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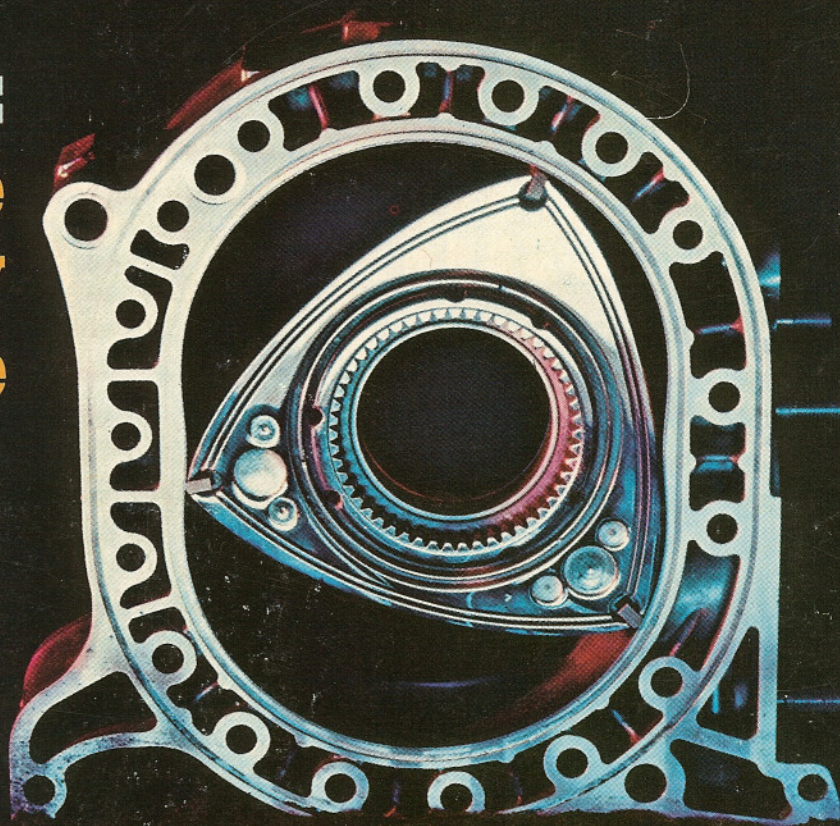
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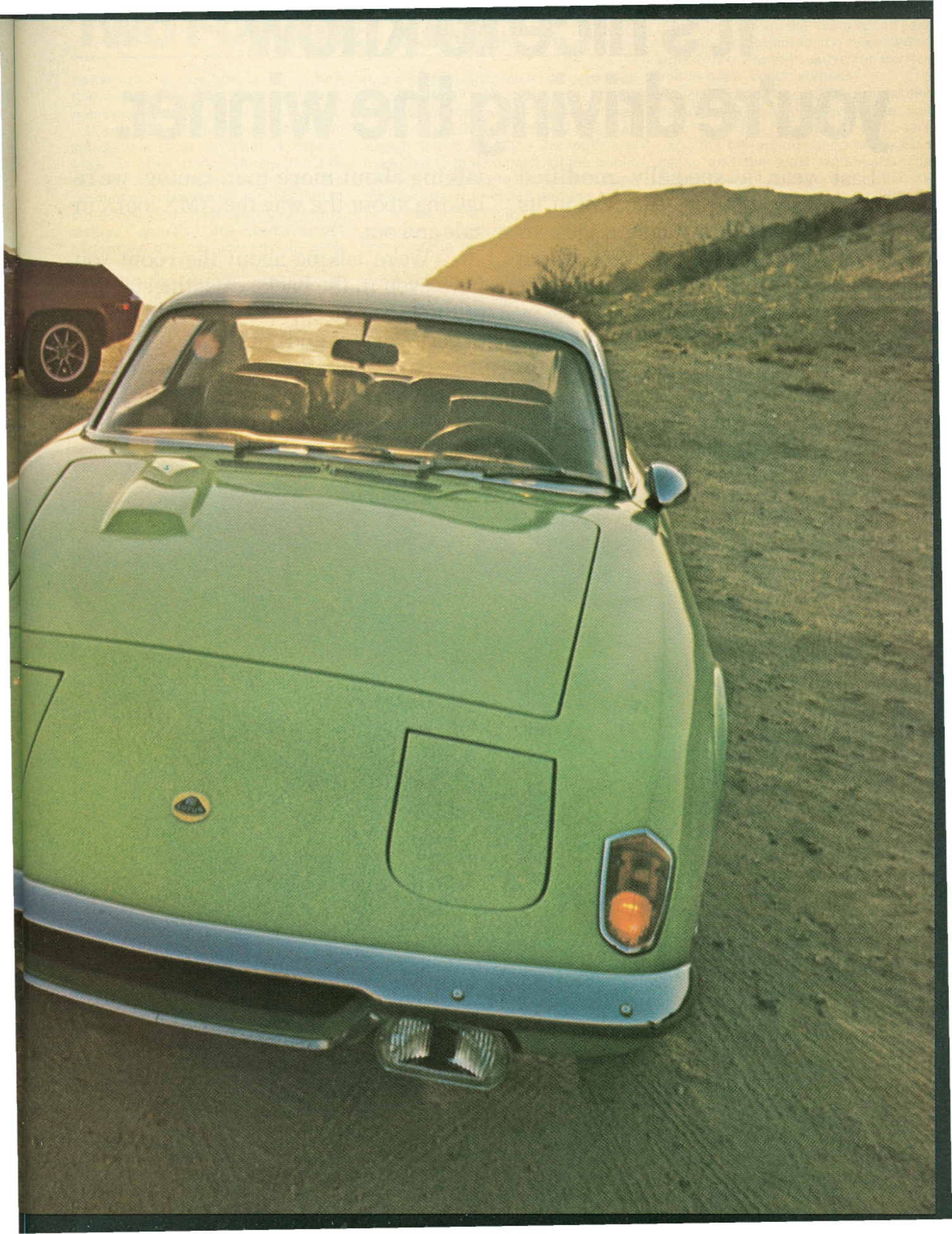


