CLUB ELITE

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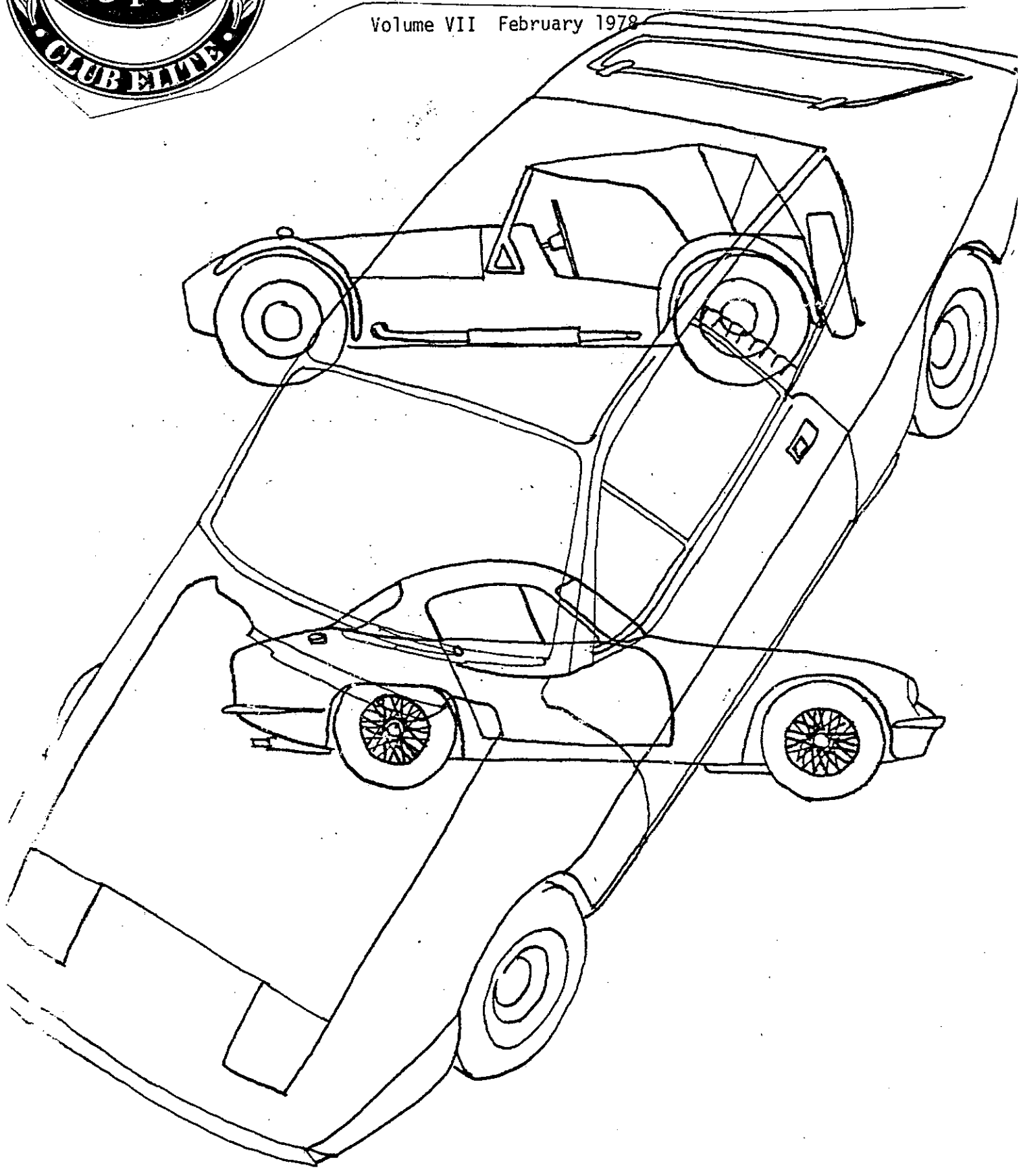


1963 Elite Series 2 SE #1366...Further Adventures

#1366

The rebuild we looked forward so long to enjoying proved a disappointment because the rings just wouldn't seat. Carl Whitney had carefully balanced the engine, which made an enormous difference in smooth, almost vibration-free, performance...not once in the past year has anything jiggled loose like it used to do regularly. Within a few miles, the engine became full of torque, which we took as a sign all was gas-tight, and then we waited for the rings to seat...and waited...and waited.

