

# WORLD CAR GUIDE

JULY  
1970



60¢

Special  
Report: NY  
International  
Car  
Show

PUMA GT from BRAZIL  
CAN-AM at LAGUNA SECA  
INDY Cars at SEARS POINT  
CORD Production Line  
FIAT 124 WAGON ROAD TEST



< 94122A1A17896001003 03S  
R V ARIANI  
1878 23RD AVE  
SAN FRANCISCO  
CA 94122

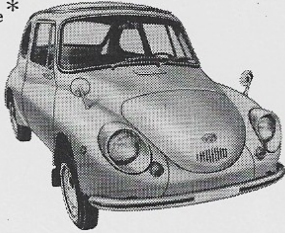


### Subaru 360

Scoots up to 70 mph, gets anywhere on a teacup of gas, and seats four in style.

**SPECIFICATIONS:** 4-speed transmission, heater/defroster, push-out rear windows, padded dash, concealed radio antenna, fully reclining vinyl seats, independent 4-wheel suspension.

\$1,297 poe\*



### The Star 2-Door

Road-taming elegance and economy. Zero to 60 in 13.9 seconds, cruises at 70, and rockets to 90!

**SPECIFICATIONS:** Front-engine, front-wheel drive, complete safety package, hazard lights, reclining seats, 2-speed windshield wiper/washer, vinyl interior, back-up lights.

\$1,699 poe\*



### The Star 4-Door

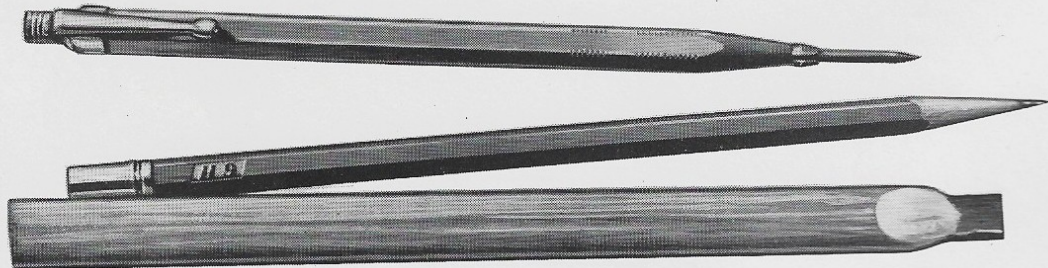
Luxury, comfort, styling with ultra-wide doors, flat floors in the rear for more leg room, and a unique dual radiator system.

**SPECIFICATIONS:** Independent 4-wheel suspension, front-wheel drive, courtesy lights, flow-through air, rear-opening windows, bumper guards, and 18 cu. ft. trunk.

\$1,799 poe\*



# OK Detroit:



## Grab your pencils and start copying...



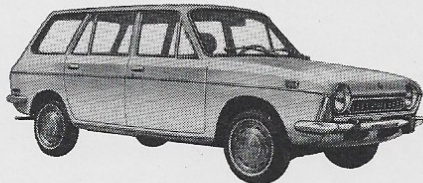


### The Star Wagon

Luxury and utility in a family-size station wagon. And, at a price any family can afford!

**SPECIFICATIONS:** Seats two or five. Complete with 4-cylinder, 4-stroke, horizontally opposed engine, dual radiator system, 4-speed synchromesh transmission, heater / defroster, foam cushion seats.

**\$1,899** poe\*



### The Subaru Van

The only 5-door import van in the country—a mighty midget that'll haul four people plus a big payload, anywhere, on drops of regular gas.

**SPECIFICATIONS:** Hauls two or four with fold-down rear seat, 900 lb. payload capacity, heater/defroster, dual wiper/washers.

**\$1,397** poe\*

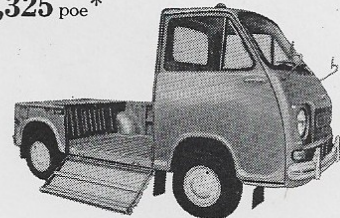


### The Subaru Truck

Perfect for deliveries in city traffic or suburbs, in-plant and between-plant transit or on-site construction jobs.

**SPECIFICATIONS:** Removable side gate, heavy gauge steel 2-level bed, hauls two passengers, 900 lb. payload capacity, heavy duty chassis, outside mirror, mud flaps.

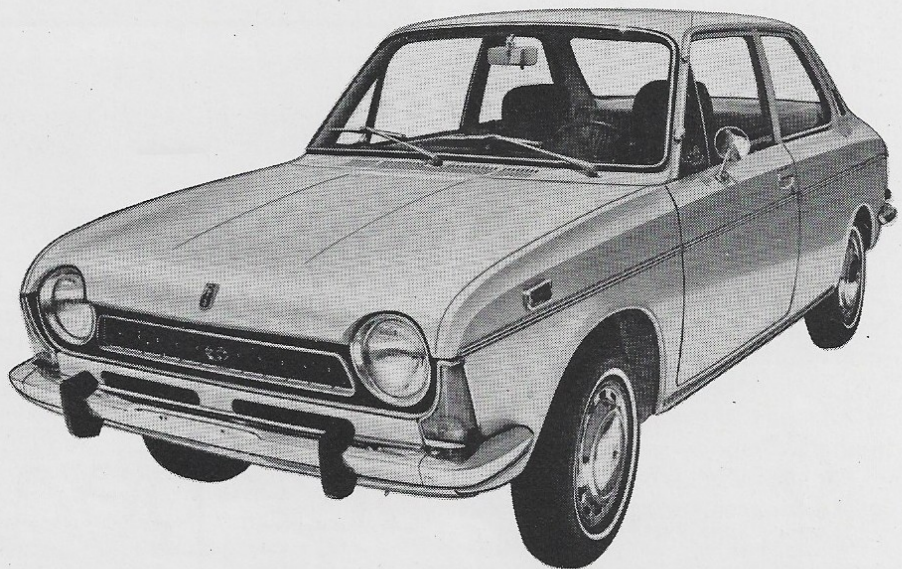
**\$1,325** poe\*



We're not a bit surprised that the midnight oil began to burn in Motor City . . . once The Star arrived. The Subaru Star is something special. A sporty little car shining in a class all its own . . . an amazingly comfortable cross between a spunky sports machine and a luxuriously appointed family-sized automobile.

Carpeting, flow-through ventilation, all-vinyl interiors, reclining front seats and a gigantic 18-cubic foot trunk . . . these make The Star beautiful to own.

Front-wheel, front-engine drive, independent 4-wheel suspension, dual radiator system for faster warm-ups and no overheating . . . these make a Star beautiful to drive. And **\$1699** poe\* . . . makes a Star just beautiful!



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# memo

## FROM THE NEW EDITOR

Rather than composing a long editorial, it occurs to me that you would appreciate knowing your new Editor's plans.

Do not be alarmed because "Formerly FOREIGN CAR GUIDE" no longer appears on the cover. WCG's principal content will continue to be imported cars and Detroit's anti-imports.

Road Tests will be emphasized as always; the undersigned has done road testing for many years for various publications and he likes imports, sports cars, etc. In fact he's a car enthusiast and prefers those weighing less than 3,500 pounds—considerably less for that matter. He's driven high performance cars on every domestic manufacturer's proving grounds, on high speed ovals, etc.

The new Editor confesses to loving speed—should 'cause he's flown a lot—and believes speed is okay in the proper place and under the correct circumstances. He's driven at 170 mph; that was in a strictly stock production sports car with a price to match its performance. That run was under the proper circumstances.

Emmett Greene, a former Editor of FCG, will be doing the NEWS column, and Stan Stamaty, a name cartoonist will be supplying some fitting humor to tickle your funny bone.

Maintenance, how-to, racing and allied sporting events will be covered under MOTORSPORT which was the name of this magazine before it became FCG.

VWs—bugs, Variants, dunnies, etc., will keep their place in WCG. The new Editor, incidentally, is now responsible for the popular VOLKSWAGEN OWNERS ANNUAL.

Finally, this Editor wants to know what you readers want to read, so please complete the READER'S SURVEY on page 33 and send it to me at 319 Miller Ave., Mill Valley, California 94941. Also, if any of you are writers, query with feature ideas; perhaps we can add you to our list of authors. Above all, WCG wants to publish what you want.

Most Sincerely,

JOSEPH H. WHERRY

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Tired of all the trouble of trying to get parts for your imported car? Sears has made it easy. Just order from our special catalog—Imported Car Replacement Parts and Supplies, No. F7015. It lists one of the most complete collections of authentic imported parts in the business.

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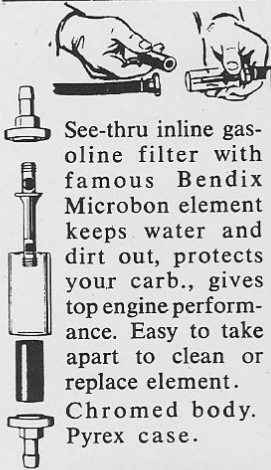
**Sears**



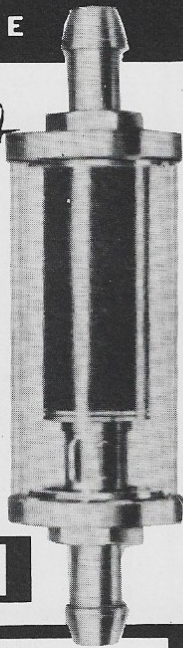




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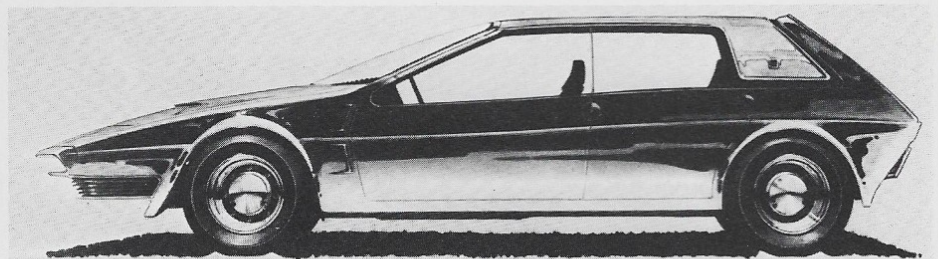
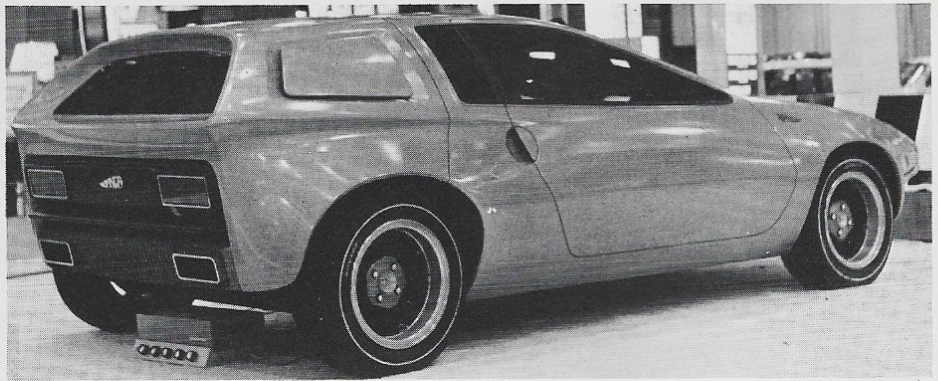
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COVER CAR ZANDA FROM ENGLAND

**dream**

More than 1,100,000 imported cars will be sold in the USA in 1970 according to Graham W. Whitehead, President of British Leyland Motors Inc., the American subsidiary of Britain's largest automobile manufacturers. Perhaps this is the reason that British Leyland shipped over a futuristic 'dream car' for exhibit during this year's huge Auto Show in New York.

Dream cars were conspicuous by their absence this year. In some previous International shows in this country, there were a half dozen or more.

Such studies, whether purely of a styling nature or complete with all operation mechanisms, have a way of becoming a reality after two or three years if the exhibitors' tape recorders have garnered a sufficiency of positive comment from viewers. More often, however, the exhibited dream car serves as a genesis for further development of basic ideas.

ZANDA is evidence that our British cousins are going all out to capture an even greater share of the American market where the firm sold 68,089 cars in 1969. British Leyland now includes such famous marques as Jaguar, MG, Austin, Rover and Triumph plus several other makes not exported to these shores. Whitehead is reading his tea leaves correctly, in our opinion, when he says that "18-foot long, two-ton, 12-miles-to-the-gallon cars don't make

sense anymore, particularly in congested urban areas."

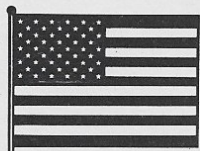
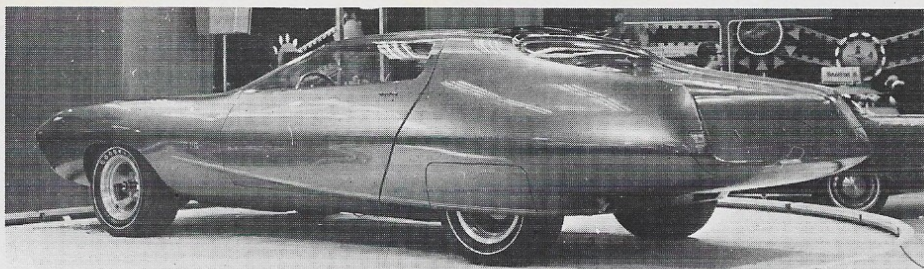
The wedge-shaped motorless, styling prototype Zanda is barely 14 feet long and the 5-passenger, 4-door sketch development on the same theme, shown herewith, is only a foot longer. With a single overhead camshaft engine displacing no more than 120 cubic inches, the Zanda could carry two persons in GT comfort at speeds nearly double the average legal limits in most of our fifty states. Light metals and modern technology could hold the curb weight to one ton. From comments overheard by, and expressed to, WCG's editor, the viewing public liked the Zanda. What a triumph (or TRIUMPH) it could be!

CORDOBA DE ORO carried Detroit's honor very well, indeed. The dark metallic golden-brown beauty is large—the size eschewed by modern European designers—and accommodates four persons in luxurious, hand-sewn, leather-covered bucket seats. The driver grasps the steering wheel with nearly straight arms in the position preferred by most sports car enthusiasts.

At the driver's right a console contains a battery of controls. Instruments—including a galaxy of warning lights—positioned behind an opaque screen are invisible until the ignition is switched on; then all pertinent information appears on the screen in bright red letters.

WORLD CAR GUIDE





DUSKY, LARGE CORDOBA DE ORO FROM DETROIT

# cars

The Chrysler-Plymouth Division car-of-the-future is simplified or, as Glenn E. White, general manager of Chrysler-Plymouth Division, puts it, "The safety-oriented interior represents the ultimate in convenience, comfort and safety." With regard to the exterior, White adds that the styling of this "idea car demonstrates Chrysler's design philosophy and is an extension of today's trend toward smooth fuselage-shape body lines which are seen in our current production cars."

Some of the functional ideas incorporated into the big Chrysler dream car are: a "Road Condition Gauge" flashes the condition of the road surface on the opaque screen covering the instruments; a "Safety System Gauge" monitors all of the car's systems and flashes "go" or "no go" on the screen; five buttons pushed in a specified sequence locks all of the doors; an ignition lock system with an override button so permitting car to be moved by persons who do not know the combination such as parking attendants; and (by all means) a "Brake Spoiler" over the rear window. The latter functions "like an airplane flap" whenever the driver applies the brakes.

Gadgetry for the sake of gadgetry is okay for some, but there are those who will wonder why such a spoiler should operate every time the brake pedal is punched because, as anyone familiar with aerodynamics knows, such a flap

is useless at much less than 65 mph. We suggest that the bottom side of the flap be of red reflective stuff. As a matter of fact practical transportation for urban areas does not benefit from streamlining at speeds below 60 mph. (Actually some of the spoilers we've seen on a few "supers" exert a tail-lifting influence at high speeds.)

Some of the ideas on Cordoba de Oro are worth the development, however, for high speed application. The thermostatically-controlled air intakes, below the horizontal headlights, merit consideration as does the pair of high-intensity "turnpike" lights on each side of the bisected front center. Even better is the narrow outline of red lights which are inset into the rear fenders and the roof. On the darkest night a tail-gating driver would have little cause to run down the Cordoba de Oro.

The use of digital data is also of interest; the clock prints actual time to the minute and the speedometer, for example, says 70 instead of requiring the driver to assess a hand on a dial. On the other hand we cannot but wonder, if driver attention must become so simplified, whether a loud alarm should be actuated when said driver relaxes too much.

DREAMS, however, when metalized and mounted on wheels, are the stuff of which tomorrows cars are designed. Chrysler's dream car is large; the dream of British Leyland is compact. The latter seems to be the direction in which cars are headed—WCG



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# SPECIAL REPORT-

## New York International



Well over a quarter-million people came to see six-hundred exhibits covering four floors of the Coliseum during the annual International Automobile Show in New York City. From the public opening on June 5th until the Show closed the evening of the 12th, the Coliseum was wall-to-wall with people.

After closing time each evening and until the public swarmed in the next morning at 11:00 o'clock, exhausted Coliseum employees cleaned up after

show-going litterbugs, removed finger smudges from millions of dollars worth of cars and polished them for the impending influx of wishers and lookers who were treated to dazzling displays of standard production domestic and imported cars—the latter hailing from six nations in Europe, from Japan, Brazil and Canada.

The cover **MONTEVERDI** from Switzerland, the **PUMA** from Brazil, and the new **CORD** being produced in Tulsa are separately featured in this issue.

Other cars like the wishful but thought provoking **STUTZ BLACK-HAWK** (see June issue), the poorly designed **STUTZ SPEEDWAY SPECIAL** and the gaggle of "repli-cars" will be detailed in varying degrees in the August **WCG**.

**MERCEDES C-III MK II** was the undoubted star of Stuttgart's section. Mounted on a platform resembling a banked section of a racing oval, the 4-rotor Wankel powered, fiberglass bodied beauty (No. 1, 2) will be placed



# Auto Show

in limited production as soon as all of the bugs are eliminated or we miss our guess. For complete details of the C-111, see June WCG'



1



2

NSU surprised everyone in the know by not showing the new Ro 80 front drive, Wankel-powered, high performance sedan. Excuse given was that the US emission standards have not been met, but it's fairly common knowledge that several are in daily use in this country after having been privately imported.



3

A subsidiary of VOLKSWAGEN', NSU exhibited the "1200" model small sedan (No. 3), which could be a winner if the stumbling of years passed is overcome. The air-cooled, 1177 cc inline engine is transversely mounted in the rear. This overhead camshaft unit develops 69 bhp and drives the 1,587 pound sedan at about 90 mph top speed. A cavernous luggage boot is beneath the front decking and the entire concept, inside and out, is one of

elegance in a small package.

As might be expected, Japan was well represented with many cars but little that was new. TOYOTA'S CORONA MK III made its American debut at the Show (No. 4); this model is a refinement of the established Mk. II



4

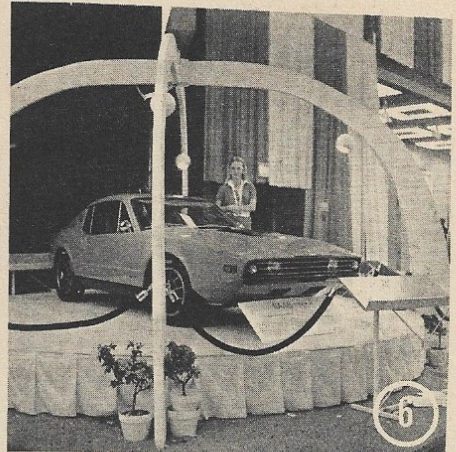
Datsun 240Z sports fastback (No. 5) was a show favorite according to my own private, unofficial survey of spectators. With its overhead camshaft, 6-cylinder, 150 bhp engine and price of around \$3,500, this model can, if imported in quantity, pose a serious challenge to several domestic and European GTs of compact dimensions.



5

SUBARU had a fine display. In my opinion they scored, believe it or not, with the diminutive type 360 which has been the object of many unkind and sometimes crude jokes. The "Egg" deserves better than it has received although one must admit that it is undersized for most of this market. Subaru has a trick up its sleeve, however: a network of franchised tracks is being established where anyone big enough to see over the steering wheel can get his driving kicks in perfect safety. WCG will carry this story in August. The "Star" model made new friends (see road test in July '69 issue) and the station wagon, particularly, is still one of the very few small imports with four doors and a genuine maximum of 90 mph.

SAAB showed Sweden's colors very adequately with the familiar models plus the new 1.5 litre V-4 Sonnet III (No. 6) which we have road tested for August. The new Sonnett does about 105 mph. Look for an increased, and successful, sales effort by Saab



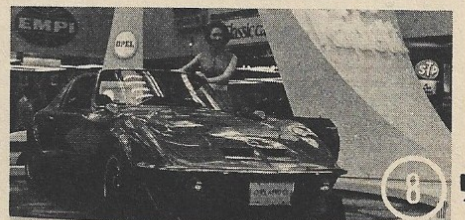
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MANIC (No. 7) is a new name on the automotive scene. Jacques About of Montreal is the force behind this new Canadian car which is based upon Renault engine and power train components. Suitably vitaminized and graced with a svelte fiberglass body, Manic is said to handle and perform like a good GT should. No price was quoted, but production was assured; it should compete well against the rash of VW-based sports and GT types abounding. We promise more on this car as soon as a test example is available. Meanwhile, for those who cannot wait, the place to inquire is Automobiles Manic, Inc. in Montreal, Quebec.



7

Always having one of the largest exhibits in all international car shows, General Motors did not make this year's New York event an exception. From the German subsidiary came the OPEL AERO GT (No. 8), a styling refinement of the standard model with spoilers front and rear and an open roof a'la a

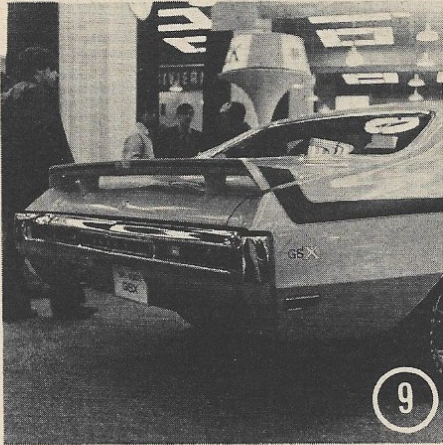


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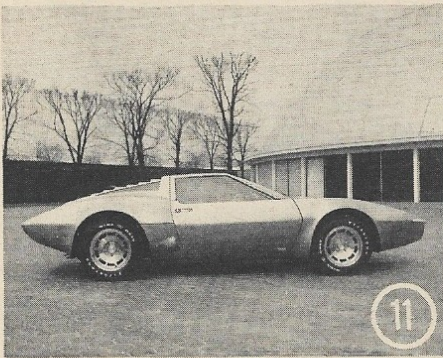


coupe de ville.

