

# 1984 Ford Tempo



## Ford Tempo: Style and Technology in Total Harmony

The concept behind the Ford Tempo is simple. The car is more than the sum of the individual commitments that guided its development from the drawing board to assembly. In Tempo, design ingenuity and engineering precision come together in harmony. It's a concept of quality shared by fine automobiles around the world.

Ford believes in functional designs. It shows in Tempo's aerodynamic shape. Air drag is minimized to increase fuel economy and reduce wind noise. At the same time, airflow is carefully directed to enhance ride and handling stability. In aerodynamics and the science of airflow management, Ford is a recognized world leader.

In Tempo, performance and economy are not at odds. The new 2300 HSC (High Swirl Combustion) engine with advanced EEC-IV computer combines high low-end torque acceleration with high fuel economy.\*

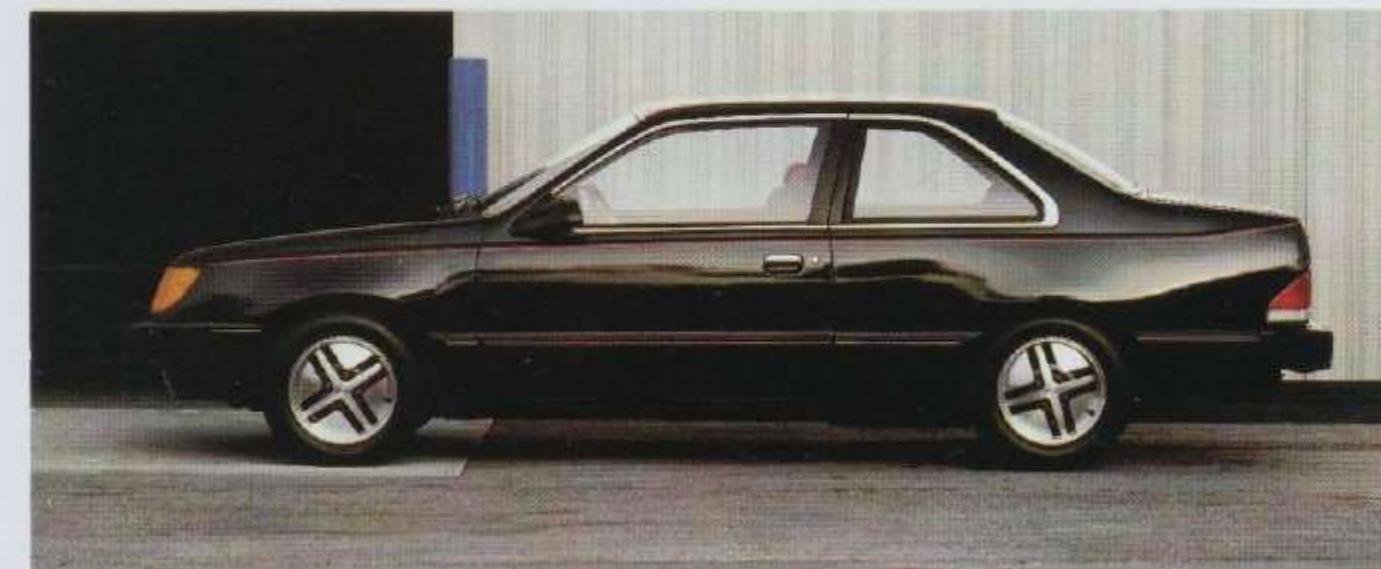
Tempo's front-wheel drive provides excellent traction. The four-wheel independent suspension system delivers a smooth ride and responsive handling. The interior is computer-refined, seating five passengers comfortably.

In Tempo, form follows function naturally. The result: Style and technology are in total harmony.

\*See Gas Mileage statement on page 23.

### FORD TEMPO GLX

The ultimate expression of the new Ford Tempo. All the rewards of driving a luxury 2-door coupe or 4-door sedan.



### FORD TEMPO GL

The Tempo series that could satisfy almost anyone's needs. Attractive inside and out, equipped for comfort and convenience.



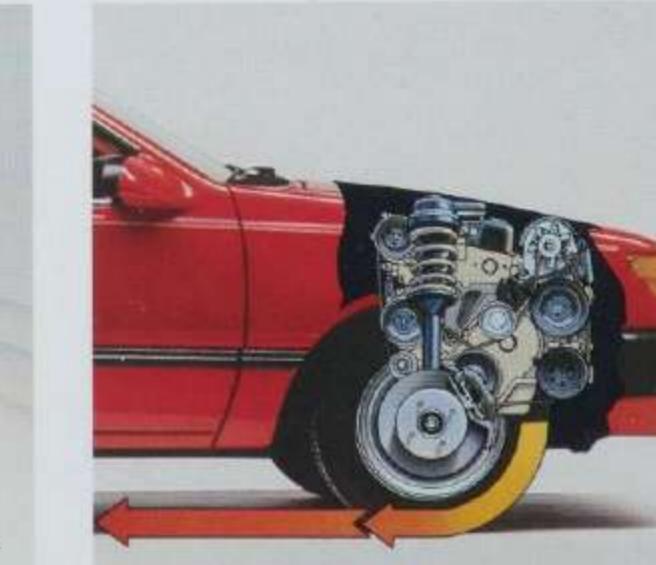
### FORD TEMPO L

Where the value of owning a Ford Tempo begins. Advanced technology at the top of a list of impressive standard features.





Tempo GLX 4-Door Sedan



## The New Ford Tempo

### A front-wheel-drive car that answers the difficult questions.

Before Ford began work on Tempo, before a designer drew a line or an engineer wrote an equation, a clear simple concept of precisely what the car should be was established: a functional answer to questions of economy, performance, comfort and aesthetics.



### A form with a function.

Aerodynamic efficiency is a major standard by which cars are judged. And for good reason. Proper aerodynamic design has a profound effect on a car's total performance.

It's clear that, in Tempo, Ford's commitment to fresh thinking in aerodynamic design has worked. Tempo is one of the most aerodynamic cars in its class.

