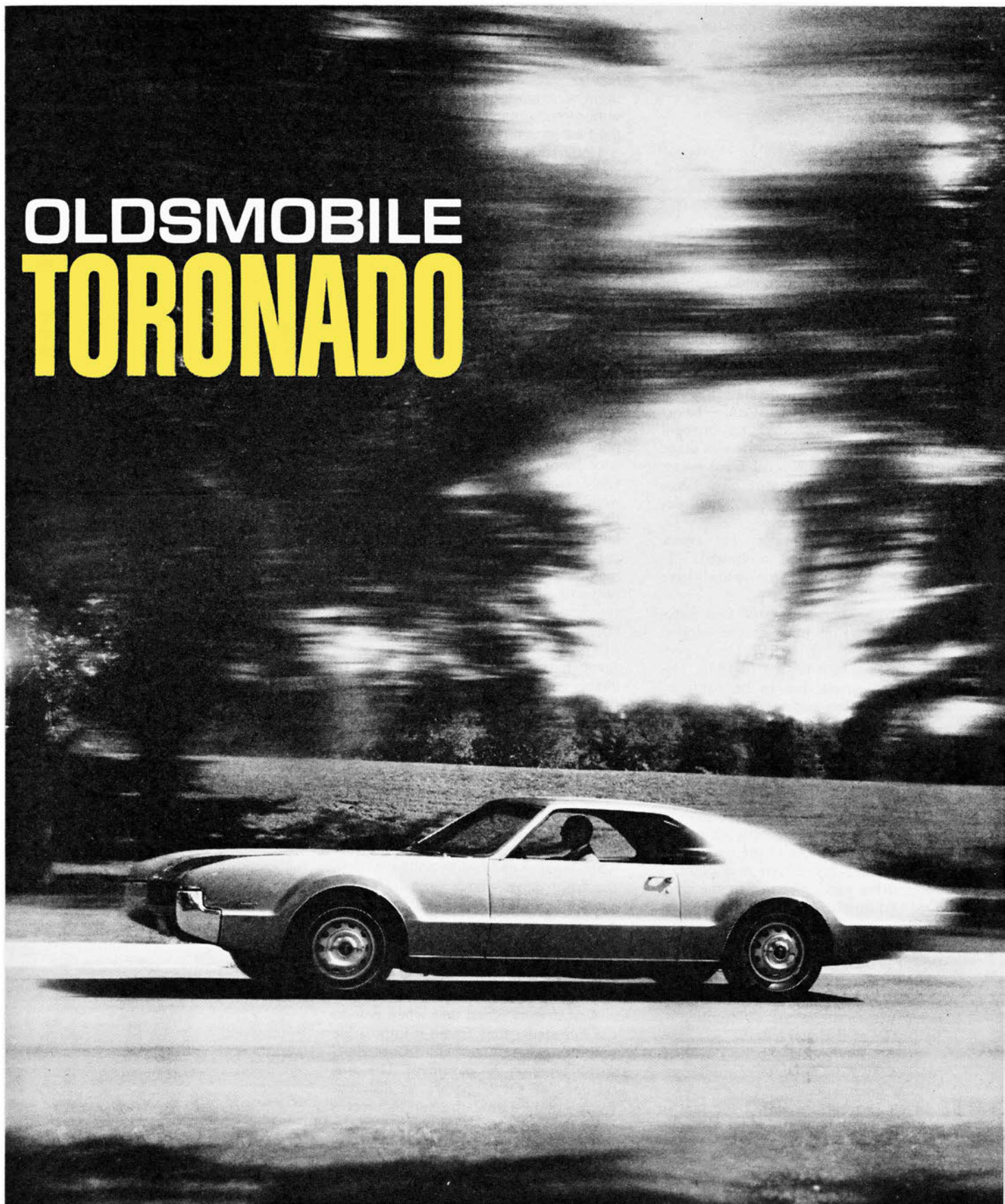


CAR LIFE ROAD TEST

NOT SINCE THE days when a British sports car had the power to gather a knot of awed people wherever it stopped has one automobile proved such a crowd-catcher. Never has any automobile elicited so much comment, drawn so many bystander stares. Here-

tofore it was easy to believe much of the American public is blasé about cars, regarding automobiles simply as a means of traveling from one place to another with speed and in comfort. Hence the reaction of a cross-section of the public to this car could be expected ▶

OLDSMOBILE TORONADO



TORONADO

to be one of indifference. Such was not the case. Everywhere the car was taken during *Car Life's* test period, everyone encountered expressed an opinion—positive or negative—or else asked a question. Everyone had something to say.