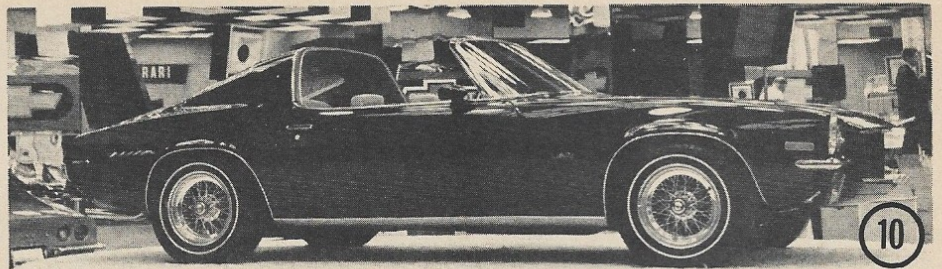
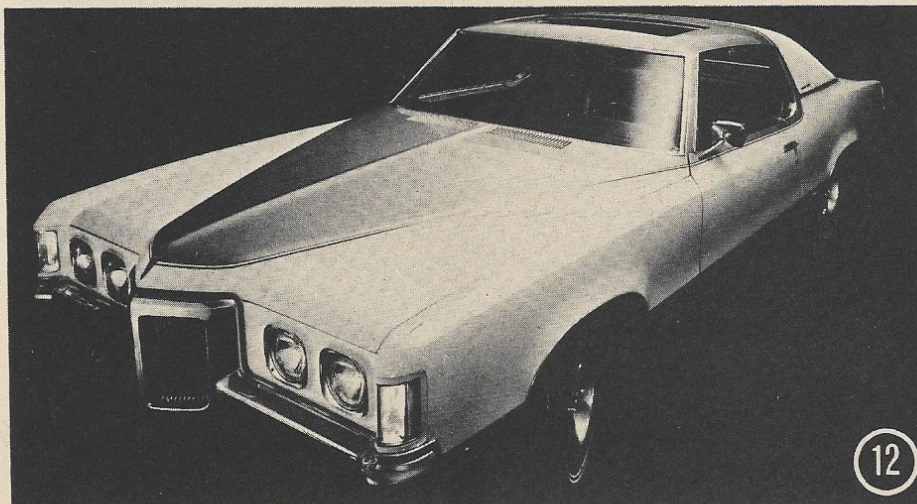
Opel's sponsor (not manufacturer) showed a flashy orange and striped Wildcat-based **BUICK GSX** (No. 9) with fixed tail spoiler, special wheels and other super car goodies while GMC's biggest division, Chevrolet, had its special one-off **GLEN CAMPBELL CAM-ARO** (No. 10) sans roof section but with fastback styling.



One of the more interesting prototypes was the **MID-ENGINE CORVETTE A** "design study" according to Chevrolet which denies production plans, the aerodynamic fastback is air-conditioned, has louvres on the rear deck over the engine which can be any standard Chevy V-8, and disc brakes on the independently suspended front and rear magnesium wheels. (No.11)



Also making its debut at the Show was the **HURST S5J** which is a customized '70 Pontiac Grand Prix (No. 12). Hurst's usually well engineered transmis-



sion modifications are combined with special paint and what Hurst calls a "landau half-top" which is fitted with a sliding sun roof.

The British turn out some of the finest GTs. When a well known marque from Merrie England arrives for sale for



the first time, one perks up, especially when the car concerned has become an Anglo-American because of the recent acquisition of a controlling interest by Kjell Qvale of British Motor Cars in San Francisco.

Consequently, BMC is the national distributor of the very exciting **JENSEN INTERCEPTOR III** (No. 13, 14, 15), which is very fast with its 383 cu. in. Chrysler engine and beautifully hand-

made to the tune of around 750 examples annually. The four-wheel-drive FF-4 will come into the USA too according to marketing director R.A. Graves.

WCG has been promised a road test Jensen, hopefully a lovely orange example like the one shown herewith, for an early issue. This will be an adventure because your new Editor did the first road test on a Jensen for an American magazine back in '57. Everything from fire extinguisher, top of 140 mph, powered rack and pinion steering and sky high price is standard on this two-plus-two, 105-inch wheelbase GT for the silk stocking set.

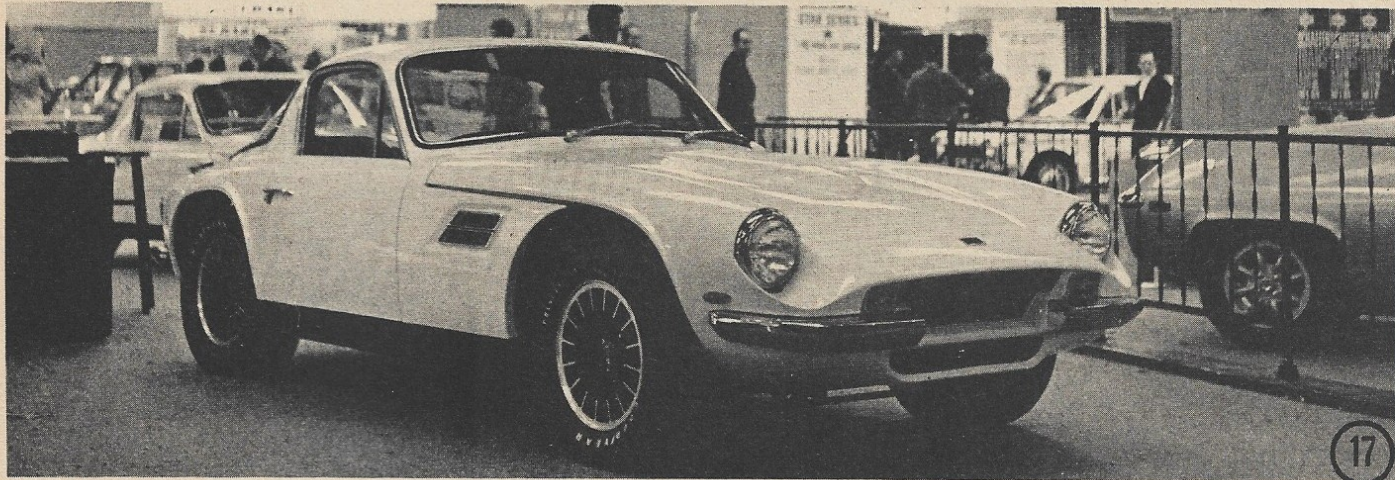
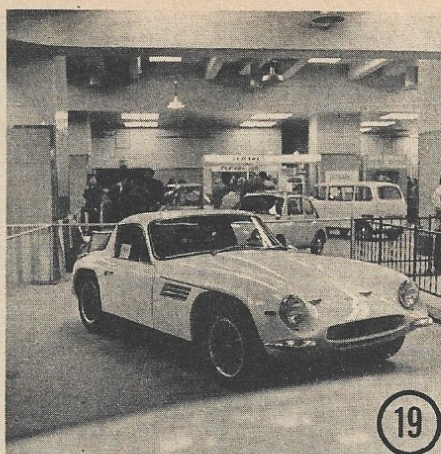
Equally priced -sky high that is - is the new **ASTON MARTIN DB8** (No. 16). The "8" now means a V-8 engine is used, a departure from traditional large displacement sixes. Made by the David





Brown group of companies which included the exceptional Lagonda until a few years ago, this marque which goes back to 1919 is distributed out of King of Prussia, Pennsylvania

American V-8 engines are being used in an increasing number of European cars. Several decades ago the most common automotive homogenizations were British-French combinations, but times have changed. The 302 cu. in. Ford V-8 engine is standard in the TVR TUSCAN (No. 17, 18) fiberglass-bodied fastback GT. Well established in the United Kingdom, Tuscan's maximum of close on 160 mph testifies to the sound



planning and fabrication by TVR Engineering Ltd. of Blackpool.

Because there are few TVRs in the USA, this marque is little known outside of sports car circles. If the near \$7,000 price tag of the Tuscan is too rich for the blood, there's the 1600 cc British Ford engine VIXEN (No. 19) which costs considerably less. Both are well engineered with rigid 85.5 inch wheelbase frames and seat two in snug bucket-seated comfort for fast touring or a turn on the track.

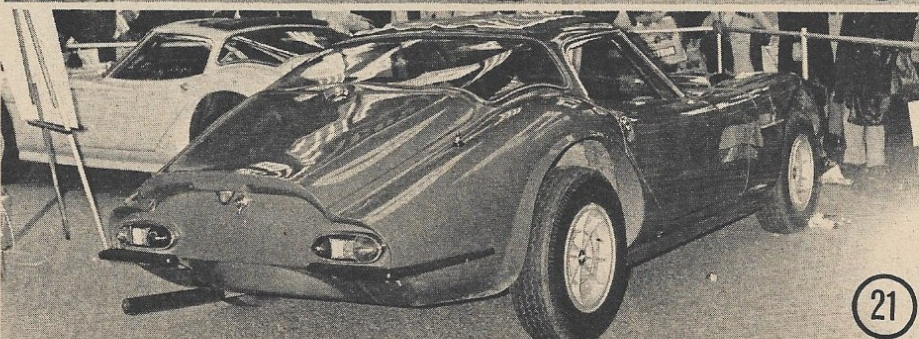
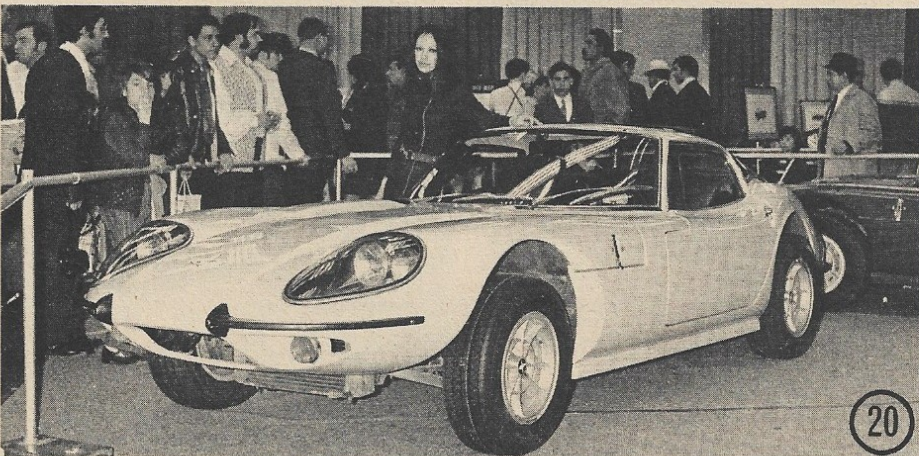
An Anglo-Swede is the MARCOS 3-LITRE (No. 20, 21). The engine is the B-30 6-cylinder, 2980 cc, seven main bearing engine that powers the finest Volvos. Either a 4-speed manual box or a Borg Warner automatic can be had and air-conditioning is optional. A curiosity when the marque first emerged a few years back due to the trated harwood fram, Marcos has matured with a steel-frame. With 145 bhp on tap while tipping the scales at just under one ton, it is said to offer speeds exceeding 120 mph. WCG shall see, one day soon, because importer Jeremy Foster Fell has promised an example for testing. With rack and pinion steering, firm coil springs all around, and all Federal emission laws complied with, Marcos should do well in the domestic market. Style-wise it is certainly on target and \$6,369 POE East Coast seems reasonable for the package.

For what it's worth, it seems a shame that auto shows have to be held so late

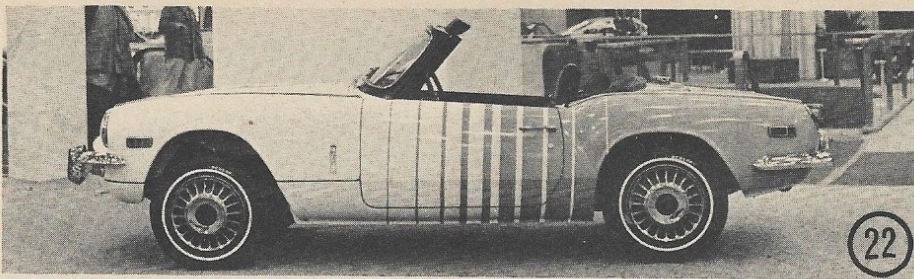
in the spring because early spring would seem a better time in view of the proximity of plant shutdowns in anticipation of the next year's models. In any event more than the shape of things to come (see pages 6-7) was visible in the huge British Leyland Motors exhibit where four or more of each marque made by this automotive group were

displayed.

While there was nothing really new insofar as production models were concerned - everything seemed to be in abeyance while the Jauguar V-12 engines germinate - there was an attractively different paint job: a blue and white striped TRIUMPH SPITFIRE (No. 22) which will start a new trend







among those yearning to be seen. Though different, the vertical treatment makes Spitfire look even shorter than it is.

France, where the motorcar really got into serious production about eighty years ago, upheld its prestige with one of the most oggled cars in the entire Show, the **CITROEN SM** (No 23, 24). "A blend of Citroen engineering and Maserati performance" the manufacturer says. Beautifully styped (if you like this French firm's styling, which I do) and efficiently aerodynamic, the 3,200 pound, 116.1 inch wheelbase, 4-passenger, two door hardtop is powered with a 180 bhp **MASERATI V-6** engine displacing 2,670 cc.

If this sounds like a lot of output for 162.9 cu. in. (which it is), remember that this "Maser" engine has four overhead camshafts, a pair over each bank of cylinders.

Although the top speed of this car has been rumored to be around 160 mph, the factory candidly says that 140 mph is maximum. This is an excursion by Citroen into the GT field where Maserati, now controlled by the French firm, has much experience.

Familiar Citroen features such as front wheel drive, disc brakes on each corner, four wheel independent suspension by the now well proven hydro-pneumatic system which automatically levels the car should either end (or corner) be overloaded, superb comfort, ride and handling are mated to the Maserati power train including a 5-speed gearbox. Much nice with a near \$10,000 price. Production will be limited, probably to order, but car will be available soon in the USA. Either you like a Citroen or you don't; there's no half-way.

**PEUGEOT** (No. 25) the second oldest continuing manufacturer of cars in the world (now that Panhard lost identity and marque existence when that firm was absorbed by Citroen a few years back) was represented by the not-so-new but very fine and up to date model 504 sedans and the 404 station wagon which is now powered by the 504's engine. With its 2-litre, 103 bhp, 4-cylinder fuel-injected power plant, the 504 sedans will top 105 mph.

**PININFARINA'S** (No. 26, 27) wedged-shaped racing car has been shown before but rarely from the rear where the engine lurks behind its trans-axle. Only a handful of these will be

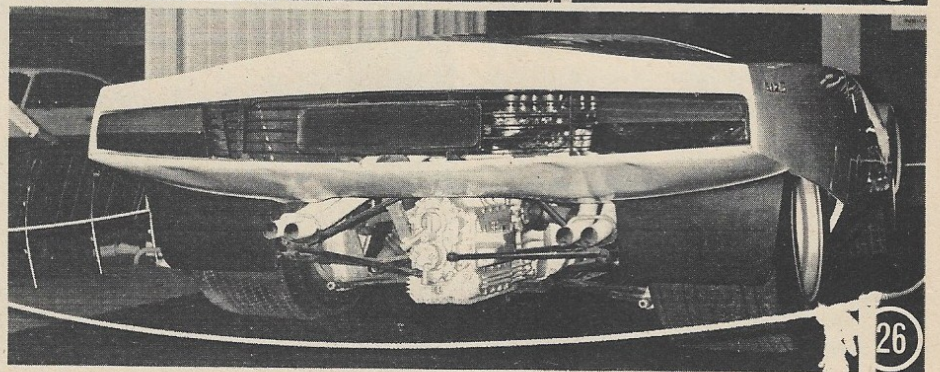
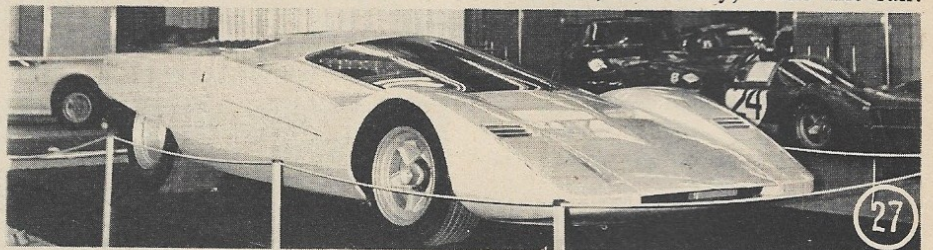


built, the prices will be astronomical and the speed nearly as high. However, one expects something outrageously different and supremely fine from Farina which is a good way to ease into the exhibits from Italy.

A flair for the out of the ordinary seems to be an integral part of the Italian psyche and Carrozzeria Bertone, in cooperation with Fiat has done it

Bertone describes the Barchetta as "a vehicle for young people" and goes on to say that "pleasure" is the purpose. "The lower part of the body is formed of large, stainless steel scales, a red band around the centre accentuates the arrow-like appearance, and the upper part is painted in a pear-white colour that gives deep reflections." And son on with opera-like ambiguity. In addition to scanty instrumentation on the "dashboard: a compass... nothing more!"

But Barchetta looks like fun - plus lots of Danaro for two seats, a roll bar and headlights located where the earrings would be if Barchetta had some. But, as we say, looks like fun!



agian in the **BERTONE BARCHETTA RUNABOUT** (No. 28). The meaning of Barchetta is not fully explained in our Italiano-Ingleso dictionary so we'll take the name for granted. Runabout, however, in Italian is a "vetturina", a light weight car or even a speedboat. Fiat makes the rear engine and the wheels are magnesium by Campagnolo.

Whether Fiat-Roosevelt will import these rigs is not known. Something will have to be done to make them legal in most states

For a number of years **SIATA** of Italy has been little in evidence, the exception being the peculiar and anemic little Spring roadster which has not done anything to enhance the marque.



Siata International U.S.A., Inc. of Newark, N.J. introduced the attractive new O.T.A.S. TIGRE spider convertible at



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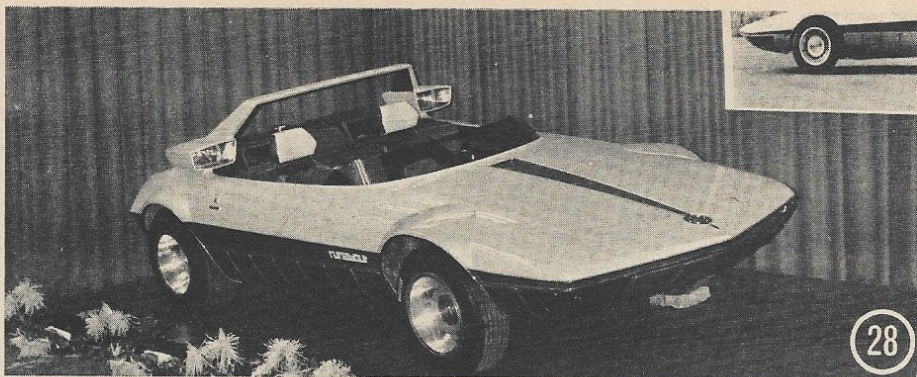
\$3,995 and the hardtop coupe at \$300 less (No. 29). One wonders just how much more they'll be on the West Coast (the Spring costs about \$500 more than its East Coast quoted price of \$1,995).

O.T.A.S. stands for *Officina Trasformazioni Automobili Sportive* which is presided over by Franco Giannini of Turin. Undoubtedly, there is some connection with Siata which made a name as a hopper-upper of Fiat engines. In any event Tigre's two-seater coachwork — excellently crafted by Lombardi — sits on 79 inches of wheelbase, is a tiny 140 inches long overall, and is claimed to do 112 mph. Tigre should for its 1403 pounds ready to roll is powered by a 1-litre engine based upon Fiat's 850 engine jumped to 80 bhp; the chassis is Fiat too.

The list of Italo-American marques escalates with the **de TOMASO PANTERA** which, though covered in data detail in the June WCG finally emerged onto the domestic scene in the flesh — or metal if you prefer — at the big Show (No. 30-33). Everything claimed in advance publicity is quite accurate although the distribution is going to be interesting; Pantera (Panther) will be sold by "selected Lincoln-Mercury dealers" while, at the same time, British Motors of San Francisco is distributor for a meaningful part of the market on the West Coast.

Ford's 310 bhp Cleveland engine which displaces 351 cu. in. is the means of locomotion. The latter unit resides a bit aft of center and is teamed with the 5-speed stick gearbox. Pantera will be one to watch from the rear. Replacing the elegant Mangusta for the most part — possibly entirely — some 500 copies of the Show car will be turned out during the last half of 1970 by de Tomaso aided by the Ghia shops where the coachwork is laid on. For '71 plans call for around 3,000 to filter into Lincoln-Mercury showrooms where they'll be available for "under \$10,000."

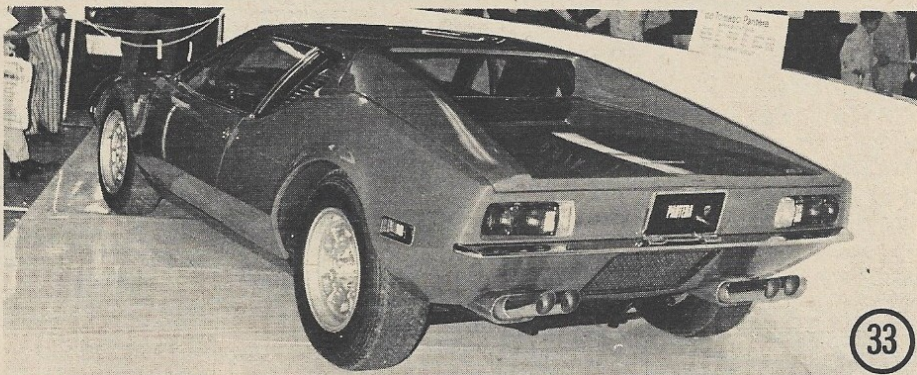
This is one of the most comfortable cars (note the orthopedically correct bucket seats) I've ever sat in. In fact



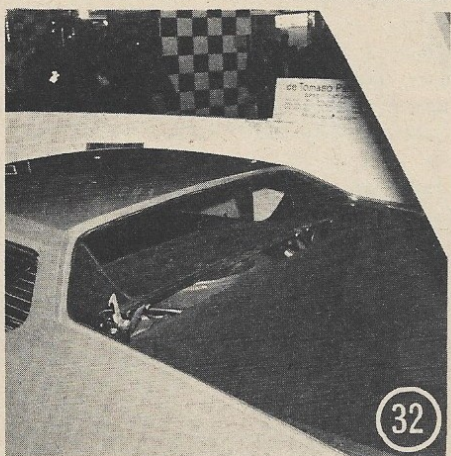
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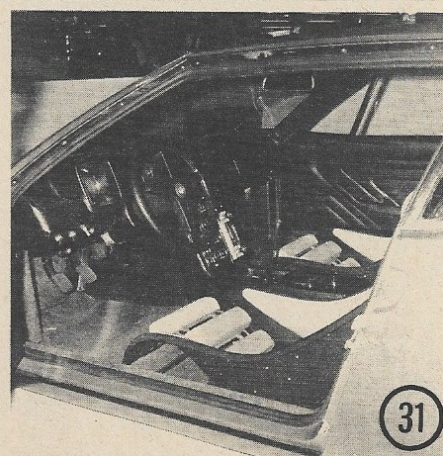
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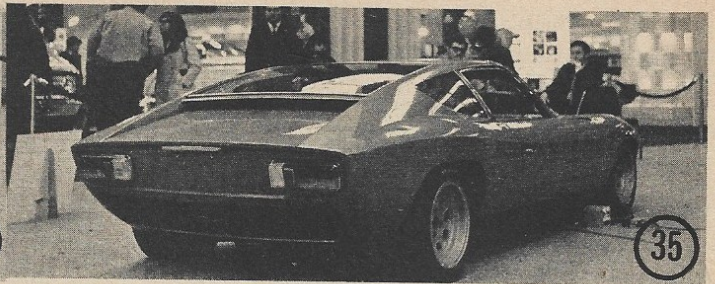
the seat felt like a hammock and after hours and days at the Show I wanted to take a nap. Just two people occupy Pantera on the road, legally that is, and there's remarkable capacity in the rear luggage boot aft of the engine, less up front.

Will de Tomaso spoil Lincoln buyers? It should, especially if there are any Lincoln buyers around who need but two seats and who still know how to drive a car that's really intended to be driven to the utmost — if there's any utmost driving space left, that is. Simply

scrumptious!