The 2- and 4-door models are rated at .36 and .37, respectively. No more than six horsepower are needed to power Tempo through the wind at 50 mph. The result: less power required, less fuel consumed.

Suspension and steering systems benefit from aerodynamics as well. Tempo is actually shaped to use airflow to reduce lift and thereby enhance directional stability and handling response. Also, wind noise is reduced at higher speeds.

### The Tempo power concept.

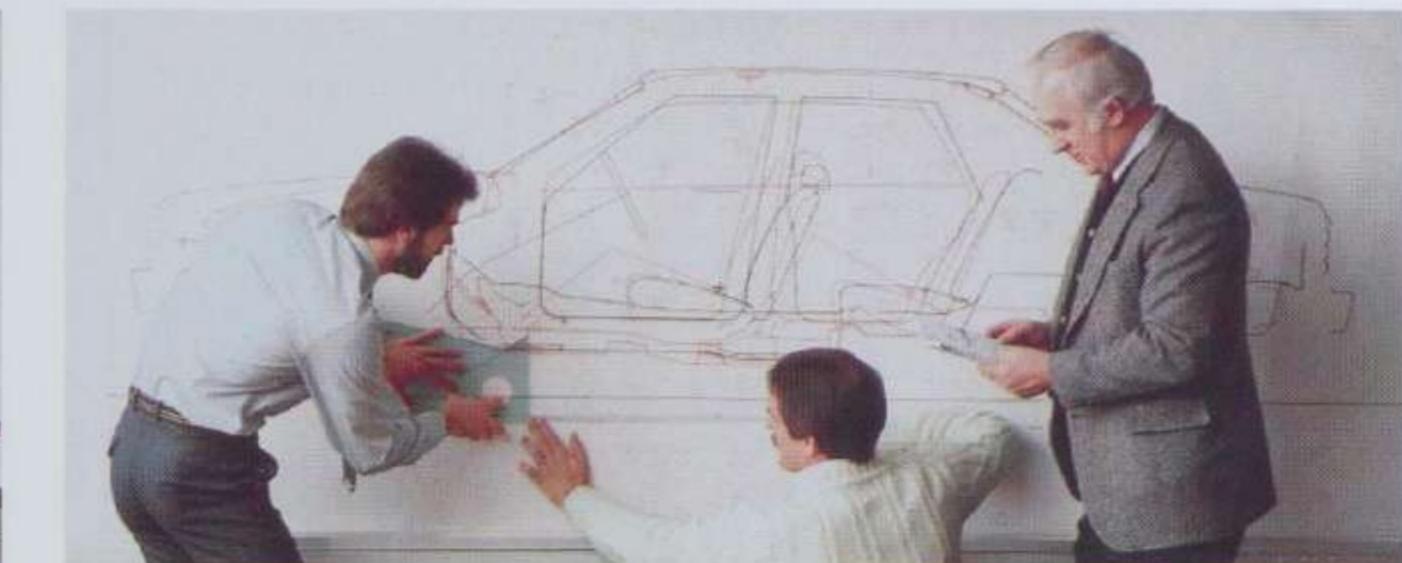
The 2300 HSC (High Swirl Combustion) engine, specifically developed for Tempo, strikes the balance between economy\* and performance that is so often missing in 4-cylinder engines.

**(1)** Tempo is aerodynamically shaped for high fuel economy, handling responsiveness, and reduced wind noise.

**(2)** Tempo has front-wheel drive and Ford's first production fast-burn engine.

In the HSC engine, high-swirl fuel induction ports combine with center-firing combustion chambers to burn fuel quickly, evenly and efficiently.\*

The 2300 HSC engine generates an impressive 125 foot pounds of torque at 2,700 rpm. This means more authoritative acceleration from standing starts and at lower speeds in city driving, with either manual or automatic transaxle.



### EEC-IV: The most advanced automotive computer.

Integral to the HSC engine's performance is EEC-IV (Electronic Engine Controls) — the most advanced onboard automotive computer in the world.

EEC-IV can process as many as 250,000 control operations per second, if necessary, and adjust functions such as spark advance and timing to the demands of changing driving conditions. The adjustments are made instantaneously and precisely.

### A world-class handling system.

Tempo's front-wheel drive combines with all-season steel-belted radials to provide excellent traction in year-round weather conditions. Front-wheel drive also contributes to precise handling.

The fully-independent suspension in Ford Tempo is the first system of its kind built by Ford in America that uses the MacPherson struts at every wheel. Each wheel takes bumps and jolts individually to isolate and cushion the effect

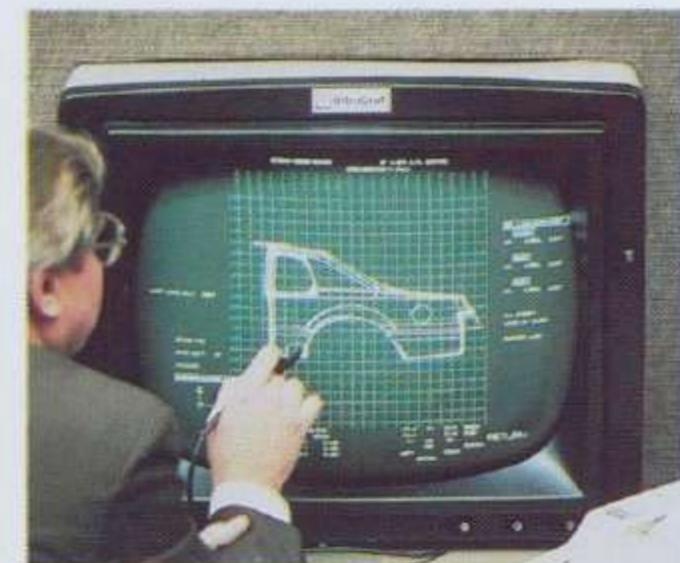
of road shocks for better handling and a smooth, quiet ride.

Tempo also has power-assisted front disc/rear drum brakes and responsive rack and pinion steering.

