and 7.6 inches from center of crankshaft to center of differential—ideal for the compact sportcoupe package.

The MTX is built by Toyo Kogyo in its new Hiroshima, Japan, plant; the ATX is produced at a new $530 million plant in Batavia, Ohio. Both facilities are tooled with some of the most advanced manufacturing and quality control technology available anywhere in the world today.

. . . DQR begins with design and engineering and extends through every phase of manufacturing and assembly. . .

Ford's company-wide effort to give its World Cars high marks for DQR—Durability, Quality and Reliability—continues with EXP and LN7. Beginning with design and engineering, attention to DQR extends through every phase of manufacturing and assembly.

At the outset, extremely demanding DQR objectives were set in the context of a precise definition established by Ford's new Product Assurance Office for each major element:

Durability: a measure of acceptable operation of the vehicle without abnormal repairs during its expected lifetime.

Quality: meeting engineering and design specifications for function, fit and appearance. The goal: zero deviations from these specifications.

Reliability: the frequency of repairs a vehicle needs during a specific operating period, measured either in time or miles.

To meet the objectives, prototypes log thousands of hours of testing at the proving grounds and on public roads as well as with very advanced computerized equipment. For example, the CVH engine has proven its endurance in more than two million miles of durability testing already conducted in a fleet of test vehicles in the U.S. and Europe. To date, the lead test vehicle has logged more than 94,000 miles—the equivalent of more than 180,000 miles of customer driving. Ford engineers call CVH the most durable engine Ford has ever produced.

To ensure that effective DQR actions continue throughout the cars' production cycle, representatives from engineering, manufacturing, purchasing, assembly and service activities were assigned to separate quality and durability/reliability teams for most of the vehicle subsystems. In the past few years, particular emphasis has been placed on improvements in plants where key components are made—Dearborn Engine Plant and Batavia Transmission Plant—and where the vehicles are assembled—St. Thomas (Ont.) Assembly Plant.

In each of these plants, Ford has undertaken vast retooling programs and installed some of the most advanced automotive manufacturing, assembly and testing equipment available in the world. In addition, specific quality control measures have been introduced to verify the quality of parts and materials purchased from outside suppliers, to monitor the plants' total quality performance, and to provide feedback so that needed corrections can be made promptly. Finally, Ford has initiated numerous employe involvement programs founded not only on worker participation and dedication to quality performance, but also on management commitment to make quality a top priority in all of Ford's operations.

. . . Ford's engineers focused on the all-important balance among four critical elements: steering response, transient stability, steady-state cornering, ultimate lateral acceleration capability. . .

The front-wheel-drive sportcoupes are also heir to the significant advantages of a suspension system ordinarily found only on more expensive imported sedans and sports cars. Using their inherent technical attributes as a departure point, Ford engineers have endowed EXP and LN7 with exceptional handling credentials.

Two important features of the basic suspension system are fully independent rear suspension (IRS) and MacPherson front suspension.

The Ford IRS system consists of a one-piece forged rear-wheel spindle attached to a lower, A-shaped control arm whose broad base is near the wheel. This locates the wheel laterally. For fore and aft control, a longitudinal tie rod is rubber-bushed at each end. Each rear coil spring sits midway in the lower A-arm. The shock absorber clamps to the spindle. This IRS design provides excellent handling and durability, good road-noise isolation and ride characteristics similar to larger cars.

