

## ROAD TEST

# FORD THUNDERBIRD

*Stop off here on your way from a U.S. sedan to a sports car*

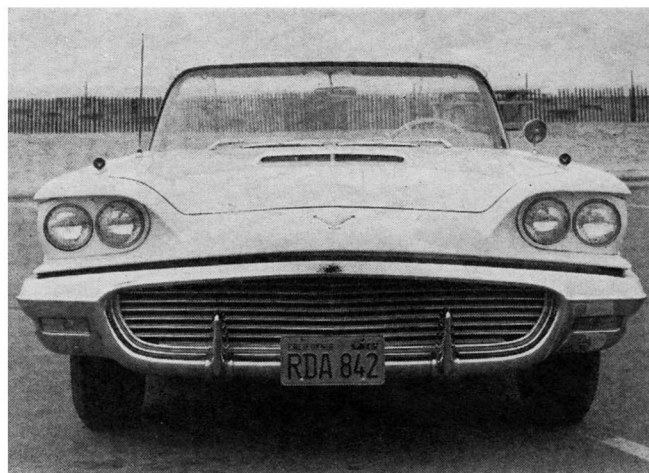
**L**AST YEAR we neglected the then new Ford product publicized as the four-passenger Thunderbird. The advent of a new option, the huge Lincoln engine (\$270 more), now makes the car rather more interesting to many buyers.

The idea of using a very large-displacement engine in a passenger car, and of turning it very slowly to retain economy, is not new. Many of our old-timers were built on this pattern, with great, tractor-like cylinders chugging along at revolution rates so slow you could count them as a doctor does pulse beats. In the Twenties W. S. James of Studebaker published a paper advocating such an approach, with a most pertinent paragraph which said that it was cheaper to produce a larger engine than to add a supercharger (for the same horsepower increase). He put his theory into practice, too: the Studebaker Commander Big Six roadsters of 1928 had 354 cubic inches and pulled an axle ratio of 3.07:1 when they ran 25,000 miles in less than 25,000 minutes.

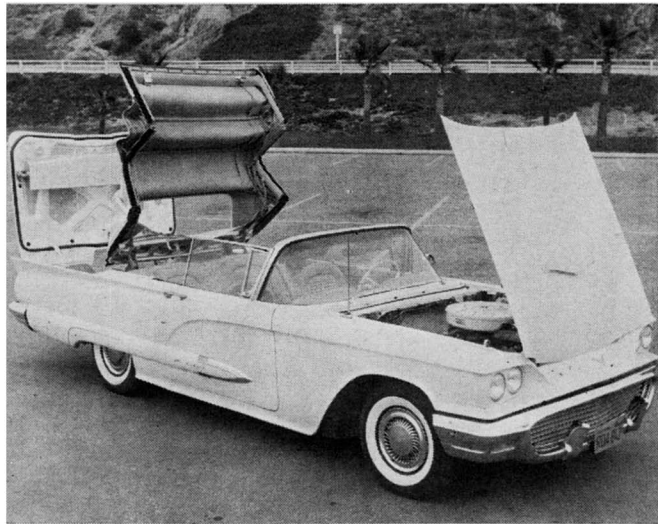
In the early Thirties such cars as the V-16 Cadillacs and Marmons, the V-12 Packards and Pierce-Arrows, and the double overhead-camshaft Duesenberg J (a straight 8) all had piston displacements well in excess of 400 cu in. Today the Lincoln's 430 cu in. tops the field. When you put that large an engine into a relatively small four-passenger chassis, something is bound to happen.

The first concern of a sports car devotee about the Lincoln-powered Thunderbird is weight distribution. He is, of course, thinking that the heavier engine will put too much weight on the front wheels, with resultant bad handling qualities. In this case we weighed the car per our usual practice: front, rear and total, with driver seated and on certified scales. The front end weighed 2400 pounds and the rear 2170, for a distribution of 52.5% front, 47.5% rear. Our driver weighed 190 lb and the tank was full, which gave the quoted curb weight, 4380 lb. Obviously the car itself is so heavy that the extra weight of the big engine doesn't make for much change in weight distribution. (The standard 352-cu in., 300-brake horsepower model checks out at 51.5/48.5, front/rear.)

