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MOTOR TREND

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That's why 1968 Indy winner Bobby Unser used Autolite plugs. Like you buy.

About $1 each.

First place in the 1968 Indy 500 to Bobby Unser. His time: a record 152.882 miles per hour. His spark plugs: Autolite.

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How come with over $50,000 invested and a winner's purse of $177,000 at stake, Bobby used $1 Autolite spark plugs? Simple. There are no better plugs. Not at any price.

So put this kind of spark plug in whatever kind of car you drive. Autolite . . . spark plugs, batteries, filters, shock absorbers and complete ignition systems.

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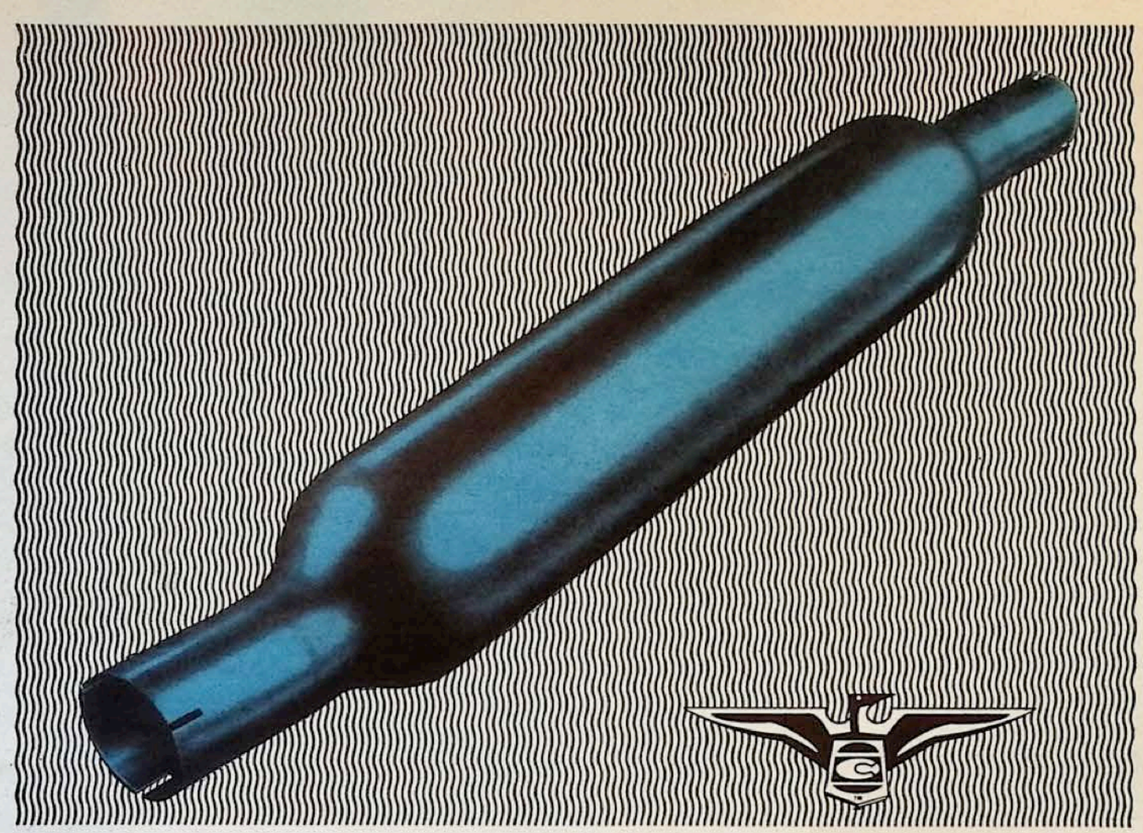

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Blue's the color of the Walker Continental, but the only blue note about it is the music it makes. A full, rich, swinging sound. But you want performance, too, and the Continental gives it to you. Straight-through exhaust flow keeps back pressure low. Double-layer fiber glass lasts up to 50% longer than ordinary glass packing. Rugged, one-piece unitized shell. Seamless heads that laugh at backfire and eliminate broken muffler necks. Plus a low price. No wonder the Continental Mark II is America's most popular glass pack!

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MOTOR TREND

SEPTEMBER 1968 VOL. 20 No. 9

LATEST NEWS & TRENDS

HOW THE NEW CARS PERFORM

THE MOTORSPORTS WORLD

A LOOK AT THE PAST

DEPARTMENTS

19 Years? Has it Been that Long?!

IT WAS EARLY AUGUST, 1949. The heat was oppressive in Los Angeles, but at least there was no smog. For three months a staff consisting of an art director, a photographer (who doubled as a co-publisher), an assistant editor (who doubled as the other co-publisher), a staff artist, an ad manager, two typist-clerks, and yours truly (who had been doubling as editor of **Hot Rod Magazine**) had been sweating profusely over the assembly of the first issue of MOTOR TREND. In just a few days the Sept., 1949, issue would go to press, with a daring print run of 20,000.

That embryonic package of 32 pages, with a brown-black-white cover,

featured articles about the new Kurtis sports car, the Bridgehampton Road Race, a new twin-cam 4-cylinder race engine, latest trends in automatic transmissions and a gallery of custom, sports and foreign cars. Authors included Griff Borgeson (now our European Editor), the late Col. Alexis de Sakhnoffsky and Jim Potter (now publisher of **Wheels Afield**). Tom Medley (now publisher of **Rod & Custom**) was a staff artist and Al Isaacs (now PPC art director) was art director of **Hot Rod** and MOTOR TREND.

Now, as we start our 20th year of publishing, with a circulation of 525,000, the number of pages varying between 100 and 156, it's interesting to reflect back on the purpose of the magazine — as we set it down at the time — and see how well we met that purpose.

In that first issue, September 1949, our editorial was titled "Why Motor Trend?" We proceeded to answer the question this way: MOTOR TREND (is) a magazine that brings you the trends of the automotive field: designs of the future, what's new in motoring, news from the Continent, trends in design — well-designed custom cars, foreign cars and unusual race cars . . ."

MUCH OF WHAT IS IN THIS ISSUE is a reflection of our philosophy of providing you with the newest, latest and most complete information at the earliest possible moment. It's no streak of luck that allows us to bring you stories like the "Shakedown Trip of the Pontiac Grand Prix," "Mercury's Fresh Image," "Dodge's Super-Lite," "Chevy's New Automatic" and "Chevy's 427 Aluminum V-8" before their respective official announcements. It takes an enthusiastic and dedicated staff that believes in digging for news: guys like Eric Dahlquist (our newest member, and an acquisition from our sister publication, **Hot Rod**), Bill Sanders and Julian Schmidt.

It takes a Detroit Editor such as Bob Irvin, affectionately known as "The Monk," because of his bald pate with slightly more than a fringe of hair circling his head, his slight stoop, his quizzical expression and glasses that invariably slide down the bridge of his nose. (He's hardly a monk, though, either in his work habits which find him at all important functions, meetings and wherever he can sniff the slightest bit of "news about to happen," or in his home life, where at the age of 35 he is father of nine children.)

Since 1965, Bob has been auto editor of the **Detroit News** (the 9-month strike-bound paper), before that spending 10 years with UPI, including periods as Auto Editor and Detroit Bureau Chief. Although he has covered the auto industry only since 1961, his interest in cars is matched only by his desire to be first with the news; e.g., as a general assignment reporter in 1957 he uncovered the first photo of the soon-to-be-introduced Edsel.

Irvin, on a first-name basis with all the industry's top auto leaders, will be bringing you more and more "inside dope from Detroit." When he's not out digging up the news he's down in the paneled basement office of his 6-bedroom brick house on Detroit's northwest side. "You'd never know it used to be a coal bin," Bob says. When he's driving he prefers a T-bird ("though I do like sports cars," he says). The family car is an old Chevy Impala wagon — 9-passenger version, of course.

— Walter A. Woron

People write to PENNZOIL

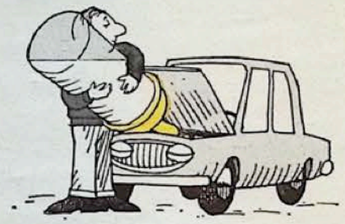
100% Pure Pennsylvania — Safe Lubrication

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

Apples & Oranges. I own a 1962 Rambler Ambassador with a 327 cubic inch engine. I would like to put some modified equipment in it. I was wondering if any 327 Chevy part would fit?

T.C., Jacksonville, N.C.

If the 327 cubic inch engine is a Chevy engine, you have no problem. But you cannot interchange parts of different engines even when the cubic inch capacity is the same.



Milky Mess. At the plant where I work, I notice that different vehicles have engines with oil that looks like it has milk mixed in it. What causes this?

W.R.P., Lolita, Texas

This milky appearance is probably due to water in the oil. If not that, it's the presence of an abnormal amount of lead compounds from fuel blow-by. Both problems should be looked into and corrected.

By the Numbers. In my owner's manual, General Motors states that for my engine I ought to use an oil that meets their standard GM6041M. What's a GM6041M?

P.L., West Covina, Calif.

It's a detergent oil, meeting specific General Motors engine test requirements. Even the break-in oil in your car is now of the detergent type.

When. I've gotten two different readings on my dipstick within a short span of time. How long does it take for the oil to drain down into the crankcase before I can get an accurate reading?

R.K., Whitestone, N.Y.

It can take as much as five minutes for the oil to drain from the areas of the upper cylinders and valve train area back into the crankcase. Before the measurement is taken, the car should be on level ground.

Fie on Foam. My present car is a 1962 TR-3. I enjoy driving it hard and enjoy keeping it in good condition. Question. In high RPM engines like mine, will detergent-type additives lead to foaming of the oil? If so, at what RPM will foaming occur?

C.E.L., Storrs, Conn.

As far as Pennzoil Z-7 Motor Oil is concerned, there should never be any foam problem because Pennzoil has its own additive already in it. Engine speeds and temperatures do not necessarily affect foaming. What does, and most seriously, is filling the crankcase above normal. Foaming can also be caused by air leaks in the pressure system.

Not Geared for Engines. I have heard of some people using automatic transmission fluid as a regular motor oil. Is this a good idea?

R.L.K., Omaha, Neb.

No. They are two different oils for two different jobs. The temperatures and contaminants are far different in transmissions and engines. Don't put automatic transmission fluid in your crankcase except in extreme emergencies.

Don't Bet Anymore. A friend of mine and myself have a bet on the MS symbol used to designate oil grade. He says the MS symbol means the same as high detergent. I say the MS symbol is not necessarily high detergent and some other symbol is needed. Who is right?

L.A.B., Oak Ridge, Tenn.

The MS symbol means detergent oil. In order to pass the severe MS tests, this oil must contain the detergent additive to maintain the proper engine cleanliness and lubrication needs.

Red Lined. I own a '64 Olds with a 394 cubic inch engine. I use a straight weight high detergent oil. The oil pressure is fine when I'm driving. But at a stop sign, it will go down to the red line. Should I worry about that?

L.J.K., Southeast Missouri State College
Cape Girardeau, Mo.

As you probably know, oil pressure and viscosity go hand in hand. Since oil flows slower at low RPM, the oil pressure may drop while you're idling. It's not something to worry about. But it might not hurt if you tried the next heavier grade of oil from the one you're now using.

Flaky Problem. We recently bought a 1932 Packard Sports Roadster. When we drain the oil, we find a few flakes of babbit metal in the sump. Is this normal?

J.M.N., Ontario, Canada

Those flakes are obviously from the bearings. Better check them.

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!

INSIDE DETROIT

GM Announces World's First Hybrid Car

General Motors, the world's No. 1 automaker, is also the undisputed leader in transportation research. If there is any doubt, consider the newest achievement by GM scientists: an experimental vehicle called "Stir-Lec I," the world's first hybrid car using a combination of a Stirling heat engine and electric storage batteries.

Last December, GM decided to put the military version of the Stirling engine into an automobile to explore its characteristics in the actual operating environment of a vehicle. The work was completed last April. The Opel was selected as the test bed because GM wanted to try the system in the smallest car it had available, presumably because this would be the type of car it would be used in if it ever went into production.

This particular engine was used because it was readily available. It was originally designed as an Army portable power unit where hydrogen was specified as the working fluid. The military was interested because it wanted a noiseless, multi-fuel engine for battlefield power requirements. The Stirling engine is inaudible at 300 feet.

The Stir-Lec I uses a concept that is more than 150 years old. Back in 1816 Rev. Robert Stirling, a Scottish minister, patented his new engine, an external combustion engine. Used extensively in the last century in various applications in place of the still older but more dangerous steam engine, it was later displaced by the internal combustion engine. Now it has been resurrected in the search for an emission-free car.

One obvious solution to an emission-free car is to use electricity; however, the drawback has been the limited range provided by batteries. One compromise was a hybrid car that would use a small gasoline engine intermittently to recharge batteries used to power the car. GM apparently believes an even better solution is the Stirling engine. Although the Stirling has an unfavorable power-to-weight ratio when compared with the internal combustion engine, it is almost emission-free in the present GM configuration. It emits virtually no odor and extremely low amounts of carbon monoxide and smog-forming hydrocarbons.

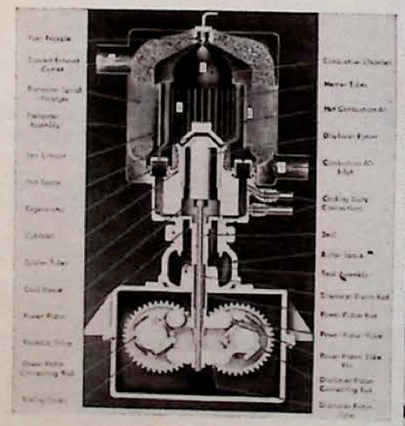
The Stirling's hydrocarbon concentrations range as low as one half part per million, compared with the present federal standard of 275 parts per million for cars. Carbon monoxide concentrations are as low as 0.0035%, compared with 1.5% now required by the government. Nitrogen oxide concentrations are on the same order of magnitude of present-day gasoline engines, but GM says they could be substantially reduced with any of three different engine modifications.

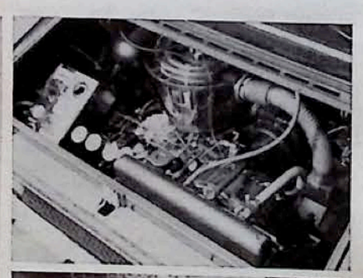
GM's Stirling engine, located in the trunk of the Opel, is not very large—giving about 8 hp. But, it's enough to trickle-charge the two trays of batteries located in the front compartment. In an ideal installation, the engine would give the car a cruising range similar to that of a conventional gasoline automobile, if it was used for city driving. It would be adequate to propel the vehicle on a level road at about 30 mph, at which speed it would get 30-40 mpg. Range would depend on the amount of fuel carried in the tank (the experimental vehicle has a 5-gallon fuel tank, giving it a range of 150-200 miles).

Acceleration and operation at speeds above 30 mph would be provided by additional energy from the batteries. The total energy stored in the present lead-acid batteries is about 5 kw hours. The car has a top speed of about 55 mph which limits the range of the vehicle to about 30-40 miles, since energy would be used from the batteries at a rate higher than the charging rate provided by the Stirling engine. If you did run the car fast and long enough to run down the batteries, you would just pull over to the side of the road and wait for the engine to recharge them enough to resume driving. But under ordinary conditions, by "floating" the batteries, they would have a normal life of two or more years because any "deep discharge" would be rare.

In the present installation, the car can be operated without the Stirling engine. But if it uses the lead-acid batteries alone, they will run down in 15-30 miles.

The principle of the GM Stirling engine is this: there is continuous firing in the combustion chamber under a constant engine speed of 2800 rpms, assuring essentially complete burning of the kerosene fuel. The heat generated by the outside combustion chamber is passed via tubes to the main part of the engine, the sealed cylinder-and-piston-unit, which contains hydrogen gas. Heat from the combustion unit causes the gas in the cylinder to





(Above) Cutaway diagram reveals single piston operation of Stirling engine. (Above right) Stirling mill fits neatly into Opel trunk. Note large fan to dissipate excess heat. (Bottom right) Dr. L. R. Hafstad, GM V.P., research, left, and Dr. P. D. Agarwal, head of GM electric propulsion dept., check batteries.

expand, pushing the piston downward (the power stroke). The expanded gas then goes through cooler tubes and back into the top of the cylinder, ending one cycle. The piston drives a generator which recharges a bank of 14 conventional 12-volt lead-acid batteries. The batteries, in turn, provide power to an electric motor which then drives the car.

Besides the front-mounted batteries and rear-mounted Stirling engine, the Stir-Lec I's system consists of a DC-to-AC modulating inverter and commutating capacitors (up front), logic and inverter controls (under the front seat), a 3-phase AC induction motor giving about 20 hp (which drives the rear wheels), an alternator and battery-charging control (both in the trunk). The drive system is similar to that in the Electrovairs.

While hydrogen gas is used in this Stirling engine, helium could also be used, something which might be safer in production. And, while kerosene is used in the combustion chamber, any number of other fuels could be used.

In a private showing and the first test drive by a newsman, I had the opportunity to appraise the car at the GM Tech Center under various conditions. It has adequate acceleration for city driving, getting to 30 mph in about 10 seconds (an Opel Kadett Rallye will do it in about 6 seconds), though it is almost double the weight (2800 pounds vs. 1660). The batteries above weigh 550 pounds and though GM scientists gave thought to using batteries with lightweight cases, they wished to announce their progress at this state; lighter batteries would reduce the overall weight by 200 pounds.

The car has a pronounced whine that a GM scientist said "can be reduced if we use the proper conductors and so on that we are not using at this time. It's the first experimental car of this type."

There are so many gauges inside the car it looks like a space capsule. But that's also because it's an experimental vehicle. All of those wouldn't be necessary in a production version. The only familiar gauge is an 80-mph speedometer. Two other gauges measure battery current and voltage.

Actually, GM has been working on Stirling engines for years. The Stirling was revived before World War II by Philips of the Netherlands. Philips has sold thousands of Stirlings in its Cyro-generators for producing liquid air and liquid oxygen (LOX). Interestingly, the Stirling can be operated in any of four models — as a refrigerator, a cold gas engine, a heat pump or a hot gas engine. One GM official said that since

INSIDE DETROIT *continued*

"Philips is not in the heat engine business, the company is licensing several engine manufacturers to exploit the heat engine version of this engine's reversible cycle. This development work in Europe has been directed primarily toward marine and military applications."

It's assumed that the efficiency of the Stirling engine in its present form will be improved, even though it is already the most efficient of any practical heat engine. Its efficiency is rated at 30%, whereas the 30-hp version in the Calvair was rated at 38%: "We hope to approach 50% in the 1970s," said one GM scientist. The efficiency of present-day internal combustion engines is 25-30%.

It's interesting to note that one of the early advocates of a Stirling-powered car was none other than the late auto pioneer Henry Ford. "He collected examples of Stirling engines throughout his lifetime," said one Ford man. "In fact, the Ford Museum in Dearborn has the biggest collection of Stirling engines in existence. The 'old man' always had the idea that someday this engine might be workable for motor vehicles."

GM made it work. The GM Stirlings were developed under the direction of Worth H. Percival, director of the mechanical development department. The electrical installation was the work of Dr. Paul D. Agarwal, head of GM's electric propulsion department.

The Mechanical Development Department of GM Research Laboratories has been working on Stirling engine development for about 10 years. During this decade, GM has accumulated some 15,000 hours of operating time on experimental Stirling powerplants ranging from the 8-hp, single-cylinder engine to 400-hp 4-cylinder engines.

In 1964, GM decided to build a "zero smog" car using a Stirling engine rated at 30 hp. There were no emissions from this engine because the heat didn't come from a combustion chamber but from a thermal energy storage plant. The heat was stored in 50,000 little aluminum-oxide pellets made by GM's AC Spark Plug Division. Bottled natural gas heated the pellets. A bigger engine was needed for the Calvair than the Stir-Lec I because it actually drove the car. It had a 30-40-mile range.

The entire project came under the direction of Dr. Lawrence R. Hafstad, GM vice president in charge of the company's research laboratories. He was asked if it would some day be feasible for production. "Not unless the pollution requirements are set so low that we can't meet it with the conventional internal combustion engine."

Another GM man said, "This car meets all the requirements except cost and space. We could have it now, if price were no object."

How expensive? Hafstad was asked. "On the face of it, we have two power systems instead of one," he replied. "So it would be at least twice as expensive as an internal combustion engine. On a cost basis, I'd compare this with our electrics for equal performance. But this car has essentially unlimited range." And, he added, "more promise than any other electric that we have looked at so far."

But no one is talking about producing the vehicle. That would be years in the future. — *Robert W. Irwin*

Safety Price Solution

Ford Motor Co.'s vice chairman, Arjay Miller, has cooled Sen. Ribicoff (D., Conn.) temporarily in the Senator's quest for itemized safety item costs. According to Miller, it would be much simpler for the automakers to provide the U.S. Bureau of Labor Statistics with all the price information necessary. Then a composite figure for safety items for the entire industry could be published by the bureau.

Federal Study of Insurance

There is still plenty of controversy over insurance ethics, and the companies' equitable treatment based upon the impersonal parameters described by theoretical and actuarial means. But now the government is in on the act, beginning a 2-year study of the problem that will cost about $2,000,000. However, there are several shortcomings to this idea. First of all, two years is a long time to wait. Secondly, the insurance companies want to solve their own problems as quickly as possible, since they have also suffered a series of loss years in a row. So they, too, have studies underway at present.

It won't draw as much attention as a micro-mini, but a new simulated wood panel trim available on Chrysler Newport models is eye catching. New option is only $126.55 extra if you want to dress-up your Newport. Trim is bonded on with adhesive backing; who knows, maybe Chrysler will soon offer trim in stripes, flowers and maybe psychedelic patterns. Don't hold your breath.

One Car For All

Dr. William Haddon, Jr.'s determination for totalitarian transportation may soon achieve reality. The National Highway Safety Bureau has awarded American Machine & Foundry Co., Fairchild Hiller Corp. and Application Research Corp., a $363,000 grant to design a "totally safe" car with "every imaginable safety feature from a technological 'state-of-the-art' approach." Ho-hum, here we go again. But not so ho-hum if it achieves reality and mandatory usage for everyone according to the 1984-type goals of the NHSB.

Bad Driver Genes

Is bad driving hereditary? Michigan Secretary of State James M. Hare hopes to discover that. He's already got a theory — that many habitually bad drivers just plain can't help themselves because of their heredity. He's attempting to prove it by testing selected inmates at the Ionia Reformatory. Hare asked and got permission for the research after other studies revealed the double-Y chromosome is found far more frequently among prison inmates than among other males. Driving records of all Ionia inmates will be checked and the 100 worst will be asked to donate blood for the test. If several of them prove to have YY chromosomes, doctors believe it will show a link between bad driving and more serious anti-social acts.

Brutality

A group of doctors has called for less "hot pursuit" by the cops. The Physicians for Automotive Safety said that more than 500 people are killed and another 1000 severely injured each year as a result of high-speed chases by police. Is it worth it? By way of an answer, the doctors have recommended that pursuit should be limited to no more than 20 mph over the speed limit and then only in the case of vio-

INSIDE DETROIT *continued*

lent crimes and felonies. Traffic violations and suspicious behavior should not prompt "life and death chases," the physicians said. They conducted a study which indicates that one out of five pursuits ends in death, seven out of 10 end in a crash; five out of 10 end in serious injuries, one out of 25 killed in a pursuit is a policeman, and three out of four pursuits are for minor offenses. There seems to be some merit in their suggestions.

Don't Use Flying Tires

Airplane tires are for aircraft and not for cars, Goodyear warns. John H. Ries, aircraft tire sales manager for Goodyear's Aviation Products Div., says that costly and tragic accidents have resulted from the use of airplane tires on certain types of industrial vehicles, trailers and small, custom-built sports and racing cars. Ries says that although airplane tires look much like all other tires, they don't function the same way. "They're built to handle high tire loads, but are designed for intermittent use," Ries said. "Any attempt to use them on vehicles that require constant service from tires will almost certainly lead to tire failure."

Glass That Bends

Chemically strengthened glass may lead to more changes in automobile design, according to a Corning Glass Works engineer. The first automotive use of this glass was for back windows of convertibles in 1966 models. Later, a hinged window was introduced so that it would fold in the narrower roof storage wells of some convertible models. The glass is strong enough to be bent and flexed without breaking. John R. Blizard, product development manager of Corning's Industrial Products Department, said applications which could be coming include a fastback rear window that can be pushed into the roof on curved tracks and cars with curved rear fixed windows which could be ventilated simply by springing open one edge of the glass.

Keeping Minds Off The Road

Those new car stereo tape units do more than entertain. They let you go to school while driving in rush hour traffic. Language tape decks are now being offered. For example, if you want to learn French, you can listen to it through the left speaker of your car and hear it translated into English on the right. If you want to do your own translating, simply turn off one speaker. The stereo tape units are becoming so popular, according to Ford, that they are now available even on the firm's light trucks. /MT

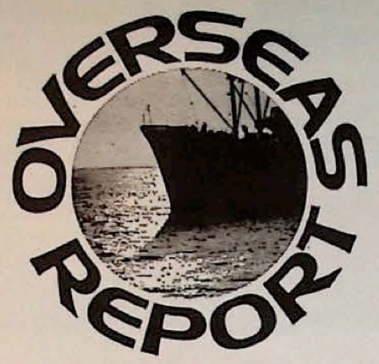
Japan in Europe: the War Is On

The Japanese manufacturers' association has decided to open its first foreign office in Paris with the aim of "collecting information on the European automotive industry." The move is more than symbolic. After launching their attacks on the American, Australian, Asian and African markets, the Japanese are now aiming at their last and toughest objective: Europe.

Last year, 96.7% of the 4,248,000 cars sold in the Common Market were produced within the European Economic Community. Japan sold 28% of all its export cars in North America, 26.7% in Asia, 14.5% in Australia, 10.8% in Africa and only 8.7% in Europe.

On paper, it seemed most improbable that Japan could crack the European market easily. Technically, Japanese manufacturers have nothing very original to offer: Japanese cars are often designed by Italian stylists like Bertone, Pininfarina, Michelotti and Frua, or inspired by such European bestsellers as the British Mini—with few added attractions. High import duties and shipping expenses seemed certain to call for non-competitive selling prices.

Japanese manufacturers, however, viewed the problem differently. Their goal was to take foot in Europe, an essential market within their world strategy. To achieve this aim they were willing to invest heavily and accept losses in the first stage of the battle. Cars, therefore, could be sold at cost and, most probably, at dumping prices, provided the move opened a path for future development. Their second major principle was to start operating in selected markets first and later move on from these launching bases. The third idea in this campaign was to export only a limited number of competitive models which would be mass-produced. As a consequence, Toyota, for instance, decided to sell its Crown 2-liter model at a price close to that of the Peugeot 404 and its 6-cylinder 2.3-liter for slightly more than a Ford 20M but cheaper than an Opel Commodore.



Honda, on the other hand, managed to undersell Austin and Morris with its own Mini-360 and now offers a Mini-600 (built for export only), which is faster than the British original, at equivalent prices.

So far, only five Japanese manufacturers have started operating in Europe, and each of them has carefully picked its launching bases. Datsun sells only in Scandinavia, Belgium and Holland. Toyota started in Belgium and Holland before making its first attempt in France, but it has not yet tried to take foot in Germany or Italy. Hino has taken a start in three markets only: Belgium, Holland and France. Mazda (Toyo Kogyo) will launch its first massive campaign in the Benelux and France at the end of this summer. Honda has gotten a head start in France, Belgium, Germany and Great Britain. Rumors have it that Honda might build an assembly plant in Italy.

In its first year of action in Europe, Honda sold 2307 units of its N-800 coupe and convertible on the French market alone, where it has decided to strike its first blow. In March of this year Honda released 3000 of its Mini-360 in France, and 2500 of its Mini-600 started rolling on French roads in July.

"We aim at selling 20,000 cars a year in France," a Honda official commented. "Our only problem so far is building and shipping enough cars. Our present limit is in the range of 400,000 per year."

How many do they intend to produce in the future? "As many as we can sell," the man said with a wide grin. "As many as Volkswagen sells. And possibly more!"

This was Honda's attitude when it started building its first motorcycles. It now ranks as first manufacturer in the world and collects championship victories on all of Europe's racing tracks. The men at Honda know that they can do just as well with cars, though they presently rank only 8th among Japanese automobile manufacturers! Two years ago Brabham and Hulme could not be beaten in Formula II races with Honda's magic engine. Then came their Formula I cars with victories at Mexico by Richie Ginther and Monza by John Surtees. Honda is still struggling on the circuits, but they are hopeful of eventually winning a world championship with their cars, as they did with their motor bikes.

"If we do," the Honda official continued, "then we'll certainly look as good as VW in the showrooms.

This is provided, of course, that Europe does not set up some drastic barriers against Japanese imports, as Australia considered doing. Sales of Japanese cars "down-under" increased by 45% last year, while the over-all increase in registrations was only 10%. Australia threatened Japan with a hike in duties or the establishment of import quotas. Japanese manufacturers decided instead to raise their selling prices above "dumping levels."

Auto Prices

Over the past two months, all the major U.K. car makers have increased their prices — with the exception to date of Triumph. Increases have varied from an overall 4% to around 7%, taking into account mainly increases in costs of labor and raw materials, and not including the purchase tax rise imposed under the April budget. First to put up prices, immediately after the budget tax rise, were Rootes and Vauxhall. BMC denied plans for any similar rise, but followed up with precisely similar increases early in May. Latest to announce an overall 4% increase for the home market from May 10 is Ford. Triumph must be next on the list.

Discontinued Models

Worth noting is the quiet dropping from production of two more BMC models: the MG Magnette, a Pininfarina-finned sedan, presumably to be replaced when the 1.5-liter BMC model comes along next spring; and the Vanden Plas Princess 4-liter R, which was using a Rolls-Royce 4-liter engine, but never really got off the ground, being priced around $5000 ($1250 of which was for engine alone)

Here is the Volkswagen for which many have been waiting — the new Type 411. A new 1700cc engine with 75 hp powers the radical new sedan to a top speed of 95 mph. Wheelbase is 98 inches, overall length is 193 inches, and, best news of all is new front and rear suspension.

OVERSEAS REPORT *continued*

Citroen has always had the equipment, but not the image, for being a real performer. But a new hot version of the Ami 6, called the "Plus Rapide," should add a new dimension to the hot tiny car category. Power is from a miniature 602cc 2-cylinder engine with a Solex 2-throat.

and possessing appalling handling and steering qualities. After a production run of nearly 10 years, Rootes has now stopped production of the Sunbeam Alpine tourer & GT models, and the Ford V-8-engined Tiger (which could not be brought up to the U.S. federal safety regulations).

Another Sales Record

Every month we are agog with sales records set by imports, and every month they become even better — the best way: percentagewise. In May, sales were an increase of a good 25% over those of last year, and totalled 86,000 cars, which broke the April record of 83,000 by an impressive margin. Naturally, Volkswagen led again in total sales—51,990, a 38% increase over last year. However, even more impressive were Fiat, with an increase of 72% — attributable perhaps to this year's new 124 models — and Toyota's 42% gain. But a qualification must be made: the May import cut of the entire domestic car sales pie slipped from 10.2% in April to 9.58% in May. Nevertheless, it was only 1968's second month for an import share that fell short of 10% of total domestic sales, which at the present rate should hit one million for the year.

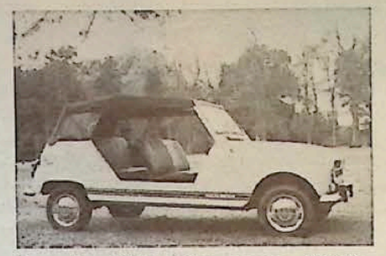
Toyota is now competing with domestics in size as well as comfort with their new Crown sedan. It sells for about $2800.

Toyota's Electricar

Toyota is working on a hybrid electric car. It would use both batteries and a small limited-pollution gasoline engine to recharge them, which seems to be the answer to overcoming the limited range of present storage batteries. The batteries for the first prototype have been prepared by Toyota Central Research & Developments Laboratories, Inc., the body by Toyota Motor Co. itself, and the motor and electrical equipment by Nippon Denso Co., Ltd., also part of the Japanese-based Toyota group. Unlike the U.S., which hasn't produced battery electric cars for about 40 years, Japan manufactured about 3300 electric automobiles shortly after World War II when domestic gasoline supplies became extremely short. The new interest, of course, is because of increasing concern about air pollution.

U.S.-Japan Merger?

More talk about some sort of agreement between the American car companies and the Japanese government. Supposedly the idea would be to let the U.S. firms build a limited number of cars in Japan, an area that's been closed to them up to now, if they would agree to export some of them.



Renault's "Plein Air" means, literally, that you get full air. It has 850ccs, and will compete with Austin's Mini-Moke.

Looking like something to play with in your bath tub, Citroen's Ami 6 "Service" is a good looking mini-panel-truck.

British-Leyland: Finally Official

The merger of British Motor Holdings and the Leyland Motor Corp. is now hard fact — as of May 14. In addition to being the only major British-owned motor manufacturer, BLMC is now one of the country's largest companies, born of the biggest industrial merger ever to take place in the U.K.

With a production target of 1,300,000 vehicles a year, a new emphasis — according to Sir Donald Stokes, deputy chairman, chief executive and managing director — will be placed on volume-car production. In fact, Stokes has long contended that the proliferation of many "marques," such as Austin-Healey, Austin, Morris, Riley, Wolseley, M.G., Vanden Plas, etc., has hurt sales, especially in relation to BLMC's big competitor — Ford.

Nevertheless, Jaguar, Rover and Triumph will continue to compete as separate marques in a specialist car division. Coincidentally, each will use fresh models this year — Jaguar with a completely new range, Triumph with new 1.7- and 2.5-liter models and Rover with new V-8 quality sedans. Sir Donald does lay great importance on retaining the quality names and tradition of Jaguar, Rover, etc.

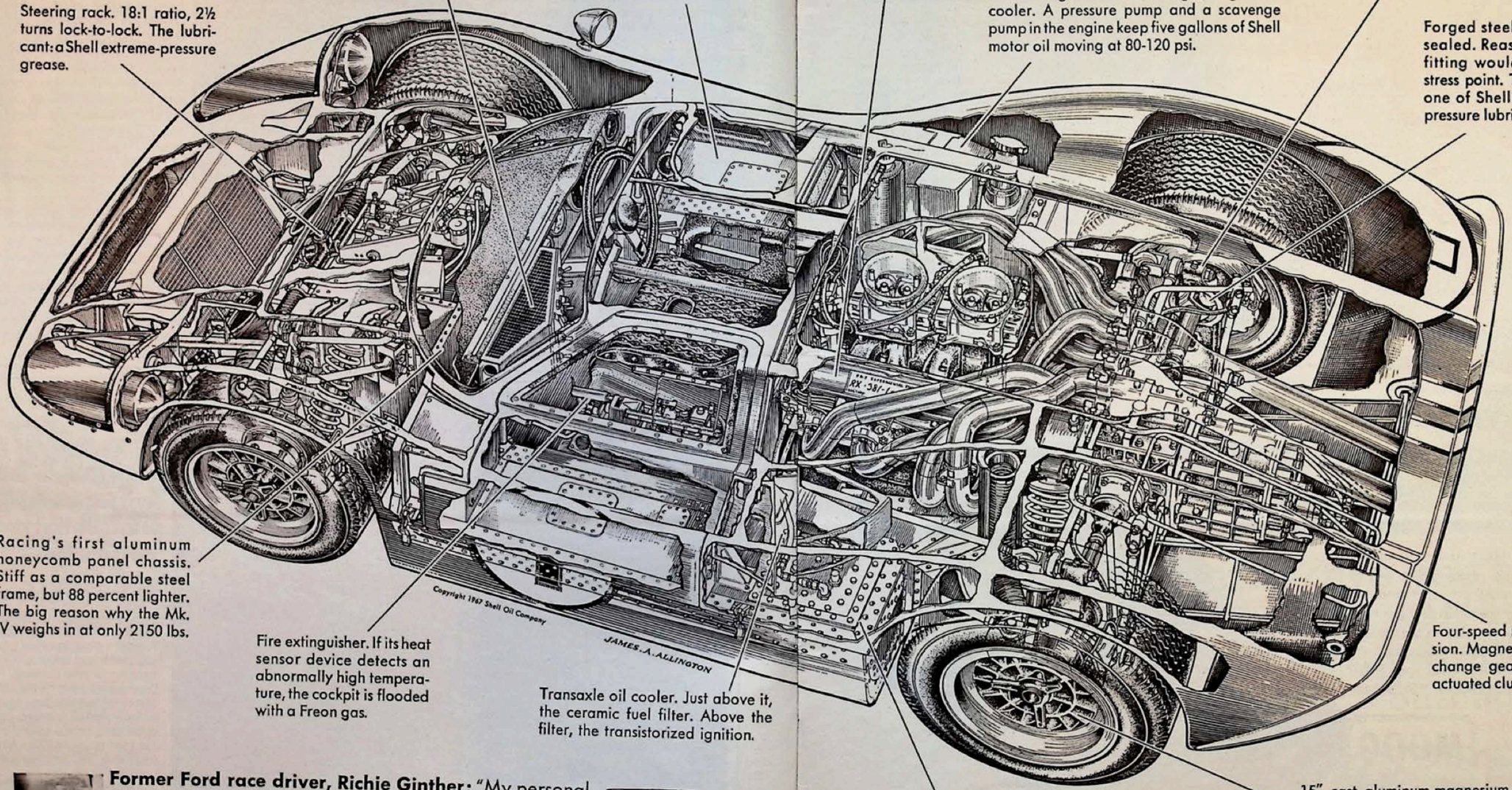
So, the only gaping hole left in BLMC's automotive gamut is in the 1.5-liter class. The one they planned to launch this October has been postponed firmly by Stokes, who described it confidentially as "an absolute pig's ear of a car." But all-out priority is being given to perfecting its engineering, especially its 5-speed gearbox, before its new introduction date next spring. "Basically it's a damned good car, and once we're sure it's right, it really will go," said Stokes.

