

TWO MONTHS AGO I drove the cars all America is talking about today: the uncompromising 1958 Thunderbird Hardtop Model 63-A. It seats four passengers, has 300 horsepower, a 113-inch wheelbase and a brand-new unitized body.

This is really a three-year-old story of dream cars come true, beginning in early 1955. Ford's Market Research Group has released answers to their survey: "What do 1955 Thunderbird owners want—that they don't already have?"

The answers: People want a car with room for four passengers. More luggage space. Larger doors. More passenger and driver comfort.

Following these suggestions Ford's Styling Section drew an entirely new Bird. By late 1955 the Thunderbird Engineering Department (as many as 2000 specialists) was in full cry after their target date. With a design and educated guesses as to what would sell, production was scheduled for 1958.

First efforts were along lines of the early Bird, *i.e.*, modified Ford frame, chopped, channeled and plated Ford body panels. But expanding the old body to a four-passenger unit proved nearly impossible. About this same time Lincoln drawing boards were hot with plans for the 1958 unitized body. And someone at Ford heard of it.

Picking up Lincoln's project like a found dollar, Ford engineers tossed aside compromise construction and began to design a unitized Bird from the inside out.

First, four passengers in *complete* comfort. Second, a low car with doors wide enough for the most awkward. Finally, an interior safer than any other car. Of course it had to "go," but this was up to the engine designers. With basic requirements in mind, engineers began noodling around the design load of four passengers, 300 pounds in front, 300 rear. Quite an improvement over the two-passenger 400-pound design load most hardtops are expected to handle.

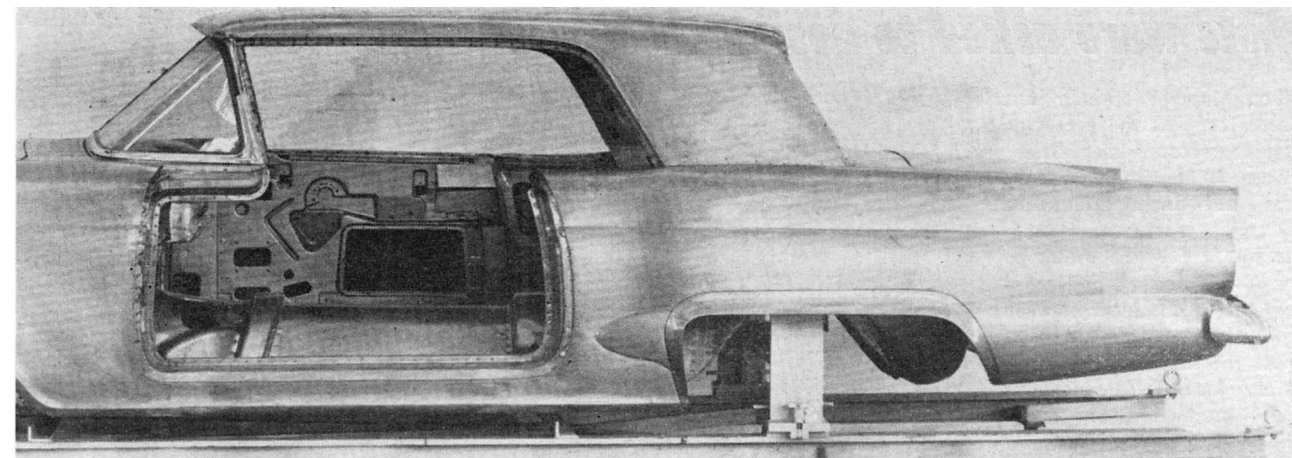
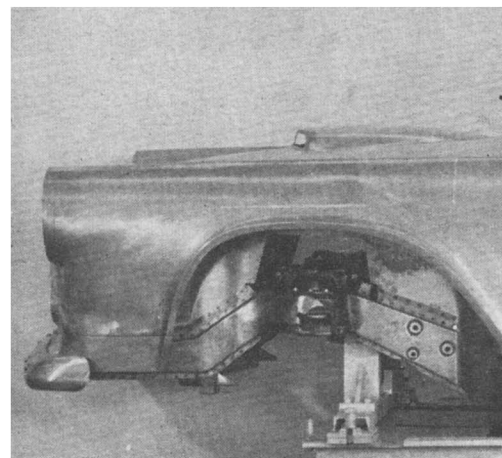
The car's style proved ideal for unit spotweld construction. Engineers began with a flat floor pan using the driveline tunnel as a stiffening member of the platform. Next, six-inch-deep siderails were set along edges of the floor creating a step-down effect. The cowl area, and its built-in air intake became a massive stiffening member for the front, while the rear deck and quarter panels were stressed to further wiggle-proof the body. Finally a Continental-inspired top was spotwelded to the body and windshield frame, completing one of the strongest units Ford has ever built.

