
RWK 434H

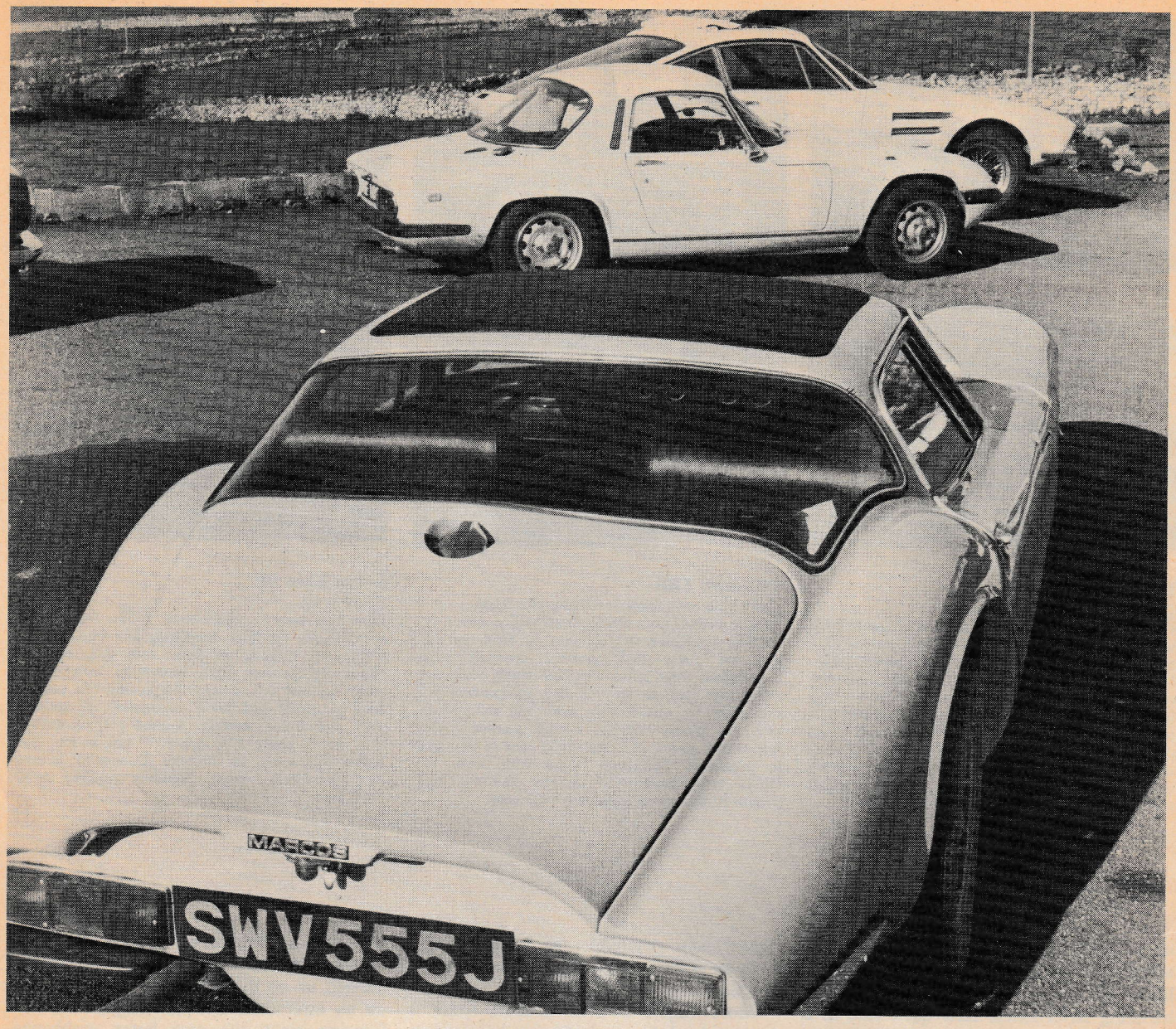
GROUP TEST

No 26

Lotus Elan SE
Lotus Europa S2
Marcos Volvo 3 litre
Trident Venturer
Triumph TR6
TVR Tuscan V6

Motor's test team go driving in convoy to assess competitive cars under identical conditions