BLMC's Racing Future

Sir Donald finally made it clear that he has no plans for cutting back, or expanding, British Leyland's participation in motor sport, currently confined to BMC's rallying and racing activities, though Jaguar has long had plans for a return to sports car racing with their new V-12 engine. "I am very interested in rallies and motor sport — if we can win," he said. Where they could see good value from it, they would continue to compete in sport on a useful basis. "But I cannot personally see much joy where it becomes a battle of money to win races, as we've seen with Ford," he said.

Racing, in his view, provides two opportunities: to develop one's product, and to test cars that would become genuine production models. But he thought events like Le Mans had become spoiled because they were no longer of value when applied to ordinary production cars. Nor could he see any future in competing in grand prix racing. /MT

Shell takes you inside the Ford Mk. IV



427 cu. in. Ford V-8. Basically a wedge engine set up for Le Mans to put out 500 hp. at 6600 rpm. Tunnel-ported aluminum heads, two 4-bbl Holley carbs, tuned exhaust.

Cast magnesium upright. Over 16 suspension adjustment points at each wheel.

Water surge tank. To the right, engine oil cooler. A pressure pump and a scavenge pump in the engine keep five gallons of Shell motor oil moving at 80-120 psi.

Forged steel U-Joint is sealed. Reason: a lube fitting would create a stress point. The grease: one of Shell's extreme-pressure lubricants.

Electrical system. Quick-change, unitized components.

21-gallon fuel cell. Cornering forces push fuel through a crossover tube and one-way valves to twin cell on opposite side.

Steering rack. 18:1 ratio, 2½ turns lock-to-lock. The lubricant: a Shell extreme-pressure grease.

Racing's first aluminum honeycomb panel chassis. Stiff as a comparable steel frame, but 88 percent lighter. The big reason why the Mk. IV weighs in at only 2150 lbs.

Fire extinguisher. If its heat sensor device detects an abnormally high temperature, the cockpit is flooded with a Freon gas.

Transaxle oil cooler. Just above it, the ceramic fuel filter. Above the filter, the transistorized ignition.

Four-speed manual transmission. Magnesium case, quick-change gears, hydraulically actuated clutch.

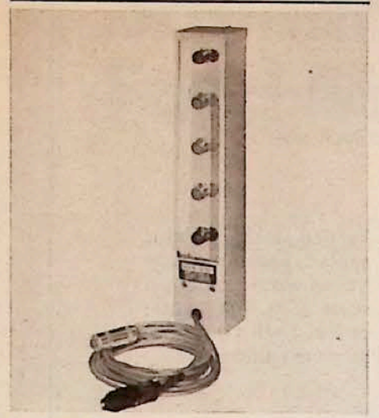
Fuel pickup box houses two submersible pumps. When the main pump cuts out, the driver switches on the reserve scavenge pump—and knows he's got about two laps of fuel remaining. This kind of fuel gauge you don't ignore.

15" cast aluminum-magnesium alloy wheels front and rear. Turbine extractor design, to pump air across the brake rotors.

Former Ford race driver, Richie Ginther: "My personal car's never tasted anything but Super Shell Motor Oil. I won't mess with less than the best. And, of course, Ford has always used Shell motor oil in its Mk. IV's."

You can get a set of three 25" x 19" drawings—the one above, plus similar cutaways of the Chaparral 2F and the Ferrari P4—each on fine paper and without text. For all three prints, send $1.00 to Shell Prints MC, Box 1747, Trenton, N. J. 08607. Offers ends Dec. 31, 1968.

PRODUCT TRENDS



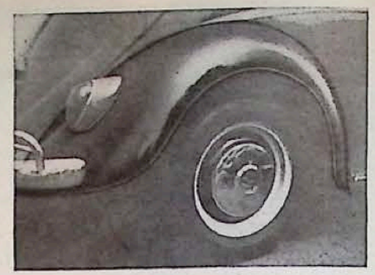
In Open Competition

It had to happen, right? Racing, street racing that is, is growing faster than the Gross National Product. Ask any copper you know. But there are a lot of little hang-ups involved. Like starting. What do you do? Drop your handkerchief? Count to three? Nail it from a rolling speed of 20 mph? What? It's a problem. The people at Signa Electronics (1745 North Cicero Ave., Chicago, Ill. 60639) have settled it once and for all with a miniature version of the familiar Christmas Tree starting system, called, as you might expect, the Mini-Tree. Now you can carry your drag strip with you wherever you go because the unit is only 13 inches high and attaches easily to your radio antenna. Push the power plug into your cigarette lighter socket, press the reset button and away you go with the green light. Think of it. If you can't afford a trip to the Winternationals, you and your friends can stage your own miniature version – right on Woodward Ave. And you don't have to pay to get in. About the only thing Mini-Tree doesn't have is a foul light. But you'll know when you catch one – it will be flashing on top of the patrol car. And the man with the fuzz on his suit may even have your time slip.

In Beetlemania

You say you're standing out in front of the pub, and the fine mist that's coming down looks like it may turn to snow and the water is collecting in the little reservoir you just made in the rear fender of your Volks. And the guy who drives the city garbage truck says the accident was your fault and the city isn't going to pay for it. And then you reach in your coat pocket and find the insurance premium you forgot to mail a week ago and the policy is out. Is that what's troubling you, friend?

Well, if it is, or you just ran into an armored personnel carrier or something, there are only 10 bolts between you and that nobody-will-ever-know-the-difference confidence. The plan is to slide down to



the local VW parts depot and let the man lay a factory replacement item on you, correct? Either that, or you can get a duplicate rear from the local supply house that stocks Foxcraft (Foxcraft Products Corp., Huntingdon Valley, Pa.). You've heard of them before, they made those giant bubble fender skirts you put on your '57 Chevy. The significance of Foxcraft making VW body parts is that there's not another current-production car around that could satisfy the tooling costs. The last car to have major replacement components made for it was the Model T Ford. Which is exactly the point, the bug is the "T" reborn. Think not? Just look around at some of the new VW items.

Take Isky (Ed Iskenderian), for instance. The very pillar of super-cammery for super-big American V-8s has just popped with four different grinds for the humble-soul bug. Pulling a camshaft out of a split case VW engine is not the easiest of all tasks, but Ed entices the power-hungry

PRODUCT TRENDS *continued*

owner on with the other hook of *hydraulic* lifters. In a single bound you increase performance through the entire rpm range, decrease noise and leap away forever from periodic valve-lash-adjustment sessions. With the mildest stick of the bunch, the 3/4 race (now there's an old, solid performance term, 3/4 race), a 1300 or 1500, VW's top speed can be escalated 13% with no other modification. But let Ed tell it himself. Write to Ed Iskenderian Racing Cams, 16020 South Broadway, Gardena, Calif. 90247 for a free spec sheet. And put your seats in an upright position for takeoff.

Iskenderian is not the only big performance merchant whose interest has focused on the Wolfsburg phenomenon. The Hurst handle, seen on the nation's slickest shifters, will be noted now on a Roll/Control (Line/Loc) device which is a finger manipulated hill holder. It boils down to a solenoid-actuated valve in the brake line that maintains pressure in the system though the pedal is released. The conversion kit comes with all the fittings, which means metric calibrations to integrate the Roll/Control with the parent VW brake system. Even if you don't live in San Francisco, after a couple of upgrade starts, a hill holder in a standard shift car becomes the best thing since sliced bread. Press the button on the shift lever after the car is stopped and there you stay until the button is released.

So go on, look into the Roll/Control. If the local automotive house is sold out, write directly to Hurst Performance Products, 50 W. Street Road, Warminister, Pa. 18974. Maybe they'll send you a decal.

In Tripping The Lights Fantastic

The Penetrator—now there's a potent sounding name for a headlamp. Yet, with 200,000 candlepower on tap and a useable range of 5/8- to 3/4-mile and a reflective road sign capability of 1.4 miles, the tag may be justified. The illumination pattern is a bow-tie shape with greater width

than height giving maximum coverage of the road ahead. Horizontal spread is 11 degrees and vertical six. The first car we saw these lights on was a Corvair, and guess who the contact is? Why, John Fitch, of course. F & W Rallye, John Fitch & Co., Falls Village, Conn. A single light is $7.75, a pair $14.95. /MT

Running brute engines on tame motor oil is like matching a panther with a pussy cat.

This new oil takes on all comers.

Plain oil is for plain cars. It can't stand up under the beating a lot of horsepower hands out.

Gulf decided to make a new oil that could take on the hottest engines Detroit puts together. Then check it out ourselves in the meanest kind of racing in the world.

For two years we tackled the road courses. The engine killers, like the 24 hours of Le Mans and Daytona; the 12 of Sebring; Spa in Belgium. The tracks that bear down hardest on a motor oil.

We even built our own cars to do it. There've been times when they took everything in sight. Ford. Ferrari. Porsche. Chapparal. You name it. We had back-to-back wins in Sweden and South Africa. With the same engine.

Through it all, Gulfpride Formula G didn't even wince. Win, lose or draw, there wasn't any such thing as a lubrication problem.

Now you can get this new oil at Gulf service stations. On turnpike or track, it's the best protection against wear and high running temperatures you can buy.

It is definitely not a pussy cat.

GULF OIL CORPORATION

Techna ford's newest model T

by Bill Sanders

Techna, Ford's latest journey into the future, is an engineering prototype rather than a styling concept. Basic theme is more effective use of space—for occupants, luggage, even chassis and powertrain.

Flowing primordially from collective perspicacious minds ensconced in "advanced engineering groups" at Ford, more than 75 technological innovations have been fused into another "Car of the Future" here today.

Radical innovations are reflected in significant areas. A powertrain has been designed with engine and transmission moved forward, slanted downward and coupled to a driveline offset to the left. This unique concept results in a small tunnel with minimum transmission intrusion in the cab. The offset driveline allows deep seat cushions and full foot room for all passengers, as none sit on top of the tunnel. Engine accessories are rearranged for better weight distribution.

Originality has even touched the chassis, with a three-quarter-length frame that provides "controlled crush" in the front and chops off the rear quarter to provide more trunk space.

Parallel hinged doors are 6-feet long, giving 4-door access with only two doors. Power-operated, the doors move out parallel to the car and allow full access even when Techna is parked 18 inches from the side of another car.

Other esoteric engineering creations include advanced body structure techniques of sandwich construction, bonding, and plastisol-urethane foam-molded trim components; an anchored driver's seat with movable foot controls; seat and shoulder belts integrated in the seat itself; an unusual rear suspension with 4-link, "Ausformed" steel torsion leaf springs; a single electronic rotating drum indicator for fuel, engine malfunction and warning lights; and an electronic speedometer-odometer.

Was it really only 40 odd years ago? Bailing wire and a pair of pliers – the model "T" has come a long way.

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Techna ford's newest model T

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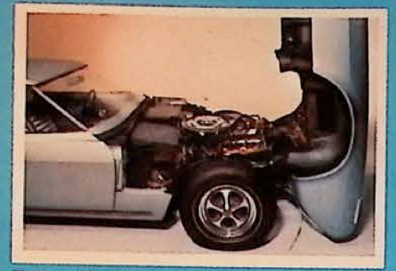
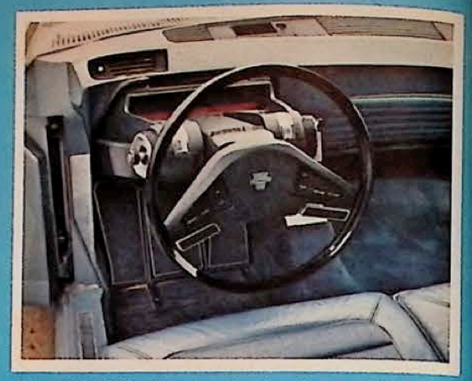
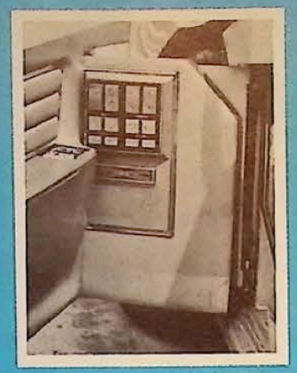


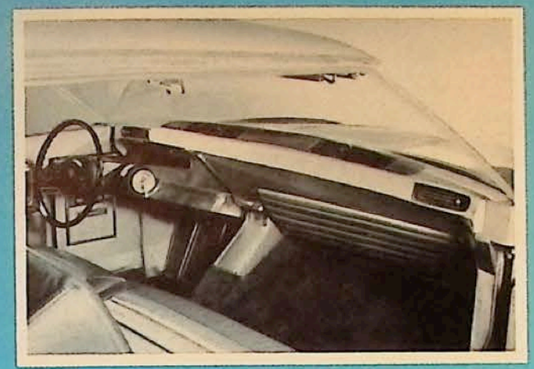
To provide full engine access, Ford went the old Sprite, XK-E route with a tilting front end.



There'll be little time for steering the car with all the controls. The steering column and wheel pod contain various control devices. Column left has a transverse push-pull light control mounted inside a ring which rotates to set climate control temperature levels. On top are a row of toggle switches for heater and air conditioning blowers. Column right, opposite the light switch, finds the ignition mounted inside a rotating ring that "selects the automatic transmission mode." On the wheel spoke pad are controls for the windshield wiper and washer, the adjustable steering column position, the speed control and the horn.

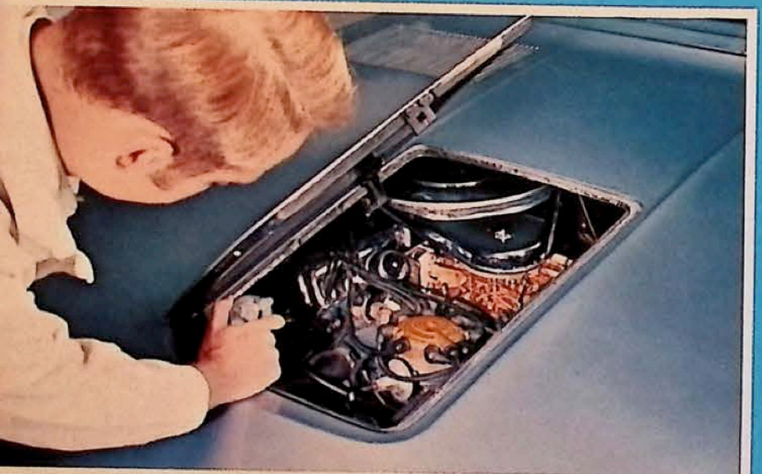


At the front of the left-hand door panel are switch touch plates set flush for safety. These control the driver's seat, window lifts, pedals, antenna, ventilation ducts, emergency flasher and trunk release. Flush mounted in the armrest are controls for the radio, each door has two sets of radio controls. Ash tray and lighter are also in the armrest.



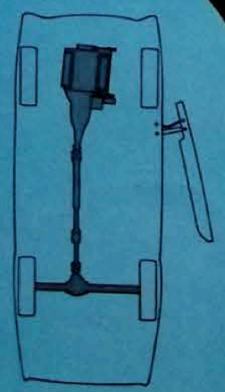
Techna's windshield was built at Ford's Glass Technical Center and provides sweeping front and side vision by eliminating front corner posts. Windshield consists of a soft polyvinyl butyl core laminated between two layers of Ford's experimental structural strength-tempered flexible glass.

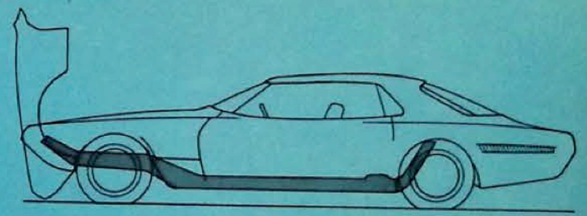
NASCAR was never like this. Seat and shoulder belts roll up into seatback and side, eliminating messy "spaghetti" look.

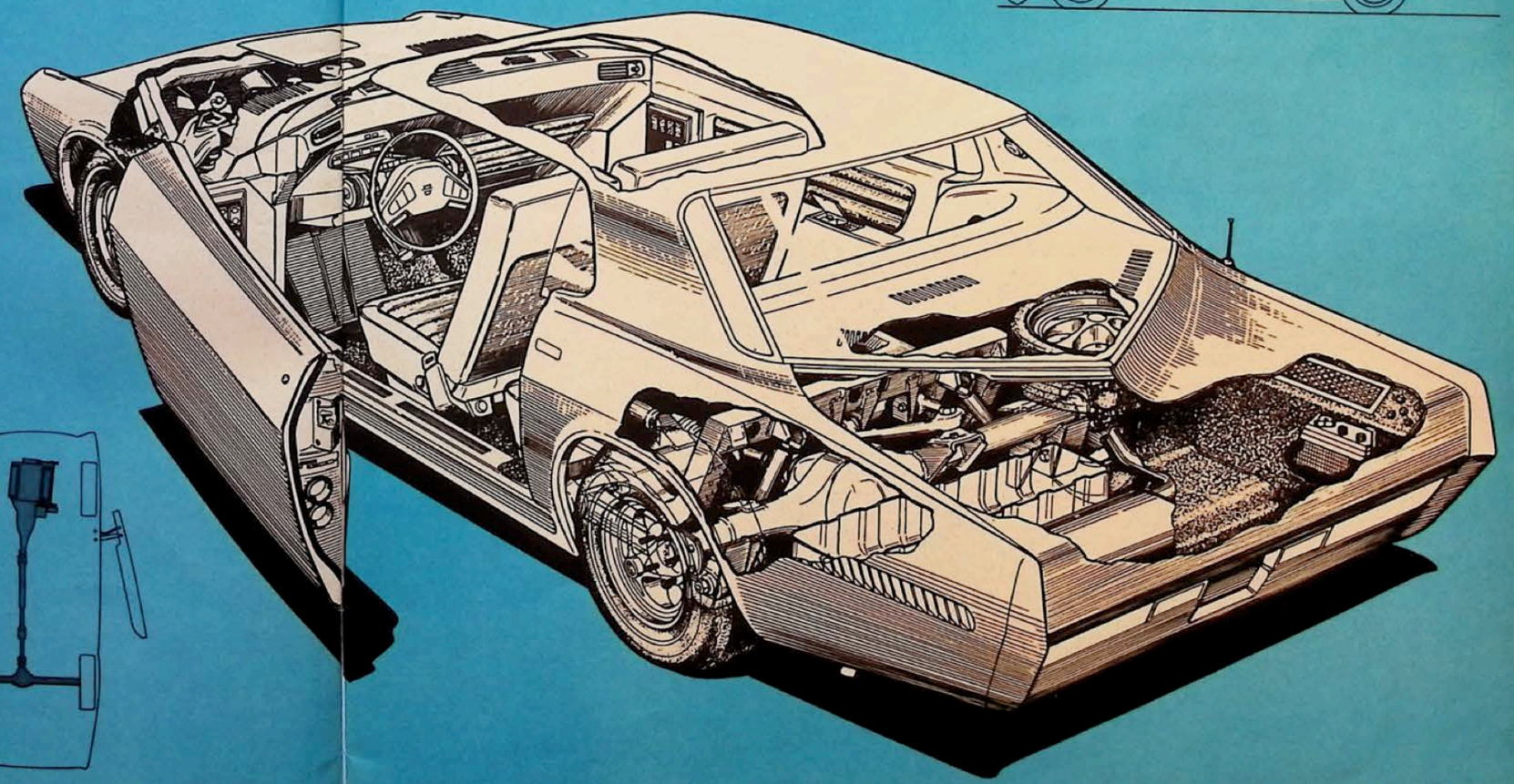


"Check the oil, sir?" A 14 x 24-inch side-hinged inspection hatch makes a neat hole in hood top. The hatch opening provides easy access for routine maintenance checks on coolant, oil, automatic transmission, carburetor and distributor and power steering.

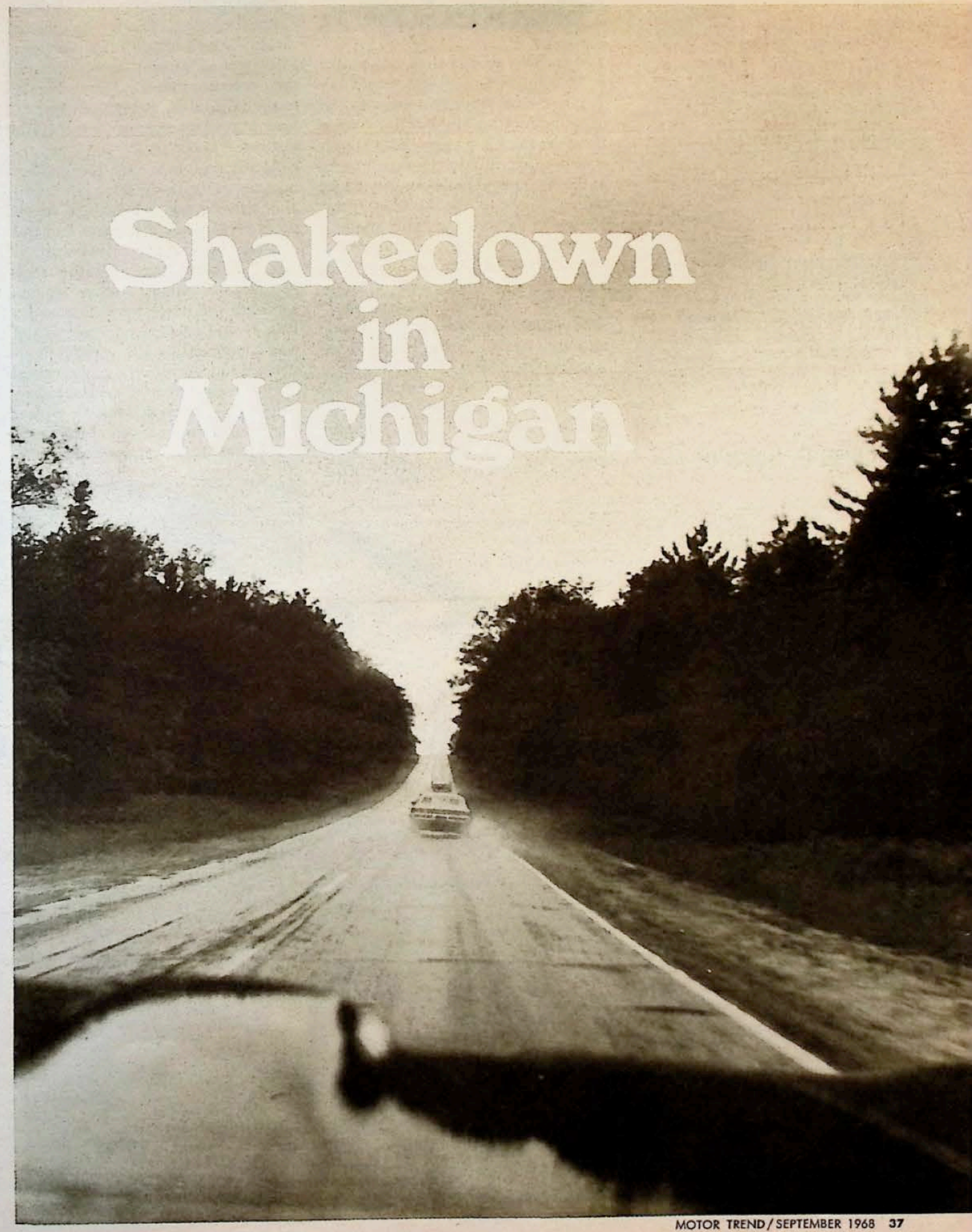
An electrically operated remote deck lid release gives a peek at the trunk. Remote release operates in "Park" only so lid can't accidentally open when car is in motion. Absence of rear frame members allows battery and AM-FM radio to fit in trunk.







Shakedown in Michigan



We help test drive a 1969 Grand Prix and other new Pontiacs to glorious Houghton Lake, just to see what happens.

By Julian G. Schmidt

Shakedown

continued

If I had my way, a shakedown of a '69 Pontiac Grand Prix would begin at a table for two beneath the dim, indirect lighting of the Grosse Point Yacht Club, proceeding with considerable dispatch to a pool party at the Bloomfield Hills Country Club, then directly to the London Chop House for pheasant smitane, and culminating the "test" at the Fox & Hounds Inn. All after sundown. With some deep-breathing, long of thigh, ravishing, obnoxiously conceited, slit-eyed wench wearing satin boots, an insouciant smile and one of those stainless steel dresses tied together with silver chains. I mean, after all, you've got to live with a car in its natural habitat, right? Like, whoever heard of using a 1969 Pontiac Grand Prix for penetrating territory even the last of the Mohicans couldn't civilize?

But I still don't know why they do it. Maybe to breathe brisk Northern Michigan air after 12 months inside the corporate digestive tract. Maybe to revitalize their powers of observation. Maybe to exercise their survival instincts.

At any rate, here's the scene. They take several cars—in this case, four—and drive, just drive. Five or six times a year they just drive. But this one was kind of special. It was the first "appraisal trip" for the 1969 Pontiacs – Catalina station wagon, Firebird, the new Grand Prix and a 1968 Grand Prix for reference – and was conducted by the veridical varsity: Hulki Aldikacti, experimental engineer; John Seaton, assistant chassis engineer; Durwood Shawl, project engineer in the production engineering group . . . all ramrodded by A-No. 1 himself, The Boss – Pontiac Chief Engineer, Steve Malone.

Put one of these guys in a test car and you unleash all sorts of odd phenomena. Hulki, "Trip Leader" for this particular event, drives like he takes "shakedown" seriously. John, a real analytical sort, is such a dedicated engineer, he often ignores the superficialities of such an event.

So there we are, screaming along I-75 a good 15 mph over the speed limit in Detroit's Deluge Of The Year, our Catalina wagon rocking to and fro in the waves at Southfield and "something – Mile" Road, and you suddenly know you're with men of experience. **"Five-hundred approaching,"** admonishes Hulki from the lead car. "Five-hundred" is code for fuzz. Down pat. Man, these engineers and their sciences.

Instinctively, one asks, **"Hey, John, got any of us in sight?"**

"This headlight switch on this

(Left) Collective opinions are given on the spot — in this case, the shoulder of I-75 — by (l. to r.) Durwood Shawl, Steve Malone, John Seaton, Hulki Aldikacti and Sol Phinney. (Above) Each vehicle has a map and 2-way radio so that problems can be discussed at any time during the test.

Firebird is held in by a hex nut in the bezel," replies John. **"Is this supposed to be standard?"**

Durwood sighs. **"John's with us."**

Cars swerved and their occupants stared at the new GP. It's an unusual car, combining similarities with the Edsel, Eldorado, Continental Mark III and others that have yet to be built, and its hood is the longest in the business. The entire division is ecstatic about the car. In fact, the GP will only be built at Pontiac, Mich., so they can keep a close eye on quality control at all times. Its looks will be controversial. For instance, the body doesn't do a thing for me, from my vantage position in the wagon.

"Hey! Where's John?" someone cried.

John's always a gas. Once, as trip leader of a crew of 15, he led them to a motel where he had supposedly made reservations for all. But the motel clerk demurred, for the reason that the reservations were waiting at a motel of the same name on the other side of the state, over 150 miles away.

But John, – ever-observant John – was there with his usual type of rejoinder, **"Those G-car park lamps look awfully yellow."**

G-car is the designation for the new Grand Prix. To make it a unique member of the Pontiac group, they've given it a different wheelbase – 118 inches. So now it shares nothing but engine and birthplace with other Pontiac cars.

A very slight hum had developed in the bottom of the wagon, and Steve Malone caught it immediately. **"Are you guys aware of the harmonic vibration in the driveline under acceleration?"**

John answered, **"It's an engine driveline harmonic period set up by 'engine bending' lash in the spline fit at the prop shaft, occurring between 52 and 68 mph in third gear, so we are installing a harmonic damper on the back of the transmission to cancel out the vibration periods at 180° intervals."**

Gool ol' Tell-It-Like-It-Is John.

We changed cars after about an hour. The new Grand Prix beckoned coquettishly, unattainably, but the Firebird was next.

Switching cars – you would normally assume – is a relatively uncomplicated operation. Except with seven men in four cars, it is mathematically possible, under the most incredible of conditions, to drive off with one man missing. Let it suffice to say that a prior traumatic experience, in the rain, impelled Hulki to take a head count this time before proceeding.

"How do you like its ride?" asked Steve Malone. **"We've increased the ride rate of the rear suspension, and changed the harmonic dampers to get less shake."** It did ride better than the '68, and, they claim, without sacrificing handling, but that same beautiful bellow was still in the exhaust.

"The air conditioning outlet is just above the ash tray in this new Grand Prix so whenever you bring your cigarette down to the tray, ashes are blown over the front seat. Is it too late to change this?"

"Afraid so."

I could tell by its feel the Firebird would be my favorite. Where other pony cars enter each year affected with successive phases of over-civilizing, Firebird performance remains par, but with a better ride and an all-new body with no increase in dimensions. This year, two ram-air packages are avaliable, – one with an intake through the grille, one through hoodscoops that can be controlled by a shut-off switch on the dash.

We are doing about 85, trees are getting bigger, cars are getting fewer, roads are getting rougher, rain is pelting the windshields—harder—but Pontiac is using lots of Polyglas tires in '69. They feel very safe on bad roads.

Swinging Houghton Lake was suddenly there, and we entered in formation. We could have done so leading the Rose Parade and it would have made no difference. New 1969 Pontiacs? What's that, a cybernetic Indian?

We thought stopping for gas might do it, but the only reactions elicited were those of panic and apprehension among the crew. Seems as though someone once left a station but not the gas pump. The nozzle was still in the tank, and he looked into the mirror to see the pump hopping along behind, completely sheared from its base, pipes, etc.

The '69 Grand Prix was open, so I hopped in. That didn't work, so I climbed in. When they said all-new car, they meant it. The interior of the Thunderbird was once compared with a Boeing jet. The Grand Prix is like a Lear jet. You snuggle into deep bucket seats and the instrument panel kind of wraps around you—semicircular—cutting deep between both front passengers. You

Shakedown

continued

feel as though you "put on" the dash until all instruments are facing you. It's quite posh—very little garbage and emblems—just vast amounts of softness and a small steering wheel—also soft.

I was beginning to like it — much better than the outside, so I started the engine. Silence. I turned the key again and the starter screamed . . . it was already running. Pontiac says they've made a great effort at keeping the Grand Prix quiet.

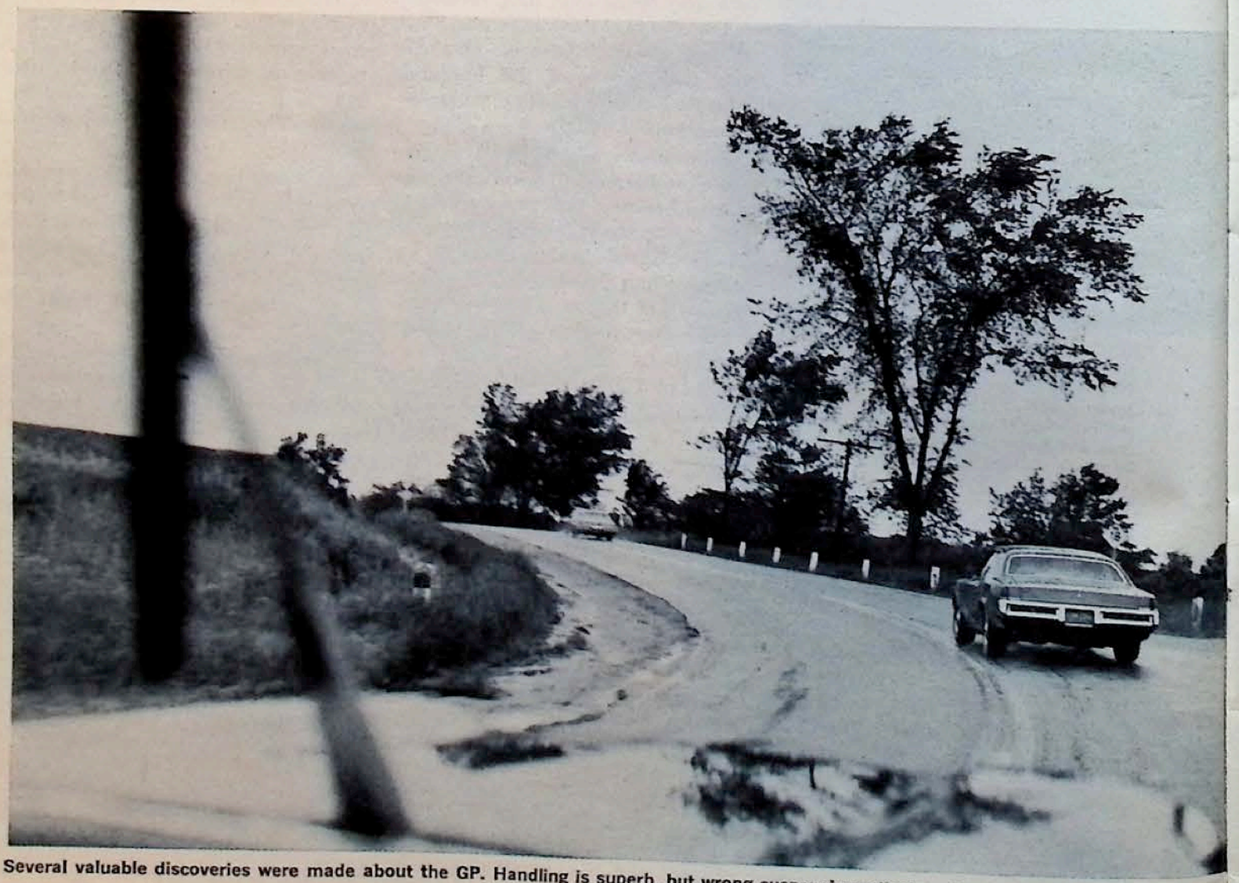
"Hey, John," someone yelled, "**Did we increase the wheelbase of the wagon by one inch while retaining the same overall length and stiffen up the rear pivot bushings and change the splay angle of the rear upper control arms and use 9.15 X 15 tires with a higher lateral rate?**"

"Yes."

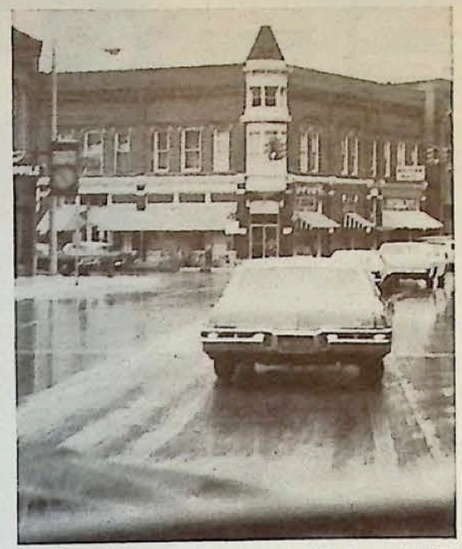
Good ol' Tell-It-Like-It-Is John.