April snow was melting in 1957 before the Thunderbird (no longer Ford) group completed the first engineering prototype. Unlike cars displayed to the public a short time ago, this early design (of which several were built) had 1956 Ford rear fenders with a Continental flair aft of the doors. A molded belt line ran from front to rear as on the '57 Bird. Torpedo sculptures (now laid along the bottom of each

UNITIZED PROTOTYPE T-Bird is not

door) were in this original model laid only along the lower edge of the rear quarter panel. Nor was there any sculptured effect (like Lincoln) running from headlight brow to the door. Not the best-looking car, but a good start in a style-wise direction.

Engineering-wise the car was downright radical. In construction of the body engineers used what is called a "torque box." It's a reinforced area at each lower corner of the body where stub frame rails are attached. Not only does the torque box absorb road stresses from the suspension-carrying rails, but it provides the means by which a unitized body may be restyled year after year at minimum expense. Only



identical to 1958 model. Note short torpedo across rear wheel opening and forward-leaning door frame.

front stub rails need be changed for improved engine mountings. Fender sheet metal and hood panels can be altered yearly and the rear stub frame can be lengthened for changes of wheelbase or trunk depth. Even the dash is bolted in place to make alterations easy.

Underneath, chassis engineers were having a field day. And a couple of headaches. A smooth underbody reduced wind resistance and noise, but left little room for mufflers and suspension members. Relief came when dual reverse-flow mufflers found a home behind the rear wheels. Then a crossover pipe was inserted in the system up front to reduce rumble and corrosion. Ford claims the lowest back pressure they've ever had.

Basic coil spring suspension is Ford, with differential, driveline and brakes borrowed also from the younger brother. Rear end stability is controlled by trailing arms (bushed to the housing by rubber "pucks" to control axle windup) and upper links of the system. Costs were cut

by using the same link for both left and right sides of the suspension assembly. Because automatics are easier on rear ends, upper links are omitted from automatic-transmission-equipped cars. Optional air suspension appears to be a slightly modified Ford unit. Outboard mounting of front shocks (rears are inboard and tilted to the center) left plenty of room for installation of rubber and nylon air bags.