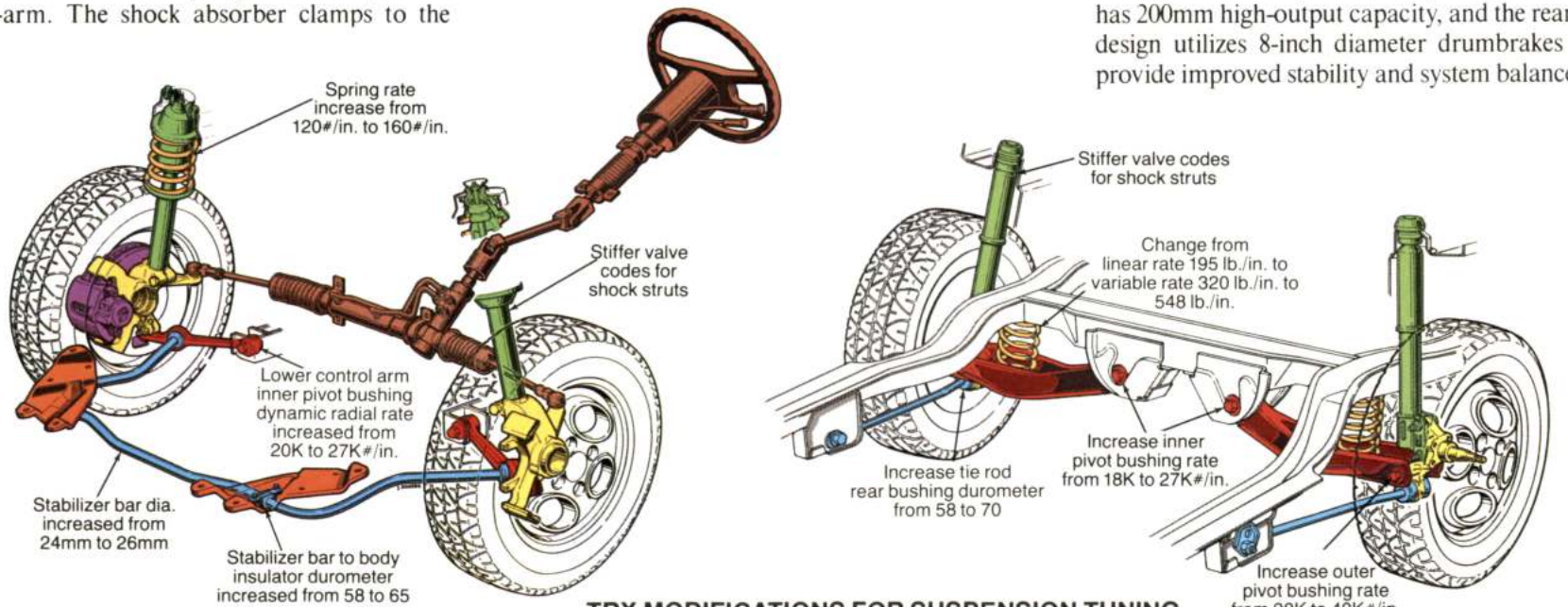
The rear suspension caster and camber are set permanently during assembly, using precise component tolerances and sophisticated manufacturing and assembly techniques. This translates into fewer adjustments and reduced maintenance costs.

While IRS is key to handling performance, other components also make a significant contribution to the overall handling qualities of EXP and LN7.

A case in point is the front suspension with its new, full MacPherson strut system including a forged control arm, a combined drag strut/stabilizer bar and cast spindle with integral brake anchor plate. As in the rear, the front caster and camber are preset at the factory. In addition, all control arm ball joints are lubed for life.

The new manual steering rack-and-pinion gears are set for positive response and ease of handling and maneuverability. The power steering, with its hydraulic valve and power system, shares a common body mounting with the manual gear. Lightweight Delrin yoke and urethane rack bushings are used for quieter gear operation, and the lightweight outer tie rod ends are lubed for life.

There is also a new, compact pin slider-type front disc brake system for reduced drag and weight and increased tolerance to dimensional variations, pedal feel, and reliability, compared with conventional "Vee" slider brake systems. The power brake booster has 200mm high-output capacity, and the rear brake design utilizes 8-inch diameter drumbrakes which provide improved stability and system balance.



TRX MODIFICATIONS FOR SUSPENSION TUNING

Ford's engineers tackled the sportcoupe development program knowing that handling is the name of the sporty game. Their objectives were clear: Safety, responsiveness and comfort—because North American roads are deteriorating and even a lot of superhighways are badly pockmarked.

Part of the challenge was to transform an essentially ride-oriented platform with good handling into an all-out handler, without compromising safety or comfort. The cars' aerodynamic shape, low center of gravity, and steering and brake systems were clearly major advantages.

The engineers focused on the all-important balance among four critical elements: first, steering response; second, transient stability; third, steady-state cornering; and fourth, ultimate lateral acceleration capability. And they kept at it until they were totally confident of what they call the coupes' "max capacity" over every inch of the handling course, the high-speed track, the slalom course, the tight radius turns and the various road surfaces.

Eventually, they defined two sportcoupe packages: The base suspension features a 24mm diameter front stabilizer bar, 5-inch wheels instead of the standard 4½-inch, high-rate shock-absorber valving, and unique front-to-rear spring-rate balance to give it quicker response and feel.