Two For The Road: Something Old, Something New...

The Lotus Plus 2 becomes the Plus 2S,
the Europa gets redesigned and both
get the Big Valve engine/By John Christy

It has been said that ordinary men build ordinary cars. But Anthony Colin Bruce Chapman is not an ordinary man and he does not build ordinary cars. In terms of sheer roadability alone his are probably the most extraordinary cars in the world. On every Lotus since the early Sixties there has been a very special metal plaque. Originally it read: "World Champions 1963." During ensuing years the plaque has grown to accommodate the years 1965, 1968 and 1970. They're going to have to make it bigger now in order to add 1972 to the list. That's five times in 10 years that Chapman's Lotus Grand Prix machines have taken the Formula One constructors' championship, a batting average no other manu-
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constructors' championship, a battling average no other manufacturer—not even Ferrari—has ever achieved.

If one were to draw the conclusion that all this racer mentality is kept at work on other things during the off-season, a brief association with the product would prove the justification of the conclusion. Each and every successive "street" Lotus seems to get better than the last—almost with each individual car. It wasn't always thus; all the leftover cerebral horsepower seemed to go into design but the realization of the design often left much to the buyer to perfect. No more.

In recent years the off-season Lotus brainpower has gone into detail improvement rather than radical changes in basic designs that are already the class of the class. The result is that the eventual customer gets one of the best sports cars in the world . . . rather than one of the best *designs* in the world

and a bolted-together *kit* of parts with which to build or finish it.

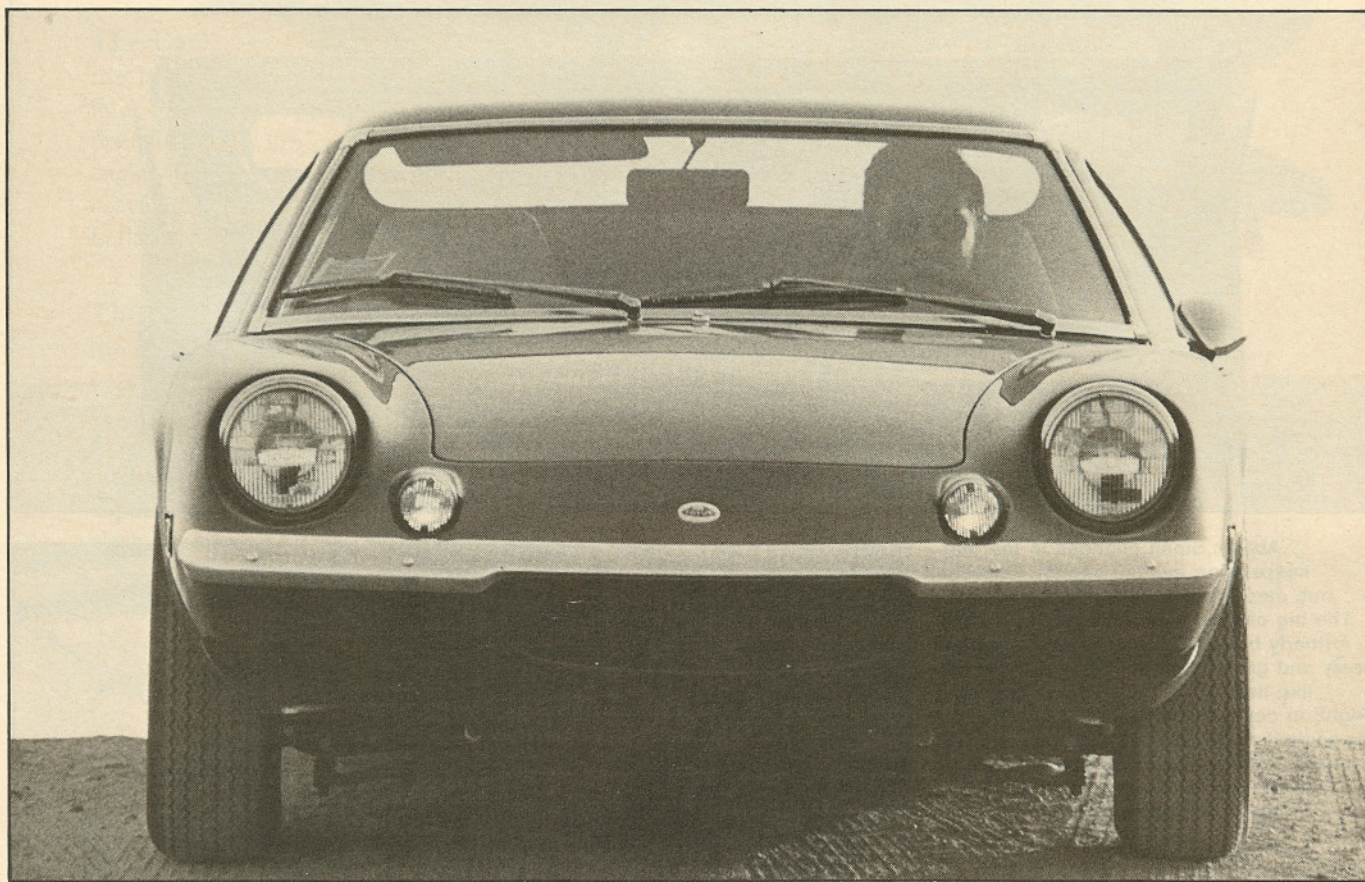
Not since the days of the Bugatti has so much racing technology been allowed to rub off on a car built and marketed to that segment of the public with the sensibility to forego status and size for sheer precision and the ability to handle it. You may acclaim the virtues of such devices as the Ferrari and the Porsche in the same regard, and rightly so, but the fact remains that their racer rub-off is primarily confined to metallurgy and technique, the cars they race bearing little or no resemblance to the cars they sell.