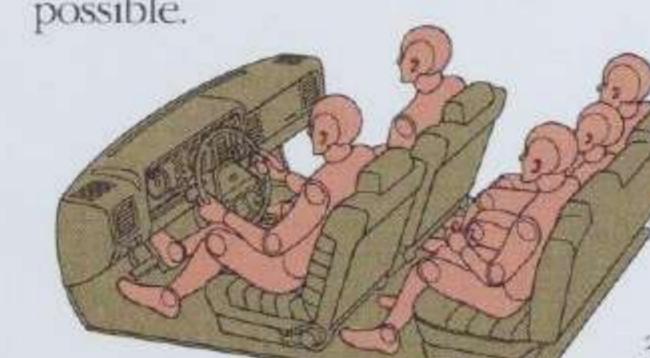
### Computer-refined interior.

Design ingenuity and computer refinements have combined to make the best use of Tempo's interior space.

Tempo provides ample room for five passengers. This was



Some of the most advanced automated vehicle design equipment in the world is at Ford's Engineering Computer Center. Computer-aided graphics techniques—Finite Structural Analysis and Modal Analysis, for example—allow engineers to construct mathematical models on computer screens and simulate vehicle and component behavior as if under actual operating conditions.



### Maintenance-free features.

Ford has gone to great lengths to keep Tempo's maintenance costs as low as possible. Following are some noteworthy examples.

In Tempo, the battery never requires fluid check. Self-adjusting brakes have lifetime fluid. Front suspension and wheel bearings are lubed for life. The clutch in manual transaxles is self-adjusting.

The engine's hydraulic valve lifters require no adjustment. Nor do the carburetor idle mixture, choke setting and ignition timing. And the optional automatic transaxle requires no fluid change or band adjustment in normal service.

\*See Gas Mileage statement on page 23.



Tempo GLX 2-Door Coupe

## Ford Tempo GLX

**The ultimate expression of the new Ford Tempo.**

The appointments that set this series apart make the comforts of Tempo's 5-passenger interior all the more rewarding.

The GLX experience includes reclining front seats in full luxury cloth upholstery. Padded doors and carpeted lower sections. Plus thick, 16-ounce floor carpeting.

Among the features exclusive to GLX is the rear seat back, specially contoured for added support and comfort. The wide lower bodyside moldings are unique to GLX as well, as are the bumper end cap extensions. The luggage compartment is carpeted.

GLX offers the convenience of remote-control outside mirror adjustment, a trip odometer, an overhead swivel map light, and three passenger assist handles. Plus the features standard in the GL series, such as the electronic digital clock with elapsed time and date readouts, and intermittent wipers that can be adjusted to variable wet weather conditions.

The new Tempo GLX series: a broader perspective on the pleasure of driving a luxury 2-door coupe or 4-door sedan.



*Body measurements must conform to highly critical tolerances. A sophisticated measuring device is used to ensure that doors, hood and decklid, for example, fit exactly into place on the assembly line. It can check tolerances down to 1/10,000 of an inch.*

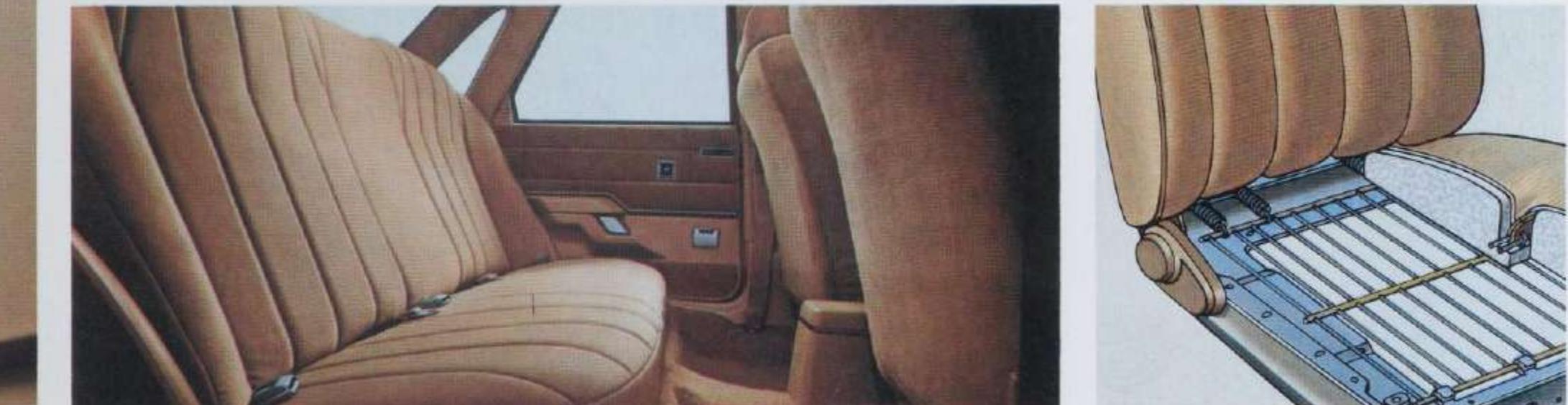


## The Tempo Interior

### Computer-refined interior for five-passenger comfort.

Tempo's space-efficient interior is computer-refined for maximum room and comfort. Total interior volume, passenger and luggage compartments combined, is 103.3 cu. ft. (EPA Volume Index).

The Tempo 5-passenger interior demonstrates the practical use of available space. Doors, seats, roof



and pillars are designed to maximize room for every passenger's head, shoulders, hips and legs. And there's the additional floor area that front-wheel drive provides.

The driver and front passenger have the freedom of individual seat adjustment, forward or back on a track that's over 7 inches long.

The seats are deep-cushioned for comfort and contoured for firm back and thigh support. Seat back recliners are standard in Tempo GL and GLX, available in Tempo L. Seat belts have a comfort regulator feature that eliminates pressure on chest and shoulder, allowing greater freedom of movement.

There's room for three rear occupants, giving Tempo the practical benefit of space associated with larger sedans. The independent rear suspension allows for

more rear seat and trunk space than would be possible with a conventional axle-based system.

Tempo has, in fact, more rear passenger compartment room than a Mercedes 300D.