In convoy with the Triumph TR6 trailing; missing car is the Trident. Right: identity parade (from left to right): Chris Hartley, Charles Bulmer (backs to the camera), Anthony Curtis, Michael Bowler (sitting), Jim Tosen and Paul Frere



Twenty years ago the typical British car —the typical car of any nationality for that matter—might have been good value for money but was hardly a vehicle for the enthusiast. Sluggish performance, poor brakes, badly designed suspension, high roll angles, low cornering power, unstable handling and shiny bench seats with column gearchanges (the Fad of the Fifties) were the norm. And to get anything better (like a Jaguar XK120) you needed to be fairly well off—frustrating for the multitude of less wealthy enthusiasts.

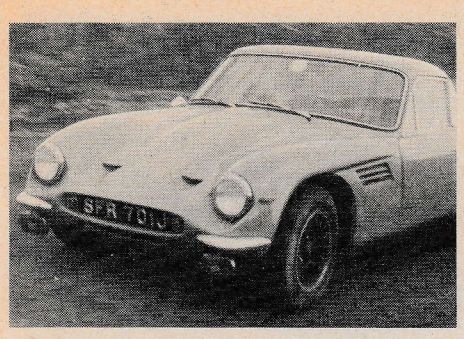
From such conditions sprang a host of specialist car and component manufacturers many of whom developed or advertised their products through racing and claimed superior expertise thereby, though judging by the few design features which survive from that era, these claims were often flimsy. All the companies whose cars form the backbone of this group have their roots in the individualistic enthusiasm of this post-war period, even if they did not exist at the time. In fact Lotus were formed in 1952; Marcos did not begin racing their wooden wonders until 1960, and TVR began to sell kits in 1957, while Trident are a still more recently formed organization.

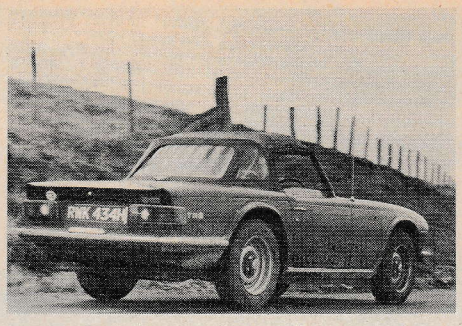
But perhaps partly through the stimulus of such competition, the major manufacturers have enormously improved their products since 1950: the cheap mass-produced family saloon of today can comfortably out-perform and out-handle the sports car of yesterday. Have the small specialist constructors learnt as much?

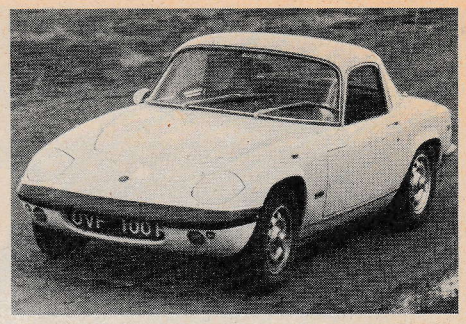
The short answer is that some have learnt more, some less. But it is conditioned by the current lack of opposition from the big firms who have neglected the £1,500-£2,000 sector of the sports car market. In particular British Leyland—whose sports cars are still more numerous and various than anyone else's—have failed to bring their range effectively up-to-date. Had we been able to include a Rover BS, for example, our conclusions would have been very different, for with the cheapness of volume production and the refinement of detail possible with big company resources, we would expect such a car to represent unrivalled value.

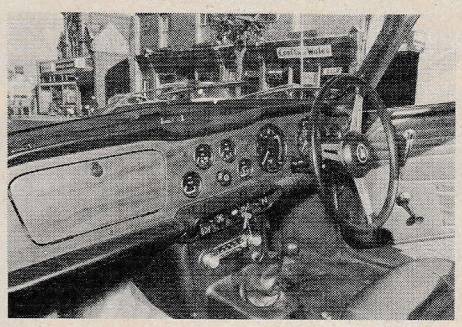
In place of the Rover BS we had to make do with the Triumph TR6 to represent the might of the big manufacturers against the main of the small specialists, though the less powerful MGB would probably have compared better with the other cars, especially in GT form. Nevertheless, at £1,513 (with overdrive) the TR6 is good value and costs more than £1,000 less than some of its specialist rivals in assembled form. For the money you get an excellent fuel-injected six cylinder engine, smooth and very quiet, with good low-speed torque and enough top-end punch to give respectable performance. An inordinately heavy clutch slightly marred the pleasure of using the good four speed gearbox, which with the optional overdrive operating on second, third and fourth gives enough ratios to satisfy the most exacting driver. As the boot took at least 3.6 cu.ft. of our test boxes, with room for almost as much again in the space behind the seats, the TR6 is a practical fast tourer for long Continental holidays.