After 500 miles of carefully loading the engine as directed by the shop manual, we changed from 20-50 W oil to 40 W Valvoline at Bill Hutton's suggestion. But by 3000 miles, despite a few tries to load the rings on the dyno at my local Shell station and many, many trips up and down a local steep, long hill under load, we gave up. After an oil change, we'd get maybe 300 miles, then 200, then about 130 mpg of 40 W Valvoline. At each light, after any lift-off while running, on starting, a great cloud of blue would flush out the stern. The plugs became oil fouled. Finally, our language became fouled, and not with oil!

So, early in December, back to Whitney's we went, filled with opinions and suggestions. Bill Hutton suggested we use the special oil control ring in the Hepolite set he had sent me years before when I originally contemplated a rebuild, and remained surprised that the new factory ring set sent with the new pistons and liners had failed to seat; seems that the new factory set had an "improved" oil control ring design to prevent this problem. John Findlayson of N.E. Lotus favored the Hepolite oil control ring since it had a 3-piece construction, including a spreader that would make for a better oil seal. He suggested we not fit middle compression rings in the top and middle ring slots since the original top ring had a flame-resistant property that the middle compression ring did not; using a middle ring in the top position would soon have that ring burned away. As it turned out, Carl Whitney already knew all the foregoing, and we tore the engine down planning just to replace the oil control ring.

The tear-down went surprisingly smoothly. The head came off, the pan was dropped and the pistons and rods were disconnected and pushed through from below without pulling the engine in perhaps 2-3 hours at most. The rings showed scarcely any signs of scuffing. The cylinder walls were barely altered from the factory grind pattern.

While the head was off, the valve springs were removed and play in the valve guides was checked. There seemed to be the proper amount of play but before reassembly we (1) agreed Carl should try to fit valve stem seals. He did this by replacing the Climax valve guides with Volvo guides that have a small guide cap seal. A certain amount of resizing was required to fit the Volvo guides, but Carl acted as if no significant problem was encountered. The Climax valves were refitted, and the head reassembled.

The Climax oil control ring has a top and bottom edge, but otherwise looks like a normal ring. The Hepolite special oil control ring is 4-piece: a top piece and bottom piece each with an edge, a center ring corrugated in the vertical plane that fills the space between the top and bottom; and a final ring corrugated in the circumferential plane to press the three rings outward against the cylinder wall. We fitted the Hepolite ring.

Other commitments prevented me from being available during reassembly, which Carl carried out himself. I picked up the car in a light snowstorm and drove the 26 miles home, watching for cars ahead and blue smoke behind; plenty of the former, but NONE of the latter! In the 800 miles since, not even a puff of blue smoke, despite normal driving in traffic, with and without the engine under load...the first time in seven years' Elite ownership with oil consumption over 700 mpg and no smoke. A real satisfaction.

Not that all is normal, mind you. The Webers still have proved annoying to set up. 45f9 slow-running jets seem too rich in 40DCOE Webers, so we tried other combinations. 50f8 was <u>much</u> worse: black smoke and sooty plugs. 45f2 runs a bit lean but can be made to stop backfiring by richening the mixture screw considerably. I suspect 40f9 would be ideal but have had trouble finding these jets.

A leaking diff seal got more oil out of the diff than I realized, as I discovered to my chagrin when I heard the rear end begin rumbling. So the next project is to replace our diff gears. This time we might try the 4.22 instead of the 3.91 since the Elite is now mainly a town car anyway. Besides, now I'll have something to report in our next Newsletter!

(1)

1974 Elite 503 #0063 Initial Experiences

Drive the 'new' Elite 503 to Mobile? Why not. In planning our move from Massachusetts to Mobile, Alabama, the issue came down to how (even whether) to take our '63 Elite, '63 Super Seven, '67 Europa, '72 Elan +2, and '74 Elite 503 the 1500 miles to Mobile. One plan was to drive them one at a time over the 5 months remaining before our move. We say, was, because after driving the Elite 503, we've much less enthusiasm for trying the trip with the others, but in some ways they'd certainly be easier, just slower.

We bought the Elite 503 from N.E. Lotus last year as a 3-year-old demonstrator with about 4000 miles on the clock. John Findlayson promised - and accomplished - a fix for all the known deficits in the early models, which entailed 2 engine pulls, one for a leaky rear seal, the other for a clutch disc that lost its rivets. Typical of every Lotus we've owned and all we've heard of, this latest model came only partly pre-assembled but requiring considerable reassembly, fault tracing, and many small re-designs to convert it into something reliable. Air leaks through the dash and footwell haven't been fully discovered and sealed even at this late date, but then we've only just found and sealed (with window-glazing compound) the last leaks in our '72 +2 after some 3 years of diligent effort. Most leaks come from widely gaping slots and holes in the firewall - easily spotted and sealed - but the really difficult sources of air leaks come from spaces where the body joins the steel backbone: these are found and sealed only on a trial basis, done best in cold weather when the leaks are more obvious!!