Other notable features inside every Ford Tempo:

□ The new steering wheel has an A-frame center design that provides a clear view of the entire instrument cluster. The wheel rim is molded to fit any driver's hands comfortably.

□ Controls are within easy reach. Several are located on two column-mounted levers for fingertip convenience: turn signals, horn, headlamp high-beam control and flash-to-pass feature on the front lever; windshield wipers and washer system on the rear lever.

□ The full-length consolette includes storage trays for carrying small travel items. There's a storage tray in the instrument panel as well. Front door trim panels each have a storage bin.

□ The rearview mirror is adjustable for both day and night driving. The hood releases from the inside—a security feature.

□ Automatic inertia releases in the 2-door coupe eliminate the need to unlatch the seat backs manually to enter the rear seat area.

□ On the instrument cluster is a light that signals the right moment to upshift the gears for optimum fuel economy (manual transaxles only). This indicator is not a command, just a convenient reminder.

*Tempo's individually adjustable front seats are body-contoured for comfortable back and thigh support. They have deep foam cushions with Flex-o-lator spring support. And the seat backs are contoured to provide added knee room for rear seat occupants.*



Tempo GL 4-Door Sedan

### Ford Tempo GL

**The Tempo series that could satisfy almost anyone's needs.**

Ford product planners designed Tempo GL to offer what most drivers would want, and probably more, in the way of standard features.

Tempo GL is attractive. Seats have luxury cloth between soft vinyl bolsters. The lower seat facings are carpeted, a feature some more expensive cars don't have.



Door trim panels are padded vinyl with molding accents and carpeted lower sections. The sun visors are cloth-covered, include vanity mirrors.

Tempo GL is comfort and convenience. The seat backs fully recline. The control knob that regulates GL's interval windshield wipers is appropriately located on the rear column-mounted lever, which activates the two higher speed wipers and the fluidic washer system. Also standard in GL are electronic digital clock and the luxury sound insulation package.

Additional GL features: two rear seat ashtrays, protective body-side moldings, luxury wheel covers and bumper rub strips. Plus all the value built into the well-equipped Tempo L series.



*Tempo's wrapover door design is more than a styling feature. One of many refinements in Tempo's aerodynamic design, it has a built-in rain trough that eliminates the wind-catching roof drip molding.*



Tempo L 2-Door Coupe

## Ford Tempo L

**The standard series: where the value of owning Tempo begins.**

The value implicit in advanced design, technology and engineering sums up the benefits of owning a Tempo L, GL, or GLX series.

Tempo is the experience of front-wheel-drive traction, the new power-efficient 2300 HSC engine with advanced Electronic Engine Controls (EEC-IV), the excellent



ride and handling the four-wheel independent suspension delivers, and 5-passenger interior comfort.

Also in Tempo: The standard split-diagonal power-assisted brake system provides both front and rear braking capabilities for controlled stops, even in the event of a partial system failure.

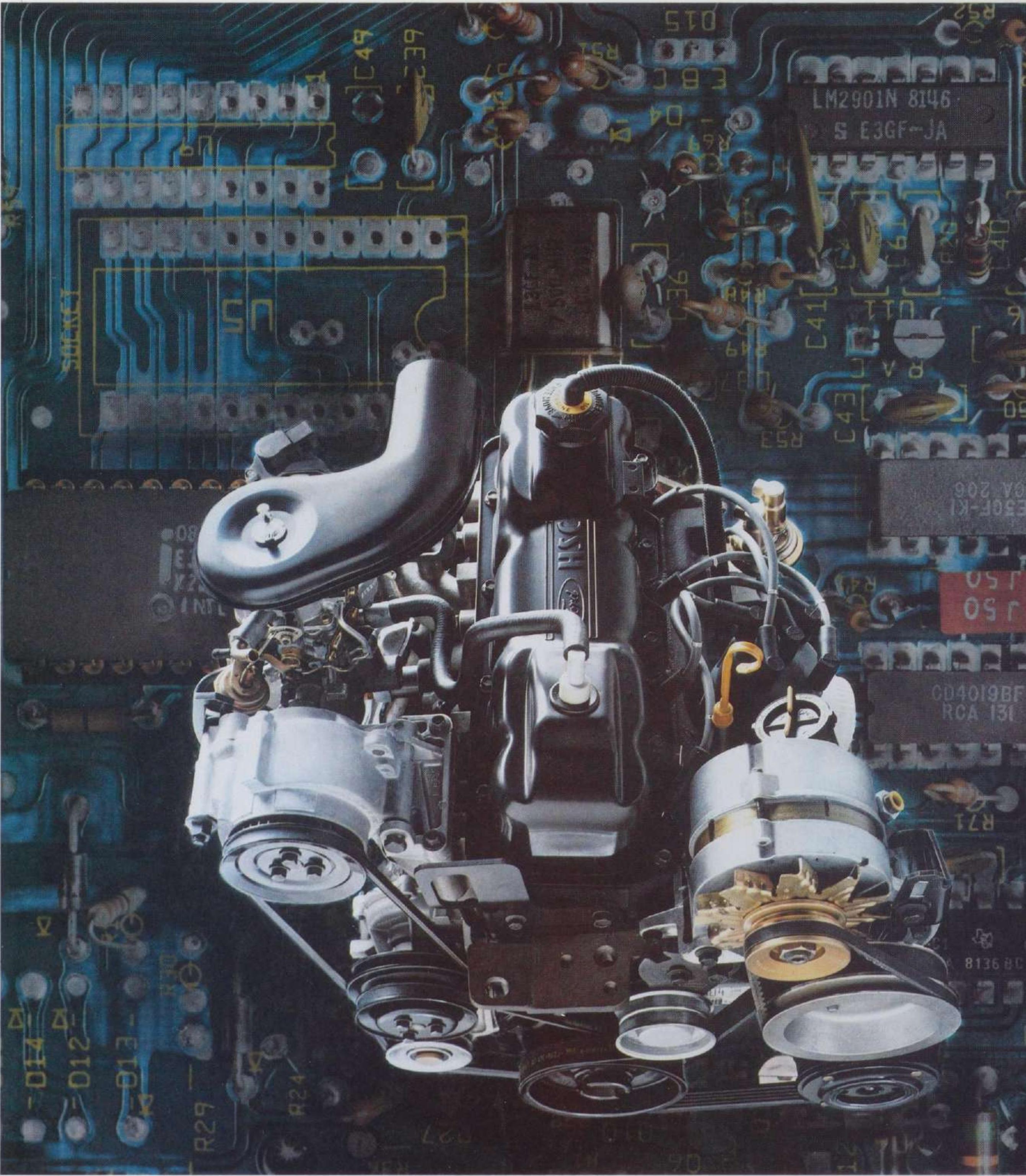
The steel-belted radial tires are engineered for excellent traction in year-round weather conditions. They're also designed to improve fuel economy when inflated to maximum pressure (30 psi).