It is not until driving a '68 GP that the '69 can be appreciated. There is no similarity. The '69 has unusual quietness and comfort, even though all quarters are cramped. You cannot move about, but you don't care. Handling is superb for a medium-sized car. The short wheelbase and comparatively short overall length of about 210 inches combined with a weight of only 3600 pounds, should provide it with handling unexcelled in the luxury-specialty class. On city streets, it is agile. On wet roads, it sticks. The lighter weight is distinctly felt at all times. Where the lumbering '68 plowed, swayed and had unresponsive steering, the '69 is the opposite. If you like total insensitivity, however, you had better stick with the bigger cars, even though the new GP's power steering transmits no feel whatsoever. It should.

Steve Malone is the kind of guy who tells his men to make the Firebird louder. He's the kind of guy who buys a Maserati Ghibli, Lamborghini Miura, Ferraris, etc., just to study. So he's the kind of guy who insists that the '69 GP have performance packages. Ever heard of anything so ridiculous? . . standard 400-cu.-in. engine with a 428 optional, and an H.O. version available in each. In a GP?! Blasphemy! What else? Well, a 3-speed heavy-duty manual transmission besides the automatic . . . **4-speed** manual . . . a 4-speed **close-ratio** manual with **3.55 rear end** instead of the normal 3.23! . . . an SJ package with gauges, lower and beefier suspension, automatic load leveling device, front disc brakes. Well, why not?



Several valuable discoveries were made about the GP. Handling is superb, but wrong suspension adjustment makes it look bad.



Rain proved to be valuable in evaluating '69s. Polyglas tires will make things safer.

"**Still back there, John?**" someone yelled.

"**I think we have that spare tire rattle pretty well fixed with that added stiffener, don't you?**" was the reply.

The Grand Prix's power was evident in passing, and its engine felt 100 cubes bigger than the identical one in the '68. Acceleration should prove to be almost equal to the GTO.

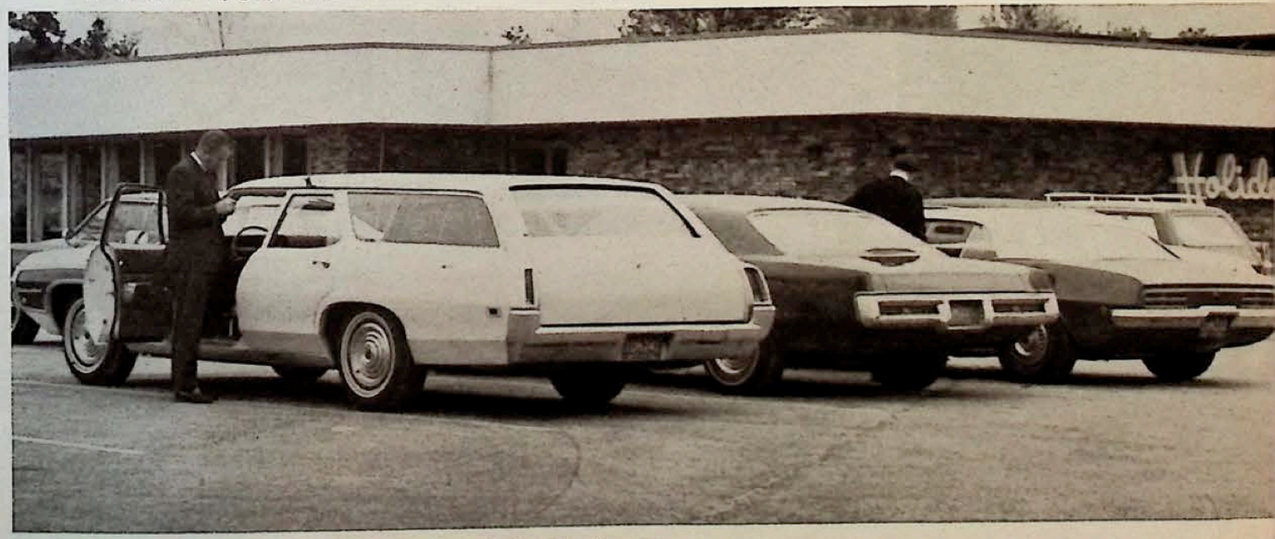
"**We're turning to the right here, John,**" warned Hulki, and the message was relayed twice. Hulki, Durwood and Steve Malone watched, not relying solely on radios. The last time that was done, everyone turned but John, who continued a conversation over the radio as he drove steadily onward, up a dead end street.

Detroit was closer and traffic heavier, but inside the Grand Prix was a good place to wait. All cars were separated now, but we were merely a matter of blocks from home, so it didn't matter, except that the continuous dash/console, penetrating into the seating area, might make it a bit claustrophobic for some people.

All right, so I finally know why they do it. And I was right. It is to breathe fresh air. It is to revitalize powers of observation. It is to exercise survival instincts. And it is to see just how much better the new car is than the old one, and if it isn't, how it can be improved. There's nothing like the roads and rain of Northern Michigan to drum out the car's infirmities and virtues, and from that perspective, the trip makes sense.

Now, if we could only find John.

Stops were made at will to discuss details, such as rear end of Grand Prix (right), which appears to be too far off ground.



At coffee break on the remote outskirts of Mayville, the new cars attracted some attention, even though the station wagon remains unchanged, and the GP and Firebird lack the clean, tasteful styling of last year's models. But they definitely reflect new styling trends that are facts of life — good or bad.

DODGE SUPER-LITE

A third eye, operating under the quartz-tungsten-halogen principle, means a better idea for a headlight.

By Robert W. Irvin

"Imagine," I told my friend, "that it's nighttime. Suddenly, out of the dark comes a car. You know it's a car because you see three headlights."

"Three?" he asked.

"Sure."

"Oh, one of the high-beam lights burned out?"

"No. There are two low beams plus 'Super-Lite'."

"Super what?"

I could see I had some explaining to do.

"Super-Lite" is a new auxiliary light that will be introduced by the Dodge Div. on its 1969 model cars. And, quite seriously, it sounds like a long-needed development. Some say it may be the biggest thing in car lighting since the sealed beam.

"Super-Lite" is a third beam which is designed to bridge the gap between conventional high- and low-beam lights used on all standard American cars.

A joint development of Dodge and Sylvania, Super-Lite provides an intense beam of rigidly controlled light designed to greatly improve nighttime visibility for drivers. And it does this without blinding oncoming drivers, as happens with high-beam lights.

The Dodge Super-Lite is based on the development of the quartz-tungsten-halogen bulb. These bulbs have been used in large quantities in Europe in auxiliary lighting. Over two million quartz bulbs were used on automobiles last year, according to S. C. Peek, manager of applications engineering for Sylvania.

"Racing cars use them almost exclusively in nighttime endurance races such as Daytona, Sebring and Le Mans," Peek noted. "The metal reflectors which are used with these bulbs are more accurately contoured than the glass reflectors of sealed-beam types, and therefore better control can be obtained. The higher filament luminance can produce higher candlepowers. The modern clad aluminum reflectors withstand corrosion well and sealing methods have been worked out which prevent the accumulation of moisture inside. The flexibility of lamp design allows for aiming improvement . . ."

And therein lies the reason the Dodge Super-Lite is unique. In the European version, the filament usually runs along the bulb axis, providing a long narrow beam of light on the road ahead. Sylvania produced a cross-axial bulb with the filament running across its width. It provides a broad illumination pattern directly in front of the car, combined with the long-throw capabilities required for high-speed driving.

The Super-Lite makes use of the elliptical reflector, gate and lens technique as found in motion picture projectors which provides a light beam with sharp definition between the illuminated and non-illuminated portions of the screen. This cut-off capability permits the Super-Lite to provide 40,000 candlepower for safe high-speed turnpike driving without subjecting other traffic to glare.

Tom Kilgour, assistant chief engineer for exterior lighting at Chrysler, commented that "quartz-iodine lighting isn't new, but what makes our particular lamp unique is the use of the elliptical reflector with the gate and lens. It enables us to put an extremely high patch of brightness on a part of the road that presently is dark, yet without glare to oncoming cars."

The present low beam, he explained, is designed to severely restrict light to the left of the center line of a road while providing as much light as possible on the right to reveal roadside objects. On the other hand, the high beam provides excellent down-the-road visibility but can't be used in traffic.

"The present system does a good job, but is speed-limited," Kilgour said. "The efficiency is determined by the speed of a car." Too often, people "overdrive" their lights. At a lower speed, the low beams will illuminate a "trouble area" in time to stop. But at a higher speed, drivers sometimes don't have room to stop by the time they see trouble ahead. Technically, overdriving the lights is the inability to halt a fast-moving vehicle within the distance illuminated by the headlights when the brakes are applied.

Kilgour explained that "we are trying to illuminate the road in the dark area on the left and in front of the present low beam. We do this by means of a separate light which can only be used in conjunction with the standard low beam lights. Oncoming drivers will see three lights but they won't be bothered by glare because all light will be below their eye level."

A master switch on the instrument panel controls Super-Lite. After the switch is turned on, a blue light glows on the instrument panel to show that Super-Lite is working. After that, if you want to turn the light on and off you operate the "high-low" beam foot switch. This, of course, prevents anyone from using the high beam lights while Super-Lite is operating. The Super-Lite instrument panel switch must be turned off before the foot switch will again operate the high beams.

Why use the high beam at all? "It is still an excellent light when there is no opposing traffic," Kilgour said. "There are many roads where the high beam can be used excellently. But we are finding that its use has been reduced on turnpikes when you overtake other cars where there is a narrow median. So, people have to use their low beams, but they tend to out-drive it. That's why we felt there was a real need for the Super-Lite."

O. Howard Biggs, vice president of research and engineering for Sylvania Lighting Products, said "it is virtually impossible to overdrive the light if speed limits are being observed."

Matt J. Zak, manager of product planning for Dodge noted that, "the development of the Super-Lite gives drivers three stages of highway lighting: low beam, low beam plus Super-Lite, and high beam."

The light is aimed 5½ inches to the left of the car at a distance of 25 feet, according to Kilgour.

The light uses halogen gas under pressure, made possible because the bulb is made of quartz. The halogen combines with the tungsten vapor as it is boiled off the filament. The resulting transparent gas then redeposits the tungsten molecules back onto the filament. This keeps the bulb wall clean throughout its life. And the halogen cycle provides virtually the same lighting level at the end of its rated life as it did when new.

The 85-watt Super-Lite draws 6.5 amperes of current at 14 volts.

Kilgour said the light's present life is 100-200 hours. "Our goal is 200 hours which would be the same life of the present low-beam light." And the low beam is used in approximately 90% of night driving.

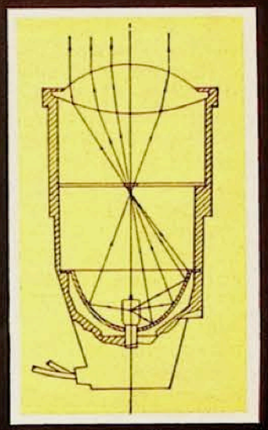
The Super-Lite's use "will be a little less than that of the low beam," Kilgour said. "And it should reduce usage of the high beam."

The light is about four inches in diameter and eight inches deep. This compares with a diameter of either 5¾ inches or seven inches for the current headlights.

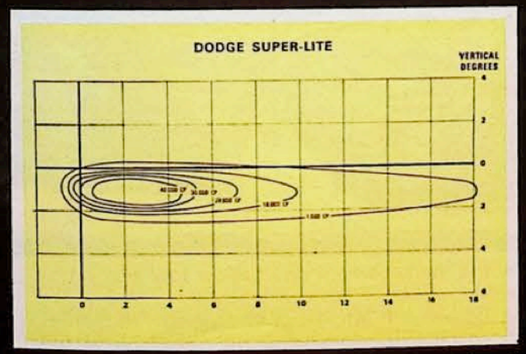
It will be mounted in the grille, on the left side. "The stylists think it looks good," Kilgour said. "It will not stick out like a sore thumb but will be flush with the grille."

Kilgour said he looks "forward to good acceptance" by the public. "It's a light that will really do something for drivers. I think it is the beginning of a new concept in lighting. I'm not sure where we will go

(continued on page 82)



(Above) Developed by Dodge and Sylvania, Super-Lite supplies intense beam of controlled light in broad illumination pattern.



(Above) Chart demonstrates pattern and intensity of light from Super-Lite. Elliptical reflector, gate and lens technique provides 40,000 candlepower for safe high-speed driving.

Normal high beams create glare and blind oncoming traffic.

Super-Lite puts bright light where driver needs it, but without bothering other cars.

Present low beams restrict light to left of center line, causing "over-driving" of lights.

Futher diversification gives General Motors' cars a full range, literally, of transmission choices.

GM's New 3-Speed Automatic Transmission

by Robert W. Irvin

The 3-speed manual transmission is getting to be almost as rare as a dodo bird. At the rate things are going, it, too, will be extinct in a few years. American car buyers just like those automatic transmissions.

Last year, according to a survey by *Automotive News*, about 87% of *all* U.S. cars were sold with automatics. Another survey by *Ward's Automotive Reports* covering the first part of the 1968 model run showed an installation rate of about 91%. With 4-speed transmissions taking about 4% of the market, this means only five of every 100 cars sold have a 3-speed stick shift.

You can get an automatic or semi-automatic clutchless transmission on all the American cars and most of the leading imports. Thus, availability has had a lot to do with their popularity. That availability increased this year with Volkswagen's introduction of a semi-automatic transmission and Chevrolet's TorqueDrive, a clutchless transmission for the Chevy II, costing only $68. These transmissions are tailored for a specific need. Coupled with other improvements for 1969, an even further increase in automatic transmission usage can be expected in the future.

All of which is by way of introduction to a new 3-speed automatic that will be on many General Motors cars next year. It was developed jointly by the Chevrolet and Buick Divisions, both of whom will make the new unit. Buick will also make it for Oldsmobile and Pontiac.

The transmission has been developed specifically for use with small and intermediate size engines. It's built along the basic lines of the Turbo Hydra-Matic.

The new transmission, according to Chevrolet, features very smooth shifts and, with three forward speeds, greater torque multiplication in low gear start and an intermediate gear range for optimum overall vehicle performance.

"Superior cruising speed passing capabilities are made possible by the use of a second, or intermediate, gear ratio for this purpose," Chevy notes.

The new transmission also permits the use of a lower numerical rear axle ratio. This results in lower engine speeds at cruise for improved fuel economy and quieter operation with no sacrifice in performance, engineers report.

It will be available as optional equipment with all 6-cylinder engines in the Chevrolet, Chevelle, Chevy II and Camaro models and with V-8 engines of 350-cu.-in. displacement or less. It will not be available on the Corvette or Corvair.

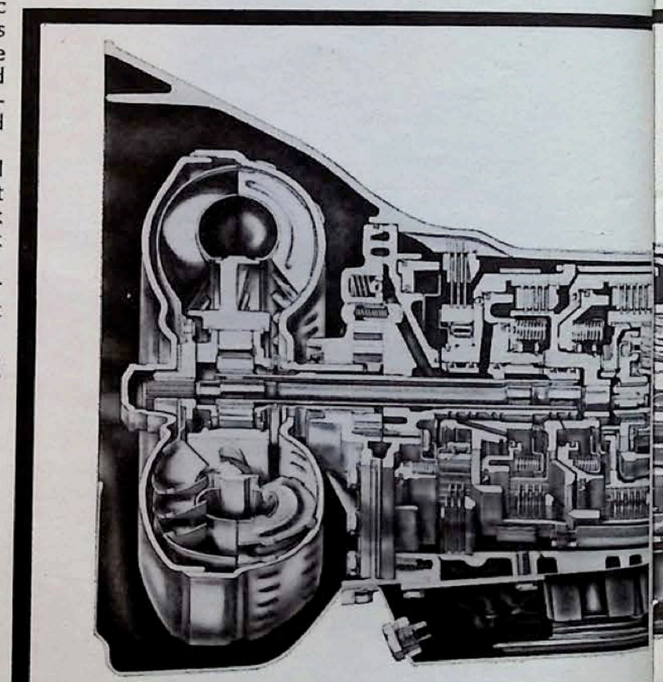
The unit is 23 pounds lighter than the 3-speed Turbo Hydra-Matic and 26 pounds heavier than the 2-speed Powerglide transmission.

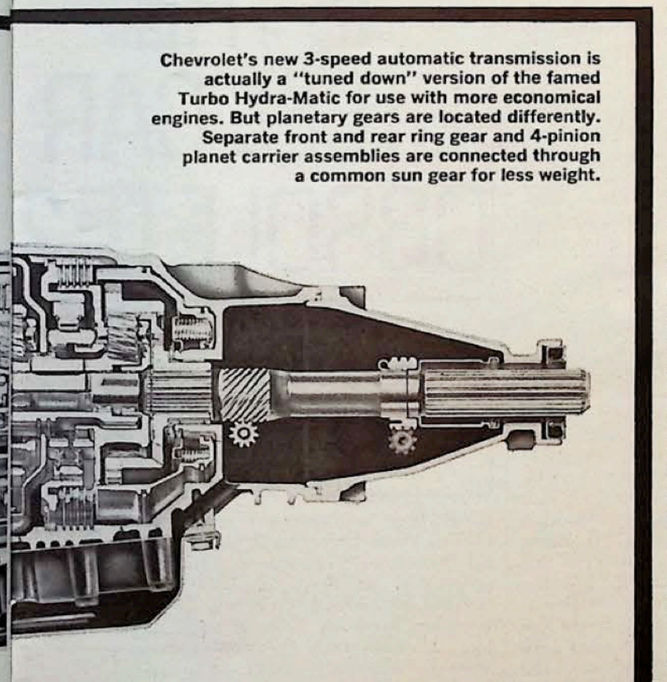
This gives Chevy an ideal range of automatic transmission options, tailored to different cars and engines. Chevy hasn't announced the price of the new transmission, but it will probably fit between the present Turbo Hydra-Matic — whose 1968 price was $237 — and the $195 Powerglide transmission.

Many customers who formerly had to get the Turbo Hydra-Matic if they wanted a 3-speed automatic will now be able to get the smaller unit. And, as far as the customers are concerned, "the performance will be the same," said John Mahoney, an automatic transmission engineer for Chevrolet. He supplied some figures to measure the performance of the new transmission, using the base 2.73:1 rear axle ratio.

Speeds of up to 53 mph are available in first gear with the 350-inch V-8 and a 4-bbl. carburetor. With a 6-cylinder engine, the first gear maximum is 46 mph.

In second gear you can get up to 86 mph with the big engine and up to 78 mph with the 6-cylinder powerplants. "So even the smallest engines will have a gear ratio available for turnpike passing," Mahoney noted. "The hydraulic system is set up to give the driver maximum command — if he wants this kind of performance, we allow him to get it within his ability. There are transmissions on the market which don't allow low gear ratios at high speed."





Chevrolet's new 3-speed automatic transmission is actually a "tuned down" version of the famed Turbo Hydra-Matic for use with more economical engines. But planetary gears are located differently. Separate front and rear ring gear and 4-pinion planet carrier assemblies are connected through a common sun gear for less weight.

Allowing a downshift into 1st at 40 mph sort of typifies Chevy's approach to performance: "It's available if the customer wants to go that way."

The new transmission, "is fundamentally the same as the Hydra-Matic. The planetary gears, although located differently, do the same job." But, the new unit has only 80% of the size and capacity of the Hydra-Matic.

The 3-element torque convertor, like that of the Turbo Hydra-Matic, is the "floating pilot" type with convertor forward thrust loads taken by a roller bearing within the convertor, rather than piloting the convertor in the engine flywheel. The floating pilot design greatly reduces the thrust loads placed in the engine rear main bearing. An 11.75-inch diameter convertor with maximum torque multiplication of 2.1:1 is used with all engine applications.

The compound planetary gear set consists of separate front and rear ring gear and 4-pinion planet carrier assemblies connected through a common sun gear. On the Hydra-Matic, both gear sets are located in the rear of the transmission.

This type of arrangement means less weight and results in a more economical transmission than the Hydra-Matic. "This transmission is supported from the front and back while the Hydra-Matic has a bulkhead in the center," Mahoney noted.

Four multiple disc clutches, two overrunning roller clutches and a single band provide the friction elements required to obtain the desired functions of the gear set. Upshifts are accomplished by the application of a disc clutch and simultaneous automatic transition of a roller clutch from hold to overrun. No intricate timing devices are required to achieve the proper interaction of these two elements. Accumulators in the clutch-apply circuits give a controlled rate of fluid pressure rise during application to insure smooth yet positive shifts. The one single-wrap band in the new transmission is applied only in second gear to provide engine braking.

Transmission gear ratios are 2.52:1 for first, 1.52:1 for second, 1.00:1 for third and 1.93:1 for reverse.

The accuracy and quality of all automatic shifts are further assured by an aneroid-type vacuum modulator. The aneroid modulator includes an evacuated bellows containing zero atmospheric pressure which, in combination with ambient atmospheric pressure, is used as a base against manifold vacuum for evaluating engine output. By the use of this combination as a base rather than only the variable ambient atmospheric pressure, a consistantly smooth and accurate shift schedule is maintained regardless of geographic location.

A shielded cable forms a direct link between the transmission control valve body and the engine carburetor throttle linkage for positive forced downshift control. The cable type control provides an accurate 2-stage method of signalling part or full throttle downshifts, and is less sensitive to variation than simple vacuum controlled systems and more flexible than a solenoid control.

For quiet operation and smooth sliding action, the output shaft yoke splines are grease packed rather than lubricated by transmission fluid. An "O" ring seal prevents the grease from entering the transmission.

The floor shift quadrant will read P-R-N-3-2-1, while column-mounted it will be P-R-N-D-L2-L1. As normal with a 3-speed transmission, in the Drive range the transmission upshifts or downshifts automatically through all three gears depending on vehicle speed and throttle opening. Forced downshifts are accomplished by depressing the accelerator pedal partially or fully to the floor, depending on vehicle speed. In second, the third gear is locked out. The transmission will upshift or downshift into first or second at normal vehicle speeds, with engine braking in second. If the transmission is shifted from Drive to L2 while in third gear, it will shift immediately into second. In Low 1, the transmission will remain in first gear, regardless of vehicle speed, with engine braking. If the transmission is shifted from Drive to L1 when in third gear at cruising speed, it will shift immediately into second gear, and remain in second until vehicle speed is reduced.

With the new unit, Chevy is expecting the three speeds to outsell the Powerglide by a 2-to-1 ratio. This will mean a one-year run of something over 1.2 million 3-speeds.

There's no thought now that the 3-speeds may replace the Powerglide. "We don't see this in the foreseeable future," one Chevy man said. "Market conditions can change, but we have felt there is a place for an economical 2-speed automatic transmission." The new 3-speed unit has undergone about four million test miles, both on the bench and in the vehicle. A test fleet assembled in early summer was expected to log another four million miles. The new transmissions were put in 2000 company-used vehicles as well as some taxi and police fleets which guaranteed high mileage and exposure to all kinds of driving conditions.

It's probably the most exhaustive transmission test program ever conducted. But it should be worth it, for Chevy buyers who want smaller engines now have a transmission perfected for them. /MT

IS THE STEEL CAR OBSOLETE?

The total transplant by plastics may be nearly complete.

By Robert W. Irvin

"We're willing to gamble—to try something new and different," says John Z. DeLorean, Pontiac general manager, and this attitude has won Pontiac the reputation as an innovator.

One area where this is evident is in the use of materials — mainly plastics. And 1969 will be no exception. Pontiac has cooked up several new uses for plastic on the new models. And this from the division that pioneered the rubber-like Endura bumper on the '68 GTO (winner of last year's Motor Trend Magazine Car of the Year Award) and ABS plastic grilles on all its cars a few years ago.

Next year, all of the standard-size Pontiacs will sport a rubber-plastic nose. There will also be a rear bumper applique of Endura on the Bonneville. The piece — about five inches wide and 50 inches long — will protect the back end of the car.

Other new uses of plastic include:

— Front fender extensions on the Firebird made of a rigid plastic because they are in an exposed position, not protected by a bumper.

— Valance panels below the front and rear bumpers.

— The front end of the Grand Prix with a material less rigid than that on the Firebird because it will be protected by a bumper.

— A glovebox door for all cars with the hinges molded into the plastic.

Steve Malone, Pontiac's chief engineer, figures the division is "gung ho about this because we pioneered and are going all-out to stay ahead."

There probably will be over 500 parts made of plastic on the '69 Pontiac cars. This is a long way from its initial use back in 1946. "Our first plastic part was an oil pan drain plug washer — an application still in use today," says Ken B. Valentine, materials engineer for Pontiac. Valentine figures that on the '68 cars there were 485 plastic parts, up from 45 just eight years ago.

"The increase has been phenomenal," Valentine noted. Josh Madden, rubber and plastics engineer for Pontiac, attributes the growth to improvements in "fabricating techniques and materials technology." Both men also give credit to the division managers Pontiac has had in the past 10 years — Semon E. (Bunkie) Knudsen, Pete Estes and DeLorean.

Valentine said Knudsen, who quit General Motors earlier this year to become president of the Ford Motor Co., "started the ball rolling" by elevating materials engineering to a staff level. Estes and DeLorean, he added, were "not afraid to try something new."

"We have our own lab where we can tinker and try to stay abreast of a fast-moving technology," Madden said. In the experimental lab, "we do our own compounding and mold making," Madden continued. "Experimental parts are made right in the lab whereas if we had to rely on outside development work we might have to wait months."

The payoff has been good. In 1962, Pontiac began making injection molded plastic parts for instrument panels. a few years later, plastic fender extensions showed up. So did plastic grilles. But the most notable achievement was the urethane front bumper on '68 GTO, produced by GM's Inland Manufacturing Division in Ohio. And while there were initial production problems, DeLorean shrugged them off by saying, "That's part of progress."

But it has apparently made the division more cautious about production sources for the new crop of plastic parts. Inland will continue to make the GTO bumper on a casting process. But the rubbery nose for the full-size Pontiac will be made both by Pontiac and by Inland, with production split 50-50. Inland's will be an injection-molded urethane thermoplastic material. Pontiac will use the casting process to make its nose piece from high-density urethane foam.

Outside vendors in Ohio will produce the Firebird fender extensions which actually form the front part of the car around the headlights. The material will be a rigid polycarbonate developed by General Electric and now also made by Mobay. It will be the material's first use in an automotive application. It has been used for street light covers, which have proved to be "virtually unbreakable, even with kids throwing stones at them," Madden said. He said the material is being used instead of ABS in this case not just because of its strength but because of the ease of molding and finishing. The material must be painted the car's color and, unlike ABS, can take the high temperatures involved in the process, Madden explained.

Because the piece fits around the lights, Pontiac engineers didn't want a material like Endura which would compress. But they did want something which would afford more protection than sheet steel. The new material "does have resistance to shock impact loading," Valentine said. "It won't 'ding' under conditions which would dent steel."

On either side of the massive center grille on the GP — but protected by the bumper — will be parts made of reinforced premix plastic. This material was first used on the timing belt cover on Pontiac's 6-cylinder engine. Pontiac tried it out there to develop the process to the point where it could be used on a car's exterior. It comes out of the mold in a smooth finish and doesn't require any surface preparation before painting. This, too, will be made by an outside vendor.

The rubber protector on the rear of the Bonneville will be manufactured in essentially the same way as the present GTO front bumper — high density urethane foam in a casting. However, an outside supplier will manufacture this part.

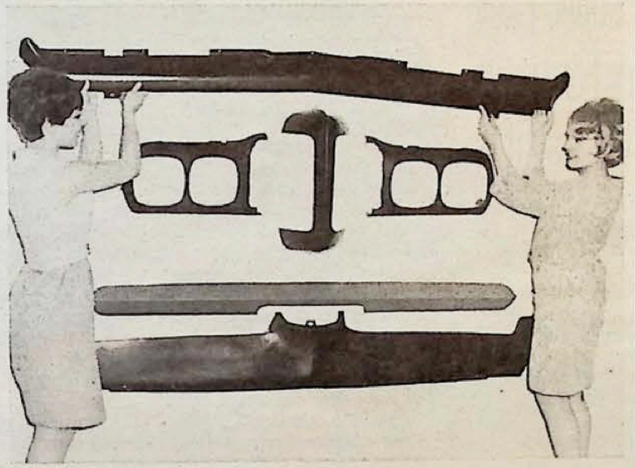
Pontiac and three outside suppliers will manufacture the plastic valance panels from high-density polyethylene. Making them from plastic should save car owners some problems. "They are vulnerable to dents, scratches and parking lot damage, especially in winter when there are piles of snow and ice," Madden said. The new material should "overcome these problems," Madden added.

Pontiac for 1969 will be using something like 20 different types of plastic, for the uses listed above as well as for air conditioning ducts, kick pads and side moldings. And the future? "We have increased the number of applications 10-fold in the past eight years and there should be a similar increase in the future because our techniques are improving and our knowledge is growing," Valentine said.

Madden feels "stylists will be the determining factor. Once we had to sell them, but not anymore." Madden and Valentine see larger car parts being made of plastic in the future. They didn't say so, but it's a good bet a plastic fuel tank will be on some 1970 Pontiacs.

To make sure they don't miss any bets, Madden has on the wall of his office a display board with plastic parts made by other American businesses — things like a clock face, a gun stock and even an umbrella which utilizes the same integral hinge mechanism that will be on the new Pontiac glovebox doors. As Malone said, "We are looking at all kinds of applications."

DeLorean says large plastic car parts are "right around the corner. I don't think there is any limit on where we are going in the plastics field."



Exterior plastics are becoming popular, and Pontiac is an innovator. Uses of plastics on the '69s are front and rear valance panels (top and bottom), a pad in the rear bumper of all Bonnevilles (second from bottom), a nose piece for big sedans (center), and housings for Firebird headlights. The total transplant by plastics may be nearly complete.

A similarly optimistic view comes from two officials of the Enjay Chemical Co. — E.L. Adamson Jr., district sales manager, and D.S. Smith, of the marketing research department.

"Substantial growth will continue to take place in the next decade and will result partly from increased penetration of interior uses but mainly from increased usage in exterior applications," they said.

"Total plastic consumption in the automobile is expected to reach 190 pounds per car by 1978 if exterior body panel applications become more widespread in the latter part of the next decade."

In 1950, they said, an average of only nine pounds of plastic were used on each car. This climbed to 21 pounds by 1960 and to 82 pounds this year. The 1970 models due out in another year will average 110 pounds of plastic.

As they see it, there are three basic reasons for the increased use of plastics — (1) economics; (2) performance; and (3) styling. "Virtually every existing automotive plastic application fills several needs among these categories," they said, listing the reasons as the following:

1. Economic: lower weight versus metal (powertrain saving), part consolidation, lower assembly cost, lower decorating cost (molded color versus paint), lower tooling cost, lower manning costs, and better quality control (fewer assembly mistakes).

II. Performance: safety, comfort, corrosion resistance, acoustical performance, weight reduction, durability, maintenance of appearance.

III. Styling: esthetic appeal (color, texture), design flexibility, shorter tooling lead time, and fewer parts.

Smith and Adamson listed the cowl kick panel under the instrument panel as a prime example of the use of plastics in cars.

Only five years ago, they noted, this "consisted of a painted cardboard panel, metal louvers, metal carpet retaining strip and wind lacing. Today, plastic cowl kick panels are the standard of the industry. They are injection molded generally in one piece using integrally colored plastic, thereby consolidating four parts into one."

As it so happens, Pontiac was one of the first if not the first car to use a plastic cowl kick panel.

Smith and Adamson said the auto companies are pessimistic about the prospect for large production of whole car bodies using fiberglass reinforced plastic (FRP). While Corvettes have used FRP for 15 years, production of the Chevy sports car has been only 20,000 or 25,000 a year in recent years.

"Although tooling costs are about 15% of that associated with traditional metal stamping, and tooling lead time is shorter, the part cycle time is too slow by typical automobile company standards," the Enjay Chemical people said, noting there are 22 finishing operations on the Corvette body.

On the other hand, they said, "use of selected FRP body components (hoods, deck lids) appears to be a workable solution toward providing design variations on limited-production models."

The Enjay executives note that "probably the greatest single indication that plastics will continue to grow in importance in the automobile is the commitment that the automobile industry has made in both people and equipment to plastics." Fourteen divisions of GM are involved in injection molding and over 700 injection molding machines are estimated to be in operation, they said. They estimate Ford has about 190 machines and American Motors 40. "Chrysler is the sole holdout at the present, having essentially only a token experimental effort in plastics molding," they added.

The recent federal safety legislation also has had a strong influence on the increased use of plastics. The Enjay officials said "the 2-fold increase in usage of polyurethane foam padding, the doubled thickness of polyvinylbutyral sheeting in windshields and the increase in nylon fiber for mandatory safety belts and harnesses are a few examples."

However, they add, "safety legislation can pose problems for plastics. Proposed flame retardance requirements will require in some instances new high cost plastic grades and this will in turn impose a new set of standards for material selection."

The Enjay officials presented their views in a technical paper presented to the summer meeting of the Society of Automotive Engineers. In summarizing their position, they said:

"The usage of plastics in exterior body panel applications will probably not begin to make a substantial contribution to overall plastics consumption in the automobile market until after 1975. However, there will be a continued increase in usage of plastic in bodies for limited production automobiles throughout the entire decade." /MT

Chevy's heavy lightweight

By Eric Dahlquist

Whaaaaaa! Look! Zooming into Turn 9. It's a bird. It's a plane. It's Super-Chev! Sorry Ford guys, that's the way it is.

You knew it all the time, didn't you? You just knew that somewhere out there in the woodwork, or more likely, in the back reaches of Chevrolet Engineering in Warren, Mich., there lived and breathed an all-aluminum 427-cu.-in. porcupine engine. The genuine article. Not the trick-of-the-week dreamed up at the GM Tech Center for Jim Hall (a situation which is kind of a shame because Jim Hall doesn't need anyone to dream anything for him), but an extremely limited quantity, lighter edition of the current "zappo" L-88 Corvette powerplant. Hall had one, of course, and Penske and some were going to Europe. The signs were all around for anyone with a pocket magnet.

If you happened into Bartz Engine Development in Van Nuys, Calif., just before qualifying started at Indy this May, you didn't need a magnet. There, spread out on newspapers on one of the workbenches, were all the pieces of this latest Chevrolet masterpiece — a collection you could just carefully gather up, put together, drop into your 'Vette and never be beaten again. Not that you could get one — even if the part number and the three grand they get were plunked down at your local dealer. Most of the stuff in the engine is individually machined and there are no great quantities of any individually machined item to be found these days. Chevy doesn't make the aluminum heads and manifold for their RPO L-88. So you cannot expect aluminum short blocks to spew from the maw of the Tonawanda, N.Y., Engine & Foundry plant — especially at a measly $3000 apiece. The company loses money on it but Chevies go right on winning, don't they?

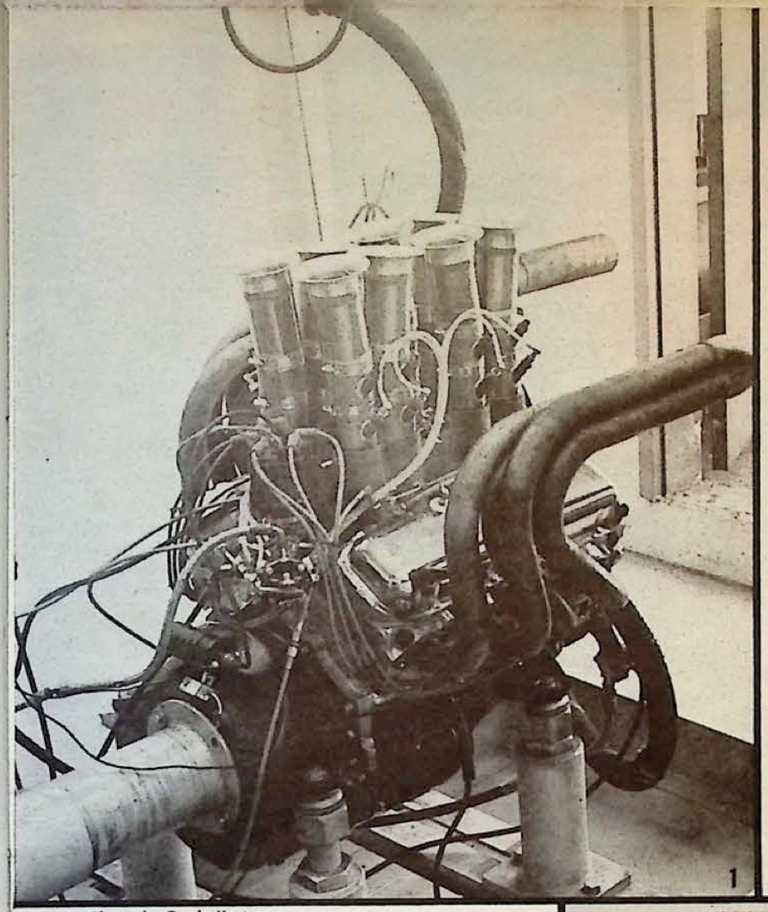
We're still gazing down at the parts as Al Bartz goes on how the block is made from 356 T-6 heat treated aluminum, using "loose-wood" patterns (like mahogany) that are pieced together. This, as you might guess, is a very limited-production process. The cylinder block is manufactured dimensionally in identical configuration to an L-88 427; i.e., the dimensions of the standard production engine are carried over exactly, except that the walls and main bearing webs are beefed up somewhat. Cylinder liners are of the common steel dry-sleeve variety. The detail of the lubricating system has been changed slightly in that the main bearings are oiled by galleys around the cam bearings like the old 327 instead of going directly into the mains as before. Also, there are two ½-inch oil galleys for the dry sump that run adjacent to the pressure galley in the center of the cylinder block. Despite the fact that the powerplant comes from Chevy with a very clever dry-sump setup, the unit can be run wet also if you choose. The change in oil galley routing was done to suit the former, though.

