

Smaller Thunderbird and Cougar star in lineup of trimmer '80 Fords and Mercurys



Electronic instrument cluster (shown above on Thunderbird) is optional on several models. Digital speedometer reads in mph or kph; fuel gauge has 32 vacuum-

fluorescent segments to graphically represent fuel level. Turbocharged four-cylinder engine from 1979 Mustang is now also available in Fairmont sedans (below).

By JIM DUNNE

Two new, completely redesigned cars and a number of important, though less spectacular, features highlight Ford's and Mercury's 1980 car line-ups.

The most noteworthy changes are the new Ford Thunderbird and Mercury Cougar XR-7. They're smaller, lighter, and more fuel efficient, and built on an entirely different chassis. Also new are Ford's four-speed automatic overdrive transmission (PS, Aug.), keyless door locks, and a new electronic engine-control system.

The new Thunderbird and Cougar
Continued





Cougar XR-7 (above and left) is only Cougar model this year; all others have been dropped. New body is 15 inches shorter, hundreds of pounds lighter than last year. Michelin TRX tires are optional. Rear legroom and knee clearance are both more than three inches greater. Large, deep-well trunk has nearly 18-cu.-ft. capacity. New body shell is shared with Thunderbird.



PS auto editor Jim Dunne checks out new Thunderbird at Ford's Dearborn, Mich., proving grounds. Despite large size reduction during complete redesign, new car still retains classic Thunderbird identity, but with big increase in efficiency.

XR-7 (its twin from the Lincoln-Mercury division) are built on a unit-body chassis for the first time this year, as Ford has abandoned the separate frame-and-body construction in all except its largest cars. The Thunderbird/XR-7 chassis is very similar to that of the Fairmont/Zephyr, and it's no coincidence, since the Ford compact was used as the test-bed for the new personal-luxury-car chassis. That means the variable-ratio rack-and-pinion steering, strut front suspension, and four-bar rear suspension used on the T-bird and Cougar are proven designs, refined over two years of Fairmont/Zephyr production.

The common body is all new. While the exteriors are significantly smaller, interior dimensions are as good as, or better than, those of the 1979 cars, especially where rear-seat

room is measured. Outside, wheelbase has been cut 5.5 inches, to 108.4, and overall length has been slashed by almost 17 inches (15 for XR-7) to a compact-size 200.1 inches (200.4). Overall widths are slimmer by four inches, but the cars provide better space inside for the passengers. Trunk space is increased by more than two cubic feet.

Thunderbird and Cougar have shed about 750 pounds. Their 3273-pound weight, smaller engines, and/or overdrive automatic transmissions have boosted fuel economy by as much as five mpg above the 1979 models. For instance, where EPA composite ratings list the 1979 Thunderbird line at 15 to 16 mpg, the 1980's are estimated at a solid 20 mpg.

Overdrive means more mpg

Highway driving with the 302-cu.-inch engine and the automatic overdrive transmission will probably show even bigger gains, since speeds over 30 mph—where the overdrive works—are not used much in the EPA tests. That means when you drive that power train at a steady 55 mph, the mileage you get could be better than the EPA highway rating.

The four-speed overdrive transmission is used on LTD, Marquis, Thunderbird, and XR-7 lines. It's available only with the 351 and 302 V8's. In a short familiarization drive with an overdrive-equipped Thunderbird, I found that the extra shift was unnoticeable for the most part, though up-and-down driving in the 27-to-35-mpg range did produce repeated, unexpected gear changes. However, Ford recommends that driving in that one speed range be done with the transmission selector in "3," where the overdrive is not engaged. At 55 mph, the overdrive gear cut engine speed over 600 rpm, from just over 2000 rpm to about 1400. That slower engine speed is the key to fuel-mileage improvement. Look for versions of this transmission to be used in more Ford models, especially the smaller cars, and a similar type in GM big cars in 1981.

Two V8's are offered in the Thunderbird and Cougar: A new 255-cu.-in. V8 is now standard, and the 302 that was standard last year is now optional. The 351 is no longer available, or needed, on Thunderbird or XR-7 (though it's still available for the full-size cars). The new cars' lighter weights permit 1979-style performance with the smaller engines.

Ford used the existing 302 block as the basis for the new 255 V8. The 302's three-inch stroke was retained, but the bore was reduced to 3.68 inches from four. The 255 weighs 60 pounds less than the 302, and that

means additional weight savings throughout the chassis.

A special effort was made in Thunderbird and XR-7 to keep the emphasis on luxury, despite the smaller size and lighter weight. Noise levels inside are comparable to, or even less than, those in the 1979 cars, though they are not expected to be as low as pre-1978 models. Those cars made the most of heavyweight chassis and the separate frame-and-body type of construction. Careful analysis of the new cars will show that they are almost duplicates of Chevrolet Monte Carlo and Pontiac Grand Prix in important features like size, power, performance, and level of luxury appointments. That means the Ford personal-luxury cars are no longer pacesetters, but are now followers instead.

Interiors of Thunderbird and XR-7 feature new instrument-panel designs that group warning lights and gauges directly ahead of the driver, while controls are set lower and to the right. An optional electronic instrument panel features digital readouts for the speedometer, plus a graphic fuel-level display and extra warning lights.

After my brief experience with them, I'm not convinced that digital speedometers are better than dial types. The dial types seem easier to read and less distracting than the digitals. So think twice about paying extra for a "modern" feature that offers no functional advantage.

