



LOTUS EUROPA \$4633 WEST COAST P.O.E.

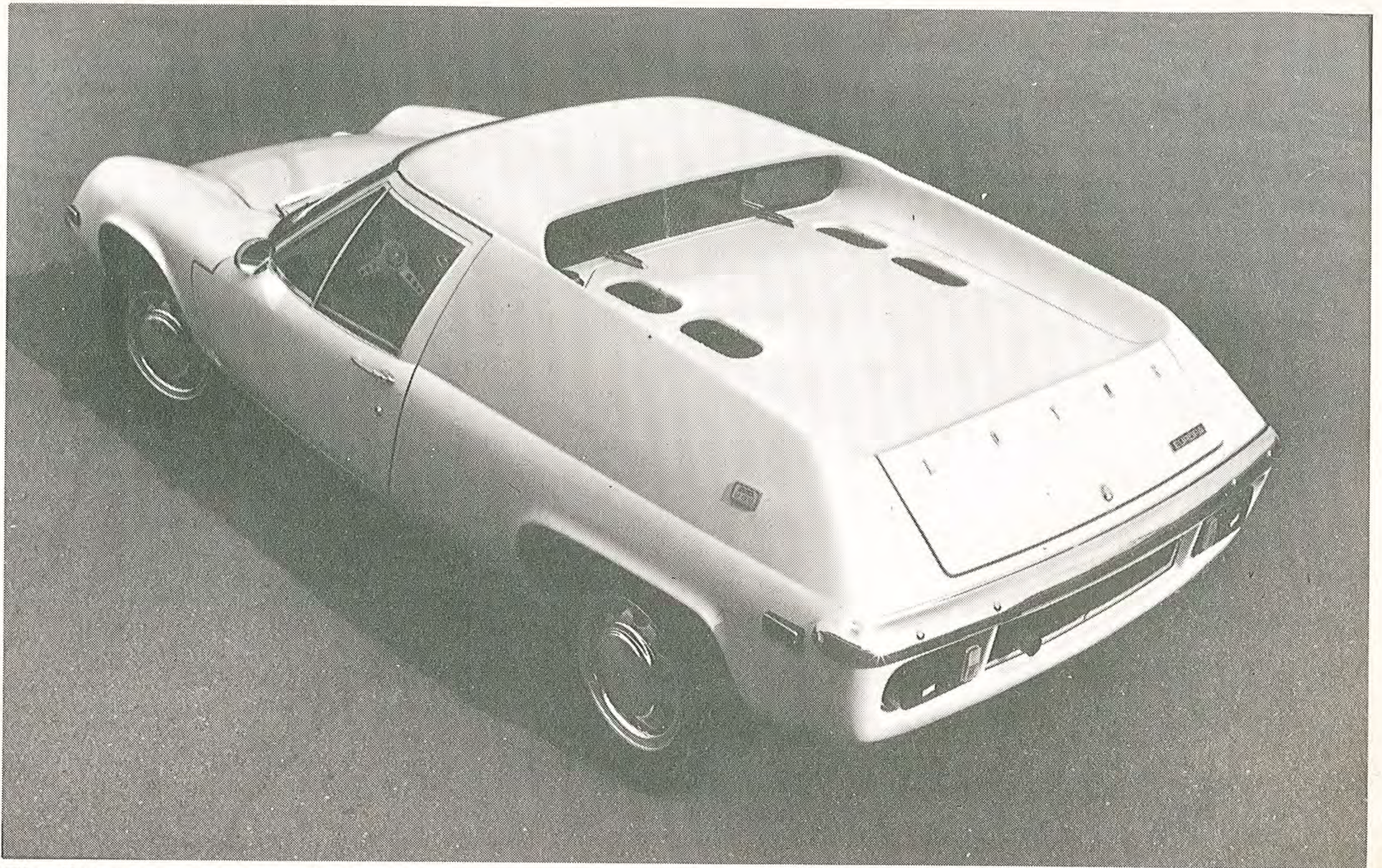
Racing car design applied to a sharp little coupe makes the Europa an eye catcher as well as a fine performer. Manufactured by the Group Lotus Car Companies Ltd., Norwich, Norfolk, England.