As dry-sump arrangements go, the Chevy deal is a pure delight. The oil pan is long and narrow and pinched in the middle like a coke bottle, designed so that the lubricant will run either to the front or rear where the pickups are. A 3-geared scavenge-pump replaces the stock pressure pump being mounted and driven in the same manner. Some thought went into the 3-gear approach, since by driving one gear, they have gained the volume of two pumps in a single housing without four gears. And, they didn't drop the ball at the pressure-pump end either. This pump is a concentric gear design adapted from their Turbo Hydra-Matic transmission that fits neatly under the aluminum timing cover and drives directly off the crankshaft.

Second-design is a phrase you learn when discussing the all-aluminum engine, and it just means an improved generation 396-427 has come along silently this spring in the clothing of the old. Interestingly, these improvements — and they are all improvements — are being incorporated into current production powerplants as running changes so that the engine you order in July of '68 say, is much better than the one in January. A real comfort to all you winter customers, right?

Take the crankshaft (PN3942411), which we would, if given the opportunity. It is of 5160 alloy steel, fully nitrided instead of the Tuff-Tride process used in production pieces. Because the block is thicker (due to the extra beef) the counterweights on the crankshaft have been turned down on the o.d. to clear. Machining was also done on the crank nose, whittling it to 327 diameter to accommodate the oil-pressure pump of the dry-sump — the balancing method is done in the neatest possible way. The normal balance holes in the counterweights are threaded and whatever "heavy-metal" is required is slipped into the hole, a plug screwed in place and then welded. Main bearing caps are the same 4-bolt variety Chevrolet has been using right along for high-performance engines only the cap-bolts have double the amount of threads as the iron engine. With the extra thread contact, normal, iron engine torque specs are used. As an added touch, all the thread holes are Heli-coiled.

Second-design connecting rods (PN3942406) are an updated L-88 item every Chevy drag-racer in America will have as soon as the news gets out. Like they've had a little rod failure at high rpms before. The new con-rod has a slightly bigger I-beam and big-end section, plus larger 7/16-inch bolts undercut and ground-under diameters. Except at the top and in the center, where the rod-cap mates, the shank diameter of the bolt is identical to the root diameter of the trends. This method eliminates the difference in tensile stretch between the shank and the threaded portions. On the small end, a full-floating piston pin is retained in place by spiral pin locks. Pistons are conventional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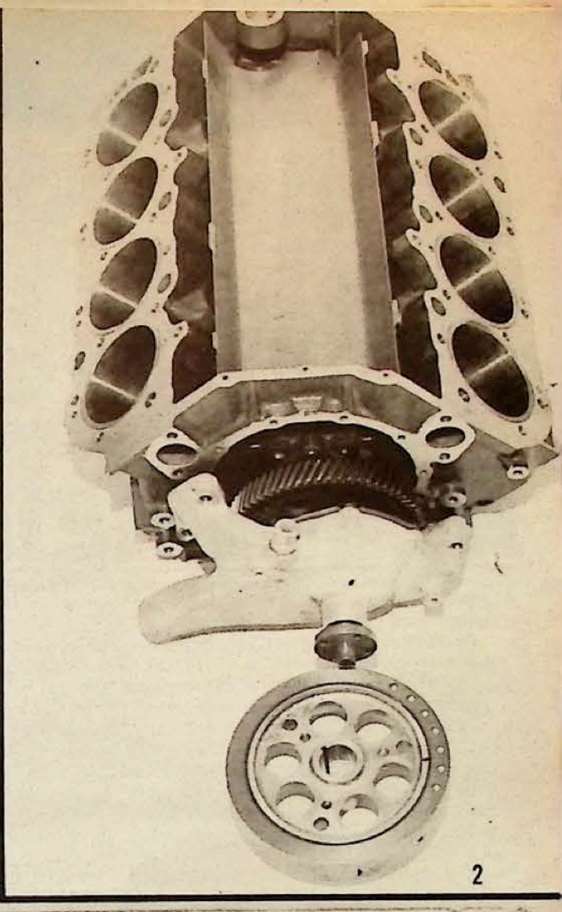
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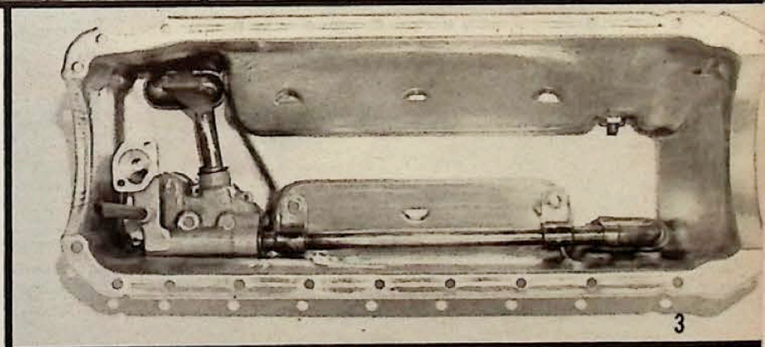
Photos by Carole Knutson

1. Pow! There went your mind. Face-to-face with the all-time hot setup — 615-horsepower worth — and not a Ford in sight. These guys at Chevy are too much. If they really were in racing just think what they could do. 2. And what would a drag racer, any racer, give for what's sitting here: 427 aluminum block with lifter gallery splash tray, cam gear, alloy water pump, damper. 3. New engine comes stock with dry-sump setup. Three-gear scavenge pump drives in normal manner but has effect of two separate pumps. Pan is art-work. 4. The regular L-88 aluminum head started the whole thing off last year and has been carried over. But, like everything else, they will be soon updated with more unshrouded chambers. 5. Oil pressure pump is located in aluminum timing cover and had been cleverly adapted over from Turbo Hydra-Matic transmission. To fit the concentric gears in the small area, the crank snub was turned own to the 327 small-block size. Fully machined damper fits on front.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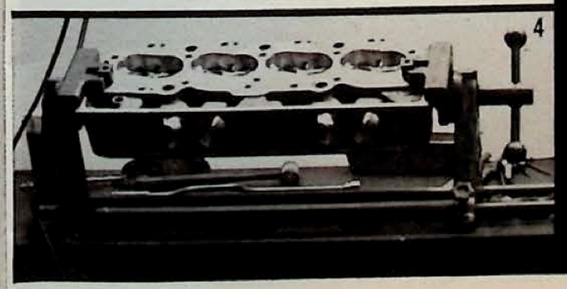
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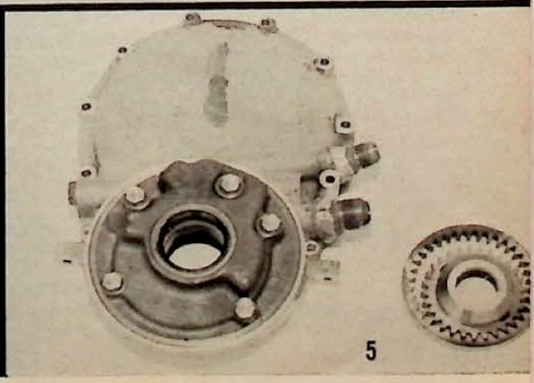
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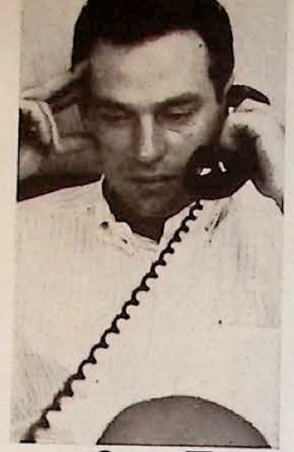


That bane to us all, the telephone, steals away another few minutes from Al Bartz.

lightweight

continued

forged aluminum L-88-type with double "moly" rings and a conservative 12.5:1 compression ratio.

By this time, somewhere, you must have seen a pair of L-88 aluminum cylinder heads. The alloy-block-type are identical except they have an additional cylinder-head hold-down cap-bolt routed through two intake ports on each side. Unlike Ford, who when confronted with a bolt problem, actually put a tube in their tunnel ports, Chevy has a little threaded plug in the floor and roof. We asked Al about this. "Well," he began, "they needed a little extra sealing in this area and the port just happened to be in the way. Access isn't as bad as it looks. With a ⅜ drive speed wrench you can get at the cap bolt pretty fast."

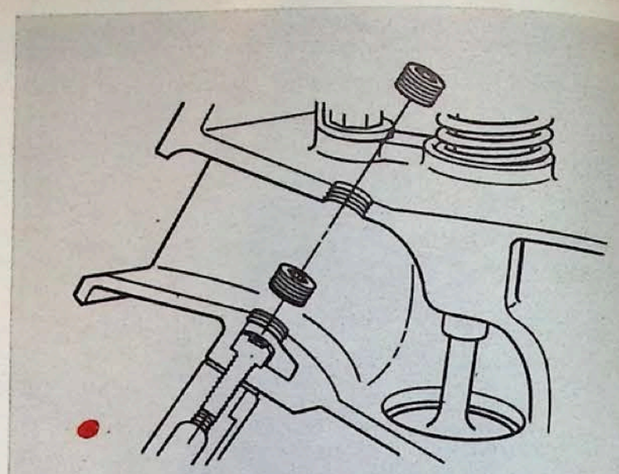
The engine comes from Chevrolet loosely assembled, that is all the pieces are bolted together so none are lost during shipment. For $3000 you get one complete powerplant with L-88 aluminum manifold (PN 3886092), aluminum water pump, all gear reverse-rotation cam drive (crank gear PN 3860086, cam 3856351), reverse rotation camshaft (PN 3925533) but no flywheel, clutch, bell-housing. A transistorized reverse-rotation distributor (PN 1111263) is included.

"As they come off the line," Bartz mentioned, "all the tolerances are very close although we disassemble each one and blueprint it completely. The valves are produced with a 45° seat angle and backcut with a 30° taper approach to smooth the gas flow. In a little manual that Chevrolet Engineering sent along with the powerplant it said that all parts are supplied which are necessary for use in the engine; there's a lot of truth in that. One thing that comes to mind is that we haven't been able to find a better cam than the one supplied and we've tried a bunch. The Chevy is the only grind that will go 7200 rpm without valve float. At this point we're getting between 590-615 hp (530-545 lbs.-ft. of torque, depending on ram (tube length) with a modified Lucas/Crower injector.

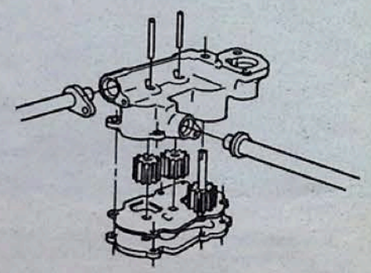
"The most significant thing about the engine though," Bartz reflected, "is that it weighs just 460 pounds ready to go. That's 40 pounds less than the cast iron 327! It's a great idea and Chevrolet keeps improving it. I understand Jim Hall already is trying one made from magnesium. Ford will probably have their all-aluminum 427 tunnel-port out for some of the '68 Can-Am races but there won't likely be more than one or so. They have a long way to go."

Yes, Mr. Bartz, Ford indeed has its work cut out. But that's the name of this game — competition. Next year at this time the tables may be switched, although we wouldn't bet on it.

/MT



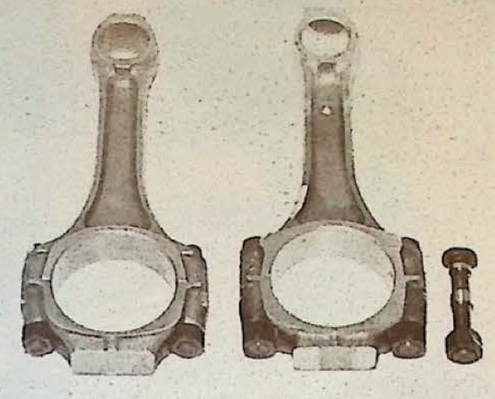
Simple cutaway drawing shows how they service that extra cylinder-head cap-bolt on the aluminum block. Instead of putting a tube in the port like Ford, two plugs seal roof and floor of port. This looks like a lot of monkey-motion but it works out quite well. Of course, there aren't any commercial head gaskets around with the extra hole punched in so you just do it yourself. But that's about the only thing.



Three-gear oil scavenge pump is a nice little touch of ingenuity since it works like two separate pumps without two pump housings. Unit is driven like normal oil pump.

General Specifications

Bore & Stroke:	4.25 x 3.76 ins.
Displacement:	427 cu.-in.
Compression Ratio:	12.5:1
Maximum Horsepower:	590-615 @ 7200 rpm
Maximum Torque:	530-545 lbs.-ft. @ 5500
Pistons:	Forged aluminum
Rings:	Molybdenum filled steel
Camshaft:	Mechanical tappet Total lift — Exhaust, 0.560-in., Intake, 0.540-in. Duration — Intake, 334°; Exhaust, 334°
Valves:	Alloy steel Head diameter — Exhaust, 1.859-in. Intake, 2.185-in.
Valve Spring:	Outer with inner damper Installed spring height — 1.880-1.860-in.
Lubrication System:	Dry or wet sump
Lubricant:	Any 40-weight ashless oil
Fuel:	Super premium, summer grade
Carburetion:	1 4-bbl. as delivered, Lucas/Crower injector as run
Exhaust System:	2-in. x 36-in. headpipes collected for each bank to 4-in. x 30-in. tailpipes
Distributor:	Transistorized, magnetic-pulse, reverse-rotation, 38-42° maximum advance
Spark Plugs:	AC 41 XL, Champion N60Y or equivalent long-reach, full-thread with anti-seize compound



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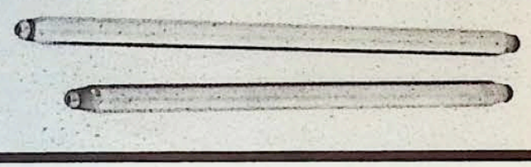

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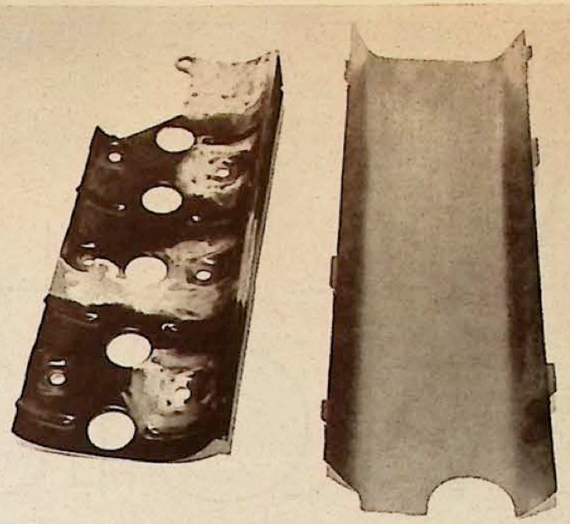

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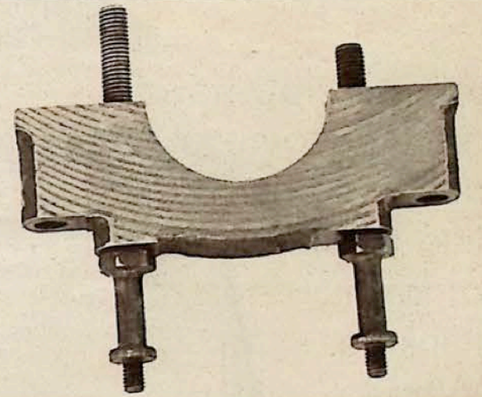

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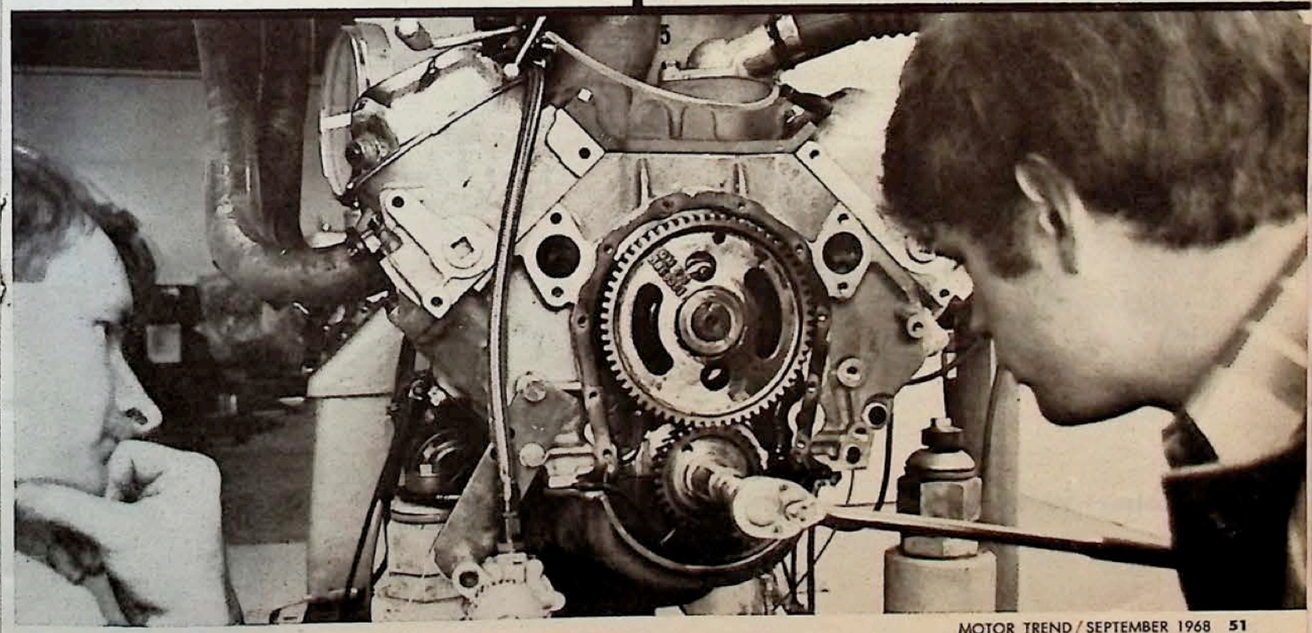
1. Second design connecting rod (right) has much beefier big end and uses 7/16-inch under-cut bolts. Con-rod bolt has been strengthened by increasing size and eliminating difference between shaft and root diameter of threads.
2. Performance oil windage tray (left) is production item, and therefore, costs only a few bucks. New gallery baffle (3931093), same size but not offered in quantity, costs $17.
3. Pushrods (PN 3931093-inlet, 3942415-exhaust) are part of valvetrain package. Rocker-arms (3860308) and balls (3899622) comprise rest. Competition versions use aluminum rockers.
4. Bolts for aluminum block (left) have doubled the threads.
5. Gary Knutson (right) and Colin Beanland, look over the cam degree situation on first alloy 427. Reverse cam-drive is regular truck item. Helical cut teeth keep it quiet.

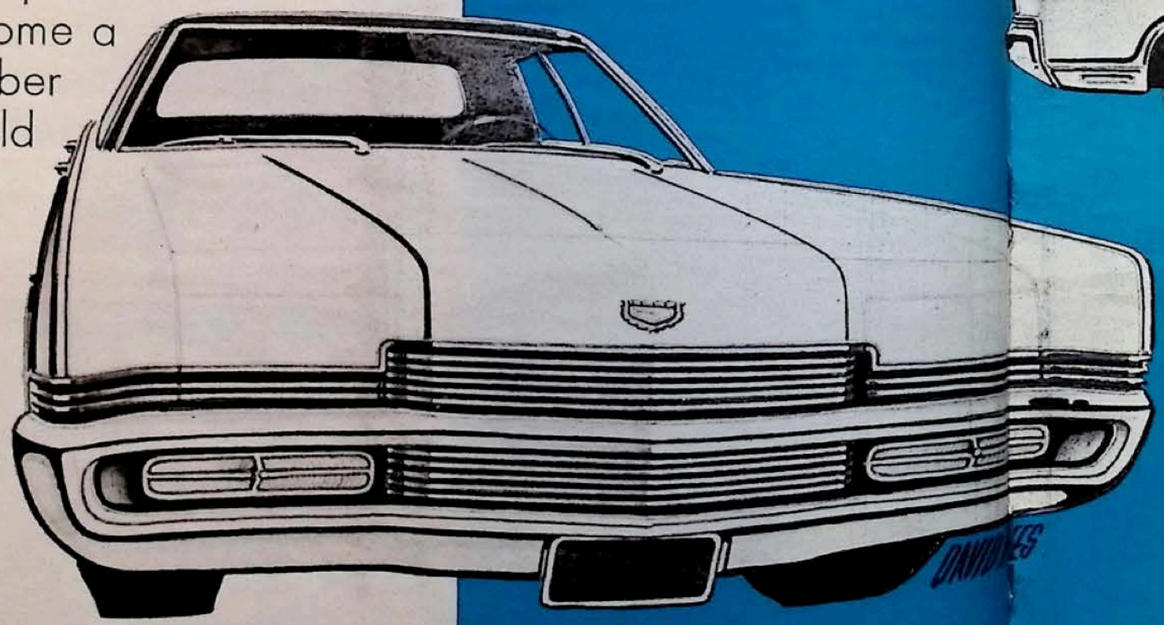


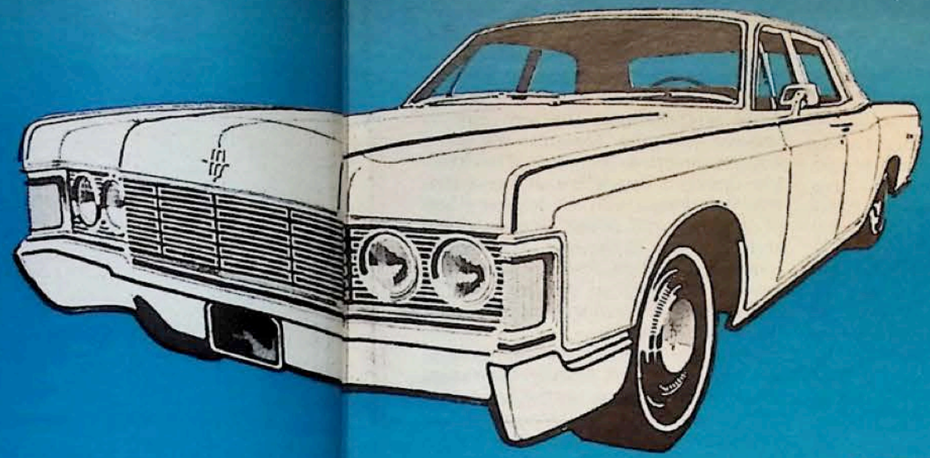
5

the Age of Vitality

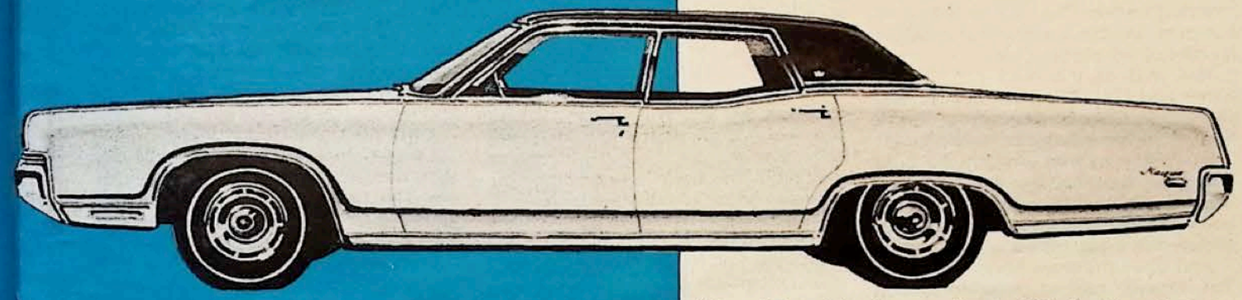
Let's all clap hands and welcome a new member into the fold of fresh thinking. Who? Uh, would you believe slow, square ol' Lincoln-Mercury?

By Robert W. Irvin





(Left) The "Lincoln Look" has long been a blueprint for others, but 1968 saw the Continental maintaining its unique personality. Now it has become the prototype of a new breed of Mercurys for 1969.



(Above) Top of the Mercury line for '69, the Marquis Brougham is no longer simply a "Mercury," but carries crest of "Lincoln-Mercury Division." Four-door hardtop has beaucoup Continental image rub-off.

(Left) Continental look is emphasized in grille treatment of both Marquis (shown here) and new Marauder. Emphasis has been placed on center treatment while retaining breadth of an extended grille. Styling objective was to create luxurious identity with a plush feel and get away from the "glorified Ford" image. Marauder in X-100 trim is an attempt to give the luxury field a sporty car, and just might succeed.

(Right) Even the lower series Mercury Monterey fits the homogeneous mold of big brother Continental, although styling is more conservative, utilizing an even wider full-width grille. Monterey and Marquis share 124-inch wheelbase. Montclair and Park Lane series have been dropped for '69.

continued

"We've been at this 20 years and we're not making it, so let's give it one last college try."

This, in effect, was what Henry Ford II told Lee A. Iacocca one day in January, 1965. He was referring to the Lincoln-Mercury Div. and its efforts to compete in the medium and upper reaches of the auto market.

This part of the market has been dominated by General Motors for years. Even Chrysler has been ahead of Ford in the medium-price field.

Iacocca, who had just left the Ford Div. after bringing out the Mustang, was now a group vice president of the company and was told by Henry Ford to lay out a program for L-M.

And now, 3½ years later, "We are at the climactic part of trying to rebuild this division," Iacocca said.

The "climactic part" is the full-size 1969 Mercury line which Iacocca believes represents the last word in luxury and performance in the medium price market.

"I don't think anyone will be able to say these cars look like a glorified Ford, which has been the charge in years past," said Iacocca. "The top car isn't even called the Mercury — it's called 'the Marquis by Lincoln-Mercury.' Then there's 'the Marauder by Lincoln-Mercury' and the Mercury Monterey — also by Lincoln-Mercury. We're not trying to be cute merchandisers . . . we're saying it's that kind of a change."

What's the styling objective? "We're trying to create a luxurious identity for the car line," Iacocca commented. "We want a plush feel. Take the Marauder. It's smaller than the Marquis. But look at it — when I see an X-100 Marauder all jazzed up you think that it's got the Marquis Lincolnesque front end but I read it as an overall sporty car — but with a luxury look."

Iacocca makes no bones about the fact that the new Mercurys will favor the Lincoln and Continental styling theme. And why not? Iacocca asks, noting that others have been copying Ford styling themes. "If everyone else can imitate the Lincoln look, why not Mercury? Look at the Grand Prix. We couldn't tell the first from our Lincoln.

"And it cost a lot of dough, too," he noted. "We have an astronomical tooling investment in this 1969 Mercury line," he said. "We're trying to go first class. I know our design costs are above all the competition."

Since prices have to be competitive, Iacocca candidly admits that because of the high costs "we're going to have to take somewhat less on each car — $50 to $75 — and it's a calculated risk." And, he added, the money clock was running not just on the exterior design but on the interior appointments as well.

As for the engine, Iacocca counts it fortunate that the 429-460-inch engine was developed shortly before the new full-size Mercurys were ready. "The clean machine," as Iacocca calls it, was "the first designed from the ground up to take care of pollutants. We have a derivative of that engine — the 429 — that will be going into the Marquis and will be optional on all other Mercury cars. And we have the 460 which is in the Mark III and the Lincoln. And I say unequivocally that it's the best damn engine ever built. This basic design will be the mainstay of the whole Mercury line.

"So, not only is the exterior of the Mercury all new but so is the heart and soul — the powertrain. Add to this our new collapsible safety frame. So you can see the car is new from the ground up — I mean everything from last year's Mercury is gone — from the nuts and bolts to the tire size.

"An effort has been made to really revolutionize this car . . . give it the luxury look of the Lincoln, hopefully priced right at the bottom end, with the luxury touches and features on the upper end. These cars will have a price spread of over $1000 — from the Caprice and LTD area to the Olds 98 range, and the latter is a market where we've been real dry."

Here's a rundown on just what L-M will offer in the way of full-size, medium-priced cars for 1969:

Marquis: coming in two series, the new Marquis and Marquis Brougham hardtops and sedans are built on a 124-inch wheelbase and are 224.3 inches long overall. The basic car has a long hood, short deck design with the now-traditional power dome hood and a full-width grille with dual concealed headlights. Offering a full range of models, there is also a Marquis convertible with a new top design that provides full rear seat room for three adults. The Marquis Colony Park station wagon features a dual-action tailgate that can be opened and closed like a regular door even when the glass is up.

Marauder: offered in two models, the Marauder and Marauder X-100 2-door hardtops are L-M's idea of bringing sportiness and high-performance in a new size to the luxury car field. The Marauder is built on a 121-inch wheelbase. The X-100 model is powered by the all-new 429-inch V-8 with 4-bbl. carburetion. Although slightly smaller than the Marquis, the front end treatment is the same. The hardtop design is distinctive. It has a tunnel-back design with the trailing edges of the rear roof pillars flowing down and extending to the rear. A special 2-tone paint option features the entire tunnel-back area of the car with a matte finish in a color to complement the main body color.

Mercury Monterey: avaliable in both the Monterey and Monterey Custom series, the cars come on the same 124-inch wheelbase as the Marquis while the overall length is about three inches less at 221.8 inches. Two former upper series, the Montclair and Park Lane, have been discontinued. Still, a total of nine models will be offered, including hardtops, sedans, wagons and a convertible.

L-M's other cars next year are:

Cougar: featuring a new body design, the Cougar also adds a convertible. The car is 3.5 inches longer and almost 3 inches wider. It has a side sculpture line which is similar to Buick's while the front end has full width grillework; although still retaining the same effect as previous grilles. The XR-7 version will again be offered.

Montego: there are only minor appearance changes since the car was introduced in 1968. The top image car is the Cyclone CJ. It has clean sides, no chrome and a blacked-out grille. There is a functional hood air scoop on the new ram-air version of the 428 Cobra-Jet engine. Simulated wood grain paneling is optional on the Montego MX wagon.

Lincoln-Continental: the front end has a new look with a square mesh grille design that brings a Mark III flavor to the Lincoln. There are full-width tail lights set in the rear bumper with side marker and backup lights set into the trailing edges of the rear quarter panels.

Continental Mark III: this top-of-the-line car was introduced in April and is unchanged.

The Styling Story

A. B. (Buzz) Grissinger, director of Lincoln-Mercury styling at the Ford design Center, is, naturally, quite proud of the work that went into the new Mercurys. "We've tried to upgrade the cars by adding a lot to the quality and appearance," he said. "They have to compete with quite a large number of cars so they have to be many things to many people.

"We've tried," he continued, "to carry forward the association with the Lincoln-Continental — the appearance, dignity and elegance. We had many different designs of the Marquis before we arrived at what we think is the right combination. We wanted it to be a 'plus-up' from the Monterey. The Monterey uses the same major stampings but the front end has been shortened. The Marauder retains all the features of the Marquis but has some design changes to convey the 'King of Speed' feeling."

The 2-tone paint job on the unique rear roofline is probably the most distinguishing characteristic of the Marauder, Grissinger noted. There is also a slight Coke bottle shape to the rear quarter panels and a hop-up to the rear fenders. While some may feel this looks like recent Pontiac GPs, Grissinger said "this characteristic started with the 1961 Lincoln-Continental and found favor with other companies. That car was a breakthrough for us," he continued, adding, candidly, that "perhaps we were a little negligent in not immediately using the Lincoln-Continental as a benchmark for our other cars. We wanted to keep it on a pedestal. But the fact that others began using it forced us to copy our own design."

While the lower series Monterey still has a Lincoln flavor, the styling is more conventional with an even and wide full-width grille. "The upper series (Marquis-Marauder) is more distinctive," Grissinger said, "with a slight emphasis to the center, yet still retaining the breadth of an extended grille." The headlights are out in the open in the lower series and the fact that they are hidden on the Marquis-Marauder "gives stylists more flexibility."

Developing a family association in cars is a tricky business.

"If the Mercury looked too much like the Lincoln-Continental this would please Mercury owners but we would hurt ourselves with owners of the Lincoln-Continental. It's a matter of where you draw the line. We don't deliberately try to make a cheaper, smaller version of the Lincoln-Continental," said Grissinger.

Ford designers seem a little embarrassed about the side sculpturing on the Cougar. The impression one gets in talking to them is that if they knew Buick was going to play it so prominently they wouldn't have developed the same theme. Interestingly, a few years ago, when the '69 Cougar was in the design stage, there were two different side versions, one with the sweepline and one without. You know which one they selected. Grissinger defended the side sculpturing, saying, "it's handled differently than on the Buicks." But, he acknowledged, "people will probably think the sweeplines are the same."

While the Cougar gets new sheetmetal, the innards are pretty much a carryover. "It's a brand new car from the appearance standpoint," he added.

On the Lincoln-Continental, he continued, "there is an indication of moving towards the Mark III's central grille emphasis, but without isolating it completely as on the Mark III." With the exception of the grille and tail lamps, the L-C is essentially the same for the fourth year running.

The Goals

How will all this be reflected in the marketplace? "We think sales are going to be very good," says M. S. (Matt) McLaughlin, L-M general manager. "Our product lineup is the best in our history." The changes in the full-size Mercurys, he added, "represent the most dramatic product changes in one year in luxury cars in the history of Ford Motor Co. These fine automobiles, along with the new 1969 Cougars, represent the fourth stage in the complete product revamping of our division, which began in 1967 with the Cougar, continued last fall with the Montego and this spring with the Continental Mark III."

McLaughlin figures the division will sell a record 450,000 cars this calendar year, breaking the old mark of 435,000 in 1955. Just as importantly, L-M's share of the market is climbing. The division had a 4.5% share last year while this year it should be in the neighborhood of 5%. What about 1969? "Our long-range goal," said McLaughlin, "is to get one-third of the Buick-Olds-Pontiac average. The B-O-P cars take about 22% of sales, so L-M is aiming for something over 7%."

Obviously, they won't pick up 2 percentage points in market penetration next year — that would amount to a 40% sales increase. Ford officials are talking in terms of a 0.5 or 1% boost in market share, which would mean a 10-20% sales increase.

"It's going to be a long, uphill climb," says Iacocca. "Right now," he adds, "we have no set objective for 1969, but we are going to start talking about 6% market share."

Advertising, of course, will play a big part in L-M's plans. The ads will be simple and to the point — like the Mustang introductory ads, Iacocca said. "We hope they will have that kind of impact," he said. "We're going to take the Marauder and Marquis and give 'em hell."

What role will racing play? "A big luxurious car like the Mercury has no place in racing," was Iacocca's answer. He made it plain the company regards racing as primarily a Ford Div. enterprise, but there still will be some effort to campaign the Cyclone on the stock tracks and the Cougar in sedan racing.

Iacocca frankly admits that at Ford Motor Co. the medium-price market "has always been our weak suit. We do well enough in penetrating the other markets — above 20% and in the case of the Mustang, 50%. But when you get only 8% of a market like the medium-priced one, it drags down the whole corporation."

This is the way the competition shaped up this year in terms of market penetration: Mercury carried 1.5% as opposed to Pontiac's 4.9, Buick's 4.2, Oldsmobile's 3.3, Chrysler's 2.3 and Dodge Polara's 1.5%. In view of this, a questioner wondered whether it might have been a mistake to kill the Edsel. "With hindsight," Iacocca said, "you can see the car was planned properly. When it was conceived in 1955, medium cars were getting 40% of the industry but the day it came out in 1957 it was only 19% and today it's a little less than that. It may have been a mistake to kill the car as a concept, but it just could not support a whole dealer organization."