Even more exclusive, because only a single example exists, is the **MODENA** (No. 34, 35) which was hand-built by Padana, a skilled coachbuilder of (you guessed it) Modena. This elegant two-seat GT has everything including a peerless bronze finish and a to-the-highest-bidder price. On the stand with the one-and-only Stutz Blackhawk (covered suitably for the time being at least in June WCG, the idea of Stutz Motor Car of America Inc. of Mayor Lindsay's city was to sell the Modena for as near





75-grand as they could by the end of the Show.

More practical and the recipient of much more interest was the most elegant station wagon in the Show, the Italo-American MURENA 429 GT (No. 36).

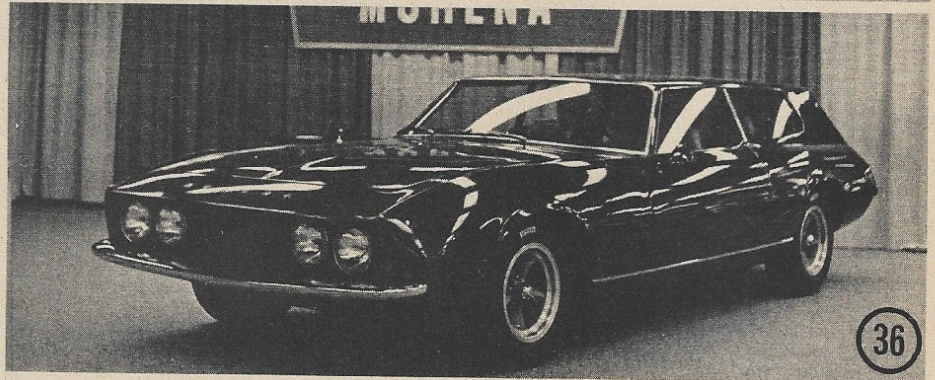
Designed for Murena Motors Ltd. which is headquartered in New York City, the car is powered by 429 cubic inches of Ford engine and made in Italy by Intermeccanica of Turin. Although the annual production is just 100 Murenas, this could be the luxury station wagon of the early 'seventies. WCG has been offered one for testing. We accepted so watch for the Murena road test soon. This car is rugged elegance on wheels with real leather to sit on.

The wall-to-wall people seemed to pack together more thickly around the AVANTI II (No. 37) which the Altman brothers are still producing in South Bend, Indiana. WCG photographed the car before the rush. For \$8,000 one gets a refined, hand-fabricated, all-American GT powered by the 350 cu. in. Stingray engine which develops a modest sounding 300 bhp. For those who prefer to shift for themselves, there's a 4-speed Hurst shifter gearbox.

Things are beginning to take shape Jeepwise now that the initial merger-itus is a thing of the past with American Motors and the firm's new subsidiary, the Jeep works in Toledo. The proof was in the interest of the crowds around the gleaming JEEP XJ-100 (No. 38), a short-coupled, two-seat runabout that is almost certain to be the next all new type issued by AMC.

I was told by one Jeep factory official, who was keeping his ears to the crowds, that the name of this intriguing newcomer would be a surprise. When I told him where I hailed from, he said, "You'll never guess the name but you'll like it." I'll make two stabs at the name, just for kicks: How does either VAQUERO or CABALLERO sound? After all, doesn't the XJ-100 look like just the proper rig for on or off the road fun out where the West really is? More on this runabout - I was told it's fast - soon, Ya'll hear?

Needled, no doubt, by the exasperating irritation caused by the hordes of VW-based dune buggies, Detroit may be gearing to go after the runabout market as witness the first showing of the prototype FORD MAVERICK RUNABOUT -- that's the name (No. 39). A



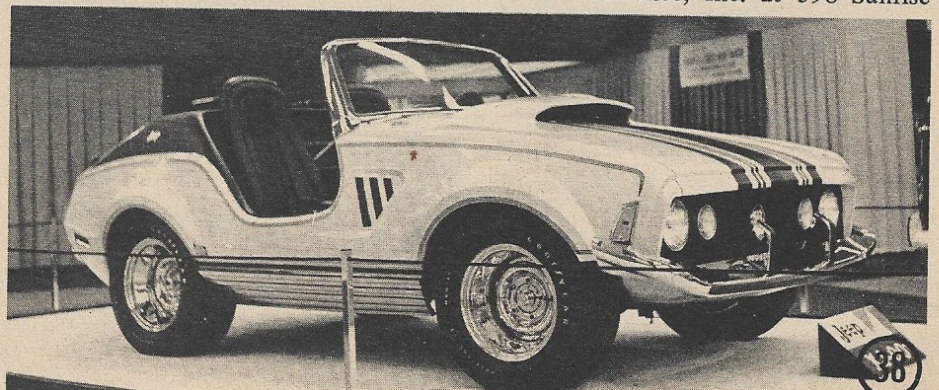
maverick Maverick it is, too, without a steel top - a roadster yet -- and with an interesting, if boxy, stern. Looks good and let's face it, there are lots of people who must have said that what this country needs is a good-under-2-grand-roadster! Why not? Particularly if Ford will put a really firm and roadable suspension beneath the Runabout. With Konis maybe?

More about a pair of domestic runabouts in August when WCG has had the time to check a Long Island fortune cookie for the outlook of the Bolide Motor Car Corp. Their second year at the big Show, things are looking up for Bolide which debuted with a "racer" (that's what Bolide means) called Can-

Am I in '69. Now they've done it again with BOLIDE CAN-AM 2 which is billed as looking "like a Can-Am car for the street". Pedestrians could become confused because the front end (No. 40) looks like the back end (No. 41) of some cars. Just 166 inches long overall, Can-Am 2 seats two close to terra firma.

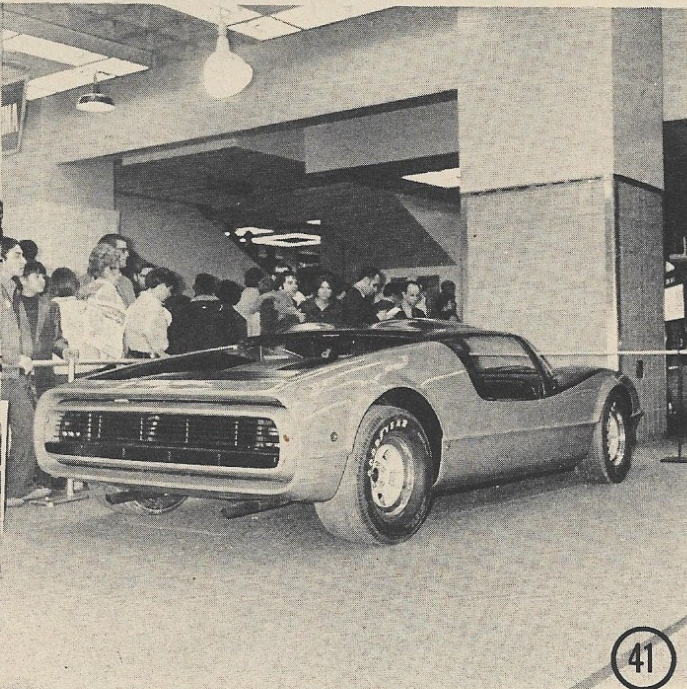
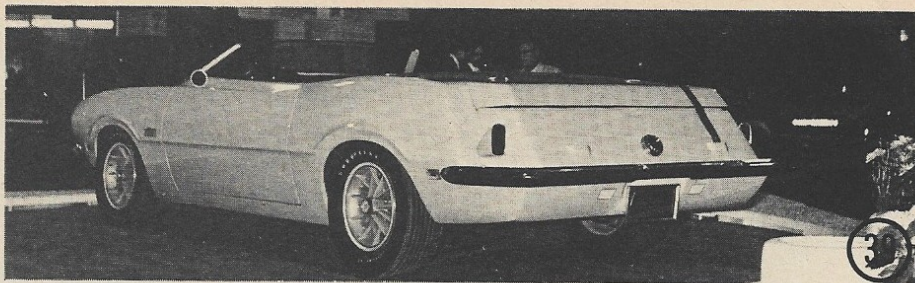
At his command the driver controls a 351 cu. in. V-8 Ford engine through either a 4-speed stick or 3-speed automatic gearbox. With an overall height of 43 inches, Bolide 2 should make it under the wire in the specialty car field. No price was quoted.

Long Island is a hotbed of super car and runabout activity these days. Motion Performance, Inc. at 598 Sunrise





Highway in Baldwin and their affiliated Motion Minicar Corp. at 594 on the same side of the same road is the place to lay out between \$5,000 and \$7,000 for the **PHASE III SS-427 CORVETTE**. Not only does one become the owner of a restyled Corvette but gets such performance goodies as Daytona 3-bbl carburetion, pointless ignition, leather upholstery, tilting steering wheel, mag road



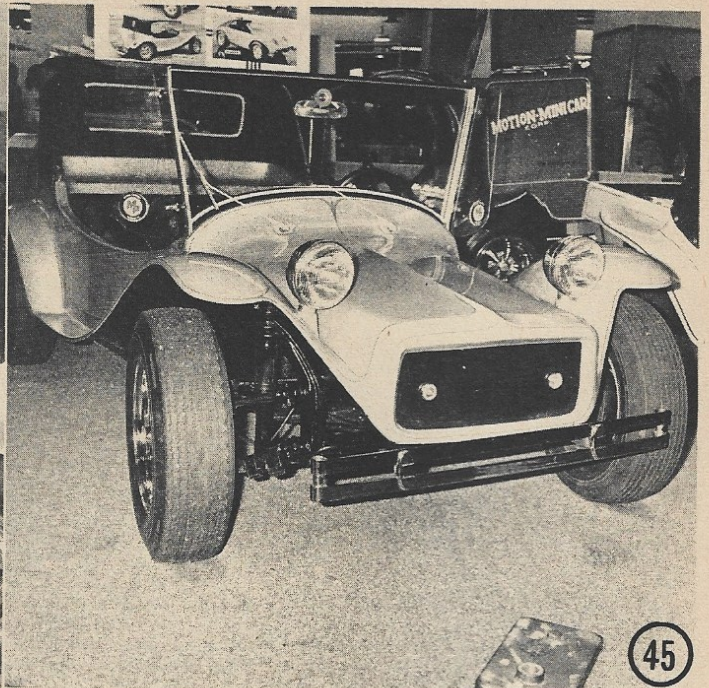
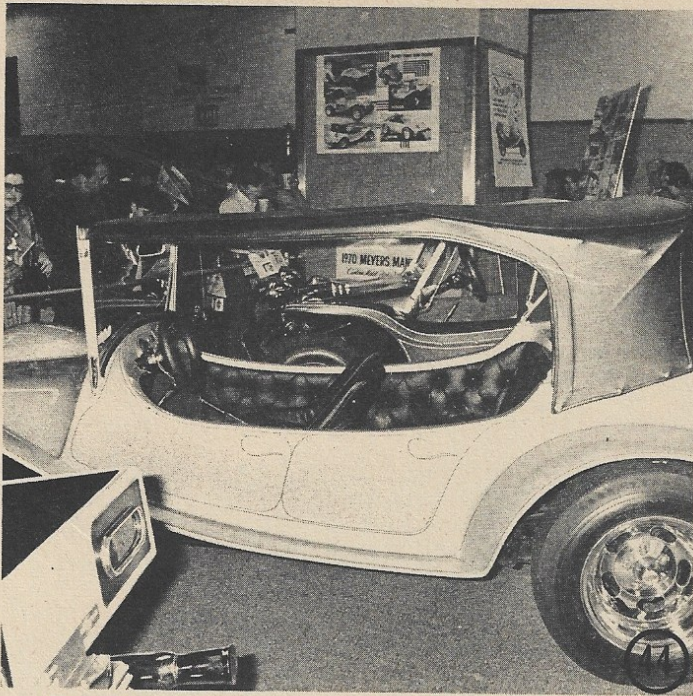
wheels, racing tires, an 8,000 rpm transistorized tachometer and a host of other options.

In fact the **PHASE III GT** as photographed at the Show (No.42, 43) can run as high as \$10,500. Motion's paten-

ted ignition system is said to require no tune-up for 50,000 miles and, teamed with the optional 454 cu. in. engine, should be the fastest Corvette on the block.

For the average guy, especially those who like **VOLKSWAGENS** which means most readers of **WCG** we believe, one of the most practical dune buggies to charge a beach or desert is the newly introduced **BERRY MINI-TUB B** (No. 44, 45). Featuring a bench type rear seat in addition to the front buckets, a Mini-Tub glass body on a VW platform chassis is the next thing to a sports tourer the likes of which hasn't been seen since the **MG-Y Tourer** split two decades ago. Kits or complete Mini-Tubs are available.





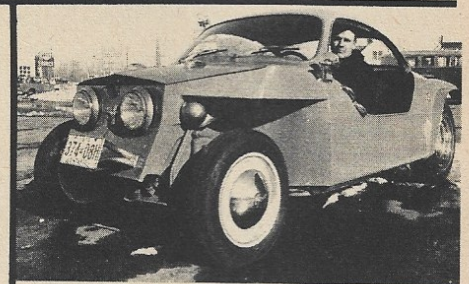
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Automobile magazines go to the big shows and stay 'till they close. Detroit could profit by doing likewise. Before

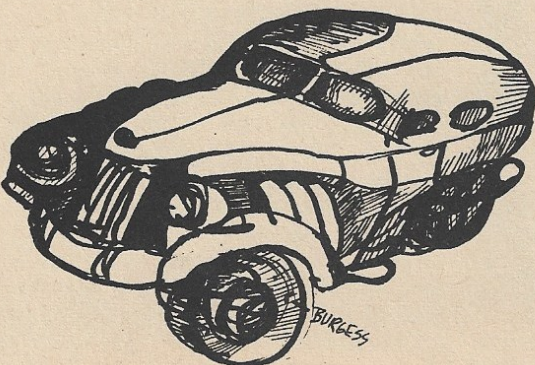
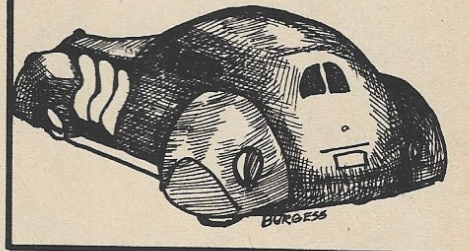
long, the imports will top 1.2 million annually. The ANTI-IMPORTS to date, are not precisely what the public wants

-- or buys in quantity. But, the show goes on.

WCG



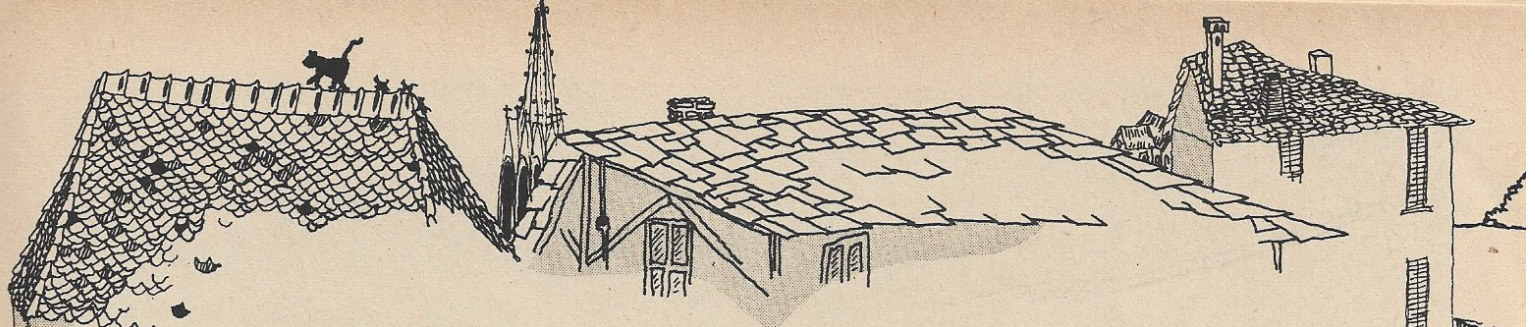
**FLASH!** As we go to press it has been confirmed that Chrysler Corporation will import the initial batch of Mitsubishi Colt cars from Japan. Expect to be able to examine this sub-pony in selected Chrysler Corp. dealers' showrooms by mid-summer.



Fred Blohm, proprietor of Fina Service Station and Garage in the East end of Pembroke, Ontario, spent 300 hours last winter converting this Karmann Ghia into this custom racer. He has installed a Porsche motor in the rear, wide tires and has gotten a top speed of 130 miles per hour at 5500 rpm on a test run. His horsepower out of the Porsche motor is 107. Fred intends to race the car this summer and next winter he will race it on ice.

photo by Montaigne Pembroke, Ontario, Canada





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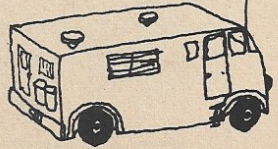
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## THE RIB'S OPINION

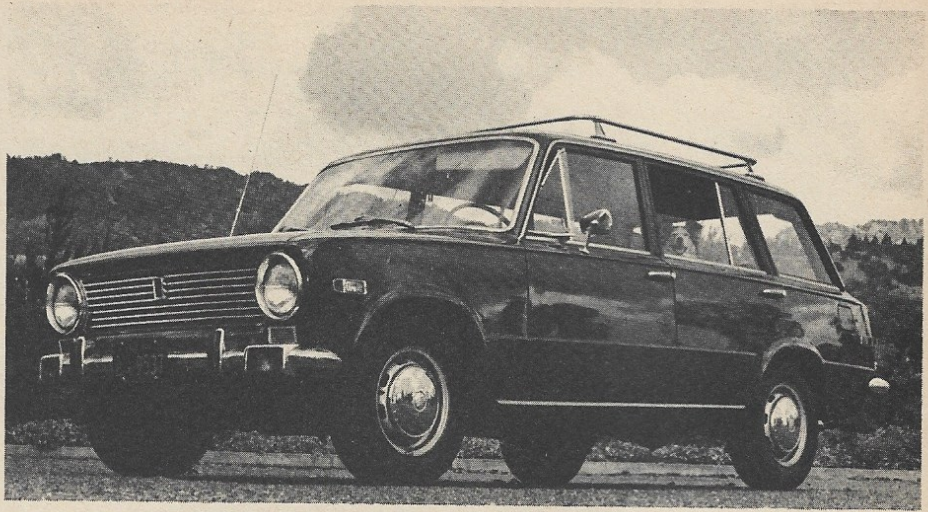
My initial response to driving the Fiat 124 was that I did not care for the car at all. The accelerator pedal seemed to be positioned at too steep an angle and the steering wheel bothered me. The plane of the steering wheel should be closer to the vertical instead of angled like the wheel of a Greyhound bus. The fast steering, though, is great; makes parking easy.

The next time I drove the Fiat 124, however, I took time to adjust the seat just right; it adjusts very easily including the back. That's very important for a woman who is a mere 5 feet, 2 inches tall. Then I discovered that by placing the heel of my foot back a little farther on the floor, the gas pedal is okay.

The Fiat is so spunky and easy to drive that it really is fun. On the freeways one can keep up with the 70 mph traffic with no trouble and, in the city, this wagon is a dream for shopping.

At first the car seemed excessively noisy with the left front window open; I like fresh air while I drive. Then Joe suggested that I close the front windows and vents and open the rear windows no more than an eighth of an inch. This decreased the wind noise at speed to a minimum and ventilation was still good because of the excellent fresh air system and fan.

After driving the Fiat 124 wagon about 150 miles, my only complaint is the nearly flat plane of the steering wheel and the headlight dipping lever on the column which can interfere with the turn signal lever which is separate. Both the kids love the car, and so do I, really. I think it's a good buy at less than \$2,400 including the radio which has a nice tone.—Bettye C. Wherry



# FIAT

## 124 STATION WAGON

by Joseph H. Wherry



**IN BRIEF:** A good buy at \$2,313 including roof rack and Pirelli radial tires POE West Coast and \$2,273 on East Coast. Look for slight price increase in mid-summer... From zero to 60 mph in 17.4 seconds... easy cruising all day at 65-70 mph... 24 miles per gallon under hard driving conditions... Easy to handle... Good roadability.

The manufacturer confidently states that the Fiat 124 station wagon, which weighs 2084 pounds (sedan weighs about 100 pounds less) sopping wet and ready to go at the curb, will top out at "over 93 mph." For the first few miles, after signing for the car at Pier 24 on the Embarcadero in San Francisco, I was skeptical. This was not because the car was stiff; it had 2,812 miles on the odometer. I felt as if I was twisting a platter fixed to the end of a nearly vertical steering post and the engine sounded like a swarm of angry buzzing bees. Busy bees.

About the place where we fought our way onto US-101 near the Presidio, I discovered that there was plenty of torque to make 4th gear valid even at less than 40 mph in traffic. Finally I managed to adjust the shoulder and lap belt comfortably and, when I saw a gal in a green 124 sedan tooling along as happy as a clam in the off season, I decided that I might as well get used to this Italian bolide because I was obligated to live with it for at least one-thousand miles before writing a test report.

I do not believe that less than several hundred miles behind the wheel of a

### FIAT 124 STATION WAGON Specifications

**ENGINE:** (cast iron block, 5 main bearings; aluminum head):

Front, rear drive, 4-cylinders, ohv, in-line

Bore and stroke: 3.156 x 2.814 in.

Displacement: 87.75 cu. in. (1,438cc)

Compression ratio: 9.0 to 1. Carburetion: single 2-bbl. 23 mm Solex.

Horsepower: 76 @ 5400 rpm

Torque: 81 ft. lbs. @ 3300 rpm

**TRANSMISSION:** 4-speed manual, floor lever full synchromesh

Gear ratios overall: 1st 3.79; 2nd-2.17; 3rd-1.41; 4th-1.00

**SUSPENSION:** Front: Upper and lower unequal wishbones, stabilizer bar, coil springs

Rear: Rigid (live) axle, four longitudinal control arms with one transverse anti-sway rod, coil springs

**STEERING:** Worm and roller, linkage lifetime lubricated, curb-to-curb 35 ft.

Lock-to-lock: 2¾ turns

**WHEELS AND TIRES:** steel discs, 165 x 13 Pirelli radial tires

**BRAKES:** disc front and rear with power boost

**CAPACITIES:** Fuel: 12.5 US gals.

Oil: 4.0 US qts.

Transmission: 1.5 US qts. Differential: 1.33 US qts.

Cooling system: 8 US qts.

**BODY AND FRAME:** unitized, all-steel

**DIMENSIONS:** Wheelbase 95.25 in., Length overall 158.75 in.

Width 64 in., Height 53.75 in., Weight at curb 2084 lbs.



Healing over in a hard corner 30 mph is moderate; control remains good.

strange vehicle can be considered a road test. A Sunday afternoon drive may be a challenge but it's not a test. At best, short tours in new cars are impressions, and that is what brief runs in any car will be called in WCG while I'm the editor. There will be no exceptions. Total miles racked up on test will be stated.

So by the time Fiat and I had covered the 55 miles between the Golden Gate bridge and our home we were beginning to have some respect for each other. After all, each car has its idiosyncrasies and part of my job is to be objective.

