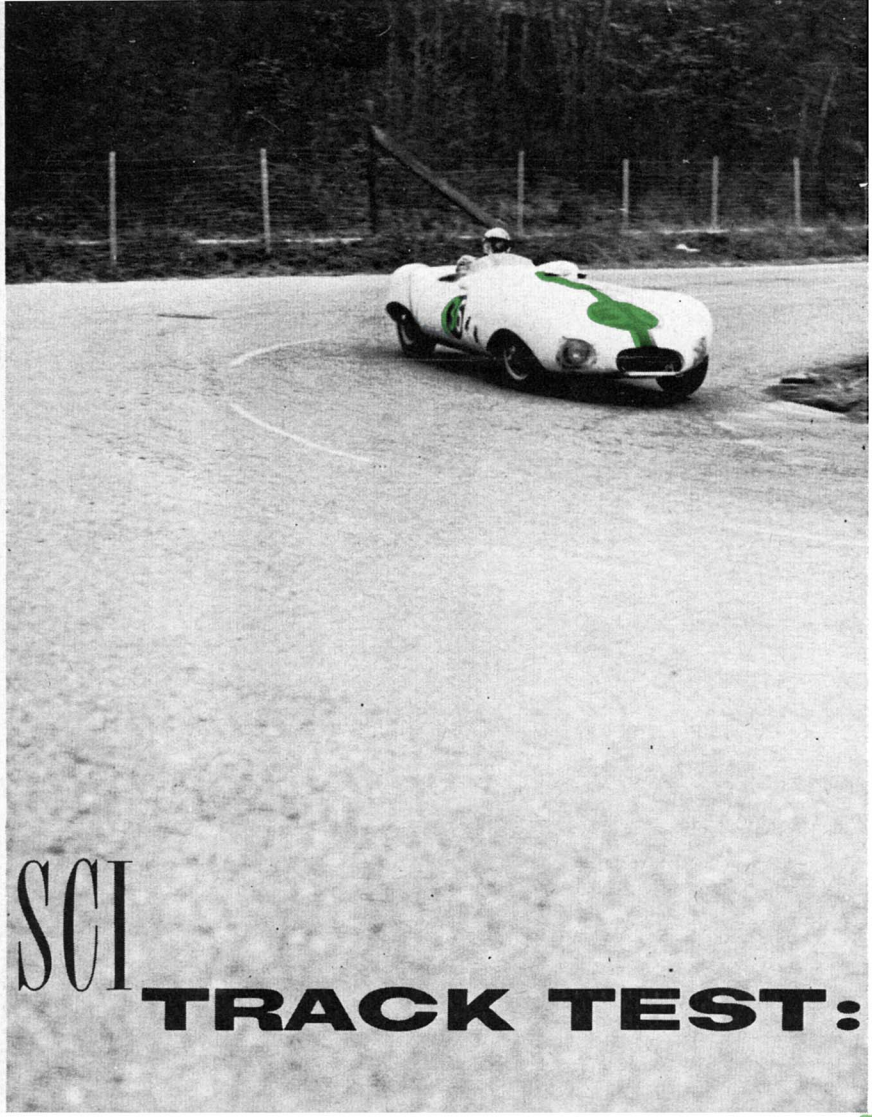

SCI TRACK TEST:

ELVA Mk II

Wringing out one of the "economy" sports-racing cars.

IT MAY NOT BE any good for hauling groceries, but if your idea of a sports car is four-wheeled fun (with fenders), then a racing-sports car such as the Elva Mk II may be just the thing. Elvas (from *elle va,* French for she goes) are made and designed by Frank Nichol's Elva Engineering Co. of Bexhill in England. They come in a variety of shapes and sizes. The premier model is the Appendix C-conforming Mark III at $5600. Running it a close second, and differing only in minor details, is the $5200 Mark II, the subject of this test. Both carry simple, aerodynamic bodies of 18 gauge aluminum with fold-open nose and tail sections. The Mk I is fitted with a fiberglass body and sports an Elva intake-over-exhaust cylinder head on the trusty Ford 1172 cc block, a Standard (Triumph) Ten sedan front suspension unit complete, and a rigid rear axle from the current Ford Anglia/Prefect. The Mark I-b is the same, but with the Climax engine.

Another Elva, one which should supplant the Mk I and I-b when it becomes available, is the Courier. Essentially a Mk I, its engine and gearbox will be BMC B-type, i.e., MGA. This should be quite a bomb for those of us in a hurry for the groceries, and its live rear axle will keep its price down. Under $3000, it is rumored. Necessarily starker than the MG, it will still offer full amenities, which is more than can be said of the Marks II and III.