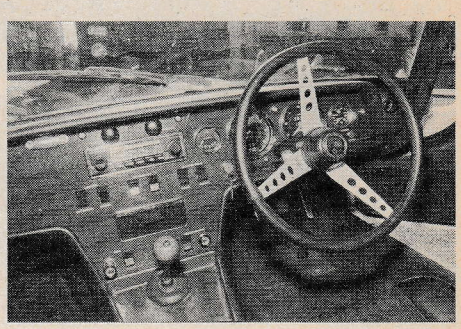
But for those who demand precision handling and high cornering power for an occasional quiet dice on twisty country roads the TR6 is much less satisfactory. Its defects spring from a chassis whose inadequate rigidity becomes all too obvious on bumpy surfaces from the chorus of rattles and from the flappings of the front wings and other parts of the body. Nor does the independence of the suspension really pay off, since the cornering power was the











TVR Tuscan V6

£1558 as kit (Overdrive £75 extra)

Glass-fibre body on steel chassis. 2994cc front engine with 6 cyl. (in V) developing 136 bhp (net) at 4750 rpm running on 4-star fuel, pushrod operated valves. Independent front suspension with double wishbones, coil springs and an anti-roll bar; independent rear suspension by double wishbones and coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 22.0 mph/1000 rpm in top (26.9 in overdrive). Disc/drum brakes with servo. 165 HR 15 tyres (Avon radials on test) 17.0 cwt. kerb weight. Servicing required every 3000 miles.

Triumph TR6

£1453 (fully assembled—overdrive £62 extra)

Integral body/chassis. 2498cc front engine with 6 cyl. (in line) developing 142 bhp (net) at 5500 rpm running on 5-star fuel, pushrod operated valves. Independent front suspension with double wishbones, coil-springs and an anti-roll bar; independent rear suspension by semi-trailing arms and coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 21.2 mph/1000 rpm in top (25.9 in overdrive). Disc/drum brakes with servo. 165 HR-15 tyres (Dunlop SP on test) 21.7 cwt. kerb weight. Servicing required every 6000 miles.

Lotus Elan SE

£1659 as kit

Glass-fibre body on steel chassis. 1558cc front engine with 4 cyl. (in line) developing 118 bhp (net) at 6250 rpm running on 5-star fuel, dohc operated valves. Independent front suspension with double wishbones and coil springs; independent rear suspension by struts and lower wishbones; coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 17.4 mph/1000 rpm in top; disc brakes with servo. 185-13 tyres (Dunlop SP on test) 13.6 cwt. kerb weight. Servicing required every 3000 miles.

worst in the group and spoilt by a tendency to tuck sharply into a corner if the foot were lifted off the accelerator. Although the handling nevertheless feels quite safe in a ponderous sort of way, the car's faults are compounded by strong understeer accentuated by steering which is very low-geared, especially in the straight-ahead position. In all these aspects of design the TR6 seems decidedly antiquated.

In complete contrast is the Lotus Europa S2 which costs virtually the same in kit form and so exemplifies the price reductions available from the small manufacturer selling in this way to take advantage of the purchase tax concession. As for the other kit cars, the well-finished and attractively styled glass fibre body is supplied fully trimmed, so the job of assembly shouldn't be too difficult. Thus for £1,449—plus a few days' work—an enthusiast can buy himself straight into the Grand Prix set through ownership of a mid-engined car which in design and behaviour is in many ways far ahead of most of the others in the group. In its latest form the Europa is much improved: it is now actually possible for drivers with largish feet to depress the pedals, the gear-lever stiffness has been reduced to an acceptable level, though the change is still not good, and the ride has become softer and considerably more comfortable. As the bodyshell remains unchanged, however, threequarter rear vision continues to be dangerously negligible; its circumvention calls for some embarrassing antics at angled T-junctions.