These leaks in the Elite 503 made the trip to Mobile in 5-15° January weather a miserable experience. For a time, I was convinced the dole valve on the heater had failed - again - but found a tiny stream of warm air among the wintry gales in the footwell. After 600 miles, I stopped on the highway and taped up the entire under dash with duct tape - like your American Express card, don't leave home without it - and had warm legs thereafter but a cold face as the air now streamed out of the steering wheel pads!

At least the car was water-tight. The first leg of the trip was driven in 50° weather during a furious rainstorm of the sort that has made me turn around and go back home after 1-2 miles in the Super Seven, has drenched my feet after 10-15 miles in the Europa, and overwhelmed the '63 Elite's side windows in slow traffic, for those readers owning such cars to use as comparison. Not a drop inside, and not even foggy front or rear windows! Now that's progress. Add to that a pleasant stereo and audible but not overwhelming engine, smooth gear change, nothing jiggling off the dash into my hand, a horn that blew each time I pressed the horn-knob, windows that almost flew up and down at the press of a switch while paying tolls, and a car handling like only a Lotus can...well, it seemed like I could drive across the U.S. non-stop. Except....

Except for the tires. Findlayson's boys had 'balanced' the Dunlop Sport Super 205/60x14 tires X 3 without noticeable improvement in dynamic imbalance. I'd gone to Nick's Tire and Battery just two days before at the suggestion of the Dunlop area representative after a similar trip to another Dunlop dealer, each time for a 'special' balance job. Admittedly, they were improved so that I could at least drive at 60-70 mph without blistering my hands, but the improvement was not enough to make driving pleasant. Worse, in the rain I was terrified at any speeds over 50. When I'd strike a puddle the car would aquaplane, sliding 10-20° sideways, then violently be brought straight on a drier patch. No fun, I'd say. On ice and snow I had turned 180° while trying to negotiate a right hand turn at 10 mph the week before. The dealer said it was "...not a snow tire"; rain? "...not a rain tire"; then what kind of tire? "custom-built for the Elite" (Imagine a drum-roll and cymbal crash at the end.). Don Tingle of Tingle's Lotus Centre suggested this meant "...a great show-room tire", an opinion I share. The tread is shallow when new (8-10/32") and is still 6/32" now, so they're supposedly not worn out. But they're not going to stay on the car.

A final insult was delivered from these tires during the trip from Atlanta to Mobile, some 300+ miles, which offers a wonderful, modestly-patrolled stretch of interstate easily checked by a Fuzzbuster II. On this stretch, tire vibration limited me to speeds of 95-105 while the engine loafed in 5th gear at about 3500-4000 RPM and a Pontiac GTO gradually left me behind just like Robertson's Super Seven had done to Mueller's TR7 in the SCCA. I arrived in Mobile happy with the Elite but more convinced than ever that Dunlop does not build a good tire. Want to buy a slightly used set of Dunlop Sport Supers? They look great!

Regards, JP Mohr

JP & Joan Mohr
38 Turning Mill Rd
Lexington Mass 02173

Autocrossing the Elite

#1497

For the past nine years, I've been more-or-less actively autocrossing EG 1497, and it has been suggested that others might be interested in our experiences. Firstly, whatinhell is an Autocross? An autocross (also known variously as a gymkhana or slalom) is a parking-lot event where the idea is to drive around a closed course (usually marked by rubber cones) as fast as possible. A national set of rules has been established with the SCCA Solo II series, but more common are events administered by a local council. In any case, cars are distributed into various classes by degree of preparation and potential performance; and are driven, one at a time, against a timer. Numerous safety standards are usually specified for course design, vehicle condition (brakes, suspension play, etc...) and equipment (a requirement for roll bars on open prepared cars is common). There is usually a suitable class for the absolute box-stock car.

Why Autocross?

The obvious answer is competition - at a tiny fraction of the expense of SCCA racing. A more basic answer is that autocrossing allows you to explore the limits of yourself and your car in relative safety, and learn to recognize when those limits are being approached. It is by far the best driver training available, short of professional competition instruction.

What Class?