The quality metamorphosis came with a move several years ago to a new plant at Hethel, near Norwich, England, where a unique incentive plan was begun. Like all great ideas, it is a fairly simple thing. The production department has in effect to "sell" each car to the sales department. There is an

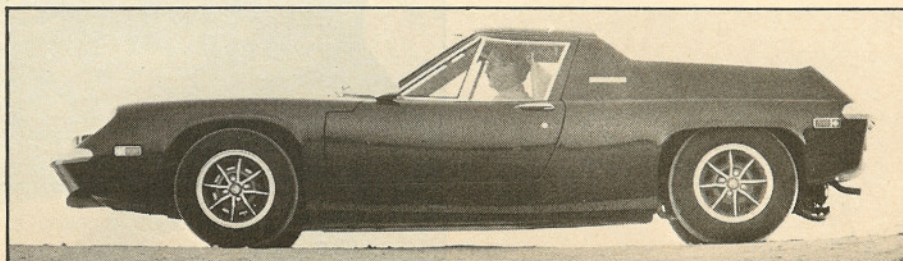
over-riding bonus that rises or falls respectively with the number of cars accepted or rejected by sales. What work force wouldn't strive for perfection in such circumstances?

With the quality control in hand the detail improvement began. The first result was the Elan Sprint (*MT*, January) the fifth modification of the Elan series and the most significant. The most apparent change was in the engine, a new unit referred to as "the Big Valve" for the eminently logical reason that it has 25% more valve area than the previous engines. The work of Brian Hart and Tony Rudd (formerly of BRM), the new engine is a thing of wonder in that all the modifications—large intake valves, cams with more duration and lift, bigger ports—are of the kind that normally could be expected to make it more fussy, but don't. Instead the power and torque come in very low on the rev scale and pull in a long, smooth rush all the way to the peak of 6500 rpm. But that wasn't all. There were enough minor changes made to

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The new Twin Cam Europa is loaded with detail changes as well as having the Big Valve DOHC Ford engine stuffed under the deck. The sills have been lowered to increase rear vision, the floor is lower and the foot-space is larger to accommodate taller drivers and bigger feet. Alloy wheels and 175 x 13 tires are optional and desirable. The quickest, most nimble of Lotuses, it's as close to a racer as anything on the street.