*(continued)*



*The opportunity to retain the simplicity of the early Thunderbirds or of a closer relative, the Continental Mark II, was lightly passed by in favor of sundry unrelated curves, bulges and sharp edges. The result, however, is one of the best looking of current Detroit products. And perhaps Ford is wiser than we are: on the four-passenger car's first birthday, sales and back orders for it were already 22% over total production of the smaller T-Bird.*



There are hidden depths in the new Bird's personality . . .

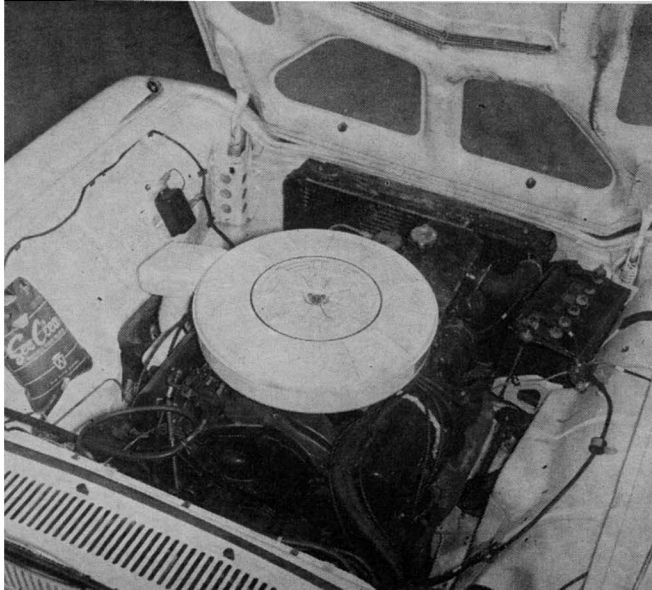
Since this weight distribution is as good as or better than that of many sports cars, it is no deterrent to good handling qualities. But the answer to whether the car handles as well as a sports car is a flat no. There is no reason why a Thunderbird could not be cornered just as fast as an equivalent but smaller sports car, provided three items were also made equivalent:

- 1) Springs (now too soft)
- 2) Steering (too slow)
- 3) Tires (loaded over their nominal rating)

Obviously the Ford Motor Company has not designed these three items into the Thunderbird. They could, and very easily, but the people who buy Thunderbirds couldn't care less about cornering ability. They want soft, plushy comfort, and they get it. Put a proud Bird owner into an MG and he will usually enjoy himself—"But it rides too hard, and I wouldn't like shifting gears all the time."

Our own reaction to the Thunderbird, after several years of both small and compact car ownership, was somewhat different from that of a typical Detroit. Fender visibility is almost nil, so it is very difficult to place the car as you brush past others. Some of this feeling is overcome in time, but multiple-lane highway driving takes a truly high degree of driver skill and experience. A winding freeway is a nightmare at the legal maximum, at least to a conscientious driver who would like to stay in his own lane. The steering,

Powerplants that are large and lazy can live a long time.