Elderly Lady (slightly deaf): "What kind of car is it?"

An Oldsmobile.

"Ninety-Eight?"

No, Toronado.

"Tornado?"

No, Toronado.

"Coronado?"

No, *Toronado*.

"Why?"

Why indeed? For a big, bold fast-back *gran turismo* automobile with an exceedingly strong engine, and treated with infinite care in drive-train engineering, the name Toronado has a somewhat pusillanimous ring. Come right out and call 425 cu. in. a Tornado. Call it a Coronado, for that is a luxurious Southern California resort community named after an intrepid Spanish explorer, hence quite a fit place for visiting in a powerful 6-passenger modern American touring car. Toronado seems a name, like a camel, designed by a committee.

Jackhammer Operator (at water main repair diggings, midtown): "Is this one of those front-wheel-drive rigs?"

Yes. The Toronado is a fwd automobile, the first built in the United States since the 810/812 Cord, production of which ceased in 1937. Design engineering, not to be confused with production engineering, that produced the Toronado's fwd system is of such merit the car was named for *Car Life's* 1966 Award for Engineering Excellence. The Toronado's departure from the American standard of front engine/rear drive incorporates the standard Oldsmobile torque converter in its normal position at the rear of the V-8 engine block. From that point, a chain drive carries power to the standard Oldsmobile 3-speed Turbo Hydramatic transmission, rotated 180° to a position at the left side of the engine. Power is then transferred to a specially designed, very slender planetary differential. Torque is delivered to the front-drive wheels from the differential by half-axes of unequal length.

Boxout Boy (at neighborhood supermarket): "Does it handle any differently than a regular car?"

That boxout boy wasn't the first or the last interested bystander to voice that question in regard to the Torona-

do's roadability. Does the Toronado handle differently? The answer must be a qualified yes and no. The qualifications stem from road surfaces and degrees of curving road. On a smooth freeway at 65 mph or thereabouts, the handling of the Toronado cannot be distinguished from that of a rear-wheel-driven automobile of like weight and size, and fitted with power assists similar to those of the Toronado. Hence the answer could be: "No, the Toronado's handling is no different than a regular car." But, put *el Toro* on a skein of winding roadway, narrow and semi-mountainous. Here the effect of the fwd system may be assessed.

Understeer, the tendency for an automobile to remain on an established course despite desired change in wheel angle cranked in through the steering mechanism, is the Toronado's major characteristic.

Electronics Engineer (who takes all major automotive magazines): "It understeers pretty bad, I guess."

Yes, the Toronado understeers, but not badly, if the driver learns and exercises a revised set of cornering techniques to accommodate the fwd system. The Toronado's understeer, of course, is generated by the forward weight of the engine, drive-train components, battery and assorted accessory pumps, hoses, pulleys and belts. Only 40% of the Toronado's total weight is behind the firewall. Handling this frontward weight in tight bends, however, is simplicity. Hard into the corner, when it seems the Toronado's massive front end will slew toward the outward arc of the bend, all that is required is a momentary letup on the accelerator pedal, then a re-application of power to re-establish the track through the curve. The Toronado, in effect, has the capability to pull itself through bends with power applied to its front driving wheels. The feel of taking a bend at good speed in the Toronado is different than sensations experienced in cornering a front engine/rear driven car of like stature. The Toronado driver can't break the rear end loose for a drift with application of throttle—because the Toronado's free-wheeling rear end simply follows where the front drive wheels lead it. Therefore, to avoid an untoward shunt into a barbed wire fence, the trick is to make the front wheels do an accurate job of leadership with judicious seesawing of the accelerator pedal. This requires practice.

Test drivers noted that when new to the Toronado, they found it impossible to judge where the right front wheel was located on the pavement. The proportions of the Toro are so different from standard that the car requires a great deal of getting used to before the driver can become confident that he is

not creating traffic hazards by unknowingly locating parts of the car in traffic lanes other than his own.