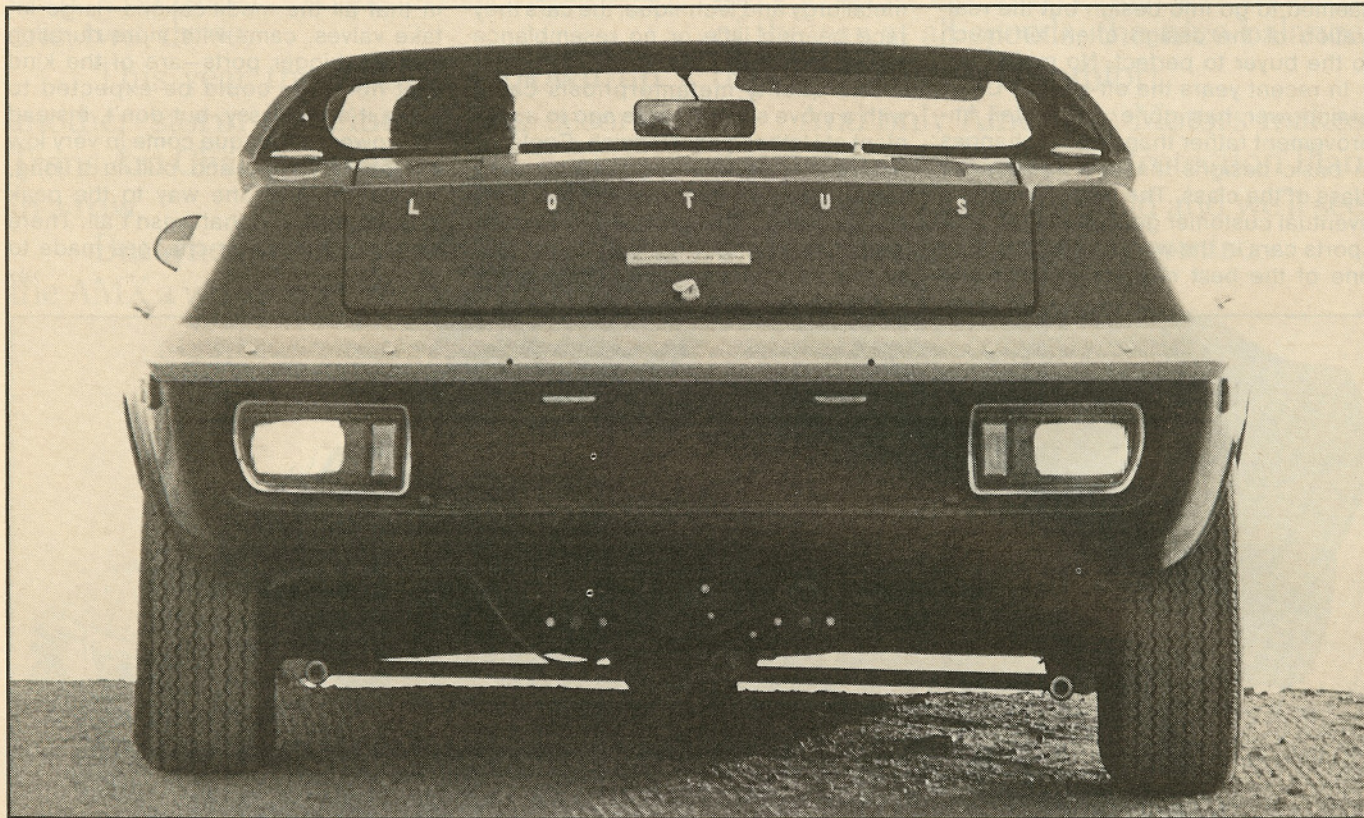
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suspension, component location, running gear and body detailing as to make it a different and significantly better car than its already delightful predecessors. In one clean sweep, Chapman and company had improved performance, handling and quality, and at the same time met all the applicable safety and emissions standards through 1974, a feat that some other titans of the industry seem unable to accomplish.

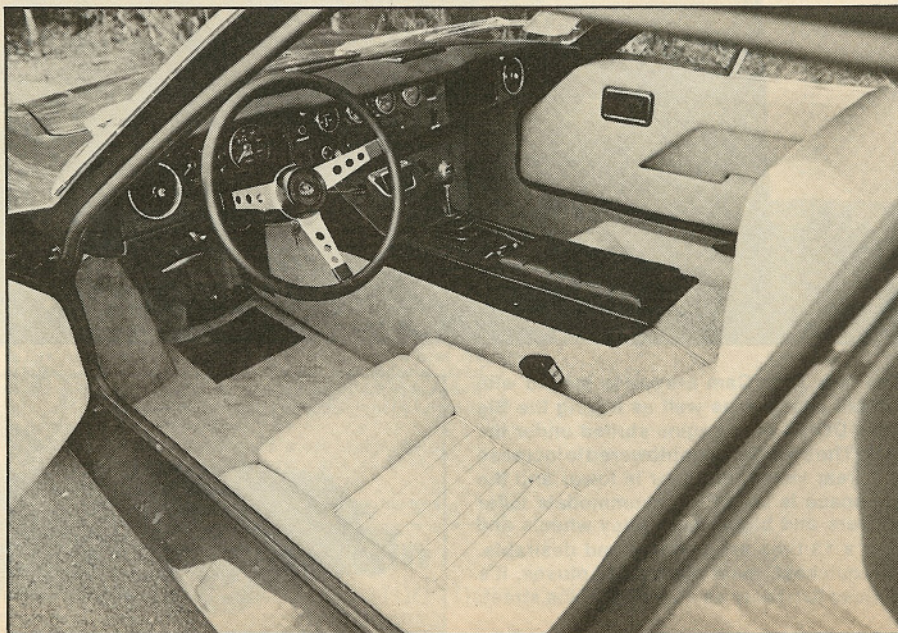
The Plus 2, being in effect a larger Elan, (and subject to cross-pollination), followed the Elan Sprint, becoming the Plus 2S 130 in the process. The 130 part refers to the European version which develops 130 horsepower—the one we get with emissions controls has 113 hp or 115 bhp (depending on whose specs you read) at 6500 rpm. The increase over the 105 bhp claimed for the earlier engine doesn't seem like much, but it is—thanks to the way it

builds the power in a quicker, fatter power curve.