PHOTOGRAPHY: POOLE



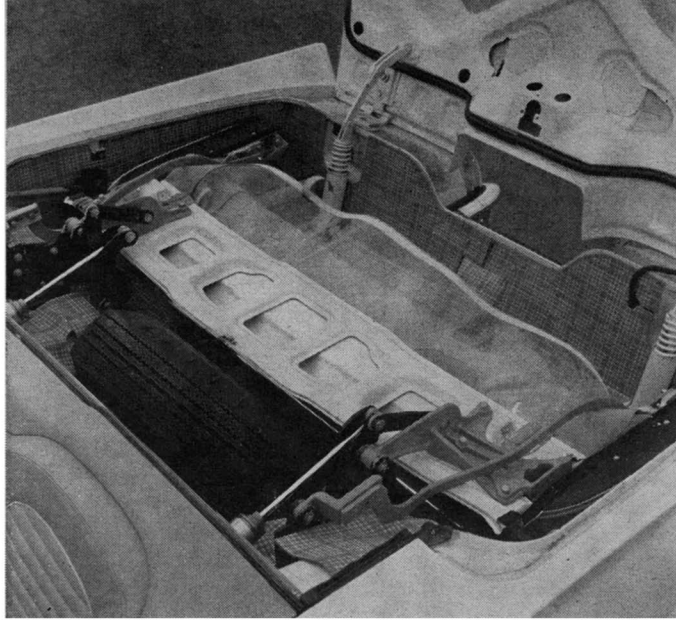
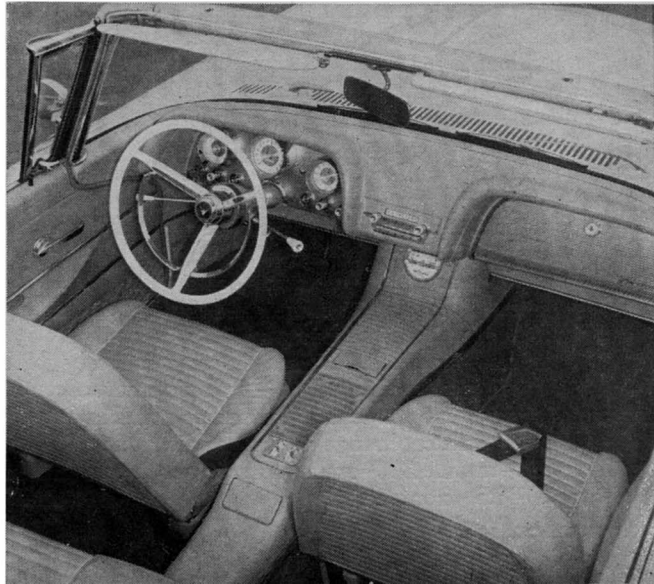
. . . So it pays to be on your guard when folding the top . . .

which is power assisted, was our biggest single objection to the Thunderbird. Now, at last, we know why large cars so often crowd small ones off the highway: they don't do it on purpose, they just can't help it.

At high speeds the car is extremely stable and steady, though some road surfaces give a slow, wallowing motion that is uncomfortable. An honest 120 miles per hour is available (as given in the data panel), and probably a little more. However, the thought of 2.3 tons of machinery on tires good for about 50 miles at 100 mph deterred us from more than two daredevil attempts at much higher speeds.

In previous tests on the two-passenger Thunderbird, we achieved somewhat better acceleration figures by tricking the automatic transmission. In this test the figures were so good that we didn't try. You sit on the line, mash down and off you go, with a satisfying squeal and not so good squat. The 0 to 60 time is only 8.2 seconds, and an honest 100 mph (103 indicated) comes up in 24 sec. (For those interested in test procedures, we average from two or more trials; an automatic transmission makes this easy because the times are consistent.) Shift points seemed to vary a little under full throttle and we were amazed to learn, when we returned from testing, that the observed 1-2 shift point (at an actual 34 mph) is equivalent to only 3250 rpm. That speed is just barely off the torque peak, and a potential of 50 mph at 4800 rpm would give even faster acceleration.

Boudoir-like comfort could sell dual-purpose sports cars.



. . . Into the large, but then utterly useless, rear deck.

Even the 2-3 shift, at 68 mph and 4000 rpm, is 800 rpm off the power peak. Our theory is that the engine would sound too noisy and fussy for Thunderbird buyers if shifts were allowed at higher rpm. Performance is so good anyway that a slight sacrifice doesn't matter.

As for the economy of a big engine, the 12 to 15 miles per gallon range we recorded is quite good, particularly considering the weight. Brakes, a popular target, were smooth and innocuous and gave us not a moment's worry during testing. They should be adequate for most conditions, though not for more than two successive stops from 100 mph.