As Henry Ford II noted, the company's been trying to do something in the medium-priced market for a long time. His father, Edsel, persuaded his grandfather, the first Henry Ford, that the company should build a medium-priced car. That was in 1939, so the brand new 1969 Mercurys represent the 30th anniversary for this car.

Is the current program going to pay off? "Honestly," said Iacocca, "if we can't now, it won't be because we didn't try. We have high hopes and now we will just have to await the election results."

Years Ahead

But don't get the idea that this is it for L-M. Company officials are confident they're on the right track and already are bubbling with enthusiasm about future model years.

"We've got an all-new Lincoln-Continental coming out soon," Iacocca confided. Grissinger said the car "will retain the flavor of elegance that is in the present car." Iacocca also said the 1971 Mercury "will be a terrific car — but we are just doing that to remain competitive."

Grissinger said that in future years the same design theme "will be continued. There will be a family association to all these cars — but not to the point of making them look like a smaller, little brother of the Lincoln-Continental."

It's been a long 30-year climb since the 1939 Mercury which looked not much different from the Ford of the same year. But company officials feel the Mercury has finally found its own place in the market. And, as far as they're concerned, it's simple: "The way to spell luxury in 1969 is M-E-R-C-U-R-Y." /MT

H-O doesn't stand for "Hairy-Olds," but maybe it should.

Road Test by Bill Sanders

"Tromp on it, baby, lay a stretch!" The taunt remains, branded on your psyche with irreverent laughter. A dilettante without portfolio in the hustling world of exotic street machines, you're tired of getting dusted off at every stop light. Savoring your new found affluence, you're hot for a hot car, but an enigmatic choice presents itself. You no longer make it with the Pepsi Generation — you're over 30 and nobody trusts you. You're in that group who remember when ice trucks still made neighborhood deliveries and Frank Sinatra wore a bow tie. Face it, man, just settle for a family sedan.

Wait! Hold it! You just lucked out. The American "Supercar" has taken one step beyond: enter the "Executive Hot Rod," a set of wheels that can run in the Woodward Ave. "500," cool little old ladies on Colorado Blvd., then black-tie-it at the Sheraton Cadillac or Beverly Hilton without even going through a car wash. Now you can turn e.t.s in the low 14s while running in air conditioned comfort. Developed by Jack "Doc" Watson, a familiar name in racing innovations, in conjunction with George Hurst, the car is a specially modified 1968 Olds 4-4-2 called simply the Hurst-Olds, or H-O for short, and is built by Demmer Engineering in Lansing, Mich.

Watson had two ideas in mind for developing the Hurst-Olds. First, he felt there was a market for a comfortable supercar, one that would handle acceptably, as well as turn wild quarter-mile times. As he told us, "I wanted a car that would give all the acceleration you want in the straight, but wouldn't look like a floundering duck in the corners." His second approach was to make a car available to the newly emerging affluent market of people who wanted more luxury in their cars. The Hurst-Olds fills his prerequisite of "Poise, Personality and Performance" completely.

Powertrain & Performance

The Hurst-Olds is available in two stages of tuning. Jack met us in Detroit with two cars and we headed for the Detroit Dragway to put a few runs on each. A SUPER-supercar should out-perform its contemporaries, and this was accomplished for the Hurst-Olds by replacing the standard 400-cu.-in., 4-4-2 engine with a specially prepared 455-cu.-in. powerplant, complete with a forced-air induction system. Special features of the engine include high-performance cylinder heads; a high-lift, long-duration camshaft; special carburetor jetting; a special distributor curve; and a specially machined crankshaft. These modifications have boosted the horsepower rating on the 455-cu.-in. mill to 390 hp at 5000 rpm.

The second BIG change was in the transmission. Watson has incorporated a special transmission valve body and modified Turbo Hydra-Matic and finished it off with the Hurst Dual-Gate shifter. The Dual-Gate gives complete flexibility to the automatic, with full manual operation plus peak automatic performance. Advantages of the Dual-Gate are readily apparent under difficult handling conditions, with features such as the neutral loc-out that eliminates overshifting third into neutral and possibly blowing the engine. In the Drive position, quick bleed-downs give instantaneous shifting without any lag.

Many supercars have heating problems. To overcome this malady before it got started, the Hurst-Olds has been fitted with a specially calibrated viscous fan clutch and an extra thick radiator core to insure maximum cooling, even under the roughest use.

Differences in tuning have been set up to incorporate air conditioning. With air conditioning you get a slightly milder cam and a 3.08:1 rear axle. Shifting is also smoothed out. Without air a stronger grind cam prevails, with different valve timing. Rear axle ratio is modified to 3.91:1 for better acceleration and performance. Quarter-mile times were everything and more than we expected. Additional modifications can be made to wring lower e.t.s from either car. One test car with clipped heads, bigger hydraulic cam, lower rear-end ratio and headers turned a 12.61 e.t. at 110.7 mph, and that appears to be just a beginning.

Handling, Steering & Stopping

Oldsmobile has given the U.S. public one of the better American-type GT suspensions on the standard 4-4-2 and this ride and handling package has been tuned to perfection on the Hurst-Olds. Without detracting from the suspension, much handling credit must be given to the Goodyear Wide Oval G70 Polyglas tires which are standard on the H-O. Even under the most abusive treatment, minimum stability deflection or sidewall distortion occurs, keeping steering neutral in most situations and putting more horsepower on the road for maximum traction. The non air-conditioned package with 3.01:1 rear end transmits a much more stable road feel during heavy cornering situations. Although the 3.08:1 rear end doesn't transfer maximum torque to the road instantly, which results in a tendency to oversteer, this can be rectified beautifully by downshifting to second, bringing up higher rpms and consequently increased torque. Second gear then approximates the 3.91:1 rear-end torque range in high, maintaining a more neutral steering situation and a better all around power and braking balance.

Power front disc and rear drum brakes used with a sensitive front to rear proportioning valve produce excellent braking results, but again, the Polyglas tires put braking clear out of sight. Directional stability is almost perfect, even in hairy, smoking panic stops of 90 and 100 mph, which were unexpectedly included in our brake tests. Just a flick of the wheel eliminated any tendency to swerve and brought the car back to straight immediately. We know by printing the stopping distance of 91 feet from 60 to 0 mph we'll get swamped with letters, but each of the several panic stops we made were witnessed and measured by three unbiased helpers who are still shaking their heads.

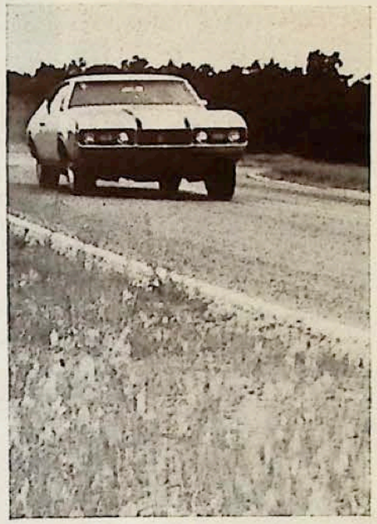
Comfort, Convenience & Ride

Riding comfort is about the same as that of a 4-4-2 or a Cutlass Supreme with police suspension, but may be just a little harder, a compromise for the added stability. The stiffer ride was only noticed on washboard or rippled country roads. On a freeway it was superb.

When it comes to individuality, the Hurst-Olds is a definite winner. One look at the distinctive silver and black paint scheme and you know, "this ain't ordinary." Special Hurst-Olds emblems on front quarter panels and rear deck add to the planned, sanitary look of the car. Only the two air ducts under the front bumper give a clue to the real thundering herd under the hood. Inside, a hand-rubbed, walnut dash panel applique with another H-O emblem adds the individual touch.

Plus & Minus Features

There is little to fault with this car. All the modifications have heightened an already good package and any minor inconveniences are almost unnoticed now. It's still basically a 4-4-2 or Cutlass shell, but the bucket seats, adjustable steering wheel and dash arrangement are still among the best we've found in '68. By using the Hurst shifter a center console glovebox has to be omitted, but that is also a minor inconvenience.. Ride, low noise level and comfort are paramount in comparison to most super-type cars. With the Hurst-Olds you get uncompromising street and road performance and all the guts of a hot supercar, but with extra-wild engine noise and a concrete spring ride effect eliminated. Mr. Watson claims it's a supercar that, "grows on you — not off you," and after a weekend of living in the car we are believers. For an average price, depending on what options you require, of between $4500 and $4900, the Hurst-Olds is one helluva bomb. /MT



(Right) Cornering is flat and stable with mild understeer on 4-4-2 suspension and wide Polyglas tires.

Photos by Jack Weston

SPECIFICATIONS

Engine: 90° OHV V-8. **Bore & Stroke:** 4.125 x 4.250 ins. **Displacement:** 455 cu. in. **Hp:** 390 @ 5000 rpm. **Torque:** 500 lbs.-ft. @ 3600 rpm. **Compression Ratio:** 10.5:1. **Carburetion:** 1 4-bbl. **Transmission:** Automatic. **Final Drive Ratio:** 3.08:1 or 3.91:1. **Steering Type:** Power. **Ratio:** 24:1. **Turning Diameter:** 40.9 ft. curb-to-curb, 5.56 turns, lock-to-lock. **Tires:** G70 x 14 bias-belted polyglas. **Brakes:** Front disc, rear drum, power-assist. **Suspension:** Front: independent coil spring. Rear: Link coil spring, stabilizer bar. **Body/Frame Construction:** Body/frame. **Dimensions, Weights, Capacities:** Overall Length: 201.6 ins. Overall Width: 76.6 ins. Overall Height: 52.8 ins. Wheelbase: 112 ins. Front Track: 59 ins. Rear Track: 59 ins. Curb Weight: 3603 lbs. Fuel Capacity: 20 gals. Oil Capacity: 4 qts. Available in pillar coupe or hardtop coupe. Base price, (excluding mandatory options), pillar coupe $3150.

PERFORMANCE

Acceleration (2 aboard) 3.08:1 rear axle

	with air	without air
0-30 mph	2.80	2.65 secs.
0-45 mph	4.10	4.10 secs.
0-60 mph	6.65	6.65 secs.
0-75 mph	8.25	8.25 secs.

Standing Start ¼-mile
without air 97.30 mph ..... 13.97 secs.
with air 94.36 mph ..... 14.28 secs.

Passing Speeds: Drive range (kick down to low)

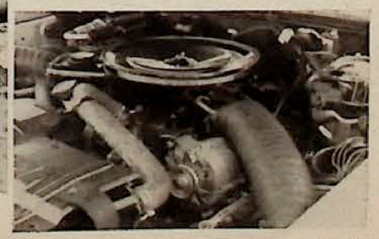
40-60 mph	with air	3.0 secs.	219.6 ft.
	without air	2.8 secs.	204.9 ft.
50-70 mph	with air	3.5 secs.	308 ft.
	without air	3.3 secs.	290.4 ft.

Speeds in Gears:
1st ..... 52 mph @ 5400 rpm
2nd ..... 92 mph @ 5400 rpm
3rd ..... 132 mph @ 5400 rpm
MPH per 1000 RPM: 24.5 mph

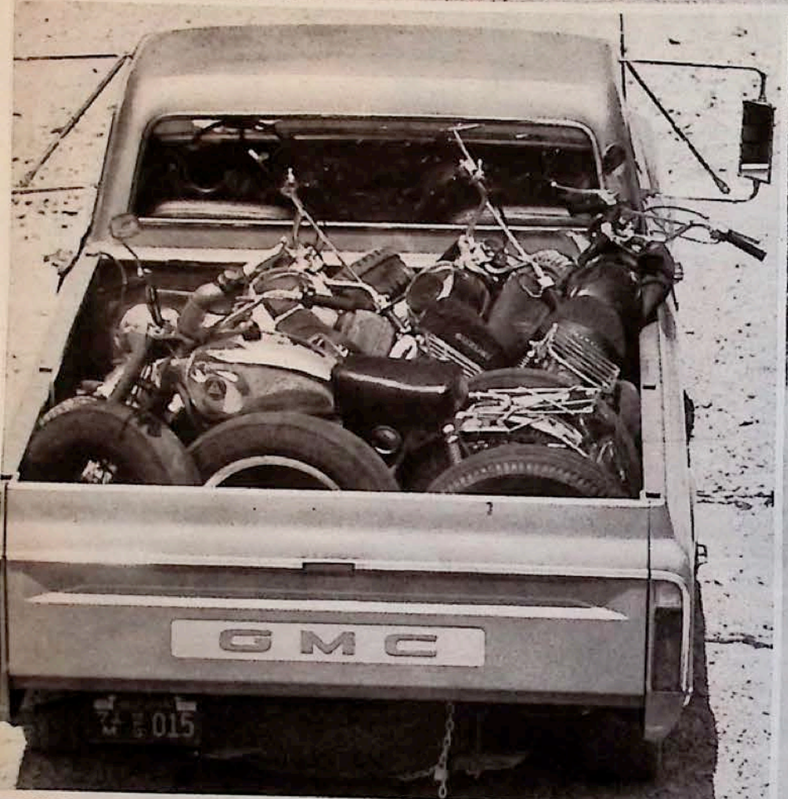
Stopping Distances:
from 30 mph ..... 18 ft.
from 60 mph ..... 91 ft.
from 60 mph ..... on wet pavement, 208 ft.

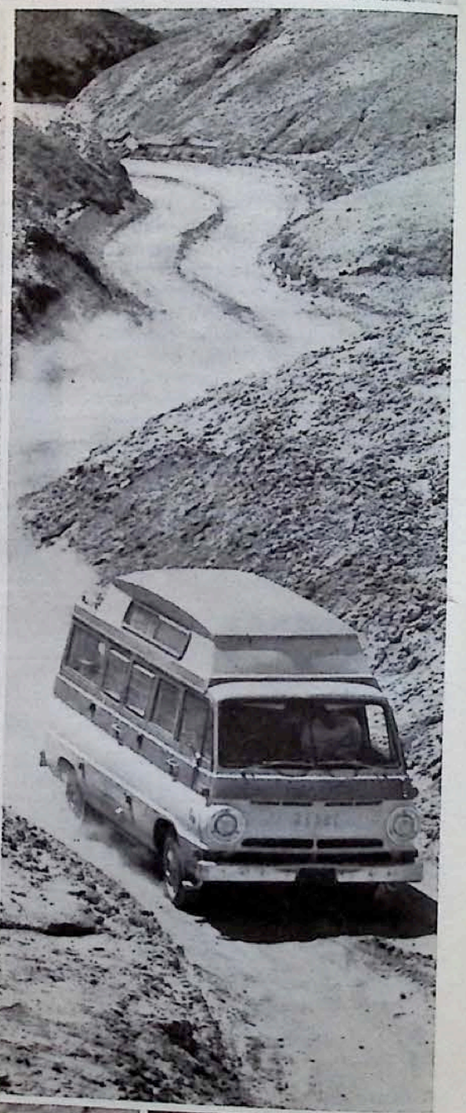
Mileage:
Range: 8.1 to 12.5 mpg
Average: 10.2 mpg

(Above) Street racers invariably look for tell-tale air intakes below bumper. (Below) Large doses of cool air through ducts keep big mill going strong.



(Above) Tremendous torque of 455-cu.-in. engine gets Hurst-Olds off line like "right now" at drag strip. Wide tires aid traction here, too.





Death Valley Daze

Or, How Four Recreational Vehicles Spent Their Easter Vacation Looking for a Home

By Julian G. Schmidt

Something's wrong.

The moment you find yourself and four other virile, red-blooded males of unquestionable romantic heritage sitting innocently in the Corkscrew Saloon 187 feet below sea level at midnight in Death Valley discussing epistemology, theoretical physics and the insidious road to Beatty, Nev., with two swell blondes — one who sings Madame Butterfly like Bob Cousy played basketball, and the other who has a provocative speech "deflect" and supports herself in one manner with college term papers that she free-lances on the sly, and in another manner with a 34 double-D — you know, just know, that this neat little progressive civilization of ours screwed up somewhere along the way.

Off-the-road? Remote? Bull. There we were, cursed with a 4-wheel-drive Jeep Wagoneer, a rugged Ford Ranchero GT with a 390-cu.-in. engine, GMC's new Golden West Special pickup prepared for the worst and carrying four trail cycles, and an Orange-County-Modern Dodge A-108 camper van outfitted luxuriously by Travco with everything but palm bearers and milk baths . . . while outside, the Memphis Washboard Co. throbbed out songs about 4-letter words, college kids from all over the state mobbed in to pinch each other and drop acid, and 40-year-old cadaverous couples, going on 80, sat around with ascots and intolerance on the siccaneous veranda of nearby Furnace Creek Inn — another Fred Harvey cyanosis sanatorium — oblivious to it all. No doubt John C. Portman was sweating away in some nearby suite, planning another Appletree Center to handle the tourist trade. *Death* Valley?

But we had to learn the hard way, getting ourselves all worked up before the trip by staring at the glistening hot chrome pipes of the bikes, the indomitable, monolithic sculpturing of the GMC, the total providence of the Travco Dodge, the sleek and rigid Ranchero, the highpockets stance of the Jeep. But it was good. An honest escape from the noise and pressure of hot cars, from the choking smog of the city, from teeming humanity. "Recreational" vehicles, indeed!

Opposite page: (Top) At lowest spot in the U.S. — 287 feet below sea level, known as Badwater, Calif. — vehicles performed best. (Left center) GMC carried bikes; Ford Ranchero (bottom left) was nimble; Travco/Dodge (right) was homey; Schmidt, Sanders & Sussman were contemplative. (Below) Jeep was great for sand dunes.

THE MOUNT

Just entering them was a welcome escape — as though they were intentionally designed along plans diametrically opposed to those for the family car. No slithering under the steering wheel until you're pressed procumbent against the floor like the rest of the super-cool slick kids of the pseudo-GT generation . . . no delicate steering to avoid chuck holes that might disintegrate the suspensions of lesser vehicles.

Instead, you mount the ladder-like steps into the Dodge and GMC and climb onto firm vinyl seats that tower above the freeway. Your legs are straight down, your back is straight up, and you swing — not steer — those big horizontal steering wheels from side to side. For braking and acceler-

(Left) And the beat goes on, even in Death Valley—especially in Death Valley and its Furnace Creek Ranch. Jeep is very stout, able to support entire Memphis Washboard Co. plus chorus under vibrant strains of folk rock. (Right) Badwater was one extreme of terrains encountered on trip—sand, salt pools, heat, borax. Other extreme was mountains.

DEATH VALLEY *continued*

ating you virtually stand on the pedals. They, too, are nearly vertical.

All vehicles fortunately had 3-speed automatic transmissions, which resulted in a clumsy pedal arrangement on the Dodge that wouldn't have been noticed with a gearbox: if you use your left foot for braking, it must be moved consciously around the steering column.

The GMC is very cramped for leg and arm room, but this, we eventually noticed after two days' use and no fatigue, was more the effect of an awkward seating position than lack of space.

At the other extreme was the Ranchero—low, comfortable—in fact, the new Torino with a truncated passenger compartment. The interior is very stylish and designed for excellent fatigue reduction with plenty of leg and elbow room. It was the one vehicle that kept us in contact with the sporty set, but it did it pleasantly with such items as full carpeting, center console for the SelectShift Cruise-O-Matic, radio, and power disc brakes.

The Jeep Wagoneer was the compromise of the group. You still climb high onto the seat, and once there, you retain an impression of Olympian superiority very much like the GMC. But the seats are soft, and successful attempts have been made to impart all the convenience and comfort of sedans with a tasteful dash and refined fabrics.

Chaos reigned as initial driving stints were chosen, and brains clicked in deciding whether it would be best to sacrifice some comfort by driving the Jeep on the freeways at the beginning in order to use the Ranchero in the mountains, or to utilize total comfort while one could.

It was almost time, and when someone draped the map over the fender of the GMC, the mere names of towns aroused primitive excitement from deep in the gut of every member of the expedition . . .

. . . Honby, Solemint . . .

. . .past Salt Wells and Dry China Lake to Mojave, we wound out of the city and were thankful for the solid-shifting automatic transmissions on all vehicles. The Ranchero's SelectShift Cruise-O-Matic, operated by a horseshoe handle on a center console, was quick and direct between shifts. It required some concentration in locating reverse, but that's typical with any mechanism of the horseshoe type. The Dodge van upheld the singular reputation of TorqueFlite's positive, immediate action, but it didn't have the performance to utilize it. The Jeep lacked sufficient power to enhance quick shifts, so it simply lugged interminably onward, anxiously anticipating the time when it would undoubtedly receive more affection. The GMC was quite the opposite—too rugged for town, and it couldn't disguise its muscle. Shifts were firm and definite, even loaded with four cycles.

. . . Saltdale, Red Mountain, Borosolvay . . . the powerplants proved one thing: this is the age of specialization. Performance is provided only where you expect to use it most, and even then, it seems to be done strictly by gearing. Each vehicle had a V-8, but the only one with adequate performance for freeway driving was the Ranchero, and perhaps by grasping at straws—the GMC.

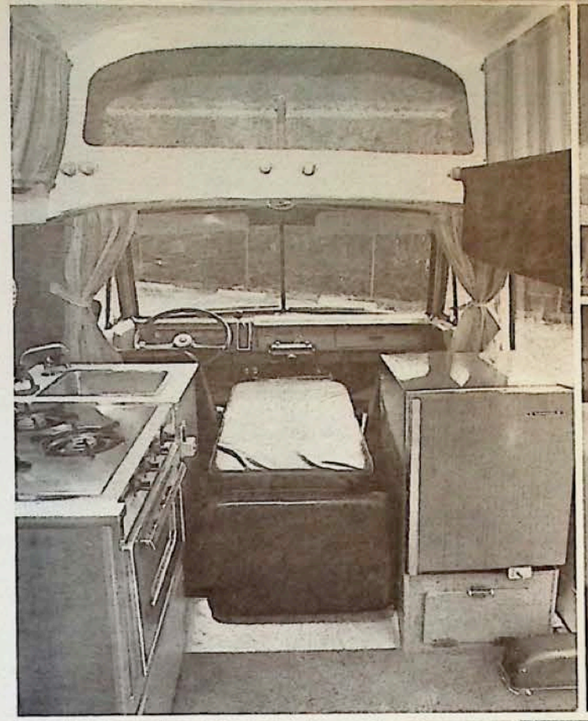
Ranchero's 325-hp, 4-bbl. engine had more than enough power both in traffic and on the open road. And even with all accessories operating, it did not overheat, though air conditioning is a painful and noticeable drag on power, completely eliminating wheelspin from a standing start.

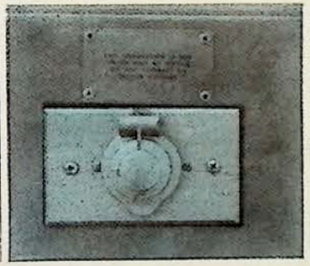
The GMC had only sufficient power to remain at the speed limit on hills. However, this lack of responsive performance at speed was a result of gearing, for its 310-hp (235 hp net) 396-cu.-in. engine put out a *net* torque of 288 lbs.-ft. to provide power where it was needed later on in more demanding, rugged terrain.

Dodge's 318-cu.-in. engine is a lightweight, flexible, high-torque powerplant that works well in a light sports-type vehicle designed for handling and response, but its 230-hp and 340 lbs.-ft. of torque were not quite enough to give the heavy Travco van an acceleration margin at freeway speeds.

An analysis of the Jeep's performance is unfair at present, since our Wagoneer was equipped with last year's American Motors 327-cu.-in. engine. Newer models use Buick's 350-cu.-in. unit which should be more satisfactory in all aspects.

Traffic was still heavy, even with 150 miles of pathetic villages and lifeless, transitory topsoil between us and metropolitan Los Angeles. Still, the recreational vehicles lumbered on, the GMC now riding much smoother and very quiet with a full load, its 950 x 16.5, 8-ply tires with their thumb-deep tread humming uncomfortably on the pavement. Surprisingly, however, they built and insulated the cab for distance driving, and thus far it boasted the quietest interior and the one most conducive to conversation. With the bed empty, the GMC's wide tires often set up disturbing modes of vibration, but now the only sounds and sensations were the air conditioner that could operate comfortably in the Mojave Desert at one-third its capacity due to the small cab, and the AM-FM radio with its impressive fidelity confirmed by tight cab construction.





(Clockwise, from top left) Dodge van was equipped by Travco with kitchen appliances, including running water and refrigerator, sleeping room for entire crew, and virtual recreation parlor. A/C electrical outlet is on body, outside. Doors contain bar items.

Even on the road the pickup anatomy of the Ranchero is unnoticeable. Ride is still very sedan-like and its low profile adds to stability. As in the GMC, air conditioning for the small cab is more than adequate, regardless of temperatures. However, three sets of vibrations—hood, air conditioner and engine—gave us concern, though no problems developed even though the Ranchero began the trip with nearly 6000 miles on the odometer.

The Jeep had no air conditioning, but as long as we were moving at freeway speeds, it was comfortable. By opening two windows on each side, plus the tailgate window which is electrically operated from the dash, all available air could be captured. But it was obvious this vehicle was designed for duty, not pleasure. The ride was good, but still had that truck-like feel, the AM radio had poor fidelity, and wind noise was high with the windows open, and even worse with the windows closed.

The same with the Dodge. Fully equipped, it is ideally suited for stationary use. The ride is quite hard, even with a weight of well over two tons, but at least the safety and handling virtues of its stiff suspension are well worth the sacrifice of a little comfort, especially with the Travco addition placing it 100 inches above the ground. Air conditioning is modestly effective for front passengers, even with scores of cubic feet of space behind them. As fatiguing as the driving position and instability of the vehicle may be, its stereo tape and AM-FM radio qualify it as a kind of Mobile Met, and running water, stove, refrigerator, beds, cupboards, table, drapes, etc., in the rear allay any fatigue-consciousness by reminding you that you can stop and live it up any time you so desire.

. . . Argus, Trona . . .

. . . and we had now penetrated deep into the Mojave Desert. Gasoline stops were dictated by the GMC, its air conditioner and heavy cargo dragging economy down to as low as 8.0 mpg. On only one leg were we able to break 10 mpg, and then by only two tenths. At all other times, it hovered close to 9.5, while the Ranchero, Jeep and Dodge achieved as much as 14.0, 13.5 and 13.2 respectively.

Civilization was hours behind us, and the city's fever was difficult to recall. Ah, virgin America, with nothing but endless salt beds, thousands of mesquite bushes breaking the magnificence of unoccupied space, amorphous hills of boulders, each one defaced by inane Graffiti and high school initials.

It was mid-afternoon and the burning sky was beginning to lose its intensity from California's ubiquitous mustard haze of smog. But at least there was space—unoccupied space permeated with sulphur dioxide belching from the arrogant anal-stacks jutting triumphantly above sterile, antiseptic laboratories of the Stauffer and Trona chemical works.

According to the map, an unpaved road led to the ghost towns of Ballarat, four miles from Highway 178 at the toe of the Panamint Mountains, and Panamint City, 12 miles further

DEATH VALLEY *continued*

up the slopes. Through the dust — the blessed, glorious dust whose purity we savored as it drifted across hoods and gushed through the Jeep's open windows — Ballarat materialized . . . eerily, briefly . . . and it was a genuine California ghost town, complete with unrecognizable, pathetic, decrepit carcasses of red-earth buildings that meant something back in 1807 when they rang with spirit and inspired men by their very presence.

Ballarat 1968: vague, vestigial remains of Chris Wick's Saloon, built by the man in 1817, were prostituted by a brazen, fresh modern sign blaring its name — a recent opportunist's execrable attempt to exploit history. Across the street another crumbling foundation was filled to the brim with fetid trash. In the middle of it all, the new air-conditioned aluminum and concrete resort headquarters shone like a polished scalpel.

Behind town, the Panamint Range beckoned deliciously, and before we could unload the cycles and squeeze off four rounds from a .22, the sheriff/mayor/owner swaggered up, confiscated our Road Test Editor's peace medallion and aimed us for Panamint City, far above.

Another couple of hours, a little strategy, and some food and water, and the Jeep, in 4-wheel-drive-Low, maneuvered easily up the narrow, 35%, rock-covered, rivulet-laced path. The others, with the exception of the GMC loaded with cycles, simply lacked sufficient traction.

It was 18 miles to pavement, and the road race was on, led by the GMC as it hugged the rough, rolling, anguiform road. The Jeep was next, never at a disadvantage, and the Dodge van, towering above clouds of dust from those ahead, was able to follow as closely as it wished while dozens of appliances and utensils crashed with deafening percussion in accompaniment to Andy Williams' "Moon River" on the stereo tape deck. Only the Ranchero, which had started late, lagged deliberately behind — its sleek, low profile was swallowed by the dust and visibility was gone.

. . . Pinto Peak, Skiddo . . .

Death Valley. Aguerreberry Point, Stovepipe Wells . . . the road through the Panamint Range provided a first opportunity to observe high-speed roadholding and handling behavior. From near sea level to almost a mile high, the GMC retained the lead. More than two tons, well-distributed, pressed its enormous tires to the pavement.

But it was terrain for which the Ranchero had been waiting, and with its limited-slip differential, heavy-duty suspension, power disc brakes and potent engine with 427 lbs.-ft. of torque, it could dive deep into turns, braking late, power slide around hairpins and exit from sweepers in a full, controllable drift — the only one of the vehicles able to do so. Because of its lighter weight, it handled better than many supercars. If it hadn't been for the traffic, it could have overtaken the pickup within minutes.

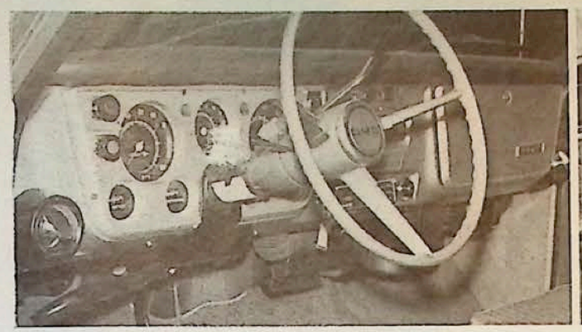
But analyses aside, it was that lumbering, outrageous Travco Dodge that stole the hearts of the staff. It crashed and rattled around rough turns, and the driver was almost standing while spinning the steering wheel mercilessly. But the van hung on, and when we finally pushed it far enough to lift the inside rear wheel, it made the entire trip, the thousands of campers, even smog in Death Valley, worthwhile.

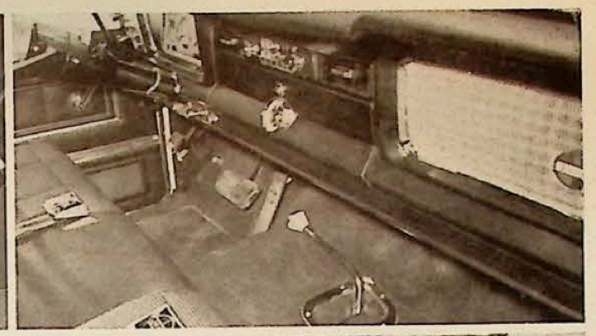
High-speed maneuvering, is not the Jeep's forte. A high degree of camber at the rear wheels combined with the vehicle's high center of gravity, causes some anxious moments on unpredictable turns.

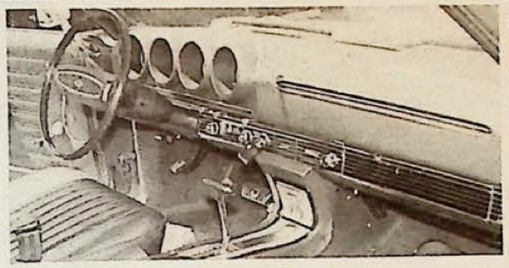
From The Pan Into . . .

The temperature rose, and the cause was soon apparent, though the "Sea Level" sign was not the only reason. Death Valley . . . Ft. Lauderdale West . . . The New Scene . . . Lucifer's anointed land of depravity and desolation, the one spot on earth for which he didn't have to battle the Almighty. Surrounded by borax, salt pools and alluvial fans, and blanketed wall-to-wall with the cold alloys of trailers and campers belonging to every mitty-

Suzuki rode smoothly, but should have had trail sprocket connected.







(Clockwise, from above) GMC Golden West Special had most abundantly equipped dash, with tach, all gauges, A/C-D/C converter. Jeep dash had idiot lights, with column shift for automatic box, floor shift for 4-wheel-drive hook-up. Ash tray on back of Ranchero seat is a nice idea, but difficult to reach by either passenger. Its sophisticated dash, however, could pass for luxury GT car.

minded mini-man who can't find liberty anywhere but 307 miles from his boss, Death Valley has become the new Mecca.

It is also irony. The trail cycle set drives 307 miles for elbow room. The camper set drives 307 miles for privacy. The college kid drives 307 miles for a sexual sabbatical. Ergo: Death Valley *Lives*.

The sun was barely up on the second day when, with bated breath, we threw the cycles from the GMC's bed — one Kawasaki 120 Road Runner, one Hodaka Ace 90, one 120cc B-105 Suzuki Bearcat, one 100cc Yamaha — and donned our genuine certified original Grant competition helmets that saved us several times from our inexperience. Soon, the valley reverberated with the "ree-e-e-e-e-e-n-nga ding ding ding ding" quartet of 2-stroke engines as four figures with shiny white domes rolled toward the rose-cotton horizon.

"Keep off" signs, "restricted area" signs, "motorcycles-not-allowed-in-this this - area" signs, "do - not - take - motorcycles - off - authorized - designated - paths" signs, led us over 2-lane paving protected by a "speed limit 35 mph" sign — past a group of 26 chaperoned members of the Southwest Inyo County Audubon Society on the left, 14 members of the Association for the Preservation of Ordovician Disconformities to the right, and a flurry of aging Supporters of the Herbal Beauty of Pahrump Valley a few hundred feet farther

At least two choices remained. We could ride 1½ miles to Zabriskie Point and shoulder our way through throngs of parents who left their kids bored and bawling in station wagons and campers to walk to the edge and gaze excitingly upon thousands of square miles of borax, salt pools and alluvial fans, or we could follow the endless queue of vehicles a full mile off the highway along the authorized designated official "scenic trail," paved with sand and more borax, that shielded mankind from misdeeds by its strictly enforced, well-regulated one-way traffic.

We chose both and broke the law besides. One by one we slammed the cycles into low gear and sadistically ripped up the unauthorized non-designated desert hillsides. The Kawasaki and Hodaka screamed loudest and rode roughest but went farthest because they were the only ones connected to trail sprockets, while the Yamaha and Suzuki contented us with comfort, quietness and fatigue-free touring.

Accompanying us for the day was the Dodge camper, its refrigerator loaded with ice and beverage, its reservoir topped with water, and its air-conditioned living area affording a comfortable retreat from the 100° smog-filtered sunlight and desperate vacationers outside. Any of the other vehicles could have penetrated deeper into wilderness, but Death Valley's restricted lands rendered this advantage void.

