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MOTOR TREND/ JANUARY 1968

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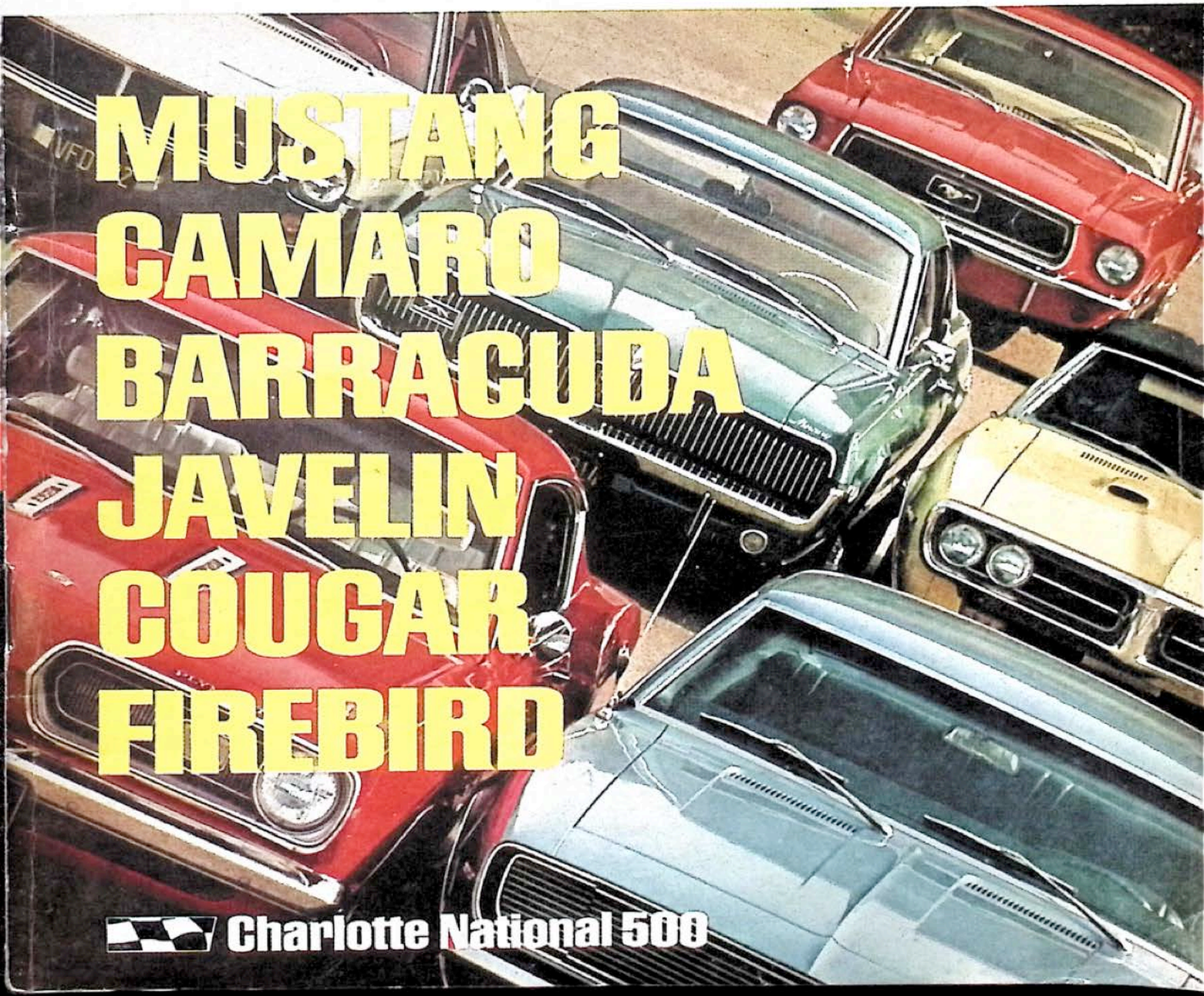

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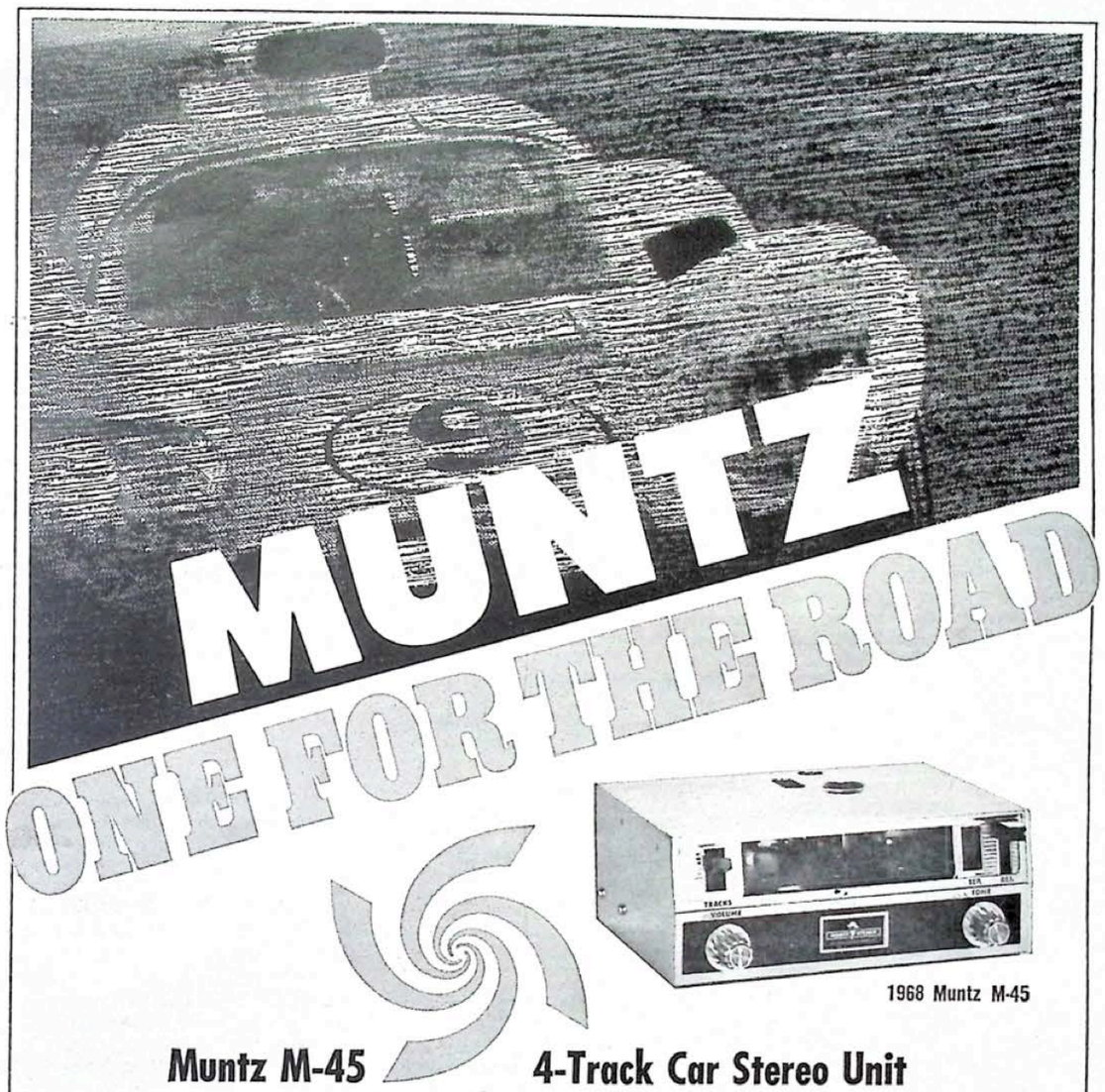

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Have a question about motor oil? Lubricants? Engines? Ask the Pennzoil experts...

Cold Storage. I'm considering storing my car for approximately two years. How can I protect the internal parts of the engine, transmission and differential? Is there any periodic lubrication necessary, or can it be left alone for the entire two years? Should the engine coolant be drained?

H.O.C., St. Paul, Minn.

If at all possible, see if you can have someone operate your car periodically while you're gone. This will keep the engine, transmission, rear axle and wheel bearings lubricated... and prevent the possibility of rusting. This would also allow you to keep the anti-freeze in the car while you're gone.

Hazy Bumper. Although my car is only a month old, I keep noticing a blue haze on the rear bumper. I clean it off and wax the bumper, but after a few miles of driving, there it is again. What's the cause and what can I do to correct it?

W.B.W. Jr., Oklahoma City, Okla.

The haze is caused by exhaust vapors contacting the bumper. We suggest you have your exhaust pipe lengthened to take the vapors past the bumper area.

Smoke Signals. When I shift my '64 model car, there seems to be a more-than-normal amount of smoke coming out of the exhaust. How come?

P.B.A., Tonawanda, N.Y.

It seems that oil is bypassing the rings or valves, and getting into the combustion chamber. We'd suggest, however, that the compression be checked on all cylinders to determine any necessary repairs. Hope this clears the air.

Old Timer. I have a 1935 Hudson Terraplane. It doesn't have an oil filter, and I was wondering whether I should use a detergent oil. Any suggestions?

S.K., New Orleans, La.

Yes, indeed. A detergent oil such as our Pennzoil Z-7 is definitely recommended for your 1935 Hudson Terraplane.

It's Supercharge! I've heard a lot of talk lately about supercharged engines and blown engines. Just to get the record straight, what's the difference between the two?

L.G.F., Dover AFB, Del.

There's no basic difference between a supercharged engine and a blown engine. An engine can be supercharged by installing a blower on it. This, in effect, forces air charge into the intake manifold where, with fuel injection, it supercharges the engine.

Dirty Problem. I recently bought a 1963, 6-cylinder stick shift wagon... don't know what kind of oil was used in it previously. The tappets are noisy and I think the oil line is plugged up. I'd like to know what grade of Pennzoil I should use, and how I can get the line cleaned out without too much expense?

R.J.A., Wayne, Mich.

If the valve lifters are badly varnished or deposited, it's not likely that any oil can relieve the situation. However, before you overhaul the lifters and possibly replace some of them, try this: change the filter and drain the oil, replacing it with the correct amount of Pennzoil Z-7 SAE 20. Then, operate the engine from 500 to 800 miles; change the oil again, using the same type of oil. Sometimes this will disperse the deposits and clean the parts to the point where the condition you described can be reduced. It's not a cure-all, but we think it's worth a try.

Hot Stuff. Our '62 car was running hot so we had the entire cooling system cleaned and flushed out. We also replaced the head gaskets and hoses. The car was timed, but after about 200 miles of highway driving it starts to overheat again. What's our problem?

S.S., St. Louis, Mo.

Could be one of many things, such as rust and scale in the system; a defective thermostat (or a thermostat of the wrong heat range); a faulty radiator cap; or an improperly adjusted fan belt. Overlooked any of these?

Electric Gauge. I plan to install an electric oil temperature gauge in my 1962 Corvair and was wondering if I should get a temperature range gauge of 100-325 degrees or 100-270 degrees. Also, where shall I put the sending unit?

J.C., Oakland, Calif.

Since oil sump temperature should never exceed 270 degrees (maximum should be around 240 degrees), the 100-270 degree gauge would be completely adequate. The sending unit for an oil temperature gauge can be installed any place in the pan as long as it's below the oil level.

WE'RE OPEN TO QUESTIONS about motor oils, lubricants, engines. But, you can tell *us* a few things, too. Maybe you have discovered something interesting about motor oils or lubricants. Or you have a special reason for being a Pennzoil fan. We would like to hear from you. Write to: Pennzoil Company, Research Department, P. O. Box 808, Oil City, Pennsylvania 16301. Note: sorry no pictures or material can be returned. Letters chosen for publication are subject to revision necessary for publication requirements.

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ask for it!

MOTOR TREND

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Vol. 20 No. 1

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OPINION & COMMENT

From the publisher

DATELINE EUROPE — A trip to the other side of the pond never fails to point out the basic differences — and similarities — between Americans and Europeans. This is good: it's worthwhile to step behind the mirror now and again. And it's not only in our philosophies — political and otherwise — but in our approach to the same basic needs: providing personal transportation.

In Europe, the emphasis is on — and the desirability is for — smaller-size cars that handle better, get better economy, and generally speaking, cost less. And where we seem to accept a poorer grade of workmanship, for the most part Europeans *demand* quality. Unfortunately, the world is shrinking in this respect as it is in many others, and it's inevitable that the gap between European and American cars will materially decrease within the next decade.

European cars will probably always be able to outhandle our cars. They're designed for European roads, which are generally twisting, narrow, and rough-surfaced. They have to be of less-than-average size ("average" being compact in this country), be able to accelerate quickly enough to pass in a short stretch of road before a curve, hill crest or oncoming car, to brake surely, and to be quick-footed enough to negotiate a sharp bend — many of which are unmarked.

A notable example of a European car for Europeans is the BMW 2000 Tilux recently driven in Bavaria, West Germany. Here is a car that meets all the requirements asked of it by European road conditions. It's a car to be driven with verve: a relatively fast car by European standards and one that can also be driven at sustained speeds of up to 120 mph on Autobahnen. When you have to brake, you press your foot on the pedal and it's like you've popped a drogue chute — you *feel* the deceleration. It doesn't have the neck-snapping acceleration of a stick-shift Charger or 4-4-2, but the easy combination of the clutch pedal, throttle and smoothly-operating gearshift lever gets you up to cruising speed in pretty fair order. And around every curve you find yourself glued in place, with absolutely no fear of sideswiping another car or of connecting with a tree.

Quality being another point of major distinction between a good number of European and U.S. cars, it was a genuine pleasure to see the infinite care that is expressed in building BMWs. It pointed up the fact that when you have the time, there's no reason why you can't build quality into a car. Not much gets by the one inspector for every nine workers in this Munich plant. And yet, if you tried to apply U.S. logic to this and speeded up production, quality *would* probably suffer. Maybe you can't have both, but wouldn't it be better if we at least had a greater *percentage* of quality than we have. You bet!

The enthusiasm for cars of *all* makes and varieties of cars in Europe runs rampant, not only among the "automotive" public, but among the general public as well. How else can you explain 2 million people attending an 11-day auto/ truck/ bus/ accessory show such as the city of Frankfurt (Ger.) puts on every two years? (If you've never experienced the oppressive crush of humanity at such a show, you'll never fully understand the enthusiasm the European feels for his automobile.)

At Frankfurt, 1080 firms from 17 countries exhibited a wide variety of cars, trucks, busses, other commercial vehicles, parts and accessories. Each of the 87 car makes representing Germany, Great Britain, Italy, France, the U.S. and seven Iron Curtain countries were overrun with enthusiastic lookers and potential buyers. Because *buyers* do come to these shows, the manufacturers have some 800 cars available for test driving. They not only *take* orders for cars, they *push* for them. (And they say we use "hard sell" in this country!)

This year the same number of makes were exhibited at the Paris Salon, which gets only a mere one million or so, give or take 100,000. This takes place under one roof though, whereas the Frankfurt Show is set up on a virtual "fairgrounds," where there are some 18 major exhibit halls, with a number of small ones, plus numerous outdoor displays. At Paris we saw more exotic machinery under one roof than the last time we attended the Turin Auto Show. Yet, when we came upon some of the U.S. cars on exhibit we were more than mildly surprised that they looked well in their European context. As if to prove the point, would you believe that two weeks later on Mulholland Drive in Hollywood we were waved at in a '67 GTO by a Ferrari driver? Honest.

—Walter A. Woron

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Forsake the herd.

And if you need a reason for so doing, look about you.

Behold: a veritable herd of sporty cars, each with the same look, the same sound, the same general behavior. People buy them because —well—because everyone else does.

Happily, Barracuda isn't that way.

Which is why you should buy it.

It doesn't look like the others. If anything, Barracuda was styled after cars like Ferrari and Aston Martin (which is hardly a bad tradition to follow).

It doesn't handle like the others. Barracuda doesn't lean, squat, dive, dip or wallow. And the reason for that is a torsion-bar front suspension which no production car in this league, short of Jaguar or Porsche, offers.

It doesn't perform like the others, either. Barracuda goes *and* stops. As engine displacement goes up, so do spring rates and brake sizes. Six-cylinder Barracudas, for example, carry big 9 in. drums; V-8s use massive 10-inchers. We've always prided ourselves on Barracuda's being a perfectly balanced package, and the '68 is no exception.

Barracuda, you see, isn't different just for the sake of being different. It's different because it's a guttier machine.

By comparison, you might say everything else lacks character.

...the Plymouth win-you-over beat goes on.

Plymouth

CHRYSLER MOTORS CORPORATION

INSIDE DETROIT

NEW FROM WASHINGTON

What new requirements are being proposed for 1969 by federal safety officials? They want a system for protecting small children in car crashes. Also mentioned is the elimination of outside protrusions on vehicles that could injure pedestrians. This seems to be a moot point since spinner hubcaps and hood ornaments are already things of the past. As for child restraints, both Ford and General Motors already have developed "kid seats." Another proposal is to have windshields mounted so they can't pop out in an accident, keeping passengers from being ejected in a crash. Pop-out windshields may be popular on European cars, but not on American models. Another requirement would prevent accidental opening of car hoods. American cars already have a double latching system on the hoods.

Yet another proposal is for "safe-to-open" radiator caps. American cars already have such caps. A "fail-safe" system for retractable headlights, so they don't disappear accidentally at night, also was mentioned. This was prompted by trouble Ford had with the headlamp covers on the Mercury Cougar — a problem long since corrected but which the government wants to insure doesn't happen again.

BIKES INCLUDED

After developing a basic set of safety standards for cars, the federal government is now going to write some regulations for motorcycles. Safety officials have proposed that in 1969 motorcycles carry protective devices such as roll bars, foot rests and exhaust system covers designed "to reduce the likelihood of injury to motorcycle operators and passengers." The government has also served notice that it intends to write standards covering "mini-cars," those under 1000 pounds weight. This would be a car such as the King Midget. No effective date has been set, however.

SAFETY HARNESS TO STAY

Why did the government decide to keep the shoulder belts as one of its 1968 safety regulations? A major reason was Volvo's study of 26,000 traffic accidents in Sweden. The key fact turned up was that not one of the 9345 occupants wearing shoulder-lap belts was killed in crashes occurring at speeds up to 60 mph. Nonbelted occupants were killed at all speeds beginning as low as 12 mph. Another reason for sticking with the regulation was that the Big 3 automakers agreed that the safety benefits appear to outweigh any possible disadvantages of wearing shoulder belts.

BRING BACK THE CHROME

General Motors may have found a way to satisfy both the public and the government, a neat trick these days. GM officials say lab tests have demonstrated that bright chrome trim on cars can be designed to reduce glare as effectively as the flat finishes required by the federal safety regulations. A researcher says it's done by using curved surfaces to reduce the size of the sun's reflected image. The dull finishes — criticized by a lot of car buyers — have been required by the government on grounds they are safer because they won't blind drivers. The GM study could lead to a change in the government standard.

STOCKERS INFLUENCE STYLE

Bill France is willing to take credit for some of the 1968 car styling. The NASCAR boss says some of the designs were "definitely influenced" by stock car racing. "Whether anybody wants to admit it or not, a lot of the development that has taken place on the race tracks has now found its way into everyday passenger cars," he says. France singled out the Dodge Charger and joked that its rear spoiler should be called the "Daytona flare."

REPRIEVE ON SAFETY

Most auto companies, it appears, will have little trouble meeting the 1969 car safety standards of the U.S. government. Nine new proposed standards do not appear difficult to meet. The tough ones are being saved for 1970 or 1971. This clearly shows the government is going along with the auto industry's plea for more time to meet difficult technical requirements. For example, no date has been set for changing the controversial Standard 201. The standard covers occupant protection in the "second collision." The government had to drastically revise the standard for 1968 after the industry claimed it couldn't meet some of the requirements for many years. The government is going slow on tackling this one again as well as other requirements for things like energy-absorbing car bodies and speed control devices.

FUTURE NO SURPRISE

The car of the future? That's a favorite topic among auto industry observers who like to visualize driverless cars taking passengers to their destination automatically at speeds of 100 mph. A more down-to-earth opinion comes from Harry E. Chesebrough, Chrysler's vice president for product planning. The car of the future, he said, "will be gasoline powered, manually controlled and substantially like today's vehicles. It is going to have to run on the same roads that we are now spending billions of dollars to build. The vehicle will be substantially safer, but it will still be individually operated." Through the end of this century? "That could well be the case," he said.

TAKE IT ALL OFF

Chemists at General Motors have come up with something new to clean your car windshield. It's an all-weather washer fluid called "Optikleen." It's designed to eliminate the "bug juice" problem. According to GM chemists, Optikleen contains a special chemical ingredient that quickly removes not only visible dirt but also traces of organic contaminants on the windshield. The invisible contaminants cause the streaky or lacy film common on windshields in wet weather.

HELP ON THE WAY

How many times have you seen a car stalled on a lonely stretch of freeway but were hesitant about helping the stranded motorist, fearing perhaps it was a trap for some unsuspecting good samaritan? This year the federal government is going to begin testing a system which will allow you to render aid without even stopping your own car. The good samaritan would merely have to blink his car lights or toot his horn to bring help. He would do this at designated locations, every few miles along the freeway. The signal would be picked up electronically and transmitted to a central location — such as a state police post. The officers would know from which signalling station the call came.

But what about false alarms by prankish-minded drivers? The U.S. Bureau of Public Road thinks it's solved that one, too. "We know from pre-

continued on page 14

When other gasolines talk big about an occasional win,

keep our little list in mind.

Our 1967 Racing Wins

Daytona 500
Atlanta 500
Riverside 500
Sebring Florida Grand Prix 12 hr.
Road America 500
Southeastern 500
Paul Revere 250
Augusta 150
Islip 60
Fireball 300
Times Grand Prix
Daytona 100 (1)
Riverside Trans-Am
Kent-Washington Trans-Am
Daytona 100 (2)
Crow's Landing Trans-Am
USRRC—Monterey
Greenville 100
Gwyn Staley Memorial 250
Virginia 500
Richmond 250
Columbia 100
Rebel 400
World 600
Hickory 100
Carolina 500
Firecracker 400
Savannah 100
Volunteer 500
Nashville 400
Beltsville 100
Dixie 500
Weaverville 500
Hampton 100
Southern 500
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Asheville 100
Northern 300
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Savannah 100
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Grand Stock Handicap Eliminator

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Competition Eliminator
Street Eliminator
Stock Eliminator

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Stock Eliminator

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Street Eliminator
Stock Eliminator
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PURE / union 76

The No.1 name in racing!

liminary tests in four states that several reports must come from one point before they can be regarded as reliable," said Robert F. Baker, director of the bureau's office of research and development. The bureau will select a 50-mile stretch of rural interstate highway for the formal test. The cost will be $50,000 to $100,000. If it works, it will be used in other areas.

I'D RATHER DO IT MYSELF

An interesting sidelight to the Ford strike: General Motors made the first crash test of a production model 1968 Mercury Montego—one of the cars with Ford's new collapsible front end. Ford had made many crash tests of prototype Montegos and Fairlanes in developing the energy-absorbing design for the front end. But the United Auto Workers' Union struck Ford soon after the '68 models went into production. The company didn't have enough cars for dealers, let alone any to spare for crash testing. GM, intrigued by news reports of the new design, simply went to a Lincoln-Mercury dealer and bought a Montego. First thing Ford knew of it was when a GM vice-president walked up to a high Ford official at a meeting and made the observation, "Say, your design really works. We crashed one out at Milford." The Ford man thanked him for the information.

RESTORING MADE EASY

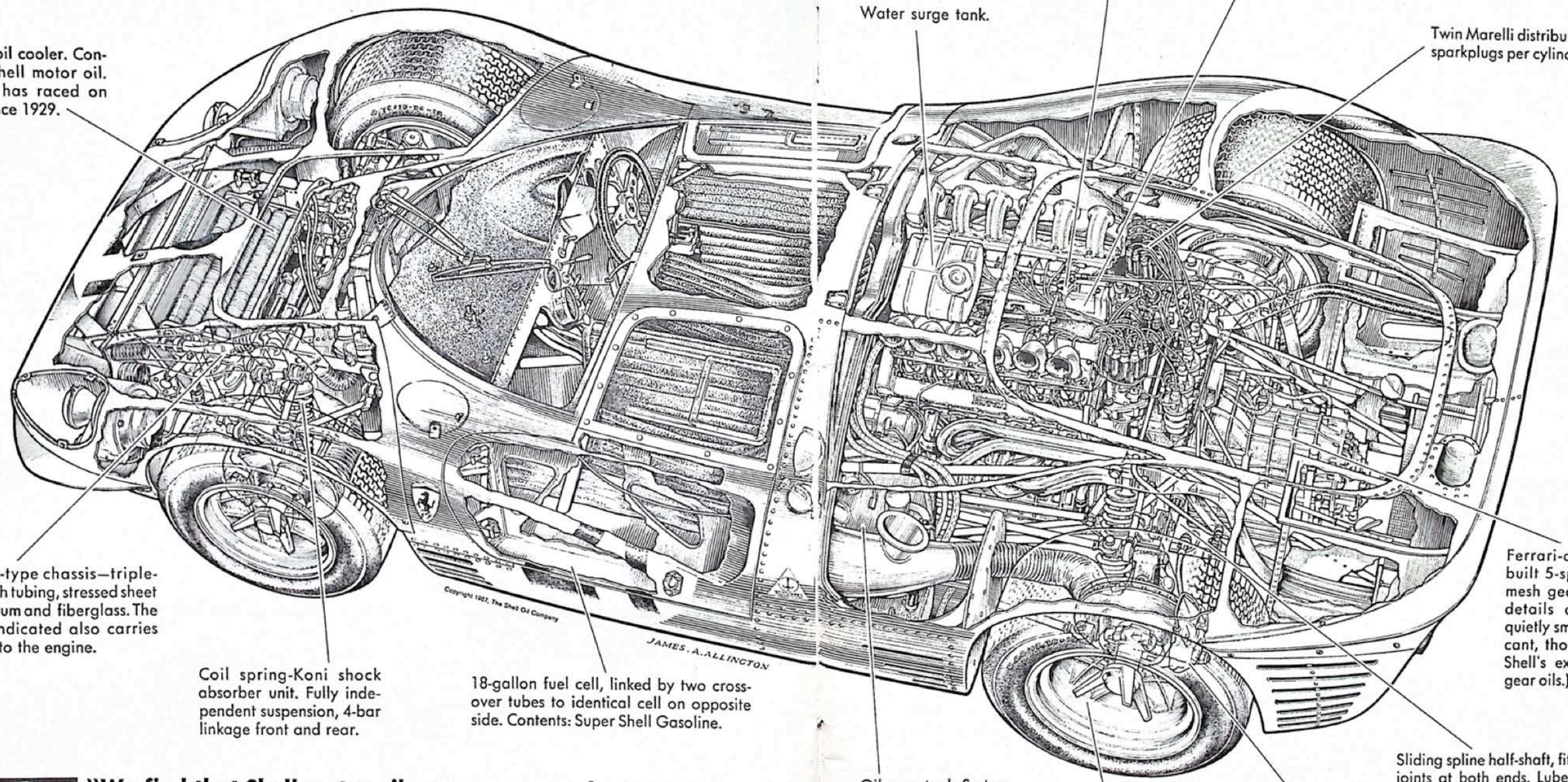
An instant antique. That's what a Springfield, Mass., restaurateur aims to do. Presley Blake bought a Mercury Cougar and intends to store the car for 10 years. "Everybody thinks I'm crazy to buy a brand, spanking new car and put it on blocks," he admits. But he figures that some day the original Cougar is going to be a classic—honest—and he intends to have the "best of the first" available when that time comes. Blake, who has preserved a few cars before—but never a new one—bought a blue Cougar XR7 and put it on jackstands in his garage. He deflated the tires to half pressure, added a special solution to the engine to preserve it from rust, covered the interior with neat's-foot oil and bathed the exterior of the car with cosmoline. Now he's waiting.

FULL OF AIR

A bag of air has kept primates from being killed in simulated car crashes at speeds up to 65 mph. An air bag safety device has long been advocated by a Martin Co. researcher. Some auto company engineers downgraded the concept. However, tests conducted by the Federal Aviation Administration showed primates were able to survive

continued on page 18

"Per la Ferrari P4, permetto solamente olio per motore Shell"—Enzo Ferrari



Engine oil cooler. Contents: Shell motor oil. Ferrari has raced on Shell since 1929.

Lucas indirect fuel injection with Grand Prix-type sliding throttle plates. Ferrari always demands Super Shell Gasoline for his cars.

Four-liter V-12 light alloy engine puts out 450 hp at 8000 rpm. Three valves per cylinder—two intake and one exhaust. Two overhead cams per cylinder bank.

Water surge tank.

Twin Marelli distributors fire two sparkplugs per cylinder.

Mixed-type chassis—triple-strength tubing, stressed sheet aluminum and fiberglass. The tube indicated also carries water to the engine.

Coil spring-Koni shock absorber unit. Fully independent suspension, 4-bar linkage front and rear.

18-gallon fuel cell, linked by two cross-over tubes to identical cell on opposite side. Contents: Super Shell Gasoline.

Ferrari-designed-and-built 5-speed synchro-mesh gearbox. Ask for details and everyone quietly smiles. (The lubricant, though, is one of Shell's extreme-pressure gear oils.)

Sliding spline half-shaft, fitted to U-joints at both ends. Lubed with a Shell extreme-pressure grease.

Oil sump tank. System capacity is 16 quarts.

Cast aluminum-magnesium wheels. Bearings are packed with a Shell grease.

Outboard-mounted Girling disc brakes. Vented rotors, quick-change interchangeable discs.

"We find that Shell motor oil answers our problems best. Fourteen world championships have been the result of our happy association with Shell. So I permit only Shell motor oil in the sports and racing cars that leave my factory."

You can get a set of three 25" x 19" drawings—the one above, plus similar drawings of the Ford Mk. IV and the Chaparral 2F—each on fine paper and without text. For all three prints, send $1.00 to Shell Prints RC, Box 1747, Trenton, N.J. 08607. Offer ends March 15, 1968.

far higher impact speeds with the air bag than were other primates using conventional safety belts. The air bag inflates with an explosive charge directly in front of the subject. In a car, the subject would plow into the inflated bag instead of the steering wheel or instrument panel. Two problems: (1) would the blast needed to inflate the bag create problems of its own, and (2) how do you develop a "fail-safe" device to keep the bag from inflating in a minor parking lot accident? These and other factors rule out any use of the unique concept for the foreseeable future.

COLE NAMED GM PRESIDENT

A steady drizzle fell in the predawn darkness as a disgruntled motorist tried to move his stalled car from a busy intersection in the fashionable Bloomfield Hills area north of Detroit. The driver watched unhappily as hundreds of other cars whizzed by. Finally, one driver stopped to help. He quickly diagnosed the trouble and drove the fellow to a gas station, then hurried away with the explanation, "I'm starting a new job."

The Good Samaritan was none other than Ed Cole, the new president of General Motors. The man he befriended was a top Ford official who commented afterwards, "Cole certainly showed the caliber of man he is." And that's why you could almost hear the cheers go up from auto wheels and auto writers alike when word came that Cole was the new man in the GM driver's seat. He's one of the best-liked executives around and also one of the most capable. He will go a long way toward putting a new face on the giant that is General Motors.

GM's image was badly tarnished in the safety controversy two years ago — particularly because of the Nader probe — and it faces the prospect of even worse troubles ahead. The government has been investigating GM's bigness for almost 10 straight years and even prepared a suit to break up GM. Moreover, there's been talk of a congressional investigation of GM's dominance of the auto industry. The feeling around Detroit is that Cole would have been the best spokesman for GM during the safety hassle, and the possibility of future problems is one reason he is the new president. But not the only reason. He earned the promotion.

Cole is best known for the job he did as Chevrolet general manager in 1956-61 — an era marked by a fierce competitive battle between Ford and Chevy. He was responsible for the rear-engine Corvair, a car much maligned by Nader but declared legally safe by the courts. He was chief engineer of Chevy when the first Corvette was introduced in 1953. Most recently he was GM's Executive V-P in charge of operation staffs, such as engineering, styling and the like.

Cole, who's 58, grew up on a farm near Marne in western Michigan. His boyhood ambition was to become a lawyer. But the old-time residents of Marne remember him as a kid who was a whiz at tinkering with cars. He liked mechanics so much he forgot about the law books and enrolled at the General Motors Institute. However, he never finished the prescribed engineering course because the Cadillac Division snapped him away for some special project. It's been one promotion after another ever since.

Cole and the man he succeeded, James M. Roche, now chairman and chief executive of GM, insist the moves don't portend any basic change in GM policy. For example, Cole says the company is not going back into auto racing. But auto buffs find this hard to believe coming from a man who would rather sit behind the wheel of a Corvette than in the back seat of a chauffeur-driven Cadillac. Or from a GM president who still likes to tinker with cars, even those stalled on the roadside.

SANDBAGGER

Some day you may run into a sandbox and it will save your life. It's the idea of John Fitch, the former Corvette and Mercedes driver who runs a specialty car shop near Lime Rock, Conn. He believes 18,000 lives could be saved a year if sand filled barriers were placed in front of things like bridge abutments. An out-of-control car would hit sacks or boxes filled with sand. They'd throw up a cloud of sand but would come to a gradual stop before hitting an abutment. Fitch tested the concept in 30 crashes into the sand barriers at speeds up to 60 mph. Each time he was uninjured and the cars were driven away under their own power. /MT

Don't rush down to your neighborhood Mustang dealer—quite yet. The Mach I is only an experimental model, but these "dream" show cars often portend the future. Reflecting Ford GT styling, the quick-release fuel filler caps behind the fixed sideglass, functional rear brake air intakes, and the 64-degree raked windshield stress the accent on "sports" in this sports-personal car direction for styling.

Sports—Personal Cars: What Lies Ahead?

by ROBERT W. IRVIN

Has the sporty-car craze reached its peak with the current crop of the "long-hood, short-deck" breed? For some crystal ball answers MOTOR TREND went to key officials of the four major car manufacturers. Their replies were mixed: some vague, some credit-seeking, most filled with wonderment and awe for the appeal the sports-personal car has demonstrated and its overall influence on Detroit thinking. There was even disagreement over who deserves credit for starting the whole happening. But the spokesmen unanimously agreed on one observation: there is only one way the sports-type personal car market can go — up.

Chevrolet claims it all began with the Corvette. Ford says it was the Thunderbird 4-seater — arguing that the 60,000 first-year sales of the '58 exceeded total deliveries in the three prior years of the 2-seat T-bird. The only meaning this kind of reasoning has, is to the profit margin; it doesn't mean the 2-seaters weren't successful.

Next was the Corvair Monza, which started the bucket seat craze and absolutely commanded the low-priced sporty car category.

Pontiac's general manager, John DeLorean, feels that "we started a whole trend," referring to their performance-oriented approach — the super car GTO.