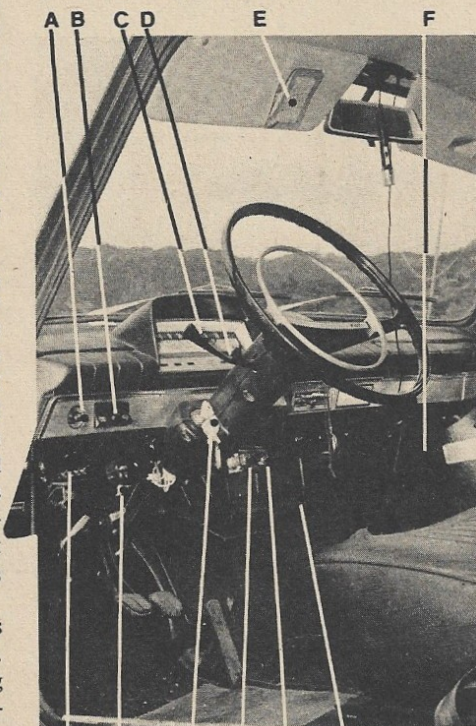
Fiat has been building cars for 71 years; the firm is still privately owned and is a factor in world markets. In recent years there have been parts problems in some regions. These problems are being corrected according to Bob Philbrook of the Northern California region and Sam Kaplan who labors on the East Coast. I believe them because Fiat importers have done a tremendous job during the last two years and their banner flies higher each month. Two years is long enough to sour matters if customers are unhappy.

During my first 257 miles in the car, the fuel consumption was a modest 28.4 miles per gallon on premium Mobil. The makers say "use premium" but when we refueled, I said "regular" to see what would happen. Fiat pinged on hills and was a mite sluggish. At the end of the next 218 miles gas consumption had slumped to 22.5 mpg. Of course I was driving harder but premium was obviously the proper diet. I bought premium again and 23.0 mph was achieved during the next 230 miles.

I made acceleration and gear speeds tests between 3,517 and 3,716 miles. Despite the punishment including dozens of runs, hard cornering for photographs, and the like, hard running in bottom and the two middle gears, very little in 4th, the premium fuel trickled through the two-barrel Solex at the unbelievably low rate of just 24.1 mpg. Fiat got cleared of any accumulation of carbon from its breaking-period and performed wonderfully well.

Performance was impressive for the little 1,438 cc (87.75 cu. in.) 4-cylinder engine. After checking the speedometer's accuracy on a measured mile—true 60 mph required an indicated 62 mph on the red line instrument—the speeds in gears were checked. The works states that 1st gear is good for 19 mph; that 2nd delivers 37 mph, 3rd 59 and that flat out in 4th gear tops the wagon out at "over 93 mph." Accurate timing produced the following figures: 17, 36, and 63 mph. Circumstances did not permit maximum speed runs but I'll buy the 93-plus claim without argument because this beastie loves to run hard and long.

JULY 1970



Driver controls are convenient: A - windshield washers. B - headlights, instrument lights, windshield wipers. C - headlight dimmer and dipping lever. D - turn signal lever. E - radio speaker. G - fuse block. H - manual choke. I - ignition switch and steering lock. J - hand-brake warning light. K - emergency flasher. L - fresh air/warm air outlet.

Acceleration was brisk—not hair raising because this Tipo 124 is not that sort of car. With at least four runs in two opposing directions to compensate for wind on the abandoned air strip we were using, we determined that zero to 60 mph came rather easily to 17.4 seconds. For urban traffic, zero to 45 mph broke in just 8.6 seconds.

Even more important is good passing acceleration. Dropping down into 3rd gear from 4th jumps the 124 from a steady 40 mph to 60 mph in just 11.1 seconds; because 3rd was good for 63 mph, there was no need to shift. But cruising along at 50 mph and dropping



Panic stop with brakes near locking point produces only very moderate nose diving. Disc brakes are smooth and even under all circumstances.

into 3rd gear for passing scratch to 70 mph necessitated shifting up to 4th at approximately 60 where the power peak was reached; again the time was consistently good from 50 to 70 mph with an average of 12.3 seconds.

These are good times and the car was never under undue strain at any time. At the conclusion of performance tests we had driven Tipo 124 wagon precisely 904 miles; overall oil consumption was a shade less than 1/2 pint despite the tortuous acceleration tests on a relatively new engine. Fuel consumed averaged out to an economical 24.5 miles per gallon of Mobilgas. Always we topped up at the same filling station with the car resting in the same location on the concrete pad.

That's a good indication of what the average owner can expect of the 1970 Fiat 124 Solex carb-equipped wagon with quite strenuous use of gears and a foot not likely to be much heavier than this writer's. In all we put almost 1,400 miles on the test Fiat wagon.

Handling and roadability merit admiration too. So that WCG readers will know this tester's modus operandi, let me hasten to say that during all road course, handling and similar tests, a cassette type recorder is employed to eliminate memory error and to decrease chances of inaccuracy in making notes.

One must push this car into abrupt corners at excessive speeds where the rear end threatens to break loose in order to induce extreme heeling over or leaning with two aboard. Though not a sports car but rather an economy family wagon, the 124's suspension is on the firm side and will force a heavy domestic locomotive to screech and drift wildly to stay on the course set by the Fiat. Similarly the efficient, virtually fade-proof disc brakes are almost impervious to hard rain, puddles, dust, etc.

As our photographs show, leaning and nose diving in hard corners and abrupt stops with brakes applied close to the locking point do not put the Fiat off balance if reason rides with the driver. Steering is by worm and roller and is fairly quick with 2 3/4 turns lock-to-lock.

Suspension is by upper and lower, unequal length A-frames with a stabilizer bar and the coil springs enclosing shock absorbers in front. The live rear axle is positioned by four longitudinal control rods plus a transverse anti-sway bar. Tipo 124 sedans have the rear





Bonnet is as secure against vandals as the under-dash release can make it. Engine and accessories are easily reached for home mechanics.

shock absorbers inside the coil springs, but the wagon's weight distribution calls for a difference: the rear coil springs do not enclose the shock absorbers—the latter are mounted outside the former.

The engine is tough, has five main bearings, the camshaft is located in the crankcase and is operated by a chain at the front of the cast iron cylinder block. Overhead valves are pushrod operated and the cylinder head is of aluminum alloy. An option is a Weber rather than the standard 23 mm Solex carburetor. The specifications table details the remaining salient engine facts and figures.

The propeller shaft is a two piece assembly; final drive is by hypoid gears. As mentioned, disc brakes all around are standard; the handbrake, a lever type between the separate front seats, acts upon the rear wheels.

It would be a dereliction not to mention minor irritations. (All cars have such, some more than others or vice-versa.) Although a severe rainstorm disclosed absolutely no leaks, I would prefer a little more attention to sound-proofing. Of course everything increases the price but better sound-proofing around the engine compartment and on the firewall would decrease noise when running continuously at freeway or turnpike speeds.

Windshield wiper action is good and there was no 'float' of the blades at speed a frequent fault on cars of all prices. During highway speed when strong cross winds occur, there is some wander but control is precise and easy, more positive than in some sub-compacts.

Minor irritations increase in the driving department. Both the ignition switch and the manual choke (which I prefer to the automatic variety) are located on the left side of the steering column. This does not facilitate starting in chilly weather (yes, California can have chilly mornings in the late spring-time) when the simultaneous use of each device is required. In my opinion choke and ignition switch should be on opposite sides of the column so both hands can be used conveniently. Happily the hand throttle is to the right of the column below the dash.

Rocker type switches are for the birds. A two or three stage, ratchet type push-pull switch is much handier; a rheostat would be better. I would also suggest a rheostat on the instrument light switch; they are either off or on

Rear seat legroom is severely limited when either of the separate front seats is positioned at maximum rear location.

and they are too bright.

The heater-fresh air controls are efficient; lever types which slide horizontally, they do the job with a minimum of fuss. Moreover the flow-through fresh air system is so efficient that even in 80-degree weather one need not open a side window. To do so does increase the air flow but the noise at freeway speeds drowns out normal conversation.

The same must be said when the air system fan is operating at high speed whether cool or warm air is being inducted. This, however, must be laid to a small diameter fan because of space restrictions for the 124 is, after all, a sub-compact car and despite some annoyances, it's a good one. Air conditioning, I'm told, will be offered later this year as an option.

My other principal gripe relates to the steering wheel. I learned to live with the relatively flat plain-angle of the wheel but I don't believe I could ever become accustomed to the very tiny outer rim which is tiring because it induces that clenched fist feeling. An easy remedy is to wrap the wheel with leather. The horn ring, too, is a nuisance when maneuvering in close quarters, parallel parking, and such. I am disposed to place one hand inside the outer rim for added leverage. The proximity of the horn ring prevents this tactic.

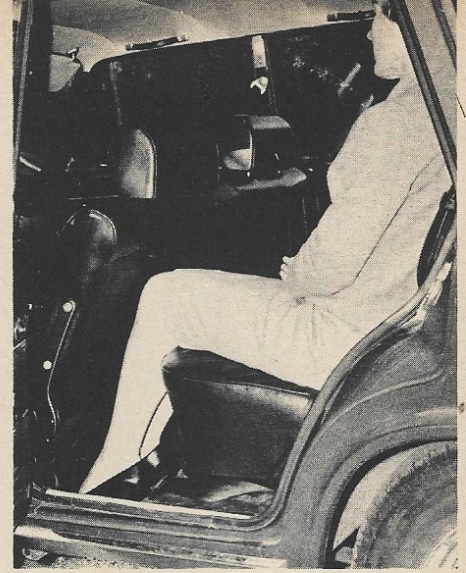
On the other hand, the seats, leather-like plastic upholstered, are very comfortable. Among the best I've encountered in sub-compacts, they adjust easily and it was not necessary to reposition the driver's seat on the track to accommodate my preferred maximum aft seat position. The headrests—I suppose they're a good thing but I dislike them—are adjustable but they are so far removed toward the rear that I believe a whiplash could still be the result of an unexpected rear end whack.

The rear view mirror adjusts well for either day or night but the side view mirror is so far aft that, even with the seat moved to its rear maximum, I still found myself looking for the side view mirror after 1,200 miles behind the wheel.

Virtually useless, also, are the front seat armrests; not only are they a good 3 inches too low for even this fairly long-armed tester but they are also so far toward the rear that, by stretching my elbow, it would barely touch the front of the armrest.

Faster gearing on the window cranks would also be welcome, I believe: six-plus turns are about twice too many. Fiat is not alone when it comes to the 'negatives' just listed; a dozen other imports, several costing more than twice what the Fiat 124 costs also have similar minor irritations.

Welcome conveniences, on the other hand, are the sun visors which swivel easily to shade the upper 4 inches of



front side windows. Additionally the driver's visor has a handy pocket on that reverse side for fuel receipts and such items. The glove case (some won't even hold gloves) is unusually large and, though the lid is hinged from the top, it is vertical and contents are not likely to fall out.

There are hand grips over the right front and both rear doors for passengers. Although rear legroom is severely restricted when both front seats are positioned to the rear, there is adequate legroom for youngsters and modestly sized persons fortunate enough to find themselves behind whichever front seat is moved forward.

I join my rib in preferring a floor-mounted dipswitch for the headlights rather than a second lever with parking, high and low beam positions to muddle through. Speaking of headlights: for nearly twenty years I've expectantly looked forward to the road test-readied car whose headlights have been properly aimed and adjusted; I've yet to meet such a specimen.

All factory, distributor or dealer prepared cars are either cross-eyed, cock-eyed or they are trying to make like anti-aircraft searchlights. But then I guess that's part of the fun. On the other hand at \$7.00 an hour or more for professional mechanics, who can afford to have headlights adjusted? (How many readers would like a how-to feature on aiming one's own headlights?)

In summation one would have to be a dullard not to like the Fiat 124 wagon. It's fun to drive and rates a high mark for ease of handling and overall efficiency. With no more faults that a nitpicker can find than most other cars regardless of price, I would advise anyone searching for a low initial price economy wagon for a small family to try this one on for size and appointments.

For Pete's sake let your rib or your girl friend drive it and get her opinion.

(Continued on Page 42)

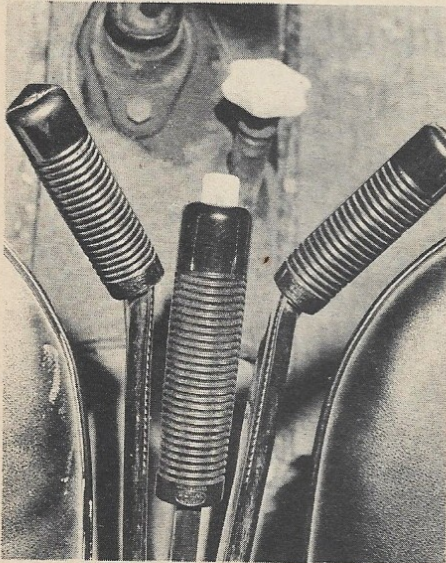
WORLD CAR GUIDE





**LET DAVE DO IT  
LET DAVE DO IT  
LET DAVE DO IT**

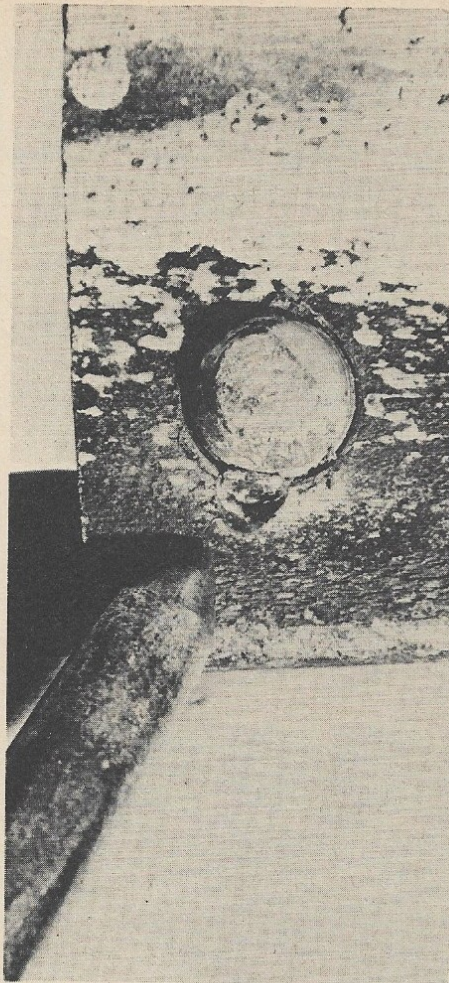
**HANDBRAKE LEVERS** can be dressed up to match the traction selector levers on Buggy and off-road VW's by placing a full-size bike handlebar grip over the center control. Get a grip made by the same company that supplied the training-bike grips for the traction selectors, or else buy new grips for all three levers that have the same design. Colors can be matched to the vehicle's interior too. Instant elegance!



\* \* \*

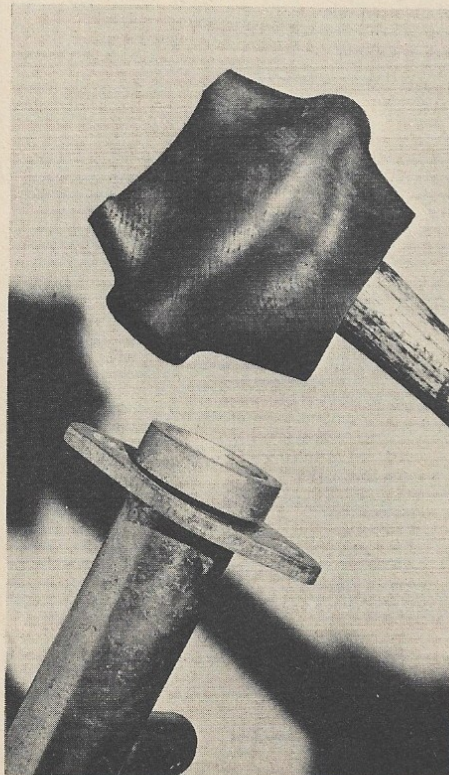
**DISTURBED** by a screw or bolt that keeps working loose and requires constant retightening? Nearly every car owner comes up against this problem, sooner or later, especially on such things as bumper mountings, door or hood hinge bolts, and shock absorber mountings. You can cure your troubles permanently by striking a "dimple" into the

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metal adjacent to the bolt hole using an ordinary center punch. This will deform the threads just enough to keep the pesky fastener in place. Saves that daily search for the right size wrench.

\* \* \*



\* \* \*

WCG

**ALUMINUM PARTS** and painted surfaces can easily be defaced by striking them with an ordinary hammer. If you don't have a soft hammer -- or haven't room in your tool box to carry one -- slip a section of rubber, cut from a motorcycle or bike inner tube, over your ball-peen before bashing those fragile pieces. Great for working on plated parts too.

\* \* \*



**WHEN IT'S TUNE-UP TIME**, don't forget to service your car's distributor cap. That's right, there's something that should be done to this oft-neglected ignition component. Deposits of oxidized metal and carbonized oil accumulate around the inner terminals. These conductive particles may eventually permit spark flashover that will ruin the cap and stall you somewhere out in the boondocks. Clean around the terminals with a pencil eraser. It's abrasiveness is low and will not destroy the cap's glass-smooth surface.





# PACK YOUR OWN BEARINGS

by George N. Freund

For every mile that you drive, your car's wheels revolve about 8,000 times. Wheel bearings must support their share of the car's weight and yet allow friction-free rotation of the wheels. To help the bearings perform their task, proper cleanliness and lubrication are essential.

Owner's manuals call for wheel bearing inspections at intervals ranging between 5,000 and 20,000 miles. Most bearings will last the life of the car. Maintenance on wheel bearings is simple and can be performed by the average owner with a minimum of equipment at substantial savings. Considering that the job requires about one hour, you stand to save between \$8 and \$10 for each wheel bearing lubrication that you do.

## SIMPLE TOOLS REQUIRED

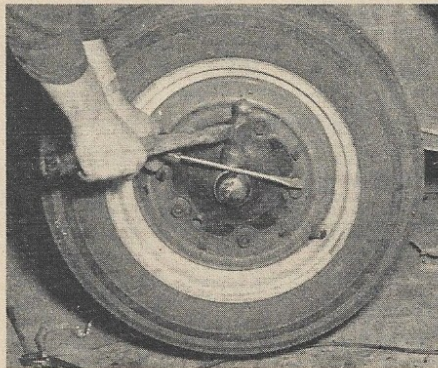
Wheel bearing greasing usually requires just basic toolbox equipment. A screwdriver and hammer are normally all that are needed to remove the hub dust cover. However, special removing tools are available if you are a tool collector. Stubborn hub covers sometimes must be twisted free with a stillson wrench, but these cases are rare.

Most cars using cotter-pin nut retainers require a diagonal cutting plier to remove the bent pin. Sometimes a needle-nosed plier helps, too. On VW's which use two nuts and a metal retainer, the trusty hammer and screwdriver will release them. Either an adjustable wrench or socket wrench are satisfactory for removing the bearing nut. For Volkswagens, a thin 27-mm end-wrench is required to adjust the inner nut. In a pinch, a thin 1-1/8" end-wrench can be used, but it will fit a bit loose.

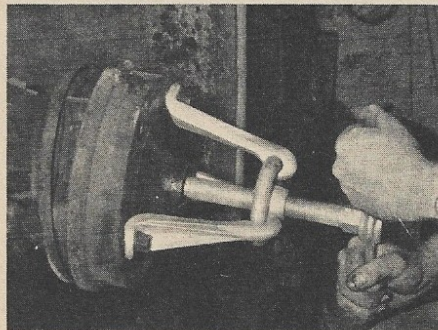
Sometimes a brass or aluminum drift pin is needed to remove the inner bearing from the hub. Occasionally a stubborn drum requires a puller in order to be removed and sometimes bearing cones will need a puller to be extracted from the spindle. Fortunately, such cases are rare. You also will need some gasoline, a brush, plenty of clean lint-free rags, newspapers and a clean can. If an air compressor is available, it is helpful but not necessary. Safety goggles and chassis horses are a must for complete safety.

## CARS WITH DRUM BRAKES

Begin by chocking the wheels and jacking the car, without removing the wheels. When the car is safely resting on the chassis horses, shake it to assure good footing of the horses, while you are clear of the car. Now pry off the hub cap and the wheel bearing dust cover. (Fig. 1)



Most cars use a cotter-key lock for the retaining nut. Simply extract the cotter with pliers, then remove the locking nut, outer bearing and its inside cone which rests on the spindle. If the brakes are not tight, you should be able to pull the wheel and brake-drum assembly toward you easily, by rocking it as you hold the tire tread. If you feel great resistance, adjust the brake shoes looser. Rarely, as mentioned, is a wheel puller needed. (Fig. 2)



Some mechanics will now remove the wheel assembly and drive the inner bearing from the hub with a hammer and drift pin. However, many front end specialists use a trick that saves time.

With the outer bearing assembly removed, re-install the spindle nut partially. Then pull the wheel until the drum no longer engages the brake shoes and rests upon the spindle. Now, swiftly jerk the wheel outward. If you did the operation properly, the inner bearing retainer should slide loose and hang on the spindle. If not, try again, or resort to the drift pin method. You are now ready to go to work.

## CARS WITH DISC BRAKES

Begin by removing the hup cap and breaking loose the wheel retaining nuts . . . but do not remove them yet. Next, chock the rear wheels and jack the car so that both front wheels are off the floor. Then place chassis horses beneath the lower control arms or other sturdy chassis members and lower the car so the horses support it. Check the support of the horses by shaking the car while your body is clear of the car.

Now remove the wheel nuts and the wheel. The disc and caliper assembly is now exposed. Next, disconnect the hydraulic lines leading to the wheel cylinders and remove the caliper unit. On some cars, it is possible to leave the hydraulic line in place when the caliper is removed. Finally, remove the retainer and nut and proceed similarly to cars with drum brakes.

## INSPECTION

While the brakes are exposed, inspect the linings and the wheel cylinders for leakage. Dust all brake parts with a brush, or blow them clean with an air hose. Use your goggles during this operation, and keep them on during the remainder of the job. Clean each brake drum or disc with compressed air or clean oil-free cloth. Then wipe all excess grease from the spindle, hub and bearing parts.

## CLEANING THE BEARINGS

Soak the bearings in solvent (benzene, naphtha, or gasoline) until the grease is loosened. (Fig. 3) Work on one wheel at a time to prevent switching bearings. After the bearings have

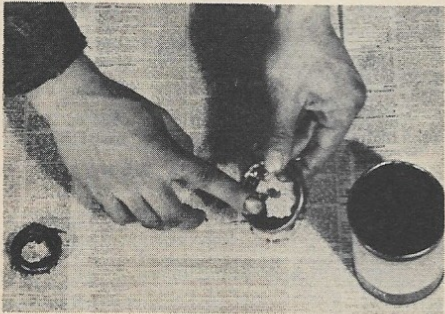




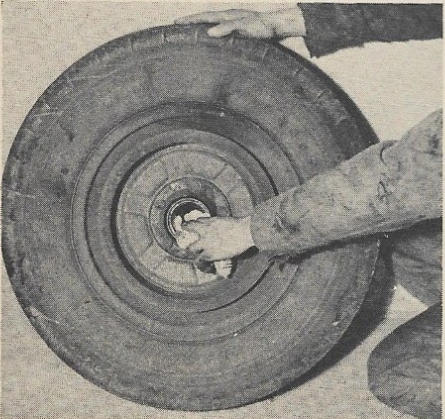
soaked, bursh them clean with a paint brush, rinse them in clean solvent and allow them to dry. Compressed air is handy here. Now check all bearings, cones and cup or roller, replace both bearings on that wheel. While this seems extravagant, it will prevent replacing the other bearing in a few months since tine chips or dust from the failed bearing have already begun to damage its partner. Finally, clean the spindle and hub. When all parts are dry begin packing.