The Lotus Europa is a very modern, up to date Grand Touring car or sports car — the words are becoming interchangeable these days. Lotus cars are unique in that the first production street unit, the Lotus Elite, came after years of racing car construction. Before the purists in the audience question our memory, we will mention that we are aware of the Lotus 7, but it started out mainly as a kit car, rather than a vehicle completely assembled at Lotus. There are many manufacturers, both large and small, who justify their racing activities by claiming to apply lessons learned on the race track to their everyday mass produced street machines. Colin Chapman

and company do things the other way around. Producing salable racing cars, particularly the open wheel racers, is an important part of the Lotus business. The street machines are pure application of racing car design in a more civilized and livable form. So it is that the Lotus Europa with its engine placed amidships is a sophisticated but reasonably priced example of racing car construction designed to be compatible with street use.

The Europa or Type 46 was conceived with the thought of using as many bits and pieces from production cars as possible. The concept was a low priced Lotus for Europe and not too incidentally a foothold in the common market. Thus

the *name* evolved keeping to the Lotus trademark of names beginning with the letter E. The car was actually produced in about eighteen months. It was introduced late in 1966 for export only, and no right hand drive units were built at that time despite howls from British enthusiasts. The engine and transmission were developed in France by Regie Renault using the 200 pound alloy engine manufactured for the Renault R-16. Lotus built the chassis, suspension and bodywork, and they used hardware from Triumph and Ford of England in many areas. The unusual body styling was developed through wind tunnel testing, and the low drag of the fiberglass body is



The Europa was once called 'Colin Chapman's bread wagon' alluding to the high side-lines on the body, a faint resemblance to a pick-up truck. The entire car is a fine blend of Anglo-French engineering.

a contributing factor to the excellent performance of the Europa with an almost stock Renault engine.

The Europa is built around a backbone chassis frame similar to the Elan. The frame divides into two arms, like a Y, at the rear, and the engine and gearbox are mounted between the two arms of the Y. A crosspiece at the front provides attaching points for the front suspension which is a double wishbone layout borrowed from the Triumph Spitfire. The front disc brakes are the same Girling units used on the Triumph GT 6. The rear suspension is pure Chapman with long fabricated box section radius arms pivoting on the sides of the Y fork close to the center of the Y. The rear hub posts have long lower extensions that come below the wheel rim. They carry the lower spring and shock unit mounting and the outer end of the long transverse links. Wheel location is completed by fixed length driveshafts with Hooke joints at each end. The rear drum brakes are also Girling and are modified from stock to fit the need. The road wheels are the same 13 inch diameter units used on the Elan with 4 1/2 inch rims.

The body styling is quite unusual, in fact the Europa has been called 'Colin Chapman's bread wagon.' It all has pur-

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pose though, and the enthusiast will either love the looks or hate the whole thing. The fiberglass body is mounted to the chassis with rubber insulated attachments that make for silent running on the road. In body trim the bumpers are a good example of the use of existing hardware. The front bumper is adapted from the Ford Anglia item, and a stock Ford Cortina bumper is bolted directly to the body at the rear.