By 1964 the stage was set for a car which combined the most desirable features of all these. And out pranced the Mustang.

Says Si Marshak, Ford Division market research manager: "We wanted a car that would appeal to young people. We started putting together various alternative propositions, dealing with a market that had champagne tastes and beer pockets. And the problem was how to put together a vehicle that a guy could buy with limited financial outlay and still be proud to drive; and at the same time put on enough options so the man who really wants to impress his girl can add wire wheels, a hot engine and so forth."

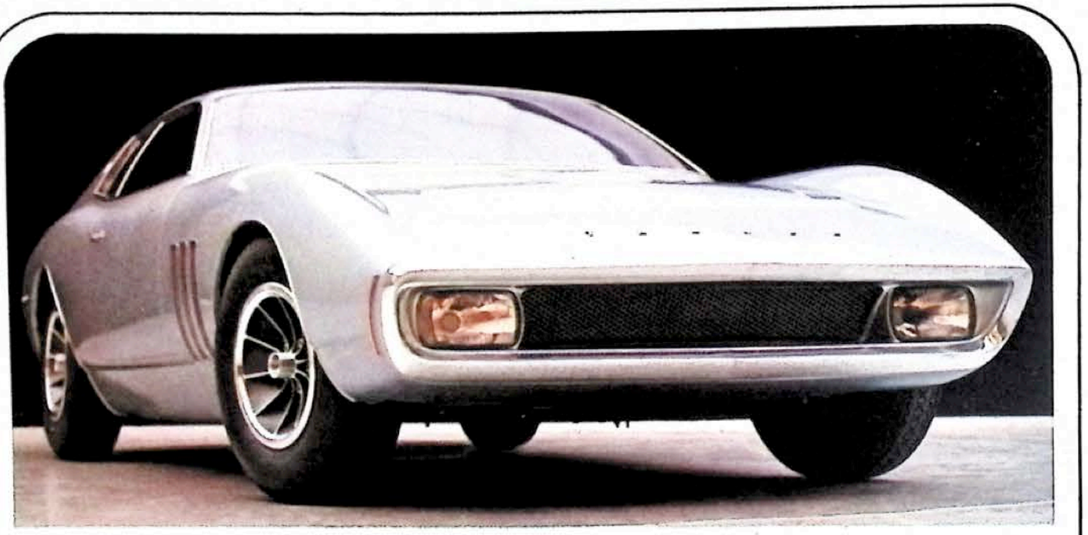
The successful Mustang formula was quickly acknowledged by buyer and imitator alike and three years afterward Johnny-come-latelies were still joining the herd.

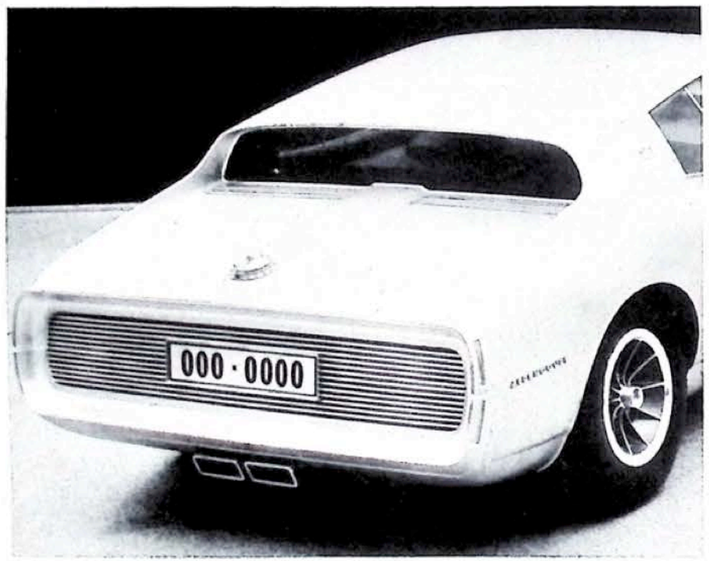
What of the future? Richard L. Teague, American Motors Vice President of styling, for instance, visualizes a whole breed of personal cars, even including sedans and station wagons. "I think you will see hot 4-door sedans and sports wagons, both with the personal appeal of the current 'ponycars'," he says. And, although AMC has experimented with just this concept — the AMX III Javelin-type sports wagon — plus a mocked up 4-door Javelin, they're still firmly imbedded for a significant time in the experimental stage.

"These could be for the Javelin buyer with a growing family — a man who still wants the personal appeal of the sporty car but who needs more space," Teague said.

"I think there's definitely a market for these types of vehicles," he added. "Our AMX III got fantastic response. I have yet to hear of a letter from anybody who didn't like it."

AMC, of course, is also proceeding in the other direc-





DREAM THEMES

A suggestion from your superiors, regardless of its subtlety, seems to always elicit a negative reaction, but here is one case where No. 1 might endear himself to his associates by employing creativity unfettered by organizational pomp. Ford offered these two experimental designs as possible approaches for Ford of Britain and Ford of Germany. Dubbed the Alpencoupe (top and left) for Deutschland progeny, and the Bearcat (bottom) for England, both are intended to close the gap between American and European car design. The Alpencoupe has a front engine, 106-inch wheelbase and is 177 inches long and 48.2 inches high. The Bearcat is mid-engined, 183 inches long with a 104-inch wheelbase and is 47.6 inches high. To show what can be done with a little design effort, both cars hold four people.

tion, introducing in February a 2-seat personal car, the AMX – basically a 2-place version of the Javelin geared at the Corvette buyer for one-third less cost. "I'm sure other people will be following us into this area," was Teague's comment. "We hear rumors that Ford is playing with one of these." And Chevy is also considering a 2-place version of the Camaro, but there are not believed to be any firm plans to build one of these.

When Bob Anderson, Chrysler-Plymouth General Manager, was asked if the long-hood, short-deck theme would remain, he replied, "You can't say for sure that anything's going to remain, but I don't think it's run its course yet. Cars are going to become more and more personalized – and we think we are on the right track."

These styling trends, he adds, "have a way of going a little too far and then you have to pull back. We looked this over very carefully and thought that on our more conventional cars we didn't want to go quite as far as the others on the long-hood, short-deck approach."

Pete Estes, general manager of Chevrolet: "I don't see any change in the sporty car styling of a long-hood, short-deck. But I don't think you're going to see any more movement of this theme into regular sedans. In a 4-door car, the trunk space is still mighty important. I think it's wrong to take good, usable trunk space out and put the space up front where you can't use it. I've got to admit, though, that cars like the Camaro and Eldorado look good and get the job done." By that he means they sell well.

Will there be more sporty cars? Estes answered this with the observation that there's already a conflict between the public's obvious taste for more and more individuality in cars and the manufacturing problem something like this brings. "Proliferation by itself doesn't hurt," he says. "But tooling costs and even the need for more storage space get to be problems. We're walking a tightrope between what the customers want and what we can afford to do and physically handle."

So, the way Estes feels, the auto companies are already doing about as much as they can in the way of options and building individuality into its cars. And, he adds, "the sizes right now are pretty close to being right. I don't see any increase in size."

Ford's Si Marshak, Ford division market research manager: "There's no question where the market is going. It will continue to grow." Most of the people in the country, he points out, are 27 years of age or under.

"The average age of the population is coming down. We're trying to meet this trend with more and more sporty vehicles, and we have sporty concepts that are available for the future. We can detect no discontent with the size at the moment. I would say that the sports/personal car is going to continue to be a small car."

Marshak's associate, Gene Bordinat, Vice President for design at Ford Motor Co.: "Whenever there's something hot in the business, everything tends to gravitate toward it. Cars like the new Montego and Torino tend to take on the appearance of sporty cars." Bordinat also agrees this styling theme will continue for at least several years in the sporty cars, but he disagrees with his competitors, vaguely, by his opinion that, "the ruboff is going to show up even more on conventional type automobiles."

Nevertheless, he believes the sporty car trend will be to more and more customizing of these automobiles. "We might be able to go into fiberglass in special hoods. Before we had to rely on steel to make these changes and you could 'break your pick' trying to finance them. But new materials are going to have a great influence on our ability to offer the kind of customizing we're talking about. You might not want to go across the board (with a certain hood treatment) but this is a fine way to offer an 'up' series.

"If you remember going through a plant 10 years ago when we produced just Fords and Mercurys and go through one now, you wonder where the mass production went. All of a sudden we seem to be building just custom cars."

There's little doubt that the sporty car is already influencing the styling of family cars. Many of the restyled 1968 intermediates feature the long-hood, short-deck look popularized by the sports-personal cars.

Whether this is good or bad is raising broad debate in the industry. But there's no debating the fact that the pure-bred sports-personal car motif is still the exciting center of attention.

On the following pages we take a comparative look at this year's crop – to see how they rate for '68. Whatever their future promises, we believe you'll agree their present is fulfilled. /MT

Even the Thunderbird might succumb to the sporty-car influence – if this modified '68 model reveals what could lie ahead. Named "Saturn," its hood is 4 inches longer, roof 2 inches lower. Electronics would include radar screen to monitor traffic conditions. (Opposite) There can be a sporty-car future in your Ford, whether it's built in the U.S., Germany or England. The epidemic is world-wide.

TESTING 6 SPORTY CARS

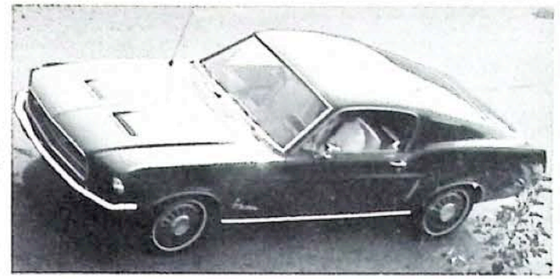
REGARDLESS OF WHEN it started — '54 or '64 — the sports/personal market has finally resolved itself, and at this moment, as impressive as its growth has been, the peak is still nowhere in sight. While the rest of the world is strung out on "unification" and "standardization," the sports/personal cars offer a greater palliate to human nature by "growing" in the other direction, much to the satisfaction of everyone's ego and identity.

Although many came before, Mustang must be credited with establishing a well-defined configuration for the sports/personal car — a Mittymobile, a comfortable compromise for wishful thinkers — that was tailor made for followers who were safe in assuming that the more different sports/personal cars there are, the more "personal" each will become.

That we have collected six distinct representatives of this market for comparison, means that this premise is a valid one. First, all six are successful and worthy of comparison by virtue of their singular purpose and design. Second, they have all happened within four years — a veritable phenomenon. Because of the "personal" characteristic of the class, the cars all differ, though all differences are vague or subtle. Two emphasize luxury, one economy, and all six offer performance and a specific kind of comfort, each of which can be rendered in the owner's own unique manner from manifold options and accessories.

By assessing all of the cars on a comparative basis, we hoped to reveal the inherent weakness in a market apparently overcrowded with identical products. We discovered quite the contrary.

MUSTANG



"Ponycar" means Mustang. It's the original, and the one all other contenders to the throne are out to beat. It made the whole scene happen, and like it or not, you can't drive home in a new Cougar, Camaro, Javelin, Barracuda or Firebird, without the neighborhood gang comparing it to a Mustang.

Powertrain & Performance

The variety of options in the powertrain department is widespread. You can have an economy Mustang or a stormer. Our prime test car was a 390-cu.-in. GT V-8 fastback. This 4-bbl. carbed engine contains 335 "ponies," and gets performance jobs done without strain. The 390 GT engine is second only to the 427-cu.-in., 390-hp 4-bbl. carbureted V-8, which is a lot of engine for a small car. It can only be hooked to a 3-speed automatic, while the 390 V-8 offers a choice of standard 3-speed manual, optional 4-speed manual, or extra-cost automatic. Our 390 had the automatic, and we couldn't find fault with it. The Cruise-O-Matic shifted crisply, always at the same rpm when the accelerator was buried in the carpet, and was the greatest for in-town cruising.

We prefer the 390 GT V-8 for performance tasks, mostly because it's doubtful the average user would ever realize full potential from the 427, and probably be frustrated with the 302 4-bbl. V-8. Getting full potential from a 427 dictates serious efforts on a closed course. Any other site might endanger both driver and bystanders.

Standard in all Mustangs is a 200-cu.-in., 115-hp in-line 6-cylinder. This is an ideal powerplant for those who need good economical transportation, but hate to suffer from pure lack of power. The majority of early Mustangs were 6-banger equipped, and a large percentage still roll off the line this way. Automatic transmission is offered in addition to the standard all-synchro 3-speed.

Ford's reliable 289-cu.-in. 2-bbl. V-8 is the standard 8-cylinder Mustang engine, with a 200-hp rating. Only a 4-bbl., 302-cu.-in. V-8 is offered optionally in the small block configuration, bringing with it 230 hp. A fully synchronized 3-speed floor shifted transmission is standard for both, and either 4-speed manual or 3-speed automatic is optional. The 2-bbl. 289 is a regular fuel user, while the 302 4-bbl. V-8 has an expensive premium diet.

The performance-minded 390 GT V-8 is good for anywhere from 11 to 15 mpg, and 16 might be squeezed from it on a long trip. This isn't bad for an engine with almost constant power reserve, though far from what Dad might consider good. It's extremely mild mannered around town and doesn't act up in traffic or when the temperature climbs.

We made a long trip in the 390 Mustang, discovering that unless prompted by a heavy foot, it's hard to detect the powerhouse lurking under the flat-black painted louvered hood.

All the V-8s will accept power equipment without severe power loss, but we'd definitely advise against adding more than power steering to the 6-banger. It just doesn't pump out that many horses to provide push for the car and a gob of accessories. Low mileage and excessive maintenance will be the result.

Handling, Steering & Stopping

The first Mustang buyers were probably impressed more by the handling traits of the car than anything else. This isn't so much the case now, as all "ponycar" makers stress handling in their design and their sales pitch. In stock form, with GT equipment, the car hangs on indefinitely, and all Mustangs have "handling." The average, sane (hopefully) driver won't find himself overstretched in a situation caused by roll-under, front end wash-out, or the rear end greeting the road before the front. Springs don't react as stiffly as on the Firebird, but nevertheless, the Mustang suspension delivers straightforward reliability in hard use. It has provided a good starting point for Shelby-American's Group II Sedan Racers, which proved themselves on road courses all over the country this past year.

Steering on the Mustang didn't impress us all that much either way. It steers like a car should. It has a fairly tight turning diameter, and there's no lag between steering wheel and front wheel movement. Power steering was in all the Mustangs we drove, but we tooled a '67 with manual gearing and found it not objectionable. It's not the super-stiff variety we've endured in other makes, but don't go by this recommendation if you're thinking of wide-pattern tires. They hang-on to the pavement too well to make manual steering an easy chore. Wide tires demand power assist for any kind of driving pleasure at all.

Stopping has never taken much effort in a Mustang, and this year's floating drum front power disc brake is even better. More braking effort results from the same amount of foot pressure, and the simplified "floating" caliper should give longer life due to fewer parts. In all our tests, the car(s) never varied from a straight line, and the brakes never gave up. We had only disc front/drum rear types for our use, and the gas tank was always full, which may have added to rear end stability and absence of spring wind-up.

No matter though because the front disc/rear drum power brakes provide a tremendous edge over normal non-power 4-wheel drum binders (power drums aren't available). Consider also that the extra weight of a 390 or 427 detracts from braking effectiveness, and for that reason, these engines can't be had in a car without front power discs.

Comfort, Convenience & Ride

We're big on safe cars, but sometimes safety items detract from comfort. Take the new heavily padded steering wheel, for instance. It protrudes farther toward the driver than the '67 issue, causing him to "kink" his elbows in order to sit within range of the foot pedals. Then, while turning, the bent elbows are prone to strike the thickly padded armrest. We learned to avoid the armrest, but never liked having to do so.

Sit-down comfort is okay. We'd hate to go so far as to say "perfect," because a few aches can occur after a long time in the driver's saddle. Generally, we find no complaint in the well padded buckets for normal use, meaning trips of one hour or less.

Back seat comfort could be improved with more legroom and armrests, and the rear seat headroom in the fastback is cramped. But judging by sales of ponycars, Mustang in particular, the rear seat space has little to do with influencing purchases, and if it were larger, then it wouldn't be sports/personal. And there you are!

Driver position is excellent. All instruments can be easily read, and most controls are quickly reached. The ash tray lies almost flat with very shallow

sides, so periodic emptying is a necessity. Reaching the key takes some stretching, but the driver has cause to go for it only when getting in and out, so that's no major objection. Putting it down low where it is could also mean less chance of banging it with your knee either when entering or leaving.

Somehow, we never got used to the optional Tilt-Swing steering wheel. We really enjoyed being able to get the wheel out of our lap when exiting, and having a choice of nine different driving positions. Our objection, however, is that after it swings away when the door is opened, it doesn't lock in place. It just moves up and to the right and then is as sloppy as a wet mop. We would prefer it to lock, giving us something to grasp when exiting.

We found no great difficulty entering or exiting the car, with or without the tilt wheel. Door opening and clearance is adequate: seat-to-wheel clearance isn't a problem.

The Mustang ride has been improved every year since its introduction, and this is the best yet. A "hockey-stick" curved front lower control arm helps bump and shock absorption by the front wheels, greatly reducing feedback through the steering control. A carryover from last year is the use of rubber bushings at all attachment points of the suspension members to the body, which neatly voids harsh vibrations and dampens noise to a large extent.

"Plain-Jane" Mustangs without heavy-duty suspension feel good for '68, and offer about what buyers could expect from "handling packages" as far back as five years ago. Ford engineers have evidently become aware of the fact that there's more value in control than in a cushiony ride, and it can be included in all cars without arousing owner complaint.

The convenience of the large bin in the front of the optional console was repeatedly brought out to us. It seems capable of accepting an entire picnic lunch—though it won't keep it cold—and is within arm's reach of driver or passenger. The roll-top hatch and large size combine to make it one of the best console compartments we've seen.

Plus & Minus Features

We've already "black marked" the Tilt-Swing wheel for its non-locking swing; but since it's optional, if you don't like it, don't buy it.

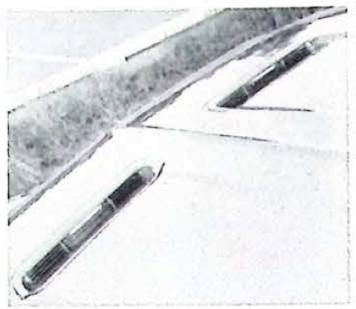
The close positioning of the manual windshield washer pump pedal and light dimmer switch make it likely that you'll wash your windows and/or brighten your lights when only one of these functions is desired. Moving the pedal or equipping all Mustangs with electric pumps would be a solution.

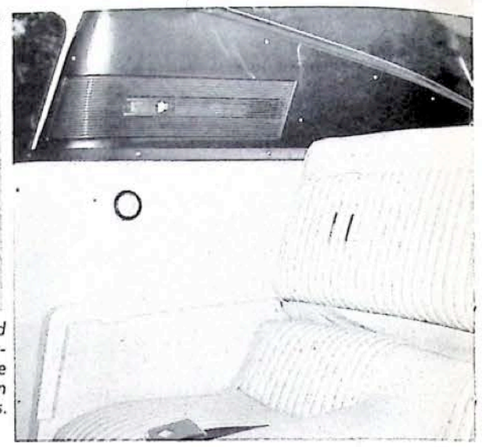
Dash layout is great, and the revamping of the heater/air conditioning controls will surely result in more owner satisfaction.

The 2+2 rear air vents don't do much to pull air in and through the car, but are about equal to what competitors have to offer, making it a sort of standoff.

Moving the directional signal indicators to the driver-facing part of the louvered hood is a groovy idea, and makes them a lot easier to spot while trying to drive. They also give a hint to drivers on each side as to what your next move may be.

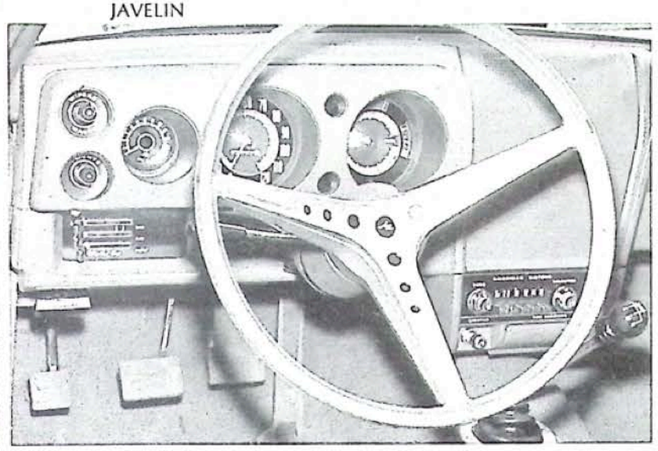
No car is perfect. The Mustang has some rough edges built in, but not enough to take away any of the glamour. The other ponycar makers realize that only too well.



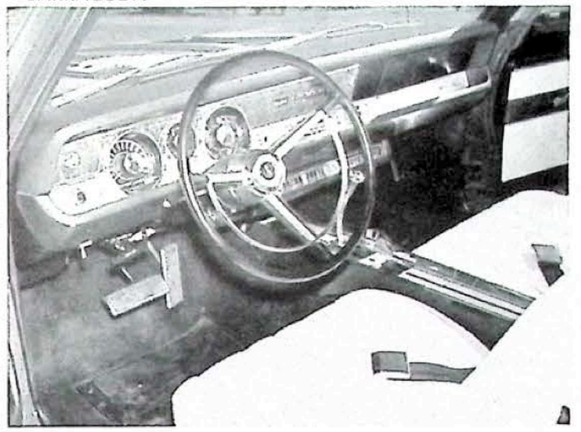


Mustang turn indicator lamps are nestled in "functional" hood scoops. Simply operated fastback air vent pulls only moderate amount of trapped air. Versatile fold down seat is uncomfortable for extended trips.

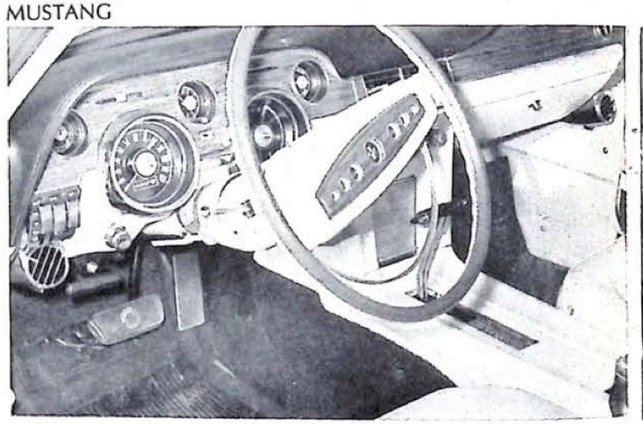
JAVELIN

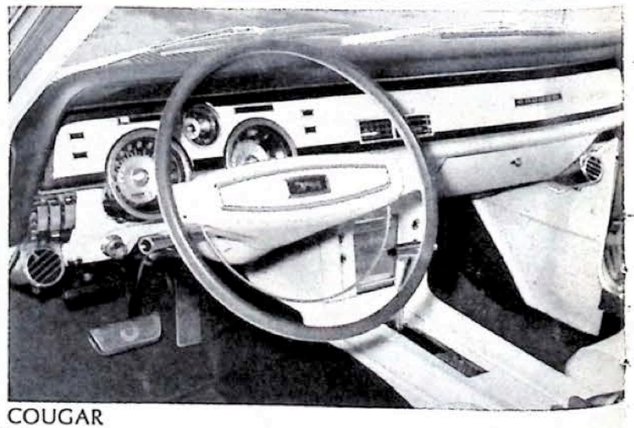


BARRACUDA



MUSTANG



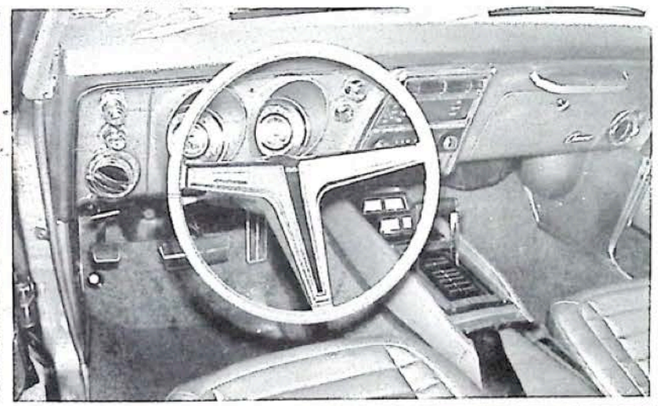


MUSTANG interior (top) is neatly laid out and well finished. Front leg room is marginal by comparison to Javelin and Barracuda. Optional tach is huge and not hard to spot. (Below) COUGAR panel is similar to Mustang though somewhat simpler in appearance. Padding extends the width, with a foam edged lip shading gauges. Parking brake handle on both Mustang and Cougar are pull-out hand grip type, archaic by comparison to foot-pedal design.

COUGAR

CAMARO

FIREBIRD



Molded ABS plastic JAVELIN dash is simplified for driver convenience. Foot pedals are logically placed, and there's legroom enough for a centipede. (Top right) BARRACUDA interior is spacious, with high utility value from see-thru trunk and fold-down rear seat. Generous headroom could allow higher seating, which might remedy high steering wheel position. Uncluttered dash is ribbed with foam lip. Lower rib serves dual duty as "catch all" tray. (Left) CAMARO dash is upgraded with bright work behind instrument faces. Light and wiper knobs are difficult to find in dark. Radio and temperature controls are well lit and located. Optional console gauges are poor compromise. Steering wheel is egg-shaped for easy exit. (Below left) FIREBIRD dash is identical to Camaro with exception of some trim.

CAMARO

It all got started back in '64 . . . by someone else. And, it wasn't until several years later, in '67, that Chevrolet finally fielded an entry in the sporty car sweepstakes. The wait was worth it. The smooth, flowing lines and classic simplicity of the Camaro reflected, from every angle, consummate years of continental styling innovations. For '68 the major changes and improvements are inside and underneath . . .

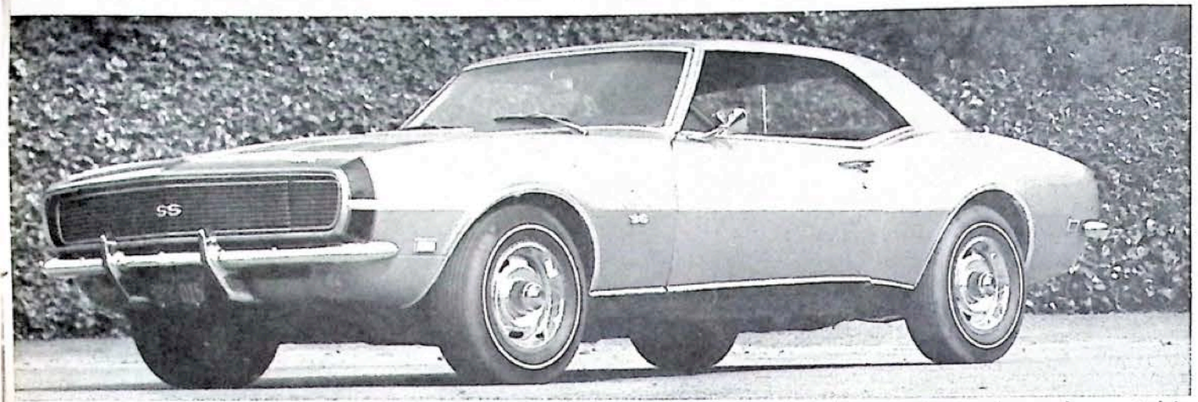
Hopefully, the designers won't get a whack at the outside for a number of years. The only body change of any consequence that is immediately evident is the addition of full door windows without ventipanes. Luckily, that bit of engineering prestidigitation actually enhanced the looks.

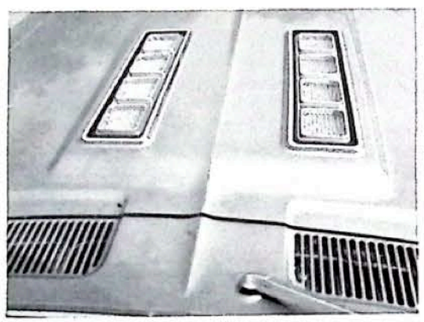
For a car that wasn't immediately accepted in the appearance department, Camaro has certainly taken off now. Perhaps, as is the case with most artistic creations, it takes a while to be understood. The only advice we have for Camaro engineers is: tune up, turn on, but never, never drop out.

Powertrain & Performance

If the number of engines available for the Camaro increases every year as it did this year, a buyer will require a computer to do his choosing for him. Last year there were three engine options; a 6 and two V-8s. This year the choice has increased 100%. Now there are six powerplants ready and waiting for the Camaro Connoisseur. A 230-cu.-in., 140-hp 6 and a 327-cu.-in., 210-hp V-8 are standard. Optional choices include a 250-cu.-in., 155-hp 6 and a 327-cu.-in., 275-hp V-8. Available for the Camaro SS are a 350-cu.-in., 295-hp V-8, and the top of the line, a 396-cu.-in., 325-hp V-8. Rear axle ratios are as plentiful as engine options and range all the way from a 2.56:1 economy package with Powerglide, to a 4.88:1 special used with the 4-speed and 350-cu.-in. V-8. Positraction is required with the high ratio rear ends from 4.10 to 4.88 and is available optionally for all other ratios.

Our test car was equipped with the 396-cu.-in., 325-hp V-8, tied into a Turbo Hydra-Matic and a 3.07 rear axle. The Turbo is available only with the big engine in the SS series. The 396 puts out a torque rating of 410 lbs.-ft. at a leisurely 3200 rpm, which is





(Above) Camaro body styling remains basically unchanged from 1967. Major modification is the removal of vent windows. Headlight doors on our test car failed to operate properly, and they often stuck open or closed. (Below left) hood louvers are strictly decorative, although they would be useful for cooling if they were functional. (Below center) optional, console mounted instrument cluster is difficult to see from driver's seat and glass facings pick up reflections. Checking gauges requires unsafe diversion from road. (Below right) front disc brakes stop car fast and remain fade-resistant after repetitive use.

quite sufficient for this 3680-pound, short wheelbase stormer. This big engine truly represents brute force in a car this size. Unfortunately, progress is something we must live with as modern technology continues to shower us with aids that make driving easier, but at the same time forces us to relinquish the fun and feeling of driving a magnificent automobile. The engine of our test Camaro, besides driving the car, also furnished the horses for: power steering, power brakes, air conditioning, and a smog device. Even with all these contingencies, the car was able to do a respectable 0 to 60 in 7.8 seconds, and turned a quarter-mile at 92 mph. The three big V-8s all have 4-bbl. carbs and the 396 has 10.25:1 compression. The 325-hp is rated at 4800 rpm. Our car had a tach, which is mighty handy to have, and indicated the shift points at 5500 rpm. There is also a profusion of transmission options to tie in with the engines and rear ends. These include a standard 3-speed, a heavy-duty 3-speed, a 4-speed, Powerglide and the Turbo. With the correct, carefully considered powertrain combination, the Camaro can be a highly enjoyable, going machine.

Handling, Steering & Stopping

Handling this car is a joy, one of the outstanding features. Its wide-stance, low-profile chassis offers exceptional riding comfort with good handling and outstanding roadability. Around town, on washboard or chuckholed roads, the ride is a little stiff with the beefed up SS springing, but freeway cruising is a different story. The Camaro SS handles like a car twice its size and weight. Besides the spread stance chassis, the riding qualities can also be attributed to the wide tread, F70 x 14 tires fitted on 6-inch wheels. A new development for '68 that adds to the handling and riding characteristics are bias-mounted rear shock absorbers for improved suspension control. The curb side unit is mounted ahead of the axle; the driver side shock is mounted behind. The SS and models with optional 275-hp V-8 and 4-speed gearbox also feature special multiple-leaf rear springs. All others have single leaf rear springing.

Front suspension is independent with coils and concentric shocks. The road test car was equipped with Positraction and we highly recommend this option with the big engine. It is invaluable for cornering, or even when leaving a parking lot. With big power under the hood, the rear end could break loose without much provocation, but Positraction negates the fishtail urge before it starts. Put your foot into it coming out of a corner. The feeling when the rear end digs in and puts you in a straight line is pure security blanket. Power steering really saves the arms, especially with the wide treads all around, but makes for some touchy handling when cornering at speed. Many more wheel corrections are necessary than would be required if the steering were unassisted. Again, this is a sacrifice to ease and convenience. Power steering ratio is 20.6:1.

Stopping is also a Camaro good point, especially if you have the front disc brake option, which our test car had. Front discs are 11 inches and rear drums are 9.5 inches. Stopping from 60 mph took 141 feet and from 30 to 31 feet, both respectable distances, and the car didn't vary from a straight line either time. The brake pedal is adjusted to ride close to the floor for heel and toe operation. This is a good feature for rallying and racing. Front discs are remarkably fade-resistant after repeated high-speed stops. The power-assist operates easily without any grab.

Comfort, Convenience & Ride

Inside comfort is good unless you suffer from claustrophobia. Spaciousness isn't a Camaro strong point, but then, one doesn't buy a sporty car if he expects a wagon interior. Bucket seats are comfortable — even after a lengthy trip — and well proportioned. The custom interior option with all vinyl seat covers is attractive and easy to clean. All accessory knobs and switches are conveniently located and speedometer and tach are easy to read. Rear seats are comfortable, but head and leg room are lacking — also to be expected with a small, sporty car. The same comment can be made about luggage space. It is practically impossible to get anything but the smallest cases into the trunk, but one can't expect a cavernous storage area either with this type car. The center-mounted console is the right height and length for easy shifting and easy access to the console glove compartment. A console-mounted seat belt receptacle is also convenient and eliminates the need to search under the seats for a missing belt each time you enter the car. The coupe offers slightly more room in the luggage compartment and inside than the convertible. As mentioned earlier, ride is exceptional, especially when wide treads are chosen. Continuous driving is seldom tiring. Air conditioning, although it draws heavily on the engine, is an asset that can't be overlooked. It cools the car quickly, which isn't as often the case with bigger cars and larger interiors and, with the windows up, the noise factor is held to a minimum, also an asset on a long trip.

Plus & Minus Features

A lack of preplanning, the high cost of changes, or the sacrifice of perfection for expediency, are anomalies we live with today. Unfortunately, many minor inconveniences on the Camaro could have been corrected with a little more experimentation and testing. The special, console-mounted instrumentation package — that includes fuel, ammeter, temperature, and oil pressure gauges — is placed so that it is almost impossible to see from the driver's seat. To check the gauges, especially fuel, the eyes must be away from the road for a number of seconds, a dangerous requirement in any driving situation. With the use of so many power options fitted into a small engine compartment, routine service operations such as adding oil or checking spark plugs, become major mechanical achievements. An adjustable steering wheel would be a valuable accessory, not only to facilitate entry and exit, but to relieve driving monotony on long trips. Windows are also difficult to roll up. On the plus side, the increased interior padding and safety features score many points, as do the new side lights.