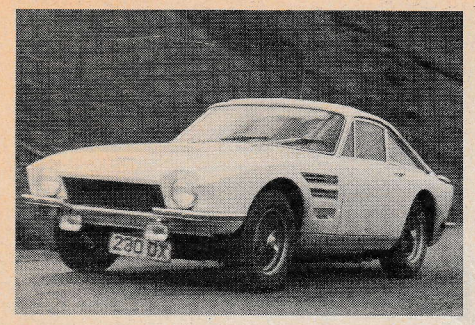
More engine as well as more space is another need, for the 1470 cc tuned Renault unit has a very modest 78 bhp (net) output, making the Europa significantly slower than the average set by the other cars. Performance was not improved by the low ratios of first and second gears.

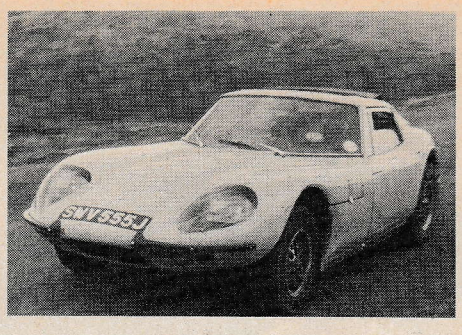
But very few motorists with the slightest taste for fast driving will even register these faults—at least during short journeys—for the Europa largely justifies its advanced design concept in being under most conditions the fastest thing round corners it is possible to buy. For whereas the driver of the TR6—still more, as we shall see, the driver of the Trident—sometimes had to struggle to keep up with the group on twisty and bumpy roads, the lucky driver of the Europa never had it so good: he didn't even have to try. The very lightness, precision and directness of the steering, the balanced and responsive nature of the car, drastically cuts down the effort of fast driving and helps to build up this relaxed feeling before other factors like ultimate cornering power begin to make themselves apparent.

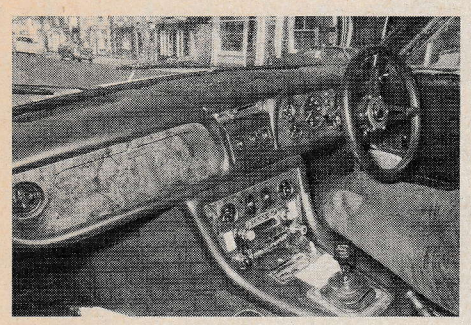
But the Europa's handling and cornering fall short of the miraculous; it does have limitations. It tends to jitter across the road a little when cornering hard on very bumpy surfaces, a phenomenon which temporary test-staff member Paul Frère (who accompanied us on the trip) believes may be due to an interaction between engine and suspension since the rear lower wishbones are attached to the power unit. And it is possible for the rear tyres to lose grip, when the car may momentarily attain quite a large attitude angle before quickly regaining its composure with hardly a correction needed—though when a correction is called for, it must be quick and accurate.

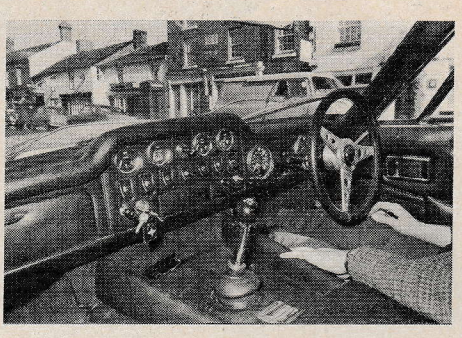
We therefore feel that the Europa needs considerably fatter tyres to take advantage of its ability to keep the wheels on the ground and at the right angles. In the wet, too, the Europa feels decidedly twitchy and loses adhesion at either end with relative ease, though the tremendous feedback through the steering and seat of the pants makes these impressions a little deceptive: an analysis of journey times in wet weather almost invariably reveals very high average speeds. The driver may believe he is tip toeing through bends when in fact he is cornering quite hard.

