



CLUB LOTUS ELAN SECTION

'You and a few friends could create your own Lotus Elan in less than a week-end of simple constructive pleasure. I did.'
says Dr. Hammond



The 1970 Lotus advert with Dr Hammond

Building an Elan from a Kit – In a Weekend?

Over the years the Elan has gained a reputation, unfairly we would argue, of being nothing more than a kit car. This somewhat shallow view ignores the very fine driving qualities of a car we all admire and treasure! However, Colin Chapman realised that his rather expensive two seater could be made more attractive to his potential customers if they did not have to pay UK Purchase Tax on their Elan. This could be achieved, under the tax regime of the day, by supplying a car in 'Component Form'. This is what Lotus did to increase the appeal of the much admired Elan to a wider motoring public. A buyer could save up to 30% on the price of a fully factory assembled Elan in this way. We would point out, however, that in reality, the Elan was never a kit car or component car, but a car delivered to the customer for final assembly, predominantly using pre-built sub-assemblies.

A kit car, also known as a "component car", is one that is available as a set of parts that a manufacturer sells and the buyer then either assembles into a car themselves, or retains a third

party to do part or all of the work on their behalf. It was in 1896 that an Englishman, Thomas Hyler White first developed a design for a car that could be assembled at home. His designs were published in a magazine called 'The English Mechanic' and he later wrote a book, 'Petrol Motors and Motor Cars: A Handbook for Engineers, Designers, and Draftsmen' about his ideas. In 1912 an American single seater, named the Lad's Car, was made available as a kit. Early kit cars could be purchased for less than the cost of a ready-assembled model, but in the 1950s the idea of the kit car began to take off. At the same time as Lotus, a number of other British car manufacturers provided component cars, including Davrian Developments Ltd, Dutton, Elva Cars, Fairthorpe, Falcon Shells Ltd, Gilbern Sports Cars Ltd, Ginetta Cars, Marcos Cars Ltd, Rochadale Motor Panels and Turner Sports Cars.

Walking into a Lotus dealer in the 1960s it was not unusual to find both complete and component cars side by side in the showroom. Although this might have proved alarming to some prospective owners, most were enthusiasts who could appreciate seeing the major parts of a sports car, which they could be interested in purchasing. If they did indeed buy the component version, they would have received not one but two invoices from Lotus. The one from Lotus Car (Sales) Ltd would be for the CBU (Chassis Body Unit) comprising 'one dash panel, petrol tank, wiring loom, handbrake lever and cable, rear view mirror, glove compartment, steering wheel, badge and column, rack and pinion. Two seats and bumpers. Set of trim, electrical equipment, locks, brake and clutch systems including pedals'. The other would be from Racing Engines Ltd (which was a Lotus company) for engine components, including 'one Lotus engine complete with four-speed gear box and ancillaries. Two front suspension units. Two rear suspension units. Exhaust system and battery. Five wheels, tyres and tubes.' In addition, it has been noted that the majority of component cars VIN plates do not have the engine number recorded on them, only the unit number; whereas factory built cars tend to have both numbers thereon.

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The two invoices for a component Elan; one for the engine, one for the CBU

Lotus claimed the Elan kit could be built in 25 man hours. In 1967 they first published what has become the well-known advert describing how a Dr Hammerton had put his kit S3 Elan together over a weekend; in 1970 he had transformed himself into Dr Hammond and the car depicted had a Series 4 rear end!

We are fortunate in that Dr Charles Bulmer, when he was editor of the weekly 'Motor' magazine, published an article on how he built up his own S3 FHC. On 24 March 1966 Elan Coupe VIN 36/5467, probably uniquely fitted with matching engine number LP5467, was sold by Lotus to Bulmer. It was subsequently registered in London South West District as KGH 765D. On Thursday 31 March 1966 the car arrived on a trailer with one van driver; four men were press ganged into offloading it. First off was the CBU comprising a completely trimmed, upholstered, painted and wired body, with the final drive and rear suspension already fitted. Next off was the engine and gearbox, front suspension, exhaust system, radiator system, five wheels and tyres and a number of cardboard boxes with sundry other items.

On Saturday 2 April Bulmer and his man-helpers started work; reading the section on 'Overhaul and Rebuild Instructions' from the Workshop Manual was the first task. There were never a full set of building instructions with a kit, since Chapman wanted to ensure Lotus did not lay themselves open to investigation or criticism from HM Tax Collectors that they were supplying anything other than a component car. Bulmer then laid out all these components on his workshop floor.