There is a lot of room for improvement, mechanically, but if you like 'em small and fast, Camaro comes on like a champ.

BARRACUDA

There are no moments of emotional or physical ecstasy with the Barracuda, but at least it doesn't present phony impressions of fulfillment. It's almost too large for a true sports-personal car, yet we had the guilty sensation that it deliberately displayed this impression as a put-down for the whole sports-personal fad . . . just as though it's telling us what we all know, but are afraid to admit; namely, that sports-personals are a questionable compromise between the honesty of purism and a dehumanizing surrender to materialistic creature comforts.

Powertrain & Performance

Unquestionably one of the more exciting engines tested this year was the new 340-cu.-in., 4-bbl. Formula "S" Barracuda powerplant in our car. And, one of the most frustrating experiences

in testing this year was running this engine under the onus of its smog control constrictor, air conditioner and power steering. It has an almost antiphonal sound when working at limits, as though it has finally found its destiny — yet you can also hear its muffled cries as it strains against numerous, ridiculous accessories.

There are few praises in the latest generation of cars, and this engine is one of them. The short stroke of 3.31 inches and the high compression ratio of 10.5:1, are immediately detectable by its agile response. Potential is apparent upon examining the intake manifold, a system designed to partially compensate for smog modifications. Heads have large valves and ports, and the engine used with our TorqueFlite has four degrees more advance than the one with manual transmissions. Intake valve lift is .430 and exhaust is .445. This is also the smallest engine Chrysler Corp. offers with air valve secondaries and a low-restriction, unsilenced air cleaner.

Its best contribution to potential is its weight — only 25 pounds more than the old 273. Designed for street use, it is light and flexible, and it wants to wind well past 6000 rpm without any eerie noises. Torque peaks at 340 lbs.-ft. at a surprisingly low 3200 rpm, but hp is just the opposite — 275 at 5000, rather than a mean of 4500 or 4800 for the rest of the industry. Nevertheless, with all this working room available, we still received our best acceleration times by shifting at 5500 rather than 6000 rpm. Weight and accessories make a big difference, and this is where torque manifests its value.

Both the TorqueFlite and low-ratio axle of 3.23:1 negated acceleration times even further, so the best we could achieve were 8.1 seconds from 0 to 60 and 11.8 from 0 to 75. Its best delivery is, naturally, in the speed ranges where it all counts — namely, passing speeds and terminals at the quarter-mile. Although the quarter was covered in a somewhat leisurely 15.2, we achieved 92 mph in that distance. The 40 to 60 passing range was covered in 3.3 seconds after beginning with some high revs in low, and 50 to 70 is an impressive 4.1 seconds. The 340 being as willing to work as it is, and appealing primarily to the street nut, it is more reasonable for Plymouth to recommend it with a higher axle ratio and Sure-Grip differential as standard equipment in order to enable it to realize its proper worth in standard form. As it is, there is an excessive 22.8 mph for every 1000 rpm. Air conditioning, an embarrassing option for the Formula "S" set-up — and usually the one feature solely capable of devastating performance completely — only cut .7 second off the quarter-mile time and 3 mph off the terminal speed while operating, which attests either to the engine's strength or the air conditioner's weakness.

Handling, Steering & Stopping

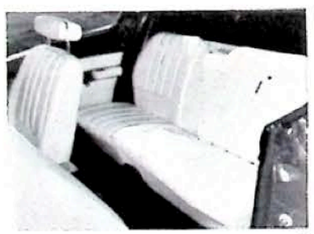
The only advantage the Barracuda Formula "S" version has in handling over a super-suspended sedan is less weight. Inherent limitations of an old design are obvious on either rough roads or under duress on smooth ones. Excessive unsprung weight is severe enough in a stock design, but then throw 6 leaves on the springs, along with a web of torsion bars, add wider, 5.5J wheels, all of which gathers up the usually high polar moment of inertia of domestic bodies, and all you have is a smaller big car that doesn't sway as much as the family sedan. Our test car could be considered a much more docile and controllable package than most Barracudas — primarily because of two features: the wide, E70 x 14 tires, and the relatively light weight of that fine 340-cu.-in. engine. Even at that, there was excessive body lean, and an easy drift did not occur until it was too late to be completely trusted.

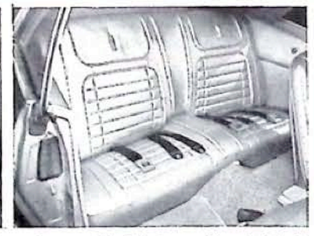
As in all cases with 108-inch wheelbase cars that weigh 3500 pounds and over, tires are the most valuable suspension feature. The disadvantage of this is the tracking sacrifice that must be made with the wide treads, because of their proclivity to follow the most subtle directional deviations of cracks in the road or tracks in the street. There were definitely times when the Barracuda had a mind of its own.

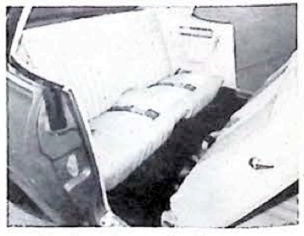
Too often, power steering is an absolute necessity with domestic V-8s, but the Barracuda equipped with the lightweight 340 engine is an exception to the rule that would have been interesting to experience with the optional low-ratio manual steering that has an overall ratio of 19.15:1, compared with the 28.7:1 standard ratio. Related further to the 18.79:1 power ratio, the response differential is so small that it's not even significant, while the low manual ratio would provide the ever important "feel" that's so lamentably absent with power units. For those who do like to thrash about with ease, Barracuda's power unit is well modulated and not at all dangerously effortless. Somehow, they've managed to retain a commendable amount of control in the system.

Hopefully, we will all see the day, and very soon, when the domestic automobile will be designed as an integral unit combining good taste, good sense, personality and function, instead of unbalanced expressions of isolated passions. But, until that day comes, we will continue to produce overpowered, front-heavy lumbering megamobiles with bad brakes. Barracuda has a good headstart in sensible engine design with their latest powerplant but performance of the drum brakes almost struck us with apoplexy when we realized that we hadn't hesitated to wring out the car under less than ideal conditions with a pompous disdain for safety — trusting completely in our own mortal talents. In a panic stop from 60 mph, we finally came to rest in 159 feet — and that, folks was the end of that. Our trip back to the office was an exemplary display of consideration for the other driver.

Barracuda style is a carryover from '67. Side marker lights and tail lamps set off new model.







(Left two) Barracuda rear seat really offers comfortable proportions, but is sparsely finished. Utility value of fold-down feature is a super-advantage. (Center right) Camaro, Firebird share same mini back-seat which offers small amount of room, especially when compared to Javelin. Armrests and ash trays are included here, but not in Mustang. (Far right) Cougar back seat capacity is still in the "plus 2" realm, but genuinely comfortable. Rich upholstery and adequate padding along with armrests go well on moderate distance rides. Legroom can become an annoying factor for large bodies during extended journey.

Comfort, Convenience & Ride

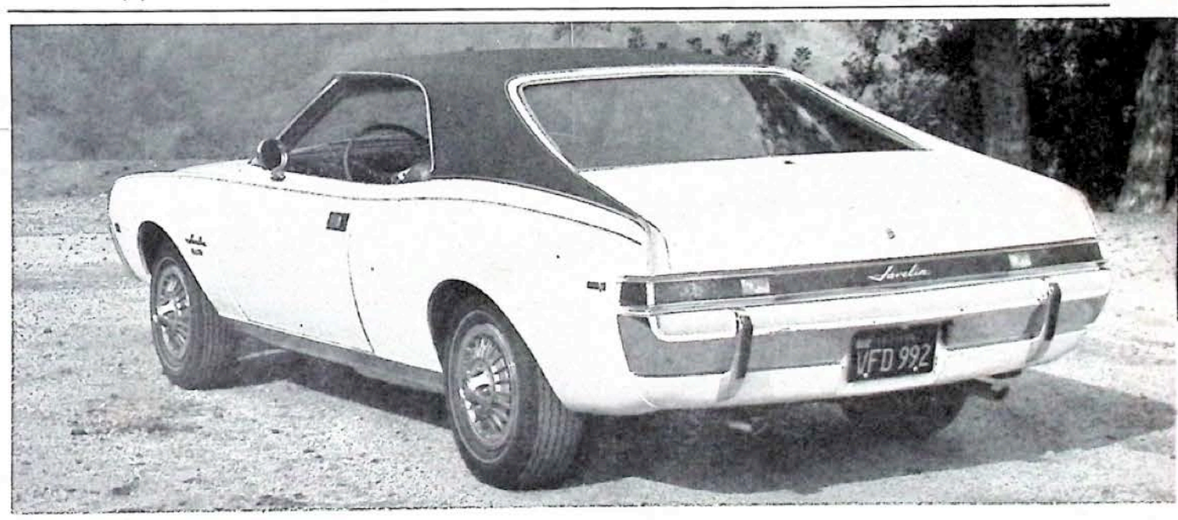
Every Barracuda we've tested has been virtually peerless in comfort and ride. Its size and suspension are difficult to excel for these combinations. Rear springs, even in the Formula "S" version, are rated at only 130 pounds per inch and with only 6 leaves, they are not quite harsh enough to affront tender sensitivities. Loaded with accessories, and topped up with fuel, the Barracuda fastback weighs 3500 pounds — more than enough substance to give the impression of a soft ride.

Certainly an advantage, and not at all "square," is the available choice of bench or bucket seats in Barracuda's hardtop and fastback models. In fact, the bucket seats were obviously designed for appearance and softness. They provided almost no lateral support on either the seatback or bottom. While they develop no fatigue in the driver and do convey some feel, the benches would have served these demands adequately. Arm and leg room is most impressive. The seat could be moved back to easily accommodate a 6-footer with his limbs fully extended.

New this year are the handsome map pockets in the doors, attesting tastefully to a luxury-sporty image. Unfortunately, incongruous slabs of simulated, contrasting wood here and there, deteriorate what would otherwise be smooth, simple elegance.

Plus & Minus Features

The Barracuda lacks much of the sporty appeal of its competitors in the passenger compartment, in handling and in brakes. Because of these qualities, it is stuck in a marginal position for satisfying those for whom it is obviously intended. However, it excels impressively in three very important aspects: the new 340-cu.-in. engine will no doubt emerge as "The Powerplant" of the year, both in design and performance; Barracuda's styling lead is still a fact; and roominess and comfort will unsell the deficiencies mentioned above.



JAVELIN

American Motors is very sincere in their flattery. They've copied the other makers' basic sports-personal idea, but that's where the imitation ends. Their Javelin is a world apart from the other ponycars in styling, comfort, space and features.

It also differs in the fact that never has one car meant so much to the corporate life of a company. For AM's sake, Javelin has to be a success. We feel it has to be a success because it is a good product. The car is a good representative for any company's name tag.

Powertrain & Performance

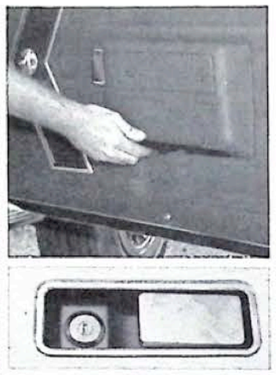
Javelin's standard 232-cu.-in. 6-cylinder engine is the second largest 6-banger in the field, giving way only to the 250-cu.-in. Firebird OHC-6. Rated at 145 hp, it is of a recent design, and delivers surprisingly good performance and at least 22 mpg on regular fuel. Power accessories can be hung on the 6 without shattering performance, and there's even a handling kit optional for 6-cylinder propelled cars. A 3-speed column shifted manual gearbox is standard, and a column controlled Shift-Command 3-speed automatic is optional. Rear axle ratios range from 3.08:1 to 3.31:1, and an "economy" 2.73:1 ratio may be ordered.

Mildest of three optional V-8s is a 290-cu.-in., 200-hp version. It performs economically on regular fuel, having a mild compression ratio of 9.0:1 and a 2-bbl. carb. Addition of power accessories won't overburden the motor, and either console or column shifted automatic transmission is optional. Standard gearbox is an all-synchro 3-speed unit, while a 4-speed floor shifted box can be extra-cost ordered.

A high-performance 4-bbl. carbed 290 V-8 is optional, and is rated at 225 hp. Premium fuel is needed, and the difference between this and the 200-hp V-8 seems significantly more

than 25 horses. Only a 4-speed transmission can be mated to the 225 V-8, at extra cost of course.

Largest engine available is AM's 343-cu.-in., 280-hp V-8. Quad carbureted and delivering 10.2:1 compression ratio, its external dimensions are identical to 290s, so takes up no more room under the long hood. Our test car came equipped with this engine and we never found it objectionable for use in any task. It performed smoothly, quietly, yet "got with the program" when pushed. Our test machine had the optional 4-speed gearbox, and this engine can be hooked to a floor or column-shifted automatic. There's no standard transmission for this V-8.



Javelin plastic grille means less chance of rust in this vulnerable area, and is lightweight. Wraparound bumper protects sheetmetal and lights, but costs more to replace. Flow-through vent exit point is beneath large armrest. Good looking flush outside door release brightens looks, and is a snap to operate.

Gear ratios for V-8s begin at 3.15:1 for all, and 2.87:1 (economy) or 3.54:1 (performance) may be ordered. Sets of 4.10:1 or 4.44:1 can be had over the dealer parts counter.

Also offered from the dealer's parts bin is a high-performance hydraulic camshaft and kit which ups performance and usable rpm range without adding horsepower. One further step can be taken by adding the dealer-available "cold-air" intake manifold gasket, blocking off the exhaust cooker to the carburetor, a well known hot-rod trick. Neither step reduces the car's usefulness to any degree.

Performance of our test car was just short of surprising. Our best elapsed time for the quarter-mile was 15.12 seconds, and this resulted in a speed of 93.26 mph, according to the Chrondeks at Irwindale Raceway.

Handling, Steering & Stopping

A rude awakening waited for us in the handling test. In SST form with the 343 V-8 which includes a stout handling package, the car turned and cornered as if it were nailed to the road. Photos reveal lean and slight tire roll, but no one behind the wheel ever caught a hint of this. The fat E70x14 tires included in the package heartily contribute to lateral stability, while lending a big car feel and handling trait during straight-line tooling. If auto racing were relegated to *strictly* stock cars, we'd put our bet here.

No wheel hop was encountered during acceleration or deceleration. Credit goes to a pair of dealer-installed rear traction bars.

Steering in our test vehicle was AM's optional "Quick Ratio" manual, with a 16.0 gearbox ratio, taking only four turns of the wheel to go from lock-to-lock. It's far from the easiest we've twisted, but perfectly suited for road and rallye conditions. We'd advise against it for in-town use as its on-the-road virtues don't help parallel parking chores. The regular manual steering with 5.1 turns lock-to-lock is smooth and easy, though a bit slow. The optional power assist strikes a happy medium with a 17.1 overall ratio and 3.6 turns needed for lock-to-lock action.

Too few cars have brakes equal to the optional front disc/rear drum power units on the Javelin. We made many passes up and down mountain roads and "through the eyes" on the drag strip, never once suffering deterioration of stopping power. The car pulled to a halt a scant 150 feet from 60 mph in a nearly perfect straight line, and repeated this test several times in the same distance. The drum brakes work admirably, but are prone to fade after repeated use. We strongly recommend the front disc binders for all, especially those cars with performance equipment.

Comfort, Convenience & Ride

You need only a moment inside a Javelin to discover the abundance of space. Nearly every interior dimension is larger than its competitors, and three in the full-width back seat is a reality. Outboard rear passengers get plenty of knee and leg room even when the front seats are pushed fully to the rear.

Seating is really comfortable. Even the basic seats are excellent — the only real difference between them and the SST is color. We logged several thousand miles in our test car, and never grew uncomfortable in the saddle. Driver position is nice and high, though this doesn't solve the problem of rear vision being somewhat blocked by the large rear quarter.

Contortions aren't needed to enter front or rear, and the out-of-the-way door release is handy to find. Flush mounted outside door handle approaches the convenience of sliced bread.

We found a reduction in wind draft inside the car from the absence of vent windows. Rear passengers voiced the same comment. The heavy pane is stiff to roll up, but a strong assist spring or better gearing would reduce the effort needed.

Dash layout has everything where the driver can see and reach it easily, though the glovebox reach is a bit of a chore. It's not bad by comparison to all other cars, and is a tilt-down drawer rather than a door with space behind.

Instruments are deeply recessed into the ABS plastic panel, and the center-mounted radio is set low, almost on the floor tunnel. Cigar lighter and ash tray are under it, and the ash tray has a holder for cigarettes *and* cigars.

Air conditioning outlets occupy the mid-section of the flat center panel, and soon-to-be-released optional gauges will fit in the same area.

The 10.2-cubic-foot trunk compartment will undoubtedly hold that amount, but getting it in is a problem. The fastback deck lid presents an access problem for sizeable objects, but hordes of small packages will stow nicely.

Our "handling package" test car rode stiffly, but without damaging our tender torsos. Control is near perfect, and passenger bounce and rebound is negative. Of course severe bumps will separate rider from full seat contact, but the same holds true for all H.-D. suspended domestic cars. We like the standard Javelin suspension for its firmness and stability, and as in the "package" car, vibration and driveline noise are non-existent inside the car.

Plus & Minus Features

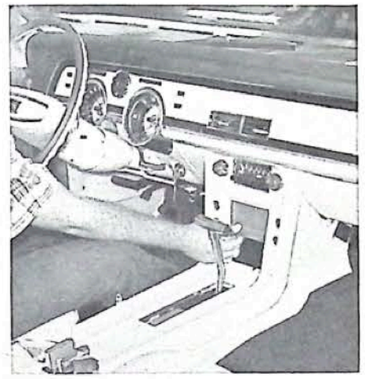
The standard flow-through ventilation really falls down on the job. The under-armrest and door-jam outlet points need reworking

An added advantage to recessing the instruments is the reduction of glare from the glass covers. Another item we favor is the optional headlight buzzer which comes alive when the light switch is out and the key is off.

The 4-speed linkage is one of the better production units we've encountered, but we'd like to see the reverse lockout handle moved lower down the stick. It interferes with knuckles during quick shifts, and moving it would have no adverse effect on engaging reverse.

There's a look of success about the Javelin, even though it's entering the game late. The final gun hasn't sounded yet so there's still time to score touchdowns. We met only a few people who didn't dig the car, and none of these were from other automakers. Maybe next year, AM will be flattered by imitation.

Cougar insides are distinctive in design, with minimum amount of confusion. Detailing is good. Classic front end is enhanced by flip-up/down light doors, which tend to get stuck in either position.



COUGAR

Lincoln-Mercury's theory of a small sporty car appealing to luxury-minded buyers when equipped somewhat better than the majority of "ponycars" was well proved in '67. Cougar sales ran higher than expected and a large number of trade-ins were big cars. The price is higher, naturally, but only a reflection of what's included by comparison to the other cars in this marketplace.

Powertrain & Performance

There are no 6-cylinder Cougars. The base V-8 is a 302-cu.-in. 2-bbl. engine, rated at 210 hp and easily run on regular fuel. A 3-speed manual, floor shifted gearbox is standard, and either a 3-speed automatic or 4-speed manual may be had at extra cost. Standard rear axle is 2.79:1, and a 3.00:1, comes with the optional transmissions.

A 230-hp version of the 302 V-8 is optional, using a 4-bbl. carb and needing premium fuel for its 10.0:1 compression. The additional 20 hp over the standard engine are quite noticeable and make a better accessory-laden powerplant. Transmission availability is the same as the 210-hp motor. All rear gearing is 3.00:1, with 2.79:1 optional. The added-cost limited-slip differential carries a 3.00:1 gear.

Two versions of 390-cu.-in. V-8s can be had, one in 2-bbl. form, and the other in 4-bbl. dress. The 2-throat has a 280-hp rating with 10.5:1 compression, dictating premium fuel, though less is used than on the 4-bbl. 390.

It seems large, but this isn't an outlandishly sized engine and it will perform economically and smoothly, especially at high cruising speeds. With many options on the order blank, the 2.bbl. 390 is a good choice, though tire-burning performance is minimum.

The larger 390 GT V-8 with 4-bbl. carburetion has the same 10.5:1 compression, but 325 hp vs. 280. Torque is 39 lbs.-ft. greater at 320. Dual exhausts are standard, and the GT V-8 may be ordered alone or in conjunction with the GT Performance Group option which includes wide tires and H-D suspension pieces. Our test Cougar had the big 390, impressing us with smooth performance at low speeds, yet a ready reserve of power when needed.

Only a 3-speed automatic is available with the 2-bbl. 390, and rear gears of 2.75, 3.00 or 3.25:1 are offered. Standard with the 4-bbl. 390 is a H-D floor shifted 3-speed stick, while either a 4-speed manual or 3-gear automatic are optional. Axle ratio availability is the same as the 2-bbl. 390.

Largest engine option is a 427-cu.-in. "race-bred" 4-bbl. V-8. Developing 390 hp, it's quite a bit tamer than Ford's race car 427s, but still a "runner." A hydraulic lifter camshaft is used, and the 427 can only be mated to a 3-speed automatic. Rear axle ratio is static at 3.25:1. Getting one of these in a Cougar is still a case for "Mission Impossible," but cost is slightly lower.

Because of its healthy potential, the 427 is sold only with GT or GT-E packages, giving owners heavy-duty suspension and fat tires for their performance workouts.

We drove several Cougars, all with different engines. All worked well, and we found no engine noise penetrating the sheetmetal nor harsh temperaments from "performance" combinations. Some lower gearing would benefit quarter-mile times, but none are presently available from the assembly line.

Handling, Steering & Stopping

Since it is touted as a comfort car, finding it a good driving machine may come as a shock to first-time pilots. We were already aware of this, but each session reminds us of how well L-M engineers have incorporated stability and firmness with a smooth ride.

In any form, Cougars are taut handlers. They react quickly to driver demands, and weight transfer lean doesn't induce tire-roll-under. The tail-end is extremely accurate in following the front. Bud Moore has done much with Cougar suspension in Group II sedans, but L-M provided him with a good starting point.

Bump and dip reaction over rough roads doesn't bring out "bottoming," even on stock underpinnings. Overall feeling is one of solidness and constant control.

Steering action is positive. Front wheel reaction to steering wheel movement is instantaneous. All our test Cougars had power assist. We've driven '67s with manual steering and found them light on the arm muscles. Lock-to-lock is more, but other than being slow, there's little disadvantage to non-power steering. Wide-pattern tires and big engines though, will be a lot easier to live with if power steering is ordered.

Vibration and shock transfer from suspension components is zero. After driving various cars throughout the testing year, this virtue really reveals itself by its absence.

Cougar brakes are nearly identical to Mustang in their stopping power and design. The new "floating" caliper front discs are all that's offered with power assist, and they operate so well, we feel they should be standard. The non-power drum brakes stop basically-equipped models without excessive effort or yardage, but the addition of weight-adding options or engines definitely calls for front disc/rear drum stoppers.

Comfort, Convenience & Ride

This heading is what Cougar's all about. Comfort is the big point. Only subtle refinements in cushioning and sound deadening set the car apart from its lower-priced competitors, but that's all it takes to make a big difference. Crank the windows up tight (sorry, still no power window option) to the weather stripping and you'll not be bothered by outside noise. Small road irritations do little to disturb the "inner sanctum," and miles of driving won't remind you of the last time you were horseback riding. Driving comfort is so groovy, owners might want to move 15 or 20 miles farther from work just for the pleasure of the ride back and forth each day. Would you believe five?

Dashboard layout and design is a variation of the Mustang, but just as accessible and legible. Air conditioning outlets are plentiful, and it doesn't take long for the ice machine to get the interior good and cooled down.

The pair of rear seat passengers (three are not too keen) have armrests and an ash tray fits in the rear of the optional console. They won't need this if they read the side of the pack.

Headroom in all four positions is fairly good, but don't try wearing a hat. Leg room leaves nothing to be desired up front, and only slightly more would put the rear seat in the intermediate-car category. A pair of 6-footers graced out test car back seat, and only minor unfolding was required at trip's end.

Ride is equivalent to that in other sporty cars, but is taken in more comfort thanks to the plushier seat padding. Road "chop" is not in evidence, and there's only minor dip and/or squat upon braking and acceleration. It's not the bed spring ride of a luxury car, which we find an advantage.

Plus & Minus Features

It's difficult to imagine how people are expected to keep items in Cougar and Mustang glove compartments. Two road maps and a pair of glasses gave us fits, and anything more would spill out when the door-bin was dropped. The tilt-out drawer sides are about the same as on the ash tray (which suffers from the same problem) — letting contents spill out.

You don't need to be overweight to appreciate the Tilt Wheel. We don't dig the sloppy "tilted-a-way" position, but the option of nine different driving positions and easy getting in-and-out make up the disadvantage.

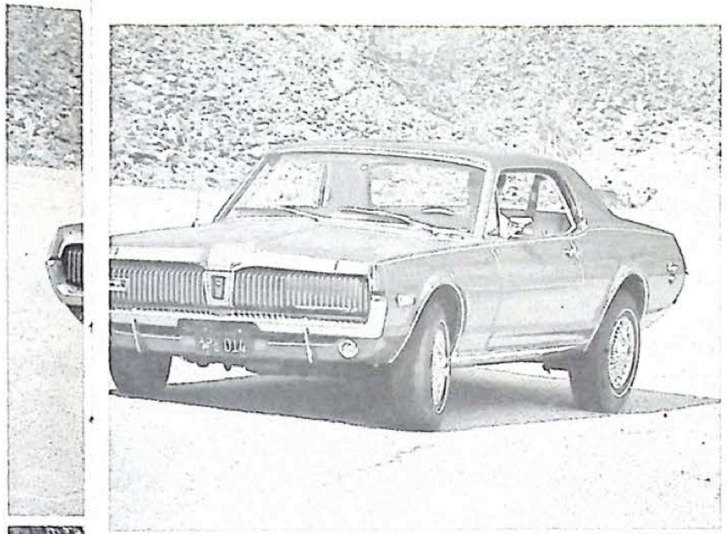
Our complaint on Mustang steering-wheel padding holds true for the Cougar, except that we didn't have trouble hitting our elbow against the armrest in the Cougar. The wheel is still too close to the driver for comfortable reach.

Front and rear vision are better in this car than all the others in this month's lineup. This can be credited to "no fastback," and a relatively high driver position. There's no reason why a fella should have to hit his nose on the door window sill, and it'll never happen here.

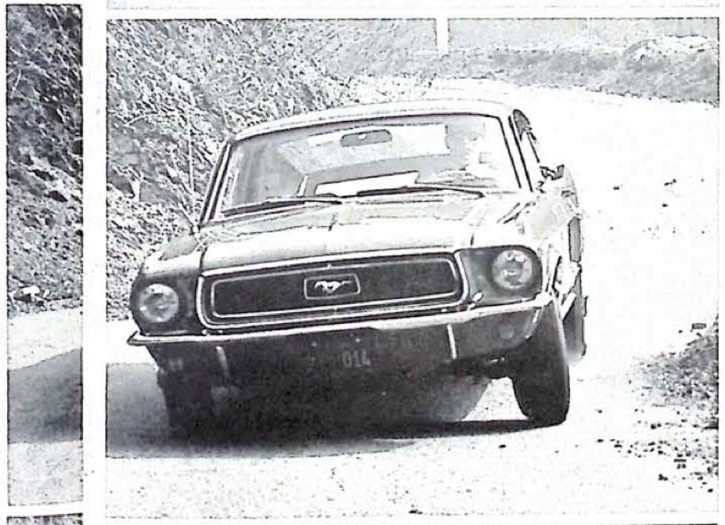
Air conditioning and heating controls have been redesigned and simplified from the '67 setup, all to the driver's benefit. A correspondence course is no longer needed to get the right temperature. Now if they'd put lights on them. . . .

Our most recent visit with Cougar was no less pleasureable than the first. Comfort and quiet abound, both mixed quite naturally with sporty flavor and performance. All add up to higher monthly payments, but for those who want the dash of a small car and aren't willing to sacrifice big-car comfort, the Cougar appears to be their "hot setup." *continued*

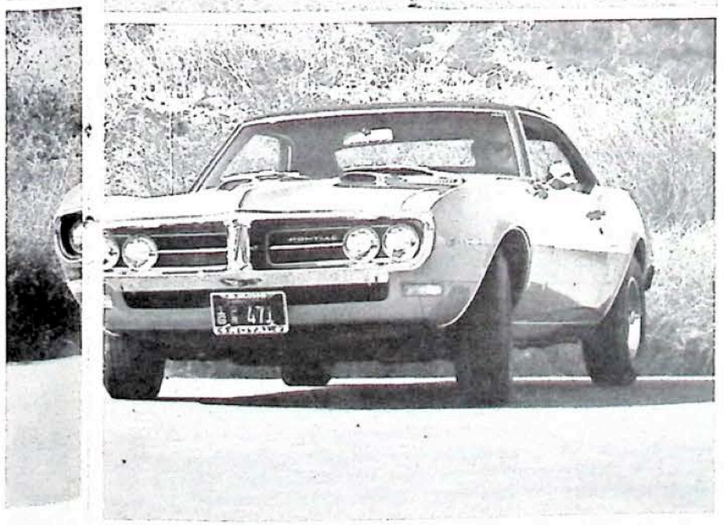
Worthwhile road behavior of Cougar is exceptional, especially in view of the fact it's not lined up to compete on handling virtues alone. Near-perfect driver position is an attribute worth copying. It's always quiet inside too. Large engines add front end weight but are barely noticeable from behind the wheel. Power steering is a necessity with 390 and 427 V-8s. (Right) Chrysler suspension is always good and '68 Barracuda rates high. Torsion bar front and leaf spring rear is taut, with good load and passenger carrying ability. Power steering has too much assist, sometimes removing true feel of road and front wheels. But drivers adjust to this in short time. Manual gear steering is too slow for any "fun" driving, and too heavy with big powerplants.

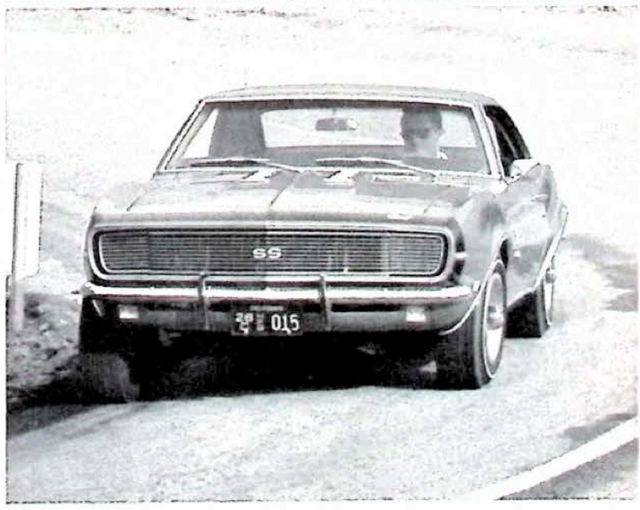


Mustangs handle, but need GT suspensions for hard work. Light rear end can be unhandy, so full gas tank is recommended. "Fat" tires and power steering aid driver chores, both on the road and in town. Car has very little tendency to become skittish at high speed. All-around vision leaves much to be desired in fastback, but is fine in coupe. All cars in class need front discs with any but standard V-8. (Right) Javelin came on as biggest surprise of any sports-personal car. Handling ability is just short of perfect, but rear spring anti-wind-up bars and H-D suspension are needed for this. Slight tire roll evident in photo came as a result of taking this corner faster than any of the other five tested. Forward sight is great, but rear shot is hampered by roof quarter pillar.



Compared in any form, Firebirds are the stiffest handling machines, but this is attained at loss to overall ride. Stiff rear workings transfer some abuse to pilot's kidneys. Car brakes, turns and drives in highly predictable manner and has potential of quickest straight-line runner in class. All except Barracuda throw rocks and mud on lower fenders due to "turned under" panel. Mud guards control this but detract from looks. (Right) Road qualities of Camaro show at speed, either on freeway or twisting road. 396 V-8 puts weight up front, but isn't a hardship on handling. Power steering wants to oversteer until driver realizes how little wheel motion is needed. Wind and powertrain noise is almost nil inside, but seating position could be improved. View to side-rear is marginal.





FIREBIRD

In America's sporty-car land, all but Firebird have a home. Javelin, Camaro, Barracuda and Mustang are the "pocketbook" specials, while the Cougar relies on "class" to elicit more money from the buyer. Firebird has 'em all covered, offering an economical 6 and a wailin' 400-cu.-in. top V-8 option.

Powertrain & Performance

It just wouldn't do for Pontiac to make a sporty car that didn't offer "neat" powerplants all the way through. No Siree! That's why the base engine is their ohc 6-cylinder. It fires out 175 hp at 4800 rpm, and torque of 240 lbs.-ft. at 2600 rpm. Regular fuel is all that's needed through the single barrel carb, and there's absolutely no simpler engine for accessibility. Engine compartment room is great, and getting to prime parts is usually a 5-minute chore.

A 3-speed manual, all synchro gearbox is standard, and either a 4-speed manual or 2-speed automatic is optional. Rear gears range from 2.41 to 3.55:1.

A groovy package for any enthusiast is the Sprint option. This pumps the little 6-banger up to 215 hp, and boosts torque up to 255 lbs.-ft. at 3800 rpm. Of course the 4-bbl. carb and 10.5:1 compression mean premium fuel, but even then mileage range is 15-20 mpg. Front end weight is light, and performance is excellent, shutting down many V-8s without strain. Potential is fantastic, and many equipment makers are already producing speed products.

Transmission availability is the same as with the base ohc-6, and rear axle ratios start at 2.78:1 and top off at 3.55:1. Air conditioning dictates its own ratio on all models.

Littlest V-8 option is a 350-cu.-in., 265-hp design, using regular fuel in its 9.2:1 compression chambers. The 2-bbl. V-8 won't cause premature rear tire replacement, but it performs smoothly and economically, driving gobs of accessories without distressing power.

Gearbox options are the 2-speed automatic and 4-speed floor shift manual. The all synchro 3-speed stick is standard. Rear axle gears go from 2.56:1 up to 3.23:1.

There's a high output 350-inch V-8 offered with a 4-bbl. Rochester and 320 hp. With 10.5:1 compression, it produces 380 lbs.-ft. of torque at 3200 rpm. A belt-in-the-back performer, this small sized stormer is quite a surprise. Same transmissions are offered here as with the 265-hp V-8, but axle gears are restricted to 3.36:1, 3.23:1, and 2.78:1 with refrigeration.

Tamest 400-cu.-in. V-8 option is the 330-hp (tame?) model, putting out a mere 430 lbs.-ft. torque at 3300 rpm. It uses 10.75:1 compression to effectively burn premium fuel sent through the 4-throat carb. GM's good automatic — the 3-speed Turbo Hydra-Matic is optional — as is either a close- or wide-ratio 4-speed. A 3-speed manual is standard. Gear ratios are relatively low (high numerically) starting at 3.08:1 and working up to 3.55:1. A 2.56:1 is sent with air conditioning.