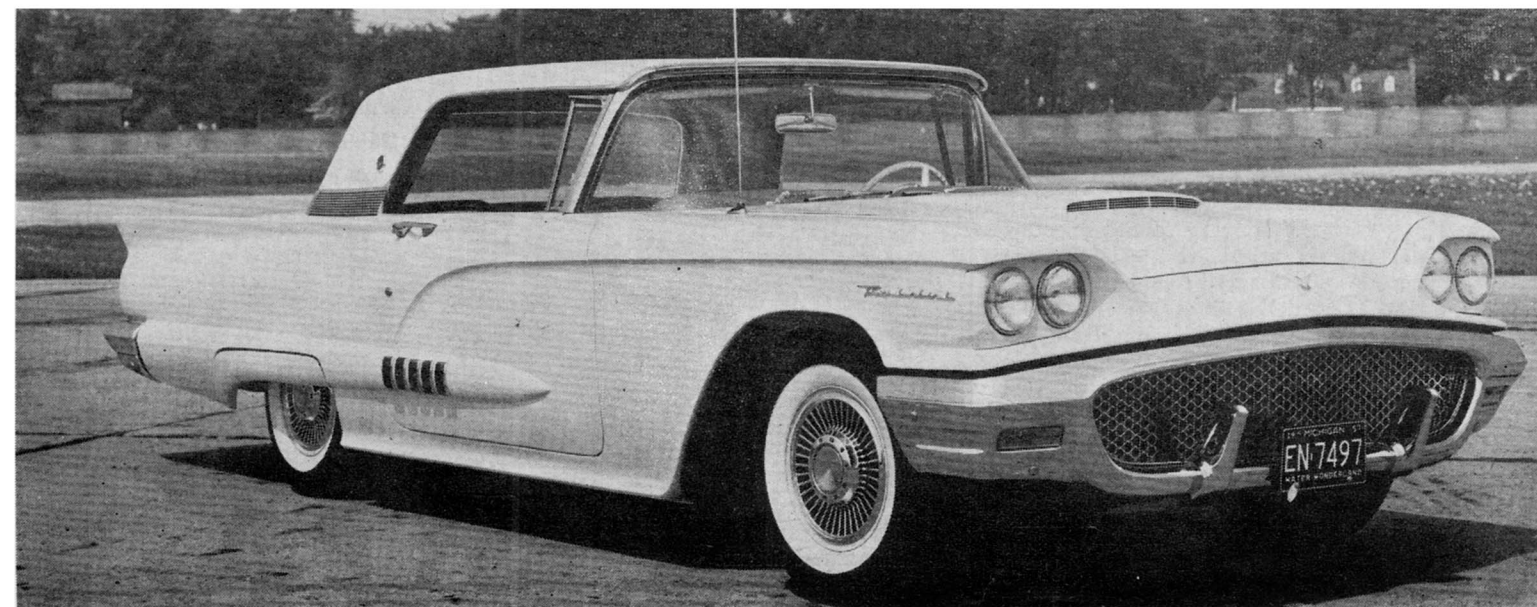
Contributing to the Bird comfort is a new function given the shock absorbers. Formerly, lowered cars suffered from an atrocious ride because there was little room left for suspension members to move up and down. A bright Ford engineer noticed that most systems used rubber rebound blocks two or three inches thick. Reasoned he: remove the blocks, design shocks to limit wheel travel (in place of the blocks) by means of hydraulic fluid and you could use space vacated by the rebound blocks to further lower the car. Result: the Bird has nearly as much spring action as other Ford products, but is lower than any.

Then came the tests to prove what had been built. One of the four engineering prototypes (completed April, 1957) was not to have a happy life. First stop: Kingman, Ariz., at Ford's rugged desert test track. A special five-mile course was prepared for the Bird's "run for the junkpile." The run: a mile of railroad ties planted to simulate chassis-busting curbs and four paved miles to let the driver rest. So rough, that even the most hardy test driver could hold out for no more than five trips after which a fresh crew took over to beat the Bird to death. Round and round they went (the frame of a competitive sedan broke at 150 miles) with frequent inspections made for failures and driver changes every 25 miles. At the end of 1500 miles the prototype and a 1957 Thunderbird running with it for direct comparison were taken to the garage. There, precise measurements by the staff disclosed the new unitized body structure had given way an almost unnoticeable 1/16-inch more than did the frame of the companion '57. Still

THE '58 THUNDERBIRD

An attempt to bridge the gap from "a personal sports car" to "a prestige automobile"

by William Carroll



THUNDERBIRD released for production has Lincoln's sculptured fender, Ford's grille and the Continental's

top. Careful analysis of Bird's design and engineering will disclose it to be a small edition of '58 Lincoln.