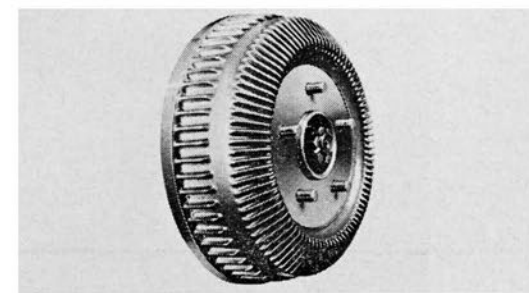
Blue-Eyed Girl Child (age 5, on way to kindergarten): "It's smooth."

One must agree that the Toronado is smooth, offers a boulevard ride—on boulevards. At high speeds on straight expressways the passenger compartment seems to float, bobbing a bit like a balloon being towed in mildly turbulent air by an elephant. On rural roadways, sometimes seamed and humped, speed will cause the light hindmost end of the Toronado to flap like a sheetmetal shirttail. Rough pavement does not destroy the positive track of the front drive wheels, but the suspension system for the heavy drive components works hard and somewhat ponderously in the attempt to soften the ride. Altogether, the ride offered by the Toronado is smooth—like Rocky Road ice cream, which has a few lumps here and there.

THE MAJOR exception to the smoothness observation occurs when one of the Toro's drive wheels drops into a chuckhole. This condition produces a thundering rebound, but not loss of control, due to the automated regulation of power steering, although the



FLAT FLOORS please passengers, but 11-in. drum brakes show alarming fade characteristics.



action is somewhat heavier than one would anticipate for a full power-assisted system.

Panhandler (near shoestore, seeking dimes and quarters): "How does she go?"

The simple answer was, "Very well." Though the ragged, destitute one didn't ask, there are a number of reasons why the Toronado goes well. The Toro's 90° V-8 engine is oversquared at 4.125 in. to a stroke of 3.975 in. With a 10.5:1 compression ratio, the 425 cu. in. develop 385 bhp at 4800 rpm. Translated into auto operation, this means the big, relatively lazy, slow-turning engine will produce an effortless cruise at 80 mph and will, without undue prodding, exceed all sorts of speed limits. Frankly, the 115 mph and more of which the Toronado is capable, is far too fast for intelligent driving.

At the red light raceway, the Toronado can easily be beaten off the line. Quarter-mile e.t.s of 17-18 sec., nonetheless, are somewhat phenomenal when considered in the light of the Toronado's total weight: Something in excess of 5000 lb. as tested. Drag racing isn't the Toronado's forte. The effortless power surge, a hearty reserve which may be tapped at 65 mph and

beyond, is the shining performance feature.

If the Toronado has very adequate go, it also has totally inadequate stop. The engineering which resulted in the Toronado's drive system should have extended to the car's braking system. Drums of 11-in. diameter and shoes of 2.75 in. width in front and 2 in. width in the rear provide a total swept area of 328.2 sq. in. This is insufficient for a car whose gross weight is in excess of 5400 lb. when fully passengered, fueled and conservatively cargoed. In two intentional panic stops from 80 mph, the Toronado brakes demonstrated alarmingly unacceptable fade characteristics, that is, lockup which induced noisy slides and anything but straightline deceleration. A totally unintentional panic stop in a freeway situation left one *Car Life* driver with trembling hands, icy perspiration and a total lack of desire to drive the Toronado ever again . . . unless the car is given discs or a front discs/rear drums, with a limiting device (*à la* Thunderbird, Continental and Ford 7-Litre) to prevent rear-wheel lockup. The present drum system, without such limiting, allows the wheels under the light rear end to halt completely for sustained, squealing, squirming slides. All of this

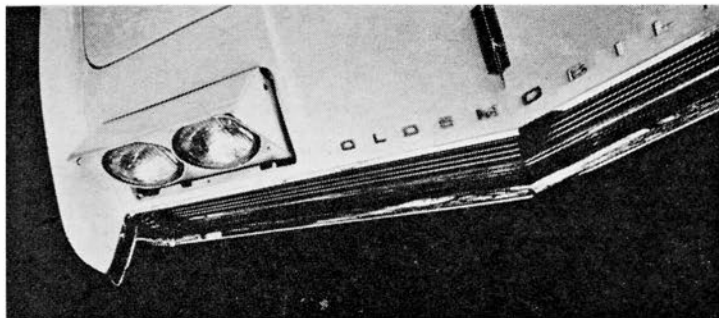
is in the light of the statement by Oldsmobile engineers: "The Toronado does not need disc brakes." *Car Life* disagrees.