The most popular performance-plant is the 400 H.O. Only five more hp are listed over the 400, but this comes at 5000 rpm, and the identical torque reading is at 3400 rpm. Outside appearance is the same, but changes show up internally: camshaft and valving. Gearbox availability and rear gear numbers are the very same as the plain 400, but performance sure isn't.

Our test car had the 400 H.O. and we heartily recommend it for all-around use. Not at all hard to manage in ordinary duty, it really comes on at the track.

Very few Ram-Air 400s pass through dealer's hands, mostly because of limited building schedules as well as high cost. The external fresh air feed via the opened hood scoops doesn't present too big a problem, but there just aren't a lot of buyers who need — or can use — this kind of performance.

Horsepower rating of the Ram-Air option is still 335, but registered at 5300 rpm. The 430 lbs.-ft. torque is read at 3600 rpm. The Ram-Air engine will easily buzz to 6-grand, thanks to a stronger valve train. It can only be had with optional 4-speed or Turbo Hydra-Matic, and the only rear cog offered is a 3.90:1. Air conditioning can't be had.

Handling, Steering & Stopping

Complaints creeped up in '67 about the stiff ride characteristics of Firebirds with H-D suspension. Nothing was said about handling, though, which evidently was why they rode stiff. The '68 edition has both good handling and moderately smooth ride. A Firebird — any model — with H-D components will execute a mountain road or tight corner like a young Curtis Turner on a moonlight run. If that doesn't mean much, check it out with any veteran Virginia highway trooper.

Steering action is comparable to handling — it's good. The power assist makes every kind of driving easier, and we found no oversteer or loss of feel during quick maneuvers. Many times the steering assist does too much even in ordinary traffic, but we had no such difficulty. The manual steering box isn't all that hard to crank, but it takes over one turn more to go from lock-to-lock and is quite a bit slower in gearing.

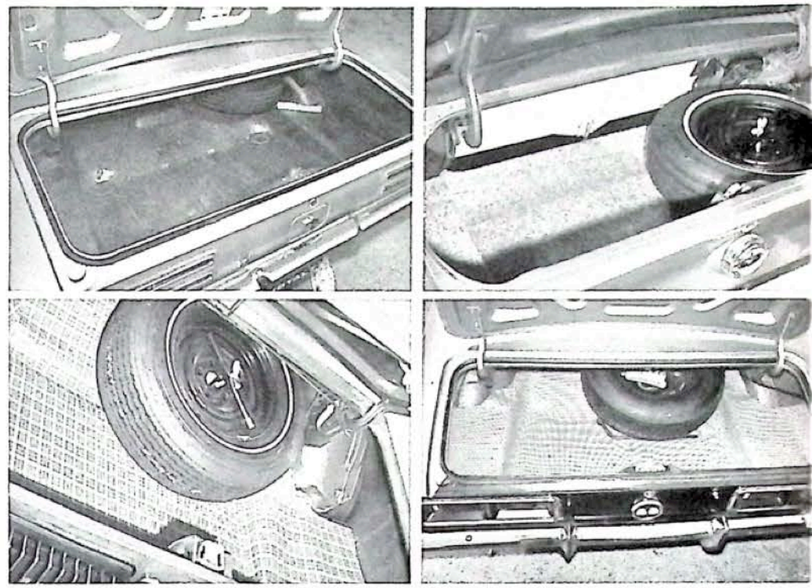
All models receive drum brakes in standard form, meaning that 6s and V-8s are equal. The drums work well with 6s, but adding the weight of the V-8 makes it necessary to add front dics to even *stay* with the 6s in a panic stop. The least amount of weight difference between 6 and V-8 is 100 pounds, and the most is 300. Pontiac's 9.5-inch drums work fine, but front-end weight can sure play havoc. We like the dependability of disc brakes too, being able to perform repeated stops without fade. One thing we enjoyed was the straight line stopping of all the cars, no matter which system was employed.

Comfort, Convenience & Ride

Camaro and Firebird use the same seats — basically, but Pontiac sure does a lot more with them. Seating comfort is particularly good, and the seat travel is greater, giving tall drivers a chance to find some legroom.

Thank goodness the "T" bar automatic console shift has been retained. It could be moved farther rearward — closer to the driver — but we've no serious complaint.

Hopefully, Pontiac can talk Fisher Body into letting them get their own dash design. Currently, it is identical to Camaro's, and while not objectionable, it doesn't exhibit the "class" associated with the rest of the car. Finding a spot to put all the needed instruments is also a problem.



(Top left) Collapsible Firebird spare on "kick up" gives good sized square floor bin. (Top right) Fastback Mustang trunk is hard to load and small in size. Coupe is equal to others in category. (Lower left) Cougar compartment benefits greatly from collapsible tire, though full size is standard. (Lower right) Large spare interrupts small-, hard-to-load Camaro trunk. Javelin (not shown) suffers from small opening, but has good sized compartment.

The only tachometer available is the hood-mounted one, and you sure can't miss seeing the gem. Just look forward.

Rear seat legroom is not great, but no worse than other pony-cars.

Getting in and out is simpler now thanks to vent window eradication. We've put our chin down on the top of a vent frame often enough to know how dangerous they are, especially when the adjoining car is trying for a paint sample.

The biggest convenience item is the no-cost optional Space-Saver spare tire. Its small size really makes the trunk compartment look like it'll hold something — and it will. There's a gain of 2.8 cubic feet of space with the collapsible unit over the standard configuration.

While engineers have cushioned the ride somewhat, the H-D-equipped cars still take jolts and bumps harder than normal. We accustomed ourselves to this, but can't say the ride is softer than any other car. Rear seat riders get the brunt of the action. Rear wheels have good rebound over ruts. There's very little chance of them leaving the road, even momentarily.

Ride in the standard models is excellent. It's possible that enthusiasts will find H-D suspension unnecessary because of the good stability in the standard outfitting.

Plus & Minus Features

A big plus — at least for us — was getting a production-assembly car for our early-in-the-season test schedule. Our normal source couldn't supply a car, and when George Neutill of Royal Pontiac in North Hollywood, Calif. (no association with Royal Pontiac in Royal Oak, Mich.) heard of our dilemma, he invited us over to pick from five he had on his lot. Wow! We couldn't believe it, but we asked for-and got — the car we needed. We really appreciate his efforts, and sincerely thank him.

A minus feature we found was locating and deciphering windshield wiper and headlight controls at night.

The flow-through ventilation worked adequately on our test Firebird. We found the opposite on competitors', but this design provides reasonable comfort in warm weather, and also allows directing fresh air towards the driver's face.

Upon reflection, we find very few flaws which are peculiar to Firebirds. The forward vision is slightly deceiving while parking because of the long hood, but that's the price of style. Side vision is blocked by the quarter "C" pillar, and sitting low to the ground has its drawbacks.

Maybe running the gamut of price and power is the answer in this field. The Firebird does, and just now reaching its first birthday, should be able to tell a revealing story.

See next page for specifications.

'68 SPORTS-PERSONAL CARS — HOW THEY COMPARE

	Barracuda	Camaro	Cougar	Firebird	Javelin	Mustang
Performance						
Acceleration (2 aboard)						
0-30 mph	3.2 secs.	3.2 secs.	3.2 secs.	2.8 secs.	3.2 secs.	3.0 secs.
0-45 mph	5.3 secs.	5.0 secs.	5.1 secs.	5.0 secs.	5.0 secs.	5.1 secs.
0-60 mph	8.1 secs.	7.8 secs.	8.0 secs.	7.6 secs.	7.6 secs.	7.8 secs.
0-75 mph	11.8 secs.	10.8 secs.	11.0 secs.	11.1 secs.	10.8 secs.	10.6 secs.
Passing Speeds						
40-60 mph	3.3 secs.	3.7 secs.	4.0 secs.	3.8 secs.	3.5 secs.	3.2 secs.
	241 ft.	270 ft.	292 ft.	278 ft.	256 ft.	234 ft.
50-70 mph	4.1 secs.	4.3 secs.	4.5 secs.	4.4 secs.	3.7 secs.	3.8 secs.
	360.8 ft.	378 ft.	396 ft.	387 ft.	325 ft.	334 ft.
Standing Start ¼-Mile	15.2 secs.	15.6 secs.	15.4 secs.	15.4 secs.	15.1 secs.	15.2 secs.
	92 mph	92 mph	91 mph	93 mph	93 mph	94 mph
Speeds in Gears						
1st..... MPH @ RPM	49 @ 5500	55 @ 5500	48 @ 5000	55 @ 5500	39 @ 5000	48 @ 5000
2nd....	84 @ 5500	91 @ 5500	84 @ 5000	91 @ 5500	49 @ 5000	84 @ 5000
3rd....	125 @ 5500	135 @ 5500	125 @ 5000	137 @ 5500	71 @ 5000	125 @ 5000
4th....					105 @ 5000	
MPH Per 1000 RPM	22.8 mph	24.7 mph	25.0 mph	25.0 mph	21 mph	25.0 mph
Stopping Distances						
From 30 MPH	39 ft.	31 ft.	40 ft.	38 ft.	36 ft.	40 ft.
From 60 MPH	159 ft.	141 ft.	160 ft.	151 ft.	150 ft.	145 ft.
Mileage Range	10.9-14.1	8.9-13.1	10.7-15.5	11.0-14.9	11.5-15.8	12.0-15.9
Specifications						
Bore & Stroke	4.04 x 3.31 ins.	4.094 x 3.76 ins.	4.05 x 3.78 ins.	4.12 x 3.75 ins.	4.08 x 3.28	4.05 x 3.78
Displacement — Cu. In.	340	396	390	400	343	390
HP @ RPM	275 @ 5000	325 @ 4800	335 @ 4800	335 @ 5000	280 @ 4800	335 @ 4800
Torque: lbs-ft. @ RPM	340 @ 3200	410 @ 3200	427 @ 3200	430 @ 3400	365 @ 3000	427 @ 3200
Compression Ratio	10.5:1	10.25:1	10.5:1	10.75:1	10.2:1	10.5:1
Carburetion	1 4-bbl Carter	1 4-bbl Rochester	1 4-bbl Holley	1 4-bbl Rochester	1 4-bbl Carter	1 4-bbl Holley
Transmission Type — Std.	4-spd manual	H.D. 3-speed	3-spd manual	3-spd manual	none	3-spd manual
Final Drive Ratio — Std.	3.23:1	3.07	3.25:1	3.36:1	2.87:1 w/auto 3.15:1 w/ 4-spd	3.25:1
Steering Type — Std.	manual	manual	manual	manual	manual	manual
Steering Gear Ratio	24.0:1	24.0:1	19.88:1	28:1	20.0:1	19.88:1
Turning Dia. — Curb to Curb	38.0 ft.	37.0 ft.	38.87 ft.	38.5 ft.	36.9 ft.	37.16 ft.
Wheel Turns — Lock-to-Lock	5.3	4.0	4.64	4.7	5.1	4.64
Tire Size — Std.	E70 x 14	F70 x 14	F70 x 14	F70 x 14	7.35 x 14	F70 x 14
Brake Type — Std.	drum	drum	drum	drum	drum	drum
Brakes — Optional	front disc & power	power drum, metallic & front disc	power front disc/rear drum	power drum; power front disc/rear drum	power drum; power front disc/rear drum	power front disc/rear drum
Fuel Capacity — Gals.	18	18	17	18.5	19	16
Curb Weight — Lbs.	3500	3680	3882	3740	3461	3623
Body/Frame Construction	Unit	Combination body/frame	Unitized	Integral body	Single unit	Unitized
Wheelbase — Ins.	108	108	111.1	108.1	109.0	108.0
Front Track — Ins.	57.4	59.0	58.5	60	58.36	58.5
Rear Track — Ins.	55.6	58.9	58.5	60	57.0	58.5
Overall Length — Ins.	192.8	184.7	190.3	188.8	189.22	183.6
Width — Ins.	71.6	72.6	71.3	72.8	71.89	70.9
Height — Ins.	52.8	51.5*	51.7	50.0*	51.81	51.6*

*2-door coupe

Options & Prices	Barracuda	Camaro	Cougar	Firebird	Javelin	Mustang
Mfg's Suggested Retail Price	2736.00 (225 — 6 cyl.) 2842.00 (318 — V-8)	2565.00 (230 — 6 cyl.) 2670.00 (327 — V-8)	2910.42 base 3208.91 (XR-7) 4221.42 (GT-E)	2758.00 (250 — 6 cyl.)	2287.00 (232 — 6 cyl.) 2385.00 (290 — V-8) 2385.00 (6-cyl. SST) 2484.00 (V-8 SST)	2578.60 (200 — 6 cyl.)
Engine Options	186.30 — Formula S340 221.65 — Formula S383	92.70 (275 hp, 327 V-8) 210.65 (295 hp, 350 V-8)* 263.30 (325 hp, 396 V-8)*	79.00 (230 hp, 302 V-8) 77.80 (280 hp, 390 V-8) 158.00 (335 hp, 390 V-8)	105.60 (265 hp, 350 V-8) 180.58 (320 hp, 350 V-8) 273.83 (330 hp, 400 V-8) 350.72 (335 hp, 400 V-8) 616.12 (Ram-Air 400)	45.35 (225 hp, 290 V-8) 90.70 (280 hp, 343-V-8)	105.63 (195 hp, 289 V-8) 66.14 (230 hp, 302 V-8)* 158.08 (335 hp, 390 V-8)* 622.97 (390 hp, 427 V-8)*
Automatic Transmission	216.20	194.85 Powerglide 237.00 Turbo Hydro	226.10	194.84 2-speed 236.97 Turbo Hydro	269.35	233.17
4-speed Transmission	179.15	184.35	184.02	184.31	184.25	233.18**
H.D. 3-speed Transmission	not offered	79.00	79.00	84.26	not offered	79.20
Limited-Slip Differential	42.35	42.15	41.60	42.13	42.10	41.60
High-Performance Tires	69.60	64.75*	36.35 E70 x 14 73.40 F70 x 14	46.34	62.75	64.43 W/390 GT 78.53 other V-8 models
Special Instrumentation	6.10 (trip odometer & 150 mph speedo)	94.80	39.50 (check panel)	31.60	not offered	15.59 (clock)
Tachometer	48.70	incl. w/above	avail. only with XR-7	63.19 hood mounted	48.05	54.45 (incl. odometer)
AM Radio	61.55	61.10	61.40	61.09	61.20	61.40
AM/FM Radio	not offered	133.80	184.95 (stereo)	133.76	133.80	181.36 (stereo)
Custom Wheels	not offered	31.10 (only w/disc brakes)	117.65	84.26	80.00 approx.	160.27 incl. E70 x 14 tire 174.38 incl. F70 x 14 tire
Power Brakes	41.75	42.15	not offered	42.13	42.15	not offered
Power Front Disc Brakes	114.70	100.10	64.85	105.23	97.15	64.77
Center Console	53.35	50.60	57.00	50.55	incl. w/floor automatic	53.71
Power Steering	80.35	84.30	95.00	94.79	84.40	84.47
Special Steering Ratio	not offered	15.80	not offered	not offered	15.90	not offered
Adjustable Steering Wheel	not offered	42.15	66.05	42.13	42.15	66.14
Power Windows	not offered	100.10	not offered	100.05	not offered	not offered
Air Conditioning	334.60	360.20	360.40	360.20	360.25	360.30

*incl. w/SS package

*above base V-8 cost
**incl. tach & trip odometer with V-8

Comments						
We Like	High utility value in sports minded car.... Excellent performance from medium sized V-8, without great thirst for gas. Optional air-conditioning could serve well as a deep-freeze.	Good handling, coupled with good braking. Absence of vent windows ... fairly good quality detailing ... wide range of powerplants ... good selection of comfort options.	Luxury motif blended with sporty car virtues . good firm steering and ride ... excellent styling ... high quality finishing ... good view from driver's seat, and high seat location ... optional console has huge storage capacity.	Styling ... good creature comfort in front seat ... performance oriented engines throughout line ... firm ride which offers same handling abilities as '67, but with smoother ride ... collapsible spare ... well outfitted interior compares favorably with Cougar.	Low base prices ... styling ... overall design that isn't a compromise ... ventless side glass ... great driving comfort ... generous rear seat room ... really startling performance from smallest engine of all cars tested in category.	Body styles and their availability... usefulness of fastback ... option range ... hood mounted "blinkers" ... handling and stopping capability ... more than average trunk space due to accessibility ... neat da design.
We Don't Like:	High steering wheel ... hidden seatback latches ... inside door releases that can pinch hands ... cluttered door panel upholstery ... lack of sporty appeal to interior.	Limited room around driver: foot, hip and head room ... extremely poor engine compartment access ... bad view of optional gauges ... "horseshoe" console shifter.	Glove compartment ... unlighted temperature controls ... headlight doors that won't open — or shut, on occasion. padded steering wheel that protrudes too far toward driver.	Too close similarity to Camaro in car that sells for more ... absence of 3-speed Turbo Hydro throughout line ... small rear seat room.	Poor flow-through ventilation ... poor trunk access and spare tire position ... hard cranking side windows ... near-blind rear quarter.	Unhandy placement o assist strap on door which also interferes with arm movement ... padded steering wheel ... unbaffled gas tank.

PHOTOS BY BOB D'OLIVO, JIM WRIGHT

6 Cars in Search of an Image

What better way -- after all, isn't "Sports" their first name?

by Jim Wright

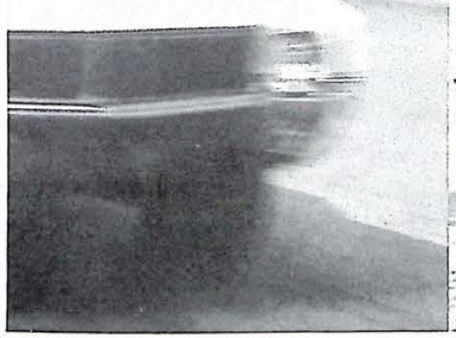
As the sports-personal car marketplace becomes more crowded, competition for sales becomes more fierce. These cars aren't family sedans and can't be sold as such. The old standard sales pitch about roominess, comfort and economy has been replaced with one that encompasses acceleration, braking, handling and overall performance. And while the factories could get away with just talking about the former, they have to have some way of actually proving the latter. Especially since their ad agencies persist in calling them "sports cars." And if they can back up the name with results, why not? After all, a sports car doesn't have to look like an old TC to really be a sports car. Looks and size have nothing to do with it. The name is earned by performance. And these cars *are* earning the name.

You think the marketplace is crowded? Take a look at the various forms of automotive competition. Mustang, Camaro, et al, are very much in evidence. In some cases through direct factory participation, in others not so direct, and in most cases through no factory involvement whatsoever.

Most of the activity is naturally in drag racing. Here the average owner can, with a minimum of expense and preparation, campaign the car he drives to work with a good chance that from time to time he'll pick up a trophy for his trouble.

Sports car rallies are also a popular outlet. Here a minimum of car preparation and expense are all that is required. If you go in for this seriously, the necessary instrumentation can get pretty expensive, but as far as the car is concerned all you need is the factory handling package and a decent set of tires.

Slalom-type events are even more fun. Usually held on short, tight, many-cornered courses, the slalom gives the participant a chance to test all the various aspects of his car — acceleration, braking, cornering — as well as his own particular driving skill (or lack of same). The expense and prep time are more involved because chassis tuning is very important, factory heavy-duty shocks usually aren't up to the job, and it takes special tires and sometimes even special wheels to be really competitive.



For those whose competitive urge needs something more than a clock to run against, the Sports Car Club of America (SCCA) offers production sedan racing. This grows even more expensive and the results might not always be driveable on the street. To be competitive you have to take full advantage of the rules. A certain amount of engine preparation, such as basic blueprinting plus whatever mods are allowed, is necessary. Then there's the all-important chassis which includes special wheels and *racing* tires. Of the six current sports-personal cars available, the Firebird is the only one which isn't allowed to compete in the production sedan class. The class has a 5-liter (305-cu.-in.) engine size limit and Firebird's smallest V-8 is 326 cubic inches (350 in '68). But all the rest can and do compete. This is the class for the guy who has to race but has to do it on his own financially. If he's got a lot of dough or a sponsor, he moves up to SCCA's Trans-American Sedan Series.

The Trans-Am is strictly for professionals and this is where factory participation is most notable. And it should be because the 12-event series draws large crowds and carries a lot of prestige. The races are held on road racing courses from one end of the country to the other and offer enough prize money to draw the top drivers. The cars are professionally prepared and the resulting races are as hard fought and as exiciting as any you'll see. Watch a Trans-Am and you'll discover these *are* sports cars. Some folks have taken to calling them "Baby Grands" due to their resemblance (looks and action) to the larger NASCAR Grand National cars. Here again Firebird's lack of a suitably sized engine keeps it out of competition. But the rest are represented — or in the case of the Javelin — will be in the 1968 Series.

Following is a make-by-make breakdown of who has done what and where. Whether or not it proves anything about who has the best car we'll leave to you. Just remember, results are usually proportional to money spent.

BARRACUDA During Trans-Am's first season in 1966 Barracuda was right in the thick of things for all eight races. A certain amount of the factory's performance budget was wisely spent here and the car was always in contention for the championship. Support was withdrawn for

the 1967 season because their only engine, the high-performance 273, would be giving away 30 cubic inches to the Mustangs, Camaros and Cougars. A couple of privately entered 'Cudas tried to uphold the image earned in '66 but were completely unsuccessful, finishing the season without a single point to their credit. (Trans-Am points are awarded on a 9-6-4-3-2-1- basis for the first six places.)

Barracudas have fared slightly better in other forms of competition. They are fairly well represented in drag racing in the lower stock classes and some of the fastest "funnies" or exhibition cars carry 'Cuda bodies. Some factory money is involved here but most of it comes from dealers. We've seen very few Barracudas active in slaloms. They are, however, fairly active on the rallye scene. For the past several years a Barracuda has carried SCCA's National Rallye Champ to the laurels.

CAMARO This car had a very successful year in '67 considering it was its first. Camaro was very active on all fronts. It still has a way to go to catch Mustang in sales (if it does), but in racing competition it's not that far behind. Plenty of Camaros in action at the drags — both in the stock classes and in the funnies. Due to the GM racing ban there isn't any direct factory help available, but plenty of dealers are sponsoring cars (what kind of a deal *they* have with the factory is anybody's guess). Slaloms and rallies have also seen their share of the Camaro.

In the hard-fought Trans-Am sedan series they had a very good first season. They won three races (the 7th at Marlboro, the 11th at Las Vegas, and the final at Kent, Wash.). Mark Donohue, one of the country's best young drivers, was at the wheel each time. The car was fielded by ex-champion driver Roger Penske, who now owns a Chevrolet dealership in Pennsylvania. Earlier in the season the Camaros had been experiencing handling problems, but these are under control now. Secretly most of the competition will admit that Camaro has a slight hp edge. Their points total for the season was 64, good for 3rd place overall. Next year they should be back even stronger. One thing Chevrolet found out in competition is that the single-leaf rear spring set-up doesn't handle hp too well. In 1968 performance Camaros will have factory installed multi-leaf rear springs á la Trans-Am, drag race and slalom cars.

COUGAR You'll see very few Cougars show up for either rallies or slaloms. The car doesn't have quite the degree of "sports car flair" that the others in this class do. Possibly as a result of this the average Cougar buyer isn't as sports oriented or competition motivated as the buyers of the others. Neither will you see very many at the drags. The car's initial cost is against it here with the drag racing set finding the Camaro and Mustang prices closer to their budgets. Also the Merc drag racing budget is allotted to its team of funny Comets.

Image-wise Cougar doesn't have a thing to worry about — at least not after the tremendous first season they just had in the Trans-Am. They ended up with four wins and enough 2nd-, 3rd- and 4th-place finishes to give them 2nd in the final standings. Team Cougar is supported directly by the factory and is captained by international driving ace, Dan Gurney. The team also has the services of Indianapolis winner Parnelli Jones, NASCAR champion David Pearson, and Ed Leslie and Peter Revson, also of international note. Gurney won the 3rd race at Green Valley, Revson the 4th and 6th at Lime Rock and Bryar, and David Pearson took the 10th in the series at Riverside. A dual-quad induction system that was developed especially for the Trans-Am cars is now available for street machines.

FIREBIRD This one has turned out to be the least active of the image seekers. For one thing, Pontiac probably doesn't feel it has to try too hard to build an image for the Firebird since their other cars (GTO, etc.) already have that kind of image (performance) and hence the Firebird will naturally inherit it. Could be. For another, a few years back Pontiac got caught by the GM hierarchy in the act of backdooring parts and other forms of aid to various performance projects. Their collective whatchamacallits are still ragged from the chewing, so lately they've been as good as good can be. There are one or two dealerships around the country that might back a Trans-Am car, but since an engine isn't available anyway, they will probably direct both effort and money into the drag racing field.

In 1968 there will probably be several Firebird funnies campaigned in this area. There will be (and have been) quite a few raced in the stock classes. The '68 Firebird performance models have benefited from Camaro's racing experience in that they will be equipped with multi-leaf rear springs in place of the single leafs. You probably won't see too many Firebirds in rallies but it should make a real good slalom car (why not? the Camaro is).

JAVELIN This one, of course, will be the unknown quantity in 1968. It's a brand-new car from a factory that hasn't directly (or even indirectly) been involved in performance (economy runs and trials don't count) for many years. Well, that's not quite true — last year they did have a Rebel funny car built for them. It didn't do too bad either — running a glass body on a tube frame with a blown, fuel-burning engine, the Rebel SST has turned in the high 170 mph range with mid-8-second e.t.'s. It has been rumored that AM has come up with quite a large performance budget for 1968, most of it earmarked for the Javelin.

American Motors is currently talking to various racing types, both in the drag racing and Trans-Am field (also talking with NASCAR people which has nothing to do with this story but is interesting anyway). We get the distinct feeling that most of their action will be concentrated on the Trans-Am. Their current ads have been comparing the Javelin directly with the Mustang, and the Trans-Am will give them a chance to put up or shut up. Depending on whom they choose to build the car, how much they're willing to spend and who drives, they could possibly come up with a winner. They could use it. Their 290-cu.-in. engine will be giving away up to 15 inches but this isn't as much a handicap as it sounds (a Dart won the '67 opener at Daytona with a smaller engine). Javelin has a chance.

MUSTANG This is the champ of the camp. Mustang is still the sales leader and quite naturally there are more in evidence at any competition event than any of the others. And they don't do badly at all. At the drags some of the fastest funnies are Mustangs and when the stock classes line up to run at any strip it looks like the beginning of a stampede.

They're active in slaloms and rallies and in the SCCA production sedan classes where they tussle with some versions of the Corvette. Successfully, too, we might add. But their real stronghold is the Trans-Am series. They've been the champions both years ('66 and '67) and have to be rated the favorites for the coming year. Carroll Shelby's Terlingua Racing Team enjoys direct factory support (like the Cougar Team) while as an incentive to independents, the factory offers bonuses for wins and good finishes. Mustang won the 2nd race at Sebring, the 5th at Mid-Ohio, and the 8th and 9th at Castle Rock and Modesto. Ex-*Sports Car Graphic* editor Jerry Titus was at the wheel all four times. Mustang ended the season with a total of 74 points.

So there you have it. The sports-personal group. Six cars all in search of an image in one way or another. And competition is one way.

/MT

What You Should Know About Buying Tires

If you're confused about high-pressure sell or low-pressure inflation, read on — and ease your worry about getting a rubber promise with a hole in the middle.

By DON MacDONALD

In these days of active, ever deepening government concern with the safety of the automobile, it is refreshing to find an important sector of the industry that cleaned out its own house well in advance.

As early as 1965, the 19 domestic tire makers who are members of the Rubber Manufacturers' Association (RMA) decided to run exhaustive public tests on every make and size tire they produce. High-speed and overload tests on each tire involve 1920 miles of simulated highway running; and in addition, each tire is subject to poking by an iron spike and must stay on the rim under a force of 2500 pounds applied to its sidewall.

There may be only 19 tire makers, but when you consider that by current count they make 250 different brands — their own plus special labels for gasoline stations, chain stores, etc. — and that each of these comes in as many as 10 different quality levels, the magnitude of the ever-continuing test program is staggering. Then, when you realize that *each size* of each label and quality level is tested, the program becomes almost beyond one's comprehension.

Anyone can obtain a free copy of the continuously updated booklet which mercilessly lists those that passed and those that didn't. (Write to Certified Tire Directory, c/o Rubber Manufacturers' Association, P.O. Box 696, Madison Square Station, New York, N.Y. 10010). For our money, this is the first step to take if you are contemplating the purchase of a set of tires. With the exception of certain well-known imports that are not members of the Association, if you don't see the brand you're considering listed in this booklet, it may be wise to take a second thought about your choice.

The booklet alone, though, won't help you much to understand the jargon you'll hear when you start talking to a tire salesman. And you just can't go in there and ask for a set of tires, period. You have to talk to him. To sell you intelligently he must know exactly what kind of driving you do and also, though it may be embarrassing, what kind of a driver you are. These salesmen are for the most part pretty well trained, particularly at specialized tire stores, but if you buy on price alone — or say nothing and give him an opportunity to unload a line that's being discontinued — well, you can't blame the guy. He's usually on commission, so why should he argue?

What Makes A Good Tire?

"Quality level" is the most important term in the tire lexicon to understand because it involves every aspect of design and construction as well as, to a certain degree, price. Unfortunately, there is the opposite of standardization in the industry's own terminology. One brand's "custom premium" could be a tire of lesser quality than another's "deluxe," and some of the names commonly used have no quality connotation one way or the other. So, in trying to pinpoint relative quality, the tire supplied to the car manufacturer is usually used as a base and called "100 level." Thus, if this tire of any brand retails at $20, the next cheaper tire of the same size at $18 would be "90-level," the next more expensive at $22 would be "110-level" and so on. In a full line, the offerings may range from 70-level to as high as 200, based on the list price.

It should be emphasized that when you apply the word "quality" to a tire, it has a somewhat different meaning from that found in the dictionary. Even a 70-level tire, if it is listed in RMA's directory, is a quality tire because it has passed that organization's tests and there are incidentally, some top level tires that currently do not. Quality in tires is inseparably equated to usage. A cheap tire may be a quality tire but only for around-town driving at moderate speeds and under light loads. Conversely, some of the most expensive types of tires are not suited for high-speed driving because heat builds up in their long-wearing but thick treads.

continued

CORDS AT A GLANCE

CORD TYPE	TENSILE STRENGTH, PSI	ADVANTAGES	DISADVANTAGES
Rayon	94,000	Soft ride, resilient, inexpensive	Absorbs water, least strength per square inch, most strength loss from heat.
Polyester	104,000	Soft ride, more heat resistant, inexpensive	Less strength and heat resistance than nylon, pound-for-pound.
Nylon	122,000	High heat resistance, excellent impact resistance, minimum flex, won't absorb water.	Harsher ride, flat-spotting, high cost pound-for-pound.
Fiberglass	407,000	Greatest strength, soft ride	Can't be used in sidewalls because of poor flex resistance.

The overall level of tire quality, brand-to-brand as well as between different tires of the same brand, results from the interrelation of ingredients, workmanship and engineering — and this is not as simple as it may sound. More mathematics and engineering go into the design of an all-new tire than would seem necessary to plan a suspension bridge. Tire making is the least automated of major industries and precision is vital. Watching a builder at work reminds one of an archaeologist lovingly rewrapping his pet Pharaoh, but if he misses the specified cord angle just slightly, he could inadvertently build a tire that would not steer when mounted on a car. As to ingredients, some of the newer rubber compounds and cord materials cost twice as much per pound as their predecessors which are still used in cheaper tires.

Nitpicking Tire Cords

Of all the ingredients, the amount and type of cord material used has the most direct bearing on quality. We stress amount because it is not necessarily the number of plies that determines tire strength; it is the denier or thickness of the individual cord. Remember this when a sportsman friend comes back from a rough trip saying, "My tire troubles were over as soon as I got rid of those new-fangled 2-plies and switched back to good old 4-plies." Whatever caused the trouble, his solution was a waste of money because the new 2-plies with 4-ply rating, used almost universally on current Detroit cars, have more pounds of cord per tire and are therefore stronger than the old type. They also run cooler and give better mileage, but fallacies tend to cling to tires. Believe it or not, 27% of all replacement tire buyers still demand tubes and this is 13 years after Detroit went tubeless.

Your choice of cord material (see chart, page 47, for advantages and disadvantages) should be dictated by intended usage and not price. Detroit equips most of its car output with rayon because it offers adequate performance at the least cost under average driving conditions. But what is average? The best definition seems to be an annual mileage of 12,000 at speeds seldom exceeding 65 mph, most of it in commuting service with a light load on good roads but with allowance made for occasional weekend jaunts and one vacation with the full family and their gear aboard. This adds up to about 35 points on our "quality calculator" chart which is well within the safety margin offered by the 100-level, rayon tire. Note, though, that this seemingly mild service exceeds the capacities of cheaper tires and if you toss in a few exceptions such as doing the bulk of your commuting on a turnpike or expressway, or your habit of accelerating and cornering in a brisk manner, you should — for safety's sake — step up to a better or larger tire.

Besides their lower first cost, rayon tires usually are softer riding and quieter than tires made from premium cord materials. Part of the reason for this is that the suspension and handling of your car were "tuned" to rayon when they were first engineered, and any change in the cord material of the replacement tire could upset the fine balance. So, alternates worth considering are either a better grade of rayon tire (4-ply with 8-ply rating) or the next larger 100-level tire. If you choose the latter route be sure to first check that there is sufficient wheel-well and suspension clearance, and remember, your speedometer/odometer will not read on the low side.

Ever since it unseated cotton just after World War II, rayon has reigned supreme as the standard tire cord. Now, though, it is being seriously threatened by a similarly-priced synthetic called polyester. Tire makers who use it claim that the new cord approaches nylon in strength but does not have the disadvantages of a stiffer ride and that undesirable trait associated with at least the older nylons known as "flat-spotting," which we'll explain a little later on. Other claims for polyester include 8 to 18% improved tread wear, 10° cooler running temperature at turnpike speeds, superior quietness and greater impact resistance. Its inventor, one of the "big 5" tire makers, is currently switching to this cord for all but its cheapest and best tires and has made the product available to competition. Knowledgeable industry observers feel that polyester stands a good chance of being the "prominent" tire cord of the future, but do not think that any one cord will ever attain the almost 100% lock-hold rayon once enjoyed. There are too many new and promising materials in the research stage, but it should be stressed that rayon has successfully fought off similar threats in the past with improved formulations of its own.