"Ford stylists were asked to design their 'dream car.' This is it."

continued

not satisfied though the 1/16-inch hurt nothing, engineers ordered the prototype Bird to Ford's test area at Romeo, Mich., where, with over 40,000 miles on the odometer, it was still bouncing around the durability track as this is written.

A lady's life was led by the prototype sent to Styling. It was finished and refinished, chromed and dechromed between showings at countless management meetings. From these meetings we heard rumors of a sample convertible, which was not approved for production, but which might be in the 1959 lineup.

The fourth prototype was belle of the Experimental Garage, alternately pampered, beaten, altered and nursed. It holds the record for performance on Ford's Dearborn Test Track, and this is the car most everyone drove. So did we.

But what a disappointment!

The test engine (some 350 horsepower but not scheduled for production) pulled the hardtop along at a rapid rate. Acceleration was good (0 to 60 in 8.9 seconds) with the quarter-mile being covered in 16.6 seconds at a solid 91 miles an hour. Passing times averaged 3.4 seconds from 35 to 50 and 5.2 seconds from 60 to 80 although the single four-throat was acting a bit rich. The ride was awful—somewhat like a farm cart. However, with super-stiff springs and shocks there was little one could do in the handling department (4.1 turns lock-to-lock) that caused control trouble. But my, it was a rough car.

Driving the worst didn't do much for my enthusiasm. After repeated requests Ford came up with something better, car number 5. The fifth *production* prototype—built on an assembly line—had only 26 miles on the odometer and inspection shortage tags all over the dash. But this was it. Here was the type of car Ford expects you to buy.

Behind the wheel my previous disappointment evaporated. The engine was quiet, muted by a successful combination of deadeners, Fiberglas plus aluminum sound barriers, and rubber, all of which pushes the noise level down to Lincoln quality. The Cruise-O-Matic (with 3.10 to 1 rear end ratio) functioned smoothly and brought us up to speed with the smooth shifts of a well-adjusted automatic. Zero to 60 ticked off at a nominal 13.5 seconds (10.5 if you shift from D1 to D2 at 50 mph) and the quarter-mile was tagged out at 81 miles an hour in 16.8 seconds. Passing speeds were clocked as follows: 30 to 50, 4.6 seconds; 45 to 60, 3.9; 60 to 80, 7.9.

Runs over the ride test road disclosed the usual "Fordy" solid ride. Cornering was established as above average with the bucket seats doing a wonderful job of keeping the fanny in position while trying to rip tires off around the track's even-radius curves. With four passengers (total



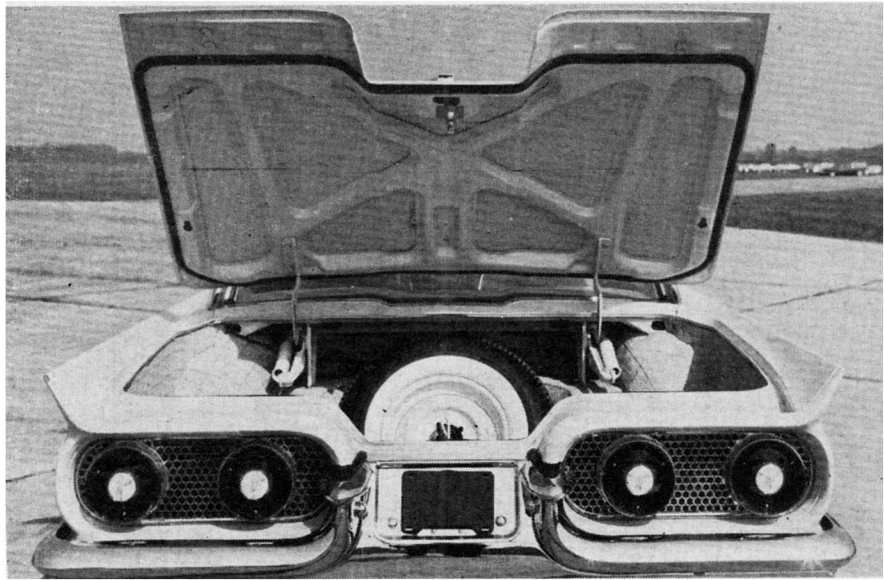
DREAM CAR design comes true with window controls, ashtrays and radio speaker in console between four genuine and comfortable bucket seats.