College Professor (an MG-TD owner, as companion on a cross-town drive): "Man, the leg room. I feel like Alice in Wonderland—growing ever smaller."

Leg room for average-sized persons is adequate in the Toronado. Though the good professor, at 5 ft., 9 in., found more than a sufficiency of leg room, *Car Life's* 6 ft., 3 in., staffer did not—but his is an unusual long-legged case. His view was that an overall length of 211 in. on a 119-in. wheelbase could well provide more space for passengers of lengthy underpinning.

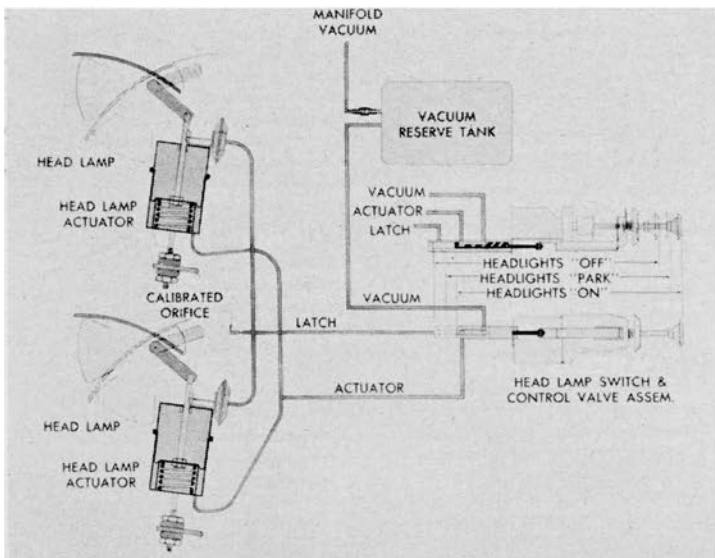
Width is no problem in the Toronado interior. Hip room is 62.2 in. in front, and a cozy-for-three 55.6 in. in the rear.

Headroom, slightly more than 37 in. front and rear, is something else again. Though adequate for front seat passengers, the fastback roofline, which slopes rearward to a chopped-off stern, curves close to the head tops of rear seat passengers. One assessment is that the Toronado could have been made a much roomier car lengthwise—but it wouldn't have been a fastback.



CHAN BUSH PHOTOS

THE TORO features vacuum actuated headlamp units and a wide, solid bar of tail lamp illumination.



TORONADO

Because all mechanicals are forward, no driveshaft tunnel arches its back into *el Toro's* floorspace. All six passengers are given space—pool-table flat—to place the soles of their shoes. There are no overly updrawn knees for center seat passengers in the Toronado.

The expanse of flatness—like Kansas—extends into the luggage compartment, where the spare is buried at the back of the rear seat, which requires all cargo to be removed for a wheel change.

Housewife (from next door, wiping hands on apron): "My, what a lovely car!"

The exterior lines of the Toronado are impressive. The car has massive size, a brute functional look. Toronado features at a glance are sharp angling front fender lines, large (8.85-15) tires and steel spider stamped wheels (15 x 6JK), a long, sweeping expanse of hood and sheetmetal convolutions which emphasize the muscular look at each wheel. Indeed, from a distance of no less than 25 ft., the Toronado is an

attractive car. Closer inspection, however, brings to view a few irregularities of panel fit, but none that are not to the current standard of Detroit workmanship.

Junior High School Student (having skateboarded dangerously across the flow of residential traffic for a closer look): "Neat!"

Hardly. The test Toro's paint, something approaching a rich, royal Satsuma plum, was applied in good fashion, but beneath the paint, in the passenger compartment the flaws of manufacture (production engineering, as distinguished from design engineering) become apparent. Upholstery, in matching shades of vinyl and nylon, was well fitted, but appeared inappropriate for a GT sort of automobile. Full leather, or at least full leather-like vinyl, would be more in keeping with the Toronado's outward aura of high speed touring. The impression was one of seeing lace curtains and shelves of china knick-knacks in a clean, well-fitted machine shop.