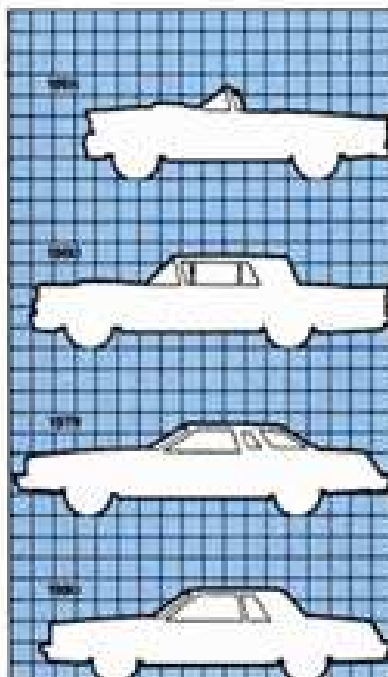
Emission-control changes in all engine lines except the 351 include the use of an additional catalytic converter (two in the case of V8 engines) located close to the exhaust manifolds. These reach operating temperatures quickly, and begin to clean up the exhaust earlier than the main converter, which is located downstream in the exhaust system. The quicker action means the converters clean up emissions when the engine is still cold and running with the choke on.

Another technical feature is Electronic Engine Control III, the latest refinement of Ford's sophisticated emissions-control system. It's standard on all Lincolns and 351 (5.8-liter) engines, plus all California 255 (4.2-liter) and 302 (5.0-liter) engines. Improvements involve much closer monitoring and direction of engine functions to work with an oxygen sensor and three-way catalyst system.

Ford's turbocharged four-cylinder engine, introduced on the Mustang/Capri last year, is offered with an automatic transmission for the first time, and will be an option on the Fairmont/Zephyr line. It can provide big-engine performance, but is relatively noisy and vibration-prone in most operating ranges. The promised

How they compare

Thunderbird	1979	1980
Wheelbase (in.)	114.0	108.4
Overall length (in.)	215.5	200.4
Height (in.)	52.0	52.0
Width (in.)	74.5	74.1
Trunk, front-seat (cu.)	52, 283.1	58, 437.2
Luggage capacity (cu. ft.)	15.4	18.2
Base engine (cu. in.)	302 V8	255 V8
Weight (lbs.)	4029	3276
Body type	Body-frame	Unitized
Front head room (in.)	37.3	37.1
Front leg room (in.)	42.2	41.6
Front hip room (in.)	55.8	55.9
Rear head room (in.)	38.2	38.2
Rear leg room (in.)	32.8	34.4
Rear hip room (in.)	57.2	52.0
Optional engine (cu. in.)	351 V8	302 V8



Thunderbird has gone through many changes. First model, 1955, was a two-seat sporty car intended to compete with Corvette. Soon it became a big, personal-luxury car. Current model (ninth generation) is notably smaller than predecessor.



Zephyr sedans also get turbo engine option, including California models. Engine

fuel-economy benefits of the four-cylinder engine will be mostly lost if you make much use of the turbocharger's boost. That can make the turbo four less fuel-saving than an efficient six of a greater displacement.

Body styling for the remainder of the Ford and Mercury car lines, big and small, remains surprisingly unchanged. The LTD, Granada, Fairmont, Mustang, Pinto, Fiesta, Marquis, Zephyr, Monarch, Capri, and Bobcat offer only slight trim revisions, most hardly noticeable when compared with the 1979's.

New P-metric radial tires are standard on all 1980 Ford lines except Bobcat, Pinto, Monarch, Granada, and Versailles. They take higher inflation pressures—up to 33 pounds for normal driving—to reduce rolling re-

sistance and improve fuel economy. Whiter, brighter halogen headlights are standard on all Ford products except Granada, Monarch, Pinto, Fiesta, and Bobcat, as the company continues its lighting changeover.

Keyless locks

Sure to be a favorite option with buyers of the 1980 Lincolns, Thunderbirds, and XR-7's is the keyless door-and-trunk-lock system. It's operated by touch-sensitive buttons located on the outside of the driver's door, above the handle. Five numbered buttons, each with a pair of numbers, are used to unlock all doors, unlock only the driver's door, unlatch the trunk lock, or turn on lights to illuminate the buttons, the car's interior, and the locks. The keyless system is controlled by

two five-digit combinations, one made at the factory and kept as a permanent part of the car; the other, you make up.

One very important addition to the option lists this year is the return of the Traction-Lok limited-slip differential on the full-size Marquis and LTD. The resizing of those cars last year included a new, smaller rear-axle assembly, and there wasn't time to design a limited-slip to fit it.

Michelin TRX tires, which Ed Jacobs and I found so very effective in our testing of the '79 Mustang Turbo, are available on certain other models this year, although they are an expensive option. They require special forged-alloy rims with a different diameter and cross-section, which can accommodate only TRX's, and that really hikes the price. They ride a bit harder than more conventional types, though the new P-metrics have narrowed that gap, due to their high inflation pressures. The improvement in handling with TRX's can be substantial.

The clever "fluidic" windshield-washer system introduced on the '79 Mustang/Capri is also available on more models. It has a single nozzle, and uses fluidic principles to oscillate the stream over the whole windshield. When you look at it, you see a fan-shape pattern, but if you view it under strobe illumination, you'll see a single serpentine stream oscillate across the glass.

The LTD II and non-XR-7 Cougar lines have been discontinued. These cars, nominally intermediates, have been temporarily replaced by putting more emphasis on the carry-over Granada and Monarch for one year. A new line will be introduced in '81. ■



Keyless entry system uses pushbuttons mounted on driver's door for multiple functions besides entry. Conventional key-type lock gives owner manual override, in case of failure.



Deep trunk on Thunderbird (and XR-7) provides a lot of usable space for easy packing of bulky items. Lifter height is high, but the design helps to give the body extra stiffness.