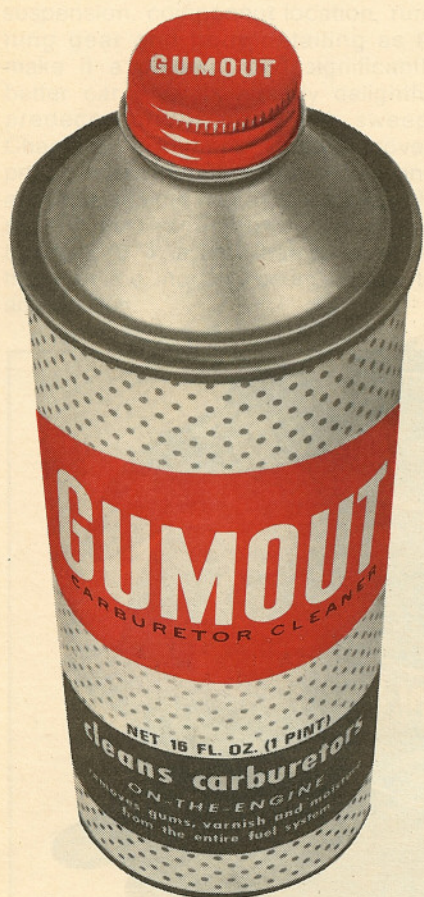
Until a little over a year ago the Plus 2 was virtually unknown in the United States. The largest of the Lotuses (if any Lotus can be remotely considered as large) it is seven inches wider and 12 inches longer than the Elan we all know and love, and roughly 300 lbs. heavier. It is also the most civilized of the breed and is the most completely equipped car of its type extant. It comes right out of the wrapper with just about every convenience known to man except power seats and steering >>>



Above: Small changes in the rear suspension include slightly different hub carriers and relocated lower bars. The big change was to the shift linkage; formerly both weak and vague, it is now beefy and gives crisp shifting action much like that of the front-engine Lotuses. Right: In comparison to that of the Plus 2, the cockpit of the Europa is seemingly stark but is actually complete. Every gauge is instantly visible, every switch and lever instantly reachable. Great—if you fit.



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(which it doesn't need) and air conditioning (which, on occasion, it does need in spite of a ventilation system that rivals that of the Audi.

The Plus 2S abounds with courtesy and convenience lighting. There are lights under each door that show you the puddle you might otherwise step into in the dark. Another light in the trailing edge of each door glows angry red to warn traffic approaching from the rear that the door is open. Other lights flash on when you open the trunk or the hood and, of course, there are the usual interior lights—two of them. And a neat, articulated maplight on the passenger's (navigator's?) side that turns on automatically when it's swung out into operating position.

The array of switches and instrumentation, to the first-time driver, is of a complexity that seemingly only a 747 pilot would be at home with it. There is even a gauge to show ambient temperature which might, on first glance, seem a bit much but if you've ever driven in an area where rain can turn to sleet at the drop of a degree you can see the beauty of it. However, the switches are all clearly labeled and intelligently placed and one is soon as familiar with them as a CPA is with a 10-key calculator—you just reach out and automatically hit the right one after a little cockpit time. The same applies to the instruments. They are all legible, not obscured by the driver's hands and reading them soon becomes nearly subliminal. Then there are not one, not two, but three ashtrays—the usual one in the middle and one in each door. If your passenger snuffs a cigaret out on the back of your shifting hand you can pretty well be sure it was with malice and can revise your passenger list accordingly.

Wherever you look in the Plus 2S you get the idea that Colin Chapman and his people care about your comfort—except for the back seats. It isn't that they're uncomfortable, just small. We got one young lady to put up with it for *one* trip across town and that was it. For two small to medium children, *calm* ones, one medium-sized dog or extra luggage they're fine. But for adults, negative.

The comfort is not confined to the appointments. Only on the road, really living with the car, does the full realization of what the Plus 2S is all about sink in. All of the appointments mentioned become merely part of the environment and the car seems to attach itself to the driver's nerve and muscle systems. The ride is one of those uncanny kinds that makes all roads from new freeways to old secondary roads feel much the same. Nor does the han-

dling change from one to the other except for cases of severe washboard or potholes. That slot-car feeling of security that one expects from a Lotus is there, but in the Plus 2S it's somehow smoother. One example should suffice.

Just north of Los Angeles, on the edge of the Mojave desert, there is a road used by those who know of it as a shortcut to the freeway that leads to Las Vegas. Running between Victorville and Palmdale it follows the contour of the desert floor, undulating and weaving, with an occasional unexpected S-curve that can send the unwary or careless bounding off into the scenery like a suicidal wallaby. It is, in short, a road to respect, fast but unforgiving of mistakes. It was shortly after the turn-off on this road that we caught up with a great, hairy Chevelle 396, obviously modified, that had been playing freeway games with us (or attempting to draw us into them) all the way from the Nevada-California line. The road was totally deserted and he took off like a shot from the light that marks the beginning of the road. The gap between us widened and then started to close, 90-and-a-bit being about all the Chevelle driver wanted to do on that particular piece of pike . . . and he was obviously working to do that much. The Plus 2, on the other hand felt very little different from the way it had felt on the freeway and we eased up behind, then out alongside, then back and alongside again just watching all that iron suspension on the Chevelle work. Finally, bored with that particular game, we poked the throttle a touch more, moving easily out, around and away at a comfortable 110 and there wasn't one thing the man in the Chevelle could do about it. To give him credit, he tried—boy, did he try—but he gave up completely after leaving great gouts of rubber on the road trying to stay on the first S-curve that the Lotus had motored comfortably through at more than a hundred. The point of all this is that we weren't really *trying*. What was comfortably brisk motoring in the Lotus was flat-out, heart-in-mouth *work* for the set-up Chevelle. The wonder is that it is all done without the rock-bound ride normally associated with cars that handle.