#### PACKING

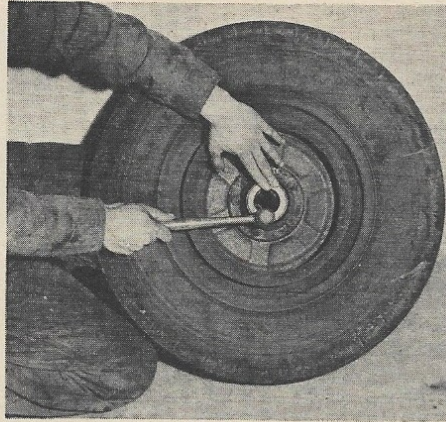
Using an automotive grade of wheel bearing grease (not chassis, all-purpose, or truck wheel bearing grease), pack grease into the bearing race. Force the grease with your fingers until it emerges from the other side of the race. (Fig.4)



Be sure that all bearing, race and cone surfaces are completely covered with grease. Lightly coat the spindle and hub surfaces (Fig. 5) to prevent rust if water should leak past the seal. Then install



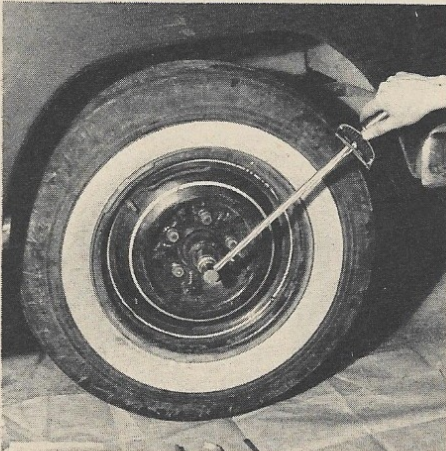
the inner bearing into the hub and drive a new seal into the hub using a soft-faced plastic or rawhide mallet. (Fig. 6). Be sure to drive the seal in straight and avoid contact with the sealing face. Carefully, wipe a light coating of grease on the sealing face to reduce wear.



Now place the wheel assembly on the spindle, pushing the wheel all the way inward. After packing the outer bearings as above, install each bearing and its cone on the spindle, and add a bit of grease to the exposed surfaces of the bearing and cone. It is not necessary or advisable to fully pack the hub or dust cover with grease as a fully packed unit may tend to leak in warm operaton and damage brake linings. Finally, insert the inner bearing and cone on the spline and install the thrust washer and spindle nut. No you are ready for adjustment.

#### ADJUSTMENT

On most cars, tighten the spindle nut gradually, preferably with torque wrench while rotating the wheel by hand. About twenty-five to thirty foot pounds of wrench torque is normally sufficient to seat the bearings. (Fig 7)

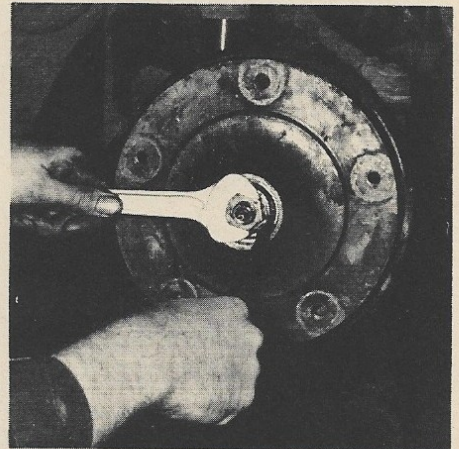


Then completely loosen the nut and again retighten to about 5 foot pounds for ball bearings and 7 foot pounds for roller bearings. Check with your shop manual for the exact specification for

your car. If a torque wrench is not available, tighten the nut until all the free play is taken out of the bearing, but not so tight as to cause binding.

Now observe the location of the slots in the castellated nut in reference to the spindle hole and adjust the nut looser or tighter until the cotter pin can be passed through both nut and spindle. Double check adjustment by spinning the wheel to check for binding and wiggle the wheel by grasping the tire at its extremities and apply a tipping motion to the wheel. If end play is negligible and the wheel spins freely, then the bearing is properly adjusted. Finally, peen over the end of the cotter key, snip off excess length, and install the dust cover and hub cap. If you had to loosen the brake adjustment to permit removal of the wheel, be sure to adjust them now.

On Volkswagens, a built-in gage is used to aid bearing adjustment. An eccentric washer is located between the nut and bearing. Begin by tightening the nut as the wheel is rotated until the bearing is seated. (Fig. 8) Now, stop the



wheel from rotating and back-off the nut slightly until the eccentric washer can be just about moved by prying with a screwdriver. Then slip on the lock plate, screw in the lock nut and tighten the lock nut against the lock plate while holding the adjusting nut fixed with an open end wrench. Special 27mm, thin wrenches are available for this purpose.

Finally, install the dust cover after bending over the lock plate to retain the adjusting and lock nuts.

Remember that different wheel bearing greases do not mix, so do not use old and new grease or two differnt brands of grease on the same bearing. Sometimes different greases will attack each other chemically and form a use-less wax which will offer no lubrication and cause seizing of the bearings.

By performing your own wheel bearing maintenance, you not only save the expense of having it done, but you are able to check the condition of the front brakes as well.

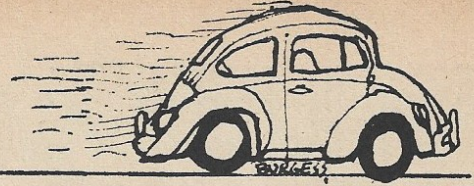




As seen through an arch in Yungay, Peru's highest peak, Huascaran reaches 22,199 feet into the sky.

# VW TO VALPARAISO,

by Nick Ellena



It was a sunny morning in San Francisco. Bob Elliott and I miraculously managed to squeeze the mountain of gear into my Volkswagen bug. Already the second spare tire, hinged to the front bumper and laying back on the hood was drawing curious stares.

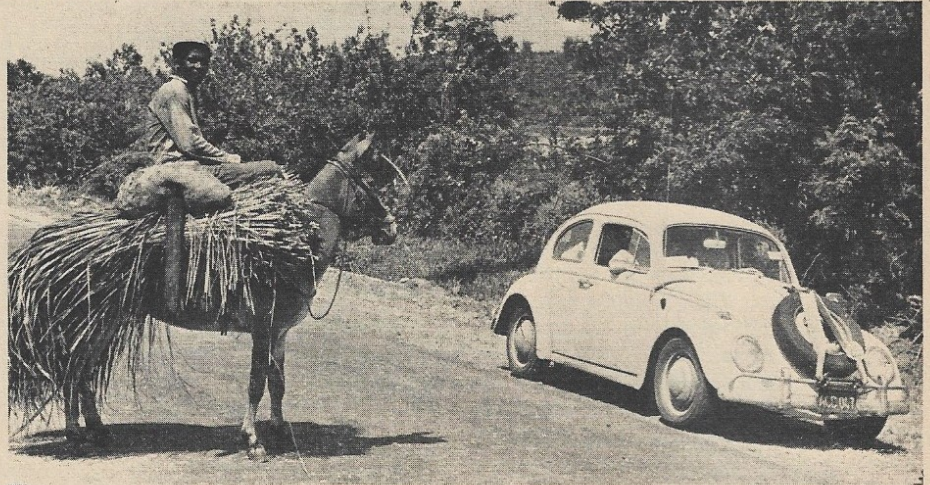
The bug protested with a groan or two as we started down Pacific Avenue. I felt a surge of excitement. After months of planning we were actually on our way. Destination: Chile.

We passed into Mexico at Nogales. A two-dollar bribe demanded by a seedy official sped us through customs. Going through Sonora we had some close shaves with burros relaxing on the warm asphalt. We quickly learned the significance of "Puente Angosto" signs—narrow bridge. The trick was to flash the headlights before another car had barreled in from the other side. This won you the right-of-way. If the lights flashed at the same time, it became a game of "pollo" at which the Mexicans excelled.

Mazatlan's sunset and señoritas seemed sensational but one day was not enough to develop acquaintance. In Mexico City we bought insurance for Central America, an oil change and lube job and were short-changed at a restaurant but managed to survive the wild traffic. We headed for 18,619 foot Orizaba, Mexico's highest mountain which we hoped to scale as a training climb for Peru's higher peaks. Our July 4 deadline to meet an expedition in Lima haunted us most of the trip.

The expressway between Mexico City and Puebla was modern by any standard, but special tolls for foreigners did not endear Mexican manners to two annoyed gringos.

For days the motor had been knocking like pebbles in a can. At first we cursed the gasoline but we soon became immune to the rattles. We grew to have faith in that little motor. After battling 15 miles of hub-deep dust, the bug reached road's end at the town of Tlachichuga. The peak, glowing in the dusk, was still 10 miles away. I wanted to rent a Jeep but Bob insisted on walking. We flipped and I lost. Staggering into the hut at 14,000 feet late the



The old and the new meet in Columbia.



Hairy was the word for crossing the Rio Macara between Peru and Ecuador.



Ancient but still giving service, this Dodge is typical of Lima's taxis.

next day, we collapsed. Walking like zombies into town the third day, we piled into the bug and started south.

Cortes aptly described Mexico's mountainous core to the king of Spain. He crumbled a piece of paper, laid it on a desk and said, "That, Your Majesty, is Mexico." The views were austere and awesome. We dropped into the jungles and crossed into Guatemala in a cloud-burst that made it seem as if we were driving under water.

"Look out for the buzzards," Bob said, pointing to several of the big birds ripping at a piece of carrion on the road.

"Nick," he said quietly as we got closer. "Look out for the buzzards." Then it happened.

"I told you to look out for the buzzards," he said through gritted teeth as we surveyed the smashed windshield. I had slowed, but the last bird lifted too sluggishly. We drove into Guatemala City and located the VW dealer. I'd never seen a more modern plant. In 26 minutes the windshield was replaced,

the car was washed, we paid the bill and one of the office girls found us a cheap but clean hotel. Heading for Chichicastenago the next morning, the car coughed and sputtered. We gloomily contemplated a long stay-over getting it fixed and the nearing July 4 deadline, not to mention the impact on our wallets. Suddenly the mental light bulb flashed. I looked at the engine. Sure enough, one of the spark plug leads was loose.

At Chichi an inebriated young man latched on to us. He showed us the Mayan stone idol, Choturcarch, on a hill above the town where a native burned incense and prayed for good crops. He took us into the cathedral where Indian women knelt in the aisles, instead of in the pews, praying to Christ while on the steps outside medicine men intoned pagan incantations. When we returned to the car we found we had a flat. Children crowded around, stretching eager hands to help. We had a hard time changing the tire.



# CHILE



Would you believe all of this gear was securely stowed inside the diminutive bug? Bob re-packs the VW after a bit of mountain climbing.



Unloading the car from the freighter after shipping it from Panama to Barranquilla, Columbia.

The Pan-American Highway through Central America rated good to excellent. There was no problem getting gas and Bob's foresight in having arranged for tourist cards ahead of time saved us time at the frontiers. Only when entering Guatemala did we have to unpack every blessed thing. Our offer of a bribe met with an indignant reaction that gave us ugly visions of a Central American jail.

We ran into road construction in Costa Rica. A flagman told us the road was blocked; then he disappeared. Two hours later, with no one in sight, we decided to chance it. We came to a high cut with a bulldozer sitting on top. I looked at Bob. He nodded. I nodded. We churned through the chewed-up surface just as the dozer shoved a load of earth over the side barely missing us. My knees shook a little as we continued on in silence.

The jungles of the Isthmus of Panama had defied engineers through the years. Now a road was to be built, but

meanwhile the car had to be shipped to Columbia. We saw it on its way, then flew to Barranquilla where we spent two days sightseeing while waiting for the ship. We were somewhat apprehensive about Columbia because it was a time of bandit raids and kidnappings. I had stashed two lengths of pipe under the seats for protection but everyone we met was friendly. The car knocked incessantly but gave us no problems. The July 4 deadline still looked good.

Leaving Pasco we crossed the frontier into Ecuador, hoping to make Quito, the capital, that night; however, we could not get the car into fourth gear all day. There were endless horseshoe curves around steep mountain sides and long stretches paved with melon-sized cobbles that rattled the fillings in our teeth. Just before midnight, after not seeing a light for hours, we got stuck in axle deep dust. Warily we started digging with our Army shovel. Headlights appeared suddenly and a pickup stopped and six men jumped out. They ran toward us. Bob flexed the shovel and I dove for one of the pipe lengths. Wanting only to help, they dug and pushed us out. In a few minutes and with sincere thanks we were on our way. The next day in Quito we slept late.

The remaining road through Ecuador was even worse but the scenery was majestic. South of Quito we went down the "Avenue of Volcanoes" with splendid views of Cotopaxi, the highest active volcano in the world at 19,612 feet. Crossing the River Macara into Peru is not recommended. The car, which by now we regarded almost as a sister, was jockeyed on planks on top of a row boat little longer than the bug. Ten shouting, struggling natives pushed it through swift chest-high water to the other side. Following in another boat with the gear, we left a wary eye on the white water down river. Our boatmen charged us \$15 and we would have paid three times that much to avoid backtracking. The next 78 miles over a cart track took an agonizing eight hours.

In western Peru the highway crosses deserts spotted with oases at the river mouths. North of Lima we swung east through the towering Cordillera Negra. Topping the high point, we were greeted with the breath-taking sight of the snowy Cordillera Blanca with Huascarán, the highest mountain in Peru, soaring 22,199 feet. Even the bug seemed to cower a bit, small and squat below us, as we climbed a slope to take pictures. We were still on time for our mountain climbing appointment.

The climbing went well and we came out of the mountains a month later to retrieve the car at the Hotel Monterey in Huaras. Before heading for Lima, we took a side trip north to Huallanca. The



The bug is dwarfed by the awesome Canon del Pato in Northern Peru.

road passes through the Canon del Pato, a deep gorge between the nearly merging two great ranges. The cliffs, opening up only a thin slice of sky high overhead, made us feel oppressed. Back at Huaras we saw a cock fight that developed into a better fist fight among feuding fans. Then we left the altiplano.

Lima traffic is more confusing than that of Mexico City. We marveled at the wrecks that served as taxis and respect for Latin American mechanics soared. We were surprised at the number of Model "A" Ford taxis and wished we could ship some of them back home.

Getting gas was no problem provided we studied the map and planned our stops. Service for VW's, even in little towns, was good and we congratulated ourselves more than once on our choice of transportation. In southern Peru we stopped at Arequipa, the second largest city. By overnight train we journeyed to Lake Titicaca to visit the

(Continued on Page 36)





The VWCA, P.O. Box 963, Plainfield, N.J., 07061 is a non-profit organization dedicated to helping the VW owner enjoy his car to the fullest. For more information send 25 cents for postage and handling to the above address. Annual dues \$7.00 plus \$5.00 initiation fee first year. Dues include subscription to this magazine, WORLD CAR GUIDE.

Compiled by Carole Kepes

vacation time is here again, and it's a great time to take advantage of the services of your club hosts. Contact them for any information about their areas.

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SAY ALL YOU HAPPY MOTORISTS, WHY NOT USE THE CLUB HOST PLAN DURING YOUR TRAVELS AROUND THE U.S. AND CANADA... GIVE YOURSELF A CHANCE TO MEET SOME OF YOUR FELLOW VWERS WHILE VACATIONING. WHO KNOWS, YOU MAY MAKE A NEW FRIEND.

### DATES TO REMEMBER

Aug. 27 -- Flight No. 2 returns Sept. 20.  
Aug. 30 -- Flight No. 3 returns Sept. 27  
Oct. -- Oktoberfest, Peoria, Illinois  
Nov. 7 -- Trustees Meeting, Dayton, Ohio

WCG





# World Car News *by Emmett Greene*

**IMPORT SALES SOAR:** In contrast to the sinking of sales of U.S. makers, imports continue to rack up all time records. Early indications pointed to 14 consecutive record breaking months for the imports. In 1969, importers sold over 1,061,000 cars, their over one million year. This was 77,000 more sold than in 1968 and represented approximately 11 percent of all cars sold in the U.S.A. In other words, every ninth car sold was an import. Early reports on the first quarter of 1970 indicates total sales of close to 270,000 and shows that the demand continues.

**GREMLIN VS' IMPORT PRICES:** American Motors new sub-compact, the Gremlin (described in WCG April), went on sale April 1st with a higher price tag than was anticipated. The factory suggested delivered price (Kenosha, Wis.) of their four passenger model is \$1,959 and \$1,879 on the two passenger type. Here's how the Gremlin stacks up pricewise with the best selling two-door imports: VW "Beetle" \$1,839; Toyota Corolla \$1,726; Opel Kadett \$1,925; Datsun \$1,935. Prices include ocean freight, import duty and excise tax. State and local taxes, inland transportation and dealer preparation charges are not included. Opel and VW prices are based on East and Gulf ports-of-entry and Datsun and Toyota are based on all-ports-of-entry.

**OTHER U.S. SUB COMPACTS:** Chevrolet's sub-compact "Vega" is slated for introduction in late August and Ford's entry some time later. Teaser ads on Chevrolet's entry started last April. It will have a four cylinder 2.3 litre engine featuring a belt-driven overhead camshaft and an aluminum block.

**SIMCA ADJUSTS PRICES:** Shortly after absorption of the Simca-Rootes division by Chrysler-Plymouth division, the model mix of the French-built Simca front-wheel-drive models was reduced from six to three. At the same time, the port-of-entry prices on East, Gulf and Pacific coasts (except Alaska) were equalized. Prices of the 1970 sedans were cut by \$15 on the East Coast and reduced \$75 on the West Coast. Station wagons were reduced \$14 in the East and \$74 in the West. The standardized port-of-entry prices are: Four-door sedan \$1,960; two-door sedan \$1,875; four-door wagon \$2,145. Discontinued in the 1970 U.S. market lineup are the 1118 (formerly 1000) rear engine sedan and the front-drive 1204 two-door wagon plus the lower priced 1204 two-door sedan.

**TRANSMISSION SHIFT:** After 18 years of using Borg Warner automatic transmissions, American Motors Corp. announced that they will switch to Chrysler Corp. automatics on 1972 models. Almost 80 percent of AMC cars built in the 1969 model year were equipped with automatics.

**DEALERS WANT SMALL CARS:** At the New York Auto Show, import executives reported a record number of inquiries from U.S. make dealers about franchises. While many dealers handle "captive" makes made by U.S. manufacturers abroad, others have no smaller cars. Lincoln-Mercury dealers were very enthusiastic about the availability of the new German-built Ford Capri. Buick reported more dealers signed up to handle the Opel. Ford dealers have access to the English Ford line. Chrysler, while planning a U.S. built sub-compact, will make the British Sunbeam and French Simca available to an increasing number of their dealers. Meanwhile Chrysler has also bought an interest in Heavy Industries Ltd. of Japan and plans to establish a joint import-export firm. Mitsubishi will assemble Valiants in Japan and Chrysler will import the car for Dodge dealers. Several non-Chrysler Corp. dealers are accusing Chrysler of attempting to cancel their franchises to sell Simca and Sunbeam in order that these makes would be more available to Chrysler corporate dealers.

**OVERSEAS SALES:** Henry Ford II, in a message to shareholders, said that in the first two months of 1970 industry car and truck sales in the U.S. suffered as a result of the Administration's effort to slow down the rate of inflation. Ford added that the relative softness of the domestic market should be partially offset by the continuing growth of the European market. Ford's subsidiaries outside the U.S. and Canada accounted for 29 percent of Ford's total net income of 546.5 million dollars in 1969 and 19 percent of the 1968 income. European sales in 1969 were 7.4 million vehicles of which Ford's European companies sold 874,582 units.

**JAPAN REDUCES IMPORT DUTY:** Japan, long subject to pressure by other car producing nations to reduce tariffs, finally reduced import duties of foreign compacts from 34 to 20 percent. The imported car demand in Japan is relatively small and is believed to be around 20,000 units annually. Imports into the U.S. pay a 5 percent duty and 7 percent excise tax.

**FORD' JAPANESE TIES:** After several mergers between car companies in Japan, there has been speculation about probable affiliations of that country's third ranking car maker, Toyo Kogyo. Earlier this year, Ford was discussing an automatic transmission manufacturing venture with Toyo Kogyo; this led to speculation that T.K. might assemble and market Fords in Japan, offer to share their rotary-engine (Wankel) technology, and that Ford might market Toyo Kogyo cars in the U.S. Nothing is confirmed but speculation continues in the Japanese press.

**RENAULT HITS A MILLION:** For the first time in the history of this 71 year old French firm, their vehicle production exceeded one million. The 1969 production totals were 911,000 cars and 98,000 light vans. An added 34,000 trucks were produced by their SAVIEM subsidiary. Renault, among European manufacturers, was third behind Fiat and Volkswagen.

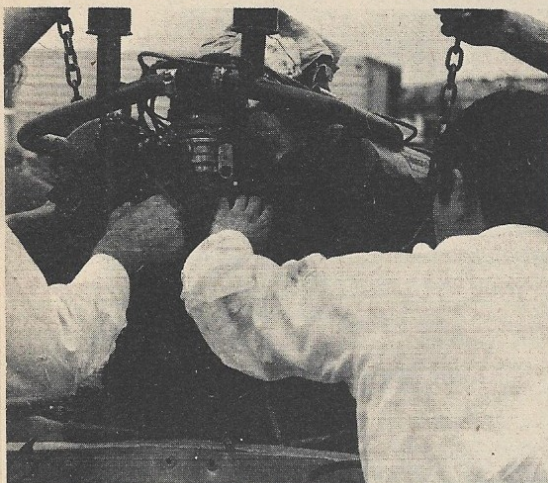
**MAVERICK CHEWS MUSTANG:** Ford's Mustang, the smallest U.S. car, has been a runaway seller since its introduction in mid 1969. Now the still smaller Maverick, intended to stem the tide of the imports, is chewing away at Mustang's sales outselling the latter two to one. While U.S. manufacturers have been long aware that small cars represent the most rapidly expanding segment of the market, they have been reluctant to exploit the trend because they bring less profit per unit for both dealer and factory.

**U.S. SUB COMPACTS:** Every import executive and foreign car dealer queried to date feels that when the U.S. manufacturers start advertising smaller cars they will help the imports. Ballyhoo advertising will arouse great interest in the "new size" and stimulate showroom traffic as shoppers check comparative values of the various makes. People will be convinced by Detroit that a small car is the "in thing". The fact that U.S. manufacturers are making them is an admission that the people have requested them.

**FAULTY AIR TOWERS:** In a recent test of the accuracy of tire inflation equipment in 50 service stations, it was discovered that there was a 45 percent probability that inflation pressure would be off at least three pounds from the pressure set on the tower dial. Test conducted for the Tire Committee of the National Vehicle Advisory Council were accomplished in the District of Columbia and Maryland suburban area by the U.S. Department of Transportation.



# TRANS-AM at . . . .



ABOVE: the Bud Moore engineering crew replaced a blown engine in Parnelli Jones' winning Mustang on Saturday afternoon.

RIGHT: Sam Posey in 77 lead-foots it through tight turn six while tailed by Ed Leslie in 2.

by Rodney P. Meyers  
(Photos by author)

Fort Ord, the West Coast Army Basic Training Center and the site of Luguna Seca Race Course, saw Parnelli Jones, one of racing's "top sergeants", breeze to a 40.3 second win over Mark Donohue driving a Penske-prepared Javelin in the 1970 Trans-Am opener on April 19th.

Laguna served as a basic training ground for the Plymouth team of Dan Gurney and Swede Savage. Sam Posey broke in his new Dodge Challenger over the same course. The new Chrysler entries were prepared in the All American Racing shops of Dan Gurney. The Dodge Challenger was turned over to Pete Hutchinson, the Chrysler engineer in charge of both teams' efforts, has used the knowledge gained from work done on the de-stroked 340 Chrysler developed for last year's Indy effort to produce what appeared to be a reliable power plant in the three team cars. The main problem appears to be one that any new entry can expect to face—development time.

Jim Hall's Chaparral Camaros were disappointing in their first outing with Ed Leslie, the number two driver, putting his car sixth on the grid. Jim Hall could no no better than tenth, placing his car behind, Milt Minter in a 1969 Camaro. The Chaparral cars seemed to reflect Hall's lack of experience with Trans-Am cars. While only time can tell, no one can discount the ability of Chaparral cars to develop a rapid machine.