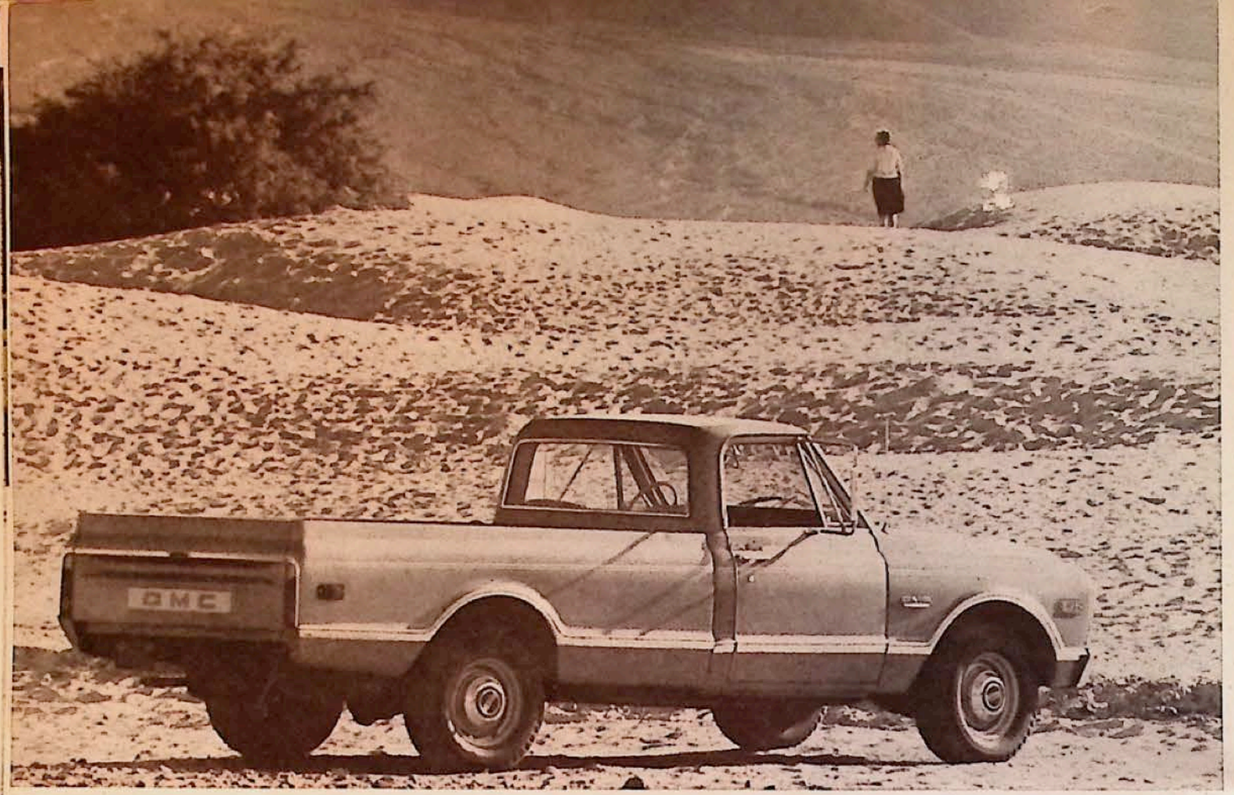
Reasons For Being

Opinions were beginning to form. The GMC was most suitable for carrying trail cycles and passengers in reasonable comfort; the Dodge van promised existence under all conditions, even though none of the bikes would fit inside; the Ranchero was by far the most versatile, able to haul two bikes to the hills during the day and two lovers to a semi-formal party at night, and still receive plenty of admiring comments; and the Jeep was the only one capable of penetrating inviolable aras.

Since nothing was allowed off the authorized, designated roads, the 4-wheel-drive of the Jeep was not needed. But inspiration from the prior day's experience when the Jeep had ground its way up the Panamint Mountains, had infused our blood. With spirits high, we headed for Stovepipe Wells 22 miles away to romp and play in the ephemeral sand dunes.

. . . According to reliable sources, the sinister "do-not-leave-designated-road" signs surrounding the dunes were what provoked the third day's notorious action: early in the morning the roads were already rife with travelers, so again we packed the Dodge's refrigerator with ice and followed the mindless cortege, led on by signs into Golden Canyon, Artist's Drive, Devil's Golf Course, down a borax road into the Black Mountains where fawning pawns of progressivism could walk a quarter of a mile to stand beneath an ersatz natural bridge whose beauty is desecrated daily by thousands of feet that scrape its surface, by hundreds of hands that carve indelible names in its sides.

"Do-not-drive-beyond-designated-parking-area," threatened the sign. But the reason was clear, and this time legitimate. If the Ranchero or Dodge



Photos by Pat Brollier

GMC was the true workhorse of all vehicles, yet, equipped with all the comfort items necessary for a trip like this, it also proved to be the most comfortable for all-around driving.

Extra heavy-duty suspension gave it excellent road handling, with no indication of nausea in mountains. Enormous 9.50x 16.5 tires were valuable option. 4 wd would make it perfect.

DEATH VALLEY *continued*

had left the road, they would have submerged axle deep into soft gravel and sand, or pierced their pans on jagged boulders that filled the valley winding beneath the bridge. The GMC, with its wide tires, had sufficient buoyancy but not enough traction.

But for three days the Jeep had ached for this opportunity. We kicked the 4-wheel-drive lever and dove into the canyon, spraying rocks on all sides while hiking sightseers plastered themselves against the cliffs and shrieked forbidding threats. "Hey, that's against the law!" "You're not supposed to leave the authorized, designated areas!" "Ya oughta be reported to the Rangers!"

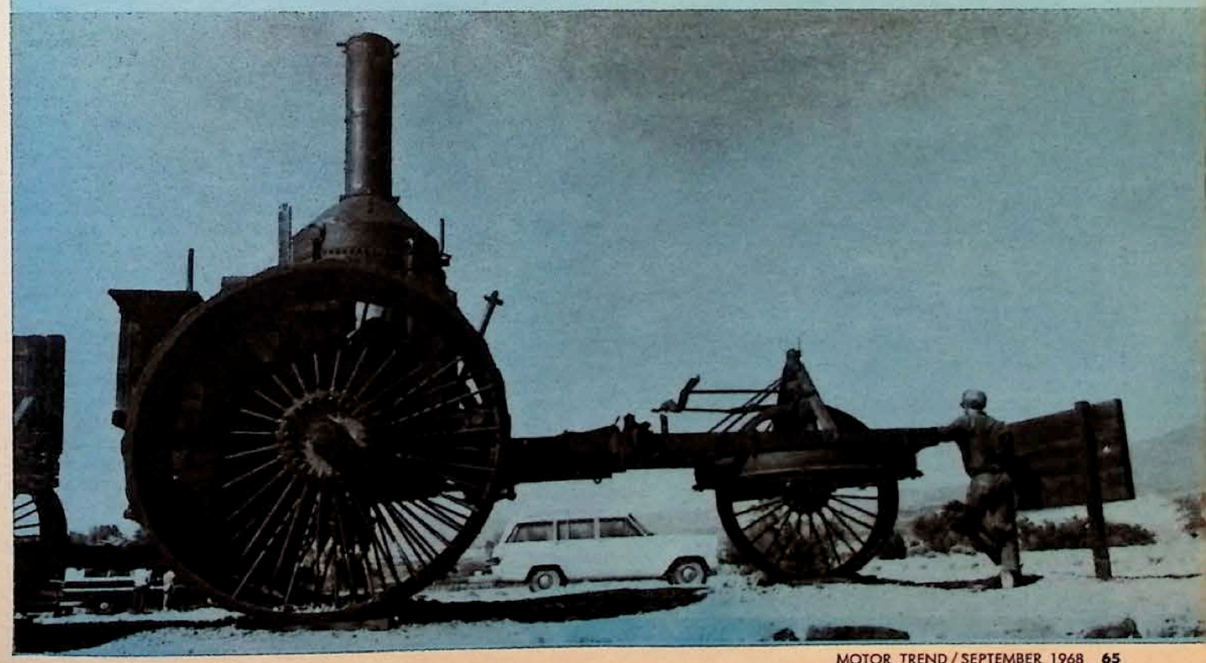
Our eyes were glazed, our palms perspired from the grip, and the saliva of ecstasy oozed from the corners of our banzai sneers. For a full half-mile, we plowed through the canyon, the Jeep growling and churning, sometimes almost faltering, but we rode it out to the very end. It conquered nature. We conquered Man. Fulfillment.

As if unrequited, the wind followed us home . . . Baker . . . Barstow . . . blowing with such fury that the top-heavy Dodge was tossed playfully from lane to lane on the freeways, and twice the Ranchero's hood was loosened from its latch. But we could not be delayed by petty problems. We had done it . . . met the challenge . . . rather made our own . . . and won.

. . . Outside, the deluge of campers and trailers poured profusely into stark, uncontaminated hinterlands—mankind's last outpost of solitude and freedom. . . . /MT

Recreational Vehicles — How They Compare

	TRAVCO DODGE	FORD RANCHERO	GMC PICKUP	JEEP WAGONEER
Manufacturer's Suggested Retail Price:	$2500	$2964	$2447	$4041
Price as Tested — equipped with:	5900	4012	4161	4782
	318-cu.-in. V-8; TorqueFlite automatic transmission; air-conditioning; stereo tape; AM-FM radio; power steering; power brakes; heavy-duty suspension.	390-cu.-in. V-8; air-conditioning; Select-Shift automatic; power steering; power brakes; radio; limited-slip differential; center console.	396-cu.-in. V-8; automatic transmission; air-conditioning; power brakes; power steering; Golden West package; limited-slip differential; tinted glass; tachometer; radio; heavy-duty suspension.	327-cu.-in. V-8; automatic transmission; radio; heavy-duty tires; limited-slip differential; power steering; power brakes; power tailgate window.
Engine Displacement:	318	390	396	327
Bore & Stroke:	3.91 x 3.31	4.05 x 3.78	4.094 x 3.76	4.00 x 3.25
Hp @ rpm:	230 @ 4400	325 @ 4800	325 @ 4800	250 @ 4700
Torque: Lbs.-Ft. @ rpm:	340 @ 2400	427 @ 3200	410 @ 3200	340 @ 2600
Compression Ratio:	9.2:1	10.5:1	10.25:1	8.7:1
Transmission:	3-speed automatic	3-speed automatic	3-speed automatic	3-speed automatic
Steering Wheel Turns — Lock-to-Lock:	3.8	4.6	4	4
Turning Diameter — Curb-to-Curb	37 ft.	42 ft.	43.8 ft.	38 ft.
Brake Type:	Power drums	Power front disc rear drums	Power drums	Power drums
Tire and Wheel Sizes:	8.15 x 15	7.35 x 14	9.50 x 16.5	7.75 x 15
Rear Axle Ratio:	3.55:1	4.09:1	4.10:1	3.31:1
Wheelbase — Ins.:	108	113	127	110
Height — Ins.	100	54.4	74.5	65.0
Width — Ins.	78.6	59.8	77.8	75.60
Length — Ins.	189	203.9	200.5	183.7
Road Clearance — Ft.:	7.31	6.5	11.6	11.04
Weight — Lbs.:	3950	3680	4035	3816
Bed Dimensions — Width:		51.6 in.	65.0 in.	52.5 in.
Bed Dimensions — Length:		79.8	98.0	66.3
Inside Height:	74 ins.			39.54 in.
Sleeping Capacity — Standard:	4 persons	2 persons	2 persons	2 persons
Sleeping Capacity — Optional:	6 persons			
Fuel Capacity	23 gal.	20 gal.	22 gal.	20 gal.
Mileage Range:	10.5-13.2 mpg	10.2-14 mpg	8-10.2 mpg	10.6-13.5 mpg



MERCEDES 250

Class is when you don't care if it shows

Road Test by Julian G. Schmidt

They'd be the last to admit it, but any country that can claim Kant, Wagner, Caracciola, beautiful blondes and Mercedes-Benz has a lot more going for it than Prussian pragmatism. As much as they might hate to admit it, they've got Posh . . . a quality they claim is incompatible with their pedestrian, monotonous, uninspired technology.

Technology is only detailed specifics, and if that's all they had, they wouldn't have Wagner . . . they wouldn't have beautiful blondes . . . they wouldn't have Mercedes-Benz.

Anybody else can stuff an underpowered engine into a sedan, and all they have is a sedan with an underpowered engine. Mercedes-Benz does it and they have a luxurious, comfortable, well-balanced, good-handling, solid, safe, nimble, sensible, harmonious car that exudes class from every quarter. No, that takes more than specifics. It takes pizazz or something. An art. You need some kind of universal ideal to guide all the combinations properly.

Catch it from any angle, and the Mercedes — *any* Mercedes — is class. Somehow, that prosaic, unembellished, boxy body seems to have just the right amount of chrome in exactly the right places. Oh, it's not beautiful, mind you, matter of fact, it shouldn't be. But it's just right. Kind of "sculptured," if you will. And when you see that magnificent anachronism of a grille topped triumphantly by the 3-pointed star, you can feel 86 years of traditional pride humbling you for even thinking of other cars. The new 250 is now in the same body as the 220 and 230 models; this means 8.5 inches shorter than last year's 250, but just as elegant.

Powertrain & Performance

Arty competence aside, you do have to admit it does a pretty good job of promoting Teutonic technology. At 5600-rpm, 700 revs below redline, the very mechanical-sounding 2.5-liter, 6-cylinder, overhead-cam engine produces 146 hp detuned. Of course, the hp/weight ratio is far from ideal, but the engine is small enough to keep weight distribution at a very comfortable ratio.

"Christmas tree," "quarter-traps," "top eliminator" are all dirty words at Mercedes, and acceleration results attest to that. With torque at a mere 161 lbs.-ft. at 3800 rpm, they are assured of eliminating any vulgar display of violence at the start. Instead, M-B looks beyond these superficialities to more meaningful values, such as cruising all day at 6300 rpm without busting the engine, such as darting around mountain roads using peak hp and maximum compression, yet still having full engine flexibility. It's like knowing — *really* knowing cars and their *raison d'etre,* then building them to those ideals. Every engine is bench-tested for up to two hours before installation, just to verify that those seven main bearings and all those beautiful-sounding whines are doing the proper jobs. There are two dual-throat Zenith carbs on this docile engine, but even with the ability to suck in that much air, economy is well above the average for luxury sedans.

Ironically, M-B precision may have evolved too far for the typical compromising consumer. The 4-speed automatic transmission with its stump-pulling ratios, is so direct, and shifts with such celerity, that nearly all gearbox advantages are cancelled. Manual shifting between 2, 3 and 4 brings immediate response, whether upshifting or downshifting, and slippage is undetectable. For performance manipulation, it is the finest automatic transmission we have tested this year, and the only limitation to its incredible performance is the 250 engine — from 2nd to 3rd, the ratio changes too drastically, and in an upshift there is an excessive loss of torque.

But the prime properties of a sedan are comfort and convenience, and if the typical Mercedes buyer seeks a 250, chances are he wants an automatic that *is* different from a box. Vastly different. But all he gets is freedom from shifting — not smooth transitions between gears.

Heresy. Pure, unadulterated heresy. And once again you're humbled for your thoughts. Mercedes-Benz, that eternal guardian of automotive principle, builds "what they think the public needs, not what the public thinks it wants," and a pox on you for wanting them to compromise.

Handling, Steering & Stopping

The trouble is, few really understand. To them, $6000 should buy a 25-foot, 3-ton alter ego that absorbs time and experience like the International Date Line. But to M-B, it should buy you the best possible suspension, the best possible steering and the best possible brakes you can buy at nearly any price. All other features are subordinate. It's safe to say that there is no other fine sedan in the world that excels in these three qualities. Handling abilities of last year's sedans were worthy of emulation by luxury sports cars, but even those suspensions have been improved. The front retains the independent double-wishbones and coil springs, but the rear swing-axle independent design has been fitted with a new type of control arm for better wheel guidance, and axle supports rest on rubber pads. Now, the camber change inherent in swing-axle systems is insignificant, providing the 250 with truly tenacious roadholding on all surfaces. When it's possible to gather enough speed and torque to place the 250 into a drift, it becomes the most controllable high-speed sedan we've tested. At the limit, it's nearly neutral, with light understeer decreasing gently until adhesion is lost with all the grace of its undisputed baronage.

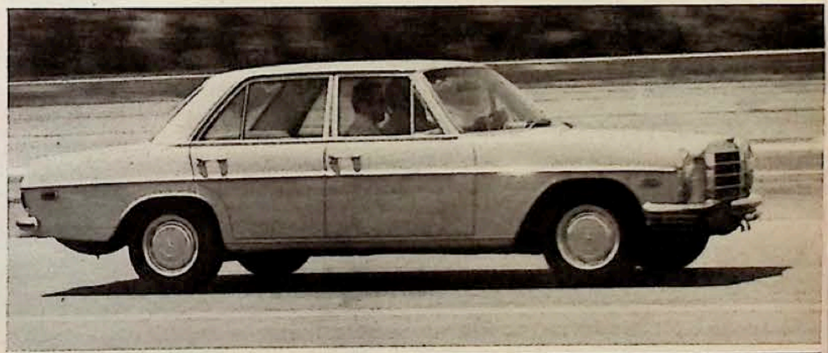
Without the taut Daimler-Benz recirculating-ball steering that has absolutely no play — and is again the most precise we have tested — the car's docile handling properties would not be possible. Power assistance with an incredible three turns lock-to-lock is an option that has no disadvantages in comparison to manual systems. You retain full control and an amazing degree of road feel that is conveyed *sans* road shocks by means of a shock absorber in the steering system.

The world standard of automotive braking has rested with Mercedes-Benz for so long, that it will be difficult to transfer allegiances to other marques, especially since all models use 4-wheel power-assisted disc brakes. In panic stops, there is not the slightest demand for correction and in tortuous mountain roads, when standing on the brakes sadistically, they give no hint of fade. Tandem translucent master cylinders are in plain view when the hood is opened, to remind you to check fluid levels at all times, though in this car that would hardly be necessary.

Comfort, Convenience & Ride

Mercedes were built by craftsmen for flat-out touring down the Autobahn and twisting through wagon trails in the Black Forest, conditions which demand the most sophisticated suspension design possible for ideal ride and handling characteristics in both cases. And this has traditionally been the point where M-B departs from all comparisons with Detroit, and leaps ahead to establish a class of its own. Comfort is, according to M-B, a function of the proper operation of engineering components when the car is in motion, not merely the absence of sensation under static conditions. Comfort only counts when it's required — over ruts, through challenging roads, and over extended time periods when fatigue must be eliminated. Let's face it, any car is adequate when sitting motionless in 5 o'clock freeway traffic. But the Mercedes' independent suspension, insulated from occupants by rubber "doughnuts," soaks up drainage troughs, potholes and speed control bumps by transmitting only a gradual dip or rise to the passengers. At top speed there is a complete absence of vibration or sway, and the only sound is the whine from its radial tires — and then only when the windows are open.

Where too many cars use pillow-soft seats to reduce shock, Mercedes begins with the suspension. Oddly, however, its seats, though not pillow soft, are again the most comfortable



(Top) Driving the Mercedes makes it obvious it was designed for high-speed stability and handling. Quietness and wind noise are unsurpassed by any domestic sedan. (Bottom) Space utilization shows engineering sense. Doors make entry and exit easy.

MERCEDES 250 *continued*

we have experienced. Their orthopedic design, inner springs that are actually tuned to the car's suspension, and backs that are infinitely adjustable and grasp the abdomen, support all portions of the body and are as comfortable after four hours of driving as they were at the beginning.

An interesting dash arrangement places all instruments in front of the driver and visible within the diameter of the steering wheel. However, an unusually complex ventilation system, complete with a knob and four levers in the center of the dash with a knob, lever and swivel opening on each side, require concentrated attention to the operator's manual followed by trial-and-error conjecture before sufficient confidence can be gained to know where you stand. But when adjusted correctly, the manual ventilation is more than adequate and is a much more sanative system than air conditioning (optional) for driving at speed.

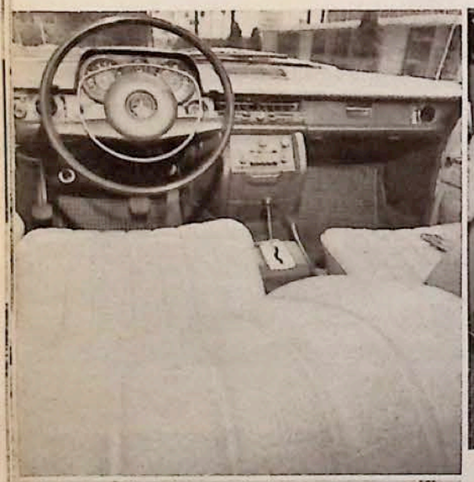
For a car a full two feet shorter than domestic models of the same sedan category, Mercedes has managed to provide more leg room throughout the car, easier entry and exit and the best visibility of any sedan made.

Plus & Minus Features

Americans have always been masters of self-stultification by flaunting great achievements, only to discover too late that someone like M-B has been incorporating such features like safety-conscious engineering and details for years. And they have designed an entire car as an integral safety unit—suspension, steering, brakes—to rub salt in the wound. But we sure got 'em. Their old yank-type door handle made Mercedes unsafe for the American market, and they had to relocate it in a remote spot which happens to be positioned so far toward the front of the door that it's difficult to reach. Even then, it's necessary to curl your finger into the handle detent and sort of squeeze before anything happens. The only other complaint is the high lift-over for the trunk. But no doubt they have a scientific reason for it that would make any contention we have seem like the carping superficialities of raving idiots.

They keep things simple, like list prices, for instance. At $5492 you get power 4-wheel disc brakes, reclining front seats, electric windshield wipers, lockable steering wheel, undercoating and *automatic transmission!* (Four-speed box is a minus $342.) What else do you need? AM-FM Becker radio?—$158. Power steering?—$171. Like we say . . . simple. Even detailing makes sense. Above each door inside the car is a nice, solid handle for the passenger's optional use when the Mercedes is being driven in the manner for which it will be best appreciated, or for simply getting in and out. Also, say you're busy testing adhesion in the Alps or Urals, or if you will, Skyline Drive, and it starts to rain. Rather than grope desperately over the dash for the wiper switch, you simply punch the turn signal lever *inward*—that's right, not up or down.

But most unusual of all features are the numerous welds displayed almost arrogantly under floor mats, in the trunk, in the engine compartment—with apparently no attempt at disguising them. How unfortunate. It looks as though Mercedes-Benz will never learn that planned obsolescence is the only way to turn a profit these days. /MT



(Above left) Dash is compromising effort at retaining traditional Mercedes dash and incorporating modern trend for consoles, but it comes off well and conveys M-B's technically proper image. Orthopedic leather seats recline and completely eliminate fatigue. Even in the back seat (above), seatbacks have a bucket effect, fold-down armrest and plenty of head room, though leg room is cramped for a 4-door sedan. Leather is available throughout. (Left) Small, non-fuel-injected 250 engine lacks performance, but will last virtually forever and revs high for flexibility.

SPECIFICATIONS

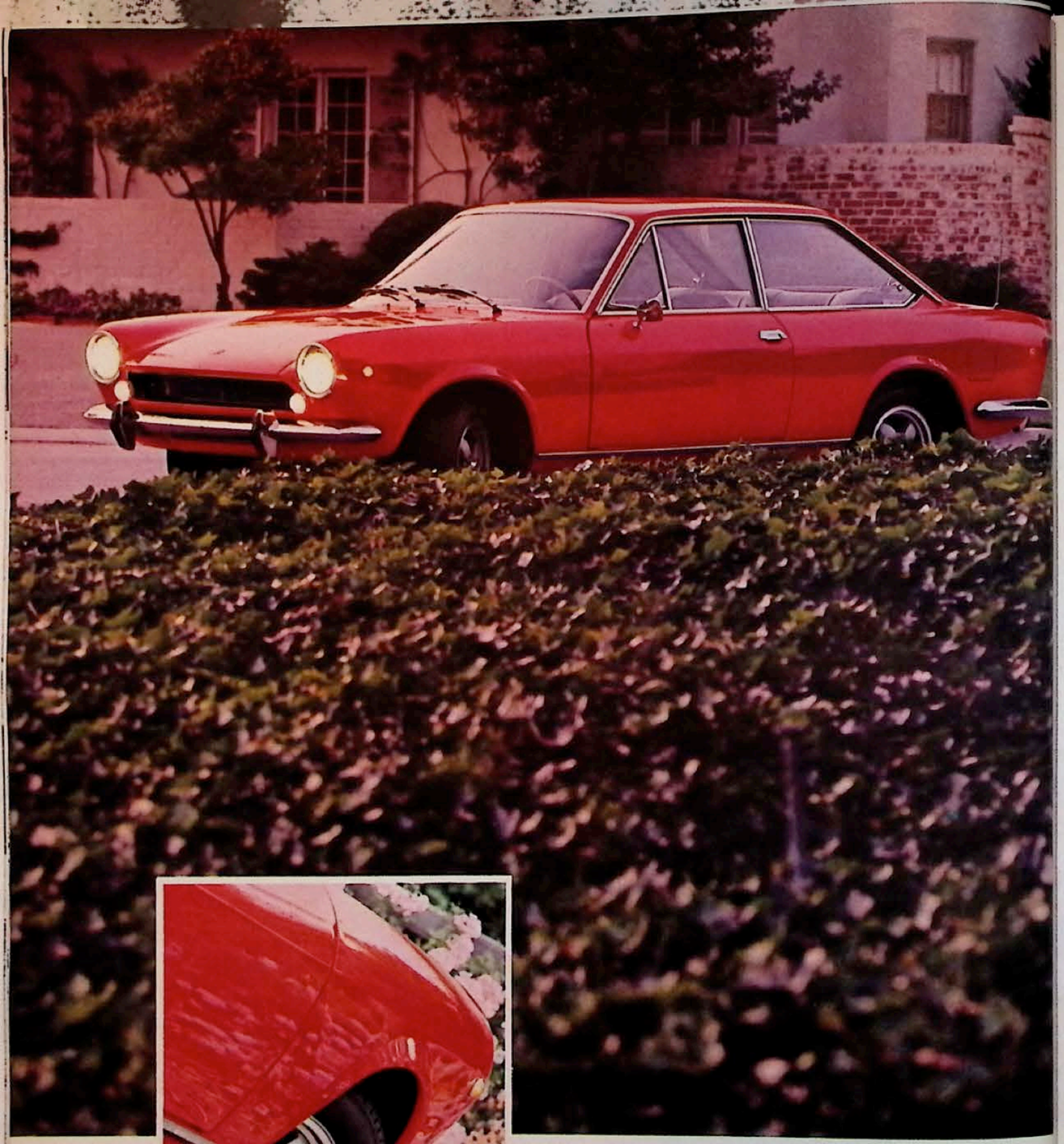
Engine: 6-cyl. in-line ohc. **Bore & Stroke:** 3.23/3.10 in. **Displacement:** 152.3 cu. in. **Hp:** 146 @ 5600 rpm. **Torque:** 161 lbs.-ft. @ 3800 rpm. **Compression Ratio:** 9.0:1. **Carburetion:** Two dual-throat Zeniths. **Transmission:** 4-speed automatic. **Final Drive Ratio:** 4.08. **Steering Type:** Power. **Ratio:** 15.7. **Turning Diameter:** 35.6 ft. curb-to-curb, 3 turns, lock-to-lock. **Tires:** 6.95H, 6-ply rated on 5½ J rims. **Brakes:** 4-wheel discs, tandem master cylinders. **Suspension:** Front: Unequal-length A-arms, coil springs, telescopic shocks, anti-sway bar. Rear: Diagonal-pivot swing axle, coil springs, telescopic shocks, anti-sway bar. **Body/Frame Construction:** All-steel integral body/chassis. **Dimensions, Weights, Capacities:** Overall Length: 184.5 ins. Overall Width: 69.7 ins. Overall Height: 56.7 ins. Wheelbase: 108.3 ins. Front Track: 56.8 ins. Rear Track: 56.7 ins. Curb Weight: 3000 lbs. Fuel Capacity: 17.2 gals. Oil Capacity: 5.8 qts.

OPTIONS

Base list price of $5492 includes 4-wheel power disc brakes, reclining front seats, electric windshield wipers, steering lock, undercoating and automatic transmission as standard equipment. Price as tested: $6011 (equipped with bamboo texture leather upholstery, $68; power steering, $171; tinted glass, $91; Becker AM-FM radio, $158; coco mats, $21). Additional options available: air conditioning, $417; electric windows, $137; sliding roof, $196 (manual), $241 (electric).

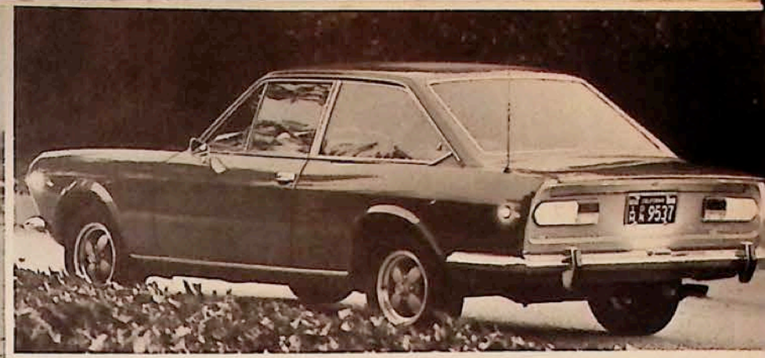
PERFORMANCE

Acceleration: (2 aboard)
0-30 mph ..... 5.0 secs.
0-45 mph ..... 9.0 secs.
0-60 mph ..... 14.4 secs.
0-75 mph ..... 22.5 secs.
Standing Start ¼-mile
70.41 mph ..... 19.98 secs.
Passing Speeds (4th gear)
40-60 mph ..... 7.6 secs. 556 ft.
50-70 mph ..... 10.0 secs. 880 ft.
Speeds in Gears:
1st ..... 21 mph @ 5000 rpm
2nd ..... 36 mph @ 5000 rpm
3rd ..... 62 mph @ 5000 rpm
4th ..... 82 mph @ 5000 rpm
MPH per 1000 RPM: 16.4 mph
Stopping Distances:
from 30 mph ..... 23 ft.
from 60 mph ..... 151 ft.
Mileage:
Range: 18.2 mpg
Average: 16.3 mpg



FIAT 124 SPORT

Road Test by Bill Sanders



Pininfarina has done it again. When controversy over styling preference is as vigorous as it is between Fiat's Sport Coupe and Spider, with comments that insist that one looks "better" than the other—not "worse" than the other—it means that once-puny little Fiat has officially been injected with a performance image. Handling is fantastic, with the more rigid Coupe having an edge over the Spider.

Beat-up, dented and dirty, the nondescript Alfa passed us slowly, both occupants straining to give our red Fiat 124 Coupe attentive, approving looks. As the Alfa moved ahead and waited in place at the red stoplight, a scruffy, torn bumper sticker on the rear deck caught our eye. This poignant anachronism stated simply: ITALIAN POWER!

"POTENZA ITALIANA!" If any Italian car deserves to wear that distinctive epaulet, the Fiat 124 must be included. One would assume that an engine displacing less than a liter and a half and turning out only 96 rated hp, and a rigid rear axle would be handicaps to both performance and handling. Evidently the 124 was developed with a true Italian personality; neither of those seemingly basic impediments frustrate its ability to mix it up. This new set of wheels from Turin really has its "Mojo Workin' "—and working overtime at that.

Two models are offered so you can choose between fresh air and seating space. One is the convertible Spider, the other a Sport Coupe version. The Spider features a 5-speed gearbox and a body by Pininfarina. The Sport Coupe has a 4-speed transmission and a Fiat body, but it costs less, and that, plus a tight deadline, caused us to focus our attention on the hardtop.

Powertrain & Performance

Questa e bella! Open the hood and—wooowe it looks small. It is. Four cylinders, 87.75-cu.-in. displacement, double overhead cam, it doesn't take up much room. Get behind the wheel and wind it out around a few blocks—surprise, surprise—the 124 will fill you in on a lot of surprises, not the least of which is its power. As with all high rpm engines, you've got to keep those revs way up toward heaven if you want to maintain power. Let it fall below three grand and you've had it; a kleenex becomes a brick wall. Below 3000 rpm there's a very noticeable power loss, and acceleration back to speed seems agonizingly slow. From 3500 on up to 6500 rpm, or even the 7000 red line, you're in business. If you're used to lazy American V-8s and 1500-2000 rpm, you have to steel yourself to the seeming torture of that beautiful, high-pitched whine up front when it's passing 5000 rpm. Some may not like the overly loud engine noise at 5000 rpm, or the similarity to a Ferrari V-12 whine as it goes zinging past 5 up to the 7000 rpm mark. When going through the gears all the way to the 6500 rpm shift point for the first time, we were reminded of the sound effect engines on old-time radio shows. "Gang Busters," "Suspense," "The Whistler" were living again.

An 8.9:1 compression ratio, a standard rear axle ratio of 4.10:1, and an engine with a torque rating of 82.5 lbs.-ft. @ 4000 rpm, all combine to give maximum power to the rear wheels when it's needed. An interesting exposed rubber cog belt timing drive operates the overhead cams. Even though it's exposed, it isn't as noisy as some drive chains running in oil. Other engine goodies include an aluminum head with double-wedge combustion chambers; a 5-main-bearing crankshaft; two oil filters; one a full-flow cartridge type, the other a centrifugal by-pass type; and a recirculation type emission control system.

Handling, Steering & Stopping

Andare spedito! Handling the 124 immediately gives stimulus to the body and sends innumerable superlatives rushing to the brain. Both Sport Coupe and Spider are set up with the same suspension, but, surprisingly, the Sport Coupe handles better than its counterpart. Both cars corner beautifully and hug the road remarkably well without wheel hop. It's difficult to break the rear end loose and minimal or no tire squeal is heard under moderate to hard mountain road driving. A slight understeer is evident in the turns and steering is extremely quick. We were surprised at the road holding ability of both cars during encounters with sharp road dips, of which there are many around Los Angeles. Neither car bounced or threatened to go out of control when hitting dips and depressions at speeds up to 40 mph. Gear shift location makes down-shifting a little difficult while steering, but is no major hindrance.

Road holding characteristics are excellent for a car with a rigid rear axle. That's partly attributable to the longitudinal arms which help control wheel hop during cornering, and the transverse rod and anti-roll bar that help combat sway. On winding or mountainous roads the 124 will run in 3rd gear easily and maintain constant high revs. Tracking through corners it stays on any line you make without difficulty. Pedals are small, but don't create

"POTENZA ITALIANA!" *

A gutsy new number from Fiat in Sport Coupe or convertible and both with a Latin temperament

*Italian Power!

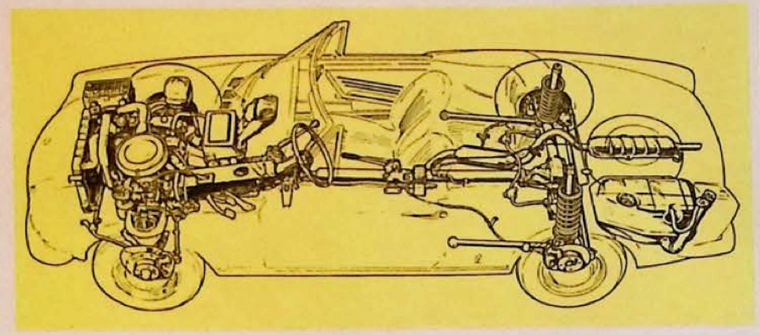
FIAT 124 *continued*

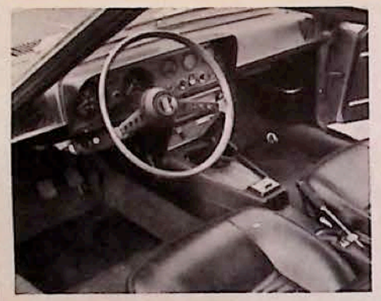
any big problems while driving. The shift lever seems a bit far forward, although that fact didn't hinder flicking off precise, perfect shifts. At first the gearbox feels somewhat mushy and it is difficult to find reverse in both cars, although that's a prevention against hitting reverse accidentally. With the 4-speed it's necessary to hold the lever against the right side of the H-pattern a few seconds before it will drop into reverse. On the 5-speed, an upward pull while moving far right drops it into reverse. Excessive play in the driveline makes starts jerky and there doesn't seem to be any remedy. The fine-quality wood steering wheel seems positioned at a bad angle at first, but when you hit a road course and *really* put the car through a workout, you find the wheel is positioned perfectly for competitive driving.

Stopping doesn't need much comment. It's close to ideal, and the 4-wheel discs get the credit. Stops were always straight, without any swerve or lock-up control loss. Brakes stayed fade-resistant after many runs around Orange County Raceway, which included numerous high-speed stops.