Autocross classes generally fall into three basic categories:

1. Stock (showroom stock) - generally permits little or no modifications to suspension or engine, and usually requires the use of T.O.T.-approved street tires. This is the class for the absolutely original car.
2. Prepared (Prepared Stock) - usually permits some modification to suspension, such as different spring rates, swaybar changes, wider wheels and tires. May permit some engine modifications, and may permit the use of racing tires.
3. Modified - more extensive changes, resulting in a car very much like an SCCA production racer.

Within each of these categories, cars are further divided by performance potential, usually be long experience or observation by a group of experts. For the Elite, the only categories that appear to be practical are the stock and prepared groups (very much dependent on what is permitted where), as being competitive requires that you make full use of the permitted modifications - which is definitely at oddes with the preservation of a classic. If you find that vintage Elites aren't listed in the schedule of classes (likely), you will very likely run into the "but it's a LOTUS" phenomenon - a tendency to push all Lotus products into the fastest class. Be advised - no matter how much you love your Elite, you can't compete with Super Sevens, Elans, or Europas (all else being equal). Swallow your pride, and look for the class with TR-4s, GT-6s, TR-6s, and particularly Porsche 356s. Then it's simply a matter of convincing the local Autocross Committee that C-stock or whatever is where <u>you</u> should be - this will probably require that you drive 2-3 events in a higher class for observation. So be it. They're trying to find out honestly, so don't sandbag (an experienced autocrosser can tell when a car is being pushed near its limits).

Preparation

Things that are very important include suspension slop, shock absorbers, wheels, brakes, and all those little things you've been meaning to do. On an Elite, there are several things that require close attention:

1. Differential Mounts - remove the differential (sounds easy, doesn't it?) and examine the fiberglass around the mounts for cracks, abrasion, and brake fluid damage. While you've got it out, check the rear brakes for piston corrosion, pad wear, seals, and brake pipes (be particularly alert for any evidence that the brakepipes have been hitting the wiring conduit above - if so, replace the pipe <u>now</u>).
2. Rear axle flanges - as these carry both acceleration and braking loads, any looseness will create impact loads in the flange bolts - keep them tight.

Autocrossing - continued

3. Trailing arm balls - replace the rubber ball regularly, and check the mounts for cracks. Always safety-wire the mounting screws.
4. Upper strut mounts - check for cracks, and insure that there is no vertical play between the shaft and mount (Konis may require washers under the nut so that you don't run out of threads before the mount is tight - mine do).
5. Frong swaybar mounts - Lotus made these out of an allow resembling Reynolds do-it-yourself aluminum. It's very soft, and after numerous thousands of miles, the holes pound out oversize. The resulting movement of the bar tends to increase roll angles, and leads to a vaguely uncertain feeling + terminal oversteer. I replaced them with bronze, and anticipate no further problems.
6. Wheels and tires - Tall skinny tires are the car's biggest limitation, but unless you're willing to hack up your car, you're stuck with them. If your class requires street tires and original-size wheels, about the best you can do is a good 155-15 steel radial at about 45psi (experiment). Unfortunately, a 165-15 won't clear the wheel wells reliably, nor will a 175/70-15. If racing tires are permitted, try the 15x4½ 60-spoke wheels (TR4, Austin Healy) with Formula Vee tires (note: SCCA listed the Elites with 4½ in. wheels).

Autocross driving

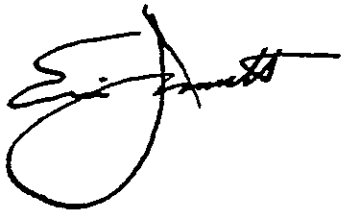
I don't mean to tell you how to drive your car (all are slightly different anyway) or conduct a driver's school, but a few points are worth mentioning:

1. Smoothness - the absolute secret to successful autocrossing, racing, and high-performance driving in general is smoothness. The guys who are really the fastest are the ones who look like they're cut out for a sunday drive - no jerkiness, sudden changes in direction, instant applications of throttle or brakes; but always a smooth transition (sure wish I could learn to follow my own advice).
2. Trailing Throttle Oversteer - The natural reaction when you find that you've driven into a corner too fast is to get off the power. With the Elite (and most other cars with independent rear suspension) this leads to instant oversteer, and you wind up looking at where you've been. If you're only a little too fast, a smooth application of power may well save an embarrassing spin, and allow you to drive out of it, as the rear end will squat and stick - this is well worth knowing anywhere, so why not try to induce the oversteer to see what it feels like?
3. For cars with ZF gearboxes - you have a mixed blessing. While downshifting is infinitely easier, and the ZF ration spread is fantastic, that high first gear is going to give you trouble getting started. About the fastest start is by winding up to about 4500 RPM and easing the clutch in - you may have to keep it slipping for the first 30-40 ft to keep from falling off the torque curve.
4. Get used to driving by ear - Autocross driving is busy, and if you've got time to look at the tach, you're not going fast enough!