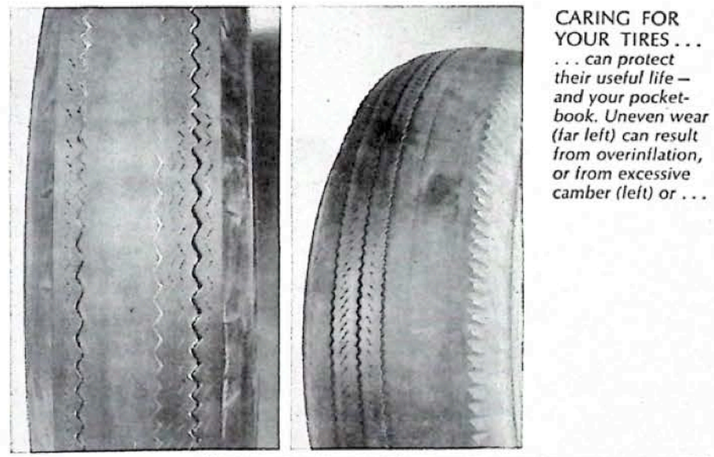
Except perhaps for steel-belted radials, nylon is still unsurpassed where strength and safety at high speed are the main requirements, although its reputation for gilt-edge quality has been tarnished in recent years by usage in cheap tires. In these, advantage is taken of nylon's strength by using less of it and thus, cost-wise, these tires compete with the 80- and 90-level rayons with neither product having a safety margin over the other. On the other hand, nylon is exclusively used in racing tires which is quite a recommendation in any book.

Further advantages associated with nylon include its superior ability to retain impact strength and flex resistance under extreme heat and the fact that the material is less hygroscopic, meaning that should the cord be exposed to water through a cut, it will not absorb much of it. Rayon absorbs more than nylon and the soaked area becomes dangerously weakened. Nylon's main disadvantage is the flat-spotting we mentioned earlier. The weight of a parked car causes indents on the tread area that take a few miles of driving to smooth out. Only recently has Detroit accepted nylon as part of the handling package offered on sporty models, apparently realizing that these buyers are sophisticated enough to ignore the temporary and harmless thumping. Less knowledgeable buyers, though, could be scared away during the usually short demonstration ride were nylons used as original equipment on family-type cars.

Tires for the Connoisseur

Very recently, so-called fiberglass tires have appeared on the market which are fiberglass only in the sense that they have a "belt" made of this material which wraps around conventionally biased nylon cords right under the tread. Such a structure, although until now made of other materials, is essential to a radial tire for otherwise the tire would fall apart. When each layer of cord is biased to the other, as in an ordinary tire, there is structural integrity without a belt. Advantage claimed for the new tire is that it combines the soft ride of conventional construction with the high-speed safety of a radial. The entire industry is watching this development closely, as it may set a trend in premium tire construction.

Radial tires seeped into the domestic marketplace many years ago on certain low-volume European cars of sports and family variety, and news of their sure-footedness, particularly at high speed, on wet roads and during severe cornering, quickly spread. They are now readily available from both European and domestic sources in sizes that fit most American cars. The sidewall cords, which are non-structural, can be either rayon or nylon, and a majority use four plies of rayon in the



CARING FOR YOUR TIRES . . .
. . . can protect their useful life — and your pocketbook. Uneven wear (far left) can result from overinflation, or from excessive camber (left) or . . . from misalignment (right) which causes side drag, resulting in tell-tale feather edges. Underinflation causes uneven tread wear at outer edges (far right).

TIRE TALK — WHAT IT MEANS

ADHESION — A measure of the strength of the bond between the cord structure and the rubber. Usually applied to the tread area.

AQUAPLANING — The tendency of any tire in varying degrees to literally float on a wet pavement. The usually uncited cause of many wet weather accidents, particularly involving trucks and buses.

BEAD — One strand of the bundle of coated wires that forms each mounting edge of a tire.

BELT — The two or more layers of either steel or rayon cords that encircle the body cords of a radial tire and give it structural strength. It is located just underneath the tread rubber. More recently, a fiberglass belt has been used to give added strength to one brand of conventional tire.

BIAS — The angle between the various layers or plies of cords.

BLADE — Thin, usually lateral separation in the tread surface which in wet weather acts as a squeegee to dry the contact surface.

BOND — The joining of the cord structure to the rubber.

BREAKERS — Non-structural cords used as a buffer between tread rubber and structural cords in conventional tires.

CARCASS — A term applied to the entire cord structure and in the retread industry, to a tire suitable for retreading.

CASING — Another term for carcass.

CROSS SECTION — The outside width of a normally inflated tire mounted on a rim. This is the "8.25" in a tire marked 8.25 x 14.

DENIER — The diameter of a single tire cord.

DIAMETER — The distance through the center between the high point and the low point of the bead. This is the "14" in a tire marked 8.25 x 14, and of course is also the diameter of the wheel at the point where the tire touches it.

ELASTOMER — A generic term for any rubber-based compound.

FIBERGLASS — A flexible glass tire cord material.

FLAT SPOTTING — The tendency of a thermoplastic such as nylon to temporarily deform when subjected to pressure or weight.

LINER — The rubberized material applied to the inside of a tubeless tire that makes it airtight.

LOAD RATING — The rating in pounds established and published by the Tire and Rim Association for a given tire at a specified inflation pressure. It is used by automakers to select the proper tire for the maximum load anticipated in a new model.

LOW PROFILE — A tire with a cross-section designed to put as much tread width as possible in contact with the road. All except the cheapest of modern tires are now of this basic design.

MOLD — A kind of pressure cooker that joins and cures the rubber to the tire structure. From this the tire emerges as a finished product. The average tire factory maintains over 400 different molds at a cost of $25,000 each.

NYGEN — One company's trademark for a treated nylon cord material. The nylon is stretched and treated with an adhesive. The process is claimed to minimize flat spotting and to improve the bond between the nylon and the rubber.

NYLON — A thermoplastic tire cord material.

PLY — One layer of cord.

PLY RATING — A not too well accepted term to indicate the relative strength of a tire — e.g., 2-ply (4-ply rating).

QUALITY LEVEL — See 100-level.

RADIAL — A tire in which the non-structural body cords are laid out straight from one side of the tire to the other. A side view with the plies theoretically extended to the centerpoint or axle location would look like so many slices of pie. Such a tire must have a structural belt under the tread to hold the radial plies together.

RAYON — A cellulose tire cord material.

SEALANT — A viscous, glue-like material sometimes used in premium tires to automatically seal small punctures before too much air escapes.

STYRENE-BUTADIENE — The No. 1 tread rubber at present.

TREAD — The wearing surface of a tire.

TREAD WEAR INDICATOR — Lateral cross-pieces of tread rubber molded in the tread grooves so as to appear when there is 1/16-inch tread remaining.

TUBE — A rubber insert, now obsolete in passenger cars, that contains the pressurized air.

TUBELESS — A tire that needs no tube to hold air. All modern tires are of this design and tubes should not be used to contain leaks except in an emergency. The cross-section is of a shape that might pinch an inflated tube.

TYREX — A tradema k adopted by a group of rayon producers who are members of a trade association. It indicates highest quality, but not necessarily higher than rayons produced by companies outside the association.

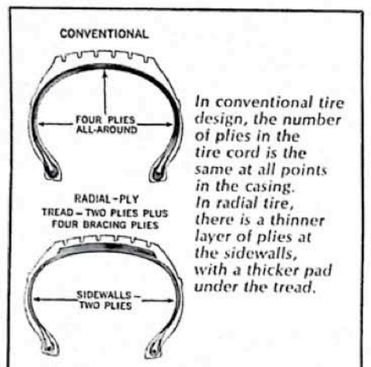
VYTACORD — One company's trademark for polyester tire cord.

70-SERIES — A modern extension of the low-profile concept which puts even more rubber on the road. Width of the cross-section is designated by letters, ranging currently from D to J. For example, a D70-14 would replace a 6.95 x 14. This type tire is variously trade-named Wide Oval, Wide Boot, Wide Tread, etc.

100-LEVEL — Base designation in a controversial system of describing tire quality. 100-level is a tire of a quality and price currently being supplied to automakers as original equipment. Other levels range from 70 to 150 and more.

belt. The only alternate so far to the rayon belt is one made from steel cords. Claims fly back and forth as to which type is better, but common sense indicates that steel would hold a structural edge, whereas rayon would be less harsh. The steel-type construction requires the use of a tube.

All radials must be installed in sets of four, and are quite critical of air pressure. The idea is to allow side thrust to be absorbed by the sidewalls, leaving the tread symmetrically planted on the road at all times, and the principle won't work if there is too little or too much air in the tires. If inflation is carefully maintained you can look for a measurable increase in gasoline mileage with radial tires.



In conventional tire design, the number of plies in the tire cord is the same at all points in the casing. In radial tire, there is a thinner layer of plies at the sidewalls, with a thicker pad under the tread.

Tiger Paws or Power Cushion?

Next to cords, the most touted feature of any premium tire is its tread pattern. However, you need not be concerned with this while driving in good weather. The rubber compound from which a tire tread is made, regardless of the pretty pattern, is the prime factor in governing stickability on dry pavement; and as we have mentioned, the latest and best of these compounds tend to wind up in the more expensive tires. In any case, compromise is always necessary because at one extreme, a rubber could be formulated that would wear almost indefinitely except that it would have the anti-skid characteristics of a pair of crepe-soled shoes on a wet railroad track. At the other, stopping ability could be greatly improved but only at the cost of excessive wear. Tread depth and pattern, though, become of life-saving importance in wet weather.

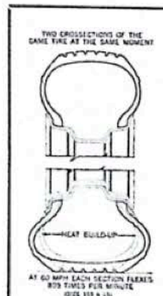
The multiple blades in the latest designs – always found on 100-level or above – act as squeegees with the front half of the contact surface wiping the road dry so that the rest can grip for a stop. If the tread is more than half worn, or if you persist in buying cheap tires with their obsolete tread designs, the extra stopping distance required could include the area taken up by the other fellow's car. On glare ice or packed snow the coefficient of friction becomes elusively fractional, and any improvement stemming from compound or tread pattern claimed under this condition might be equalled by the added drag of sticking your hand out the window.

What about recaps? Thrust into business during the rubber emergency of World War II, recappers have come a long way with their art. Today, a high-quality recap, particularly if a nylon carcass is used, is a better buy in many ways than a cheap new tire but don't expect the moon. The very thing that makes an old, resoled shoe comfortable for a long walk conspires against a recap. The carcass has lost some measure of its ability to fight back and thus the tire should be used only in moderate service. At their price, they are ideal for commuting and taxicab work but if you take a long trip on them, stay under 65 mph.

The Care and Feeding of Tires

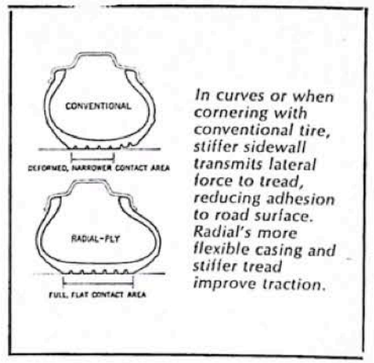
Our object up until now has been to sort fact from fiction in the complicated business of choosing new tires. We use the plural because tires should always be bought in sets of at least two and preferably four. Once you do choose, though, the next problem becomes one of taking care of them and this, fortunately, is simple enough to never dirty your white collar.

Erratic, accelerated tread wear can be caused by both over- and under-inflation, but this is less important than the hazards created by either condition. An over-inflated tire is extremely vulnerable to road obstacles such as debris or chuck-holes. The cords can't ride with the punch against an air cushion; they can only take it – hopefully – or rupture, and often the damage is incipient so that the tire blows later when you don't expect it. With an under-inflated tire, the principal problem is one of temperature build-up. To show why, let's assume some not uncommon conditions. The day has warmed up to about 90° and your car – full of family and their luggage – has been on the road an hour. You're averaging the speed limit, and that is 75 mph on this brand-new interstate. You don't know it, but your *properly* inflated 100-level tires have reached a temperature of about 250° which is enough to slow-roast a prime cut of beef. But should those tires have been three or four pounds under-inflated – a difference hardly noticeable to the eye – the temperature would have climbed to at least 280°. Tires are cured in their molds at an average of 320°, which gives you a pretty slim margin of safety. Add a little more to the speed or the load and toss in how much hotter it will be when the sun reaches its peak and you, mister, are in trouble. Those four rubber doughnuts are about ready to revert to their original, ready-mix state, not to mention what's happened to cord strength and tread adhesion. *Even if you are careful,* this set of conditions could have been arranged by the misguided attendant (there are plenty around) who bled air from your tires without your knowledge at the last gas stop.



As tire sidewall flexes under weight of car, friction between plies can cause extensive heat build-up. Radial-ply construction causes less friction from cord deflection, with reduced blow-out and tread-separation danger.

But let's get back to the wear which is as unsafe as it is expensive. The symptoms are best described by pictures. Note (page 49) how the over-inflated tire shows accelerated wear down the middle of its tread. Conversely, the under-inflated tire prematurely wears at both shoulders. Another problem causer which is hardly your fault is the propensity of modern, front-end-heavy cars to get out of alignment. Again, each symptom is better pictured than explained. If you catch it in time, an alignment job is much cheaper than both it and two new tires. Remember, too, that the rear-axle housing can flex and possibly permanently bend under heavy load. This accelerates wear (not pictured) on the inner shoulders of the tires, and if caught in time can be corrected by a relatively inexpensive tension bar sold for the purpose.



In curves or when cornering with conventional tire, stiffer sidewall transmits lateral force to tread, reducing adhesion to road surface. Radial's more flexible casing and stiffer tread improve traction.

A Trip to Caveat-Emptor Land

Proper balancing can also contribute many miles to tire life. Most drivers soon notice the objectionable pounding arising from unbalanced front wheels, but remote vibrations from the rear are less obvious. The probable need for balancing can be assumed when you purchase new tires and also, it's not just the tires involved. The tire, wheel and brake drum all revolve as a whole and chances are that one or the other of these components will be imperfect. Ideally, the assembly should be balanced on the car with the exceptions of disc brakes where it is pointless and a car equipped with a locked differential which presents too great and interacting a load to spin. In this caveat-emptor land of balancing you as a customer should remember two things: 1) allow a waiting period to permit the new tire to assume its final shapes as they all "grow" about 1 or 2% in each dimension during the first few weeks of service; and 2) suspect any operator who puts more than one weight on each side of the rim (4-ounce total), because if he thinks he needs more, he probably doesn't know how to run his balancing machine.

The Great Society Watches

We mentioned earlier that the tire industry has successfully policed its own camp in time to avoid stringent government safety regulations of the kind visited upon automakers. Dr. William Haddon's Office of Highway Safety has two sets of standards, 109 and 110, that were still tentative at this writing. The first, proposed to be effective in part as of January 1, 1968, applies to tires for use on cars manufactured after *1948* which in effect makes it applicable to any new tire except those sizes made by specialized companies for antiques and classics. Presumably, any tire that passes the RMA's existing test cycle will meet the yet-to-be-set government standard 109 for strength, endurance and high-speed performance. At least, the industry is definitely not anticipating the need for a crash redesign program. Standard 109 will also call for a tread-wear indicator showing when 1/16th of an inch of tread depth remains, and this is already incorporated on 100-level tires. The rest of 109 requires some additional information to be embossed on the sidewalls but the only item important to the customer is a symbol that indicates compliance with the standard. Whether use of the term "2-ply with 4-ply rating" will continue to be allowed is problematical. It may be just "2-ply" or whatever, period, which will pose a public relations problem as the industry hasn't yet convinced the public that they aren't getting gypped if there are less than four plies.

Standard 110, proposed to be effective on the same date as 109, mostly applies to automakers, and here too steps have already been taken to comply. Tire sizes have been upgraded on '68 models to anticipate maximum rather than average loads, and new cars contain placards giving recommended size, inflation pressures and other pertinent tire information. Worth pondering, though, is a requirement in 110 calling for rims that will permit a safe stop with a blown tire from a speed of 60 mph. Despite the fact that so much depends upon how fast the tire goes flat, the driver's ability and the road conditions – and the difficulty in adequately defining relative safety in such emergencies – this rim requirement is a positive step forward. Finally, and this will be as useful to those who write about tires as to those who use them, a standard quality grading system will be due by September, 1969. /MT

WHAT TIRES DO YOU NEED?

							SUB TOTAL		SPECIAL CIRCUMSTANCES	ADD LETTER
How much of your driving is high speed?	Most (Over 65%) 7	Much (30-65%) 5	Little (Under 30%) 3	None 1						
How much of your driving is on rough or unpaved roads?	Most (Over 65%) 6	Much (30-65%) 5	Little (Under 30%) 3	None 1					Do you plan a long trip on rugged roads?	(B)
How much expressway driving do you do?	Most (over 65%) 8	Much (30-65%) 6	Little (Under 30%) 4	None 1					None	
How much of your driving is under load? (3 or more adults or salesman's samples)	Most (over 65%) 7	Much (30-65%) 5	Little (Under 30%) 4	None 1					Do you plan a long trip with overload on paved highways?	(C)
What mileage do you put on this car per year?	20,000 8	15,000 7	10,000 5	5,000 or less 3					Does your annual mileage exceed 20,000?	(D)
How long do you expect to keep this car?	2 years or more 7	18 mos. 6	12 mos. 4	6 mos. or less 3					None	
How do you normally stop, start and corner?	Aggressively 7	Average 5	Smoothly 3						Do you enter rallyes or gymkhanas?	(E)
						Total		+	letter(s)	

IF TOTAL IS . . . tires recommended are:

13-20 points . . . 80-level rayon or recaps
21-32 points . . . 90-level rayon or nylon
33-43 points . . . 100-level rayon or polyester
44-50 points . . . 110-120 level rayon, polyester or nylon

SPECIAL CAUTION – Do not use special road- or drag-racing tires for extended street or highway driving.

(Adapted by permission of B.F. Goodrich Co.)

Letters supersede point totals. If more than one letter, favor predominant usage expected or better yet, purchase tires for each usage as needed.

A. Buy polyester or nylon 70-series, "high-speed" or "police specials," radials or fiberglass-belted tires.
B. Move up one ply-rating and size. Do not buy below 100-level.
C. Move up one size or ply-rating. Do not buy below 100-level.
D. Consider 150 plus-level thick-treaded premium nylon tires with high mileage expectancy.
E. Purchase polyester or nylon 70 series, nylon "super sports" or radial-type tires.

Charlotte National 500

. . . . . the Dodge(r)

"I'd like to be the driver to bust Richard Petty's winning streak," said Elzie Wylie Baker, Jr., "because whoever does will be a national hero."

The members of the football team at Garinger High School in Charlotte, N.C., probably would have guffawed at the statement if it had been made nine years ago.

Buddy Baker, as he is known, was a big boy back then, but he was an overgrown kid and as a football player, he had the reputation of a non-violent who certainly could never drive a stock car racer 180 mph at Daytona Speedway, or even 150 at Charlotte Motor Speedway.

But overgrown kids have a way of maturing, and most of the time it's after graduation from high school. Besides, Buddy Baker didn't care anything about football anyway; his father is Buck Baker, semi-retired driver today after winning the Southern 500 at Darlington three times. The Southern 500 is the prestige race in Southern stock car racing and only one other man in the history of the nation's oldest stock car race at the first superspeedway can make that statement. That's Herb Thomas.

Being the son of Buck Baker, famed race driver from the old guard (from the bullrings to the supertracks in one era), had its disadvantages. But in the case of Buddy Baker, the advantages outweighed the hindrances. Buck raised Buddy to be a race driver, taught him all he knew — but never really pushed him.

Perhaps what those other football players and students didn't understand is that race drivers are not made overnight as some football players are. There is the mechanical element in racing that does not exist in other sports, and it can be twice as discouraging as the human element.

Buddy is not a national hero, unless one who beats the nation's best stock car drivers in one race is a national hero. But he is a hero in the Southeast, where stock car racing flourishes. It appears to be only the beginning of an illustrious career for a bright young lion.

Despite the critics, Buddy Baker has proved convincingly that he is a stock car driver par excellence. On Oct. 15, 1967, at Charlotte Motor Speedway, which is only some dozen miles from the Garinger High School football practice fields, Buddy Baker won the National 500-mile stock car race against what has been rated the greatest field of stock car drivers ever assembled for one major race.

It was his first major win after eight years of trying, and it is the most significant single achievement in stock car racing in 1967.

The triumph in a 1967 Dodge over the 1½-mile supertrack — to which more than 60,000 comers attested — will win for Buddy Baker and the Daytona Beach, Fla., mechanical magician, Ray Fox, whose life seems to begin at 50, a factory operation in 1968. If it doesn't, somebody in Dodge Division is spending money unwisely.

Baker's win was not only personal triumph and satisfaction for him, but it rescued Dodge from the NASCAR doldrums in an unprecedented fashion for one race and no doubt enhanced its position for 1968 in the eyes of those who allocate money for performance at Chrysler Corp.

The National 500-miler — next to the last supertrack classic on the NASCAR slate and worth $100,000 for the first time — was a race of challenges.

It was billed as a showdown between Ford Motor Co. and Plymouth Division, more specifically Richard Petty and his near invincible Plymouth. Petty had made a farce of the NASCAR circuit all year, going into the Charlotte event with 10 consecutive wins, 27 for the season, 35 finishes in 36 starts, 11 of 15 dirt-track wins, three superspeedway victories, $126,050 in single-season winnings, and career earnings of more than $470,000. All save the supertrack, wins are records which may stand for years.

Ford assembled a national army, the most formidable since the Daytona 500 in February. Now Ford had won five major supertrack races in 1967: Riverside, Calif., and both the Daytona and Atlanta races. But Petty had killed its factory cars on the short tracks and in intermediate races.

Petty definitely had become a national hero, one of the very few in his profession. Ford's John Cowley, second in the chain of command to performance boss Jacque Passino, admitted that "Petty has hurt us nationally. With his streak going, everytime he wins a race, whether it is a 100-miler at Hickory, N.C., or the Southern 500, it is national publicity," said Cowley.

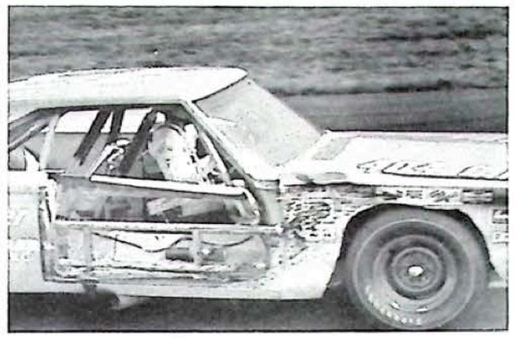
The National 500 being an FIA event, Ford had fortified its army with such international stars as 3-time Indianapolis champion A. J. Foyt and the latter's nemesis, Mario Andretti, as well as all the NASCAR regulars: 2-time superspeedway winner Cale Yarborough and Atlanta winner Dick Hutcherson foremost among them.

Nobody gave Dodge a second thought, and why should they? Dodge had not won a race longer than 250 miles in all of 1967 and only one of those, an event at Bristol, Tenn., taken by David Pearson in a Cotton Owens machine. Pearson quit soon thereafter and joined Ford in a Holman-Moody car vacated in April by retired superstar Fred Lorenzen.

The stage was set. It was Ford against Petty, Dodge against both of them, and the remainder of the Plymouth crowd against all.

Ford won the first battle, though it

BY BOB MYERS



. . . . . the Baker . . . the Petty-Win Breaker

was to suffer a crushing defeat, worst on a superspeedway during the year, in the war.

Yarborough, in a Fairlane prepared by the irrepressible Wood Brothers, Glen and Leonard, of Stuart, Va., broke his own record in qualifications. The Daytona 400 and Atlanta 500 champion led the field with a 4-lap average of 154.872 mph and a 1-lap speed of 155.-395 — each a record.

Lee Roy Yarbrough, who had taken over Ford's Fairlane built by Junior Johnson when driver Darel Dieringer was dismissed from the team two weeks earlier, trailed Cale. Foyt was 3rd. The fastest Plymouth was qualified by Paul Goldsmith, the good guy from Munster, Ind., who has had nothing but bad luck. Baker was 5th at 154.065 mph, best by Dodge.

Petty was 6th, disappointing.

Then Ford lost one of its finest soldiers two days before the race, an incident which got all the superstitious thinking about omens. Yarbrough crashed the Junior Johnson Fairlane two hours after the entry deadline on Thursday before the race on Sunday. Lee Roy would not drive. No other car could be brought in.

That moved the top qualifiers up a position, which placed Petty in 5th place. The omens: Yarborough was driving immediately behind Yarbrough when the accident occured and narrowly missed becoming involved; Petty had started 5th in his last two major races and won both of them.

The significance of Cale's omen dated back to Atlanta when Curtis Turner flipped Smokey Yunick's Chevelle the length of the straightaway in practice. Cale was right behind Turner, but escaped, went on to win the pole and the race. Stock car drivers are notoriously superstitious.

Omens were meaningless this time. Neither Petty nor Yarborough would win the race. Buddy Baker would — and Dodge — to upset the best laid plans of all.

Never has the Ford army suffered such a bitter defeat, especially in a time of depravation. Gordon Johncock was the first factory Ford product to leave the race, hitting the wall in Bud Moore's Mercury.

Then there came a substantial setback. Andretti, driving a Holman-Moody Fairlane, became entangled with Pearson in the other H-M Fairlane and took out Jack Bowsher as well. They traded three Fords for the Plymouth of Jim Paschal. "Pearson cut down on me," said Andretti.

"Andretti spun and I tried to miss him," said Pearson, "then Paschal hit me." Everyone was inclined to agree with Pearson, who became incensed at Andretti's claim. But it didn't matter; two Fords and another that couldn't be discounted — Bowsher's — were out of the race at lap 182 of the 334-lapper. Andretti had never before driven Charlotte Motor Speedway.

After the crash, the Ford ranks had been reduced to Yarborough and Hutcherson, factory-wise. They made a good effort. Cale, who had gone out twice previously after winning the pole at major tracks, lasted until the 301st lap. He was the only driver on the track when he departed who could really run with Baker. But the engine in the car blew, no small problem to Ford drivers this year. Dieringer says that's why he lost his job with Ford — because he could not drive a car and win with blown engines. Ford has been under pressure.

Baker was home free. Baker? Buddy Baker? Yes. Only two Fords remained in the 44-car field after Yarborough retired — Hutcherson and independent Henley Gray, who drives to finish instead of to win. And only they finished.

Baker's wife, Coleen, prayed that nothing would happen to the red and white Dodge on those final laps. In the paddock area, Buck Baker had his hands to his chin. Inside the car Buddy Baker's heart beat in his throat.

While Baker drove those final laps, he knew that Richard Petty would not win. Petty had become involved in a crash with Paul Goldsmith early in the race and the door of his famous No. 43 was ripped off. It was the right side door and the wind resistance made the car handle poorly. "I could run with traffic, but when I was by myself it felt like a wind tunnel," Petty said.

Finally, on lap 257, before Cale went out, Petty pulled behind the wall — ending the sensational streak, victim of a faulty distributor. He spoke to noone when he got out of the car, hustled back to his pit to watch the race. Once there, he smiled. "I can't win them all."

Buddy Baker passed beneath the first checkered flag ever meant for him. "I've seen other drivers win, but I cannot describe how it feels to pass under that flag and know you have won."

He explained his preparations. "I was sitting around the house during race week. I said to myself: 'I'm 26 years old. I've led every major superspeedway race this year. I've overdriven, or something has happened. I won't be a 50-lap hero this time. I'll let the pack lead me for a change, I'll drive to finish.' I had built up a mental block about not winning, felt that I could not, never would," he said.

Mechanic Fox held court in the garage area. Fox and Baker are incongruous. Ray weighs about 150 pounds to Buddy's 230 and looks akin to a rail. However, he is a master at building race cars.

"I had faith in Buddy. I knew it was only a matter of time before he would win, but I was beginning to wonder how much time it was going to take."

PHOTOS BY DON HUNTER

(Above) Yarborough captured pole, with Foyt outside. Both were in Fords, which gave the Dearborn boys strength – at least temporarily. (Left) Baker took photo during practice, via remote camera.

(Above) Elzie Wylie Baker, Jr., is a deserving figure among the others in the winner's circle. With his wife, Coleen, to the left, and the famed Miss Firebird, Winkie Louise, to the right, he reaps all that good victory stuff that none of his prize money will buy. (Above right) End of an era. Richard Petty's door was torn off in crash with Goldsmith. (Right) Another crash with Andretti put Pearson out.

The National 500 was Fox's fourth win at Charlotte Motor Speedway. In 1961, Pearson launched his sensational rookie career with victory in the World 600-miler in a Fox machine. In 1963, Johnson won the National 400 (then) in Fox cars. Now Baker.

Buck Baker shed tears of joy for his son, so did Coleen. No one knows what a thrill it is to win the first superspeedway race until it has happened.

Last year Fox, who has the reputation of being difficult to work with, hired Buddy to drive his independently sponsored Dodge Charger. Buddy had been driving non-competitive equipment out of his father's garage.

"I want the best for Buddy," Buck had said when his son joined Fox. "I could not give him the competitive rides he wanted or deserved."

More stunning than Baker's triumph was the Dodge sweep of the 500. Independent Bobby Isaac of Catawba, N.C., was 2nd in a Dodge entered by K and K Insurance of Fort Wayne, Ind. Charlie Glotzbach, the Indianan with the strange handle, was 4th behind Hutcherson, who made Ford's outstanding showing. In all, Dodge won six of the first 10 positions even though Don White, the United States Auto Club Champ, was the only factory car in the group – 6th.

K and K's operation is headed by Nord Krauskoff, who has given every indication the firm will sponsor cars in NASCAR on a full-time basis next season. This year, the crews held daytime jobs elsewhere and worked on the cars in the evening, a situation which kept the team out of many races.

It was Dodge's day. It was Buddy Baker's day. A driver was made – and Dodge was saved. Justice triumphed for one of the few times in this hazardous and often cruel sport. /MT

NATIONAL 500 RESULTS

Position	Driver	Car	Laps
1	Buddy Baker	'67 Dodge	334
2	Bobby Isaac	'67 Dodge	333
3	Dick Hutcherson	'67 Ford	332
4	Charlie Glotzbach	'65 Dodge	329
5	G. C. Spencer	'67 Plym	328
6	Don White	'67 Dodge	325
7	Bobby Wawak	'66 Plym	318
8	Neil Castles	'65 Dodge	315
9	Buddy Arrington	'65 Dodge	311
10	Cale Yarborough	'67 Ford	301
11	J. T. Putney	'66 Chevl	300
12	Henley Gray	'66 Ford	297
13	Bobby Allison	'67 Dodge	294
14	Frank Warren	'66 Chevl	292
15	Donnie Allison	'67 Ford	284
16	John Sears	'66 Ford	278
17	Wayne Smith	'66 Chev	274
18	Richard Petty	'67 Plym	268
19	Darel Dieringer	'67 Dodge	257
20	Sonny Hutchins	'67 Ford	247
21	Roy Tyner	'66 Chev	227
22	A. J. Foyt	'67 Ford	212
23	Clyde Lynn	'66 Ford	208
24	David Pearson	'67 Ford	191
25	Jim Paschal	'67 Plym	190

Classics of the '50s

There's not a better definition of the word than the cars themselves

by Don MacDonald

The time has come, as it always does when someone has been arbitrary, to challenge the concept that cars worthy of being called "classic" were made only between 1925 and 1942. Except for one minor stretching of a point to include '46-'48 Continentals, our friends at the Classic Car Club of America have effectively relegated the entire current generation of automotive engineers and stylists and their creations to a form of second-class citizenship.

Nothing they have done or can do, by definition, can result in a classic, and it has been this way since the mid-Fifties when the Classification Committee of the CCCA dreamed up its list of eligible cars. According to them, a boxy, thoroughly mundane, stock-bodied 1928 Packard 6 is a classic whereas a gorgeous 300 SC Mercedes of 1956 vintage is not and presumably never will be.

It probably wasn't the premeditated intent of the CCCA to condemn by omission, though it would seem that nobody involved looked up the definition of "classic" before they purloined the word. Webster has a number of definitions, but the only two applicable to an automobile read: "... of or related to the first class or rank ... a standard" and "... of or pertaining to a system having its parts perfectly coordinated to their purpose." It is only when we get to a tertiary definition that any hint of a time element enters. This reads: "... also, belonging to a period assumed to have followed such a system."

Now contrast this with CCCA's own ground rules as printed in their current handbook: "In an effort to preclude any tendency toward the esthetic, the Classification Committee, with the approval of the Board of Directors, has tried to base their decisions (*as to what is or isn't a classic*) on such concrete factors as F.O.B. prices, production figures, classic components such as Bijur systems, power equipment, engine displacement and other concrete factors."

So, before CCCA succeeds in getting its own definition of what is classic into some dictionary, we'd like to say that in our opinion quite a few cars have been built since World War II that qualify as classics, and we strongly suspect that quite a few more will be built in the decades to come. And the list grows even larger if esthetics enter into the judgment – as they rightfully should.

Choosing the 10 best classics of the '50s is complicated by the existence of those two great marques from Modena. You could pick 10 Ferraris or 10 Maseratis at random and no one could put up much of an argument. You could also toss in a Pegaso on the strength of its $27,440 asking price or a Russian Zis because it is a carbon copy of a pre-war Packard rated classic by the CCCA. The latter two are mentioned in jest, but the Ferraris and Maseratis must be taken seriously.

To pick one Ferrari or one Maserati that is the best of all those manufactured during the decade is a task as impossible as choosing Miss Universe on the basis of looks alone. So let us solve the quandary by bowing toward Modena and acknowledging that *any* example of these two products is beyond and above any list. We'll stick to models that were built in some quantity to a standard design that has withstood the esthetic test of time.

Two seemingly obvious choices that in our opinion are disqualified on the basis of esthetics are the standard-bodied, post-war Rolls-Royces and Bentleys built in their image. We have met no one, even owners, who can convincingly argue that these cars are of a classic mold. Another car seriously considered but dropped from the list was the Aston-Martin DB. They are pretty but their engines have an unfortunate tendency to come unglued under stress. Certain conglomerates, such as the American-engined Facel Vega and Jensen, or the Dual-Ghia, are undeniably collector's items but they are also undeniably 'something borrowed, something new' with the result somewhat short of perfection.

We went about our selection of the best cars built between 1950 and 1959 in a way that may be arguable, but which was still highly practical. We picked "10" because it is a nice round number and assumed that we had this many empty spaces in our garage and an unlimited pocketbook. Which, then, were the 10 cars built in this period we would most like to fill these spaces with? Which, in other words, have withstood the test of time and hindsight? Our choices follow in the order of the alphabet but not necessarily in order of merit.

1957-58 Cadillac Eldorado Brougham

Whereas its direct competitor, the Continental Mark II, eschewed engineering innovation on the theory that buyers of a $10,000 car shouldn't be subjected to experimentation, Cadillac crammed every gimmick it could think of into its Eldorado Brougham. Perhaps this is why it cost $13,074, a modern-day high for a U.S. car.

The design closely followed that of a show car with the same name which was featured in the 1955 Motorama. We personally remember Cadillac executives manning their exhibit incognito on regular shifts to eavesdrop on public reaction. It was good because after showings in New York, Miami and Los Angeles, the final stand in San Francisco was chosen for the announcement that the Brougham was committed for limited production. And with this announcement came another commitment that was not kept – a targeted price of $8500.