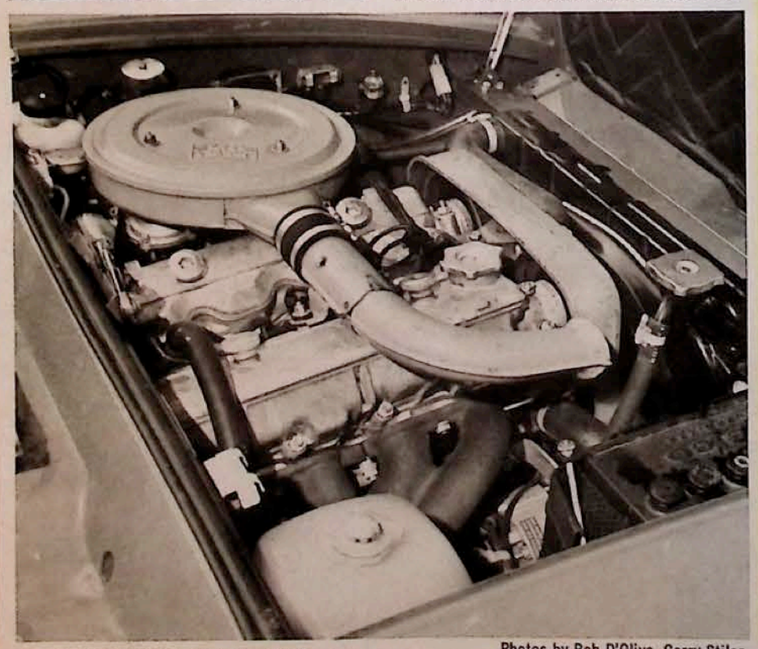
Comfort, Convenience & Ride

Ma si capisce! Both cars have plenty of leg room up front, even for the tallest, with the bucket seats all the way back. Obviously that doesn't leave much to say about rear seating. With front seats all the way back in the Coupe, there is a small gap for rear seat passengers, but with front seats forward, ample leg room is available. You can forget about rear seat room in the Spider, except for maybe 4-day-old babies. But, you shouldn't expect





(Above) Re-engineered throughout, the 124 series can match cars costing over $10,000 for technical innovations — servo-assist disc brakes all around, suspension well-located with trailing arms and transverse Panhard rod. (Left) Interior exudes class, function and lots of luxury items for a car costing barely more than three grand. (Below) For that price you get an engine with double overhead cams, aluminum head with double-wedge chambers, 5-bearing crank, lightweight electro-magnetically operated cooling fan, and a rubber-mounted engine/clutch/gearbox.



Photos by Bob D'Olivo, Gerry Stiles

SPECIFICATIONS

Fiat 124

Engine: 4 cyl. dohc. **Bore & Stroke:** 3.14 x 2.81 ins. **Displacement:** 87.75 cu. in. **HP:** 96 @ 6500 rpm. **Torque:** 82.5 lbs.-ft. @ 4000 rpm. **Compression Ratio:** 8.9:1. **Carburetion:** Vertical, 2-bbl. **Transmission:** All synchromesh, 4- or 5-speed. **Final Drive Ratio:** 4.10:1. **Steering Type:** Worm and Roller Independent track rods to each wheel. **Turning Diameter:** Coupe, 36.1 ft., Spider, 34.1 ft. curb-to-curb. **Tires:** 165 x 13-in. Radial Ply. **Brakes:** 4-wheel disc with proportioning device, vacuum servo. **Suspension: Front:** Control arms & coil springs, hydraulic shocks & anti-roll bar. **Rear:** Rigid axle with longitudinal arms & transverse rod, coil springs, hydraulic shocks & anti-roll bar. **Body/Frame Construction:** Body/Frame.

Dimensions, Weights, Capacities:

	Coupe	Spider
Overall length:	162 ins.	156.3 ins.
Overall width:	65.7 ins.	63.5 ins.
Overall height	51.3 ins.	49.2 ins.
Wheelbase:	95.27 ins.	89.76 ins.
Front track:	52.99 ins.	53.15 ins.
Rear track:	51.81 ins.	51.90 ins.
Curb weight:	2020 lbs.	2010 lbs.
Fuel capacity:	12 gals.	12 gals.
Oil capacity:	4.2 qts.	4.2 qts.

Performance

Fiat 124 Sport Coupe

Acceleration: (2 aboard)

0-30	4.1 secs.
0-45	7.2 secs.
0-60	13.0 secs.
0-75	23.2 secs.

Standing Start ¼-mile
71.59 mph, 18.9 secs.

Passing Speeds

40-60 mph (2nd & 3rd gear)	4.5 secs., 329.4 ft.
50-70 mph (3rd gear)	6.0 secs., 528.0 ft.

Speeds in Gears:

	Coupe	Spider
1st	27 mph	28 mph @ 6500 rpm
2nd	46 mph	49 mph @ 6500 rpm
3rd	72 mph	75 mph @ 6500 rpm
4th	105 mph	105 mph @ 6500 rpm
5th	117 mph @ 6500 rpm	

124 Sport Coupe
MPH per 1000 RPM in top gear ..... 16.1 mph

Stopping Distances:

from 30 mph	16 ft.
from 60 mph	125 ft.

Mileage:

Range:	19.8-26.7 mpg
Average:	24.3 mpg

FIAT 124 — OPTIONS AND PRICES

Sport Spider	$3226 p.o.e. Los Angeles
Sport Coupe	$2924 p.o.e. Los Angeles
OPTIONS:	
Magnesium wheels (set of 4)	$199.80
Additional wheel	$47.25
AM radio	$70.00

1 FIAT 124 *continued*

more in a roadster. Adjustable seatbacks on the front buckets are excellent for getting a precise driving attitude. Fiat has done a great job of utilizing space in the Coupe,

A small night light on the underside of the rear view mirror in the Coupe is ideal for reading maps or addresses, as it lights the entire front seat area, and is conveniently located. Gripping handles to help rear seat passengers exit are located just to the rear of the center posts. Rear seat reading lights and sliding plastic coat hangers are integrated into these handles. An extra easy-to-operate top on the Spider folds back in seconds, with only two front latches to operate. Rear seat windows also fold down with the top and aren't retractable with the top up.

Plus & Minus Features

Unico al mondo! Inside front door handles are covered by the forward part of the door armrest (a seeming last-minute compliance with safety), a situation that makes door opening from the inside an awkward maneuver. Seatback safety catches are on the inside of the seats in the Coupe, and are almost impossible to find if you don't know where they are. That location is also inconvenient if you're carrying packages, as it's necessary to reach completely across the seat to release the safety catch.

Rear seat windows in the Coupe are large, with good vision, but knobs to open them are behind the rear seat shelf and take a few contortions to reach. Once you do reach them, you'll find the windows only open about an inch for minor ventilation, so the exertion isn't really worth it.

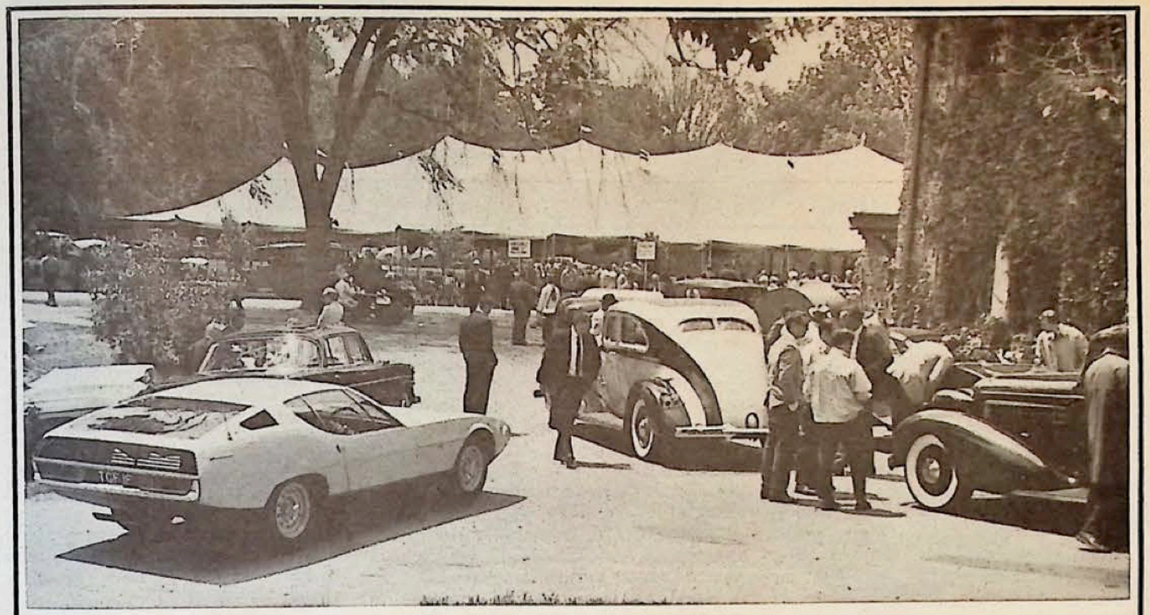
Instrumentation is well planned and laid out, with tach and speedometer large and easy to read. A wood veneer finish on the dash and center console looks good and is precision finished, in fact, quality and craftsmanship are both exemplary throughout. Small item trays located on the inside front quarter panels are ideal for holding maps, and even litter bags. Fiat should find some way to eliminate the need to use so many keys; maybe it's an Italian status symbol, but four keys are rather annoying. There are keys for the ignition, the doors, the gas cap, and the antenna. Trunk space on both cars is limited as would be expected. Spare tire and gas tank are located under a mat in the Coupe trunk, making a level floor. Spare is in a corner of the trunk in the Spider, and both cars come equipped with a good tool kit.

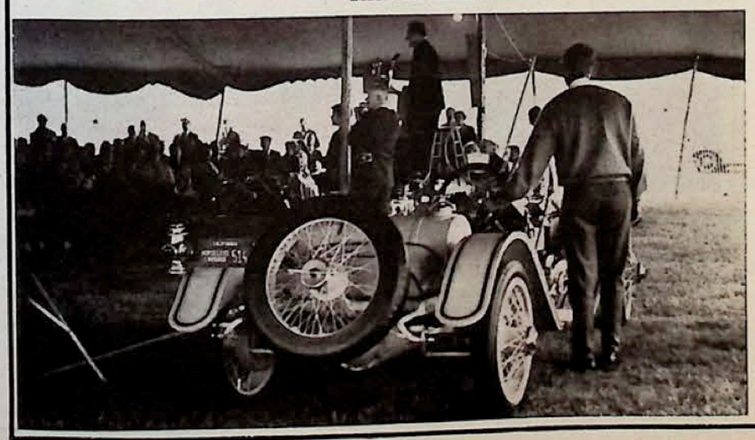
Both cars have their share of good and bad points. But, for the price range they're in you can't find a sports car from any country that will give more fun and thrills, liter for liter. The Fiat 124 rates "Fa Bene!"

Ciáo. /MT

Going..Going....Gone

Parke-Bernet Galleries, auctioneers for the Brookline, Mass., classic car auction, squeezed a total of $87,500 from only three cars, in this second of a series of sales.





(Above) Big money and big cars changed hands via Parke-Bernet Galleries at first classic car auction in East U.S. (Right) Happy Harry Resnick is the new owner of $45,000 Mercer and $5000 Amilcar. (Below) The Calumet Stables of car auctions.

You can always spot a classic car nut — tweeds, moustache, bald, big bills . . . lots of big bills . . . oozing out of every pocket, and a Gernrich-frocked teenage daughter who prances along behind him tugging at his mocha-olive Enfield coat and begging him to please buy the nice pretty new Jaguar/Piranha car for only $16,000 . . . and getting her wish. So he buys it and has the only one in the world, complete with the inimitable sculpturing of Nuccio Bertone, air conditioning and a new leather finish. So all those other humble, considerate participants in the Brookline, Mass., classic car auction are impressed by the nice car. They're impressed by its fastback. They're impressed by its zoomy similarity to the Ghibli. But they're not impressed by its cost, so they shake his hand — patronizingly — and walk away to congratulate the proud owners of the pretty yellow $45,000 1913 Mercer and the $37,500 1966 Duesie. /MT

OLDSMOBILE "POLICE INTERCEPTOR"

Everything but the Siren

Test by Bill Sanders

Photos by Pat Brollier

If you enjoy the highway cruising qualities of a big, heavy sedan, but prefer to take your driving pleasures in a smaller car, Oldsmobile has an interesting package that's a real grabber. Neatly assembled under the smooth, graceful lines of their Cutlass you can get a potent conglomeration of handling, power and performance called the "Police Interceptor Package." We don't suggest you dice with all the Highway Patrol cruisers out on the old turnpike, but this car has a "Sock-It-To-Me" come-on that's hard to resist.

Oldsmobile makes it easy for you, too. You can put together a car tailored to your own driving needs from a list of options that, if laid end to end, would probably cause a little old lady in Pasadena to trip on a tie-rod. Being on an option kick, MT decided to put together a project car loaded with goodies. Basically, our test car has a Cutlass Supreme frame and sheetmetal. Everything else is optionated. Horsepower is supplied by a 400-cu.-in., 350-hp, 4-4-2 mill that is a "Police Engine" option. The engine runs a single 4-bbl. carburetor, knocks off 10.50:1 compression and has a dual exhaust system. Automatic transmission and a 3.23:1 rear axle complete the team, and that takes care of power with a few horses to spare. In all, six rear-end ratios are available with the 350-hp engine, which gives you some idea of the variety of options.

A relatively inexpensive option supplies the police cruiser handling. That's the "Police-Hiway" suspension package for only $13.27 extra. For a price that sounds like a lyric from a Roger Miller song you get: (1) heavy-duty front and rear springs: (2) heavy-duty front and rear shock absorbers: (3) heavy-duty front and rear stabilizer bars: (4) heavy-duty rear suspension system (upper and lower control arms); and (5) certified police speedometer. MT also installed a set of Goodyear wide-tread Polyglas tires, which have been mucho beneficial to ride and handling characteristics.

The heavy-duty police suspension gives flat, positive cornering adherence, although at excessively high speed, cornering creates a tendency to go from moderate understeer to a rather swinging oversteer. In most driving situations the police suspension does give superior handling characteristics though, in relation to a standard '68 Cutlass. MT's test car was driven 10,000 miles in five months and sustained a strenuous life during that time. The car was tested twice, once at 5000 and again at 10,000 miles (see chart for results) and, surprisingly, didn't lose an appreciable amount of power, and gained in some performance ranges.

A major defect appeared with 8000 miles on the odometer, when a malfunction occurred in the cruise-control, causing an uncontrollable bucking motion between 60 and 70 mph, rendering the cruise control inoperable. This was corrected at 9000 miles and the car was given an extensive tune-up prior to the 10,000-mile test.

Depending on what and how many options are ordered, the Olds Cutlass Supreme with police suspension makes a damn fine super-highway, American-style Grand Touring car. /MT

"Police Interceptor" Cutlass—options and prices

Tinted Glass	$ 36.86
Deluxe Seat Belts	7.90
Bucket Seats	68.46
Head Restraints	52.66
Police-Hiway Suspension	13.27
Rear Floor Mats	7.16
Air Conditioner	360.19
Center Console	57.93
Cruise Control	50.56
Automatic Transmission	236.97
Tilting Steering Wheel	42.13
Wire Wheel Covers	73.72
Courtesy Lamps	6.32
AM-FM radio	133.76
Accessory Pack (Lamps & Mirrors)	11.17
Electric Windows	100.05
4-Way Seat Adjustment	69.51
Reclining Seatback	31.60
Vacuum Trunk Lid	13.69
Front Floor Mats	7.37
Rear Window Defogger	21.06
Remote Control Mirror	9.48
Anti-Spin Differential	42.13
Disc Brakes	104.79
Police Engine — 400-cu.-in.	134.81
Wood Steering Wheel	31.60
Red Stripe Tires	63.19
Rocket Rallye Pack (Tachometer & Gauges)	84.26
Stereo Tape	133.76
Electric Antenna	29.12
G.T. Stripe	10.53

Price without options — $2778.
Price with options — $4824.

Oldsmobile "Police Interceptor"

PERFORMANCE AT 5000 MILES

Acceleration: (2 aboard)

0-30 mph	3.2 secs.
0-45 mph	5.4 secs.
0-60 mph	8.0 secs.
0-75 mph	11.6 secs.
Standing Start ¼-mile 91.6 mph	15.3 secs.
Passing Speeds: (high gear) 40-60 mph	4.2 secs. 307.4 ft.
50-70 mph	4.8 secs. 422.4 ft.

Speeds in Gears:

1st	46 mph @ 5000 rpm
2nd	78 mph @ 5000 rpm
3rd	102 mph @ 4500 rpm

MPH per 1000 RPM: 23.7 mph

Stopping Distances:

from 30 mph	20 ft.
from 60 mph	131 ft.

Mileage:
Range: 14-11.6 mpg
Average: 12.8 mpg

PERFORMANCE AT 10,000 MILES

Acceleration: (2 aboard)

0-30 mph	3.2 secs.
0-45 mph	5.2 secs.
0-60 mph	8.0 secs.
0-75 mph	11.7 secs.
Standing Start ¼-mile 89.3 mph	16.0 secs.
Passing Speeds: (high gear) 40-60 mph	3.8 secs. 278.1 ft.
50-70 mph	4.5 secs. 396.0 ft.

Speeds in Gears:

1st	46 mph @ 5000 rpm
2nd	77 mph @ 5000 rpm
3rd	102 mph @ 4500 rpm

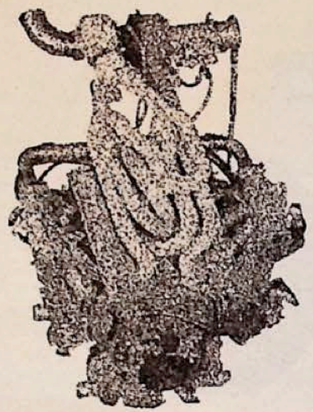
MPH per 1000 RPM: 23.7 mph

Stopping Distances:

from 30 mph	25 ft.
from 60 mph	141 ft.

Mileage:
Range: 13.5-10.2 mpg
Average: 11.6 mpg

Racing American Style



Okay, everybody, let's stop hollering about the injustices being done to Andy Whatshisname and the turbine and let's take a look at the **real** problem facing auto racing. It's not all those lovely little blades whirring round and round nor is it Andy trotting alongside, going back and forth like one of those old-fashioned reciprocating piston engines.

The trouble is with all the basic engine sizes currently used. There are too many of them, they are too confusing to the average fan, and they don't do enough to attract all-out sponsorship from all of Detroit.

Now before we go any further, let's go into the background (pay attention — someone may be around to ask questions next week). There are three basic reasons for auto racing:

1. For the sake of the sport itself.

2. To advance the technical development of the automobile.

3. To make money by such means as winning the race, collecting admissions from spectators, or by merchandising the success achieved on the track to sell related products.

There are three major areas in circuit racing: stock cars, controlled mostly by NASCAR; single seaters, which have as their major league the USAC series, and sports cars which are run by the SCCA. All three — but especially the first two — are troubled by rising costs. Indianapolis-oriented USAC is beset by confusion over the optimum size for various types of powerplants, NASCAR has worries about rising speeds of cars which were never originally intended for racing, and all of them are troubled by a shortage of new talent.

NASCAR permits American production engines of up to 7046cc (430 cubic inches) displacement, the SCCA's Can-Am series allows unlimited displacement engines of any type, and USAC has an involved formula that includes overhead cam engines of 4.2 liters (256 inches), supercharged overhead cam engines of 2.8 liters (171 inches), stock block "rocker arm" engines of 5 liters (305 inches), and turbines with a maximum annulus area of 15.999 square inches. Confusing? Just think how mixed up it is if you're **not** a fan.

With one move, a great deal of the confusion can be cleared up and all three of the points mentioned earlier will benefit.

Our suggestion is to limit major league racing, be it stock, Indianapolis type or Can-Am, to 5-liter, stock block, American production engines. The intake and exhaust systems, fuels, camshafts, etc., could vary from type to type, but the basic configuration of the powerplant would remain constant. It should be noted that Ford, Chevrolet, Dodge, Plymouth and American Motors all have V-8 engines that fall within this category. The move would have these effects:

1. Engines will be cheaper and, therefore, more persons will be able to participate in big-time racing. At present, with turbocharged Ford engines costing $30,000 and turbines well over that figure, big league racing is pricing itself out of existence, or at the very least pricing its way into a situation where it has an extremely narrow base of sponsors. New drivers will thus find it easier to get a decent ride — and more new drivers will thus try to work their way toward the top.

2. In stock car racing, horsepower readings will drop from the present 625 to about 500. This will still enable cars to run quickly, but will get us away from the hair-raising and potentially dangerous 190-mph lap speeds currently being achieved at Daytona. NASCAR will be able to avoid discovering that the laws of aerodynamics are immutable and not subject to influence by Bill France's silver tongue.

3. Dropping the horsepower will make for closer competition between factory-sponsored and private entries, and remember, it is competition that makes racing, not sheer speed. And what's so slow about 170? While on the subject of speed, remember that Dan Gurney's runner-up car at Indianapolis, which qualified at 166 mph, was using a stock block Ford engine. The Can-Am cars would not be much slower — if at all — than they are right now.

4. Although in the past racing has done precious little to benefit the production car (you still believe that rear-view mirror story, much less any of the others?) this formula would at least make it **easier** for the production vehicle to receive benefit. With stock block engines to be used, Detroit would at least insure that its blocks incorporated the latest, lightest and strongest designs — and the customer would profit from this when he purchased a more mundane version of the same engine. With powerplants more or less stabilized, engineering interest would turn to chassis development — the area in which Detroit's shortcomings are the greatest.

5. From a business standpoint, the use of stock block engines would increase spectator identification with cars that do not use stock bodies, and it would also be a clear inducement for Detroit to support racing even more strongly than it does right now. The benefits that the sport, the drivers and the fans would gain from that are obvious. Detroit might even (unconsciously, of course) force racing into one major league to make its sales promotion easier — although **that** Utopia is probably too much to expect.

And what about the turbine? Are we being reactionary to suggest a **de facto** ban of Granatelli's baby? The answer to the first question is to put it back on the shelf — or at least back in the development department. The answer to the second question is no; the STP-USAC lawsuits and complaints about USAC persecution have tended to obscure certain basic items. These are: first, that the 4-wheel-drive has made the turbine appear more impressive than it actually is, and second, that the acceleration and deceleration characteristics of the turbine, plus its cost, make it something that will not be practicable for passenger cars for years to come (if ever). Let's concentrate on improving through racing what we already have, and declare a moratorium on turbines until they are ready for everyday use. Then, when they have a meaningful effect on popular transportation, we can race them.

Vote for 5-liter stock block. Who knows? The public might even benefit.

The public — that's you. /MT

DODGE SUPER-LITE

continued from page 43

from here, but maybe this will eventually be part of the standard headlight system."

As planned, the light will be properly aimed at the factory. Then it will be up to the car owner. "If he changes the bulb and doesn't have the light reaimed, it won't work as designed," Kilgour said.

Chrysler furnished this description of how the light works:

Its elliptical reflector concentrates the light into an area slightly larger than an aperture at the second focus of the ellipse. This aperture is imaged at infinity by means of an f/0.7 projection lens. Use of the gate permits the bulb to be moved about without losing pattern accuracy. This is due to the imaging of the gate instead of the filament.

The light is water-tight, thanks to a rubber seal around the lens. The housing is heavy, die-cast aluminum. Its back is made of thick material to cool the bulb base while providing a dependable seal. Its finish will not deteriorate, nor will that of the aluminum reflector inside the light. Soda lime glass is used in the lens. It includes one aspherical and one spherical surface. The spherical surface is ground to a high degree of accuracy, as is a camera lens. The aspherical surface is pressed as is a sealed-beam lens.

The entire unit is pressed into a steel mounting ring attached to the mounting bracket. Its adjusting screws function as do conventional headlight adjusting screws. Its mountings have been subjected to shock 100 times the pull of gravity without failure, Chrysler said.

It's a far cry from the oil lanterns used on the first cars or the gas lights that followed. /MT

Q & A

auto-psychiatry

Q I own a 1939 Chevrolet Master Deluxe which is in fair shape. I am wondering whether I should put a new V-8 engine in it and fix it all up. Some people say I'm nuts; others say I should fix it up. I'm wondering what I should do. Also, will it be worth anything?
Wayne Hall — Snow Shoe, Pa.

A *Would anyone who decided to restore such a car in 1949 be nuts? Hardly, because many of that vintage were still considered serviceable because of the shortage of cars created by four non-productive years during WW II. However, after that, many such automobiles were scrapped as new ones became available on a truly competitive basis in the early '50s. Yours and most of its contemporaries were not hailed as styling or technological achievements, but they are rare. We suggest you restore it with a 6 – 8s didn't exist then – and hold on and see what happens.*

tach-tical problem

Q I purchased an 8-cylinder electric tachometer about a year ago. I now have a 4-cylinder car, but unfortunately I mounted my tach in this car before I realized an 8-cylinder tach will not work properly on a 4-cylinder car. Is there any way – short of buying a new tach – to make my present one read properly?
Kenneth E. Hart — Panama City, Fla.

A *Double the reading you're now getting for your true rpm. If you ever transfer your 8-cylinder tach to a 6-cylinder car, multiply the reading you then get by 1.33 for the correct figure. Since this isn't easily done in your head, constructing a new scale (paper held in place with transparent tape) would be quicker to read. Mark 750, 1500, 2250, and so on in 750-rpm increments. Then label these marks 1000, 2000, 3000, etc. for easy reading.*

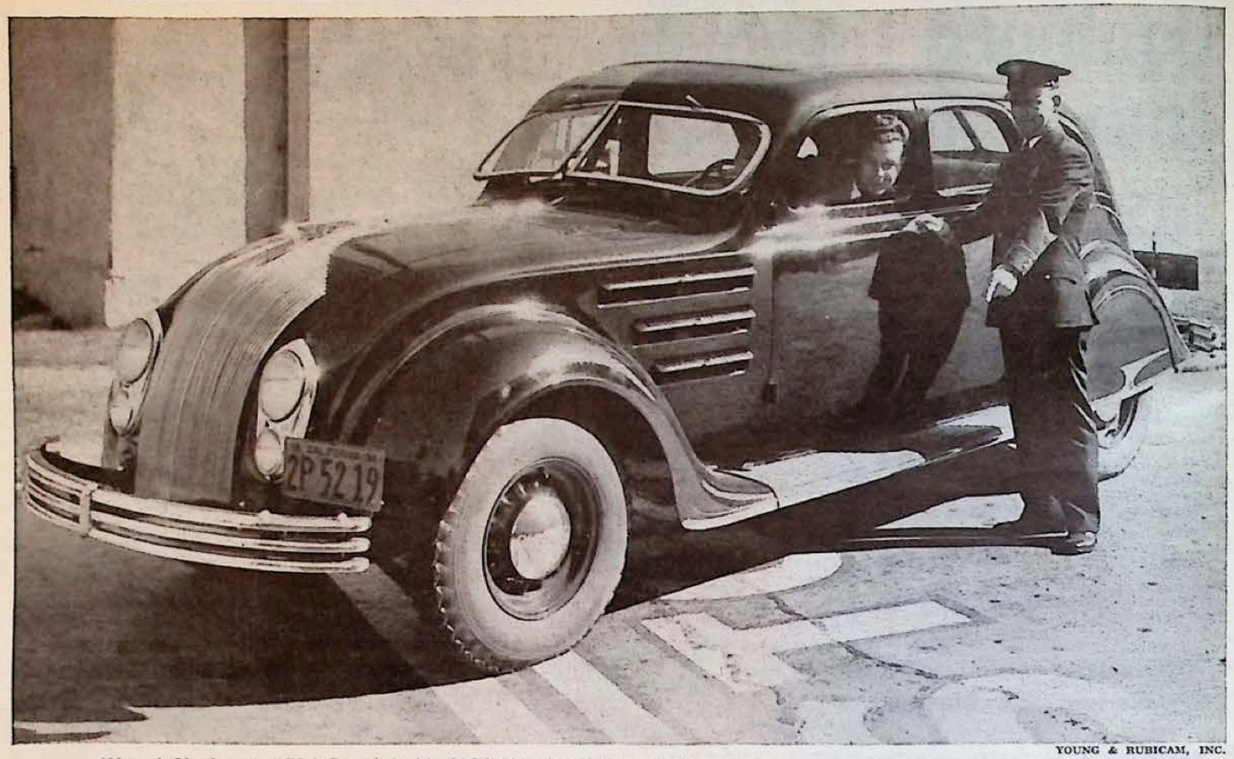
the word filters down

In regard to Robert Kuirinen's query (June Q & A) about a kit to convert from paper element to throw-away filter on his '57 Chevy engine . . .
. . . . Warshawsky catalogs one for 1955-1967 Chevys.
. . . . at speed shops made by Trans-Dart.
. . . . Wix Corporation.
Carl J. Jaffe — Hazleton, Pa.
Karl Yager — Groton, Conn.
Delmar Little — Lexington, N.C.

elusive spring

Q I recently overhauled a MGB. Upon re-installing the engine and transmission and getting it running, I find that there is no return spring on the clutch slave cylinder to relieve pressure on the throw-out bearing. On checking other MGBs, I find they have none either. Is this normal, or should there be one?
Ray Tarte — Clear, Alaska

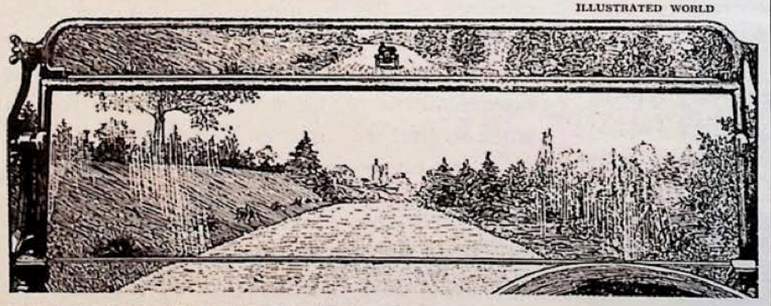
A *There is one of sorts. We think you'll find it inside the bell housing near the throw-out arm pivot.* /MT

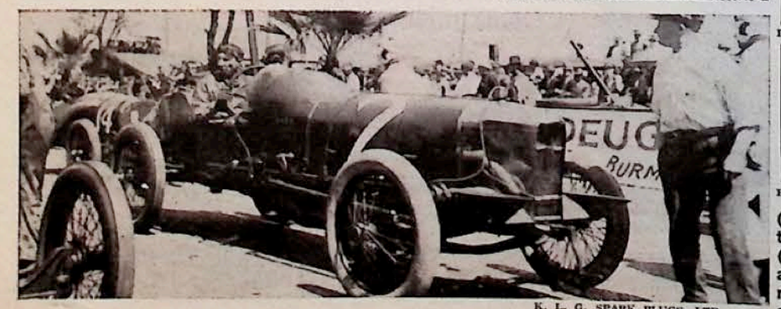


YOUNG & RUBICAM, INC.

(Above) Singing star Dick Powell in his 1934 Chrysler Airflow, obeys studio officer at traffic markings at Warner Brothers.
(Below) Wide-angle, rear-view mirrors for safer driving first appeared in 1915.
(Right) Studebaker was diversifying in 1929 as a maker of watches.

ILLUSTRATED WORLD





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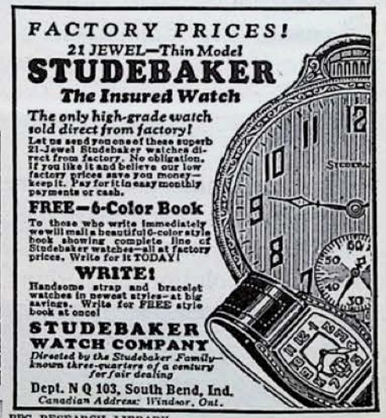

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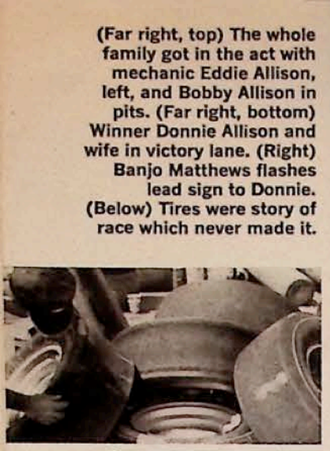
P. SIERRA COLLECTION

(Above) Pirelli proudly directed ads to American tire buyers in 1908.
(Left) Britain's Hughie Hughes drove a Sunbeam V-12 in the 300-mile 1916 road race at Corona, Calif. A broken clutch eliminated him on 47th lap.



(Far right, top) The whole family got in the act with mechanic Eddie Allison, left, and Bobby Allison in pits. (Far right, bottom) Winner Donnie Allison and wife in victory lane. (Right) Banjo Matthews flashes lead sign to Donnie. (Below) Tires were story of race which never made it.

MOTORSPORTS

CAROLINA 500

Heat and tires made the difference at rerun of Rockingham Race

— by Bob Myers

Back in 1950, when the first stock car race was run on a superspeedway, Darlington Raceway, in a cotton field that was bigger than the town of Darlington, S.C., which is still a cotton field, tires were a problem.

It was Labor Day, the inaugural stagging of the Southern 500-miler. It sounded more like the Fourth of July, the fireworks being blown tires on the near strictly stock automobiles which made the first major race on the nation's first superspeedway for stockers.

"Tires blew out all over the place," recalls veteran Buck Baker, 3-time Southern 500 champion from Charlotte, N.C. "But it was because none of us knew anything about tires. And more important, there were no tire companies making tires designed for our machines."

Times have changed. Stock car racing in the Southeast, with its five modern supertracks, has become a science, a business. And the tires that don these race cars are the most durable and safest that money and technology can develop. The two primary makers of racing tires, Firestone and Goodyear pour millions into the program annually. Others would like to, but the two are too far ahead.

But, if you would believe, tires, even with their inner-liners and all that — are still the concern of most stock car drivers. At least that's the way it was at the Carolina 500-miler at North Carolina Motor Speedway in Rockingham, N.C., back in June.

The Carolina 500 in 1968 was the first race run under the newest rule imposed by NASCAR. It, of course, concerns tires.

The rule stipulates that drivers must use the same set of tires to start the race on which they qualified. Now that doesn't appear to be very significant, but it is quite involved. Another part of the legislation by NASCAR states that drivers may receive a replacement tire if one is damaged at no fault of his during trials.

The first thing the rule achieved, quite naturally, was to eliminate "gumballs," or soft rubber compound for the most part. The general practice leading up to major stock car races is to practice on Tuesday before a race such as the Carolina 500 on Sunday.

Normal procedure is to ascertain which brand of gumball will work for qualifying, the factory-backed machines in reference here. But gumballs will run no more than four or five laps under qualifying use.

Yet the factories had enough money for two racing setups — qualifying and race. All the factories care about anyway is (1) win the pole position for a major race and (2) win the race. If one does not make it a habit of winning one of the two — or both — he usually winds up like the college football coach who can't win — fired.

Well, on Wednesday before the Carolina 500, everyone aware of the new rule, Lee Roy Yarbrough of Columbia, S.C., qualified at 118.643 mph in a Ford Torino and David Pearson of Spartanburg, S.C., was beside Lee Roy at 118.312.

The speeds, on racing tires, dropped only less than 1 mph from March when the race — after qualifications — was rained out and postponed. Pearson in March had qualified at 119.422 mph. However, it was thought speeds might drop appreciably because of the rule.

Speeds were not the primary concern, however. Goodyear had the faster tire by some 2-3 mph, depending on which car was equipped and who lied, but it heated up on some cars — depending on which were equipped and who lied — to a dangerous 300°.

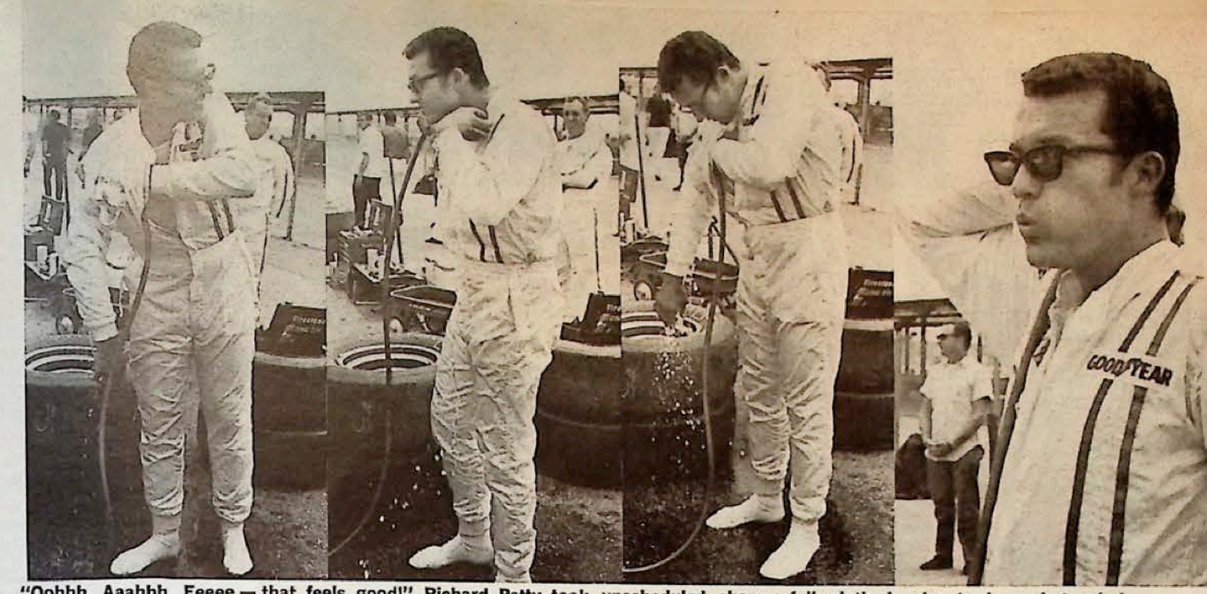
Some 240° is the normal temperature. However, all but three of the first 24 qualifiers chose Goodyear — the faster. Said Richard Petty, the superstar of 1967 who had not won a supertrack race to this writing, "I'm going along with the majority. I might be wrong. I have been all year, not necessarily on tires."