Wear & Tear

Many seem to feel that regular autocrossing will beat the hell out of the car, and I'm sure it does accelerate wear in numberous places (engine bearings, clutch, brake pads, and so forth) but if you're reasonably conscientious about routine preventative maintenance and keep the play out of those areas feeding loads into the fiberglass, you'll probably never have a failure you can attribute to autocrossing. In nine years and around a hundred autocrosses, I've only had one catastrophic failure - a rapidly deflating racing tire caused some extreme loads, and pulled one of the trailing arms out of the body. During the same period, we've managed two firsts and a second in the Concours at the Northern California Sports Car Olympics, so the Elite hasn't gotten too ratty.

Try it, You'll LIKE it!



Eric Jewett
5204 Ravenswood Rd
Springfield Va 22151

FOR SALE:

Stainless steel brake pistons for Elan & Elite (iron caliper) rear calipers. Eliminates piston corrosion and lockup. Fronts also available. $40/set of 4 pistons.

Elite front end - right fender complete, left to wheel arch. Subframe untouched. Save this ad for your next shunt.

Stan Bubar, 8303 Chagrin Road, Chagrin Falls, OH 44022 (216)543-5508

WANTED:

Jack (original), Generator Pulley (large - .9 ration type), Heater Inlet Chrome Grill, Accelerator Pedal (LHD), Lotus Steering Wheel Medalion, Small Diameter Steering Wheel, Plexiglass Window Latches (L & R), Gas Tank Filler Neck (not Monza type), Voltage Regulator (RB 310 - good condition) -- contact Barry Swackhamer, 1482 Hamilton Way, San Jose, California 95125 (408)264-3422.

OTHER LOTUS NOTES:

Stromberg carbeurators for the +2S 130 can be fitted with B2AR needles to complete a de-smog job that includes removal of the secondary throttles, filing down the distributor stop so it will rev to pre-emission advance, even to fitting of Mobelec electronic ignition, and changing to N4 from N7Y Champion plugs...the result is a car as smooth as advertized; no surprise: these changes make it the European version! These notes supplement those from a Lotus West article that advised use of the B1Y needles in place of the B1Gs, but I was unable to locate any B1Ys and found the B2ARs recommended in the European Stromberg manual as standard for the 'home' version of the 1970-1971 Elan and Elan +2

J.P.Mohr

ROAD TEST/14-61

LOTUS ELITE

Sports Car Graphic August 1961

How Grand Can Touring Be?

ONCE IN A GREAT WHILE, no matter how many cars one has an opportunity to live in close harmony with, along comes an automobile that for a variety of reasons — not all of which are entirely rational — comes close to subjective perfection.

We have yet to see a car that is entirely wrong and — in the cold light of pure objectivity — one that is entirely right. But on rare occasion we fall in with an automobile that fits one's likes, aptitudes, abilities and physical shape so well that the temptation to disappear to some remote and untraceable section of the globe grows to almost irresistible proportions. Such a car need not be extraordinarily fast, though in our case most have been, nor need it be outrageously expensive, though perfection or near-perfection does not come cheaply.

The latest in our list of nominations for this particular group of machines is Mr. Colin Chapman's delightful confection for those who would tour grandly, the Lotus Elite. While it is hardly a new car, having been brought forth more than three years ago, few have come into public view until quite recently. The reasons for the delay are nobody's business-but Mr. Chapman's; it is enough that the machine is now reasonably available to those who would search out a Lotus distributor and for some — though certainly not everyone — it will be a rewarding search indeed.

To begin with, despite a certain simplicity, the Elite is one of the most technically advanced automobiles on the road. In concept is it derived directly from the front engined Grand Prix car of 1958 and '59, utilizing virtually the same suspension system as that machine. Another unique feature and one that hasn't been emphasized strongly enough even now is the unit body-chassis structure that is constructed almost entirely of glass fiber reinforced resin. So rigid is this structure that only two small steel subframes are needed. One of these, molded into the glass, supports the engine and front suspension while the other forms a sort of cage around the cockpit area, tying the whole structure together. This latter also has hoops that come up through the windshield posts and over the windshield itself to form a roll bar. A smaller hoop comes up and over the rear of the cockpit. Stiffening at load points throughout the body-chassis construction is handled by varying the number of sheets of glass fiber, thus thickening load-bearing areas. The result is extreme lightness coupled with immense strength. To those accustomed to considering strength in terms of structures as the Brooklyn Bridge such construction might seem flimsy but doubters need only to have seen two examples of the Elite which had been thoroughly rolled and bounced in racing mishaps. In one case the car flipped and rolled several times. In both cases the cars were towable and in neither case was there internal cockpit damage, the majority of the injury being in splintered and abraded bodywork. Both drivers walked away from the wrecks. In short, the Elite is fully as strong as it needs to be.