No one knows whether the Brougham flopped because of the vast gap between the targeted and final prices or whether it was because the design theme was also used as a base for the regular Cadillac of 1957. This latter, it will be remembered was a quite tasteful product sandwiched in between periods of extreme devotion to the tail fin. In any case, Brougham production was such a trickle that Cadillac would have lost its shirt even if it had charged $20,000 for the car. A total of 400 were built the first year and 304 the second. In 1959, when body building was switched to Italy, and the design was changed, only 99 were built and the final year, 1960, saw 101. These latter are frowned upon as lead barges by Brougham fanciers and are not considered classics.

The brief industry flirtation with air suspension was started by the Brougham and it does indeed offer an amazing ride when it is working. Air-filled rubber bags replace steel springs at each wheel and a leveling system is incorporated to maintain a constant height, regardless of road conditions. The 4-door hardtop body lacked even a stub pillar and featured a stainless steel roof. Engine was a hopped-up Cadillac V-8 with a 10:1 compression ratio and dual 4-bbl. carburetors; and the list of industry firsts is impressive. These include a good approximation of today's wide oval tire, the first automotive transistor radio, completely automatic trunk operation, the automatic "memory" seat and the industry's first standard air-conditioning system. Nothing is operated by hand except the four gold-plated drinking cups that came with each car.

One loyal but philosophical owner, E. L. Cline who works for the Clayton Dynamometer people, probably speaks for them all when he calls the Brougham the most luxurious and complex automobile ever built in America. "I'm glad I'm an automotive engineer," says he. He won't part with

CADILLAC

his, but good examples can still be found for around $2500. Remember, though, not to confuse the Fleetwood-bodied cars with the much less desirable Italian versions (worth only $500-700).

'56 Chevrolet Corvette

All Corvettes are, or are destined to be, collector's cars, but the 1956 model is considered by students of the make to be the most desirable. They feel that this version has yet to be matched for its inspired and beautifully simple lines, and of course that year the car came mechanically of age with a peppy, extremely light V-8 engine and a Duntov-designed suspension that was to prove itself in a major race.

What was even more important, the intricate, time-consuming technique of fashioning fiberglass bodies was perfected. Corvettes before 1956 had a finish that was anything but smooth, and no number of coats of paint could hide the undulations. The trouble lay in the molding process and it was mostly Joe the molder himself. If a pair of tight Levis on Rosie the upholstery trimmer distracted him for a moment, the panel came out of the mold with a not-so-sexy bulge of its own. Perhaps one in three had to be rejected and even those that were accepted required laborious hours of hand sanding. There was a limit to how much of this could be done and still allow a car to be put out for $3400.

In 1956 Corvette also broke the ice with the sports car fraternity which until then was of the unanimous opinion that nothing made in America was worthy of admission to one of their events. A factory-sponsored team, captained by John Fitch, was entered at Sebring and battled valiantly against the cream of European machinery. The race was won by Fangio in a Ferrari, but the Corvettes worried him to the end and took their class handily. Unfortunately, as it turned out, this was to be the only effort, as shortly thereafter Chevrolet joined with other U.S. automakers in a no-racing pact that left additional Corvette driving to amateurs.

If you can find one that hasn't been operated upon by a rod surgeon, the ideal mechanical combination offered in 1956 was the 265-cu.-in. V-8 equipped with twin 4-bbl. carburetors and the optional (RPO 449) high-lift cam. This combination produced one hp for every 14 pounds of car weight, which is not bad even by today's standards. Powerglides of that vintage were slush boxes, so favor the standard, floor-mounted 3-speed. Take a scope along while hunting, because only 3467 of these cars were produced. If you find one and it's in fairly good condition, expect to pay around $1000.

'55 Chevrolet Nomad

If an engineer and true auto enthusiast named Edward N. Cole could ever point to a single year of singular achievement, it must be 1955. As chief technical man at Chevrolet, he transformed the Division almost overnight from a purveyor of stodgy transportation to an operation sensitively tuned to putting the fun back into driving.

All 1955 Chevrolets have held their appeal remarkably well, even though it is another generation now driving them. But one model, the Nomad, has that extra indefinable something that 12 years later still twists heads and causes avaricious lot operators to hang $1000 price tags on good specimens.

Like so many of GM's best efforts, the Nomad started life in January, 1955, as a prototype Motorama show car. Unlike its companions in the exhibit, though, it needed only its own roof, tailgate and "C" pillar to become a production reality. The rest was straight 1955 Chevrolet, but you would not have known it from the milling enthusiastic crowds. Cole was prepared. He already knew where to get the few extra dies that were needed to schedule a June introduction.

For a car that came out at a time when Detroit considers the model year to be over, the first Nomad did remarkably well with a production of 8350 crammed into a few months. It did even better in the two ensuing years of its existence (not to mention Pontiac's borrowing the theme for its Safari) but these later models, as so often happens, never quite matched the sanitary quality of the original.

For a while, at least, the auto enthusiast who had accumulated a family and little money could put himself into a vehicle that was distinctively different but that would still accommodate the kids and their caboddle. Since form and function are the key factors in the Nomad's appeal, it doesn't matter much, value-wise, whether the one you find has a "stovebolt" 6 or the V-8 that was optional for the first time that year.

1956-57 Continental Mark II

An aspect of the automobile business that is both intriguing and disturbing is that good taste is seldom associated with success. The 24-month life span of the Continental Mark II is a case in point.

William Clay Ford, youngest of the three automaking brothers, had lobbied within the family to revive the Continental ever since production of the original ceased in 1948. So, too, did dealers in an ever-rising crescendo as sales of the lack-luster Lincoln of the early '50s continued to slip. Mainly due to the influence of the latter, the project became a reality in May, 1952, and the first of the Mark IIs came off the production line 39 months and $16 million later.

Bill Ford's sincere goal was to produce "The world's finest car" and do it for a price considerably under other claimants to the title such as Rolls and Mercedes 300S. He and stylist John Reinhart deliberately bucked every existing trend with a shape defined by Ford himself as "modern formal, a lasting design for people who can afford to appreciate elegant simplicity." Engineer Harley Copp was under strict instructions to avoid innovation, to use only the best of time-proven techniques, on the theory that a buyer in this rarified market didn't want to be experimented with. And there was the omnipresent obligation to carry on the Continental tradition, an intangible that perhaps should not have been allowed to intrude.

Considering that the original Continental made liberal and economic use of available Zephyr engines, chassis components and running gear, as well as items ranging from bumper to tail light, it was surprising that its revival would be ordered on the costly basis of an all-new car from the wheels up. Only the 368-cu.-in. engine and automatic transmission were retained from the existing Lincoln, and even these were specially assembled from parts hand-picked for ideal tolerances. The cost-be-damned attitude was perhaps best reflected in the fact that the Mark II hood ornament cost more than an entire 1956 Ford grille.

To break even, 1600 units would have to be produced for each of four years and for a few heady months in the fall of 1955, suave sales manager Doug McClure had the enviable job of just sitting in his office assigning priority to a flood of unsolicited orders, but the bloom soon wore off. Show business apparently supported only a limited number of car buffs, and the bankers in the main were sticking to their Cadillacs.

No one has an adequate explanation as to why such an undeniably esthetic success with the full resources of Ford behind it was foredoomed to failure. Only 3000 (exactly) Mark IIs were built between June, 1955, to when production ceased in May, 1957. Only one of these was a convertible, although original plans included this body style plus a 4-door sedan and at one point, a retractable hardtop.

We won't argue that the Mark II might have missed its goal of the "Continental look" by a few inches here and there, but that makes it no less a modern-day classic. According to Dr. L. Dale Schaefer, president of the Lincoln Continental Owners Club, about 2000 Mark IIs still exist, and the value of prime specimens is on the increase — asking prices have ranged from $3500 to $5000.

'55 Ford Thunderbird

A man named Robert McNamara is Secretary of Defense and you as a taxpaying citizen can be thankful for that. He's the type of guy that would take a look at the clay of the '55 Thunderbird, when he was a factotum in Ford Motor Co., and say "move those bumpers down to the clearance line and that way we'll save an underpan."

According to stylists involved in the project, McNamara's instinctive economy move was about the only fly in the smoothest ointment ever generated as an all-new car project. To be sure, some working types would have liked to have seen more definition in the fenders and abstinence from a wraparound windshield, but, as working types, they reported to George Walker and never deviated much from his theory that "the straighter the lines, the longer the car." Vice President Walker, in turn, was politic enough not to argue with President McNamara over a detail.

Below the politics, the '55 'Bird can be credited mainly to active supervisor Frank Hershey and his assistant Bill Moyer. Perhaps their greatest compliment was the decade-later dictate that the Mustang be bumper-to-bumper identical, dimension-wise, with the first 'Bird and have the same length hood.

Surprisingly, Ford Motor Co. always made money on the 2-passenger 'Bird even though it was made of steel and in the three years of its existence, sold only about 40,000 units. As a man close to the project told us, "It went together easily. You only had to upholster one seat, the long hood meant minimum drafting time to fit the engine and we were getting $1.05 a pound for it in 1955 money."

The 2-passenger 'Bird always outsold the Corvette, which was probably due the first year to its exclusive V-8 power and after that, continued public reluctance to accept the fiberglass construction of its competitor. Paradoxically, as any restorer of any 'Bird will testify, the biggest headache is a propensity to rust. Little attention was paid to the vital problems of underbody ventilation, sealing and draining.

A nationally active 2-passenger 'Bird club may get mad at us for saying this, but Ford stylists bitterly resented the addition of an outside spare tire on the '56 model and even more so, the subtle but definite change in proportions of the '57. They liked — and still like — the first one. They also say that there was nothing wrong with going to a 4-passenger car in 1958, but feel that it could have been called anything but a 'Bird, which should have been continued on its own.

Considering the rust problem and a late-starting interest on the part of collectors, desirable 'Birds are as scarce as hooting cranes. We saw one the other day, minus engine and obviously scarred by amateur body repair, with a sign reading $700 in the window. This is outrageous, but it was gone the next day. Depending on the buyer/seller position, you could expect to pay $1000-plus for one in near-prime condition.

'51 Frazer Manhattan Convertible

In 1951, Edgar Kaiser still had high hopes for the cars that bore his father's name. The Reconstruction Finance Corp. had loaned them $83 million of the taxpayer's money (all ultimately repaid) to create an all-new, brilliantly styled Kaiser and to come out with the Henry J, about which the less said the better. There was also enough left over to give the top-of-the-line Frazer a major facelift.

For the information of our readers who were studying algebra instead of cars in those days, Joe Frazer, the president of the Graham-Paige Motor Corp.

CORVETTE

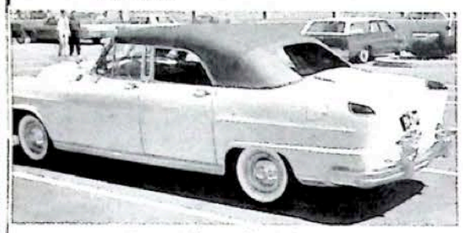
MERCEDES

NOMAD

LINCOLN

and war-rich from the production of amphibious tanks, had planned to revive the Graham come peace using a design created for him by Howard "Dutch" Darrin. Instead, he merged his assets and efforts with another war-rich man who had a hankering to build cars – Henry J. Kaiser. What was to be a Graham came out as the Kaiser in late 1946, and a more luxurious but otherwise identical version was called Frazer.

FRAZER



Frazer himself didn't stay long, but the cars named after him did, much to the elder Kaiser's distaste, for the two didn't get along, to put it mildly. Thus, in 1951, the intention was to build 10,000 Frazers, period, and forget them. Bull-headedly, the old man stuck to this plan even though dealers, highly excited by the line, ordered 70,000! The dealers' interest was that for the first time they had a Frazer that was distinctively different enough from the

STUDEBAKER

Kaiser to justify the $1000 higher price. Actually, it was just the same old Darrin body with a new front and rear end, but it was a striking and inspired facelift – not done by Darrin, but by his successor on the scene, Brooks Stevens.

As far back as 1948, Stevens had created a 4-door convertible Frazer and followed it with the industry's first 4-door hardtop using the lower half of the same body. The '51 convertible, though, is the one that has become the classic with samples reposing in Harrah's, Winthrop Rockefeller's and Stevens' own museums. About 3000 were built, so many more are undoubtedly around and available for a price range bottoming out at around $1000.

'55 Jaguar XK-140 Drophead

Among Jaguar enthusiasts it's the car they happen to own that is the most classic of all, so it was a little sticky picking just one from the post-war offerings. In any case, we won't offend the stylist because Sir William Lyons did them all, and his other functions happen to be co-founder and chairman of the board.

We favor the XK-140 drophead over the rarer 120 roadsters and coupes that preceded it for one simple reason. This is that the top looks equally well up or down whereas at least the early 120s competed only with the Morgan Plus 4 for ugliness in the rain. We decided against the still later (1958 and on) 150s for another simple reason. Sir William continued to use the same basic body but added five inches of girth down its middle longitudinally. This, plus the receding radiator grille, in our opinion changed the lithe cat poised to pounce into a slightly fat, sleepy animal.

For a patient, mechanically inclined enthusiast the finicky but potent Jag engine is a source of endless delight and expense. The dohc version standard in the 140s produced 190 hp at 5600 rpm – an output fully capable of 125 mph when finely tuned. Even more muscle can be extracted from the 140 MC which has a special cross-flow cylinder head, a 9:1 compression ratio and carburetor modifications. Adding fuel injection, Briggs Cunningham actually brought a similar engine up to an output of 350 hp. Historians credit Arthur Whittaker for the original design in 1948, with continuing modifications by Bill Heynes, the current technical director.

The heater is hopeless unless you hook it up to the water pump by-pass, and it is easiest to pull the engine to get at the clutch, but at least the 140 had a larger radiator to help with summertime overheating problems. Mention of these little matters won't be news to Jag owners. Our purpose is to emphasize to potential owners that a finely kept Jag is a docile kitten; a neglected one is an unforgiving bitch.

We recently heard of one that had been kept in mint condition; it carried an asking price of $1800.

'55 Kaiser Supercharged Manhattan

Some well-designed automobiles seem to deteriorate in taste after each succeeding facelift. A rare few get better, and the last of the Kaisers is one of these. Unfortunately, the only people who really got to see them were the Argentinians.

We mentioned in our discussion of the Frazer that dealer reaction to the entire Kaiser-Frazer line in 1951 was unequivocally enthusiastic. So, to an extent, was the reaction of the public, although by that time you didn't have to pay full price plus money under the table for a Chevrolet or Ford. But sales were never quite sufficient to justify tooling for an all-aluminum V-8 that was scheduled for 1953. Without the V-8, Kaiser was down the drain.

The name of "Dutch" Darrin is popularly associated with the styling of all Kaiser cars, but actually he disappeared for the most part from the scene in calendar 1946. With him, though, he took a contract that gave him 25c for every Kaiser ever built that even used a part of his original design. Also, the lettering "styled by Darrin" was to appear prominently on the car. Brooks Stevens took over as of the '48 facelift, but Darrin still got paid until 1951 when the terms seemed subject to change, considering the all-new Stevens design. Not so. Back came Darrin with his own '51 version, interpreting a clause in his contract calling for Kaiser to get the first look at any Darrin car to read that Kaiser *had* to look at any Darrin car.

The Kaisers, father and son, plus Sue, the son's wife, were at the com-

KAISER

petitive viewing. Stevens' car won hands down, but Sue liked two features of Darrin's clay. One was the now famous "sweetheart curve" at the top of the windshield, which she demurely likened to the cleavage of a woman's bust, and a kind of lip in the hood of Darrin's car which reminded her of a knight's visor. These two features were transferred to Stevens' otherwise intact, winning design and back went Darrin's name, at least for 1951.

Stevens labored hard – and toward the end for almost nothing – to keep Kaiser styling competitive with the fast-moving Big 3 but to no avail. The prettiest of sheetmetal could not make up for the lack of cylinders under the hood. Actually, a 140-hp supercharged '55 Kaiser would stay with a Cadillac at the top end, but the public couldn't be convinced. The minute the hood was opened at the few dealerships that were left, the prospect walked out.

Only 5000 were built and of these, 1000 went to Argentina along with the tools and dies. There, known as the Carabella, the car became the prestige wheels of that nation and continued in production until 1962.

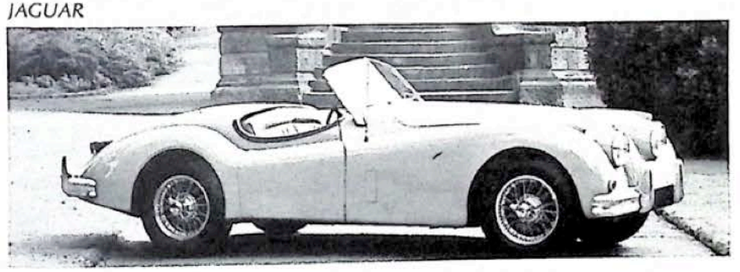
1952-57 Mercedes-Benz Model 300S

Of the few car makers who attempt to preserve a measure of traditional dignity in current products, Mercedes-Benz has perhaps been the most consistently successful. A car in the grand touring mold can most always be found in the line.

Certainly, Ferdinand Porsche deserves basic credit for creating the breed with his "S" and "SSK" models of the late '20s, and his successor, Hans Nibel, ably continued with a succession of noble cars culminating in the classic 540K. But whereas Porsche required brute power not only from the engine but the driver, Nibel sophisticated the Mercedes with the swing-axle design that in basic form is still in use today.

There was, of course, a hiatus due to World War II. By the Board of Directors' own admission, "Daimler-Benz had ceased to exist in the spring of 1945." Of its five plants all but one was considered to be at least 80% destroyed, and for many long months after that, what was left of management had to sit on its hands awaiting political developments. Production of passenger cars did not restart until 1948 and these, of necessity, were essentially utilitarian. Thus, it can be considered remarkable that the shattered organization was able to field the luxurious, 100-mph "300" limousine as soon as 1951, and then to follow it the next year with a superb

JAGUAR



adaptation for sportier use, the 300S that concerns us here.

The 300S was available only on special order during the years 1952-57 and exactly 560 were built. During the last year the line was supplemented by the even costlier and faster 300SC which featured a fuel-injected version of the 183-cu.-in., 6-cylinder ohc engine. Only 200 of these were produced. Even in non-injected form, performance was on a par with the 540K though it stemmed from an engine about half the size, and the $15,000 price tag gave you a choice of three body styles – a fixed-head coupe, a convertible roadster and a cabriolet. The latter, which today is considered the most desirable, had a top of the Teutonic school that folds about as compactly as a mattress. The roadster, the rarest of the models, has a completely disappearing top.

Fortunately for American collectors, the great majority of 300S production wound up on these shores. Gary Cooper and Bing Crosby were among early owners who appreciated such standard niceties as morocco leather and a choice between burl or straight-grain walnut trim coupled to a fuel economy of 17 mpg at a cruising speed of slightly over 70 mph. It currently takes about $7500 to become the lucky owner of a 300S, and the figure is not likely to depreciate any further.

'53 Studebaker Coupe

If you have ever wondered why the famous Loewy-designed second generation of post-war Studebakers had such capacious trunks, it was because his stylists never knew before they had finished their work whether there would be an engine back there or not.

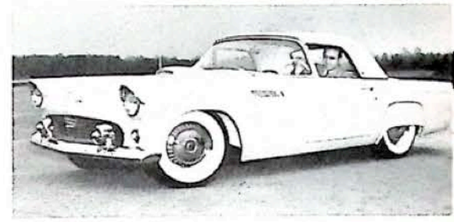
As it turned out, existing and conventional powerplants were used and it's probably just as well. Yet, it's remarkable that what is widely conceded to be a classic design could have been achieved under the almost impossible condition set by management that there had to be room for the engine in either the front or the rear, and "we'll let you know." This dictum applied not only to the coupes, but to the less imaginative sedans as well.

Some pretty famous names besides Loewy were involved in the project. There was Virgil Exner, for one, who shortly thereafter went on to Chrysler to create the "forward look." Then there was John Reinhart, the Mark II stylist we have already spoken of, Vince Gardner who at that point in time also found energy to win MT's first styling contest, and Jake Aldrich. It was a competitive situation with other groups in the Loewy organization working on other designs, but the Exner faction was the one that won management approval.

As we write, we're looking at a copy of the original press release. It abounds with phrases such as "audaciously different," "pace-setting" and "new look." And we must admit with the benefit of nearly 15 years' hindsight that the press agent's typewriter was not too far off its trolley.

The lithe coupes, available originally in hardtop and pillar form in both Champion and Commander models, are commonly called "Hawks," although technically, that name wasn't applied by the factory until the '56 model. Also, though we deal primarily with the first one, it is difficult to ascribe relative values to the facelifts that continued to the last one built in 1964. Some collectors favor the early versions, some the intermediate finned

T-BIRD



version and some the Brooks Stevens-styled Gran Turismos of later years with their landau roof and Mercedes-type radiator shell.

Mechanically, only the later cars were inspired – probably the best being the '57 and '58 versions with a supercharged, 289-cu.-in. V-8. The '56 Golden Hawk is to be avoided except as a showpiece because of the massive Packard engine used that one year. But initially, about the only mechanical claim to uniqueness was an unusual, non-hydraulic power steering mechanism that offered a still-to-be-equalled feel of the road. Many preservers of the early 6-cylinder Champion versions have converted to more power without, necessarily, destroying the value of their car.

These cars stood Detroit on its ear for a while. Normally aloof GM even surreptitiously wangled nearly the first coupe off the production line and sent a closed van down to South Bend for it. At that time, the coupes were the lowest (in height) U.S. cars in production, and maybe GM was interested in how people fit into them. Except for the first year, the coupes were never really significant to the Studebaker production total, but this seems to be true for every car that rates as a classic, new or old. If you're lucky you can find a good '53 for around $300; that is, if its owner hasn't caught wise.

. . . and so there you have it – our choice of the 10 best classics of the '50s. Some of the same variable elements that make horse racing are admittedly involved in such a selection, but based on the standards we've outlined, we'll match our field of frontrunners against other classic packs of the period. /MT

EUROPEAN HOT LINE

BRITISH FORD Cortina sales are booming everywhere; in the U.S. they doubled over the first seven months of '66. And now the Cortina line is much more tempting than ever, above all in performance. The major reasons are its new crossflow top end and Heron-type combustion chamber which Ford calls its bowl-in-piston layout. In the Cortina 1300 this combination increases power output from 57 to 63 bhp and speed from 78 to 82 mph, while chopping 0 to 60 time from 22 to 19 seconds.

The '67 Cortina 1500 has been replaced with a 1600, giving the new Super 75 bhp — a 15% increase. It's 0 to 60 time is down from 19.5 to 16.5 seconds and top speed is up from 82 to 87 mph. And the GT version of the 1600 packs 92 bhp, does 0 to 60 in 12.5 seconds and has a top speed of about 95 mph. Yet, due to the greatly increased efficiency of the new top-end design, fuel consumption is claimed to remain at last year's level.

GERMANY'S OPEL (GM), not counting transmission options, offers 110 distinct product combinations. Its '68 catalog lists 43 separate models with engines of four, six and eight cylinders and with displacements running from 1071 to 5354cc. The one notable technical change in the '68 line is the replacement of conventional leaf-springs at the rear with coils and trailing arms on all Kadett and Olympia models. Opel is busily building a strong competition image (which German Ford oddly is not) and plans an active touring and rallye racing season for '68.

THE LATEST European property which Chrysler has been rumored to be in the market to buy is Maserati.

CHRYSLER STOCKHOLDERS will be interested to know that approximately 100,000 Rootes products (Hillman Hunter, Minx and Singer Vogue, Gazelle) are being called back to service centers for the correction of defects in suspension brackets. The brackets were supplied by Rootes' competitor, BMH, through Pressed Steel-Fisher, a subsidiary. The number of cars involved represents about one year's production.

THE ROADS of Europe are rapidly reaching intolerable levels of congestion, yet automotive production keeps skyrocketing, and so do accident rates. The German government is the first to take positive steps to do something major about the situation and has announced that, starting in 1970, the long-distance hauling of "most bulk goods" will be outlawed. What will take the place of these hundreds of millions of tons of annual trucking? The trains. Like most European countries, Germany has a large railway system which is operating only at a fraction of its capacity. The effect of the new law will be disastrous for truckers, of course, but a boon to motorists and a windfall for the State-owned railroads. The new plan could not have been approved if the need were not truly desperate. Similar crises are shaping up all over Europe and if the German plan can be made to work at all successfully it is certain to be imitated elsewhere.

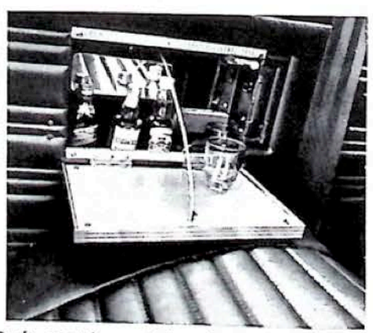
ICELAND next year will follow Sweden in switching over to driving on the right. The cost of the change in Sweden in '67 was about $130 million. The cost for little Iceland, with its population of about 40,000 cars, will be about 1% of that figure.

BRITISH MOTOR HOLDINGS, largest auto manufacturer in Britain, suffered growing pains during its '66-'67 fiscal year. The actual loss has not yet been announced but rumor puts it at around $15 million — a trifle for a huge company. Great organizational strides have been made and profits of about $28 million before taxes are being forecast for the fiscal year in progress.

STUDENTS OF the intricacies of major conversion from English weights and measures to the metric system will be interested in the free booklet, GOING METRIC — FIRST STAGE. It is available from the British Standards Institute Press Office, 2 Park Street, London W1.

PORSCHE, now owned by VW, has four models in its 2-liter, 6-cylinder 911 series: the 110-bhp Touring, the 130-bhp Luxury, and the 160-bhp Sports and Targa Florio Sports. The hot ones, unfortunately, do not meet U.S. exhaust emission standards due to valve timing and carburetion settings and are not to be imported. But there certainly should be a market for a detuned version of the stylish TF, with its safe and handsomely styled permanent roll bar.

ROVER, one of Britain's finest quality cars, appears for 1968 with a V-8 engine — none other than the aluminum Buick-Olds base with which Jack Brabham won the 1966 Grand Prix championship. The 1960 engine was retired by GM when thin-wall iron casting techniques eliminated some of its advantages. Rover has made many refinements to the light, short-pushrod powerplant, including the beefing up of its basic structure to permit considerable enlargement of engine size in the future. In present form its displacement is 3528cc and with 10.5:1 compression it develops a lightly stressed 160.5 bhp at 5200 rpm. Torque is a husky 210 lbs.-ft. at only 2600 rpm. Rover spent $8.4 million on its own tooling for this little thoroughbred, confirming that there are even bigger plans for it ahead.



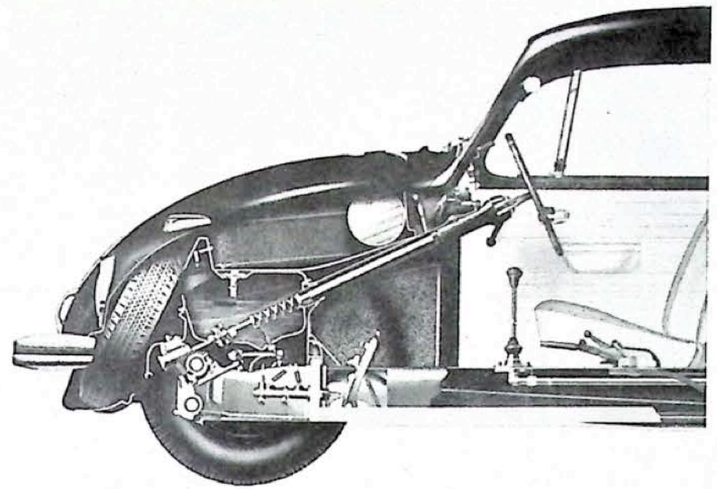
Peter Daykin, Blackpool, England, digs electronics. Witness his Ford Cortina: (Left) Dash contains switches for radio, TV, PA system, trunk and hood, windows and a multitude of other gadgets. (Center) Outside, car looks stock. (Right) for entertaining.

FIRESTONE, while rushing ahead with completion of its new tire factory in England has entered into a liaison arrangement with the Republic of Ghana. Ghana and the Akron company are developing 20,000 acres of rubber plantation, plus a large new tire manufacturing plant.

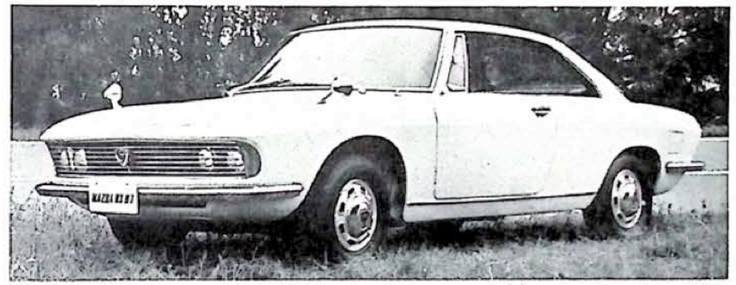
ANOTHER PROUD OLD MARQUE has been added to the roster of cars that are no longer being produced anywhere in the world. The latest is the Panhard, a car with 77 years of tradition and the oldest car name in France. The final car to roll down an assembly line was the Panhard 24 sedan. Its death had been expected. Citroen took over the ailing company two years ago. Sales dropped from 30,000 in 1964 to less than 500 in 1967. The first Panhard was produced in 1890. A 4-seater the gasoline-powered carriage had large rear wheels and small front ones, in the tradition of the Daimler Motorwagen, the German "horseless carriage" which dates back even farther, to 1886. As with most firms in the early days of motoring, the Panhard succeeded after a dramatic public demonstration — a 600-mile trip from Paris to Nice on the French Riviera.

AUTOMOBILES BERLIET, France's biggest truck manufacturer, has also been forced to sell out to Citroen, the nation's No. 2 automaker because of rising costs and slipping profit margins. Berliet is the third largest truck and bus manufacturer in the Common Market after Daimler-Benz and Fiat. Despite rising sales — including some to Red China — the company's profits have been shrinking. They dropped from $3.3 million in 1964 to $284,000 in 1966. With its takeover of Berliet, Citroen will now have a complete range of vehicles, from small cars to heavy trucks, and will account for 26% of France's auto output.

LAMBORGHINI PRODUCTION inches along as the first Miura P 400s have been sold in England and the British importer is crying for more to sell. The price is a modest $29,500 a copy. There is nothing wrong with amortizing your investment in a hurry, above all when such customers seem to be standing in queues. But Lamborghini and Bertone deserve full marks for having cracked the combination of the super-super-prestige modern car. /MT

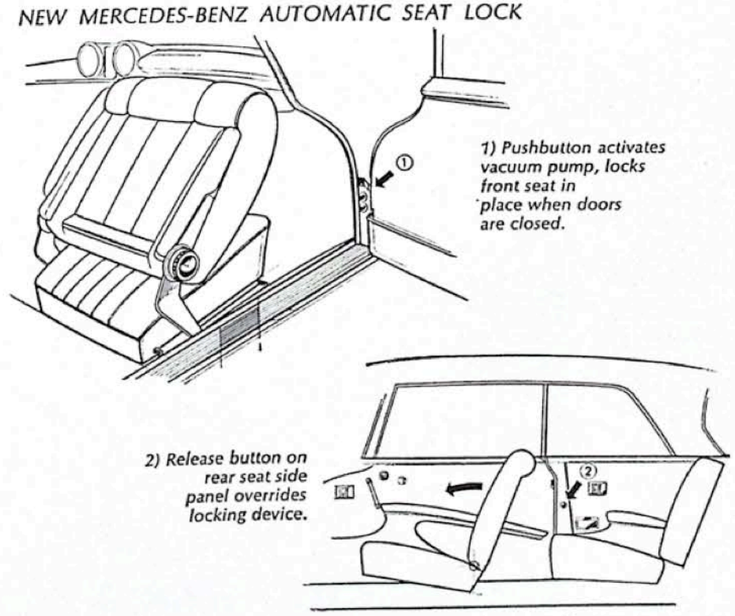


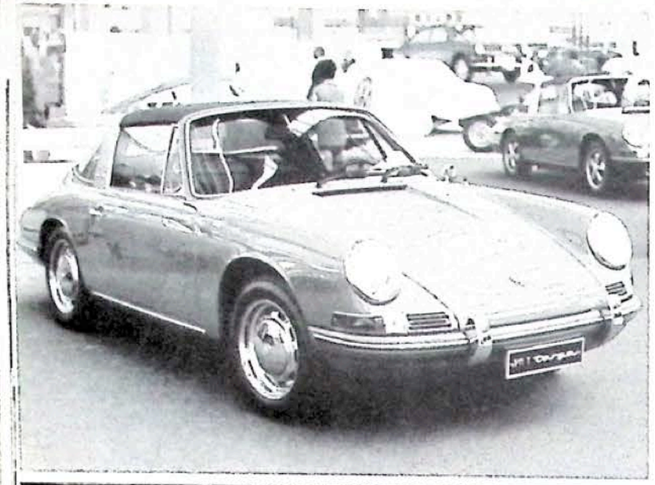
Major improvements in the '68 Volkswagen include: higher and stronger front bumper, telescoping safety steering column, padded armrest and more convenient shift lever.



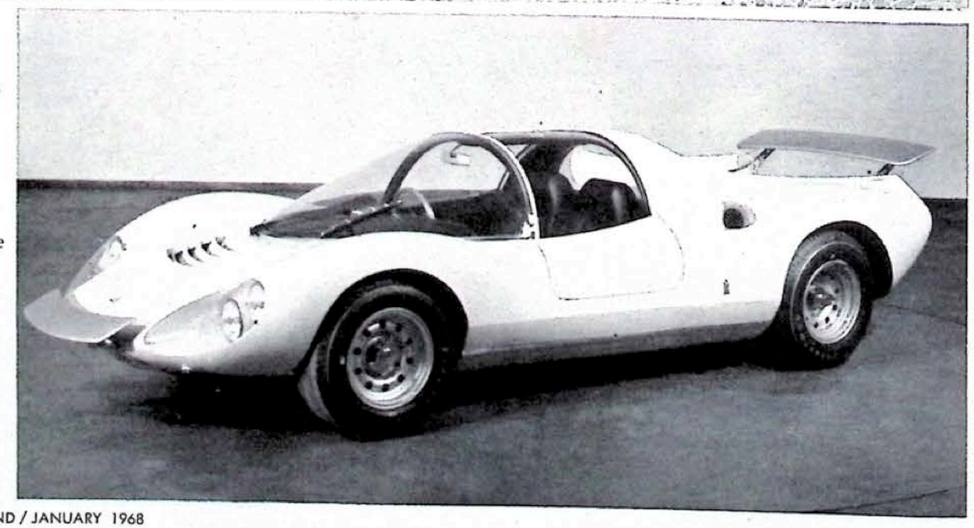
New from Mazda, Japan, is the RX87 Touring Coupe powered by a 2-rotor, rotary piston engine developed jointly with NSU/Wankel. Overall length is 15', width, 5'5", height 4'7"

NEW MERCEDES-BENZ AUTOMATIC SEAT LOCK

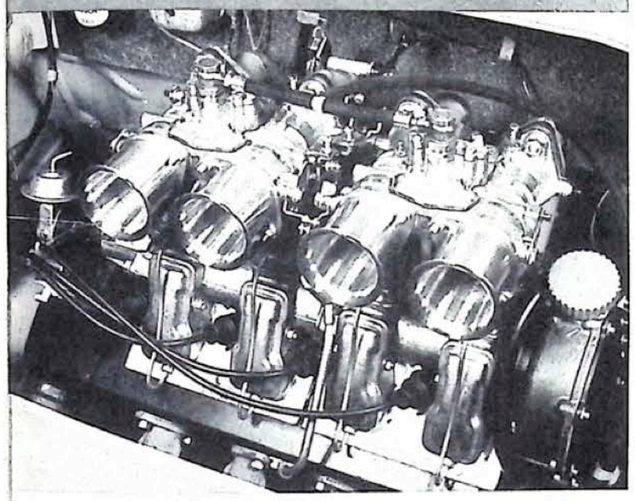




(Left) Porsche 911T is a cheaper ($400) 110-hp version of 911. (Above) Mini Honda has 600cc engine, 43 hp. Top speed 82 mph.