#### A "Mark I" Owner Comments:

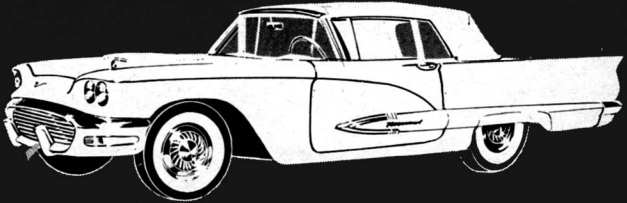
When the T-Bird was introduced in the fall of 1954, it immediately satisfied a need for many frustrated drivers. They wanted more style and comfort than most imports could, or would, give them; and they liked the novel, semi-sports feeling. The first models did what they were supposed to do but didn't have sufficient luggage space. The next model (1956) cured this by moving the spare tire out onto the rear end (ugh), which uncovered a more serious problem: the frame wasn't stiff enough. So, 180 lb of iron (1/2 x 2-inch strap) was welded to the lower side of the frame and X member. This helped, but the handling was rather weird.

The 1957 model was the best appearing one to date. It solved the luggage problem by lengthening the rear deck and stuffing the tire back inside. This car was more softly sprung, but its weight distribution ended up at 50-50; total weight rose to 3440 lb with a half tank of gas.

In 1958 Ford raised the resale value of all previous T-Birds by bringing out the four-passenger model. As an owner of a 1957, I am not impressed with the '58 and '59 models for several reasons: they do not retain the uncluttered, simple, straightforward design policy of the earlier models; they are 2 feet longer and the wheelbase is up from 102 to 113 in. This was unnecessary. By making the most of the new unit body/frame construction and lengthening the wheelbase about 8 in., the basic 1957 body configuration could have been made into a four-seater without stretching the body. Another advantage of unit construction has been lost, too: the new model wallows and shakes much more than it should. And the luggage space on the convertible test car is totally useless when the top is down.

This would be an excellent substitute for a large American family car but it is a poor replacement for a two-passenger T-Bird. It strikes me that many families would love to have a '59 and a '57 Bird in the carport.

## ROAD & TRACK ROAD TEST 207



### FORD THUNDERBIRD

#### SPECIFICATIONS

List price	\$4209
Curb weight	4380
Test weight	4680
distribution, %	52.5/47.5
Dimensions, length	205.4
width	77.0
height	52.5
Wheelbase	113
Tread, f and r	60/57
Tire size	8.00-14
Brake lining area	194
Steering, turns	4.2
turning circle	39
Engine type	V-8, ohv
Bore & stroke	4.3 x 3.7
Displacement, cu in	430
cc	7049
Compression ratio	10.0
Bhp @ rpm	350 @ 4800
equivalent mph	120
Torque, lb-ft	490 @ 3100
equivalent mph	77.8

#### PERFORMANCE

Top speed (4800), mph	120
best timed run	n.a.
3rd ( )	
2nd (4000)	68
1st (3250)	34

#### FUEL CONSUMPTION

Normal range, mpg	12/15
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#### ACCELERATION

0-30 mph, sec	2.9
0-40 mph	4.7
0-50 mph	6.6
0-60 mph	8.2
0-70 mph	11.8
0-80 mph	14.6
0-90 mph	18.4
0-100 mph	24.0
Standing 1/4 mile	16.2
speed at end, mph	84

#### GEAR RATIOS

O/d (n.a.), overall	3.10
3rd (1.00)	4.56
2nd (1.47)	7.44
1st (2.40)	15.6
1st (2.4 x 2.1)	

#### TAPLEY DATA

4th, lb/ton @ mph	@
3rd	370 @ 55
2nd	580 @ 45
1st	off scale
Total drag at 60 mph, lb	180

#### CALCULATED DATA

Lb/hp (test wt)	13.4
Cu ft/ton mile	127
Mph/1000 rpm (3rd)	25.1
Engine revs/mile	2390
Piston travel, ft/mile	1470
Rpm @ 2500 ft/min	4060
equivalent mph	102
R&T wear index	35.2

#### SPEEDOMETER ERROR

30 mph	actual 30.2
40 mph	39.3
50 mph	48.8
60 mph	57.9
70 mph	67.7
80 mph	77.5
90 mph	87.2
100 mph	96.9