### Tempo powerteams:

The 2300 HSC engine with Fuel Saver (FS) calibration is standard in all Tempo series. It's teamed with a 4-speed manual transaxle with overdrive (.81:1 final drive ratio).

Available is the 2300 HSC engine with 5-speed manual transaxle that features sport close-ratio gearing and .72:1 final drive ratio. The optional automatic transaxle with patented "split-torque" feature, explained on page 17, is available in the GL and GLX series.

*Ford's Dynamometer Laboratory in Dearborn, Michigan, is a highly sophisticated powertrain research and testing facility. Specialists in numerous fields perform such operations as "engine mapping," durability testing, trans-shift cycle testing, vehicle simulation, thermal efficiency and combustion studies.*



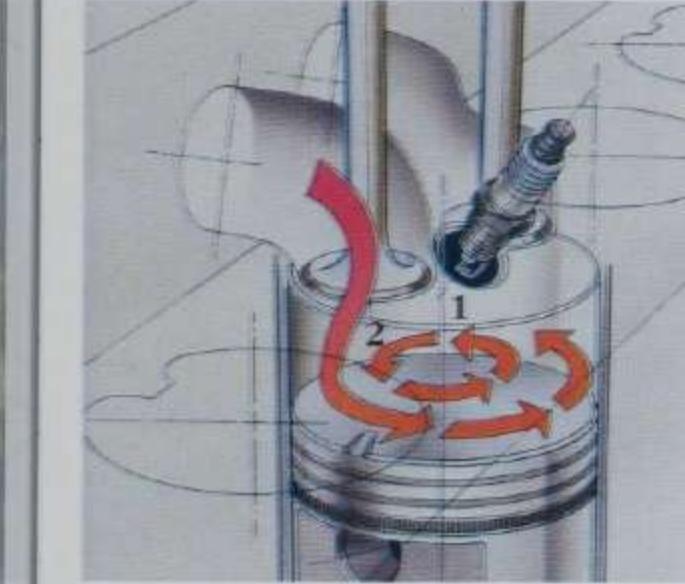
## Ford Tempo Performance

## The 2300 HSC engine: Ford's first production fast-burn powerplant.

The new 2300 HSC (High Swirl Combustion) engine was specifically developed to generate high low-end torque performance and also provide high fuel economy.\*

One way to burn fuel efficiently is to burn it quickly. This is why the HSC engine is designed to do

1990-1991



The spark plug is located near the center of the modified wedge shaped combustion chamber where the fuel-air mixture is compressed (1). A special shroud built into the induction system "swirls" the fuel-air mixture as it enters the chamber (2). It's this high swirling motion that keeps the charge burning at a fast rate to extract maximum power from every drop of fuel.

The HSC engine, with overhead valve design, fast-burn combustion and high 9:1 compression ratio, delivers high torque in the lower rpm range—125 foot pounds of torque at 2,700 rpm. This high low-end torque provides power for the kind of acceleration needed for stop-and-go driving. Most overhead cam engines, on the other hand, generate peak power at the higher rpm end of the curve.

High low-end torque also makes the HSC engine easily adaptable to the automatic trans-axle many drivers prefer. Tempo's optional automatic features a notable design benefit related to fuel economy. It has a patented "splitter" gear that transmits 62% of the

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e torque mechanically in 2nd gear, 93% in 3rd gear, to reduce power-wasting hydraulic slippage significantly.

Behind the new HSC engine—the world's most advanced automotive computer.

Under the hood is a computer called EEC-IV, the latest generation of Ford's Electronic Engine Controls. EEC-IV utilizes the current advancements in micro-processor technology. Two micro-circuits, one for computing, one for memory, are integrated into a single computer chip.

EEC-IV provides precise control over conditions affecting the engine's overall efficiency and performance. EEC-IV can process as many as 250,000 engine operations per second, if necessary, and make adjustments to changing conditions instantaneously.

Among the most important functions of EEC-IV: Provide accurate, constant control of fuel metering. Adjust ignition timing to control spark knock. Control the intake and engine coolant temperatures, as well as exhaust gas recirculation and other emissions control devices. Cut off the air conditioner compressor at wide-open throttle to eliminate power drag.

EEC-IV also has a "keep alive" memory that adjusts engine functions based on component wear. It even has a self-test feature that aids in system diagnosis.

aids in system diagnosis.

Achieving high marks in fuel economy is not a task assigned exclusively to powertrain engineers. Specialists in the science of aerodynamics make a significant contribution as well.

Improved fuel economy is the major benefit of an aerodynamic design. But aerodynamics plays other important roles. Handling agility and directional stability are enhanced when air is used to reduce lift, thereby increasing downforce. And since the air flows smoothly over an aerodynamic car instead of hitting it abruptly, the wind noise level in the passenger compartment is reduced.

Drag coefficient ( $C_d$ ) in conjunction with frontal area ( $A_F$ ) is the measure of a car's design efficiency. The principle is: The lower the air drag coefficient, the lower the wind resistance. To put this in perspective, a parachute has high air drag at about  $1.35\text{ Cd}$ . Conversely, a teardrop-shaped air

foil (as on an airplane wing) has a coefficient rating reaching as low as .05. Tempo's low drag coefficients are .36 (2-Door) and .37 (4-Door).