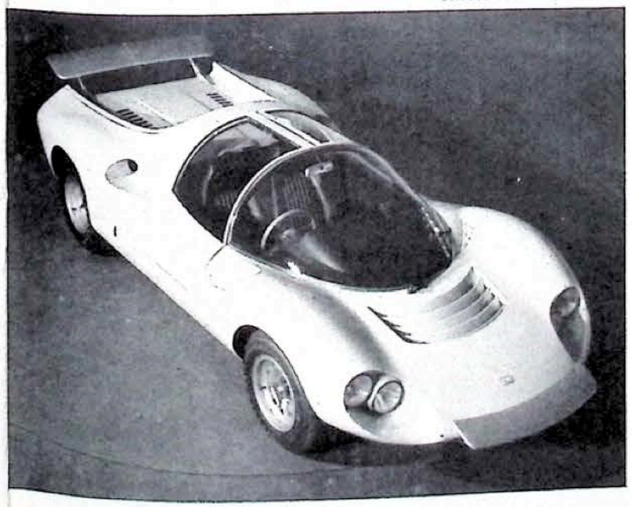


(Right and far right) Exciting Dino Ferrari by Pininfarina has questionable use in competition. Nevertheless, it's a healthy exercise. Power is by 2-liter, 4-ohc, 230-hp V-6 F1 engine. Notice adjustable spoiler à la Mini-Chaparral.



(Above) Latest NSU bomb is the TTS. This little 1-liter, 4-cylinder car has a top speed of 110 mph and accelerates from 0 to 60 in 10 seconds. Setting of engine hood in rear gives extra top speed plus stability. Air-cooled, ohc engine produces 85 hp. Feeding is through two big "sidedraught" Solex carburetors. (Left) Aston Martin brought their own version of a new DBS with old 325-hp engine and 400 pounds less weight. Some like its looks, but most useful improvement is de Dion rear axle.

PHOTOS BY BERNARD CAHIER



EUROPEAN showcase

Latest lessons in labor of love

Behind the impenetrable walls of humanity and flags at Frankfurt, Paris and Earls Court were a sense of product pride and literally hundreds of vehicles that can rightfully claim to be the standards of good taste and sensible design for the world's automotive industry. But then, the European automobile public is left with some responsibility of their own, so they can take some interest . . . and you just don't deceive, for example, nearly one million interested people who visited the Frankfurt show this year. And at Paris and Earls Court, there were feelings of quiet dignity and relaxation that conveyed sincere intentions.

For those who need the phony carnivals of barkers and broads to announce that the only changes for the year are rakier fastbacks and a hundred pounds more chrome, the European show scene would be a bitter failure. Most changes are subtle and meaningful, and if you're ignorant of their technical significance, forget it.

In spite of the recession in Germany, which is resulting in a drop of 24% in car production this year, new models were impressive and included some of the biggest newsmakers in the world. Some – such as the new NSU Ro 80, Opel's Kadett Olympia and Commodore GS models, Ford of Germany and the Iso Rivolta 4-door sedan – have already been covered in MOTOR TREND's September, October, November and December issues, but BMW's 1600 TI and 1600 GT, the Porsche 911T, Citroen Dyane and a new Volkswagen are equally new and significant.

The recent BMW impact in the U.S. has been impressive, but an addition of two new models holds even more promise. A quicker version of the compact 1600 is the 1600 TI, with 20 more hp (now 105), a top speed of 110 mph and 0 to 60 acceleration time of 11.4 seconds. It sells in Germany for $2500, about $230 more than the regular 1600. The GT coupe is actually the Glas body with the same 1600 TI engine and BMW's all independent suspension. Glas no longer exists as a name since BMW encapsulated them less than a year ago.

Belatedly, the Volkswagen 1500 has a new rear suspension, but the Bug appears unchanged, much to the dismay of VW's faithful claque. An automatic transmission is also available for both the 1500 and 1600 models.

It's no longer a secret that Porsche is trying to phase out the venerable old 4-cylinder engine with the 6-cylinder unit used in the 911. In fact, they are now making an obvious effort at it by introducing the 911T, a turned-down version of the 911 that gives 110 hp instead of 130, and sells for $4700 in Germany compared to $5200 for the 911.

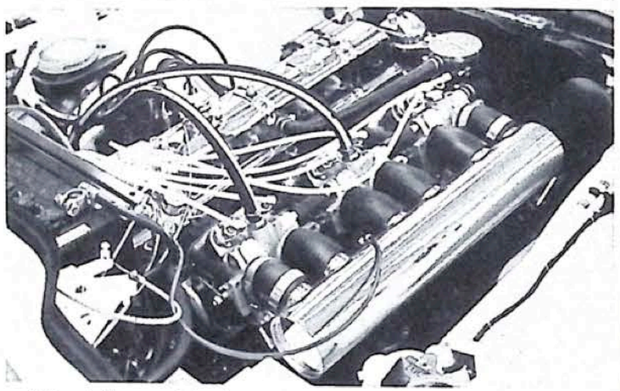
Frankfurt was the first show at which the public could see the new Dyane Citroen, which many consider as a sellout to progressive compromises. The old 2-cylinder, aircooled 2CV, the famous "four wheels and an umbrella," was conceived as minimum transportation for the likes of farmers, country doctors and priests. Unfortunately, it became *in* with Parisian society and its sales refuse to quit. An only slightly more civilized car, the AMI 6, was based on it and now Citroen has made a blend of both in its brand-new Dyane. It looks as much but is even noisier than the 2CV, a possibility heretofore doubted. The additional decibels accrue from the "improvement" of thrashing the incredible little engine harder. At the other end of the spectrum is the marvelously comfortable DS series, including the DS 19 Pallas model with the quartz-iodide headlights that pivot with the high beams, also mentioned in MOTOR TREND, December issue . *continued*

If the new front-wheel drive Simca 1100 at the Paris show smacks of the BMC Mini in its east-west engine layout, this hardly means that it's a copy. Jacques Rousseau, its designer, was an addict of the Cord long before World War II. It is powered by a 4-cylinder iron-block engine of 1118cc displacement producing 55 hp at 5800 rpm for a top speed of 86 mph and a quarter-mile time of 20 seconds.

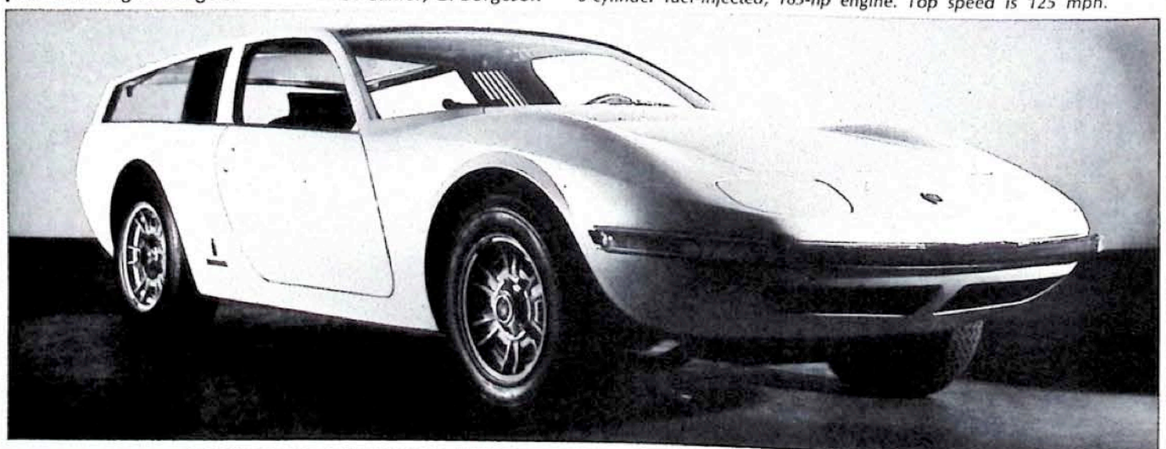
The very foundations of British tradition trembled with instability at the London show when Aston Martin appeared with their new DBS, a rendition by their own stylists, obviously, but, nevertheless, a change. It is a 4-passenger GT available in two stages of tune – 282 or 325 hp – with a choice of ZF 5-speed gearbox or 3-speed Borg-Warner torque-converter automatic transmission. A significant improvement in the new model is the adaptation of a de Dion rear axle, which they have previously used only in competition machines. The new axle results in an impressive reduction in rear axle unsprung weight of 110 pounds – down from 287 to 177. In addition, the de Dion is equipped with roller-bearing splines, eliminating the binding effects that are far from unknown when simple splines are used. The DBS also has iodide-vapor headlights and meets U.S. safety standards. Swell. Many resent the staid firm's attempt at the new design, but for them, the DB6 and Volante models are still extant.

In spite of the economic constriction, Italian design houses expressed their art in numerous examples, the most salient being Pininfarina's immaculately finished Dino Ferrari with an adjustable spoiler. Frua displayed a new BMW 3-liter coupe at Frankfurt, in addition to a new Monteverdi, which features a 425-cu.-in. Chrysler engine with 400 hp, independent suspension and a de Dion rear end. What makes this car important is its planned production. It will sell for about $12,000 in Europe .

Throughout the shows there was considerable excitement, despite financial adversity. However, one could not help but sense the apprehension that individual efforts will be discouraged in future by the expanding, almost blind power of magna-mergers. — *B. Cahier, G. Borgeson*

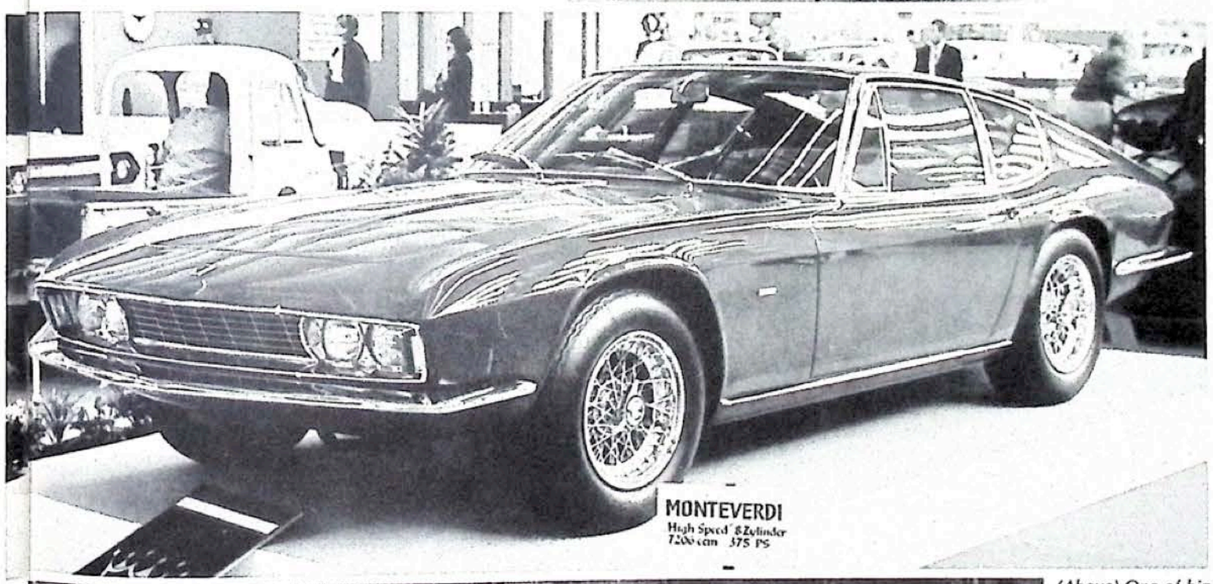


(Above) Sleeper of the shows was the new Triumph TR5. Outside, it is unchanged from prior models; inside is a new 2½-liter, 6-cylinder fuel-injected, 165-hp engine. Top speed is 125 mph.



Fiat Dino seems to be pacesetter for styling at this year's shows. Wild new "Flying Station Wagon" by Pininfarina turns basic Dino Coupe into roomy – yet even more sporty – GT. Power is still from excellent V-6 ohc, 2-liter unit.

(Clockwise from left) Peugeot 204C Coupe brings some class to bread-and-butter car. Renault R-10 has new front end and dash. Latest Simca is 1100 with front-wheel drive. Transversely mounted engine displaces 1118cc for 55 hp and a top speed of 86 mph. Road holding is remarkably good. Cortina 1600E has lower suspension plus dress-up goodies.



(Above) One of bigger sports GT cars at the show was new 7-liter Monteverdi blessed with one of Frua's better bodies. Car weighs 3500 pounds, is said to be capable of top speed of 170. (Left) Fiat Dino has Targa-type hardtop.

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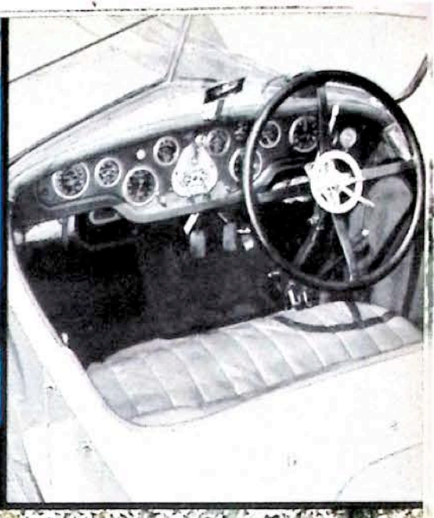
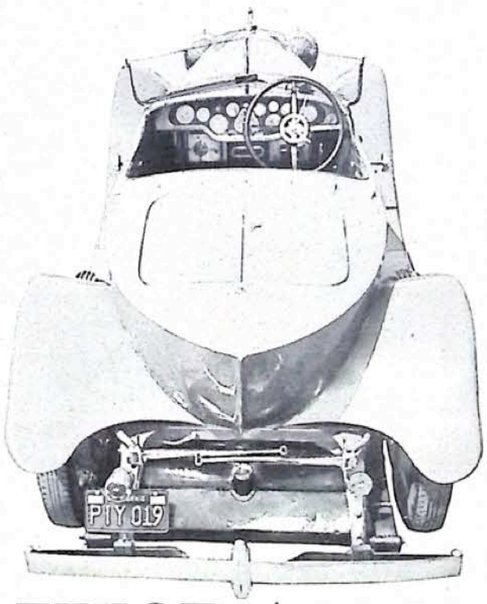




HISPANO-SUIZA 37.2

A super-elegant race car **Ralph Stein**

There is something about double-barreled motorcar names that makes them roll off the tongue with a particular elegance: Isotta-Fraschini, Rolls-Royce, Hispano-Suiza. All three, of course, were super-elegant machines, but the Hispano had something more. It was not only a machine upon which stately formal coachwork could be mounted; it could, with suitably open bodywork, be used as a most puissant sporting car. In fact, in the 1920s, Hispano-Suizas – with but slight changes – were most successfully raced.

The first Hispano I ever drove is the one pictured, and it is now in the Briggs Cunningham Museum, Costa Mesa, Calif. This one had a more powerful engine than the original 37.2s (an obsolete English hp rating for tax purposes) and was known as the 45-hp "Boulogne" (7982cc). Some Hispanophiles, however, claim that only the cars actually prepared for the "Coupe Boillot" races in Boulogne are rightly called "Boulognes."

Back in the Thirties a gentleman named Ray Gilhooley, who maintained an establishment in a warehouse from which he purveyed exotic motorcars, let me try that Hispano. Gilhooley's premises were near Broadway in New York and he calmly let me take the car into the (even then) maelstrom of New York traffic. I was more than slightly terrified and treated the big machine a mite too timidly for Mr. Gilhooley. Annoyed, he growled at me, "Pull up to the curb, I'll show you how to drive this s.o.b." He then proceeded, with his foot hard down, to carve his way through the violently driven taxicabs as if they didn't exist. When I got hold of the wheel again I found that I could do it, too. That big Hispano seemed to bend in the middle as it curveted down Broadway. When I had to cram on the brakes they held like no brakes in my experience. And everything – the steering, transmission, every switch – worked with creamy smoothness.

I didn't buy it, however. Gilhooley wanted all of $150 for it – *plus* my 1931 Model A Ford roadster. Exorbitant, I thought. And I've regretted it ever since.

Hispanos go all the way back to 1904 when their Swiss genius designer, Mark Birkigt, first formed a company called *La Fabrica de Automoviles La Hispano-Suiza* (Spanish-Swiss) in Barceona. By the time of World War I the marque was already famous for its racing triumphs and for one particular model, the T-15 "Alfonso XIII."

But it was not until 1919 that the greatest of all Hispano-Suizas – the H6 37.2-hp model appeared. Its 6597cc 6-cylinder engine was based on the remarkably successful Hispano V-8 overhead-cam aero engine which had powered thousands of Allied fighter aircraft. The cylinder block was of light alloy, with threaded cylinder liners screwed into position. The bore was 100mm, the stroke, 140mm, and 135 hp was developed at the lazy speed of 2750 rpm. The 7-bearing crankshaft with full circle webs was a work of art cut from a solid billet of steel which weighed 700 pounds before machining and only some 90 pounds afterwards.

The Hispano's valves were driven by an overhead camshaft and were adjustable by a system of flat, mushroom-like discs which screwed into the internally threaded hollow valve stems. Admittedly the valve gear was not the silent kind you might expect in a luxury car. But you'd have to expect some clatter from valves whose clearance was .080!

No engine ever built was prettier to look at. All gleaming black lacquer and aluminum, it had a giant oil filter which could take a quart can of oil at one gulp, a quickly openable carburetor and solid aluminum webs from crankcase to chassis members.

The chassis was a quite conventional ladder type, but of inordinate stiffness. A 3-speed gearbox was fitted, but so great was the engine's torque, that shifting was almost redundant. In spite of a 3.37:1 rear axle, drivers usually started in 2nd. And it was possible to crawl at 4 mph in high gear. A servo brake like that in the Rolls-Royce was operated from the gearbox, but Hispano had it first. Royce paid Hispano a licensing fee.

The Hispano had other unique delights to please the appreciative driver: its stork radiator cap was, of course, adapted from the blazon on the flanks of the fighter aircraft of French ace Guynemer's World War I Squadron. Its instrument panel was as simple and beautiful as any ever made. The ignition switch could be moved to fire either set of plugs, or both, for testing. (The Hispano, I should add, had dual ignition.) There were also two starter switches (there were two batteries with two separate wiring systems). You could use both batteries at once, in cold weather, or you could use the one battery which was meant for starting purposes.

The Hispano was not originally conceived as a competition machine. But delighted sportsmen charmed by its handling and speed soon started racing them. Andre Dubonnet, the aperitif king, in 1921 drove his 4-seater tourer in the 237-mile "Coupe Boillot" and won at 64 mph. "Boulogne" Hispanos were much faster than such speeds might indicate, for at a later race at Boulogne in 1924 some of the Hispanos got up to 125 mph on the straight stretches. A Hispano driven by Garnier won that year at 70.5 mph.

One of the conceits of sporting drivers in the Twenties was driving as fast as possible from Paris to Nice 580 miles away. Dubonnet once did it in 12 hours carrying three passengers and their luggage. And Woolf Barnato (who later became head of Bentley Motors) averaged 92.2 mph for 300 miles at Brooklands track in England. (Some people claim that the design of the Bentley owes much to the Hispano.)

Although it has been quoted time and again, I can't resist this passage from Michael Arlen's "The Green Hat." He said of the Hispano-Suiza: "Open as a yacht, it wore a shining bonnet; and flying over the crest of the great bonnet, as though in proud flight over the scores of phantom horses, was that silver stork by which the gentle may be pleased to know that they have just escaped death beneath the wheels of an Hispano-Suiza car, as supplied to His Most Catholic Majesty."

/MT

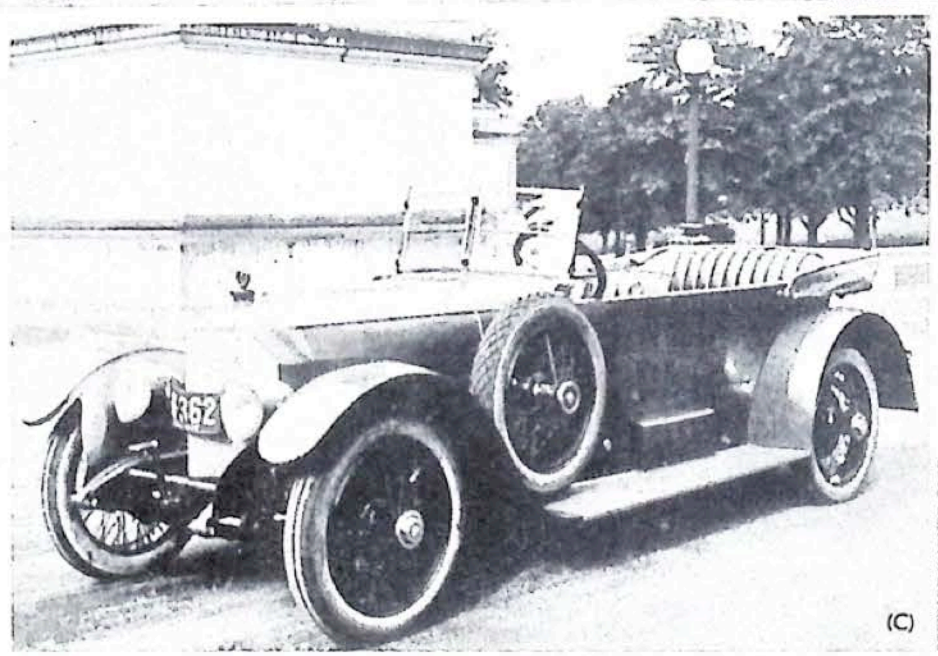
Flashbacks by Al Michaelian

(A)

D. P. BROTHER & CO.

(B)

YOUNG & RUBICAM, INC.



(C)

STEWART-WARNER CORP.

(D)

MCA TV INTERNATIONAL

(A) Victorious in a tug-of-war, a 1906 model S Oldsmobile convinced the most ardent horse lover to make the switch.

(B) A 1928 German ad for Chrysler's Imperial 80.

(C) A pointed windshield and radiator distinguished the Philadelphia-built 1920 Meteor. Engine was a 4 x 5 4-cylinder Duesenberg.

(D) Richard Arlen starred in the 1929 Paramount feature "Burning Up." Front-driver Miller was owned by Cliff Bergere who doubled for Arlen in long shots at fairgrounds dirt track in Riverside, Calif.

Next month.... MOTOR TREND names the TOP '68 CARS!

For the first time Motor Trend will present a complete selection of annual awards....including

OUTSTANDING CARS IN CATEGORY!

SIGNIFICANT FOREIGN CARS!

INDIVIDUAL MERIT AWARDS!

ACCESSORY ACHIEVEMENT AWARDS!

AND THE COVETED

1968 CAR OF THE YEAR!

In the 1968 MOTOR TREND Awards Program, cars will be evaluated for achievements in their own market class, as well as being considered for Car of the Year. Cars will be classed in the generally acknowledged groups into which they fall by virtue of design/function concept, price, size and other distinguishing characteristics. Awards will be given to those models which, in the opinion of MOTOR TREND, have outstanding significance in engineering, styling and/or market timing. For 1968, since there are some entirely new cars and major changes in others, group classification has been broadened, where necessary, to permit their inclusion in the most logical judging category.

HERE ARE THE CANDIDATES

COMPACTS

AMERICAN
CHEVY II
CORVAIR
DART
FALCON
VALIANT

INTERMEDIATES

BELVEDERE/GTX
SPECIAL/GS 350 & 400
CHEVELLE/SS 396
CORONET / R/T
FAIRLANE/TORINO
MONTEGO
OLDS F-85 / 4-4-2
REBEL
TEMPEST / GTO

FULL SIZE

AMBASSADOR
BUICK
CHEVROLET
CHRYSLER
DODGE
FORD
MERCURY
OLDSMOBILE
PLYMOUTH
PONTIAC

PRESTIGE

CADILLAC
CONTINENTAL
ELECTRA
IMPERIAL
OLDS 98

SPECIALTY

CHARGER
ELDORADO
GRAND PRIX
RIVIERA
THUNDERBIRD
TORONADO

SPORTS — PERSONAL

BARRACUDA
CAMARO
COUGAR
FIREBIRD
JAVELIN
MUSTANG

SPORTS

COBRA
CORVETTE

In recognition of the human effort that so frequently goes unrewarded in the formulation of automotive progress, MOTOR TREND has created **Merit Awards** for 1968. In a unique departure from customary procedure, the nation's automotive press will aid in the presentation of Merit Awards by selecting outstanding individuals who, in the opinion of the press, have influenced the automotive industry to the ultimate benefit of the motoring public.

The editors of MOTOR TREND drew up an extensive list of candidates from government, industry and private life. The list was gradually reduced to 18 and presented to this nominating panel of nationally syndicated automotive writers and broadcast network commentators:

Charles Cain, *Associated Press*
David Chute, *United Press International*
Robert Cochnar, *Newspaper Enterprise Association*
Jeffrey Cushing, *Copley News Service*
Charles Dole, *Christian Science Monitor*
Sidney Fish, *Journal of Commerce*
Craig Fisher, *NBC News*
Tom Nicholson, *Newsweek*
Art Peck, *CBS Radio Network*
Fred Russell, *The Russell Service*
William Sheehan, *ABC News*

Votes of the national panel resulted in the selection of these 10 MERIT AWARD NOMINEES

- ☐ **ALAN BOYD** Secretary of Transportation
- ☐ **ROY CHAPIN** Chairman, American Motors Corp.
- ☐ **HENRY FORD II** President, Ford Motor Co.
- ☐ **BILL FRANCE** President, NASCAR
- ☐ **DAN GURNEY**
- ☐ **CHARLES HEINEN** Chief Engineer, Chrysler Corp.
- ☐ **LEE IACOCCA** Vice President, Ford Motor Co.
- ☐ **RALPH NADER**
- ☐ **DERWYN SEVERY** Research Engineer, U.C.L.A.
- ☐ **CARROLL SHELBY**

170 newspaper auto editors in 50 states have been recruited to make the final choices. Their ballots are now being tabulated and audited by certified public accountants, and the Merit Award recipients will be announced in the February MOTOR TREND Awards Issue.

Accessory Achievement Awards, initiated in 1967, will again honor those manufacturers or original equipment suppliers whose features and accessories, appearing on 1968 cars, reflect significant achievements in comfort, safety, convenience, performance, economy, engineering or applied research.

In addition to *Car of the Year* and *Cars in Category*, MOTOR TREND will recognize one or more cars manufactured overseas, for their contributions to the world's automotive industry. **Foreign Car Awards** will be presented for achievements in engineering design, safety, styling, or a combination of factors related to product excellence.

Occasionally, a person or organization in industry, government or private life cannot be satisfactorily judged in other categories. If deemed worthy of recognition, the party will be presented with MOTOR TREND'S **Special Award,** a classification established with the 1968 program.

In sum, it's the biggest, most important MOTOR TREND Awards in 12 years. See it next month in the February MOTOR TREND.

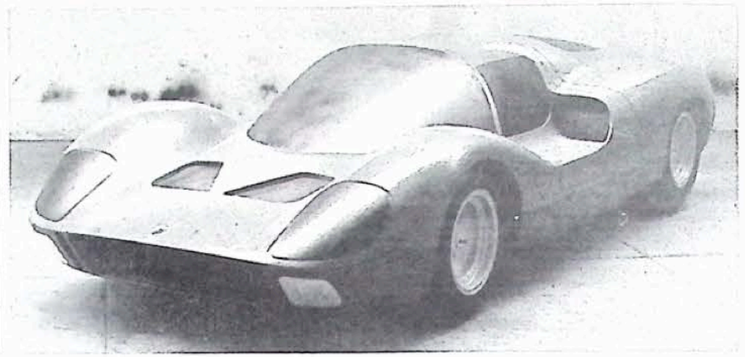
TOP '68 CARS AND THE COVETED CAR OF THE YEAR!

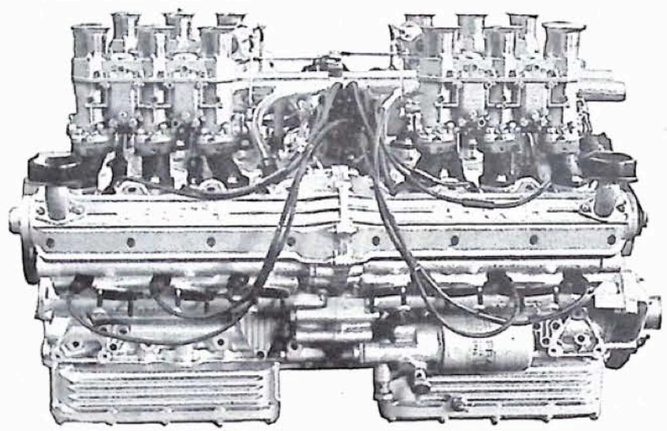
1968 MOTOR TREND SPECIAL AWARDS ISSUE...

On your newsstand **JANUARY 18th!**

MOTORSPORTS

ABARTH 6-LITER PROTOTYPE . . .
HOWMET UNVEILS TURBINE . . .
320-HP ALPINE . . .



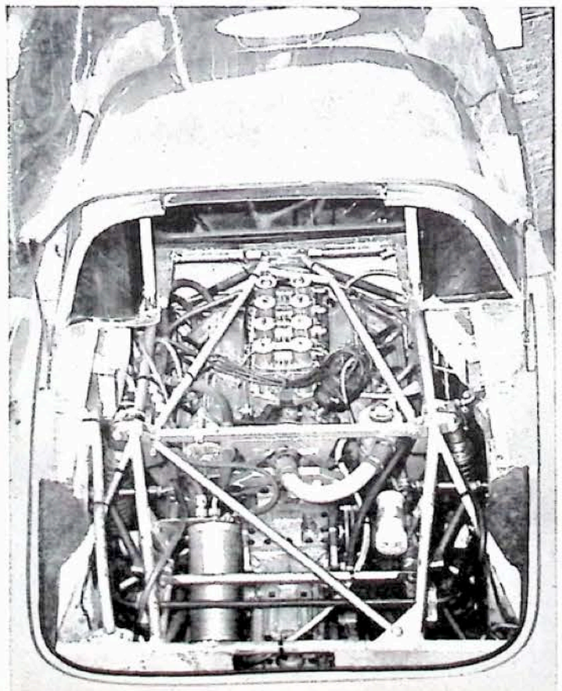


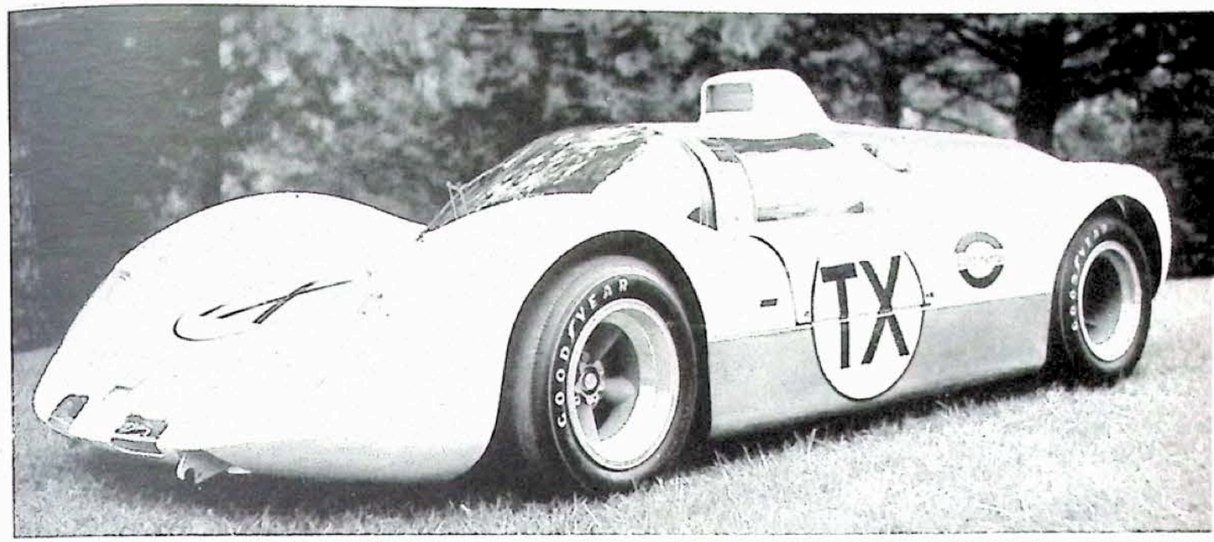
(Top and above) Mock-up body, front and rear, of proposed Abarth 6-liter, V-12 prototype, showing engineering advances in streamlining and construction. Unfortunately, car may never be built because of recent changes in FIA prototype regulations.

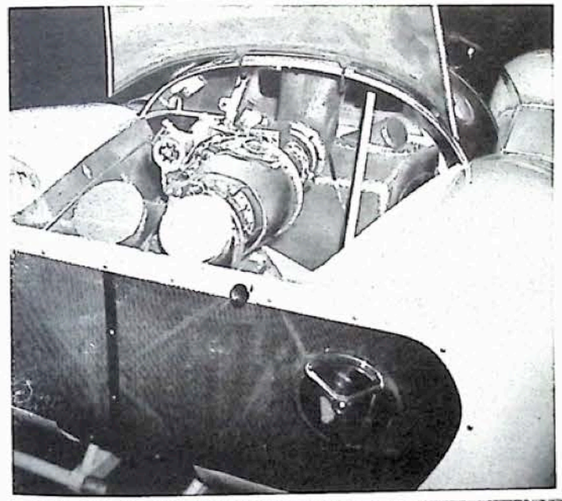
(Above right) Cause of the Abarth woe is this V-12, 6-liter bomb that was expected to become a formidable antagonist on the international circuit, with 600-hp potential. New FIA regulations limit prototype displacement to 3 liters.