These latter two Elvas are quite straight-forwardly racing-sports cars with the accent on the first two syllables. As a matter of fact, the mufflers seem to be no more than local enlargements on the straight-through twin-exhaust pipes. Their effectiveness seems to be limited to getting past scrutineers rather than highway patrolmen, so the test Elva

was towed to and from the Marlboro track.

Our particular Elva is the Mk II driven by Frank Baptista to second in class G in the Governor's Trophy race at Nassau, where Elvas in general swamped their opposition. It was loaned to us by Continental Motors, Ltd., 1401 Rhode Island Ave. N.E., Washington, D. C., the American distributors.

Like most Elvas with the Coventry Climax 1100 cc engine, it is listed as Stage 2. But as individual enterprise is still well rewarded in this field, it's hard to say just how stock any particular Climax mill is after it's been in the USA for a while. The factory says 83 bhp at 6800 rpm, but some people get over 90 without straining their budget. This engine hasn't been on the dyno, so we can only guess, say at 88.

Where's Marlboro? A few years back a group of Washington, D. C. enthusiasts banded together into the Lavender Hill Mob. Not merely a social club, they have financed the construction of a tight, twisty and very fascinating road circuit twenty-odd miles SE of Washington. It incorporates about three-fourths of the old paved ¼-mile stock car oval on the outskirts of this sleepy, tobacco-warehousing town. As well as being a weekend paradise for the locals, it has been a spirited training ground for many of the "Mobsters". It received its full seal of approval from the SCCA in 1957 when the Washington Region staged a National meet there late in the summer.

When we visited it, the air was a bit cooler, and as a passenger one couldn't help noticing the lack of a windshield. With us to drive the car in the acceleration runs was Charlie Kolb, well-known for his performances with a Mk III at Nassau and SCCA events.

After a few warm-up laps around the oval, the tire pressures were adjusted (24 psi front and 30 rear) and we set off to run a few quarter-mile sprints. Marlboro's back straight is level, all right, but it's not quite straight for a full 1320 feet plus the necessary braking area. So all our runs were made in the usual direction of race traffic, starting just past the hairpin and running full throttle through the gentle right and left ess. We measured diagonally through this ess along the path the car would follow. The finish line was about 100 yards from the next corner, so each run incorporated maximums in acceleration, braking, and cornering!

Shifts were made very quickly, in a manner more suited to the race course than to every day use. Each start involved a yard or two of wheelspin, revs never dropping below 5000 in first gear. Shifts at 7000 rpm came up with a rush and, talk about crisp exhaust notes, this ones fairly shrieked as the tach needle spun through the 4½ to seven thousand quadrant.

Because the car is equipped with only a tachometer, and oil pressure and water temperature gauges, we took times from a standstill to the instant when the gears were disengaged, i.e. zero to first shift, zero to second shift, and zero to the third shift. This last shift into fourth consistently occurred as we crossed our finish line, giving us the speed at the end of the quarter as well as elapsed time.

Gear ratios and rolling radius were known, so it was an

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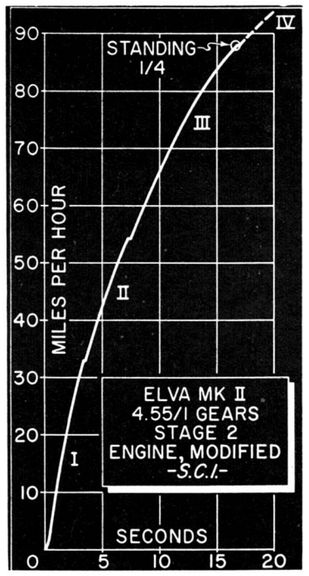
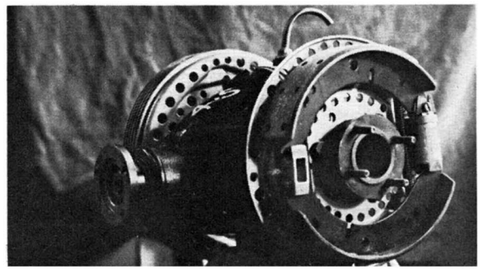
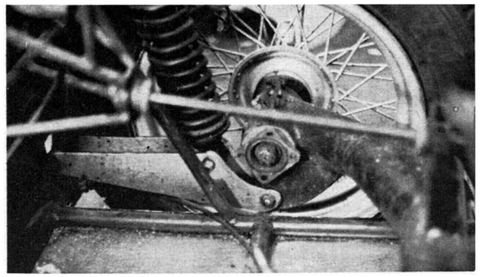




BMC-based rear mounts TR-2 drum brakes, unsprung.