600 pounds) weight distribution is an even 50/50. Wheels and tires are factory balanced to insure safe performance from the first mile.

Technical specifications of the standard Bird include a 352-cubic-inch, 300-horsepower V8 with single four-throat carburetor pulling cold air through a hood scoop. It looks a great deal like the small Edsel engine and uses hydraulic lifters, although at first Ford was planning to use mechanical pushers. The aluminum coating on in-

take and exhaust valves has already demonstrated an astounding ability under the most severe tests.

In the brake department Ford has gone all-out. Their brakes require plenty of pedal pressure but function without argument or backtalk. Secret of the improvement is the rear brake-shoe in each wheel. There are three segments of lining on each rear shoe, two of which are lengths of standard lining. Between the two lengths is a 3/4-inch-long piece of Cerame-



BROAD SHALLOW trunk holds spare tire and 20 cubic feet of space. Tilted tire well limits ground clearance to 5.8 inches. Quad tail lights all burn at once.

talix matching the standard lining in width and thickness. Ford engineers assured me there is no danger of drum scoring from the metal block and plenty of safety in heat-resisting properties of the insert. Effective brake area is a nominal 193 inches, more than a Ford but not up to Mercury's 223 square inches. But no one in the Ford family can match brilliance with the Bird's four 32-candlepower stoplights.

"Widest doors in the industry," says Ford, and I believe them. Seems almost like pulling a side (48.8 inches of it) off the car. Duck a little to get in, or better yet use the sports car technique of backing onto the front seats. This is where comfort begins. Each of the four seats (two separates in front and two-in-one

for the rear) is an honest-to-goodness bucket job. Soft springs in the center and back allow your body to drop into (rather than sit on) the cushions. Then you become conscious of foam rubber cushion edges which ride up around your thighs and back to provide the most comforting support of all '58s. As one engineer said, "It's almost like riding with someone's arms around you." (How nice.)

The driving position is low and steering wheel high, a typical relationship of Ford productions. Vision is excellent in all directions, partially because front and rear glass is set into the body rather than on a rail as is common practice on production cars. An interesting cost reduction and safety feature is that only the driver's seat is movable. All others are screwed to the

floor, unless you wish to buy seat tracks for the front passenger. The next thing I noticed was fully covered trim. All interior metal (except chrome styling strips) is covered with vinyl plastic which is glareless and easy to clean. The fully-padded dash (standard equipment) has two huge safety brows over the instruments and glove box. The driveshaft tunnel was at one time intended to carry all control switches and levers. But high cost ruled the idea out and now there is only a centrally located electric window lift control panel, two ashtrays and radio speaker grille.

Options are few. Other than the usual choice of overdrive or Cruise-O-Matic, there is a radio, heater, power brakes, steering, seats and windows, air suspension, heavy-duty shocks, shims to increase ground clearance, backup lights, heavy-duty battery and generator, electric clock, fender ornaments, non-glare mirrors, tinted glass and paint options.

Hatching the Birds is a novel project involving two separate plants. The bare body is constructed by the Budd Co., Philadelphia, Pa., and is shipped to the Lincoln assembly plant in Wixom, Mich. At Lincoln, Birds are dunked in primer, move down the same assembly line with Continentals and Premieres to be assembled and painted by Lincoln specialists. The only time a Bird separates from the line is when interiors are installed. For this operation a separate line is used, then back they go to the Lincoln line for completion, inspection and testing before shipment.