(Right) Big V-8 fits neatly into Alpine-Renault engine compartment. Chassis has been reinforced to accept added weight. Designed for rear and mid-engined cars, engine features rear drive accessories, allowing installation close to driver's compartment. Weber carbs will give way to fuel injection and more hp.

(Far right) France's new weapon: the Alpine-Renault with 320-hp Gordini 3-liter V-8, should be a potent contender in international competition. The car weighs only 1600 pounds – the limit under FIA rules – but has a top speed of 185 mph. Car normally houses a 4-cylinder, 1300/1500cc engine.







(Above) The Howmet Corp., New York, N.Y., has developed a new prototype turbine car, designed specifically for international competition. The car was built by McKee Engineering, Palatine, Ill., in collaboration with Howmet. Powerplant is a Continental Motors Red Seal Turbine experimental unit. The car will make its racing debut in the "24 Hours of Daytona" at Daytona International Speedway, Feb. 3. It is also scheduled to compete at Sebring, March 23, and Le Mans, June 15-16. Howmet will field two cars for each event.

(Left) The free-turbine engine develops 330 hp with a turbine shaft speed of 57,000 rpm that is reduced to 6700 rpm at the output shaft. The differential was specially designed for use with the turbine, and axle ratio is alterable by used of a quick-change rear end. A single forward speed, a lá dog clutch, is used and reverse is activated by an electrical drive mechanism. Total weight of the powertrain is less than 250 pounds. Engine displaces 3 liters in accordance with FIA prototype limitations. Chassis is tube-type, with rack and pinion steering and 4-wheel disc brakes.

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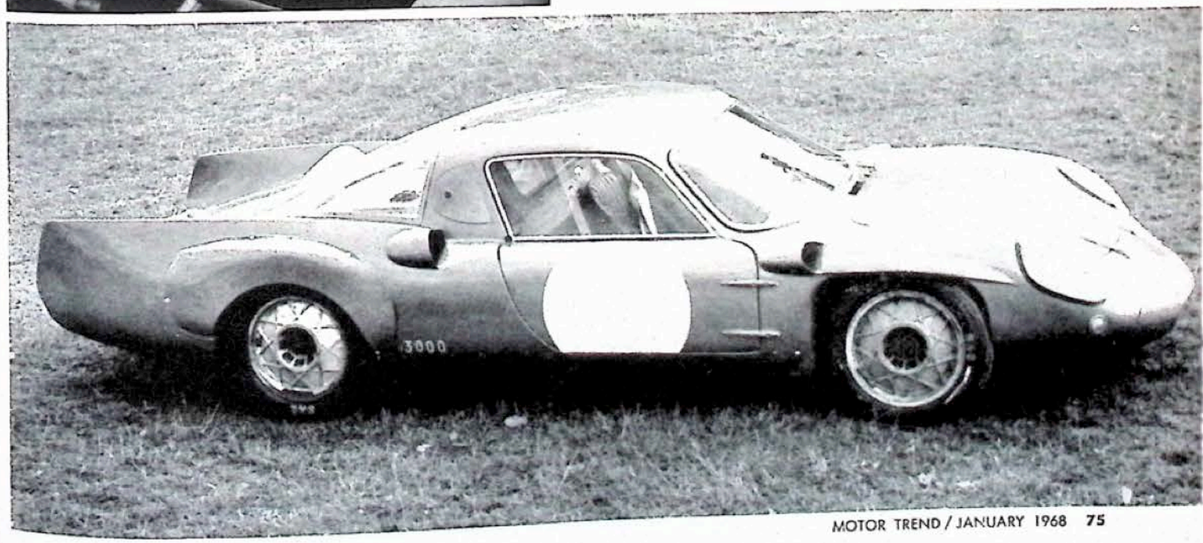

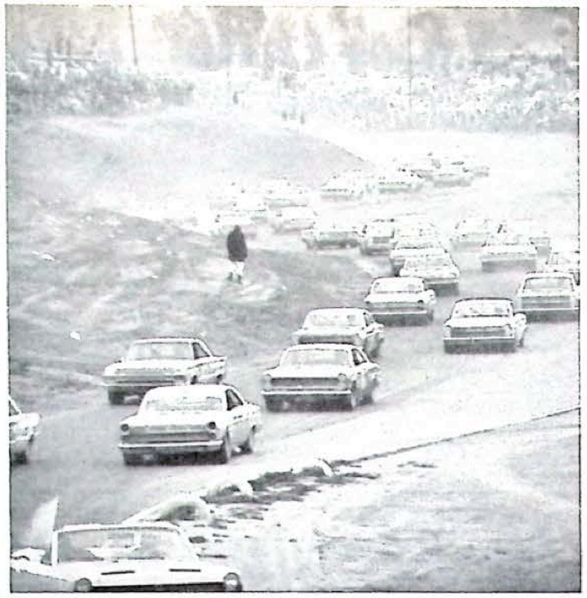

(Far left) Pace lap of 1967 Motor Trend-Riverside 500, in which Jones broke Gurney's winning streak. (Above) The invincible Petty Plymouth. Certainly a top contender in this year's race. (Left) Parnelli and Gurney — the two winners — will either repeat their good fortune this year, or will someone else win the cup?

PETTY . . . JONES . . . GURNEY

Which way will it go?

1968 Motor Trend — Riverside 500 could be a wide open race

Can Parnelli Jones make it two-in-a-row? Can Dan Gurney get back in the saddle to capture his 5th win? Can Richard Petty continue to tear up the opposition? You'll have to consult the nearest ouija board for answers to those questions, but one thing is certain . . . they'll be off and running for the $85,000 kitty when the 6th annual Motor Trend-Riverside 500 gets the green flag Sunday, Jan. 21, 1968, at Riverside, Calif.

The Motor Trend-Riverside 500 is unique among NASCAR's Grand Nationals in that it pits the best drivers from various types of racing against each other on a twisting, 9-turn, 2.7-mile road course that metes out punishment worse than Captain Bligh. Suspensions, brakes, tires, and steering are the primary victims, but engines aren't immune. Finishing drivers make approximately 1200 shifts during the race as they push the 4000-pound stockers through the corners. And it's the longest 500 on the circuit, timewise, taking over five hours to run.

Because it is an unusual combination — stock cars on a road course, it could be anybody's race. Unlike driving stock cars on an oval, or driving sports cars on a road course, every driver has to adjust his driving technique to the complexities and demands that Riverside presents. Of course, it isn't entirely fair to say no one has an edge. Riverside could be considered Gurney's "home" territory, but, as Jones proved last year, no one is invincible.

The first Grand National of the year, The Motor Trend-Riverside 500 marks the debut of the '68s. Ford's rivalry with the Plymouth-Dodge boys will be generating as much heat as the desert sun after the showing Ford made in 1967 when they lost five in a row to the Chrysler men. There's no doubt that the qualifying times will be up this year with the '68 engines, and expectations are ripe for a new race lap time too. The "Battle of the Tires" also begins at Riverside. It will be Firestone vs. Goodyear, and the winningest rubber will probably set the pace for the remainder of the NASCAR season.

At press time, some of the top drivers included in the 44-car field, besides Jones, Gurney, and Petty, were; Dick Hutcherson, who won the '67 Dixie 500; Darel Dieringer; James Hylton, the top independent owner-driver of the '67 season, who started 44 races and finished 40; David Pearson, who posted a 2nd in the '67 Darlington 400, the Charlotte, World 400, and the Darlington 500; Buddy Baker, upset winner of the National 500; Cale Yarborough, who won the Atlanta 500 and the Firecracker 400 at Daytona in '67; Mario Andretti; and Jim Paschal. The now popular blue Plymouths of Petty Engineering will be prepared by Papa Lee Petty, and Glen and Leonard Wood will be looking for their 6th straight victory with their Ford team.

A full week of festivities is scheduled prior to the big 500 on Sunday. Practice and registration begin on Friday, Jan. 12, and the track will be open to the public every day during the week. General admission on Friday, Jan. 12, through Wednesday, Jan. 17, will be $1.00. On Thursday and Friday, Jan. 18 and 19, which will be qualifying days for the 500, general admission will be $2.00. Saturday, Jan. 20, will feature the running of the Permatex 100, for cars four years old or older. General admission for the Permatex 100 is $3.50.

Ticket prices for the 500 are: general admission and paddock $5; reserved seats $2.50, $3.00, and $4.00.

Although last year's 500 was rained out the first weekend, 61,000 fans turned out despite the threatening weather. When the race was resumed a week later, for the final 350 miles, 76,000 showed up. With everything on the *big* side at Riverside for the 1968 Motor Trend 500 — big-name drivers, big money — attendance is again expected to equal or surpass last year's. See you there. — *Bill Sanders*

Enduro rules set

The International Sporting Commission (CSI), first of all, has decided to preserve the title of International Championship of Constructors, instead of renaming it the Constructors' Trophy, as planned. The CSI's thinking had been that the term "Championship" should be reserved solely for Grand Prix racing. There was too much opposition to depriving top-flight endurance racing of the well-deserved prestige of championship status in its own right.

Next, the new rules to govern endurance racing, which were passed in Paris last June, were modified and firmed up at a major CSI meeting at Milan in mid-September. This is the final law, starting in 1968:

Group 4 cars (Sports) will be allowed up to five liters, Group 6 (Sports Prototype) up to three liters and – the big change – there will be no limit on the displacement of GT cars. This amounts to a blank check for American manufacturers of big-bore GT cars. A lone Corvette ran away from the GT Ferraris at Le Mans last June and had the GT category in the bag. A proper team of well-prepared and provided for U.S. GTs might well be able to clobber GT competition in Europe next season. And, if any well-heeled factory should happen to homologate 50 flat-out 5-liter Sports Prototypes, the 3-liter jobs could stay at home. Anything could and may happen in big-time endurance racing in '68.

And a final rule change to cheer the Americans is the CSI's waiving of displacement limits for the Daytona and Sebring endurance races. But points they win will not count toward the Constructors' Championship.

Ford dominates Finnish GP

More Ford victories. September's Formula 2 GP of Finland was won by Jim Clark, three seconds ahead of Jochen Rindt. Jack Brabham was 3rd. The whole field, with a slow exception or two, was Ford-powered.

In France's Albi GP for F2 the story was little different. Jackie Stewart was the winner, followed by Rindt, Clark.

And in the Rome GP for F2 in October it was a Ford festival again. Jacky Ickx won and clocked the fastest lap beating, among others, Graham Hill. French ace J-P Beltoise was 2nd, like Ickx in a Matra-Ford, and stated that Ickx must be rated as one of the great drivers of our day.

Brabham individualist

Brabham will *not* adopt monocoque construction for his 1968 F1 cars, according to his manager, Phil Kerr. Brabham, the solitary holdout against unit construction, has just one objection against it: it weighs too much. He will gladly change when he starts hurting for performance, which has not yet been one of his problems, in spite of modest horsepower.

Brabham is building two new engines for the '68 Indy 500. Both are V-8s, one a 4.2-liter and the other a turbo-supercharged 2.8, both of Australian Repco design. A. J. Foyt, incidentally, has tentative plans to build a 2.8-turbo-blown Indy engine based on the Cosworth-Ford F1 V-8, using the Ferguson system of 4-wheel drive.

For Indy, Brabham plans to use monocoque construction, although his present tube-frame F1 car is outstanding for lightness and compactness, being 10.5 inches narrower and 100 pounds lighter than the Lotus-Ford. But Indy rules requiring sheetmetal-enclosed fuel bags eliminate this advantage and make it cheaper, in terms of weight, to go to monocoque.

Firestone pulls out

Firestone's abrupt anti-sugar-daddy policy has left a certain amount of wreckage, one of the victims being the Winkelmann Racing Team, a front-liner in Formula 2. With Firestone encouragement Winkelmann was building a Cosworth-Ford-engined F1 car for Austrian Jochen Rindt to drive in '68. The builder's first inkling that the deal was off was from a London newspaper. Rindt is now looking for another ride and, being the red-hot talent he is, will have no trouble. He may go with Brabham.

BMC Cooper cops Alpine

France's Alpine Rallye covers some of the toughest roads on the Continent, nearly all of which are taken flat-out over hills, dales and Alps. September's classic annual event was won by the BMC Cooper S of Paddy Hopkirk and Ron Krellin. Alfa GTAs took the next two places, followed by a bevy of hot Renaults, one of which just missed scoring the outright win. Finishing was a feat in itself; only 15 of the 80 starters went the distance.

Matra F1 hits GP trail

The French Matra Formula 1 project, announced last Spring, has been shrouded in silence ever since. But the factory has just let us know that everything is moving according to schedule and that Matra cars, powered by 3-liter V-12 engines, will be in contention on the Grand Prix scene next season. Our informant is Matra executive Jean Hébert, who drove the turbine-powered Renault *Shooting Star* streamliner at Bonneville nearly 10 years ago.

More cubic inches luv

Drag racing has been having a hard time getting off the ground in England, in spite of considerable enthusiasm for it there. Perhaps the major reason is the dearth of big American engines which, after all, are the foundation of the sport. As a result of being totally rained out, the Second Annual British Drag Festival was a complete financial disaster which, in turn, ruined the hard-working British Drag Racing Association. Many of its members refuse to quit and have now founded the British Hot Rod Association.

Lotus rolls again

Lotus, for the '68 GP season, is making extensive modifications to its chassis, of which the Cosworth engine forms the entire rear part. Reason: to improve roar' holding shortcomings which were kept quiet in '67. And the Cosworth engine's power peak is being raised to 10,000 rpm. Stand back!

/MT

PRODUCT TRENDS

IN PERFORMANCE . . .

Dyno tested, 4-tube headers for the 1968 Javelin 290 and 343 engines are now available from the Jardine Header Co., Garden Grove, Calif.

Ansen Automotive Engineering, Gardena, Calif., has a new "Bug" adapter which makes possible the use of 4½", 4¾", or 5" 5-bolt pattern wheels on the Volkswagen, Karmann Ghia or Porsche without the stock lug nuts showing.

New 180-degree tuned dual exhaust systems are now available for Volkswagens, Porsches, and a specially-designed unit for Dune Buggies with VW engines. The header-type exhaust system features two mufflers and two separate tailpipes and is yours from Pacer Performance Products, Glendale, Calif.

More GO-GO for your Dodge when you bolt this windage tray between the block and oil pan of a 383 engine. You get 10

more hp for only $1.95. Part number for the tray is 2863983. No, Bunny Judi from Detroit's Playboy Club isn't included.

Varicam of San Diego, Calif., now has a Varicam sprocket for all Oldsmobile engines from 1964 to '68. The Varicam unit features automatic camshaft advance and retard giving the benefit of smooth idle in the low rpm ranges without sacrifice of top-end hp.

More headers. Four-tube type are also available for the 396 and 427 Chevy engines – including the Chevelle and Camaro – from Hedman Hedders, Culver City, Calif.

A racing safety item is the flexible clutch-flywheel housing Safety Shield weighing less than 10 pounds that has been designed to give maximum protection against flying fragments from clutch and/or flywheel explosions. Write to Trans-Dapt, Compton, Calif.

Sparkomatic Corp., Milford, Pa., has a new 4-speed floor shift for both street and competition use and a boot and plate combination for use with any shift kit. The 4-speed goes for $50, the boot and plate for $4.

A new light signal tachometer for all types of racing is out now from Avenue Sales, Chicago, Ill. Unlike conventional dial tachs, the Signa Shift, as it is called,

IN ACCESSORIES . . .

Appliance Plating Co., Gardena, Calif., has a new Uni-Chrome simulated wire wheel that will fit 90% of domestic cars. Available in 13-, 14-, and 15-inch sizes.

Another item for Volkswagen, Karmann Ghia and Porche is a chrome reverse wheel, 4½ inches wide from Rocket Wheel, Los Angeles, Calif.

An anti-sway device designed to stop wheel hop and give more grip on the street is the "Wheelie Bar" from Segal Automotive, Los Angeles, Calif.

IN LISTENING . . .

Stereo tape systems continue to grow in volume, both sales and sounds.

Muntz Stereo-Pak, Van Nuys, Calif., is out with their 1968 car stereo model M-45 4-track playback unit. Price is $59.95. You can select tape cartridges from the Muntz library of 100,000 hits (that's about four years of listening).

Potential relief for motorists fumbling about auto interiors for errant tapes is now at hand in the form of a portable carrier for prerecorded stereo tape cartridges. Developed by Avsco, Inc., Excelsior Springs, Mo., the tape case was personally styled by Donner Dykes, head of the Industrial Design Dept., University of Kansas. The case holds nine stereo cartridges and costs $6.95.

Automatic Radio, Melrose, Mass. has the Universal FM Radio-Pak Tuner, model UMK 6247, that automatically converts any auto, home, or boat 8-track or 4 plus 8 compatible stereo tape player into a high-fidelity FM radio receiver. The Radio-Pak is inserted in the same manner as a standard tape cartridge.

IN MISCELLANY . . .

A removable padded plastic shield called "Tot-Guard" has been developed by Ford to protect children in collision im-

pacts. The Tot-Guard surrounds the child's body and thighs and can be used in any vehicle to which a conventional seat belt has been fitted. Available at Ford and Lincoln-Mercury dealers for $19.95.

Car restorers everywhere – relief is at hand. In the shape of a steering wheel that is. Now you can forget the splinters when you grab the wheel of that old Ford or Chevy. Antique Auto Parts, Rosemead, Calif., has a vinyl steering wheel in 13- or 15-inch diameter in black or gold flake for $29.95 or walnut for $39.95. /MT

Q & A

the powers that be

Q I am going to buy a 1968 Ford Fairlane GT with the 390-cu. in., 320-hp engine. How can I give it a little more punch? What about 2 4-bbl., 3 2-bbl. carbs? Or would just a cam or headers be the answer?
SP/4 C. Hamm A.P.O. San Francisco

A *Assuming that you are already aware what happens to your warranty when you install any of the above equipment (with the possible exception of headers, depending on the dealer), we will get on to the next problem. Almost anything you do that changes performance will affect exhaust emissions. You would probably risk running afoul of the law in localities where smog is a problem. To get back to your question, the answer, of course, is yes to all of the approaches you mention. Another item that does the job with a minimum of drawbacks is a larger 4-bbl. with manifold to match. Adding a cam kit and headers makes it even better.*

a wider understanding

Q What's the story on wide-ovals? Are they designed for stock rims, or should they be used on special wider rims? Do they make steering harder when parking or maneuvering in close quarters? I have a '66 Plymouth Belvedere II without power steering and with 7.35 x 14 tires.
Frank Lovejoy Michigan Center, Mich.

A *Factories are equipping cars using wide, low-profile tires with 5½- to 7-inch rims. Too-narrow rim widths produce instability and rapid wear, especially at the tread center. Since they do have a better "bite" than normal tires under most conditions, steering effort is increased.*

arf! arf!

Q I bought a new Cadillac in 1964. In your test of that year's model you stated that the top speed was 126 mph. Well, when my car gets over 75 mph, there is excessive engine vibration. I wonder what it would feel like at 126 mph. I use the best grades of gas and oil, and have set the timing to what the manual recommends. Since many states have upped speed limits to 75 or 80 mph on their better highways, I don't think my concern is unreasonable.
N. Svendsen Decatur, Ill.

A *You bet it isn't, but we strongly suspect that you are barking up the wrong tree. Engines just don't suddenly start vibrating from internal defects. We believe you will find the trouble in 1) the front tires, shocks, suspension, 2) the driveline, or 3) the engine mounts, in about that order. Running the car on a chassis dynamometer will help isolate the problem.*

blue tail when I fly

Q I have a 383 Plymouth and when I do 50 mph or more for a long run (11 or 12 miles) the inside of my tailpipes turn blue. What is wrong, if anything?
Tom Lobbe Philadelphia, Pa.

A *Have no fear. When you drive fast for longer periods of time, tailpipe temperatures rise and blackish carbon deposits tend to be driven off. Only the bluish-gray lead deposits remain.*

somebody slipped

Q After reading your article, "Dodge's Dreadnoughts" in the June, '67 issue and "2 Rockin' Puritans from Plymouth," from Feb., '67, I find it baffling that each car, Dodge and Plymouth, exactly equipped, registered 23.7 and 21.3 mph/1000 rpm respectively. Both these had 3.23 gears while my '67 Dodge R/T has 3.55 gears. Yet my car will do 22.2 mph/1000 rpm by my calculations based on actual measurements of tire diameters, which agreed very well with police radar. We all three used the same tires and wheels, too. According to my slide rule, both your Dodge and Plymouth should go about 24.5 mph/1000 rpm. I could cite other instances where similiar discrepancies exist between cars of the same ratios, tire sizes, etc. Why is this?
Donald Hills Roy, Mont.

A *This same phenomenon caused us much worry during our salad days of road testing. Then we realized that unless tire brands, inflation pressures, etc. were identical, speed for a given rpm can vary. When torque convertors are present, we've noticed that some cars show no change in speed even though engine speed varied several hundred rpm. It helps to let things stabilize out on long level stretches before taking a reading. In the case of torque convertors, the only time no slippage can occur is when they are transmitting no torque.*

re-run of the same film

Q The windshield and rear window of my '66 Monza Sports Coupe is constantly being covered with a film of something or other, summer and winter. The side windows are not affected. Alcohol and Windex remove it, but it returns in a couple of days. Have you heard of this problem?
Art Ray Waterville, Me.

A *Yes, we have—on both foreign and domestic cars. Some vinyl upholstery materials give off volatile fractions that tend to settle on surfaces adjacent to them. This is doubly true if the car has air conditioning because of the somewhat lower temperature of the glass. It generally stops after the car is three or four years old.* continued

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
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10.

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2. Mail Subscriptions	233,994	221,940
c. Total Paid Circulation	516,226	483,254
d. Free Distribution by Mail, Carrier or Other Means	1,788	1,832
e. Total Distribution	518,014	485,086
f. Office Use, Left-Over, Unaccounted, Spoiled After Printing	201,894	213,418
g. Total	719,908	698,504

I certify that the statements made by me above are correct and complete.
Erwin M. Rosen, *Editor*

Q & A *continued*

traction in albion

Q I am an American living in England, and own a '63 Corvette. My problem is tire adhesion on wet roads. I've tried a famous brand of radial ply tires which were entirely unsuitable and am now back to the originals. Will the new wide types fit my car without modification to wheels or body?
Harold E. Eighme Crawley, Sussex

A *We have seen several 'Vettes with the new tires, although Chevrolet doesn't recommend them. They either rub the body and/or fender or cause problems when mud or snow builds up. If you managed somehow to get them on, you still wouldn't get maximum benefit because your rims are on the narrow side. The new 1968 Corvette is available with the wide tires on 7-inch rims. You could use these tires and wheels, but it certainly would require some spacers and/or glass work.*

time and trouble saver$

When swapping an engine or doing major repair work on late GM and some other cars, the hood is usually removed. This is not necessary. Simply remove the front two bolts that attach the hood hinge to the fender. Then slightly loosen the two rear bolts and pivot the hood up 90 degrees. A simple strap bracket between the hole in the fender and the hinge hole will keep the hood in place. This both solves the problem of where to stow the hood and avoids the bothersome task of having to realign it when the job is done.
Paul Perry Lincoln Park, Mich.

soap your noises away$

A squeak or whine coming from the front of an engine may not be the water pump. Try putting a thin layer of soap around the fan and other accessory belts.
Steve Turner Lucasville, Ohio

easy way to pack bearings$

While packing grease in front-wheel bearings by hand and wishing I had a pressure system like some garages have, this idea came to me: put the grease and bearing in a plastic sandwich bag. Remove trapped air, push grease and bearing down to one corner, and twist the bag tightly. Then squeeze, forcing the grease into the bearing. Your can even do two at once.
V. Christie Westhampton Beach, N.Y.

bucks for tips$

Want to make a quick ten-spot? All you have to do is jot down an automotive performance tip and send it to "Q&A," MOTOR TREND Magazine, 5959 Hollywood Blvd., Los Angeles, Calif. 90028. For each tip selected and used in this column, Q&A will award $10, but none submitted can be returned or acknowledged, nor can MOTOR TREND assume any liability.

SELL & SWAP

REQUIREMENTS: Copy limit is 25 words (not including name and address). We reserve the right to edit; we are not responsible for accuracy of descriptions, but will reject any misleading statements. Only one CAR may be listed, but this limitation does not apply to parts, catalogs, etc. The charge is $7.50 per insertion, paid in advance. NOT open to commercial advertisers. We will publish photos of unusual cars at our option, but none are returned.

SELL

SPORTS CAR DRIVERS. 25c for a very funny greeting card for your sports car friends. Postpaid. Jerry Moore, Box 1054 Riviera Beach, Fla. 33404.

'33 ROLLS-ROYCE 20/25 spt. saloon. Xlnt cond. Eng. and clutch o'hauled by Rolls mechanic. Orig., including tools, mascot and handbook. $3200. J. B. Hargrove, R. R. #3, Dunn, N.C. 28334. Phone (919) 892-2598.

VOLKSWAGEN OWNERS: World-wide VW owners assoc. Get more enjoyment, save money, hints, tips, service bulletins, technical help, newsletters. Satisfaction guaranteed. $6. Join Volkswagen International Association, P.O. Box 261, Claymount, Del. 19703.

'41 HUPMOBILE Skylark, 4-dr sed. Good running cond. Donald G. Dolesh, 4475 Camellia Lane, No. Olmsted, Ohio. 44070.

"SHUT UP – Who the hell is driving this car?" This beautiful 2 x 3 red & gold brass plate will self-affix to glove compartment of any car. $2 ea., 3 for $5. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'51 MERCEDES-BENZ 170 Da touring. Xlnt. cond. Limited production model. $3200. Bill Norris, 307 Arnold Dr., Lubbock, Tex. 79401. Phone (806) 885-4408.

TUCKER AUTO factory folders, test by Tom McCahill, history of the car, sales sheets, newspaper ads, etc. Package mailed anywhere for only $1. Jerry Moore, Box 10574, Riviera Beach, Fla. 33404.

'56 T-BIRD. Red & White. Restored to orig. cond. Xlnt. thruout. Body perfect. 7000 mi. on new eng. Best offer over $3500. Edwin Weiler, Box 60, R.R. 3, Colome, S.D. 57528.

PRE-WAR AUTO sales catalogs, owners and shop manuals, MoToR Annual Show Issues, ATJ magazine ads. All cars 1920 to '42. Thousands of items Introductory listing 25c. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'36 FORD pickup. Easily restored, solid with '53 eng. Drive home. $375. Kenneth A. Hill, 176 No. Pearl St., Albany, N.Y. 12207.

BEAUTIFUL RADIATOR MASCOTS on oak bases. Franklin Lion $12.50, Stutz Ra $15, Rolls-Royce Lady $20, Minerva Knight $20, Pierce-Arrow Archer $22.50, Isotta Cobra $25. Like origs. Free 1931 Cadillac V-12 & V-16 sales portfolio with $25 mascot order. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'38 PONTIAC OPERA CPE. 8-cyl., r & h. Good running solid car. $375. Drive it home. Kenneth A. Hill, 176 No. Pearl St., Albany, N.Y. 12207.

'56 PACKARD Caribbean. Original in every respect. Beautiful buy $1100. Mrs. L. L. Cayvan, 430 Federal Square Blvd., Grand Rapids, Mich. 49502.

'64 MASERATI Sebring 3500 GT. Fuel injection, 2+2 cpe., xlnt cond. American seller. $3850 including freight & insur. any U.S. port. Photos $1. Lavaser, Via Batt. Sassi 12, Milan, Italy.

'60 ROLLS BENTLEY Mulliner cpe. 2-dr. alum. body, 6.5 liter, power steering, brakes & windows. Air cond., automatic, radio, left-hand drive, leather bucket seats. $7000. J. Schulz Schulterblatt, 125 Hamburg 6, Germany.

WANTED

ANTIQUE & CLASSIC autos. Large size conv. preferred. $100 for info leading to purchase. Also antique auto literature, parts, tonneau & rear windshield. Samuel Sherman, 88-08 32nd Ave., E. Elmhurst, N.Y. 11369.

PRE-WAR AUTO sales catalogs, manuals, MoToR Annual Show Issues, Boyce auto nameplate motometers, radiator mascots, defunct auto stock certificates. Top prices paid. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

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WHAT NEXT JAPAN?: The Tokyo Shibaura Electric Co., Ltd. (Toshiba) recently demonstrated a prototype electric car that has no transmission and is capable of speeds up to 62 mph with a 50-mile driving range. The car is powered by a high-performance electric motor, which, when not being used for propulsion, automatically becomes a generator and charges the batteries while the vehicle is in motion. Toshiba reports it is now working on a new type battery that is expected to increase the non-stop driving range to 186 miles. (According to Toshiba, the longer extension cord will not materially affect the price of the car.)

GENERAL MOTORS: It's interesting to discover that metallic gold has come out of nowhere to emerge near the top of the popularity chart as a passenger car color, bumping medium blue as the second most popular color after white at GM. Perhaps if custom-car builders continue to develop nutty, far-out colors, other unusual shades will also gain in popularity on the commercial market.

HAROLD McLEAN, a reader in Biloxi, Miss., is upset: "What happened to the 'Letters from Readers' column and the first feature read by every avid auto enthusiast, 'Sell & Swap'? Also, the cars you presented as 'supercars' are nothing more than brute-force locomotive engines connected to a pair of wheels. The cars now being palmed off onto the public aren't even vaguely akin to what personal transportation will be a short 25 years from now. A totally different concept is needed and will happen. Not a change, not an evolution. A different concept. A hint: one person per vehicle." *(In chronological order Harold, if you are reading this column that answers (1) your "Letters from Readers" question. (2) Check the December MT for resumption of 'Sell & Swap.' And, finally, (3) see the article on page 21 for some thoughts on the future of "personal transportation.")*

AMERICAN MOTORS: We see that Roy D. Chapin, Jr., American Motors board chairman, believes the national rush to the suburbs has been the decisive factor in limiting car size and increasing sales of special-purpose rather than all-purpose cars. And, according to Mr. Chapin, with the population shift to suburbia, increased dependence on the personal car in turn has stimulated further suburban development. If it is true that suburban spread affects the design of our cars and the cars that evolve further influence suburban growth, it is interesting to speculate on what our cars and homes will look like a short 25 years from now as reader McLean notes above.

FORD: It must be of interest to somebody dept. -- Ford sold 555,168 trucks during the 1967 model year, setting seven monthly sales records and three quarterly records.

CHAMPION SPARK PLUGS: Two new pamphlets are available free from Champion. The first outlines the procedures necessary to keep a car in mint condition for five or more years. Champion found through surveys that the average car owner spends about $13 monthly to maintain his car, when in reality it takes about $19 to keep a car in mechanically perfect condition. The second pamphlet is a publication on budgeting for car care and is titled "Operation Cookie Jar." For either or both booklets, send a self-addressed, stamped envelope to Champion Spark Plug Co., Dept. CJ, Box 910, Toledo, Ohio 43601. (C'mon you guys, write to Champion and learn how to save that extra six bucks for your car and we'll all feel safer.)

CODA PUBLICATIONS: Your new book by Ken Kelley, Pickup Parade -- the light truck handbook -- should be a great reference volume for pickup people. It includes pictures, descriptions, and specs for every model pickup built since 1957 by Chevy, Dodge, Ford, GMC, International and Jeep. Write to Coda Publications, Box 1133 Studio City, Calif. 91604.

THE PIECEWORK MECHANIC CAPER REVISITED — PRO AND CON

JOHN BEAL, a reader in Wauwatosa, Wisc., writes: "'Piecework Mechanic' has long needed writing. Warranty service on almost any make of car is so bad that I will take a car to the dealer for non-warranty work only when I can find no one else to do it. Typical warranty work means two or three trips back to the dealer to fix something that never should have passed pre-delivery. Perhaps dealers would not push the mechanic so hard if they realized how much lucrative non-warranty work they lose by alienating warranty customers."

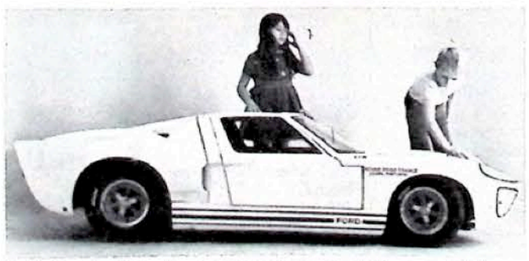
CHARLES CHENEY, Oakdale, La., adds: "I suggest when anyone needs a repair job they insist on and receive the old parts so the dealer cannot use them elsewhere. In this way you would also know that new parts had been used."

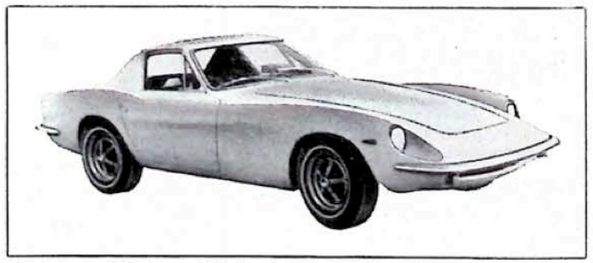
JOE MADDEN, president of Joe Madden Ford, Inc., Downers Grove, Ill., takes issue: "I found the quality of writing and editing in your August article by James Joseph guilty of the worst example of sensationalist journalism. The first part of the article sets forth the shocking story of how the public is victimized. It gives the clear impression that this is standard procedure in most garages and only later in the article is a feeble attempt made to alter this impression. The illustration reinforces the implication that we in this business are thieves. Thanks a lot."

FRANK MILNE, general manager of Harry Mann Chevrolet Co., Los Angeles, Calif., joins with: "I doubt very much that new car buyers are treated the way you described. First, a new car dealer could not stay in business unless satisfactory service was given the purchaser. Almost always a complaining owner will call or write the manufacturer, who in turn contacts the dealer service manager who must follow the complaint through to a satisfactory conclusion. If a dealer does not handle complaints properly, a district representative will plant himself in the dealership to work with dealership personnel.

"There are many things in your article that do not ring true. I most certainly do not agree with you when you say an auto dealer splits with his mechanic the parts that are 'saved.' I would like your definition of an 'auto dealer' because the men I know as dealers, men I have been associated with the past 20 years, would not resort to practices such as related in your magazine nor would they employ mechanics (I use the word lightly) who are thieves. Warranty work is solicited by my service manager. It is profitable and we like it. Granted the factory does not allow us enough for some operations but this is usually evened out."

(Letters in response to this article are still coming in, both in praise and denunciation. Watch for the next exciting chapter.)





(Left) For the kid who has everything, Sinclair's Auto Miniatures, Rochester, N.Y., has child-sized racers. This is the Ford mini GT 40. Also available: Mini Ferrari 330P2. (Right) New sports car is Omega, Italian-bodied, Ford-powered, does 0 to 60 in six and tops 155 mph. Available through Ghia of America, Beverly Hills, Calif.