Pillar and window moldings fitted well at some points and did not at others. The large, bin-like glovebox was sticky and required two hands to open—one on the release catch button, the other prying at the bin cover.

Door hardware, specifically a sort of gum wrapper catchall underneath the door latch lever, set up sympathetic vibrations for a distressing buzz. This particular sound, like so many others in the car, is the result of an indefensible lack of craftsmanship in assembly. Evidence of shoddy workmanship appeared suddenly when a piece fell off the Toronado onto a test driver's foot. This was later determined to be a fairing, a sort of scuff shield, which had received cavalier treatment during factory installation. This sort of thing should not happen.

Hand-crank window lifts on the Toronado? Yes. These were definitely out of place on this Oldsmobile of all Oldsmobiles. Power windows are offered only as an option. Also out of character is the manually adjusted front seat, with only backward/forward adjustments possible.

The left-hand window lift mechanism on the *Car Life* test car tended to get out of whack when the window was rolled to its most downward position. An Olds dealership mechanic fiddled the gearing back into operation in the manner of a chiropractor, putting things to right from the outside without resorting to major surgery. His comment was, "This happens a lot.

1966 OLDSMOBILE TORONADO HARDTOP COUPE



DIMENSIONS

Wheelbase, in.....	119.0
Track, f/r, in.....	63.5/63.0
Overall length, in.....	211.0
width.....	78.5
height.....	52.8
Front seat hip room, in.....	62.2
shoulder room.....	58.8
headroom.....	37.9
pedal-seatback, max.....	48.0
Rear seat hip room, in.....	55.6
shoulder room.....	57.8
leg room.....	35.5
head room.....	37.5
Door opening width, in.....	48.3
Floor to ground height, in.....	12.3
Ground clearance, in.....	5.0

PRICES

List, fob factory.....	\$4812
Equipped as tested.....	5730
Options included: Glare-proof rear-view mirror, courtesy and warning door lamps, visor vanity mirror, luggage compartment lamp, underhood lamp, am/fm radio, rear speaker, wsw tires, chromed spider wheels and trim rims, tinted glass, air cond.	

CAPACITIES

No. of passengers.....	6
Luggage space, cu. ft.....	14.5
Fuel tank, gal.....	24.0
Crankcase, qt.....	5.0
Transmission/diff., pt.....	24.0/n.a.
Radiator coolant, qt.....	18.0

CHASSIS/SUSPENSION

Frame type: Boxed perimeter/Integral	
Front suspension type: Independent s.l.a. ball joints, torsion bar springs, tubular shock absorbers, link-type stabilizer.	
ride rate at wheel, lb./in.....	162
anti-roll bar dia., in.....	1.0
Rear suspension type: Single leaf springs, beam axle, horizontal and vertical shock absorbers.	
ride rate at wheel, lb./in.....	157
Steering system: Power-assisted recirculating ball nut; parallelogram linkage with hydraulic damper.	
gear ratio.....	17.5:1
overall ratio.....	17.8:1
turns, lock to lock.....	3.4
turning circle, ft. curb-curb.....	43.0
Curb weight, lb.....	4660
Test weight.....	4970
Weight distribution, % f/r.....	61/39

BRAKES

Type: Single line hydraulic with self-adjusting duo-servo shoes in finned cast-iron drums.	
Front drum, dia. x width, in. 11 x 2.75	
Rear drum, dia. x width.....	11 x 2.00
total swept area, sq. in.....	328.2
Power assist..... integral, vac. booster line psi @ 100 lb. pedal.....	1125

WHEELS/TIRES

Wheel size.....	15 x 6JK
bolt no./circle dia., in.....	5/5.00
Tire make, brand.....	Firestone Deluxe Champion
size.....	8.85-15
recommended inflation, psi.....	26
capacity rating, total lb.....	n.a.