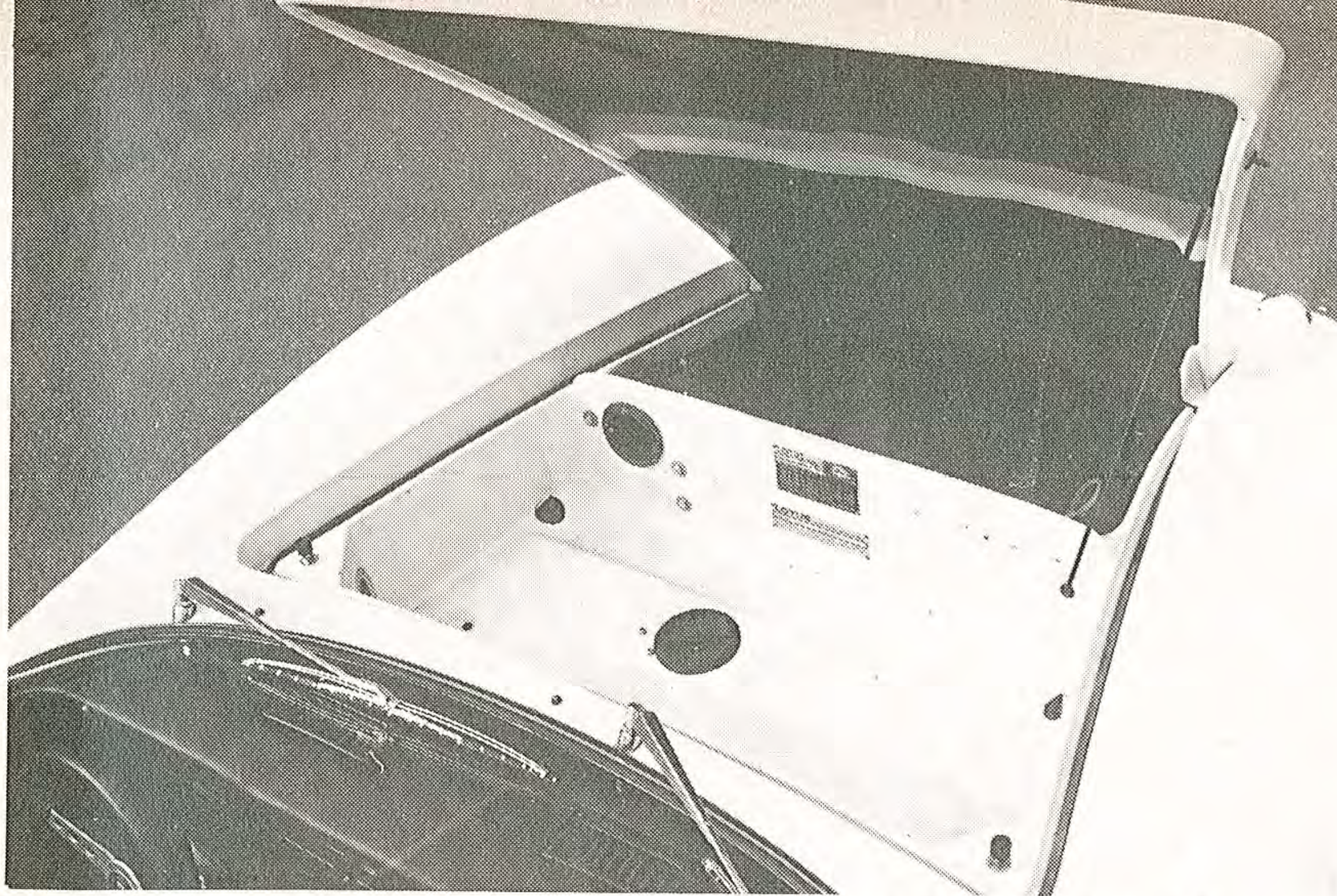
The low slung body calls for some agility in the art of entry, but once inside the cockpit there is ample room even for large people. The excellent seats really smack of their competition breeding and the driving position is reclining with arms stretched straight out. The back of the seat bends upward to form a headrest, one of the most attractive examples of this now necessary device. Facing the driver is an impressive panel of dials and switches tastefully done. The small, 'formula style' steering wheel is three spoked and woodrimmed in the accepted sporting fashion; the headlight switch and turn indicator lever sprout off stalks from the steering column. Directly in front of the driver, the dash is recessed in padding and holds the small tachometer, redlined at 6500 rpm and the 130 mph speedometer. A series of warning lights separates the two instruments. There are button type switches for auxiliary lights, wipers, fresh air and heater controls, electric window winders, etc. Four matching dials for amperage, oil pressure, water temperature, and fuel adorn the center of the dash. On the far right is a small glove box and on the extreme



The engine bay amidships holds the slightly modified Renault 16 engine that is standard on the Europa. The fiberglass baggage tray is well insulated and will hold quite a bit of soft luggage.

ends of the dash are round fresh air inlets. The stubby lever for the four speed gearbox is mounted high on the center console and forward of the gear lever is the world's smallest ashtray, but this is a typical British accessory. The foot pedals are small and close together, again in typical English fashion. But the whole thing seems to fit perfectly once you are settled into what has to be one of the most comfortable seats in the industry.

Luggage space is remarkably gener-



ous in the tiny car. Besides the glove box there are map pockets on the doors and some small space behind the seats. At the rear the engine is mounted right next to the cockpit bulkhead. Further back there is a fiberglass tray that fits over the gearbox and muffler that holds a good bit of flat or soft baggage. At the front there is another slot for impedimenta next to the firewall since the spare tire rides in the very nose of the car and the gas tank is in the right rear fenderwell. The water radiator is up front on the right side of the car and it has its own electric fan.