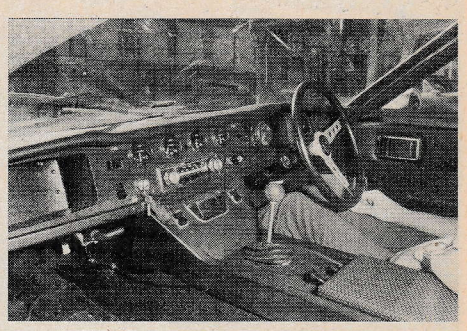
A little more expensive at £1558 in kit form is the TVR, which like the two other cars has independent suspension to all four wheels—at the rear by a double wishbone layout and a tubular chassis of commendable stiffness. In consequence although the road-holding is not in the Europa class, it is much superior to that of the TR6 as is the handling











Trident Venturer V6

£1938 15s as kit

Glass-fibre body on steel chassis. 2994cc front engine with 6 cyl. (in V) developing 136 bhp (net) at 4750 rpm running on 4-star fuel, pushrod operated valves. Independent front suspension with double wishbones, coil springs and an anti-roll bar; independent rear suspension by semi-trailing arms and coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 22.3 mph/1000 rpm in top (27.2 in overdrive). Disc/drum brakes with servo. 185-15 tyres (Goodyear G800 on test) 22½ cwt. kerb weight. Servicing required every 6000 miles.

Marcos 3-litre Volvo

£1950 as kit

Glass-fibre body on steel chassis. 2980cc front engine with 6 cyl. (in line) developing 130 bhp (net) at 5000 rpm running on 4-star fuel, pushrod operated valves. Independent front suspension with double wishbones, coil springs and an anti-roll bar; live rear axle located by upper and lower trailing links and Panhard rod; on coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 21.8 mph/1000 rpm in top. Disc/drum brakes with servo. 175-13 tyres (Avon radials on test) 17.6 cwt. kerb weight. Servicing required every 3000 miles.

Lotus Europa

£1449 as kit

Glass-fibre body on steel chassis. 1470cc mid engine with 4 cyl. (in line) developing 78 bhp (net) at 6500 rpm running on 4-star fuel, pushrod operated valves. Independent front suspension with double wishbones and coil springs; independent rear suspension by fixed-length drive shafts, transverse links and radius arms; coil springs; rack and pinion steering. 4-speed gearbox driving rear wheels giving 17.9 mph/1000 rpm in top. Disc/drum brakes with servo. 155-13 tyres (SP Sport on test) 13.1 cwt. kerb weight. Servicing required every 3000 miles.

—virtually neutral with a final oversteer that is very difficult to reach in the dry—though some drivers complained of a vagueness in the steering around the straight-ahead position. The essentially standard Ford V6 engine also gives the TVR better performance than the TR6 particularly in top speed; on our test car this engine was particularly smooth and free-revving with a splendid exhaust note. Its excellent low-speed torque effectively disguises any gaps in the Ford gearbox and virtually eliminates the need to use second gear on tight bends. Our test car had the optional overdrive costing £75 extra. We liked the change, despite the lorry-like rearward location of the gearlever and its long travel and slightly heavy action. A good car, liked by all our test staff.

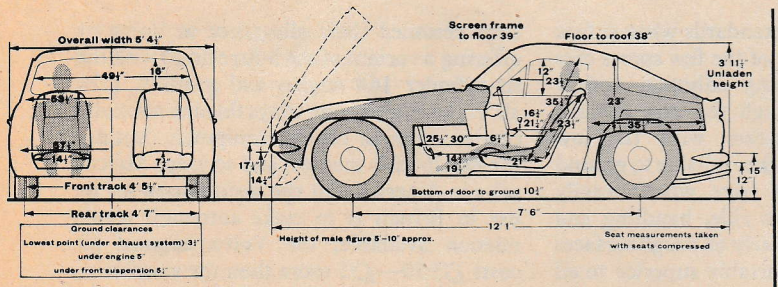
For a further £101 you can obtain a Lotus Elan SE kit, and as for the Europa the money also buys a useful chip of the Chapman brains—we are bound to record that both the Lotuses seemed head and shoulders above the other cars in almost every respect—coupled in our opinion with reasonable finish and attention to detail. Nor has time outclassed the superbly smooth twin-cam engine which with half the capacity of the Marcos, TVR and Trident units (and 1000 cc less than the TR6 engine) provided very similar performance (in SE form) with reasonable use of the close-ratio box. But even at low revs the torque is exceptional for a highly tuned unit.