Petty, who won 27 races and more than $130,000 in prize money last year, breaking nearly all of NASCAR's Grand National marks, qualified third behind Yarbrough and Pearson at 118.121 for the fastest lap around the slightly-banked mile.

He also disagrees with a portion of the new rule. "So we come to the racetrack on Tuesday before a major race on Sunday. We practice and decide which tires we will use for qualifications. It's usually Friday before we decide which tires we will use in the race. Now, if we qualify on a tire that we find to be bad later on in the week, we must start the race on it. We have to worry from Wednesday (first day of qualifying) until the start of the race. Most of the time in the past, I didn't determine which tire I would use in the race until Friday or Saturday," said the 30-year-old Petty.

If Petty disagrees with part of the new rule, why was it invoked, might be the thoughts of some? The answer is that the tire companies, pouring their millions into tire development and supply, simply got tired of the cost of making qualifying tires.

"As far as we are concerned, developing a special qualifying tire was simply a waste of time," said Firestone's H.A. Wheeler, Jr., Southern director of



"Oohhh, Aaahhh, Eeeee — that feels good!" Richard Petty took unscheduled shower fully-clothed prior to long, hot grind. photos by Don Hunter

the company's racing program. "We quit making qualifying tires a year ago because we feel that we should spend 100% of our testing program developing racing rubber, safe tires, instead of taking 30% to make a time-trials tire."

It should be injected here that the new rule was not pushed by one company. Officials of NASCAR, namely vice president and executive manager Lin Kuchler, Goodyear's Chuck Blanchard and Firestone's Wheeler formulated the new regulation.

Goodyear's Blanchard said, "Under the new rule there will be no doubt about which tires who is running. Some drivers in the past have qualified on one brand of tire and raced on the other. Some have gotten out of contracts — with our permission — to run the rival brand. This will also eliminate what suspicion there might be about certain tires. It will keep all honest, or at least it will tell all no one is dishonest about tires."

Part of what Blanchard, based in Akron, is talking about is a section of the rule which states that tires on which drivers qualify must be impounded immediately after use. This prevents anyone from exchanging the original set, whether they are gumballs or racing compound. The rule does not eliminate qualifications on gumballs, but it does eliminate changing until after the green flag falls.

All this affinity for qualifying tires began quite accidentally, anyway. Drivers discovered some five years ago that compounds designed for racing at such tracks as 5/8-mile North Wilkesboro, N.C. Speedway and Martinsville, Va., Speedway, a half-mile asphalt facility, would make a few laps at the supertracks — Atlanta, Charlotte, Darlington, S.C., etc.

"Once this happened," said Wheeler "the tire companies were forced to develop a qualifying tire. A year ago our company felt that it was not worth the time if we were to develop the safest tire possible to meet the increasing speeds."

Tire people will tell you that the increase in speeds everywhere — up to 190 mph at Daytona Speedway, 157 at 1½-mile Atlanta and 160 at 1½-mile Charlotte Motor Speedway — have played no part in the efforts of the companies to stay abreast of the sport. This is not true. The unbelievable pace at the supertracks has caused the tire companies some consternation — but one does not expect them to tell you. Why the increased paces? The reasonable answer is improved aerodynamics. All one has to do is look down the street at the Ford Torino and the Dodge Charger, even the improved Plymouth Road Runner.

The tire companies, with justification, also are tired of spending, needlessly, rising sums of money.

"From the standpoint of safety, as well as economy," said Wheeler, "the new rule is a sound one. Instead of spending two or three days attempting to qualify, the factory and competitive cars can now get ready six days before the race and concentrate on that. It gives the mechanics more time to prepare the cars and the drivers more time to operate on a racing setup."

The new regulation should not distress the fans. Speeds on the 1½-mile supertracks will drop no more than 3-5 mph, the experts predict, and at superfast, 2½-mile Daytona Speedway, qualifying tires will not endure the tremendous speeds anyway. Goodyear did bring a reasonably successful time-trial tire to Daytona last February, which, in some measure, led to the rule banning them, even with Goodyear's cooperation.

Over the years, Firestone has commanded most of the field in major stock car races, but Goodyear has come on like Gangbusters in 1968 after losing the Daytona and Atlanta 500s to Firestone and Cale Yarborough in Mercury cars. Since April, Goodyear has produced the faster tire in most races, the rain-shortened World 600-miler (to 382 miles) at Charlotte the major exception.

"Even though we feel we have made giant strides in the development of tires for major stock car races," said Blanchard, "we felt something had to be done about making so many different tires, namely for qualifying. Our objective is to produce the best and the safest tire for racing. Why consume so much time on unimportant qualifying tires?"

Ford Motor Co. performance brass, the reports we received, bitterly opposed the new rule — to the extent telephone calls were made to tire executives to find out who instigated such a drastic change. The company complaint had sound basis, however. Publicity centered around winning pole positions is half the battle.

This complaint brings us back to the fact Ford not only won the pole spot at Rockingham, but half of the first 10 positions.

And when the 500-mile grind was done after five hours and two minutes on a track that registered an all-time high of 145° for a major asphalt track where such standards are kept, Ford had won the race.

A Ford Torino — the last factory ma-

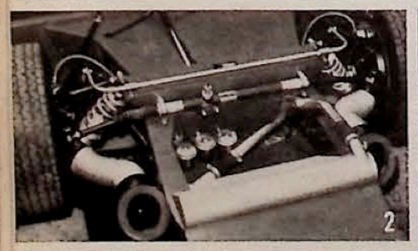
continued on page 94

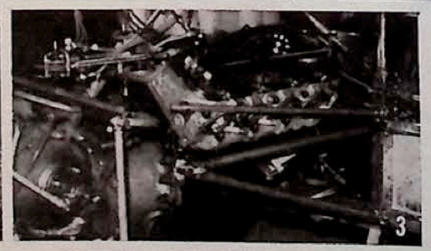
MOTORSPORTS

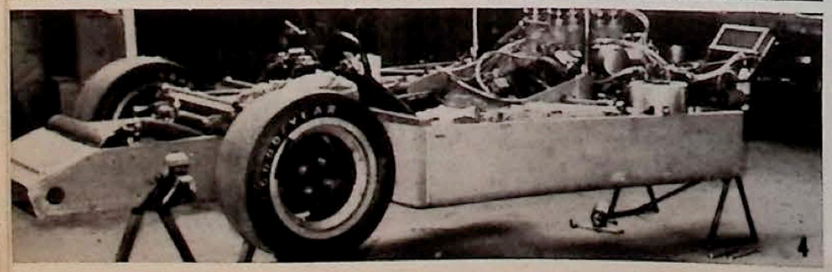
The M.8A McLarens

by Eric Dahlquist

From Van Nuys, Calif., to Goodwood, England, and back something was happening in racing land — something secret. And we got it all, baby, all.







(1) Denis Hulme, current World Driving Champion, comes rolling back into the garage after several quick practice laps at Goodwood. New machine was as fast with bugs as last year's winners.

(2) Front suspension is quite similar to last year in that the unequal length A-arms are retained but the wheel bearings are larger and carried in the uprights. Radiator capacity has been increased by 20% to meet the needs of the larger 427 engine. Low silhouette demands flopped-forward configuration.

(3) McLaren Racing put their shape in shape by paring off all those old ounces from the back of the chassis. Now the engine is part of it, the chassis that is, bolted directly to the bulkhead behind the driver. Triangulated one-inch mild steel tubes control vertical and fore/aft stress. Rear suspension locates right off the Hewland LG-500 gearbox. These days, especially, a pound saved is a £ (pound sterling) earned.

(4) Big difference in the M.8A chassis compared to the M.6A is that (1) the engine is part of the chassis, and (2) the "rocker-box" section between the wheels is squared instead of rounded. "Square," is the new deal in streamline science.

photos by Carole Knutson

'Have a nice weekend, she says?" Gary Knutson runs his fingers through his shock of shaggy brown hair and slowly shakes his head. A faint smile grows at the corners of his mouth and you see a boyish twinkle in his eyes. "Yes, sir, I'll have a great weekend, right here in the dyno-room." It's 5:30 p.m. and Al Bartz' secretary, Annemaria, has slipped out the office door, trailing back the standard Friday afternoon farewell for the nine to fivers of the world. Everybody's earned his two days of rest, right?

Wrong. Double-A, extra-thick, premium-grade, wrong. You're not entitled to win five out of six Can-Am races in '67 by having nice weekends except at the track. You sweat for those blitzkreig, back-to-back victories — nights, mornings, 4th of Julys — time all jumbles in together. Bone weary, fagged-out. Testing, testing, forever testing the bloody machine until it doesn't go anything but fast — faster than your opponents can — faster at every race — faster than even you thought it could in those blearly early mornings. It's your job. You're chief development engineer for Bruce McLaren Racing by way of Jim Hall and Midland, Tex.

The door banged shut. Gary thought for a moment. You could hear the click of a 3/8-drive ratchet out in the shop. "The only reason we made everybody else look so poor last year was that they weren't really prepared. Sure, Bruce and Denny (Denis Hulme) are two of the finest drivers in the world, but we ran a very intensive test program last spring and summer where the others didn't. This year it's going to be a different story, all the top cars will have a lot of testing behind them."

Most assuredly they will. The old M.6A McLarens, the ones Bruce sold duplicates of as fast as he could make them for those who watched his '67 performance with utter disbelief, are as dead as the Dodo. The new car, the M.8A, will be lower, 29 inches high at the top of the fender, and lighter. Would you accept 1350 pounds... 1350 pounds? That's less than most Indy cars. You betchum Red Ryder. What is there to be heavy, anyway? The basic frame construction is semi-monocoque with 22-gauge rectangular tubes inside the main structure to form bulkheads. "Pure monocoque might have been a bit lighter," Gary allowed, "but you're supposed to take all the stresses in the skin, like an airplane, and we've noticed that the Lotuses (which are pure monocoque) are continually poking holes in their fuel cells. We'd rather have the dependability."

The front part of the new chassis is very similar to the M.6A which, in case you're wondering equates this

way: M equals McLaren, 6 equals 6th design and A equals version. No trick letters and numbers, just labels for the drawings. The M.7A is their super-successful Formula I Cosworth Ford and the M.8A is, well, next. The front bulkhead is down about 3 inches lower than '67, rendering the knee level height aspect and much improved visibility so the driver doesn't feel like he's guiding an ambulatory ravine. Of course, tearing out a 3-inch piece of the body didn't exactly do the overall frontal area any harm, interrupting the air less and enjoying it more. Every chassis joint is bonded and riveted, that is, when they put it together, epoxy resin is spread into each nook and cranny. "It's a bit more trouble to build a chassis this way," Gary said. "And, it can be sloppy until you get the hang of it, but after the epoxy has dried, you could remove the structural rivets and it wouldn't make any difference in strength. Bonding is great because it reduces the fatigue life of the aluminum, spreads the load over a wider area and allows you to use thinner metal to begin with. In an all-riveted chassis car you tend to notice that about mid-season the rivets start to elongate their holes, loosen and actually fall out. Besides that, our whole chassis weighs just 75 pounds."

In the back of the chassis you notice a curious thing—the engine. Well, it's a mid-engined car, after all, isn't it? Yes, quite, but you see here, the engine is actually the rear portion of the chassis. It works on the Formula I McLaren and the Lotus Ford, so why not in Group 7? A magnesium plate runs across the front of the 427 engine picking up two water-pump bolts as well as two other holes that seem atrophied remnants of the '55 Chevy when it had front-engine mounts. The plate bolts to the chassis and absorbs vertical loads. Vertical and fore-aft stresses are taken by a pair of triangulated, 1-inch o.d. seamless mild-steel tubes that bolt to the chassis. The lower rear suspension link picks up off the bottom of the gearbox by an appropriate magnesium plate and on top, a fabricated steel beam carries the shock/coil units, upper control links and anti-roll bar. Although the engine is the big-block 427 instead of 327 small-block, it sits 1½ inches below last year's, lowering the center-of-gravity and rear body section.

M.8A suspension geometry is basically identical to last year's—conventional, non-parallel, unequal-length wishbones with out-board mounted Koni aluminum shock/coils. The uprights are new and novel. There is no bearing in the wheel hub, it remains in the upright, meaning the front is identical to the rear except the rear has U-joints. It's an interesting approach toward solving the problem of having a 4-inch hub-flange fitting on a 1-inch axle, a situation that causes a significant bending force. By putting the front bearings in the uprights you can use a 3-inch bearing and a 2½-inch hollow axle that revolves with the wheel. The bearing load is distributed over a larger area, making a sounder and, at the same time, lighter design. Torrington bearings have been incorporated into this new configuration, a unique type of combination radial/axial needle/roller unit that accepts loads in two planes.

"If an engineer had to sit down and figure out the suspension layout of the M.8A or any modern car, the calculations for this kind of 3-view exercise consumes about two months' more time than we have. Jim Hall uses the computer at GM and we use the one at the British Air Ministry.

"A lot of anti-squat is built into the rear suspension because the car's acceleration rate doesn't really begin to fall off until about 120 mph; and if your nose is up at that time, a lot of air is going to get under the front end. This situation kind of builds on itself—the more up-attitude you have, the more air you trap, which aggravates the attitude still further and pretty soon you're airborne. At the same time, you want good anti-dive characteristics. All these long noses are very close to the ground and it's pretty easy to wipe out some front bodywork if the suspension gives too much. When you start thinking about all these considerations in three views, it becomes a nightmare without electronic help."

Lucas. They used to make lights and things, remember? At the first Can-Am race of '67 we found out that they made a fuel injector distributor head that would work on a small-block Chevy. The 48mm downdraft and 58-mm sidedraft Weber carburetors had been the hot setup, but they lacked responsiveness and power in the turns when the rpms were low. The Lucas injector wasn't brand new but nobody had been able to successfully adapt it to a Chevrolet, and Lucas did not make a Chevrolet manifold. Gary Knutson came up with the clever idea of using the Mickey Thompson cross-ram 55-mm manifold, originally designed for Webers, as a base for the Lucas injectors. A set of butterflies were installed in the manifold and fuel injected behind them into the airstream. The supertrick part of the deal was splicing over the valley between the cross-ram branches, making little pockets or reservoirs. High air velocity in the manifold branches always kept the area cool so fuel routed through it would remain at low temperature, too. This had been one of the major injector hangups; gasoline not used by the injector was bypassed back to the fuel tank and became heated in the process, providing nice warm fuel supply for the engine. With the new deal, fuel injected into the runner was about 45-50° F. on an 80° day.

With months of development work behind, the 1967 M.6A McLarens hit the track with a Lucas-injected, Al Bartz powerplant which produced 510-530 horses out of 358.6-cu.-in. Chevys. Not only was this more power than anyone else had, it was on tap smoothly any place in the course. Add in a slippery, aerodynamic shape, the best drivers in the world and—bingo—pay the man with the orange car.

Now, the new deal is the all-aluminum 427 (described in detail on page 46). The Lucas injector was still the hot item but the manifold picture boiled down to two existing injector bodies for the bigger engine: Crower and Hilborn. Crower's seemed to have the best airflow characteristics, plus a handy area between the runners that could be turned into a reservoir. Gary found that injecting the fuel above the butterfly produced the greatest power with ram tubes of about 14 inches. Since the Crower injector is used primarily on dragsters, it makes you wonder what a rail would do if the superior Lucas setup were incorporated as a production option.

As you read this, the air in and around Elkhart Lake, Ind., will be violated by the din of the first Group 7 race of Can-Am '68. A year ago, the odds against the then new McLarens ripping off five straight was slim; this year, even with more streamlined, lighter, higher horsepower cars, it is a hair's breath. The Chaparral will have an aluminum or magnesium engine, a new automatic transmission and maybe 4-wheel-drive. Lola has a completely new design; Porsche is supposed to have two 800-pound 8-cylinder wonders; Ferrari, 6-liter V-12s; and Australian Frank Matich's Repco SR4 has been running nuts down under.

If the McLarens aren't as successful against this dazzling array of opponents as a season ago, it won't be because Gary Knutson didn't try. When you see him out at the track flogging the car, remember him trudging up to the shop door at 8 a.m. and not retracing those steps again for maybe 16 hours. Think of him down at the bench, flowing the injectors and at Bartz, planning an entirely new 427 cylinder combustion chamber; and in England fighting the rain at Goodwood track to see if it all worked and all the hours in between. If he's lucky, very lucky, he'll have five "nice weekends" back-to-back.

1969: Modification or Innovation?

For the significant differences on the '69s read October Motor Trend, on sale Sept. 24th

CAROLINA 500 *continued*

chine left running after 500 laps—driven by Donnie Allison of Hueytown, Ala., made it five in a row in 500-mile events this season for Ford. (Remember the World 600-miler was stopped short at 382 miles with Dodge's Buddy Baker there to claim the first prize.)

Moreover, Ford couldn't argue with the tire situation, and would not have during the race, for all the executives sought shelter from the plus 90° heat. The blistering sun stroked all afternoon, baking 50,000 spectators, a record crowd for the track and enough to silence Ford's animosity at tire reps.

It was a crazy race—and that's a valid word. Allison had never won a supertrack race though he finished second to Baker in Banjo Matthews' Ford at Charlotte.

In spite of the unbearable heat, tires were no major problem as had been anticipated all week before the race. There was some additional wear, but if they had heated comparably with temperatures earlier in the week, it would have been an historic renewal of the first Darlington race.

The fate of the factory cars cannot be explained readily. Of the 16 company-blessed machines which started the 44-car, $78,000 classic, only two were running at the finish. Most fortunately, Allison's was the only Ford. The other was a 1967 Dodge Charger wheeled by James Hylton.

Second place? Well, that was a 1966 Chevelle driven by Bobby Allison, who happens to be Donnie's big brother.

Had Bobby won the race, Ford could have alibied that it was in the sun all day, red-faced. Allison, only a week before the race, had quit the Ford team, charging that Dearborn would not allow him to compete in as many races as he desired, and that it would not permit another brother, Eddie, to serve as a mechanic on the Torino owned by Bondy Long of Camden, S.C. and supervised by former king of the tracks, Fred Lorenzen of Chicago.

The parting had not been at all amicable. Allison not only disliked the 15-race schedule on which he was budgeted, but he didn't like Lorenzen, for whom he had driven—and won—that October, 1967, 500-miler at Rockingham. He didn't say that. We do.

Bobby did not have the car to win the race, but before it was over, Ford executives were sweating, even in their perches in the shade. "We literally threw the Chevelle together before the race," said Bobby. "We were outhorsepowered. I wasn't satisfied with the outcome, but I'm glad Donnie won if I couldn't."

Ford, as has been the case, came out smelling like a rose. It is not likely to voice disapproval of the tire rule the rest of the season. /MT

CAROLINA 500 RESULTS

POS.	DRIVER	CAR	LAPS
1	Donnie Allison	68 Ford	500
2	Bobby Allison	66 Chevel	498
3	James Hylton	67 Dodge	494
4	Richard Brickhouse	67 Plym	470
5	Roy Tyner	67 Ford	469
6	Jabe Thomas	66 Ford	464
7	J. D. McDuffie	67 Buick	463
8	John Sears	67 Ford	457
9	Clyde Lynn	66 Ford	457
10	Dave Marcis	66 Chevel	456
11	Neil Castles	67 Plym	448
12	Henley Gray	66 Ford	445
13	Swede Savage	68 Ford	434
14	Paul Dean	66 Plym	418
15	Walson Gardner	67 Ford	406

September Racing Calendar

Sept.		
1-2	NHRA "Summernationals" — Indianapolis, Ind.	(Drags)
1	Can-Am Challenge Race No. 1 — Elkhart Lake, Wisc.	(Sports)
1	DuQuoin 100 — DuQuoin, Ill.	(USAC Stks)
1	NASCAR GTC Race No. 14 — Darlington, S.C.	(Sedans)
2	Southern 500 — Darlington, S.C.	(NASCAR Stks)
2	USAC 100-Miler — DuQuoin, Ill.	(Indy Cars)
6	Hickory 100-Miler — Hickory, N.C.	(NASCAR Stks)
7	USAC 100-Miler — Indianapolis, Ind.	(Indy Cars)
7	NASCAR GTC Race No. 15 — Richmond, Va.	(Sedans)
7-8	SCCA National Champ. — Selma, Ala.	(Sedans)
8	Capitol City 300 — Richmond, Va.	(NASCAR Stks)
8	Milwaukee 250 — Milwaukee, Wisc.	(USAC Stks)
8	Trans-Am Race No. 12 — Riverside, Calif.	(Sedans)
8	Italian Grand Prix — Monza	(Formula I)
13	Beltsville 100-Miler — Beltsville, Me.	(NASCAR Stks)
15	Hillsborough 150 — Hillsborough, N.C.	(NASCAR Stks)
15	Can-Am Race No. 2 — Bridgehampton, N.Y.	(Sports)
21	NASCAR GTC Race No. 16 — Martinsville, Va.	(Sedans)
21-22	SCCA National Champ. — Detroit, Mich.	(Sedans)
22	Old Dominion 500 — Martinsville, Va.	(NASCAR Stks)
22	USAC 200-Miler — Trenton, N.J.	(Indy Cars)
22	Trans-Am Race No. 13 — San Francisco, Calif.	(Sedans)
22	Canadian Grand Prix — Mosport, Canada	(Formula I)
28	NASCAR GTC Race No. 17 — N. Wilksboro, N.C.	(Sedans)
28-29	SCCA National Champ. — W. Palm Beach, Fla.	(Sedans)
28-29	SCCA National Champ. — Newport, Ore.	(Sedans)
29	Wilkes 250 — N. Wilksboro, N.C.	(NASCAR Stks)
29	USAC 100-Miler — Sacramento, Calif.	(Indy Cars)
29	Can-Am Race No. 3 — Mosport, Canada	(Sports)

SELL & SWAP

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GET THE FACTS on Antique Auto Prices! This Antique Automobile Appraisal book lists current market prices and locates 10,000 available collector's vehicles. $4 delivered. Murray Pask, Box 380 Sub. P.O. #6, Saskatoon, Sask., Canada.

'53 MG TD British racing green. Xlnt. cond. New top and side curtains. Everything in working order. $1500 or best offer. Valgene Ebeling, 10405 Hendrix Ave., N.E., Albuquerque, N.M. 87111.

'63 STUDEBAKER Hawk. Clean, orig. Avanti engine, full power, auto. and factory air. Champagne gold with green interior. Best offer. Carl D. Johnson, Rt. 1., Peyton, Colo. 80831. Phone (303) 683-2162.

AUTOMOBILE SALES CATALOGS. Send for free lists with hundreds of old, new classic and foreign catalogs available. 90,000 items in stock. Also 10 rare foreign car catalogs for $1; 70 for $5. Richard Veen, 64033 Bettna, Sweden.

'59 EDSEL. 6-cylinder, standard trans. Tudor Sedan. Perfect operating cond. Well maintained, orig. owner. Xlnt. collector's car. Will accept best offer. A. C. Telander, c/o 6127 Evergreen Rd., Apt. 1, Dearborn Heights, Mich.

VINTAGE VEHICLES. An all new bi-monthly magazine dealing with classic, antique, vintage and non-classic autos. Subscriptions $8 a year (foreign $10), single copies $1.50 (foreign $2). Vintage Vehicles, P.O. Box 126, Hackensack, N.J. 07602.

'60 MERCEDES-BENZ 220-SE Sports cpe. Blk. w/ red leather. Sunroof, fold-down rear seat, Becker Mexico AM/FM/SW, and complete factory manuals. One owner $2500. Joel L. Bunch, Box 76, Elkins, Ark. 72727. Phone (501) 643-3511 or 643-4433.

'55 OLDS V-8 motor with full set of new rings, rod and main inserts. $75. Parts ready to be installed. Glen A. Graybill, M.D., 209 N. Second St., P.O. Box 638, Barstow, Calif. Phone CI 6-8317.

'58 CADILLAC Eldorado Biarritz vintage. Absolute orig. mint cond. thruout. Orig. 3 2-bbls. V-8 engine. Full power, vents, antenna, trunk, seats. Last custom Eldorado built. A showpiece. $2500. J. W. Weiss, 1261 Central Ave., Far Rockaway, N.Y. 11691. Phone (212) 327-4016.

'56 IMPERIAL. Actually owned by little old lady (my mother). Always carefully serviced, mainly driven on 300-400 mi. trips. All power and air. $1495. James Hart, D.D.S., 800 N. Bishop, Dallas, Tex. 75208.

'23 BABY OVERLAND cpe. Xlnt. cond. Orig. owner, stored 1927, removed 1953. Extra: tires, horn,

exhaust whistle, motometer, gas and electric lights, $2500. William H. White, R.R. 4, Charleston, Ill.

ANTIQUE and CLASSIC Automobile Sales Catalogs, manuals, motor magazines. Defunct auto stock certificates, antique license plates, presidential campaign buttons. Teddy Roosevelt to F.D.R. Thousands of items. Illus. brochure and price list 25c. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

DEFUNCT AUTOMOBILE STOCK CERTIFICATES. Pierce-Arrow (1930) $1, Stutz Motors (1928) $4, Reo Motors, Jordan Motors, Durant Motors $5 each, Leland Lincoln $7.50, Nash, Hudson Motors (1936) $6.50 each. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'57 CADILLAC Eldorado Biarritz conv. White with red leather. 2-bbl. carbs., mag wheels. Low mi.

A-1 cond. $2500. Bill Henriksen, 911 Newman Rd., Racine, Wisc. 53406.

ANTIQUE PRESIDENTIAL CAMPAIGN BUTTONS. Teddy Roosevelt, Taft, Wilson, Hoover, Harding, Coolidge, Alf Landon, Al Smith, F.D.R., Willkie, others, 6 different $5. "Repeal Prohibition" buttons $1.50. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

ANTIQUE AND CLASSIC AUTOMOBILE SALES CATALOGS, owners manuals, Motor Annual Show Issues, magazine ads. All cars 1920 to 1942. Thousands of items. Introductory listing 25c. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'41 OLDSMOBILE 2-dr. sedan blk. 53,000 orig. mi. Mint cond. in and out. Runs perfect. Tires good. Best offer over $600. Dr. John F. Solverson, 310 W. University Dr., Rochester, Mich. 48063. Phone: 651-8786.

'58 MERCEDES-BENZ 300-SL rdst. Xlnt. Cond., low mi. blk. with red interior. Best offer over

$3600. Bob Scott, P.O. Box 4573, Tulsa, Okla. 74114. Phone (918) RI 3-8565.

'38 CADILLAC V-16 conv. cpe. Car in storage since 1941. 14,000 orig. mi. Showroom cond. Metallic-maroon lacquer, white leather interior. $8750 or best offer. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

'58 EDSEL Corsair, like new. Copper & white. W. O. Snider, Maywood, Neb. 69038.

'53 HENRY J. Motor rebuilt. Xlnt cond. thruout. Interior like new, completely restored, 31,000 actual mi. L. M. Wicks, 507 E. Madison, Norfolk, Neb. Phone: 371-3257.

WANTED

COMPLETE NOSEPIECE for XKE Jaguar. In good cond. Call (203) 767-1433 collect. G. Lancraft, Ivoryton, Conn. 06442.

'63 LINCOLN CONTINENTAL. Must be in showroom cond., low mi., fully equipped, leather interior. New York area. William Vandersteel, 50 Broad St., New York, N.Y. 10004. Phone (212) 944-6975.

OLD AUTOS $100 reward payed for exclusive information which leads to purchase. Large size cars with open (convertible) bodies preferred. Sam Sherman, 88-08 32nd Ave., E. Elmhurst, N.Y. 11369.

PRE-WAR AUTOMOBILE SALES CATALOGS, Manuals, Motor Annual Show Issues, Boyce Auto Nameplate motometer, radiator mascots, defunct auto stock certificates. Top prices paid. Sheldon J. Lewis, 154-62 71st Ave., Flushing, N.Y. 11367.

ORIG. SALES LITERATURE. Early years to mid '50s any quantity or complete collections. American and European. State quantity, description and price first letter. R. Egidi, 1970 N.E. 118 Rd., N. Miami, Fla. 33161.

SELL OR SWAP

BUYER'S OPPORTUNITY! '58 BMW, 3, 2-ltr. V-8, model "503" spt. cpe. conv., custom hand-crafted Alu-body, automatic Becker radio, top and windows. Orig. cost $12,000. Must sell for best offer. No reasonable offer refused. Consider partial trade. Write or call Wolf Jurinek, 2385 Redlands Dr., Newport Beach, Calif. Phone (714) 642-0138.

SEAY HERE

by Bill Seay

index to advertisers in this issue

And Playing Out-Field Today We Have

"Your amusing article on the 'In Cars, Out Cars' (MT, June '68) showed the talent MT has in bringing peasants off the street and putting them behind writer's desks. You, sir, (Mr. Schmidt) are a peasant. How dare you make such an ill-bred statement as to even list a Mercedes in your foolish, trashy little article. I own six Mercedes-Benz and can speak highly of every single one of them from a 190 SL to 300 SL and 600 sedan. It is simply a social crime to mention the Mercedes name in the illiterate society of which you are surely a member. You, good man, should stick to your social bracket. Mention only Corvairs, your funny plastic Corvettes, and your tinfoil-adorned Lincolns and Cadillacs. I am sorry that I haven't realized the low caliber of your magazine until now. You'll excuse me like a good peasant, while I deposit MT's June issue in the trash and all others for that matter."
Charles Sinclair Woodland Hills, Calif.

Class always tells. The Editors.

. . . "I'd like to ask you how you can criticize the 1958 De Soto and not say a thing about the 1958 Oldsmobile? For years you guys pick, pick, pick at the Studebakers. Any of the Studebaker Hawks can qualify as an outstanding automobile including the '56 Golden Hawk. Whenever automotive magazines mention that particular car, all they say is that it was nose heavy. Don't stop there. I think it's an excellent example of a machine with brute power to spare. I own and drive a 1958 Packard Hawk—of which I am very proud. Some of my friends laugh, but when they do I remind them that the next time they get behind the wheel of their car, adjust the sunvisor, and turn on the air-conditioning, they should remember all of those items were Packard firsts. Ask the man who owns one."
James R. Locke Joliet, Ill.

Ask him what? The Editors.

. . . "Your description of the Jaguar XK-150 as an 'out' car in the June issue of MT was a very unsuccessful attempt that must have been inspired by intrinsic bad taste and an embarrassing amount of incorrect information."
James B. Patterson New York, N.Y.

Used Awards

"I heartily agree with your choice of the 1965 Mustang in the Sports/Personal category of MOTOR TREND's First Annual Used Car Awards (June, '68). I feel I have a better Mustang than the one listed in that I have one of the few with the 260 engine which was phased out of the line after a short time."
Alfred W. Johnson Watkins Glen, N.Y.

. . . "I agree with your praise of the '65 Mustang which appeared in your June issue. But why did you then show a picture of a "66"?
I. Robert Shapiro Allentown, Pa.

We thought it looked nicer. The Editors.

Flyoff Knobs and Other Second-Hand Dreams

"I read with amusement your article about 'Sleepers' in the June issue. It reminds me of the very first car I bought when I was 19—a Chevrolet about 12 years old. In all the time I owned it, there was only one thing that ever went wrong: everytime I went over a bump, the radio knobs would fly off."
Rosalyn Ross Danvers, Mass.

..."I enjoyed reading the 'Used Car' section in your June issue of MT, however, I did notice something in the section 'Sleeper Cars' that I find hard to believe. How could anyone make a list of the best old car buys and not include what had to be one of the better cars built in the '50's or for that matter one of the best cars ever built—the 1954 Chevy?"
Richard J. Townsend Maplewood, N.J.

. . . "I note on page 10 MT (June, 1968) a rumor printed by your magazine under 'Inside Detroit' . . . 'Cadillac would like to drop the front-wheel-drive on the Eldorado. True, Cadillac is developing a normal drivetrain for use in the early 1970s.' I own a 1967 Eldorado and a 1968 Eldorado and your articles most certainly upset me."
Robert M. Yount Newton, N.C.

If you're upset, think how Cadillac must feel. The Editors.

. . . "I have a 1967 Cougar, your 1967 Car of the Year, and have very little fault to find with it. But in the Kelley Blue Book list, it shows a depreciation of 29% more than that of any car for the first year. Being unable to understand this, and if the figures are correct, I think I will try to dispose of it as quickly as possible, as shortly it will have no resale value."
Charles F. Flynn St. Marys, Pa.

Don't panic, Charles, it's just a temporary readjustment in the market. Some fellow named Yount it going to take care of it anyway. The Editors.

Piqued Interest Rates

Thomas H. Schmidt, assistant director of public relations for Cuna International (an association of credit unions) writes to tell us we goofed on one important point in our Used Car Buyer's Guide (June, 1968).

"The article erroneously refers to credit unions having a 9%-12% discount rate of interest," says Mr. Schmidt. "But this is not so. Credit unions, by law, charge a maximum of 1% per month on the unpaid balance or, in effect, a 12% true annual interest rate."

Another item in our used car issue needs clarification. Banks nearly always make used-car loans at discount, not simple, interest. We got that backwards. The Editors.

Gentlemen, Start Your Engines

. . . "I am tired of seeing USAC unfairly criticized by your magazine for its policy in regard to turbines. I would point out that USAC is a club for car owners and drivers, not for a few manufacturers of great wrath. If that is a detriment to progress, then so be it. Racing is primarily a sport and has long since passed the stage where it must be justified by a look-at-the-progress theme. Granatelli enjoys the martyr act, but his lawsuit has aided him in gaining a great deal of publicity for his product. The man is a showman. He has not, in fact, been hurt by USAC's ruling at all, and it is irresponsible for magazines such as yours to say otherwise without any foundation for it.

"I would also like to point out I was rooting for the turbine to win, partly because Parnelli deserves more victories at Indy, and partly because the car appeals to me. The idea of 33 turbines does not bother me at all. Last, let me say that snide remarks concerning any group of men such as those employed by Ludvigsen against USAC are at best in poor taste and they detract from what is essentially a fine magazine."
Stanley D. Ross APO San Francisco, Calif.

. . . "As Andy Granatelli has amply proven in '67 and '68, the Silent Sam Swooshmobiles are obviously at a great disadvantage in the final stretch. Wouldn't an Indy 475 be a splendid solution to Andy's problem and make his odds more even?"
W. F. "Butch" Boldt St. Petersburg, Fla.

Look, both sides can, and probably will, argue their points until the whole thing starts over again in January '69 when the turbine hearings start. Regardless of who's right and who's wrong, if there is a right or wrong, the fact remains that the largest crowd ever to attend the first day of qualifying came to see the turbines battle it out with the pistons. That's got to tell you something. The Editors.

Player's Handicap

"In regard to your contest (MT April, '68), I have just returned from my local Pontiac dealer where I was attempting to learn the price range into which your options would fall. I was very surprised to find that the total came to $1438.23, which is $159.70 more than the maximum price you have listed on the entry blank. I would like to know how you expect us common people to know what the correct total price is when even the dealer cannot seem to figure it out correctly?"
Dean Spenser Burlington, Iowa

"In reference to your GTO contest, I experienced trouble in obtaining some list prices."
R. Majoros Carteret, N.J.

Well, boys, you've hit upon something that every automobile manufacturer suffers from—dealer apathy. But there's a big, fat surprise in store for these guys. It's the kids. They know about Royal Pontiac (Ace Wilson's setup in Royal Oak) and a few other super-dealers and they aren't about to take the old guff from the guy down on Main Street even if they have to drive all the way to Michigan.
The Editors. /MT

Biggest Catch:
Ice-Cold Coca-Cola.

Sun. Sea.
The squeal of gulls. And in the cooler: Coke. Icy, edgy, thirst cutting...with a taste that just won't quit. Coke has the taste you never get tired of. That's why the day keeps going better. You're not a surf-caster? Then do your own thing. With plenty of Coke...

Things go better with Coke

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