Weighing in at only 1512 lbs., and with the suspension system of a Grand Prix car, one would expect handling of a high order. Just how the order of reality is comes as a distinct shock. At low speeds in the city the handling qualities do not manifest themselves to any great extent; in fact things seem just a bit stiff which might mislead one into worrying about a tendency to skitter at higher speeds. Not so. The higher the speedometer needle travels the tighter the car seems to cling to the road surface and the smoother the ride becomes. Adhesion to the road gets to a point that becomes just a little eerie. This is not a car to be blithely tossed about dirt-track style but one which must be *driven* through bends and turns.

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LOTUS ELITE

(continued from page 19)

in this particular case but it isn't annoying; it's just there to remind you that a lot of small parts are doing their jobs efficiently and rapidly.

The clutch, hydraulically operated, is feather-light to the touch and very smooth on engagement. It seems almost too soft until it is realized that the bite is solid and firm with every engagement after a gear change biting home solidly with no slip or other nonsense associated with soft-pedal clutches. The gearbox is a standard MGA unit complete with the usual BMC gearing. The close ratio gears used in the MGA competition box can be had for an additional $80 in a package. If you want them installed it is an additional $90 labor. This is simply due to the fact that the CR gears are not part of the regular BMC line and somebody has to stuff them into the case after it leaves the assembly line. Our test car had the normal gearing and, as mentioned, a higher, closer ratio second gear wasn't missed although it is quite possible that it could come in handy on tighter courses.

As hinted at earlier, acceleration feel is strong in spades. It isn't of the slam in the back variety but a sort of incredibly smooth increasing swiftness that seems to build and build as long as one has stomach enough to hold down the throttle. Cruising speed in top gear can be anything the law allows from 55 or 60 on up to 90-plus with the exception of one spot around 70, or in the neighborhood of 4400 to 4700 rpm, at which point there is a strong vibration. We are told this is endemic with the breed and that much time and money has been expended on finding the cause and cure. It isn't damaging but it *is* annoying and one soon learns to drive around that point — in fact it is one of the very few negative attributes of the car. The others: no support struts for the hood and rear deck lid, an inaccessible battery, flimsy bumpers and weak, soft rubber rear exhaust supports. That's about the list unless one wants to include a rather high interior noise factor (but no wind noise — *none*) which didn't bother us particularly but might annoy those with more delicate ears; to be truthful we sort of enjoyed it. Oh, yes — there was one other thing. With a huge drive-shaft tunnel running between the seats which had a nice flat surface on which one could place cigarette packages and the like there was ample acreage for an ashtray a-la Healey but no ashtray was present — a small touch but in a car that is as expensive and well-thought out as this one, an irksome point.

Getting back to plus factors (pull up a chair) as a car goes, so should it stop. This one goes and stops with equal dexterity. The stopping power is provided by Girling 9½-inch discs all the way around, outboard on the front and inboard on the rear, eliminating brake torque on the rear hubs. During tests and afterward during hard racing laps around Riverside there was no tendency to fade or to pedal loss.

Steering as mentioned is feather-light and positive. Tracking is so good that it becomes a hands-off proposition at any speed on a smooth road. The car is instantly responsive to any wheel movement but not so much so that over-correction is ever a problem. Insofar as we had guts enough to check it, steer characteristic is dead neutral with both ends sticking to the road as though they were built into it. As the photos show there is more than a little lean on hard cornering but it is almost completely imperceptible to the driver.

The ride, as mentioned, seems just a bit stiff on rough streets at low speeds with the small bumps making themselves felt but as speeds increase this is all ironed out with little perceptible difference being noticed betwen bumpy roads and smooth ones either in control or ride. Despite the small size of the car, the problem of getting in or out is not a large one unless one is more than six feet tall or one's lady passenger is wearing a tight skirt. Even for a six-footer, once he's inside, there is ample room. The seats are firm and snug with all the lateral support anyone could possibly want and plenty of arm and shoulder maneuvering room. The driving position is typically Lotus legs-out-ahead and with a vertical wheel placed perfectly for arms-out handling. The instruments are of an order to delight the heart of the purest of the pure sports car enthusiasts, their black faces with white numerals showing just about anything one would want to know. Placement is perfect with no blind spots and the lighting is an unobtrusive blue that picks out the numbers without blinding the driver. The small controls are where they belong, easy to memorize and to operate. Typical GT practice is the combination horn and light flicker switch. On a long stalk near the wheel a movement downward blows the horn and a flick upward turns on the high beam lights whether the regular light switch is on or off.