There is also an optional TRX package whose major difference lies in several features: TRX radial tires developed and tuned specifically for EXP and LN7 by Michelin; 365mm diameter/135mm rim-width wheels; variable-rate rear springs designed and developed by Ford engineers in Europe; unique tuning of the bushings and shock absorbers; and a 26mm diameter front stabilizer bar.

To complement EXP and LN7 handling, the development team also made several changes to reduce interior noise. A special sound package includes added sound-absorption materials on the dash panel, quarter panel, hood, front floor pan and rear load floor for a quieter, more luxurious ride than is usual in sporty cars presently on the market.

. . . the coupes recognize that cost of ownership involves a lot more than total trips to the gas pump . . .

Car owners are becoming progressively aware that cost of ownership involves a lot more than total trips to the gas pump. It involves a lot more than money, too. In addition to these admittedly important factors, cost of ownership involves initial cost, scheduled maintenance, repair costs, insurance—and the time, effort and aggravation that go along with each.

EXP and LN7 were conceived with just these things in mind. They were not designed for people with all the money in the world who could afford any sports car they want and never mind the practical matters that frankly rule them out for most buyers. The sportcoupes are packaged and priced in only one series so that most of the important features are standard, and options are what they should be: discretionary items. Both EXP and LN7 will cost hundreds of dollars less than their expected competition—if indeed they have any directly comparable competition. In fact, it will even be possible to buy both an EXP and an LN7—one for him, one for her, perhaps—for less than the price of one of many luxury sport cars.

Other costs will be equally reasonable. Scheduled maintenance will average less than one hour per year and, based on current costs, are projected at a total of only about $160 for the first five years or 50,000 miles.

Such items as the front-wheel bearings, front suspension and steering linkage are lubricated for life. The battery is maintenance-free. The manual transaxle has a self-adjusting clutch cable mechanism. No band adjustment or fluid change are needed on the automatic transaxle in normal use. The front and rear caster and camber need no adjustment during normal service. The engine's hydraulic valve lifters need no periodic adjustment. The carburetor choke and idle-fuel-mixture settings are preset permanently at the factory. The brakes are self-adjusting.

Moreover, non-experts can easily do most routine fluid checks—engine oil, transaxle fluid, power-steering fluid, brake fluid, windshield-washer fluid, radiator coolant—an important factor in the era of self-service gas stations.

Front brake-pad wear can also be examined easily by removing a front wheel, and the rear brake lining can be checked by removing a rubber plug in the brake backing plate.

Other do-it-yourself work can be handled with no tools at all or, at most, very simple tools. Easily replaced are fuses, engine oil, air filter, spark plugs, engine coolant, windshield wipers, exterior light bulbs and headlamps. The battery is easily accessible; even replacing the exhaust system presents no problem.

When more complex work is needed, it is reassuring to know that wherever you are in North America, there is a Ford or Lincoln-Mercury dealer close at hand who has participated in Ford's special World Car dealer service program—and can get whatever parts may be needed without undue delay.

. . . EXP and LN7: a single series, with the highest level of standard equipment practical. . .

What sets the sportcoupes apart most of all is what they contribute to the special lifestyles of their owners; and what sets sportcoupe buyers apart is their clear idea of what they want in a car. Ford decided very early, therefore, to present EXP and LN7 in a single series, with the highest level of standard equipment practical. With this sensible series lineup, there are a limited number of options to consider. We think this approach will be particularly welcomed by just the people who have been waiting for the opportunity to own a sporty car and would be disappointed to have to piece it together and see the price increase with every extra.

Of the options offered for EXP and LN7, two deserve special mention: (1) a folding rear utility seat designed especially for youngsters and parcels, providing a full seat with adequate legroom and 31-33" of rear headroom; and (2) the TRX all-out handling package described in detail on pages 14 and 15.