The Elan set new standards when it first appeared in being one of the few sports cars to combine outstanding adhesion with a comfortable ride, though the very softness of the springs—together with the low ground clearance—makes it liable to ground on long Continental trips when heavily laden. Nevertheless, in ride, handling and roadholding—particularly on rough surfaces—the Elan was comfortably superior to all the other cars in the group; on smooth roads the Marcos or the TVR might hold it in sheer cornering power, but the superior design of the Lotus all-independent suspension certainly pays off on the bumps. All that is, except the Elan's own stablemate the Europa, with as good a ride, conceivably even a little better, yet still superior handling and roadholding. But the Elan scores over the Europa in having far better visibility to the rear and a good deal more room inside: a useful space behind the seats and a boot that took 3.1 cu. ft. of our test boxes. So the Elan is an eminently practical long-distance tourer for two. Our car had a rather sudden clutch which made us particularly aware of the kangaroo-like snatch that can be created by the elasticity of the rubber drive-shaft couplings. Like us, Lotus think that it's about time this feature was designed out of the Elan, but we haven't yet had the opportunity of trying a car fitted with the latest type of coupling.

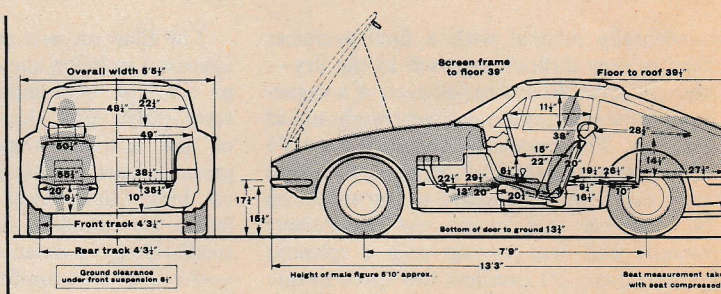
In the Marcos, Jem Marsh and his men have resumed their allegiance to Volvo by offering a variant of the 3-litre fitted with the six-cylinder 164 engine and gearbox. Like all Volvo engines nowadays this one normally carries emission control equipment (but not for the British market) and so helps Marcos sales in America, but the main reason for its use in Britain is to make automatic transmission available; the Volvo engined kit costs £1950—£55 more than the alternative Ford V6 3-litre which remains in production, though if automatic transmission is specified it is supplied at no extra cost. But the louvred bonnet bulge necessary to accommodate the Volvo's carburetters not only spoils the bold good looks of the Marcos but also diminishes the already poor forward visibility on hump-back bridges and the like over the long bonnet, though the addition of some more upholstery in the seat makes the lie-down driving position a little less reclining than before.

Another, more fundamental change has been to the chassis. After years of living down the stale jokes about deathwatch beetles and proving the rigidity and strength of a marine plywood monocoque (as de Havillands did many years ago for the Mosquito) Marcos have finally abandoned this form of construction in favour of steel tubes for cheapness of production.

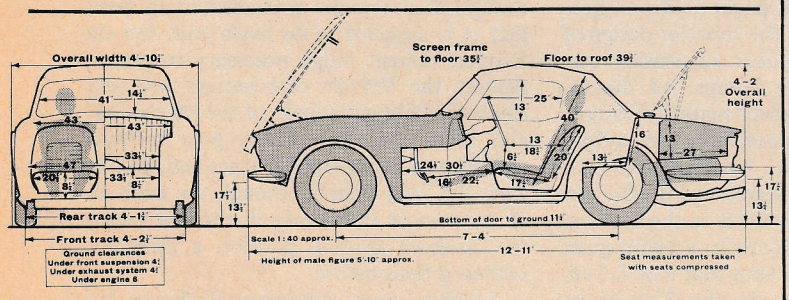
Although the new Volvo engine gives the Marcos remarkable performance, as the figures testify, it is a little noisy and fussy.