A low air drag design improves fuel economy because less horsepower is needed to move the car through the air. Tempo generates 84 horsepower at 4400 rpm, based on SAE standard J1349. But no more than six aero horsepower are needed for Tempo to overcome wind resistance at 50 mph.



*Low air drag coefficient ratings make Tempo one of the most aerodynamic cars in America.*

\*See Gas Mileage statement on page 23.



## The Ford Tempo Ride

### A world-class, four-wheel independent suspension.

Tempo is one of a few American-built cars with a suspension that's fully independent at all four wheels. The independent suspension is widely recognized for its advanced design characteristics.

#### Front suspension

For riding comfort and handling response, the front system features MacPherson struts with high-lift double-acting pistons, which are teflon-coated to reduce

friction. A stabilizer bar links the suspension arms. The upper strut mounts have a "dual path" design which separates mechanical forces (the springs) from hydraulic forces (the struts) and directs these forces into different paths. Each path is specifically tuned to optimize ride and handling.

The turning axis of the wheels intersects the road surface near the center line of the tires. This is "negative scrub" geometry, a feature designed for handling control (1).

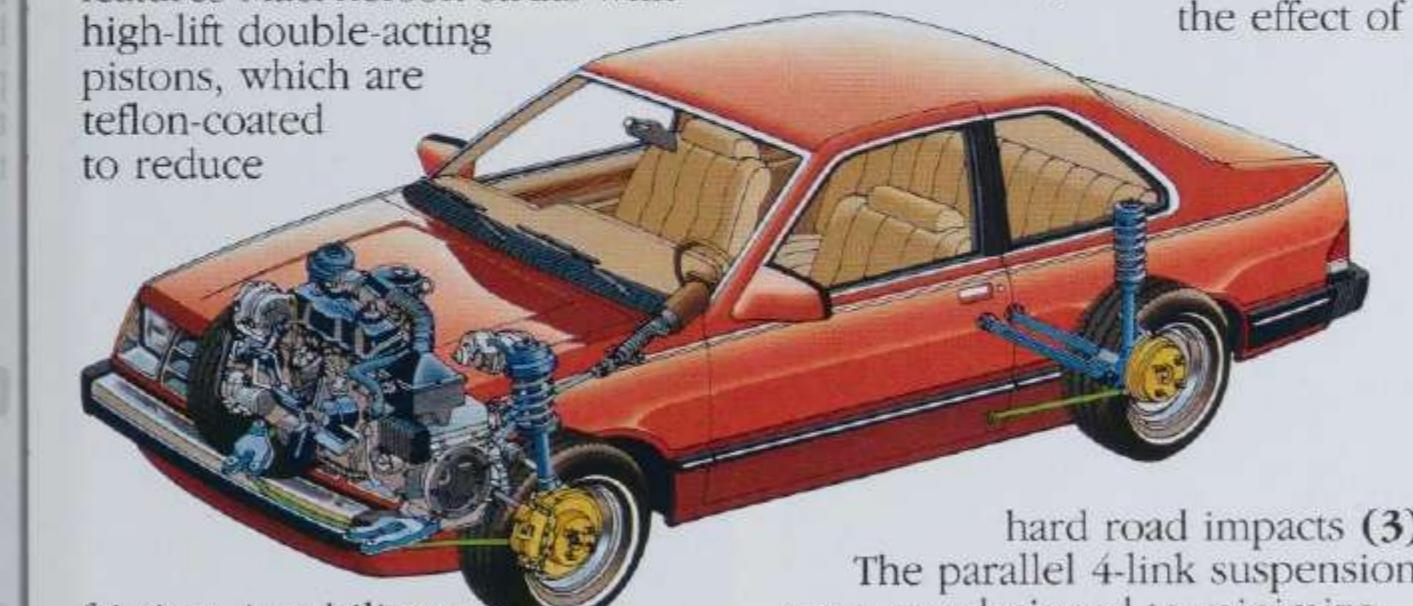


#### Rear suspension

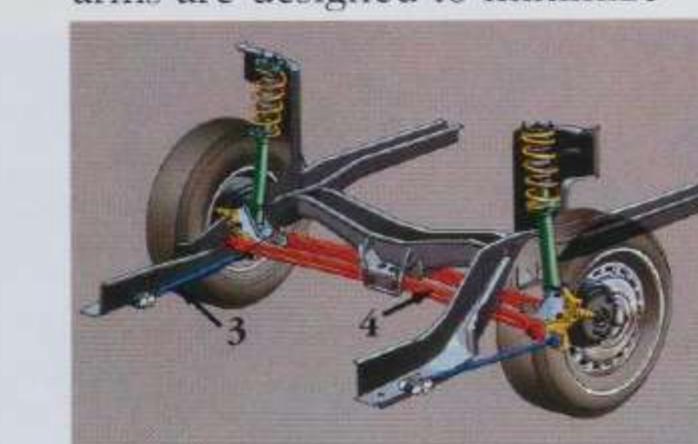
Tempo has the first independent rear suspension built by Ford in America using MacPherson struts.

The major benefit of the independent system is increased control over road shock, because it's easier to control the effects of a hard jolt on passengers when each wheel handles rough road conditions individually (2). In cars with solid rear axles, on the other hand, a jolt to one wheel deflects the entire rear suspension.

In Tempo's rear suspension design, longitudinal tie rods allow for considerable compliance or "give" which reduces the effect of



hard road impacts (3). The parallel 4-link suspension arms are designed to minimize



changes in suspension geometry for handling response (4).

A significant ride quality feature is the 8.5 inches of "travel"—the total distance each wheel can travel up (3.4-in. jounce) and down (5.1-in. rebound). Increased suspension travel gives a car greater ability to absorb road shocks. Tempo has as much rear suspension travel as Ford's full-size luxury cars have.

#### Optional handling packages.

Tempo offers, in addition to the standard suspension, a heavy-duty package consisting of higher rate springs and struts plus larger diameter front stabilizer bar. This package provides tighter handling. And there's the top-line TR Handling Package that features Michelin TRX tires, cast aluminum wheels, plus suspension and steering

components specially tuned to the tires and wheels.

#### Steering system that's direct and responsive.

Tempo has rack and pinion steering to complement the advanced four-wheel independent suspension.