The official flak sheet says the Plus 2S is a "car for the busy executive." Dreamers! Most of the busy executives we know potter sedately about in such devices as Cadillacs, Lincolns and Mercedes-Benz 4.5s. What the Plus 2S *really* is, is a car for wealthy sportsmen with no executive duties at all—a guy, say, who's made his fortune and retired to a life of putting together a stable

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line of cars . . . at age 35.

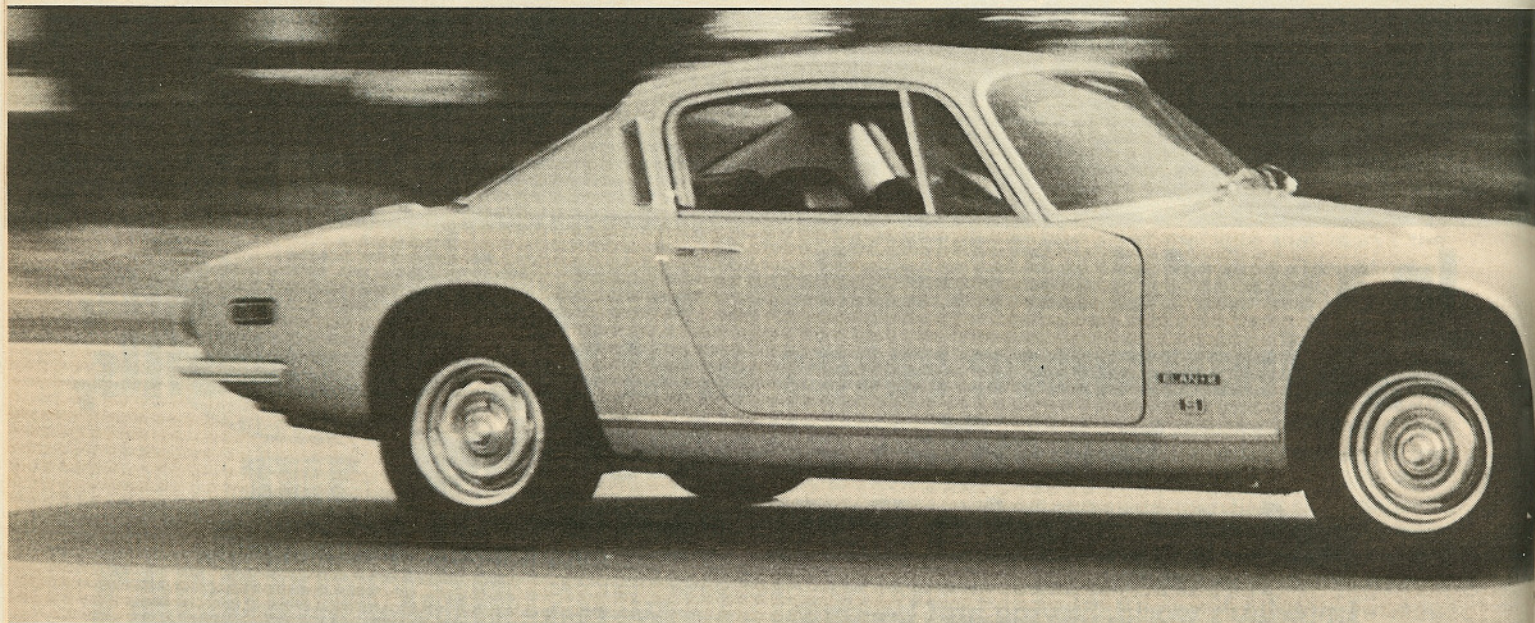
The opposite side of the Lotus coin is the Europa. Where the Elan and Plus 2 are descendants of the fondly remembered Elite, a purely "civilian" street machine, the Europa had as its progenitor a racing car, the Mark 47. Re-designed with less expensive and exotic running gear, it was originally equipped with the Renault 16 engine and gearbox, a fortuitous combination that lent itself perfectly to the exercise and also allowed Lotus to take advantage of European Common Market duty and tax reductions in Continental sales.