The addition of the Owens-Corning team of Tony DeLorenzo and Jerry Thompson at Lime Rock will add both numbers and ability to the Camaro effort. Again the problem appears to be development time. The cars showed signs of being competitive in the early



practice rounds, but were pushed back on the grid by the efforts of Follmer in a Mustang, Gurney's Barracuda (4th) and Posey's Dodge (5th). The best Savage could do was eighth grid position.

Jerry Titus showed up with a 1970 edition of the Pontiac Firebird equipped with a de-stroked Pontiac Firebird 400 engine. The car looked good on the track but seemed down on power and handling during the race. It was particularly noticeable to spectators on the tight 90 degree left-hand turn onto the start-

finish straight.

The Penske team appeared with super sanitary cars and crew as usual, but not even the Penske charm could get the two cars going fast enough to steal the pole from P. Jones. Donohue eventually got down to 1:12.36, good enough for second spot on the grid, but it was still a half second off Parnelli's time of 1:11.90. Peter Revson never got things together on Saturday and had to settle for eighteenth grid position. His car was promptly trailered and sent back to the garage for a new engine.



# Laguna Seca

The Ford fortunes now lie in the hands of Bud Moore Engineering. They have one advantage over their competitors since they are dealing with 1969 Mustangs up-dated to 1970 specs. The engine is a basic 302 with Cleveland heads which provide better breathing through the canted valve arrangement which gave them a clear horsepower edge in 1969. Ford did try a "trick" in-line four-barrel carburetor which complied with the spirit of the new carburetion rule but required and expensive and unavailable intake manifold to make the engine go.

Somewhat ironic it was that the Moore team blew the engine in their transporter after solving the engine problems in P.J.'s car. I guess if you've seen one Ford engine, you've seen them all. Parnelli was quick to show that he was the man to beat in practice, despite a sliver of metal that had gotten into his left eye, resulting in blurred vision. Follmer needed some time, but finally got down to third spot on the grid with 1:12.72.

Milt Minter was the top independent on the grid in an American Racing Associates Camaro. His strong fifth place finish should hasten the delivery of the Chrysler engines needed to complete the ARA 'Cudas.

Technical inspection was in the able hands of John Timanus. The word from Westport headquarters of SCCA was that the rules were going to be enforced. The Penske cars passed tech on Friday night with no major problems. Saturday morning was a different story with the Bud Moore team meeting head on with Timanus over the legality of ducting air through the headlight openings to cool the brakes. Timanus won and the Mustangs appeared on Sunday morning with ducts in the front spoiler.

The only other major problems were with the new Camaros and Titus's Firebird. Both had to remove their rear spoilers.

Titus also removed the bare aluminum spoiler from the front of the car and replaced it with one taken from a street Trans-Am he was driving. The Firebird also had to run without the "shaker" hood scoop which could account for the power problems that plagued Titus during the race. Once Chevrolet and Pontiac produce the 8000 plus units required for homologation, neither Hall nor Titus will face these problems.

Race day dawned cool but sunny in contrast to the cold gray of the previous day. After two preliminary races, the Trans-Am cars lined up to take a 1:30 flag. The rolling start was clean with Jones leading Donohue over the top of the hill followed by Follmer, Gurney, Posey and Leslie. Titus, Savage, Minter and Hall were the other front-runners.

Hall pitted first after three laps with transmission problems and never emerged. Donohue obviously had his hands full trying to stay up with Jones. P.J.'s "school bus" yellow Mustang sounded strong. Follmer was not concerned with the two leaders due to the large, blue Barracuda glued to his rear bumper. Unfortunately, Gurney retired on the twenty-first lap with clutch problems.

The next interesting battle was between Posey and Savage. Savage was leading with Posey pressing. Sam remarked after the race that on about the tenth lap the front end "relaxed" and the resulting poor handling forced Sam to do the same. The trouble was diagnosed as a torsion bar problem.

While all this was happening, Peter Revson was picking off the back-markers one by one in a climb to eighth position. On the eighteenth lap, Revson tried to dive inside Posey at turn nine.

John Timanus (left) and Bud Moore (center) check the rule book on brake ducts while Fran Hernandez from Ford looks on.



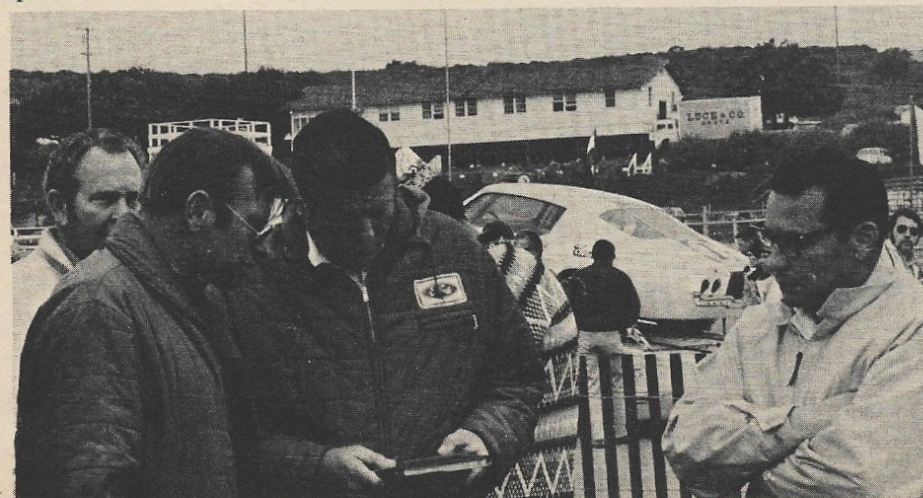
TOP: Parnelli Jones leads Mark Donohue through the cork screw.

MIDDLE: Dan Gurney in 48 tailgates George Follmer through a tight turn early in the race.

BOTTOM: Number 6 piloted by Mark Donohue smoothly rounds a turn tailed by Posey in his 77 Dodge Challenger.

Whether the two touched or whether Revson over-cooked isn't clear except that the number two Penske team car ended up in the hay bales. Peter then began using the same technique on various parts of the course, climaxing it with a classic spin entering the pits. His initial excursion had caused suspension problems that put the car behind the pit wall. Peter was no where to be seen for the rest of the race. Penske runs a tight ship.

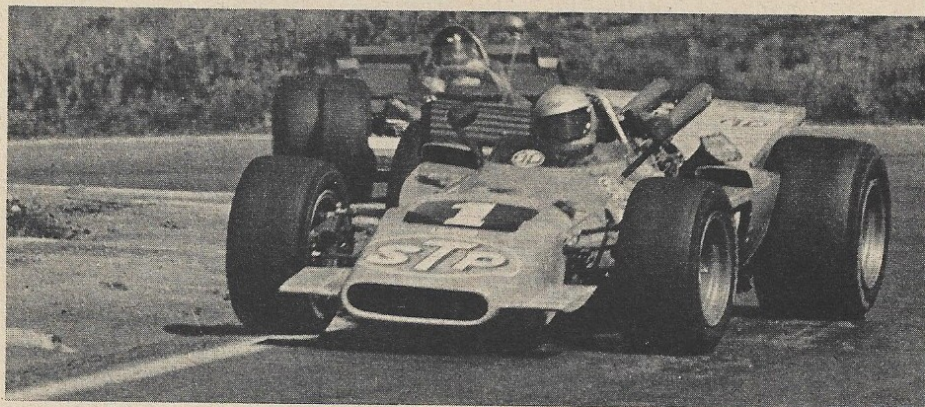
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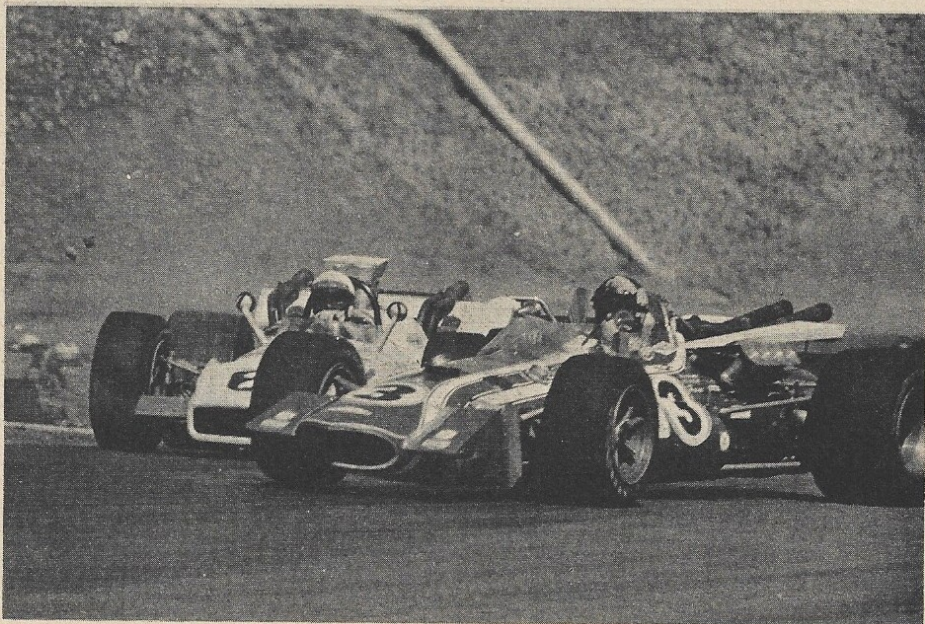


# INDY TYPE CARS ON SEARS

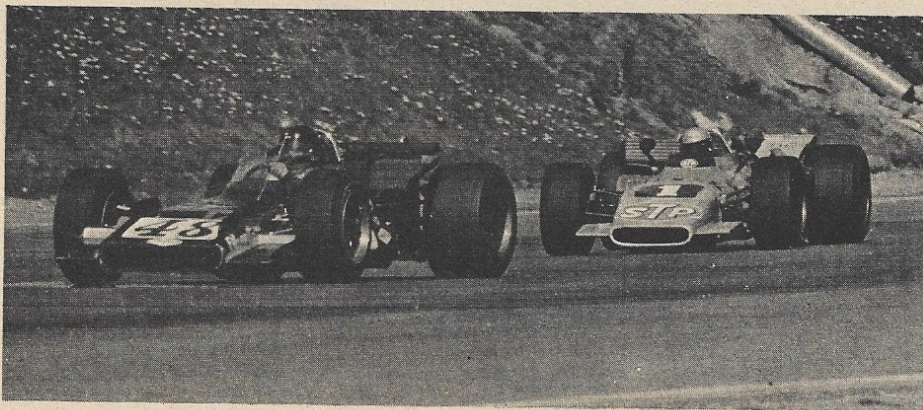
by Jeff Lee and Joe Price, Jr.  
(Photos by the authors)



Mario Andretti leads Dan Gurney through turn 3 seconds later Gurney took the lead and held first place from lap 4 through lap 60.



Max Dudley in his Chevrolet-powered "Dudley Trucking Special" tried hard to take Bobby Unser on the inside. At the end: Dudley, eighth; Unser, eighteenth.



At the finish the order was the same with Gurney \$14,975 richer. Andretti pocketed \$8,750.

UASC cars... You know, the kind that run on oval courses, like Indy... well, they're running on road courses now. Recently these cars ran the Golden Gate 150 at Sears Point International Raceway, near Sonoma, California. Necessarily there were a lot of changes to the cars before they could successfully run on the twisting, turning, rising and falling course. The drivers and their pit crews changed brake pads, gear ratios, tires and suspensions.

Some of the older cars have their bodies offset in order to permit faster oval lap times. These cars, naturally, had quite a problem adapting to the road course. Fortunately, there weren't too many of these offset cars left on the USAC circuit.

There was one relatively new car that had a heavy left side, Bobby Unser's machine. According to the mechanics, the offset was much more evident before they changed its suspension arms. The car appeared to be fairly well centered but a slight degree of offset was still visible to the eye. Besides the arm change, the mechanics also set the shocks softer to compensate for the hills.

Obviously the preparation of Bobby Unser's Ford powered car took considerable time. However, the oval-to-road modification in another car, the Heimrath Porsche Special which was Chevy powered, took only 30 minutes. The Chevy engined Ned Spath car did not change its suspension arms and was much offset. However, the camber setting and the toe-in adjustments were changed. The camber for running an oval track would have a toe-in on one side only, whereas the road course demands toe-in on both sides.

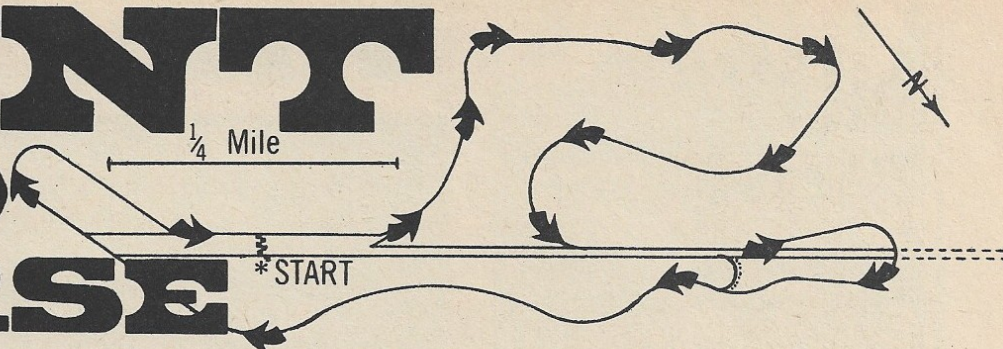
The crew on Bruce Jacobi's Offy were worried about the cooling of the car's disc brakes because the added turns and downgrades of the road course would cause severe heating problems. The answer to this problem was to switch to thicker pads. Most of the other cars solved this problem with large air scoops on all of the brakes.

The road course also made unusual demands on the four-speed transmissions with which all of the cars were equipped. The gear ratios and the final drive ratios were altered to meet the varying speeds of the Sears Point course. The crews arrived at the ratios by starting low and working upwards.

Turbo-charged cars, such as the



# POINT ROAD COURSE



Leader Card Special, had a unique problems. Their centrifugal type blowers work only at high speeds. This, their gear ratios had to be wider to permit the engine to run at higher speeds. It is generally agreed that this type of accessory on road courses is not good because of the narrow operating engine speeds and also because they suffer from a power lag. That is, there is a time lag between the time the accelerator is pressed and when power is developed.

Suspensions were raised by shock absorber changes, either of the whole unit or adjustment of the existing ones. Changes can be made in two ways; by tightening the adjustment nut at the bottom of the absorber, or by inserting wedges between coils.

A number of cars, after having their suspensions raised for the hill and dale road course, were still bottoming out not only at the limit of their springs but on the expensive and fragile body work. Tire manufacturers helped to solve this problem by flying out larger diameter tires from their plants. All of the cars had their suspensions raised to the maximum; however, there is a limit to how much the chassis can be raised. If raised too much, loss of control would result. The larger tires successfully lifted the body work off the road surface.

For an oval course, the left hand springs would be set to a lighter load in order to place the car in a neutral attitude in the left turns. In order to change a car designed primarily for an oval course to the road course, Indy car mechanic Bob Consani would first equalize spring tensions on both sides of the car. In fact, the loading on all four tires should be the same. Caster, camber and tow-in are set to mechanic and driver preferences. A heavier stabilizer or sway bar is installed to handle the hills and turns.

When all of this work was done, the cars were tested on the course. After five laps or so, the cars were pulled into the pits and temperature readings were taken across the thread of the tires. High temperatures in the centers of the tires indicated under inflation and thread cupping.

Conversely, if the edges of the tire were hot, over inflation was indicated. The temperatures of all four tires were also compared. It is essential that all four tires on a road course car have

equal loading. Any tire that is hotter than any other tire is not being loaded enough. This indicates to the pit crew that the shock absorber for that wheel must be tightened a bit more. After that is done, the car is run for five more laps and the procedure is repeated before qualifying the car. Under-loaded tires are hotter because of increased sliding and scrubbing.

Ready or not, almost all of the cars were out on the course at race time the exception was Mario Andretti's bright-red STP Special. Clutch slippage necessitated removing the transaxle an hour before the start of the race. The crew worked feverishly to get the car onto the grid. They didn't quite make it.

The pace car started the racers rolling on the pace lap. Half way through the pace lap, Andretti came roaring out of the pits and reached the rear of the pack when they crossed the starting line. Because someone was out of place, one more pace lap was called by the officials. Naturally, Andretti was in his appointed place the next time around.

Dan Gurney who started in the second row, won with an average speed of 87 miles per hour. On the third lap, he set a track competition record of 37 seconds for an average speed of 93.66 miles per hour.

The crowd of 38,000 saw only nine of the twenty-six starters finish. WCG

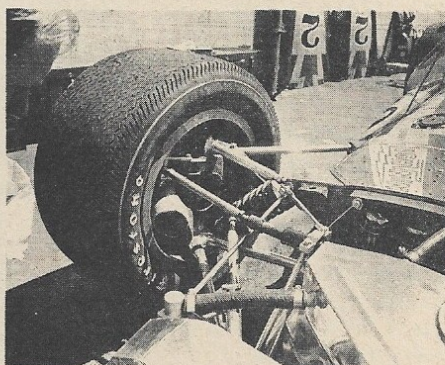


A slipping clutch forced Mario Andretti's crew to pull the transaxle just 45 minutes before start of race.

Andretti likes all kinds of racing; here the second place man watches a side-hack race which was held in conjunction with the USAC event for Indy type cars.



Winner Dan Gurney and his left foot which saw plenty of action on the 12-turn course. There were about 1,500 gear changes during the 150-mile race.



Large air scoops for efficient cooling of the disc brakes distinguished third place winner Al Unser's "Lightning Special."



# WCG VISITS THE CORD PLANT

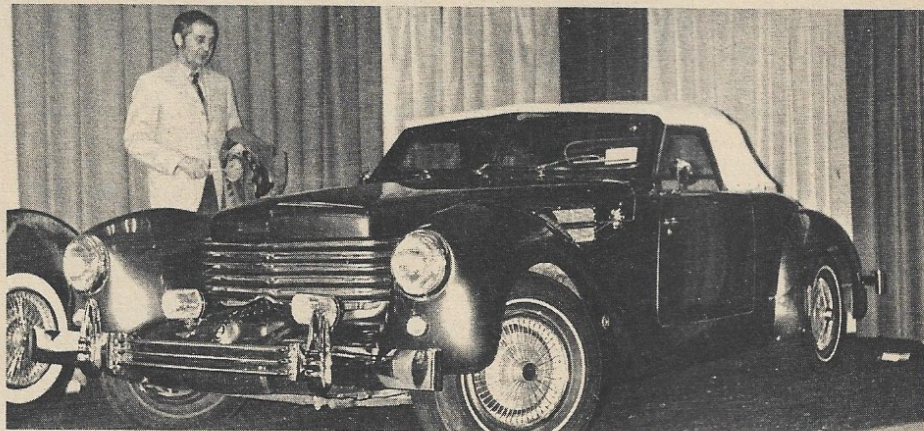
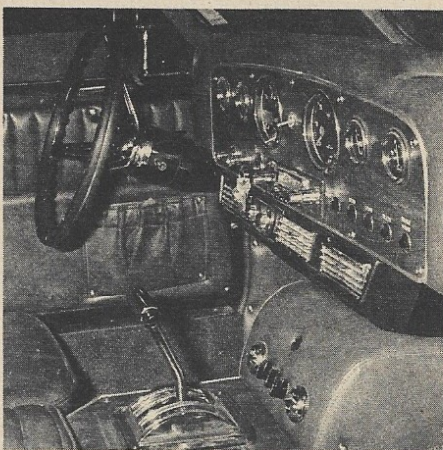


The repli-Cord is still in production despite frequent rumors to the contrary. To see for myself, I returned from the New York Show via Tulsa, Oklahoma where around twenty cars are being hand-built each month in a well appointed factory on the outskirts of Tulsa.

Howard Williams, president of the Cord Automobile Company exhibited a metallic-purple Cord on the third floor of the Coliseum and for most of the time during public hours, his open floor exhibit was mobbed. No one, not even the most hard core classic car enthusiast seemed to mind the stationary rather than retracting headlights which were one of the hallmarks of the original Cord 810 of more than thirty years ago.

Women were as enthusiastic about the little coffin-nosed speedster as were their husbands. Three days after the show closed, I was sitting in William's busy office in Tulsa which he represents in the Oklahoma House of Representatives. He's also financially involved in a multitude of enterprises. Constantly ringing, the telephone calls while I was there included three orders for Cords. One fellow cared not a whit what color he got — he just wanted a Cord "pronto."

Several dozen workmen were busily putting the finishing touches on six Cords when Williams led me into the plant of S.A.M.C.O., Inc., which manufactures the cars from the ground up except for the two or four venturi carburetor 302 CID Ford or 440 Chrysler Magnum V-8 engines, about the only options with the exception of air conditioning, suspension components, drive train and instruments, fittings, etc. Even the frame, an extremely heavy and rigid welded affair with full-width box section side rails and tubular x-members is made on the spot. Bill Landers, big and competent, is chief



engineer and general manager; he used to build Lear jets.

Two models are made, the Warrior and the Royale on wheelbases of 108 and 113 inches respectively. Curb weights are 2975 and 3250 pounds. With the 4-bbl 302 CID Ford engine, the Warrior does a quarter-mile from scratch in 17.8 seconds according to Landers. The CID Chrysler Magnum powered Royale cuts exactly 3.0 seconds off that figure, again per big Bill.

I have no reason to dispute these figures but I cannot say that I have done much driving in either model. Just as the driving was becoming enjoyable, the Oklahoma skies let loose and storm warning went up. Less than an hour later a tornado hit nearby Seminole a damaging and death-dealing blow. By that time we had gotten the test Cord under cover. Acceleration is outstanding

"A manually shifted gear box won't hold the torque of the Magnum," Landers said when I asked if a stick box is available. He may have a point because the Magnum develops 480 ft. lbs. torque at 3200 rpm. The 302 Ford mill is potent too with 230 ft. lbs. torque at 4800 rpm.

"Maximum speed? I asked.

"We don't talk much about that," Landers replied, "but two miles to the minute is easy."

I believe him after the brief sampling I had on the Cord's performance before the weather turned nasty.

The front-wheel-drive Cord 8/10 models are of the past. After around eighty-five of the Corvair-engined jobs were built, the switch was made to rear-driven V-8 power.

The ride is very sporting and reminds me a bit of the way it feels to ride in a Morgan. Stiff but very roadable. You feel the road, all of it, but that's the fun of a car like this. The suspension system employs leaf springs with telescopic shocks fore and aft and the front axle is a solid job like under the hot cars of the mid-thirties. Rides a bit hard, but then one is not likely ever to roll the new Cord either.

My personal objections are that there is no stick box available and the steering, even with power, is very slow. On this Cord, which could be called the 9/10 because it's about nine-tenths the size of the original Cord 810, steering on the order of two and one-half turns lock-to-lock would fill the bill. Despite this irritation, the new Cord is well worth the \$7,000 and up price, FOB Tulsa, where Howard Williams takes the orders and delivers the goods.

Next time around we get three days behind the wheel if the weather man doesn't intervene. JHW

WCG



# Reader's Survey

READERS, WE NEED YOUR HELP!

In order to keep improving **WORLD CAR GUIDE**, I would like to give everyone an opportunity to participate in planning future issues. Also, we really need to know something about each one of you, if we are going to do an absolutely top job on your behalf.

So, will you please take a few minutes and fill out this questionnaire and mail it in to us? For those of you who do so, our business department has offered to send a complimentary copy of a recent issue of **WORLD CAR GUIDE** to any friend you may designate.