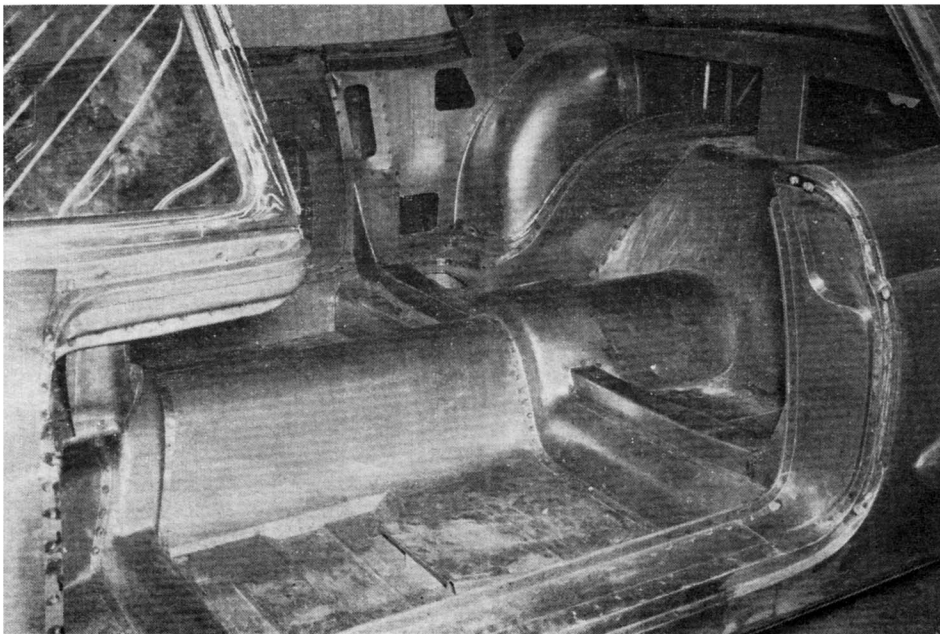
"Where are the Birds expected to roost?" was one question we threw at a Ford spokesman. In reply he let us see an office memo.

It read, "Ford management asked the stylists to design a car they'd like to own. Their 'dream car' is truly a unique automobile with no counterpart in design, wheelbase, maneuverability and performance. Its styling is in contours of the metal itself, not in trim, for there is practically none. It is the first prestige car designed for today's driving conditions."

We can't agree with everything in the statement. There are hotter engines, cars that handle better, look better and have the same wheelbase. But the 1958 Thunderbird is most certainly the "first prestige car designed for today's driving conditions."

Built in the Lincoln plant, priced in the upper medium bracket, with no monkey business about being a "personal car," the Bird has every feature that would appeal to a sophisticate. No matter what's in the garage now, I'll bet a lot of people are wondering if there's room for a new Thunderbird. /MT

SPOTWELDED unit body is one of strongest Ford has ever built. Floor pan, sills, driveline tunnel and eight crossmembers increase strength.



HOW THE '58 THUNDERBIRD COMPARES

	'58 T-Bird	'57 T-Bird	'58 300-D	'58 Cadillac 62
Wheelbase, in.	113	102	126	129.5
Length, in.	205.4	181.4	220.2	216.8
Width, in.	77	72.8	79.6	80
Height, in.	52.5	51.6	57.3	59.1
Max. bhp @ rpm	300 @ 4600	245 @ 4500	380 @ 5200	310 @ 4800
Max. torque @ rpm	395 @ 2800	332 @ 3200	435 @ 3600	405 @ 3100
Compression ratio	10.2:1	9.7:1	10.0:1	10.25:1
Front headroom	34.5	33.6	34.4	34.2
Rear headroom	33.3	—	33.7	34.0
Front legroom	43.4	44.9	45.5	44.6
Rear legroom	38.0	—	38.0	41.0
Weight	3869	3440	4390	4675
Minimum road clearance	5.8	7.1	5.6	6.4
Factory price	\$3600 (Est.)	\$3408	\$5108	\$4784