So light and aerodynamic was the Europa that a mere 82 French horses

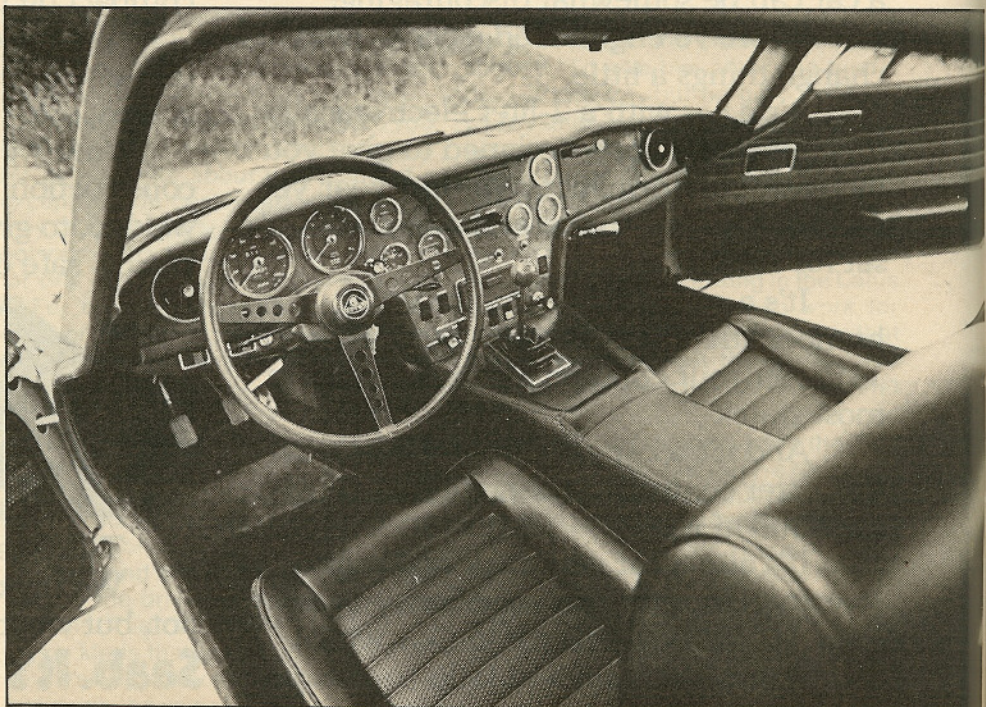
that lived under the flat rear deck were more than sufficient for the car to keep up with other Lotuses equipped with the stronger Twin-Cam Ford. For those who fitted into the Europa (under 5 feet, 10 inches and size 9 shoes), it was a delight, one of those very rare machines in which vehicle and driver soon become one entity, and certainly the only one like it under five-figure prices. It exhibited the odd crudity, including a somewhat recalcitrant gearbox linkage, but this could be forgiven in the sheer joy of driving it.

However, its physical limitations—and a fear on the part of prospective customers concerning the

rearward visibility—dictated major changes. Now there is a new Europa, the Series 3 Twin-Cam. Englishmen and Europeans get the car with the earlier Twin-Cam engine equipped with Weber carburetion. The one we get has the Big Valve engine, so U.S. customers luck out for a change. Along with the Big Valve engine there are numerous changes aimed at alleviating all or almost all of the earlier objections. The floor-level has been lowered slightly and the body is now a bit wider and longer with the result that six-footers (well, almost) and those with larger feet can operate, and enjoy, the car. The gearbox linkage has been changed and the lever now has that electric-switch feeling that makes the gears such a pleasure to use on the Elans. The fuel capacity has been dou-

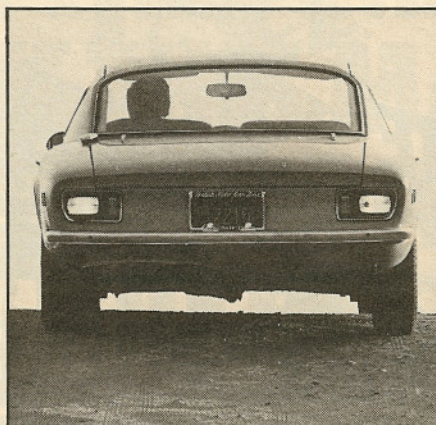


Largest of the Lotuses, the Plus 2 has been given the same treatment as the Elan Sprint, including Big Valve engine and detail suspension improvements. The combination of creature comforts and impeccable road manners make it a near-ideal long-distance high speed cruiser. When first faced with the interior one tends toward awe at the array of instruments, switches and gadgets but they soon become familiar to the point of near subconscious operation. What seems improbable is that that much convenience can come in a package that size. The light weight and slippery shape also make superior fuel mileage, 30 mpg being normal.



bled, to 14 gallons, with the result that the car will do 400 miles between refills. (All Lotuses sip fuel as though it were strictly rationed and we've actually seen as much as 40 miles to the gallon under ideal circumstances, with 30 miles per gallon being usual in normal driving.) Soundproofing has also been increased to the point that the busy buzz of the Twin-Cam engine behind one's ear is barely audible . . . and you actually have to lower the window to hear the exhaust. Windows up or windows down, there is no wind blast or noise whatever, and one is thankful indeed for the superb ventilation system that is built into the car, because it does get *hot*. Keep moving.

The Series 3 changes are primarily all on the plus side but there were two side effects that we didn't care for,



The seemingly short deck of the Plus 2 hides a spacious trunk which, in addition to the rear seat area, provides space for luggage for two for a two-week trip if the contents are chosen wisely and a full load doesn't upset balance perceptibly.



although it must be admitted that if we weren't familiar with the Series 2 Europa we wouldn't have noticed. First, possibly due to the chassis lengthening, the Europa has developed an understeer that wasn't there before. It makes things more secure-feeling at normal speeds, but it's a bit spooky when one is really in a hurry. The other is that the steep rake of seatbacks has been moderated so that they no longer have the lay-back race-car feeling, or at least not as much as previously. Some people don't like that much recline, others (the author among them) do, but we're probably in the minority.