The responsiveness of rack and pinion steering is directly related to its simple, low-friction design.

At the end of the steering column is a single "pinion gear" (1)



connected to a "rack" (2) of gear teeth that's linked to the steering arms. Just a slight turn of the steering wheel rotates the pinion gear one notch, which moves the rack laterally one notch.

The feel of rack and pinion steering is firm, precise, adds to Tempo's fun-to-drive qualities. Also, it contributes to Tempo's tight turning diameter of 38.7 feet for overall maneuverability.



## Commitment to Quality

### The fine points of excellence built into every Ford Tempo.

In Tempo, much attention is given to the quality of details throughout the car. At Ford, every detail is an important part of a total commitment to quality.

Tempo has close body fit tolerances. The sheetmetal fits precisely. Joints look and feel smooth.

The instrument panel's steel structural reinforcements are spot-welded, not bolted, to help eliminate the potential for squeaks and rattles.

Weatherstripping on the doors provides three lines of defense against leakage.

The door hinges have nylon roller-type checks. This design requires no lubrication.

Standard lower bodyside protection—a vinyl coating under the paint—helps guard against stone chipping and the corrosive effects of road salt.

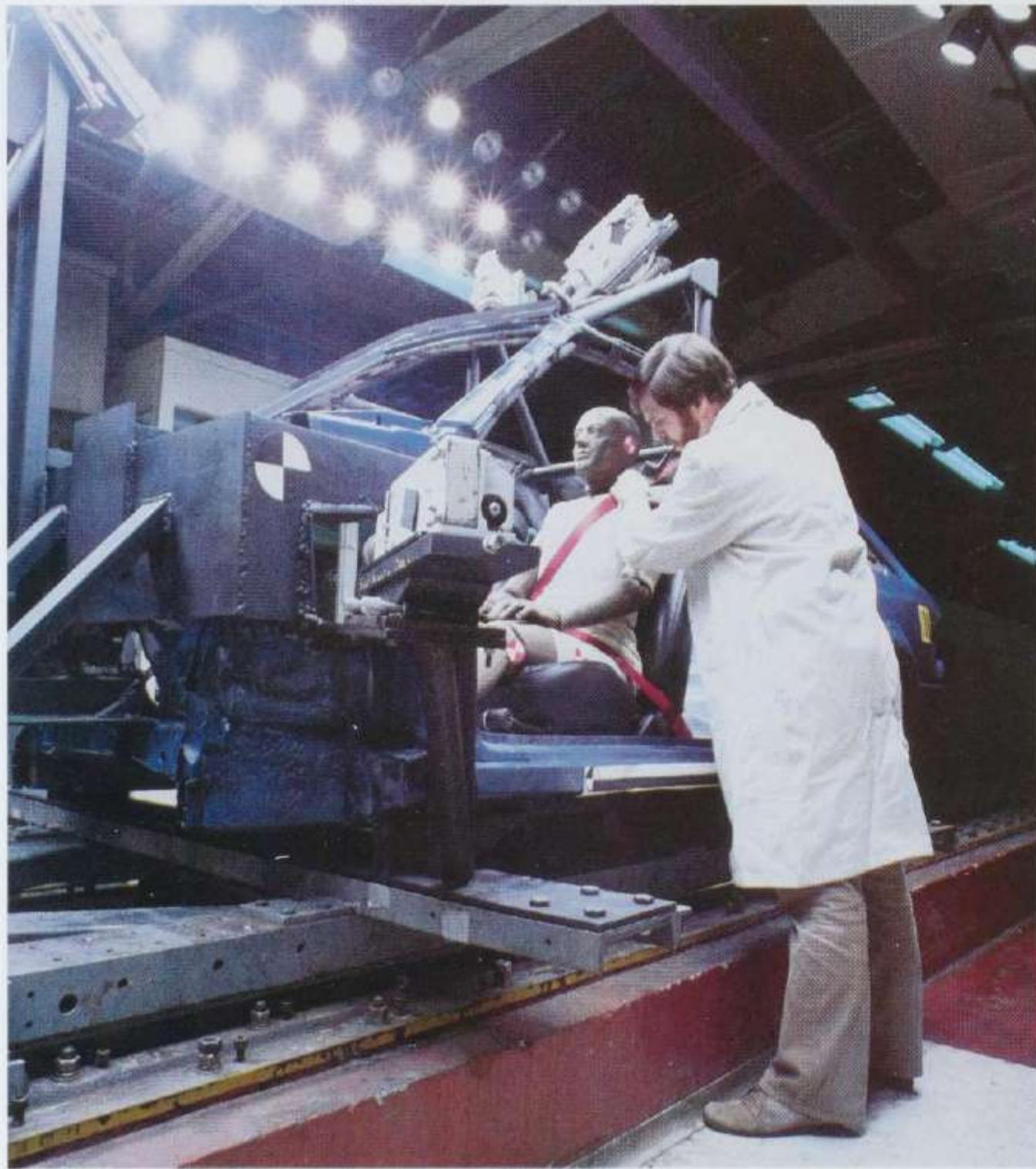
Tempo receives extensive corrosion protection treatments. Galvanized steel and Zincrometal® sheetmetal, for example, as well as applications of hot-sprayed aluminum wax and body seam sealers.

Tempo's finish consists of two coats of primer and three coats of enamel paint. The finish is lustrous, resists cracking, nicking and peeling.

#### 5-mile an hour bumper system.

While some cars have replaced the 5-mile an hour bumper system with a 2½-mile an hour system, Tempo offers you the protection of 5-mile an hour bumpers front and rear.





As many as 350 crash tests involving cars and trucks for durability and occupant safety are conducted annually in the Crash Barrier Building located at Ford's Dearborn, Michigan, Proving Ground. The facility has two crash-test barriers and highly sophisticated equipment to measure and analyze data in the areas of acceleration, force and displacement.