Mail the completed questionnaire to me: Joseph H. Wherry, Editor, World Car Guide, 319 Miller Ave., Mill Valley, Calif. 94941.

## QUESTIONNAIRE

1. What cars do you own? (Give make, model and year) \_\_\_\_\_
2. In what type of community do you live? Large City  Small City  Rural area
3. How much do you have invested in your car? \_\_\_\_\_
4. Do you look upon your car  as a utilitarian vehicle or  as a hobby?
5. Will you please fill in the following? Age \_\_\_\_\_ Sex \_\_\_\_\_ Married \_\_\_\_\_ Single \_\_\_\_\_ If married, how many persons in your family? \_\_\_\_\_ Approximate annual income (an answer to this question is not necessary but would be helpful in our survey; all questionnaire material is kept strictly confidential and for survey purposes only) \$ \_\_\_\_\_
6. Total miles your family drives annually? \_\_\_\_\_
7. If price were no object, what car would you buy next? \_\_\_\_\_
8. What car do you actually plan to buy next? \_\_\_\_\_
9. Which of the following are you more interested in?  Imported Cars?  The Detroit Compacts?
10. Which of the following subjects especially interest you? (Please number from 1 to 11 in order of your preference)  Road Tests.  How-to Features  Antique Cars  Classic Cars  Vintage Cars  Horseless Carriages  Auto Show Reports  Small-Car Racing  Dune Buggies  The Expensive Imports  Experimental Cars.
11. Do you like your present car?  Yes.  No. Please state briefly why you like or do not like it \_\_\_\_\_  
\_\_\_\_\_
12. What regular features do you like best in **World Car Guide**? (Number in order of preference)  Tech Clinic..  Let Dave Do It.  Things for Cars.  VWCA Newsletter.  Readers Forum.
13. What other coverage would you especially like to see in **World Car Guide**? \_\_\_\_\_  
\_\_\_\_\_
14. Please check the following: Education:  High School;  College. Residence:  House;  Apartment.
15. What other car magazines do you read? \_\_\_\_\_  
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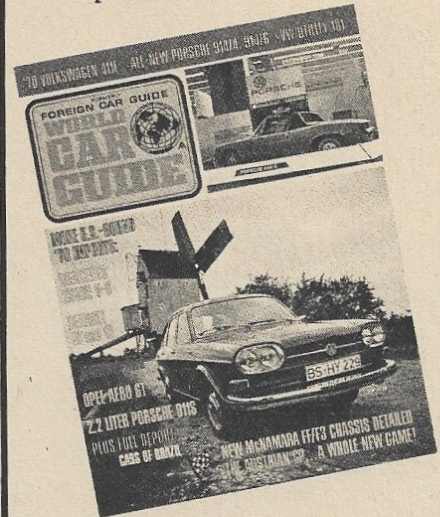
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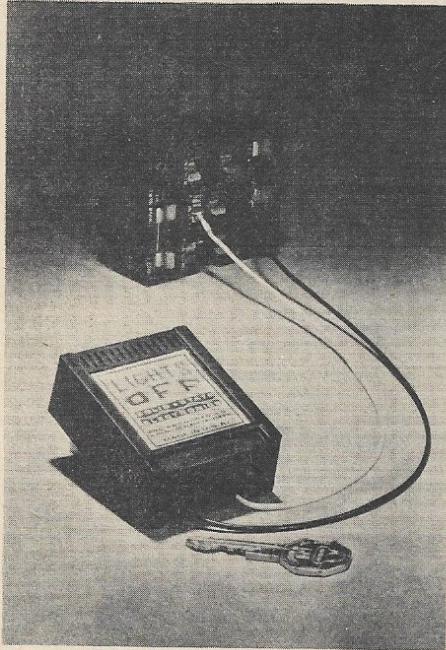
# Things for Cars

new products ideas services



This is an editorial report and not an offer for sale on the part of the publishers. Every effort has been made to ensure accuracy, but please note that prices and availability are subject to change without notice. Manufacturers who wish their new products considered for publication in this section should send a brief description like those below and a glossy photo to: World Car Guide, 319 Miller ave., Mill Valley, California, 94941

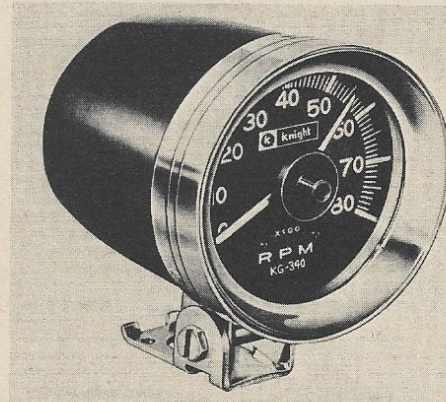
A low cost, easy to install monitor is now available to remind the busy-minded driver to turn off his headlights when leaving his car. The compact (cigarette pack size) 'lights off' can be installed in seconds without tools by pushing two special terminals into the vehicle's fuseblock. Similar to 1970 new car options, the solid state circuit moni-



tors the lighting system and buzzes when lights are on but ignition is off. Fits American cars 1963 through 1970. At \$3.95 the instrument has a full refund thirty day warranty. PRS Products Company, Box 222, Huntington Beach California 92648.

\* \* \*

The Knight-Kit Model KG-340 Tachometer measures engine speed from zero to 8000 rpm on any 4, 6, or 8-cylinder engine with a 12 volt electrical system. Knight-Kit's step-by-step instructions make assembly and installation of the tachometer easy for anyone. The unit may be mounted in any position, and the rotatable bezel adjusted for best visibility of the 3 1/4 lighted dial. An all-metal case and ruggedly constructed meter make the KG-340 highly resistant to shock and vibration. The Knight-Kit Model KG-340 Tachometer kit, com-



plete with all cables and mounting hardware, is priced at \$17.95. Sold in all Allied Radio Stores or by mail. Full description in Allied's 1970 catalog, free on request from Allied Radio Corp., 100 N. Western Avenue, Chicago, Illinois 60680.

\* \* \*

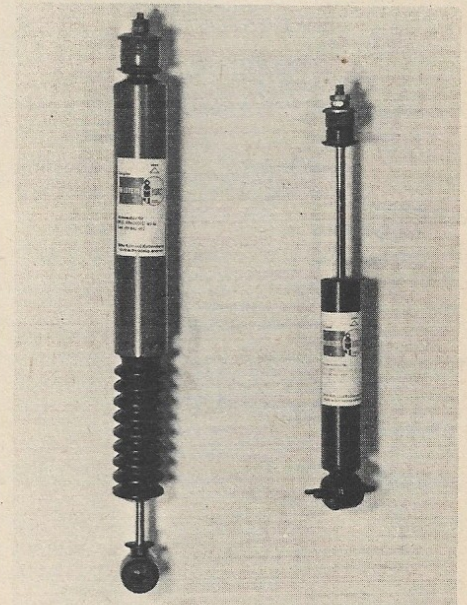
A new kit, no. 2131, to service auto air-conditioner compressors has been introduced by K-D Tools. Including all the tools required to service the latest model compressors, the "up-date" kit is a companion to K-D's no. 2013. Also introduced at the same time is a new air-conditioner service tool set, model no. 2130, to be used to remove and install General Motors seals and all expansion valve screens. Available individually, these three tools, ceramic seal seat remover, no. 2120; seal sleeve protector, no. 2121; and the screen remover, no. 2122, are included also in the "up-date" tool kit. Other tools in



the service kit are universal oil-level checker and seal kit, test plate, 90 degree adapter fitting, a seal-seat installer and remover, and an EPR valve screen remover and installer for Chrysler models. An instruction book is included. Inquire at your parts store or write: K-D Manufacturing Co., in Lancaster Pennsylvania 17604.

\* \* \*

You can get into plenty of arguments about the best shocks for competition: solved more often than not by fitting Bilsteins. Virtually all European FVs use



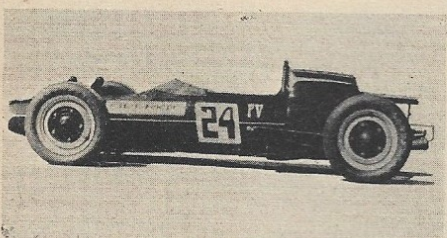
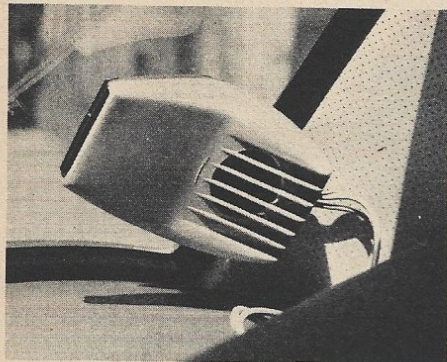
them, and certainly all the winners. After a year of potholes and highways (same thing in Europe) with four in the hack Fiat, Solinger suggests the Bilstein contention that ride around the bends is far more stable. More important for a road-going machine, the comfort level with their gas fluid patent is amazing. In the U.S.A. through: Delfosse Racing Cars, 986 Turquoise, Pacific Beach Station, San Diego, Calif. 92109.

\* \* \*

One thing you have to hand those Swedes—they know how to clear a misty or even ice sheeted back window in minimum time. It's called the Scan-son Fan Jet Defroster benefiting from those long Swedish winters of practice.



Blowing better than 6 ft/s the Scanson scores for a two-way switch to choose between cold air and hot. The turbine is fused to prevent overheating; the switch has two control lights. US address: Scanson Co. Inc., 286 Newton Road, Plainview, NY 11803



Take one Fiberkit Formula VEE, add a VW front end, steering box, engine, trans-axle and four stock wheels and you have an instant race car! The factory claims that a complete, race ready, Formula VEE can be assembled in a week-end with the Fiberkit components, and VW parts. The \$1,295 list price includes welded frame, fiberglass body complete with windscreen, shift linkage, pedals, exhaust system, gages, wiring, switches, brake and clutch cylinders, rear coil shocks, steering wheel, seat, gas tank and all necessary hardware for final assembly. No special tools or welding equipment is required to build a Fiberkit Formula VEE which was formerly known as McKnight Formula VEE. The Fiberkit VEE has a proven track record in SCCA races from coast to coast. For more information on the complete Fiberkit Formula VEE and

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JULY 1970

components, contact the manufacturer direct: Fiberkit Corp., 3713 Dalbergia Street, San Diego, Calif. 92113.

Chrysler Corporation is the first U.S. automobile manufacturer to make available nationwide an emission control kit for used cars. Shipments of the kits were made last week to Chrysler Parts Division depots in California, Delaware, Michigan, Illinois, Georgia, Texas and Kansas. The kit has been submitted to the California Air Resources Board for certification. Installation of the "Used Car Clean Air Package" in California may be made immediately. The kit is expected to provide substantial reductions of hydrocarbons, carbon monoxide and oxides of nitrogen from older vehicles. Installation time is about one hour. Combined with a tune-up at the time of installation, is estimated to achieve emission reductions on typical 1955 through 1967 Chrysler vehicles of 50 percent less hydrocarbons, 50 percent less carbon monoxide, and more than 30 percent less oxides of nitrogen.

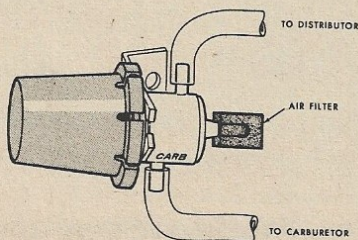


FIG. 1 VACUUM ADVANCE CONTROL VALVE

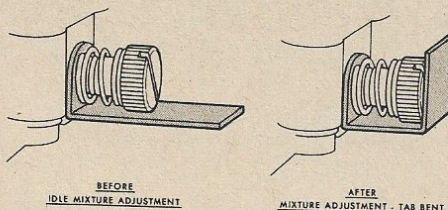


FIG. 2 - IDLE SCREW LOCKING TAB

Kit includes vacuum advance control valve, hoses and an idle screw locking tab.

(Continued on Page 46)

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# CHILE..

(Continued from Page 25)

Urus Indians who live on floating islands made of matted totora reeds. Then we crossed into Chile to face the long drive over the northern desert. The road was excellent and straight for fantastic distance but it traversed some of the most desolate country on earth. Gas stops were far between and careful planning is recommended.

After leaving the coastal city of Antofagasta, the car suddenly became hard to steer. We wrestled the wheel at reduced speed and finally limped into Santiago where sleet was falling; we had forgotten it was winter there. Finding the VW dealer, we learned the front part of the chassis had cracked. Our money

was almost gone but even more important, the only ship back home for the next two months left Valparaiso in just five days.

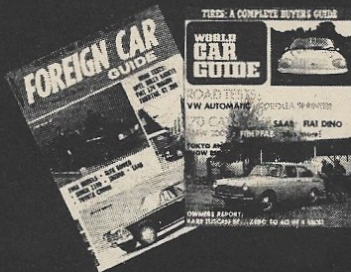
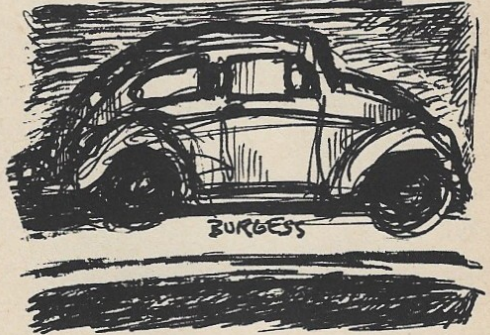
"No need to worry," smiled Raoul, the young service manager. "We fix in time." The next day I asked to see the car and Raoul pointed to a corner. There were the bare chassis and motor sitting on blocks. Raoul laughed at my worried expression. "But do not worry. Tomorrow it is finished."

I returned the next day full of apprehension. The car was finished and we drove immediately to Valparaiso after bidding Raoul farewell. For 10,000 rugged miles our VW had taken more abuse than we had a right to demand. After arranging for the bug's ship passage, we boarded a Boeing 707

for home.

As we took off, it seemed as if we should be squeezing into the bug and continuing on. It had taken a long time to save the \$3,000 and now I was broke again. But as we flew over the desert on our way to the North Bob and I felt much richer, in other more important ways.

WCG



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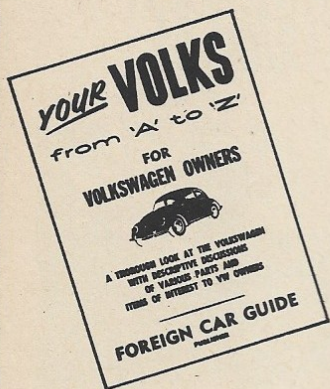
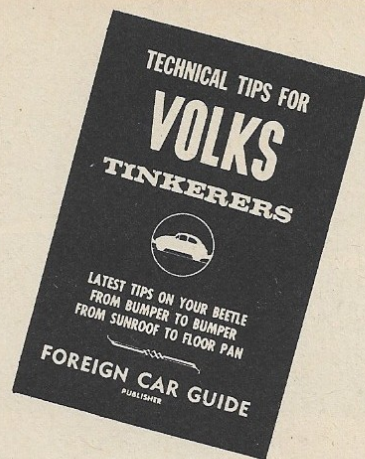
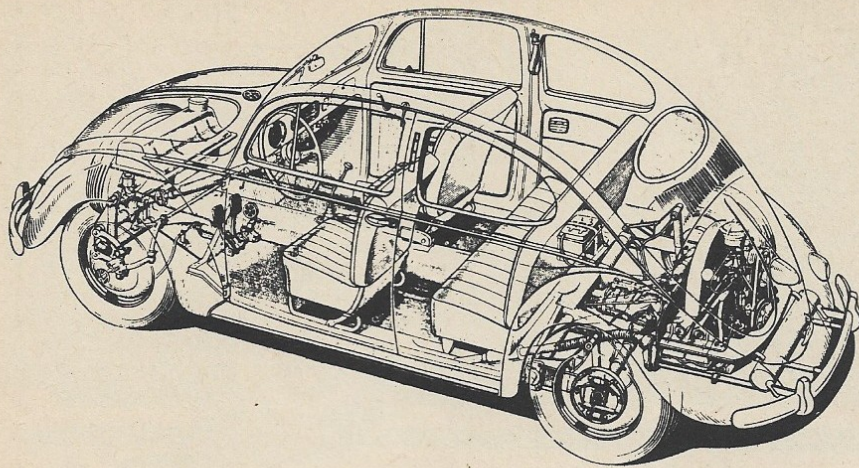
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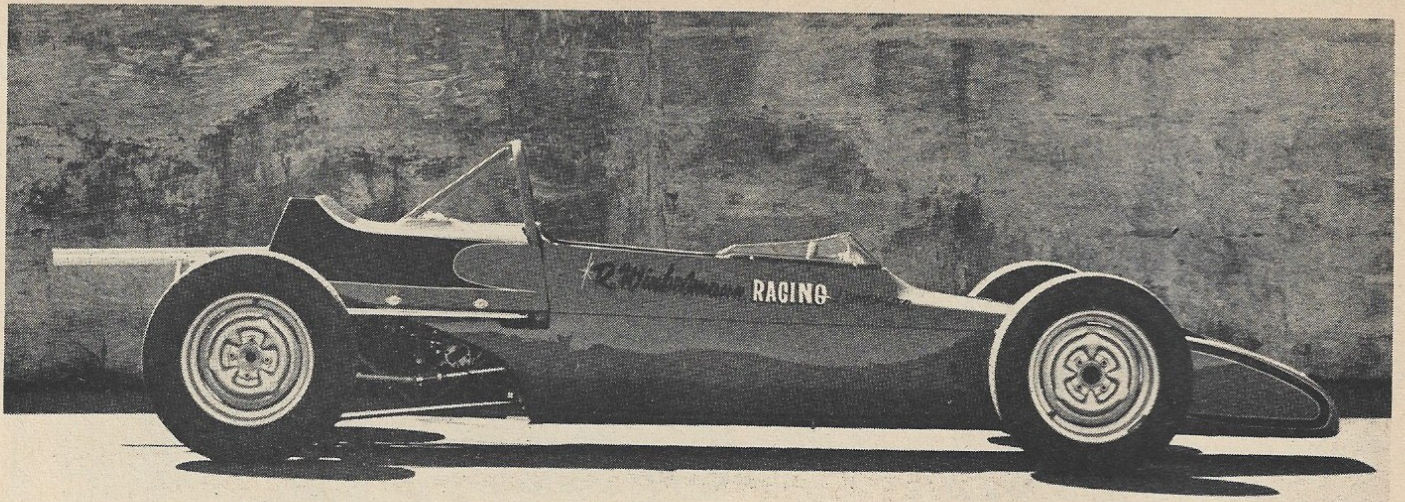
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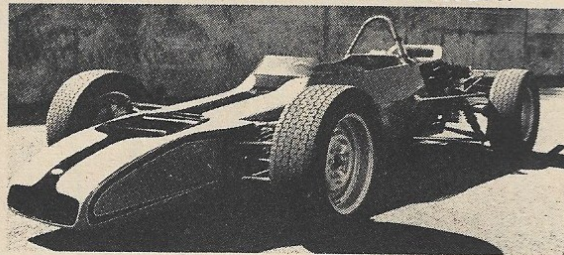
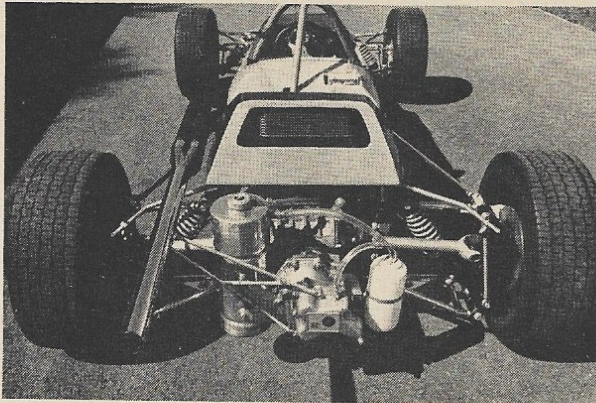
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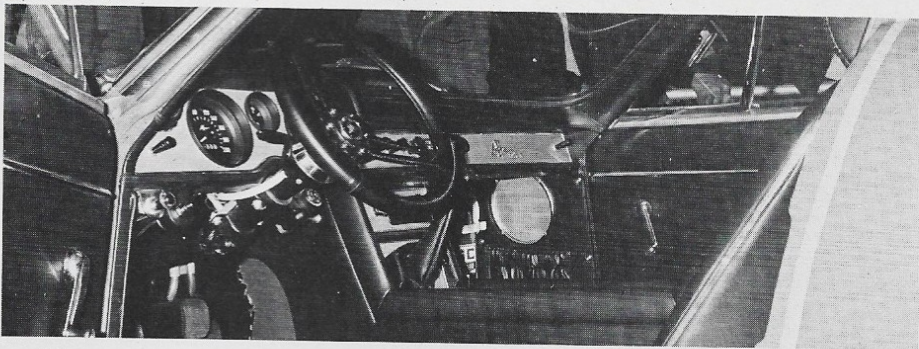
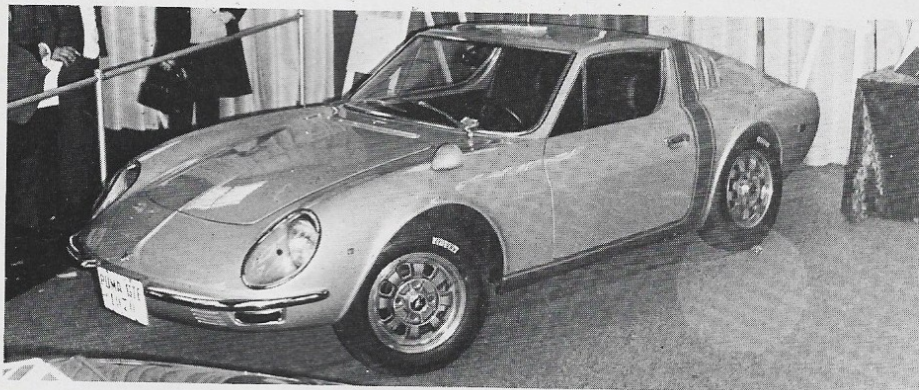
WORLD CAR GUIDE



# Puma of Brazil



NEW BREED OF CAT FROM  
SOUTH AMERICA WAY.....



The creation of designer Rino Malzoni, the Puma GTE was one of the outstanding new cars exhibited at the New York Show. In limited production, this high quality, VW-based two seater is the most ambitious production to date of Veiculos e Motores Ltda. of Sao Paulo, Brazil. Virtually unheard of in the USA, the Brazilian firm has been involved in assembly of European automobiles for a number of years.

Production began on the marque Puma in 1967. The first series was based on DKW components; in fact some models were called DKW-Malzoni. These latter were economy cars with Malzoni/Brazilian styling and they earned a good reputation in South America's largest nation.

Puma GTE, however, is a new breed  
JULY 1970

of cat. Based upon VW components suitably modified and produced in Brazil, this is a 110 mph Gran Turismo. In all probability hardly more than one-hundred will be imported into the USA during the remainder of this year which raises a question as to whether the announced price of \$3995, including all taxes, can be maintained. As the Puma becomes known, demand for this cat will grow.

Sr. Edgard De M. Piereck, an official from the factory in Sao Paulo, told me that his organization intends to enter the US market seriously which means they will avoid the costly errors made by the makers of the Argentine car, the unlamented Justicialista, which did not survive its American debut in the New York Show about fifteen years ago.

Easton International Corp. of Stamford, Connecticut is exclusive importer of the Puma and if the high level of interest by show viewers means anything, the Stamford firm will soon know they have a live one by the tail.