ENGINE

Type, no. cyl.....	ohv, V-8
Bore x stroke, in.....	4.125 x 3.975
Displacement, cu. in.....	425
Compression ratio.....	10.5:1
Rated bhp @ rpm.....	305 @ 4800
equivalent mph.....	124
Rated torque @ rpm.....	475 @ 3200
equivalent mph.....	92
Carburetion.....	1 x 4 barrel dia., pri./sec..... 1.375/2.25
Valve operation: Hydraulic lifters, pushrods and rockers.	
valve dia., int./exh.....	2.067/1.629
lift, int./exh.....	0.431/0.433
timing, deg.....	21-77, 71-31
duration, int./exh.....	278/282
opening overlap.....	52
Exhaust system: Dual, transverse muffler and tailpipe resonators.	
pipe dia., exh./tail.....	n.a.
Lubrication pump type.....	gear
normal pres. @ rpm. 30-45 @ 1900	
Electrical supply.....	alternator
ampere rating.....	42
Battery, plates/amp. rating.....	78/73

DRIVE-TRAIN

Transmission type: Torque converter automatic with chain driven planetary gear transmission.	
Gear ratio 4th () overall.....	
3rd (1.00).....	3.21
2nd (1.48).....	4.65
1st (2.48).....	7.95
1st x t.c. stall (2.20).....	17.5
synchronous meshing.....	planetary
Shift lever location.....	column
Differential type: Front-wheel drive planetary	
axle ratio.....	3.21:1

This curved side glass sticks in the rubber molding."

The Toronado's revolving drum speedometer is exceptionally readable, though the speedometer drive cable developed a fluttering paradiddle which came and went without any particular pattern.

APHONY knurled wheel, to the right of the heater/air conditioner push-button panel (a match for radio tuning controls on the opposite side of the dash) seems to carry symmetry a bit far. The "nothing control," as it was dubbed by test crewmen who had been suckered into attempting to see what the knurled wheel regulated, is designed to take up space when a speed control device is not installed.

Perfectly aligned and sized indicator lights, located above four small gauges (three are operational pointers, one is a warning light), are just too precious. Two are for turn signals, one is a parking brake warning and the remaining one is the high beam indicator. In the latter, only a tiny dot in the center of the oblong lens comes alight, rather than the entire rectangle as is the case with the other lights. So much for symmetry.

Such things may seem trivial when

taken singly, but to *Car Life* staff members the sum total of these manufacture and production engineering deficiencies indicates that Oldsmobile has made up in interior, trim and fittings the amounts of money lavished underhood, especially on the drive-train. The effort was apparently to keep the Toronado's total price down.

Gas Pump Jockey (on being informed that the Toronado's price is upward from \$4600): "This sure ain't the car for a guy like me—a poor man."

He's probably right. Upward from \$4600 means state taxes, licensing and insurance may be added at that point. Dealer servicing and extras could add a bit more. The Toronado option catalog includes a 6-way power bench seat, tilt/telescope steering wheel, a reclining front passenger seat, headrests, an am/fm radio, rear seat speaker, power antenna, air conditioning, rear window defroster, speed warning, speed control, air injection reactor (mandatory in California), luggage compartment lamp, underhood lamp and cornering lamps among other things. Though the total option slate might be somewhat spare in comparison to offerings with other makes of cars, addition of very much equipment could push the cost of the Toronado well over \$5500.

Barber (trimming sideburns): "How many miles per gallon does it get?"