To conclude, if you're a frustrated LeMans driver, the Europa is for you. It's the closest thing to a racing sports car you can buy off the showroom floor—not even other Lotuses can keep up with a properly driven Europa.

On the other hand, if your tastes are gentler, and you want your sense of sportsmanship tempered with a well-padded dose of creature comforts, consider the Elan Plus 2S. /MT

LOTUS EUROPA

SPECIFICATIONS

Engine.....	DOHC in-line 4
Bore & Stroke—ins.....	3.24 x 2.86
Displacement—cu. in.....	95.1 (1558cc)
HP @ RPM.....	113 @ 6500
Torque: lbs.-ft. @ rpm.....	104 @ 4500
Compression Ratio/Fuel.....	9.5/1—Premium
Carburetion.....	2 Zenith-Stromberg 175 CDSE
Transmission.....	Renault 4-speed synchro
Final Drive Ratio.....	3.66
Steering Type.....	Rack & pinion
Steering Ratio.....	
Turning Diameter (curb-to-curb-ft.).....	41
Wheel Turns (lock-to-lock).....	2.7
Tire Size.....	155 X HR13 std. 165/175 x 13 opt.
Brakes.....	Disc fr. drum r.
Front Suspension.....	Unequal-length A-arms, concentric coil shocks, sway bar
Rear Suspension.....	Independent trailing arm concentric coil shocks.
Body/Frame Construction.....	Steel backbone reinforced by body.
Wheelbase—ins.....	94.0
Overall Length—ins.....	157.5
Width—ins.....	64.5
Height—ins.....	42.5
Front Track—ins.....	53.5
Rear Track—ins.....	53.0
Test Weight—lbs.....	1650
Fuel Capacity—gals.....	15.0
Oil Capacity—qts.....	4.5

PERFORMANCE

Acceleration	
0-30 mph.....	3.2
0-45 mph.....	6.1
0-60 mph.....	10.3
0-75 mph.....	15.9
Standing Start 1/4-mile	
Mph.....	76.8
Elapsed time.....	16.6
Passing speeds	
40-60 mph.....	5.0
50-70 mph.....	5.2
Speeds in gears*	
1st . . . mph @ rpm.....	33 @ 6500
2nd . . . mph @ rpm.....	53 @ 6500
3rd . . . mph @ rpm.....	83 @ 6500
4th . . . mph @ rpm.....	118 @ 6500
Mph per 1000 rpm (in top gear).....	18.1
Stopping distances	
From 30 mph.....	24 ft.
From 60 mph.....	127 ft.
Gas mileage range.....	28-38 mpg
Speedometer error	
Car speed.....	30 35 40 50 60 70 80
True speed.....	30 35 40 50 60 69 79

*Speeds in gears are at shift points (limited by the length of track) and do not represent maximum speeds.

LOTUS PLUS 2S 130

SPECIFICATIONS

Engine.....	DOHC in-line 4
Bore & Stroke—ins.....	3.24 x 2.86
Displacement—cu. in.....	95.1 (1558cc)
HP @ RPM.....	113 @ 6500
Torque: lbs.-ft. @ rpm.....	104 @ 4500
Compression Ratio/Fuel.....	9.5/1—Premium
Carburetion.....	2 Zenith Stromberg 175 CDSE
Transmission.....	Lotus-Ford 4-speed synchro
Final Drive Ratio.....	3.55* (3.77 opt)
Steering Type.....	Rack & pinion
Steering Ratio.....	
Turning Diameter (curb-to-curb-ft.).....	28
Wheel Turns (lock-to-lock).....	2.7
Tire Size.....	165 x 13 radial
Brakes.....	4-wheel disc
Front Suspension.....	Unequal length A-arms, coil springs, tube shocks, swaybar
Rear Suspension.....	Independent with lower control arm Chapman strut.
Body/Frame Construction.....	Steel backbone with separate fiberglass body
Wheelbase—ins.....	96.0
Overall Length—ins.....	168.75
Width—ins.....	66.25
Height—ins.....	47.0
Front Track—ins.....	54.0
Rear Track—ins.....	55.0
Test Weight—lbs.....	2210
Fuel Capacity—gals.....	15.6
Oil Capacity—qts.....	4.5

PERFORMANCE

Acceleration	
0-30 mph.....	4.1
0-45 mph.....	7.6
0-60 mph.....	11.5
0-75 mph.....	16.9
Standing Start 1/4-mile	
Mph.....	76.0
Elapsed time.....	17.1
Passing speeds	
40-60 mph.....	5.5
50-70 mph.....	5.7
Speeds in gears*	
1st . . . mph @ rpm.....	38 @ 6500
2nd . . . mph @ rpm.....	58 @ 6500
3rd . . . mph @ rpm.....	82 @ 6500
4th . . . mph @ rpm.....	123 @ 6500
Mph per 1000 rpm (in top gear).....	19.2
Stopping distances	
From 30 mph.....	28 ft.
From 60 mph.....	148 ft.
Gas mileage range.....	28-40 mpg
Speedometer error	
Car speed.....	30 35 40 50 60 70 80
True speed.....	30 35 40 50 59 69 79

*Speeds in gears are at shift points (limited by the length of track) and do not represent maximum speeds.