The engine itself is a direct adaptation of the R-16 Renault unit. It is a five main bearing powerplant made of lightweight alloy with removable wet cylinder liners, a tradition with Renault. The bore and stroke are 76 x 81 mm and total displacement of the in-line four cylinder is 1470 cc or 90.5 cubic inches. For the Lotus Europa the compression ratio is increased a bit and the camshaft changed for a more sporty performance. Inlet valves are a bit bigger too, and the single throat Solex carburetor is replaced with the two stage 35 DIDSAs Solex. The inlet ports are opened to match the larger valves and a new inlet manifold is added. With a few other touches the horsepower comes up to 82. Since the four speed, all synchromesh gearbox comes from the front wheel drive R-16 sedan, the transmission is already integral with the final drive, but the pinion is reversed and the ratio changed to 3.56 to 1 for use in the Lotus.

On the road the Europa is as delightful as its sleek styling would imply. The legendary Lotus roadholding is all there with some to spare. Those who drive the car at speed are amazed at the cornering capability that seems to go into infinity. The car is comfortable cruising at 100 mph, and conversation is possible because there is little wind roar from the aerodynamic body. Top speed is listed at 115 mph by the factory. It does seem reasonable and should be effortless to attain.

It is necessary to lift the foot to induce rear oversteer in cornering, and the car is

In the nose there is a usable luggage bin. In the far forward bay the water radiator and spare tire are housed.

so responsive that with a little practice one becomes very much the hero driver. However the Europa is not a car for everybody. The driver must definitely learn the quick reactions of this competition bred Lotus. But once familiar with the Europa one can throw it about with gay abandon and at speeds beyond the capability of many more conventional sports cars. It is difficult to describe the experience of driving a superb handling machine like the Europa. It does have its faults though. The gearbox is often a weak link with stiff and sloppy linkage. Rear vision is somewhat restricted by the slit type rear window. The heating and ventilating system could work a lot better too. But the man that even looks at a Europa will hardly notice these small inconveniences. This Lotus will appeal only to the true enthusiast who enjoys his driving more than the stereo tape deck.

The Type 47 Europa is another version of the car for Group 4, or sports car racing under the international code of the F.I.A. In this form the Lotus is fitted with the 1594 cc, twin cam Lotus Ford four cylinder engine that puts out 165 horsepower and comes complete with some husky Weber carburetors. This particular version of the engine has never been modified to meet the exhaust emission control laws in this country, so the only Europas for sale at your local friendly Lotus dealer will come fitted with the milder Renault engine.

The Lotus Europa S 2 is not a common car on American highways, nor is it intended to be. While Lotus production grows steadily every year, it will never approach the volume of cars that come from major companies. The Lotus will always be an engineered car for the somewhat exclusive taste of the keen motorist.

The Europa S 2 is actually the Type 54, since there have been some major interior changes including roll up windows since the car was introduced three years



Inside the Europa it is all solid comfort with a competition aura. Instruments are easily read, the gear lever is handy, and the marvelous seats are placed well back for straight arm driving.

ago. The Europa's styling stems back to the aerodynamic coupes first designed for the high speed endurance races in Europe. There are a few other mid-engined cars on the market today, but at the moment they are mostly the very low production, Italian made GTs with five figure prices. The Lotus Europa lists at a budget minded \$4495, West Coast P.O.E., and the slick little GT looks as if it might cost twice that. The Europa is a unique experience — the car must be driven, and driven hard to be properly appreciated. ♠

Lotus Europa S2

Data in Brief

DIMENSIONS

Overall length (in.)	158
Wheelbase (in.)	91
Height (in.)	42
Width (in.)	64.5
Tread (front in.)	53
Tread (rear in.)	53
Fuel tank capacity (gal.)	8.5
Luggage capacity (cu. ft.)	7.5
Turning diameter (ft.)	n.a.

ENGINE

Type	OHV, in-line, 4
Displacement (cu. in.)	90.5
Horsepower (at 6000 rpm)	82
Torque (lb./ft. at 4000 rpm)	76

WEIGHT, TIRES, BRAKES

Weight (curb lb.)	1350
Tires	radial 155 HR 13
Brakes, front	disc
Brakes, rear	drum

SUSPENSION

Front	independent, double wishbones, coil springs, telescopic shocks
Rear	independent, radius arms, transverse links, fixed length driveshafts, telescopic shocks

ROAD TEST