## Ford Lifeguard Design Safety Features

### Vehicle Operation

Safety rim wheels and load-rated tires  Dual service hydraulic brake system with warning light  Corrosion-resistant brake lines  Turn indicator lever with lane-changing signal feature  Hazard warning flasher  Back-up lights  Side marker lights  Parking-lights coupled with headlamps  Two-speed or variable-speed windshield wipers  Windshield washers  Outside rearview mirror, driver's side  Glare-reduced instrument panel, windshield wiper arms, and windshield pillars  Uniform transmission shift quadrant (on all cars equipped with automatic transmission)  Continuously variable control illumination intensity (instrument panel lighting)  Safety hood latch system  Impact-resistant front and rear bumper systems

### Occupant Protection

Safety-designed front end structure  Safety-designed roof structure  Steel guard rails in side doors  Double yoke safety door latches and safety hinges  Integral lap and shoulder belts with automatic retractors for front outboard occupants  Positive seat belt fastening reminder warning light and buzzer or chime for the driver  Lap belts with mini-buckles for center front (where three-passenger front seat is provided) and all rear seating positions with retractors for rear outboard occupants  Energy-absorbing steering column and steering wheel  Energy-absorbing armrests and safety-designed door handles  Energy-absorbing instrument panel with padding for right and center (where three-passenger front seat is provided) front pas-

sengers  Padded sun visors  Energy-absorbing front seat back tops with padding  Self-locking front seat backs on two-door vehicles  Head restraints or high-back seats for front outboard occupants  Safety glove box latch  Inside yieldaway rearview mirror  Impact-absorbing laminated safety glass windshield  Flame-resistant interior materials  Safety-designed coat hooks  Safety-designed radio control knobs and push buttons (on all cars equipped with radios)

### Anti-Theft

Locking steering column with key warning buzzer (or chime)  Visible vehicle identification number  Separate keys for ignition and door entry



The optional "Tot-Guard" is for children weighing up to 50 pounds (shown). Infant Carrier is for children up to 20 pounds. Both are available at your Ford Dealer.

## Ford-Paid Repair Programs After the Warranty Period

Sometimes Ford offers adjustment programs to pay all or part of the cost of certain repairs. These programs are intended to assist owners and are in addition to the warranty or to required recalls. Ask Ford or your dealer about such programs relating to your Ford or Lincoln-Mercury vehicle.

To get copies of any adjustment program for your vehicle or the vehicle of interest to you: Call Ford toll-free at 1-800-241-3673. Alaska and Hawaii call 1-800-241-3711 and in Georgia call 1-800-282-0959.

Or write Ford at: Ford Customer Information System, P.O. Box 95427, Atlanta, Georgia 30347.

We'll need your name and address; year, make, and model vehicle, as well as engine size; and whether you have a manual or automatic transmission.

### Technical Service Bulletins

All vehicles need repairs during their lifetime. Sometimes Ford issues Technical Service Bulletins (TSBs) and easy-to-read explanations describing unusual engine or transmission conditions which may lead to costly repairs, the recommended repairs, and new repair procedures. Often a repair now can prevent a more serious repair later. Ask Ford or your dealer for any such TSBs and explanations relating to your Ford or Lincoln-Mercury vehicle.

To get copies of these Technical Service Bulletins and explanations for your vehicle or the vehicle of interest to you: Call Ford toll-free at 1-800-241-3673. Alaska and Hawaii call 1-800-241-3711 and in Georgia call 1-800-282-0959.

Or write Ford at: Ford Customer Information System, Post Office Box 95427, Atlanta, Georgia 30347.

We'll need your name and address; year, make, and model vehicle, as well as engine size; and whether you have a manual or automatic transmission.

### Gas Mileage

1984 EPA mileage estimates were not available at the time this catalog was approved for printing. However, the new Ford Tempo is expected to post excellent mileage ratings. As soon as EPA figures are released, your Ford Dealer will be among the first to receive this information and will be happy to pass it along to you.

### Ask Your Ford Dealer

Following publication of this catalog, certain changes in standard equipment, options, prices and the like, may have occurred which would not be included in these pages. Your Ford Dealer is your best source for up-to-date information.

### Product Changes

Ford Division reserves the right to change product specifications at any time without incurring obligations.

### Lifetime Service Guarantee

Participating Ford and Lincoln-Mercury Dealers are now offering the Lifetime Service Guarantee, which guarantees their work for as long as you own your car. It means that you pay for a covered repair on your Ford or Lincoln-Mercury car or Ford light truck once—and never again. If it ever has to be fixed again, they'll fix it free. Free parts. Free labor. Even if you keep your car a lifetime. It doesn't matter where you bought your car, or whether it's new or used; the work is still automatically covered by the repairing dealer.

This limited warranty covers vehicles in normal use. Parts not covered are routine maintenance parts, belts, hoses, sheet metal and upholstery. See any participating Ford or Lincoln-Mercury dealer for details.

MEASUREMENTS	2-Door	4-Door
Wheelbase	99.9"	99.9"
Length	176.2"	176.2"
Height	52.5"	52.7"
Width	68.3"	68.3"

Tread:	Front	54.7"	54.7"
	Rear	57.6"	57.6"
Trunk Volume (cu. ft.)	13.4	12.9	
Fuel Capacity (gal.)	14.0	14.0	
Curb Weight (lb.)	2,405	2,468	
Passenger Capacity	5	5	

### POWERTEAMS

Engine	Transaxle	Axle Ratios
2300 HSC FS (Fuel Saver)*	4-Speed	3.04 NA
2300 HSC	5-Speed	3.33 3.33
2300 HSC	Automatic**	3.23 3.23

\*Not available with optional air conditioner or California Emissions System.

\*\*Not available in L series.

### SCHEDULED MAINTENANCE

Ford wants to reduce both the frequency and cost of normal scheduled maintenance on its cars to an absolute minimum. Here are some examples of scheduled maintenance intervals for the new Tempo. For complete maintenance recommendations, refer to the Tempo Owner Guide.

Engine Oil Change	each 7,500 miles
Spark Plug Change	each 30,000 miles
Air Filter Replacement	each 30,000 miles
Engine Coolant Replacement	each 52,500 miles or 3 years



Get it together—Buckle up.

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Litho in U.S.A.

**FORD TEMPO**

FORD DIVISION