Beneath the reinforced fiberglass body—one of the smoothest jobs I've seen anywhere at any price—is a beefed-up VW chassis with heavy-duty torsional suspension fore and aft. Brazilian-built, the 1584 cc VW engine has special 7.8 to 1 compression ratio cylinder heads, inhales regular grade fuel through dual Solex carburetors made by Brosol, has high performance innards, tuned exhaust, is rated at 90 BHP by SAE standards and is rear-mounted of course. The drive train is completed by a 4-speed gearbox, single-plate clutch and 4.125 ratio gears in the trans-axle. Rack and pinion steering—bless the makers—gives a responsive two and three-quarters turns lock-to-lock of the well padded man size steering wheel. The driver's position is excellent, fabric and vinyl bucket seats are the real thing, and deep pile nylon carpeting extends wall-to-wall.

Complete instrumentation includes a 6,000 RPM tachometer; alas, however, these sporting dials are set in a simulated wood grained fascia panel. (This seems a pity as Brazil has some exotic and attractive woods.) The heater/de-froster unit, a handy fire extinguisher and vent windows complete the packaging of driver and passenger.

All engine emission standards have been met and USA-required safety devices such as flashers, turn signals, mirrors, belts and padded this and that are fitted. About the only option is a Blaupunkt radio in a center console at \$215.

Detailing of Puma is well executed and the car is intended for high speed touring. Distinctively designed wheels sans hubcaps are thoughtfully shod with Pirelli Centurato radials and the manufacturer states that Puma was... born for people who think young... who have gasoline in their veins... and whose reasoning clears at high speeds." Consequently the zero to 60 mph dig is said to be slightly less than 10 seconds and full bore brings a maximum of 110 mph.

WCG is looking forward to road testing Puma. At press time there is but the single copy in the hands of the Connecticut importers. If Puma goes as good as she looks, she should be quite a cat for "those who think young" and who have a Porsche appetite on a slightly thinner wallet.

A few more concepts like Puma, wider exposure to world markets, and Brazil could become a factor in world car markets by the end of the decade. After all, Sao Paulo's industrial potential is just beginning to be appreciated by Brazil's amigos up this way. JHW





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# READER'S



# FORUM

## WCG Now, FCG Name No More

Dear Sirs: I used to buy FOREIGN CAR GUIDE. Is it still published? I miss it. No one seems to write much on VWs like FCG used to do. VW's new Owners Manual tells very little about upkeep. Sincerely yours,

G. Lyman Eden  
 159 Francis Ave.  
 Hudson, Florida 33568

### To our Readers':

We are always happy to receive correspondence. However, because our staff is small, it is impossible to answer every letter personally. Letters often arrive asking questions on subjects which have been covered completely in recent issues of WCG. Will you help us help you by concisely stating the question as briefly as possible. Out of the hundreds of letters we receive, we can answer only those which appear to be of the widest interest. Many thanks, the Editor.

*Glad you wrote, Mr. Eden. YES, we are still publishing every month but magazine is now WORLD CAR GUIDE; Same sort of contents with lots of good VW material in each issue. Name changed -- nothing else. We also publish the VOLKSWAGEN OWNERS ANNUAL; new 1971 edition will be on newsstands this autumn; grab one in late October for a feast. You sound as if you're a genuine VW buff. If you're a home mechanic and a photographer, perhaps you would like to try your*

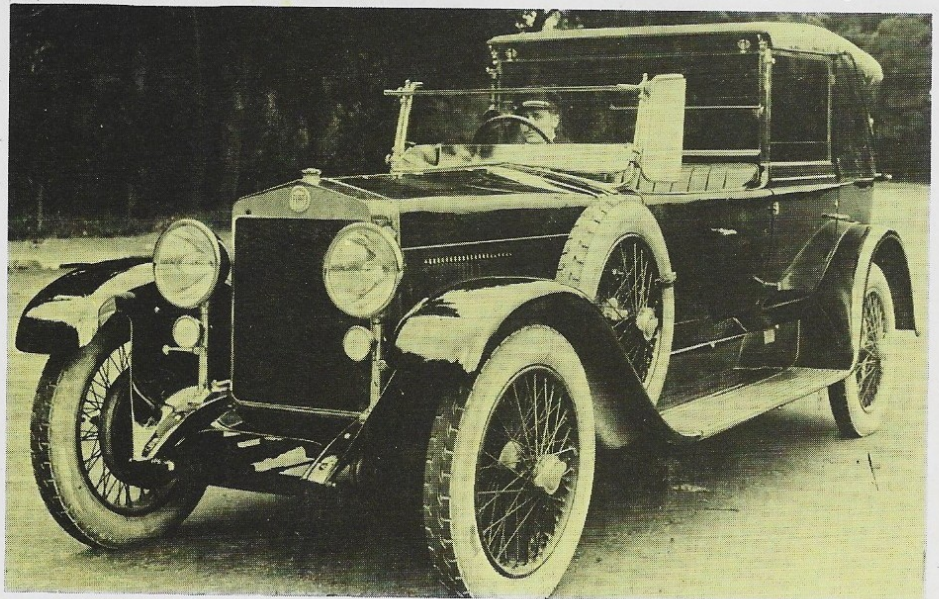
## Fiat 124... (Continued from Page 20)

Almost any red-blooded gal who enjoys driving would like the Fiat. On the contrary, if your woman refuses to shift for herself, if a car to her is nothing more than a transportation object, then keep her in the dark especially if you are a car buff and enjoy the fun of driving as much as the convenience of not having to walk.

gondola if you're in the market for a car of this size and class. Fiat was making cars before you were born unless you're almost too old to drive.

Drop in again next month when WCG has more space for road tests and catch a trio of compact front-wheel-drive family cars. Right now, however, catch the photo of a Fiat which was popular with the rich blokes around forty-six years ago.

In any event, don't ignore this Latin



The first FIAT was built in 1899 making this Turin-based Italian firm one of the oldest continuing manufacturers of automobiles. Prior to World War Two, some Fiats were large, luxurious, expensive and classically elegant. This 1922-24 Tipo 519 had a chassis only price of about \$4,400; coachwork like this town car body was custom produced by Europe's top builders. The 4.8 litre, 6-cylinder engine developed 77 bhp at 2600 rpm; 5 main bearings, aluminum pistons, 4 wheel hydraulic brakes. Top speed: 75 mph.

WCG



talents with a how-to maintenance feature, many photos, for this VOA. Check ideas with us. We can always use another good writer and we pay regular rates and you get a byline. How about it?

### Formula Vee

Dear Sir: I need information on Formula Vee as I want to build one. Maybe you could send me an address I can use. Thank you.

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Box 1, Naval Station Kodiak  
F.P.O. Seattle, WA 98790

We are delighted to send you the best address yet about Formula Vee. Write to Formula Vee International (the Editor went to Junior High School in same town.), 1347 Fairmont Street, East Wenatchee, WA 98801.

### Mid-Engine VW Adaptors

Dear Sirs: I am particularly interested in adaptions of the VW in which engine is placed in front of rear wheels.

James C. Small  
3148 Fergus Drive  
Dayton, Ohio 45430

Suggest you check Road Test of new Porsche 914 in May WCG, Jim. The 914 uses VW 411E injected engine. Also watch for the 1971 VOLKSWAGEN OWNERS ANNUAL this autumn. You'll like it.

### MG, Triumph and Fiat

Sirs: Could you please send me information on the 1970 MG Midget, Triumph Spitfire and Fiat 850 Spider.

Walter D. Schwidezky  
711 Calspar Street  
Claremont, CA 91711

Unfortunately, as much as we'd like to be able to do so, it is humanly impossible to send "information" (what kind?) on an individual basis. Please see "Buyers Guide to 1970 Imports" in May WCG. MG Midget is covered therein as is Spitfire. The March '70 issue includes a Fiat 850 Sport Racer road test which should help you. In this issue we test the Fiat 124 Station Wagon.



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"...And how much does it cost without the motor?"



# COVER CAR

## MONTEVERDI FROM SWITZERLAND



If you happen to have a \$21,800 burn in your pockets, the new Monteverdi GT from Switzerland will separate you from your wad and from the automotive masses.

Swiss coachwork is well known to enthusiasts around the world, but the idea of Switzerland manufacturing automobiles seems to stimulate a Q and A period. At least this was the impression gained at the New York Auto Show. Curiously, the importers of the magnificent Monteverdi were unaware that Switzerland has an enviable tradition, among the smaller nations, of motor car building. First Swiss horseless carriage technician was physicist Isaac de Rivaz who patented his liquid hydrogen powered anachronism in 1805; it actually ran, spasmodically. In this century's early years there were ten automobile manufacturers in Geneva alone. All told, Switzerland has had more than three score indigenous marques including Dufaux, a roaring sports racer, one of the world's first straight-eights. In pre-Kaiser war years, the marque Pic-Pic (sometimes called Picard-Pictet after its makers) was a rarity with 4-wheel brakes. The Pic-Pic was a frequent, though not overly successful, contender in grand prix events, was one of the world's fine cars for its day, is often erroneously credited to France where some were license-built, and was initially engineered by Marc Birkigt, the Swiss-born genius who masterminded Hispano-Suiza of blessed memory. Shown herewith, courtesy of the Swiss Institute of Transport & Communications in Lucerne, is a 1910 Stella limousine, a marque built in respectable numbers in Geneva during 1902-15. Note the fashionable round radiator and

the then unique curved glass in the windshield.

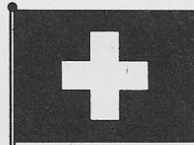
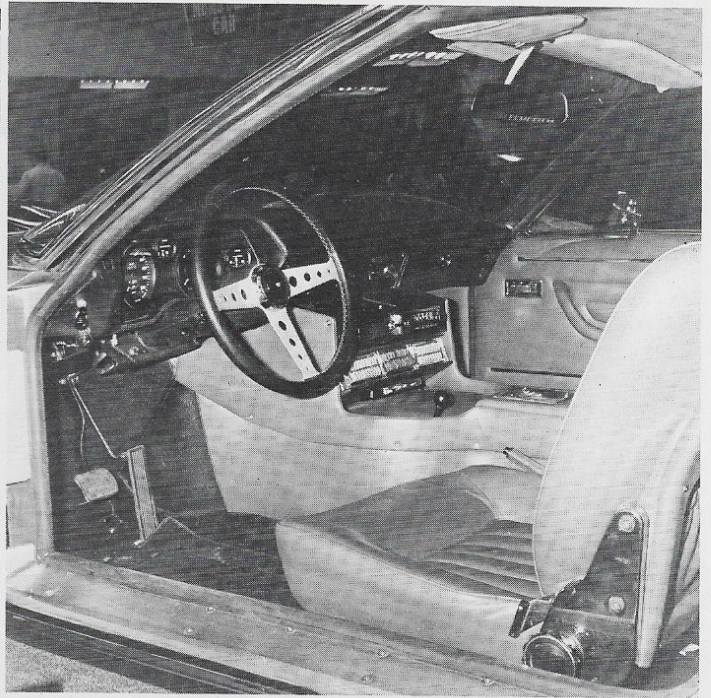
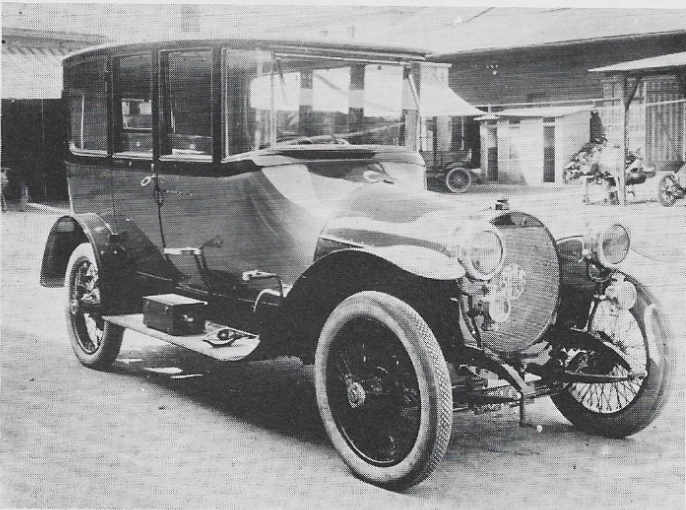
Other historic Swiss marques have been FBW, Berna and Saurer; the latter pioneered diesel engines in motor vehicles. These three have survived and are today among the finer European commercial vehicles although private cars are no longer made. Since the Hitler war, the only Swiss marque of importance has been the Enzmann, VW-based sportster rarely seen outside Switzerland.

In 1967, however, the well known racing driver and engineer Peter Monteverdi, of Basle, began limited production of his new marque. The prototypes caught the fancies of well-healed enthusiasts and European shows have been the brighter because of the car with a name sounding like an opera composer. Maximum performance, safety and elegance were Monteverdi's aim; these he has achieved. The massive frame is built up of square section steel tubing welded into a space frame incorporating a roll bar. The front suspension is by parallel wishbones, coil springs and stabilizer bar; the rear by de Dion tube, upper and lower trailing radius arms and coils. Adjustable Koni shock absorbers, Dutch products, are employed fore and aft. Wheels are 15-inchers with 7-inch rims; radial tires are used as are dual circuit, servo-assisted disc brakes by Girling of Britain. Four of the most comfortable leather-upholstered bucket seats imaginable, deep carpeting, a central console housing the selector lever for the 3-speed Torqueflight transmission and the standard air-conditioning and radio controls befit the luxurious character of this ultra fine GT.

With wheelbase of 104.7 and overall length of 189 inches, better than average ground clearance of approximately 6 inches and coach-built body by Fissore of Savigliano in Italy, the Monteverdi will be a car to contend with in the Gran Turismo category. Although only about twenty will be imported this year, fortunate clients will have no maintenance problems because the power plant selected is the big 7.2-litre, 10.1 compression ratio Chrysler 'Magnum 440' which delivers 375 BHP at 4600 RPM. Officially the Tipo 375L, the new GT which rivals Aston-Martin, Jensen (see New York Show report) and similar machinery, has been clocked at 6 seconds from zero to 60 and at 155 mph maximum. Handling is reported to be with few peers, a requirement of its ex-racing creator. Weight empty is just over 3,600 pounds. Altogether quite a car, even at approximately 6-dollars per pound, and a worthy, modern successor to the little known but splendid cars the little alpine nation built until the 'thirties. We've been promised a test drive; until then, the factory performance figures must suffice; they sound reasonable considering the specification and our personal nit-picking examination during the big show.

The merchant to manipulate, to get one's name on the waiting list for this delectable vehicle, is Mr. Edgar A. Jurist, president of Monteverdi Cars of America, Inc. in Nyack, New York. His attractive assistant, Mrs. "Liz" Gretschi, graces the yellow Monteverdi on our cover. Old car enthusiasts should drop into the Nyack establishment whether or not they have the required bundle because Jurist also operates Vintage Car Store, Inc. in Nyack, an emporium





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where even an 1899 Panhard-Levassor can be seen and purchased. Even more interesting at Jurist's "Store" is the 1908 Mors grand prix machine with a

bellowing 12-litre engine—just the thing for Sunday afternoon shun-piking.—JHW.



"...But it's great on gas."



# Laguna...

(Continued from Page 29)

Last year's Trans-Am series was probably won in the pits. When SCCA banned Penske's refueling rig, he then homologated a brake with only four lug nuts. The result was twenty percent faster tire changes. This year everyone has to use 11 gallon NASCAR type fuel cans and all the spectators were awaiting the first pit stops for the Javelin and Mustang teams. The first stop told the story. Follmer's Mustang was in and out in 22.5 seconds with two new tires, while the Penske crew took 25 seconds to refuel and reshod Mark's Javelin. It looks like the Bud Moore crew has done a lot of work since their fiasco at Sears Point last year.

At the half-way mark Jones had a healthy thirty second lead over Donohue with Follmer, Savage, Leslie, Posey, Minter, Titus and Craig Murray following in that order. Further into the race, Leslie retired with a broken wheel, eliminating any hope for Chevrolet. Minter, with a smooth, consistent drive, had passed Posey to take over fifth position.

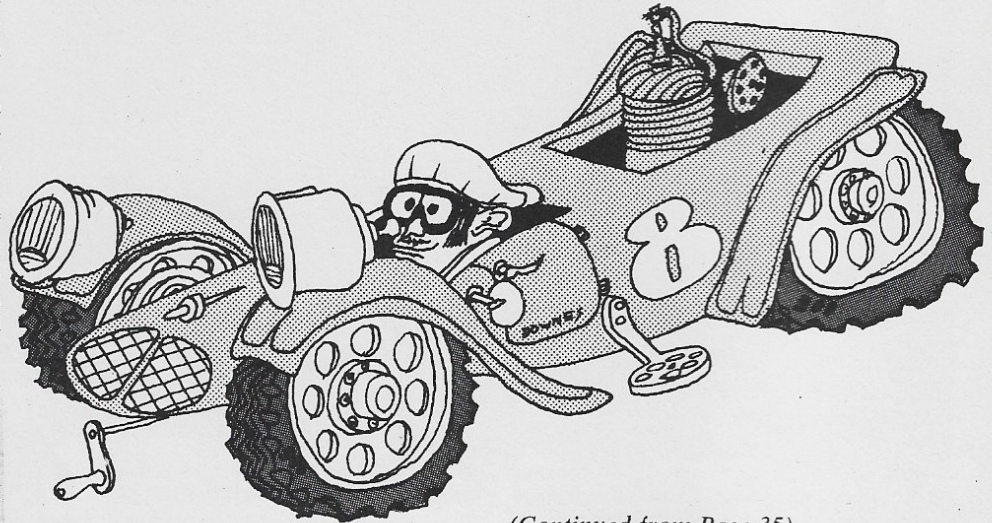
At the finish, Jones had a commanding lead, though Penske could be seen signaling Donohue to slow down. Third spot went to Follmer's Mustang followed by Savage in the number two AAR Barracuda. Savage drove a fine race and certainly showed that the "Cudas can't be counted out yet." Fifth was Minter trailed by Posey's Dodge Challenger. Titus took seventh, Craig Murray in a Camaro was eighth with Joe Chamberlin and John Siva in Camaros rounding out the top ten.

Laguna Seca proved that Parnelli Jones is going to be the man to beat.

Donohue's Javelin was quick, but not quick enough. In retrospect, it should be remembered that the Penske Camaros were not winners the first time out but Penske wasn't being paid two million dollars to win either.

Keith Black and Pete Hutchinson were pleased with the performance of the Chrysler engines but only more racing will get the Gurney and Caldwell cars to the point where they can stay with the Mustangs and Javelins. Jim Hall's cars looked good, but just didn't perform as well as they looked.

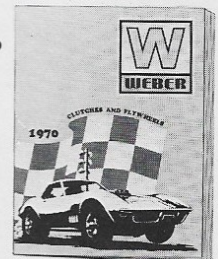
The battle cry for '70 seems to be "Follow that school bus."



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(Continued from Page 35)

## Things...



The new Catalog of Weber Speed Equipment is now available, completely new from cover to cover and designed for easy readability and use. A quick-reference Application Chart lists year, car model and engine cubes; clutch, flywheel and disc part numbers are shown for each. Additional pages are devoted to suggested use of these products; whether for street, street/strip or all-out competition. Five new discs are featured, as are listings for a brand new aluminum flywheel with special bronze "web" insert for greater heat dissipation. In addition, a highly detailed 5-page article on clutch removal and installation, complete with step-by-step how-to-do-it photographs, is must-reading for anyone about to undertake the job. Loaded with technical information, the new Weber Catalog is now available from the manufacturer, complete with decal for only \$1. Weber Speed Equipment, 310 S. Center Street, Santa Ana, Calif. 92703.

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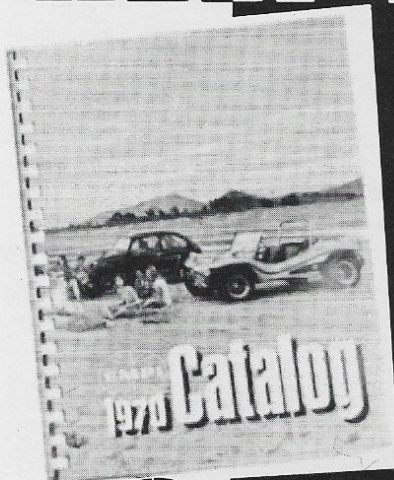
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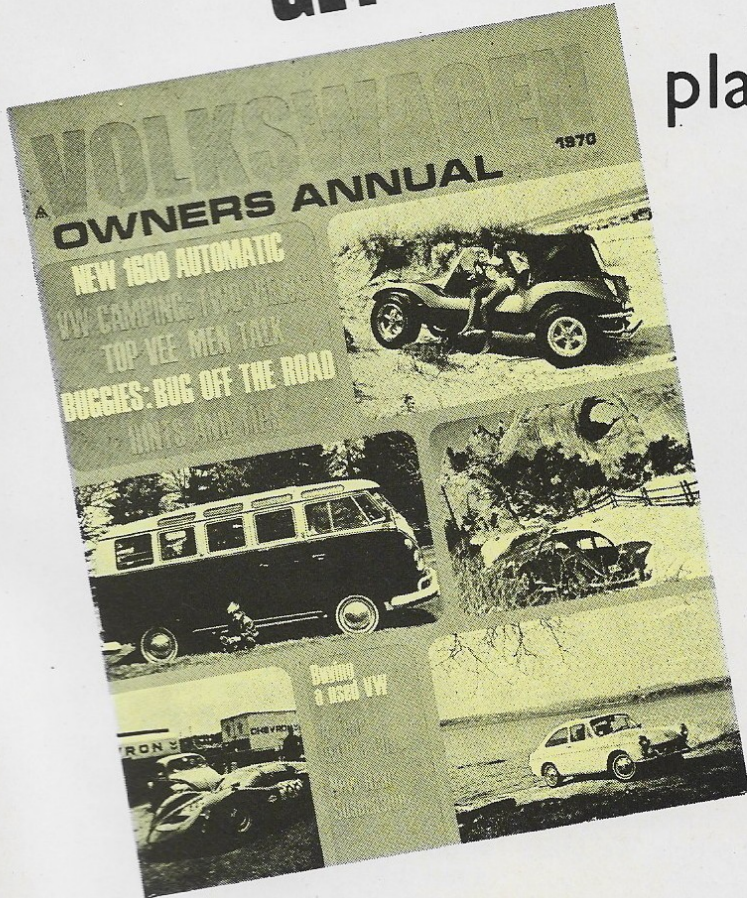


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WCG 770



# The only thing standing between you and a Renault 16 is a little information.



It has been written that the ride you experience in the Renault 16 "can be compared only to that of the Mercedes, Rolls, or Citroën."\*

Colin Chapman chose the engine of the Renault 16 for his Lotus Europa.

And the quietness of the Renault 16 (which goes for a mere \$2,395†) comes only in cars costing thousands more.\*

## Someone is sleeping in Detroit.

Road Test is an impartial magazine. At the time of this writing, it did not even take advertising. After exhaustive tests on the Renault 16, Road Test wound up suggesting that "all the automotive designers in Detroit be ordered to spend two weeks behind the wheel of this car in the hopes that their dormant imaginations might be sparked to life." Thank you, Road Test.

## A textbook for Britain.

Stirling Moss has written: "There is no doubt that the Renault 16 is the most intelligently engineered automobile I have ever encountered and I think that each British motor-car manufacturer would do well to

purchase one just to see how it is put together."

The Renault 16 happily consents to offering a course in Renault 16.

## Where we made our points.

Needless to say, our car has impressed a lot of people. We'd like to tell you why.

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And finally, the sound of a Renault 16 running is very close to silence.

## Extracurricular reading.

If any information still stands between you and a Renault 16, you can have Road Test's full report on it by sending in the coupon below.

But if you've read this far, we suspect you're at least ready for a test drive.



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