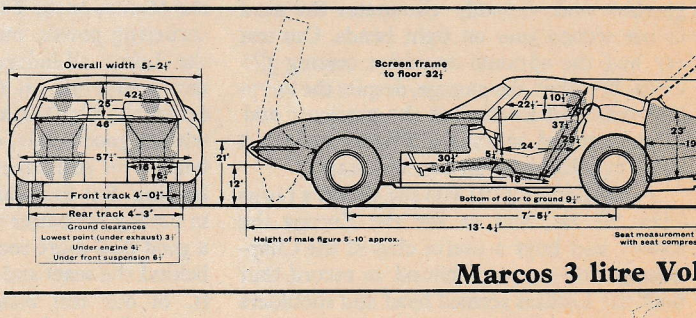
TVR Tuscan V6



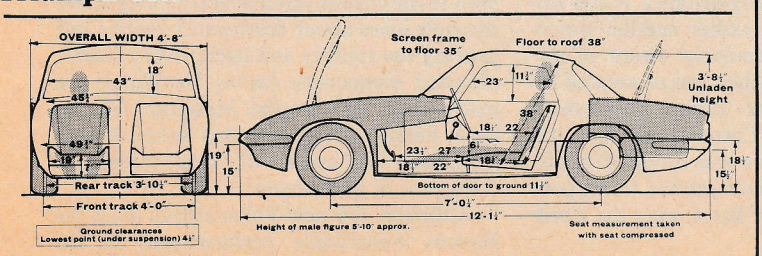
Trident Venturer



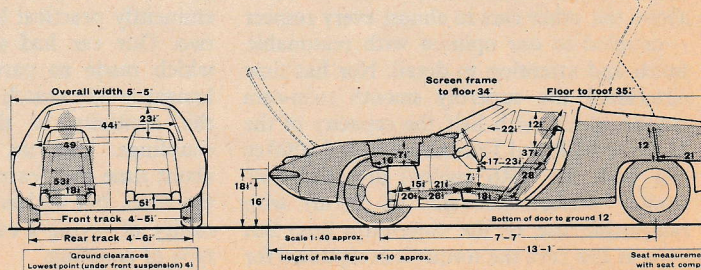
Triumph TR6



Marcos 3 litre Vol



Lotus Elan SE



Lotus Euro

As always the Marcos is an "instant" car; with enveloping seats which provide shoulder-to-thigh lateral support it fits the driver like a glove and responds immediately to his slight touch on throttle or wheel with negligible roll or lurch; the steering is particularly precise and direct without having the vicious kickback of the TVR's system. All these virtues are obtained at the expense of a teeth-jarring ride on bumpy surfaces. In changing over from wood to metal the chassis also seems a little less rigid than before, robbing the car of some of its former precision in handling; by Marcos standards it is now a trifle lurchy on the limit.

By comparison with the other designs the Trident Venturer V6 is a relative newcomer, since production began in 1966 at a new factory in Ipswich. Mechanically it is a curious mixture being composed of a lengthened, widened and stiffened Triumph TR6 chassis with its normal suspension, powered by a standard 3 litre Ford V6 engine with its associated gearbox—and overdrive which is an optional fitting. Stylistically it is an Italianate fastback. It is the most expensive of the kits, costing £1939, but in partial compensation it is very well equipped, the standard specification including a heated backlight, electric window lifts, fresh-air through-flow ventilation, red warning lamps in the door edges and all the more obvious luxuries such as a cigar lighter.

At traffic lights the Trident was an effective head-turning attention-getter, but not everyone liked its peaky lines delineated in profile by the sharply pointed triangular rear side-window and the equally angular frontal treatment. But the high standard of surface finish—together with the tremendous weight of the bonnet lid—confirm the maker's claims to build to a specification rather than a price and to provide ample thickness of laminate. The relatively high weight of 22½cwt also attests to the thickness of the body and accounts for the Trident being a little slower in top gear and standing-start acceleration compared to its similarly powered rival the TVR. In compensation the Trident is a bigger and roomier car than the others with ample legroom for the tallest people at the front and space for their luggage behind the small rear seats (which have very little legroom), though it does have to be loaded in through the doors as there is no lift-up backlight or bootlid.