Above, the outboard-mounted, spring carrying lower trailing arms and the simple, upper radius rods together with unshown vertical guide locate the de Dion precisely, permitting Charlie Kolb, left, to power-slide the Mk II around Marlboro's sharpest hairpin with smoothness and ease.

With four 1sts, two 2nds, four 3rds, and two 4ths, the Elva contingent at Nassau fairly swept the 1100 class. Our test car is in the middle, Frank Baptista at helm.

ELVA MARK II ROADSTER

Price	**$5200**
Distributor	**Continental Motors, Ltd. 1401 Rhode Island Ave., N.E. Washington, D. C.**

PERFORMANCE

TOP SPEED:

Estimated	**130 mph**

ACCELERATION:

From zero to	**Seconds**
30 mph	**3.0**
40 mph	**4.7**
50 mph	**6.4**
60 mph	**8.7**
70 mph	**10.9**
80 mph	**13.7**
90 mph	**17.9**
Standing ¼ mile	**16.7**
Speed at end of quarter	**88 mph**

SPECIFICATIONS:

POWER UNIT:

Stage 2 Coventry Climax	**water cooled in-line four**
Valve Arrangement	**Inclined, in-line, sohc**
Bore & Stroke	**2.85 x 2.625 in (72.4 x 66.6mm)**
Stroke/Bore Ratio	**0.92/1**
Displacement	**66.9 cu in (1098cc)**
Compression Ratio	**9.8/1**
Carburetion by	**twin S.U.**
Max. Power	**83 bhp @ 6800 rpm**
Max. Torque	**74.5 lb-ft @ 4400 rpm**

DRIVE TRAIN:

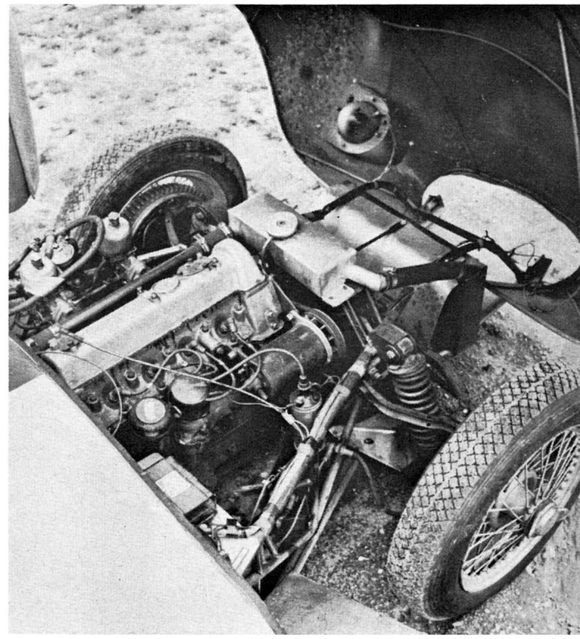
Transmission ratios	
I	**3.63 (2.29 optional)**
II	**2.21 (1.75 optional)**
III	**1.37 (1.25, 1.17 optional)**
IV	**1.00**
Final drive ratio (test car)	**4.55**
Other available final drive ratio	**3.89, 4.22, 4.89, 5.12, 5.38**
Axle torque taken by	**differential casing**

CHASSIS:

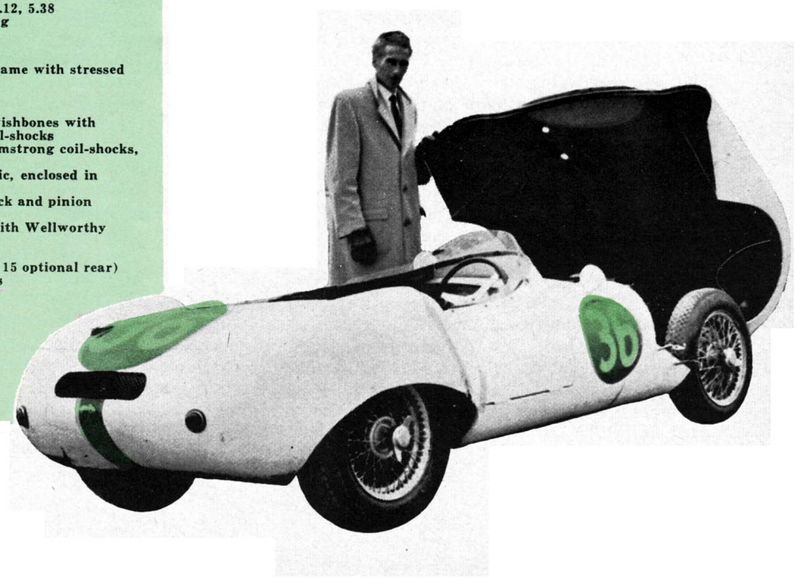
Frame	**Tubular space frame with stressed undertray**
Wheelbase	**85½ in**
Tread, front and rear	**48 in**
Suspension, front	**Triumph TR-3 wishbones with Armstrong coil-shocks**
Suspension, rear	**de Dion with Armstrong coil-shocks, 4 radius rods**
Shock absorbers	**Tubular hydraulic, enclosed in coil springs**
Steering type	**Morris Minor rack and pinion**
Steering wheel turns L to L	**1¾**
Brake type	**Triumph TR-3 with Wellworthy Alfin drums**
Brake lining area	**175 sq in**
Tire size	**4.50 x 15 (5.25 x 15 optional rear)**
Fuel capacity	**7.5 U. S. gallons**

RATING FACTORS:

Bhp per cu in	**1.24**
Bhp per sq in piston area	**3.26**
Torque (lb-ft per cu in)	**1.11**
Piston speed @ 60 mph	**1525 fpm**
Piston speed @ max power	**2980 fpm**



Factory rating of stage 2 Coventry Climax engine is 83 hp but in talented hands this can be raised readily to about 88.



Charlie Kolb lifts lid to give us a look. The tail section swings open similarly, giving unlimited access to mechanical components.

ELVA

(Continued from page 21)

easy matter to convert the 7000 rpm shift points into actual mph. These three points were plotted on our usual graph. Allowing but a small portion of a second for the shifts (Kolb was really pushing them) and keeping in mind that the area under the speed-time curve is equal to the distance traveled, (i.e. one quarter-mile), we have come up with what we think is a fair plot of the car's accelerative ability.

Top speed runs were impossible to make and anyway, the results would have been a bit unfair with the 4.55 ring and pinion set. Estimates are a dodgy sort of business but 130 mph shouldn't be impossible to reach in stage 2 with the proper gears.

After making three runs for our regular brake test, we abandoned the efforts completely, as one front wheel was locking up before deceleration could exceed 0.6 g. Not too well aware of our brake test procedure, Kolb was all for locking the wheels for ten consecutive stops. Being more interested in testing fade than putting flat spots on the tires, we credited the Elva with zero points on this score, putting the blame squarely on insufficient maintenance since the last race. Properly adjusted, the Wellworthy-Alfin drums with TR-2 workings should certainly be well up to their job of stopping this much lighter car.

A following topic of conversation was the futility of SCCA's brake test procedure for tech inspection at race meetings. Being able to lock up all four at low speeds doesn't mean that one can necessarily stop smoothly and quickly under full control. But what would be a better test in the time allowed?

At last it was my turn to take the wheel. The first surprise had to do with feet *vs.* pedals. Despite the right hand drive, there *is* a place to rest the left foot next to the clutch pedal. But if you've got big feet, you find that it's a bit awkward to get on both the brake and the clutch without unintentionally hitting full throttle too. Discouraged thus from being a "*nouveau* Larry", we set out for a few simple tours of the original oval. First time off, we found that the clutch linkage is firm and clean; but we managed to stall the engine anyhow. In well-developed Stage 2 form, it's none to happy below 3500 rpm and practically useless under 2000.

Out on the oval we got our second surprise. The steering is just so light, quick and precise that it beggars description. True, the Elva is very light and the Morris Minor rack and pinion steering is very quick (though the 1⅛ turns lock to lock must be explained in part by a rather generous turning radius) but the best feature of all is the consistency of feel.

Starting our tours of the oval at 5000 rpm in second gear, we went round and round, increasing revs gradually as we became accustomed to the Elvas especially flat-cornering characteristics (we don't get to drive racing cars *every* day in the week, you know). Soon we were touching 7000 on the straights and not dropping much below that in the turns. At this speed, the tail would swing well out, giving us a very vivid demonstration of slip angles; large.

Sitting out in the open, although well protected from the biting cold by the windshield, we felt much more a part of the road and aware of all that was going on than we usually do in our everyday sports coupe.