One of the objections to a small car for touring is usually that there isn't enough space to store luggage and other impedimenta. Not so with the Elite. The trunk looks small but it will handle one standard suitcase with a camera bag (large), loose clothes on hangers and an untold amount of softly packed goods. On the shelf over the spare tire behind the seats there is room for a small suitcase. In each door there is a capacious pocket that will carry anything from books to laundry. In addition there is a spacious package shelf under the dash. If necessary and if the chattels are properly stowed one should be able to lug one to two weeks' worth of supplies along on a trip in this car.

The windows in the doors are of the snap-in variety first seen in the gullwing Mercedes 300 SL and can be snapped into place almost as fast as a window could be wound up. Ventilation control is handled by windwing windows pivoted in the forward part of the doors. So sensitive are they to opening position that virtually any degree of air venting from a blast to a zephyr can be had. A nice touch here is that they are equipped with small diagonal gutters that prevent dripping from the inside corners in a rain. Visibility is excellent all the way around except for one small blind spot over the driver's shoulder to the right in the case of a left-hand drive car and to the left in the case of a right-hand drive. This can easily be eliminated with accessory outside mirrors.

At $5714 the Elite is not an inexpensive car — in fact for its size it's a pretty expensive one. Further, at first glance it doesn't look like that kind of money and for that reason it isn't the sort of car that can be "worn" like a diamond stickpin as a status symbol — but then again it wasn't meant to be. Nor is it a loud, fierce, impressive looking car. It is, rather, a car to *worry* the man with a loud, fierce, impressive looking car. In short, the Lotus Elite is not everyman's sports car (should there even be such an item) but rather it is an esoteric machine built for those who demand the ultimate in grace, performance and, above all, handling in a unique Grand Touring car. For the man to whom these things are important, or to whom production class racing in such a machine is important, the Lotus Elite is worth the price of admission. There may be bigger cars and there may be more luxurious ones but there are few that will give more than the Elite in terms of sheer sensuous driving pleasure. — *John Christy*

LOTUS ELITE *continued*

Steering is light and with almost nil return action, the sort of thing designers of power steering probably had in mind but failed to achieve. This light, positive control coupled with the uncanny ability to stick to the road leads one eventually to experimenting with turns. On a trip between Los Angeles and Las Vegas we found ourselves continually going through turns that could have been taken with normally good handling equipment at, say, 55 or 60 mph but which in the Lotus were so safely and smoothly taken at 20 mph more that at times we felt slightly foolish. Since the trip was being made to attend the Las Vegas races the road was pretty well filled with other sports cars and on occasion their drivers took exception to being passed in what must have seemed to them an unnecessarily blithe manner. Their efforts to make up for the seeming insult could at will, with only a slight additional pressure of the right foot be brought to nought. As mentioned — uncanny.

Power for these shenanigans and others such as may be seen by glancing at the acceleration graph, comes from a docile but extremely willing version of that ubiquitous fire-pump, the SOHC Coventry Climax — 74 cubic inches and 75 horsepower's worth. The number of horses living under the hood do not, however, spell out the whole story. The spelling is R-A-N-G-E. While the horsepower peak is delivered at a healthy 6100 rpm, the torque peak is way down there at 3400 rpm with the result that at just about any speed a poke at the throttle produces immediate results. Despite its small size and relatively hot performance you do not row this car around with the gearbox. The box is there to be used, and it should be, but it isn't necessary to be forever waggling the stick around like the handle of a butter churn. On our tests at Riverside Raceway, normally a three gear course, it was utterly unnecessary to use anything but third and high with third gear being used only where most cars require the use of second. This ability to accelerate from just about any point on the dial enabled us at one point to play fun and games with a gentleman in a Lincoln who formed the annoying habit of passing and then slowing down below our normal cruising speed on a straight stretch of four-lane road in Nevada. We had passed him at a steady clip and then moved into the right lane. He boomed around and then slowed down. We passed him again and the act was repeated. The third time we waited until the behemoth was alongside and then poked the throttle. The Elite squirted ahead like a squeezed watermelon seed and we proceeded on down the pike at something in hand over the century mark for a sufficient number of minutes to end the man's attempts at free-lance traffic regulation.