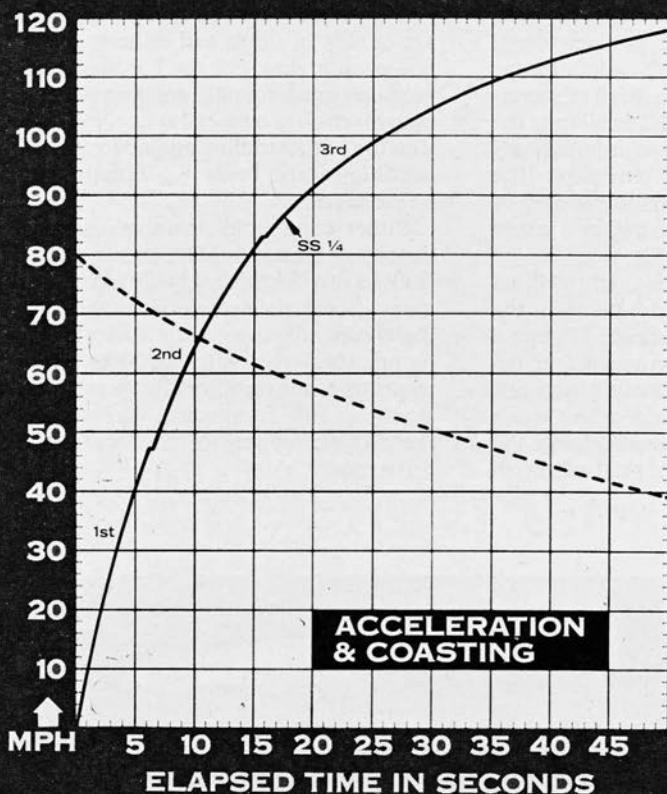
Fuel economy is a consideration not restricted to the "poor man." The only answer to the question lies in *Car Life's* test figures. Conservative driving produced 11.3 mpg. Hard and high speed use resulted in a fuel reading of 10.2 mpg. These are neither the worst nor the best fuel consumption figures tallied among American V-8 engined automobiles, but they indicate \$3.50 gasoline cost per 100 miles.

Physicist (who drives a Mercedes-Benz 180 and has purchased a Ford Falcon station wagon for his wife): "Who'd buy a car like that anyway?"

A guess would be the purchaser of the Toronado is one who desires first-class transportation, something that isn't exactly like every other car on the road—something new. This person may be an adventurer who is too portly for a Porsche, not junior enough for a Jaguar, not middle-income enough for a Mustang, or not *bon vivant* enough for a Bonneville convertible. The Toronado may not appeal to youth.

Delicatessen Clerk (a daytime college student in chemistry and a Corvette owner): "When do you think Chevrolet will bring out the Mako Shark?"

CAR LIFE ROAD TEST



CALCULATED DATA

Lb./bhp (test weight)	12.9
Cu. ft./ton mile	114.5
Mph/1000 rpm (top gear)	25.7
Engine revs./mile (60 mph)	2330
Piston travel, ft./mile	1540
Car Life wear index	36.0
Frontal area, sq. ft.	23.0
Box volume, cu. ft.	506

SPEEDOMETER ERROR

30 mph, actual	29.3
40 mph	38.7
50 mph	47.9
60 mph	57.7
70 mph	66.7
80 mph	78.5
90 mph	88.2

MAINTENANCE INTERVALS

Oil change, engine, miles	6000
transmission/diff.	24,000/none
Oil filter change	6000
Air cleaner service, mi.	24,000
Chassis lubrication	6000
Wheelbearing re-packing	as req.
Universal joint service	none
Coolant change, mo.	24

TUNE-UP DATA

Spark plugs	AC 44S
gap, in.	0.030
Spark setting, deg./idle rpm	.75/850
cent. max. advance, deg./rpm	20/4200
vac. max. adv., deg./in. Hg.	20/20
Breaker gap, in.	0.016
cam dwell angle	28-32
arm tension, oz.	19-32
Tappet clearance, int./exh.	0/0
Fuel pump pressure, psi	7.75
Radiator cap relief press., psi	15

PERFORMANCE

Top speed (5200), mph	135
Shifts (rpm) @ mph	
3rd to 4th ()	
2nd to 3rd (4800)	83
1st to 2nd (4500)	47

ACCELERATION

0-30 mph, sec.	3.2
0-40 mph	4.9
0-50 mph	6.8
0-60 mph	8.9
0-70 mph	11.5
0-80 mph	14.5
0-90 mph	19.0
0-100 mph	26.0
Standing 1/4-mile, sec.	17.8
speed at end, mph	86
Passing, 30-70 mph, sec.	8.8

BRAKING

(Maximum deceleration rate achieved from 80 mph)	
1st stop, ft./sec./sec.	18
fade evident?	yes
2nd stop, ft./sec./sec.	12
fade evident?	yes

FUEL CONSUMPTION

Test conditions, mpg	10.2
Normal conditions, mpg	10-13
Cruising range, miles	240-312

GRADABILITY

4th, % grade @ mph	
3rd	10 @ 67
2nd	17 @ 54
1st	29 @ 36

DRAG FACTOR

Total drag @ 60 mph, lb.	210
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