EXP and LN7 Standard Equipment:

Functional

- Front wheel drive
- 1.6L 2V Compound Valve-Angle Hemispherical (CVH) four-cylinder engine
- Four-speed manual transaxle (front wheel drive) with fourth gear overdrive
- DuraSpark electronic ignition
- Manual rack-and-pinion steering
- Power front disc/rear drum brakes
- Independent rear suspension
- P-metric radial and steel-belted tires (P165/80Rx13 BSW) with European tread design
- Deluxe sound package
- Electric rear window defroster
- Tinted glass
- AM radio including two front speakers*
- Maintenance-free 45 A-H battery
- Two-speed windshield wiper with fluidic washer
- Interval windshield wiper
- Three-speed heater/defroster blower
- Inside hood release
- Electric liftgate release
- Locking glove box
- Tachometer
- Ammeter, oil pressure gauge, door-ajar warning light and low washer fluid reminder light included in console
- Temperature gauge
- Electronic digital clock
- Trip odometer
- Flash-to-pass headlamp feature
- 11.3-gallon fuel tank capacity
- Front stabilizer bar
- Self-adjusting clutch linkage (MTX)
- Cargo compartment light (includes third door courtesy light switch)
- Engine compartment light
- Header mounted pivoting map light with integral dome light
- Ashtray light
- Headlamp-on warning buzzer
- Cigar lighter in console
- Glove compartment light

*May be deleted for credit.

Exterior

- Notchback styling theme for third door (EXP)
- Bubbleback backlite (LN7)
- Soft front and rear end fascias
- Fascia extension moldings front and rear
- Amber parking lamps in lower front fascia
- Bumper rub strips with integral amber side marker lamps
- Single rectangular halogen headlamps
- Body color headlamp doors (EXP); black headlamp doors (LN7)
- Black greenhouse molding and trim
- Dual, black door-mounted remote-control sport mirrors
- Sport-styled steel wheels
- Wraparound red taillamps (EXP); black "indiscernible" taillamps (LN7)
- Sport-tuned exhaust

Interior

- High-back reclining bucket seats in vinyl trim
- Inertia seat back release
- Deluxe color-keyed seat belts with tension eliminator
- Cut and score full, soft color-keyed wrapover door trim panels with map pocket
- Cargo tie-down bar; full-length support strips
- Multi-purpose tonneau cover for hidden storage
- Black sports steering wheel and column
- Black soft-feel instrument panel
- Stalk-mounted windshield wiper/washer controls
- Color-keyed headliner
- Roof grab handle on passenger side
- Coat hooks
- Color-keyed sun visors (pivoting, non-secured)
- 8" day/night rearview mirror
- Passenger side visor-vanity mirror
- Color-keyed interior molding and trim
- Color-keyed luxury carpeting
- Load floor carpet (extends to top of rear seat back when second seat is ordered)
- Driver and passenger door light switches

EXP and LN7 Optional Equipment:

- Automatic transmission (ATX) with guided shift pattern
- Power steering
- Fingertip speed control, includes "soft" four-spoke black steering wheel
- Air conditioning, manual
- Michelin TRX (365mm) tires with aluminum or steel wheels; includes special handling suspension with rear stabilizer bar
- Flip-up/open air roof
- Rear utility seat, folding, includes two rear ashtrays in quarter panel; two roof grab handles over quarter windows; tonneau cover
- Reclining low-back bucket seats
- Heater, engine block immersion
- Luggage rack, roof mounted, deluxe
- Tu-tone paint/tape treatment
- Protection appearance group, includes door-edge guards, floor mats, license plate frame
- Radio
  - —AM/FM monaural
  - —AM/FM stereo
  - —AM/FM stereo with cassette tape player
  - —Premium sound system
- Lambswool seat trim, includes natural leather bolsters in front seat
- Leather front seat trim
- Cloth seat trim
- RWL tires with thin white band
- Bracket, front license plate

EXP and LN7 Dimensions:

	(Inches, unless otherwise stated)
Wheelbase	94.2
Overall Length	170.3
Overall Height	50.5
Overall Width	63.0
Tread—Front	54.7
—Rear	56.0
Front—Headroom	37.0
—Legroom	41.7
—Shoulderroom	51.5
—Hiproom	51.8
Rear (With optional rear seat)	
—Headroom (EXP)	31.0
—Headroom (LN7)	32.7
—Legroom	32.7
—Shoulderroom	48.7
—Hiproom	44.4
EXP Cargo Volume (cu. ft.)	27.9
LN7 Cargo Volume (cu. ft.)	30.5
Fuel Tank Capacity (gals.)	11.3
Curb Weight (lbs.; objective level)	2100

Because this booklet is going to press before factory production of Ford EXP and Mercury LN7, all vehicles that appear in photographs are prototypes and may differ in minor detail from actual production models. All specifications listed were in effect at the time of printing; Ford Motor Company reserves the right to change specifications and features without notice and without obligation.