Strangely enough all this sizzle is accompanied by economy of fuel consumption bordering on the fantastic. During performance testing the Stage I Elite showed an average of 30 miles to the gallon despite continuous laps at racing speed, acceleration runs and top speed, full-throttle tests. In city driving the average jumped to 38 mpg and on the Las Vegas trip where speeds were fairly steady, though with the several high speed bursts noted above, the figure was a near-unbelievable 43 miles to the gallon. No attention was paid at any time to feather-footing for economy reasons though some lightfoot work was necessary just to avoid tangling with the law. While part of this economy is due to the small size of the engine with its lone carburetor, most of it can be pegged to the light weight and aerodynamic shape of the car.

Firing up the Elite is an instantaneous business involving turning the key to the right at which time the Climax bursts busily into an 800 rpm idle. Given a minute or two to warm up, throttle response is of the right-now variety with the tach needle literally whizzing across the face of the instrument. Busy-ness is accompanied by considerable buzzy-ness

(continued on page 72)

ROAD TEST/14-61

TEST DATA

VEHICLE .....Lotus
MODEL .....Elite
PRICE ((as tested) $5741
Options .....Stage 2 & 3 power kit. CR gears, Radio and Heater

ENGINE:

Type: .....4 cyl., 4 cycle, in-line, water-cooled
Head: .....Aluminum
Valves: .....SOHC, inverted tappets
Max. bhp .....75 @ 6100 rpms
Max. Torque .....72 lbs. ft. @ 3400 rpms
Bore .....3.0 in. 72.2 mm.
Stroke .....2.62 in. 66.6 mm.
Displacement .....74 cu. in. 1216 cc.
Compression Ratio .....10.0 to 1
Induction System: .....Single SU carburetor
Exhaust System: .....4 branch iron manifold
Electrical System: .....12V Lucas

CLUTCH: .....Single-disc, dry
Diameter: .....8 in.
Actuation: .....hydraulic

TRANSMISSION:
Ratios: 1st .....3.67 to 1
2nd .....2.50 to 1
3rd .....1.34 to 1
4th .....1.0 to 1

DIFFERENTIAL:
Ratio: 4.55 to 1. Optional 3.7, 4.2, 4.87
Drive Axles (type): Open, independent

STEERING: .....Rack & Pinion
Turns Lock to Lock: 2½
Turn Circle: .....34 ft.

BRAKES: ....Girling discs — inboard rear, outboard front
Drum or Disc Diameter .....9.5 in.
Swept Area .....359.36 sq. in.

CHASSIS:

Frame: .....Steel tube molded in Fiberglas
Body: .....Fiberglas, semi-integral
Front Suspension: .....Unequal A-arms, coil-shocks
Rear Suspension: .....Lotus strut-type, coil-shocks
Tire Size & Type: .....4.80 x 15 Michelin X

WEIGHTS AND MEASURES

Wheelbase: .....88 in.
Front Track: .....47 in.
Rear Track: .....47 in.
Overall Height .....46 in.
Overall Width .....58 in.
Overall Length .....130 in.
Ground Clearance .....6.5 in.
Curb Weight .....1512 lbs.
Test Weight .....1735 lbs.
Crankcase .....4 qts.
Cooling System .....10 qts.
Gas Tank .....7.0 gals.

PERFORMANCE

0-30 .....3.1 sec.
0-40 .....5.2 sec.
0-50 .....7.1 sec.
0-60 .....10 6 sec.
0-70 .....13.8 sec.
0-80 .....18 sec.
0-90 .....22.2 sec.
0-100 .....29.8 sec.

Standing ¼ mile 19 sec. @ 82 mph. Top Speed (av. two-way run) 119 mph (@ 7000 rpm)

Speed Error	30	40	50	60	70	80	90
Actual	29	39	48	57	67	77	

Fuel Consumption Test: .....30 mpg
Average .....34 mpg
Trip .....42 mpg

Recommended Shift Points
Max. 1st .....30 mph
Max. 2nd .....50 mph
Max. 3rd .....83 mph
RPM Red-line .....6500 rpm

Speed Ranges in gears:
1st .....0to 30 mph
2nd .....5 to 50 mph
3rd .....20 to 83 mph
4th .....30 to 119 mph

Brake Test: .....75 Average % G, over 10 stops
Nil Fade encountered on 10th stop.

REFERENCE FACTORS

Bhp per cubic inch 98
Lbs. per bhp 18.9
Piston Speed @ Peak rpm .....2664 ft./min.
Sq. in. swept brake area per lb. 253