As a car for relaxed about-town driving or fast touring we found the Trident quite satisfactory, especially as road noise in it was moderate and the reasonably low level of wind noise would have been even lower had we not been able to see daylight through the door seals. But as a sports car it was much less satisfactory. On a smooth surface its outright cornering power was inferior to that of the TR6—itself worse than all the other cars in this respect—probably because of its higher centre of gravity and roll angles. Few of our drivers were prepared to try really hard, however, since the light steering was so dead as almost to be dangerous on wet surfaces and made it difficult to set the car up on fast bends.

Conclusions

The cost differences between the cars in this group are so interesting that they are worth tabulating:

	Kit	Assembled
Triumph TR6	—	£1453 (overdrive £62 extra)
Lotus Europa	£1449	£1828
TVR Tuscan V6	£1558	£1783 (overdrive £75 extra)
Lotus Elan SE	£1659	£2168
Trident Venturer V6	£1939	£2533 9s (overdrive £76 10s extra)
Marcos 3-litre Volvo	£1950	£2574 4s 8d

Note that the TR6 costs less *fully assembled* than most of the other cars *in kit form* and so its ride, handling and roadholding deficiencies can easily be forgiven; there is also its spaciousness and practicality to be considered. At the other end of the price scale we feel that it would be pointless to buy either the Marcos or the Trident fully assembled, as in this form both cars cost more than an E-type Jaguar, still, to us, king of sports cars at anything up to the Ferrari price level. And if the E-type is king, we continue to regard the Elan as prince, for its combination of space, comfort and roadholding is difficult to rival. In certain respects the Europa does so, of course, but this is clearly a car for the man who travels light and values cornering power above everything. We found both the Marcos and the TVR to be sound, professional vehicles, and as kits both offer good value for money, especially the TVR. ■

Note: Performance figures for Trident Venturer V6 not available at time of going to press—we hope to conduct a full test of this car at a later date.

PERFORMANCE AND ECONOMY

Acceleration (secs)	0-50 mph	0-100 mph	30-50 mph in top
Marcos 3-litre Volvo	5.6	20.0	6.0
Lotus Elan SE	5.8	23.3	7.6
TVR Tuscan V6	6.0	24.8	6.6
Triumph TR6	6.5	24.7	7.8
Lotus Europa	7.4	30.3	9.2
Trident Venturer V6	—	—	—

Fuel Consumption (mpg)	Group Test	Road Test	Touring
Lotus Europa	27.3	29.8	34.6
TRV Tuscan V6	22.7	22.6	26.6
Marcos 3-litre Volvo	22.6	20.7	26.9
Lotus Elan SE	22.6	25.1	27.4
Triumph TR6	21.3	20.8	28.0
Trident Venturer V6	—	—	—

Maximum Speeds (mph)	o/d 4th	4th	3rd	2nd	1st	Intermediate rpm
Marcos 3-litre Volvo	—	125.0	98	66	42	6,000
TVR Tuscan V6	125.0	—	86	55	38	5,500
Lotus Elan SE	—	117.5	84	58.5	40.0	6,500
Triumph TR6	117.0	116.0	88	58	37	5,500
Lotus Europa	—	109.8	87	57	36	7,000
Trident Venturer V6	—	—	—	—	—	—

HANDLING AND BRAKES

Steering	Turning Circle ft.	Steering Turns on 50ft. Circle
Marcos 3-litre Volvo	31¼	0.8
Lotus Elan SE	31½	0.8
TVR Tuscan V6	31½	1.0
Triumph TR6	35	1.1
Lotus Europa	35	0.8

Braking	50lb on brakes
Marcos 3-litre Volvo	0.70g
TVR Tuscan V6	0.65g
Lotus Elan SE	0.64g
Triumph TR6	0.64g
Lotus Europa	0.52g
Trident Venturer V6	—

Annual Cost for 10,000 miles	Gallons	£
Lotus Europa	367 @ 6/8	£123
TVR Tuscan V6	441	£147
Marcos 3-litre Volvo	443	£148
Lotus Elan SE	443	£148
Triumph TR6	470	£157
Trident Venturer V6	—	—

Stowage Space	cu. ft.
Lotus Europa	5.8
Triumph TR6	3.6
TVR Tuscan V6	3.6
Lotus Elan SE	3.1
Marcos 3-litre Volvo	3.0
Trident Venturer V6	—

Europa figure includes both front and rear boots; more space behind seats of Elan, still more behind seats of TR6.