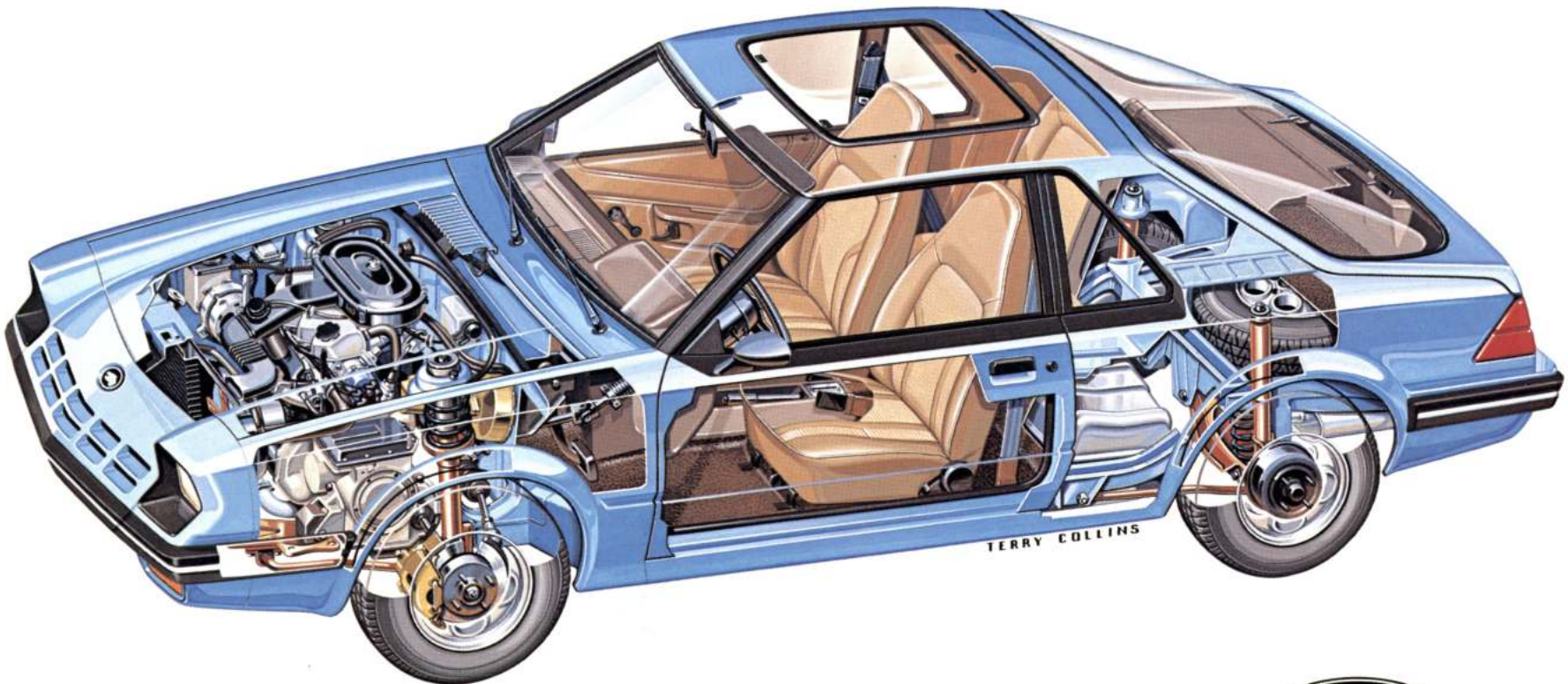
Ford EXP • Mercury LN7

Developed with the worldwide design and engineering expertise of the Ford Motor Company

The heart of the sportcoupes' advanced-technology package is the unique fuel-efficient Compound Valve-Angle Hemispherical (CVH) engine. The front-wheel-drive EXP and LN7 are available with two innovative transaxles: a manual transaxle (MTX) with top gear ratio of 0.8 to 1 and a new Ford-patented "split-torque" automatic transaxle (ATX).

EXP and LN7 feature exceptional handling credentials with fully independent rear suspension (IRS) and full MacPherson strut front system in both a base suspension and optional TRX package.

The sportcoupes are the most aerodynamic standard-equipped American cars on the road: .37 coefficient of drag for the EXP notchback; .36 for the LN7 bubbleback.



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