Especially fascinating was to be running right on the limit, occasionally exceeding it, yet never needing to ease off viciously on the steering. Light little corrective movements that seem to spring naturally from our finger tips were all that was necessary. When we did get the Elva cocked a hair too much, it would just drift on out a bit towards the fence. At all times the transition from one attitude to another was most smooth and pleasant.

Out on the road circuit, we found that we could just think the Elva through the few sweeping bends. A hackneyed phrase, but seemingly true. On sharper turns, especially second gear hairpins, the car easily could be made to power drift, merely by jumping on the throttle. Even as the back wheels scratched for a grip, the front ones would be pushed out too, so that frantic unwinding of the steering wheel just wasn't necessary.

A combination of more or less equal distribution of cornering loads, fore and aft, and very quick yet light steering are the major reasons for this. And don't misunderstand us with all this talk about going past the limit; the Elva sticks like you-know-what and it takes a very determined effort, gritted teeth and all that, to boot it around hard enough so that it does start sliding away.

After about a half hour of playing Jack the Bear, we could see how cold Charlie had become, so we reluctantly called it quits. With the Elva soon back on her trailer, we headed for the nearest cup of hot coffee.

The Marks II and III are both serious attempts to crack the Lotus-Cooper monopoly of the highly competitive 1100 cc class, and the fair sized market that has developed for these cars in the USA. While all use the now ubiquitous Climax "fire-pump," they are basically quite different from one another. Though the Elva is conventional in layout, i.e. front engine, rear drive, it differs especially in making more extensive use of what in its home country are called "proprietary" units.

For example, the front suspension is almost entirely Triumph TR-2 Spares for the backing plates, spindles, wishbones and all the associated bearings and bushings are thus as close as the nearest Triumph dealer. The springs, both front and rear, are Armstrong combined coil and shock absorber units (part number 03521). The brake drums are Wellworthy-made Alfin units for a TR-2; they have to work at much higher speeds here, but the weight to be stopped is much less. The front ones have radial "turbo-fins" while the rears are finned more conventionally.

The light weight rack and pinion steering gears are from the Morris Minor and so is the nose piece or "pumpkin" of the differential case. The rear portion is the very same magnesium casting which Chapman uses on the Lotus. Its sides are suitably machined to receive, in order from the center out, a slim nylon oil seal, an Italian RIV ALN 30 self-sealed ball bearing (they are alleged to last and last).

and finally the backing plate which mounts on an external flange.

Torque is transmitted to the wheels by double U-jointed shafts. The splined inboard end of a Minor axle shaft has a flange arc-welded on to accept the companion flange of the Hardy-Spicer universal joints. The latter units, both inboard and out, are from the Minor's propeller shaft. So are the sliding splines, and naturally enough, so is the propeller shaft itself. All of this complication is to enjoy the light unsprung weight of a de Dion rear end.

The de Dion tube, about 3½ inches in diameter, lies to the rear. Towers erected from it, about a foot each side of the center line, tie in rubber bushed radius rods of ½ inch diameter, twelve inches long. Lower radius rods are made of boxed sheet steel. In addition, these carry the bottom of the coil-shocks just ahead of the downward projecting brackets on the de Dion tube. Lateral location is effected by a one inch diameter roller pinned to the rear of the de Dion tube on a longitudinal axis. It rides within a well-greased, channel-shaped vertical slide which is welded into the frame on the centerline.

The frame is a modified space frame of tubular steel. Only a few members work in bending, the majority of the structure being loaded in tension or compression only. Outside diameter varies from 1¼ inches for the lower rail, the cross-members, the forward upper tube, and the uprights to ¾ to 15/16 inch for the remainder. Some of the mountings are rather ingenious, such as the spare wheel which is tied down with elastic shock cord. Others seem more cumbersome, the attachment of the diff case coming to mind here.

Upon reflection, the deepest personal impression of testing this car on a race course was the realization of the time-scale effect. No matter what the speed potential of a car, navigating a particular bit of roadway demands certain maneuvers on the part of the chauffer. The slower the car, the more time there is in which to plan and execute them; conversely, the faster it is, the less time there is and the more accurately they must be accomplished.

In other words, being a hotshoe at Lime Rock in an Austin A35 is a far cry from being one in an Elva. Perhaps this is something for would-be purchasers to consider before laying cash on the line. If you think you can do the car justice, then go ahead, for the Elva will surely do its share for you.

The entire conception of the Elva is purposefulness combined with economy. The execution is achieved with simplicity, an always admirable trait. This machine is designed to go sports car racing, and while successes may be expected, operating costs can certainly be counted upon to be within reason. *Stephen F. Wilder*