On Sunday 3 April the team got busy fitting the front hubs, brakes, coil/spring damper units and bolting on the anti-roll bar, track rod ends and connecting the brake hoses. Bulmer and his helpers then removed the starter and gear lever from the power unit, positioned the engine on the hoist, fitted the wheels and then, not without some difficulty, lowered the engine & gearbox into the car. They probably needed a drink after achieving that! Next the wires were all connected, pipes and cables fitted and the propshaft fitted, but only after they discovered the chassis access hole having removed the driver's seat and carpet. Then both Webers were removed to facilitate the fitting of the petrol pump and starter lead. With everything connected, the clutch and brake hydraulic systems were filled and bled.

Come Monday 4 April Bulmer, this time on his own, replaced the Webers, fitted all the rubber water hoses and filled the radiator system, fixed the exhaust in place and fed the gearbox with oil. He then attempted to start the engine. However, he discovered the petrol tank outlet pipe was un-connected!

There was then a pause, due to work, until Friday 8 April, when most of the team re-assembled for the big day. They tightened up the front suspension, tightened all the wheels, adjusted the handbrake callipers, fastened on the number plate and fixed the tax disc. Adjustment was made to the front wheels for toe-in, the Webers were tuned and lastly, the airbox and cold air trunk were put in place. There were then three trial runs, involving all the team having the chance to experience their handiwork. It had taken a total time of 55 man hours, over three days, to build Dr Bulmer's Elan. Almost twice the Lotus estimate!

It's interesting to compare the Bulmer build to the Lotus advert build. One of the principle differences, borne out by others experience, was that the rear suspension and final drive needed to be fitted; Bulmer was clearly fortunate that his arrived already in place. So according to Lotus the CBU arrived trimmed and painted, with electrical components, wiring, steering, brake pipes all assembled. Dr Hammerton then had to assemble the front and rear suspension, fit the propshaft and driveshaft's, hoist in the engine and gearbox, fit the radiator and exhaust system, check all the main connections, fit number plates, check tyre pressures, fill up with oil, petrol and water and drive to the pub. Total time one and a half days!

We are aware of feedback from one of the many Elan owners who attempted to emulate the Lotus advert build. He reported that the components were delivered late on a Friday. During Saturday he built up the front and rear suspension, then fitted the four wheels. Next, the engine and gearbox were hoisted and an attempt made to fit them before he separated gearbox from engine and successfully retried fitting them, having also removed the starter and gearstick beforehand. On Sunday he had the propshaft fitted, then the exhaust fitted but only after disconnecting the engine and ancillaries. On Monday he connected all the electrical fittings and additional equipment. Come Tuesday evening he had filled all fluids and started the engine. Total time three and a half days, so no Sunday lunchtime drink at the pub for him!



1967 S3 SE FHC in component form; this one has the rear suspension already in place

During the first year of its production the +2 Elan was also available in component form, though this went against the target owner Chapman was aiming his then new larger family oriented car at. We are aware of an owner who got started on Friday morning when his new component +2 was delivered and who really was down to the pub on Sunday in his new car! It probably helped that he ran a Lotus engine building and tuning firm, so had access to the right helpers and all the correct tools for the job. The body arrived complete, painted and trimmed with everything wired up and the glass fitted. He had to fit the suspension, driveshaft's, prop shaft, wheels, engine and gearbox, exhaust, seats and petrol tank and sundries. Sounds so easy when one reads it!

In fact there was an easier way for the potential new Elan owner to get the car built quickly. That was to get someone else, who knew what they were doing, to build the kit for you. Apparently it was permitted to have professional help; what wasn't allowed was for the professional help to use registered business premises for the build. Some owners even had their component cars delivered to a mechanic's private address. The mechanic would then complete the car in their own time, the owner parted with a suitable amount of cash in hand and still made a significant saving on the Purchase Tax. There are stories of mechanics completing the build overnight; we haven't met anyone to corroborate such rapidity though!

TEST CERTIFICATE

Issued by: QUADRIFOLO MOTORS LTD.

This is to certify that Lotus Elan Sprint Unit No. 709 2203402

Body No. Engine No. Transmission No.

has been fully inspected and road tested at 04 miles, and found to be completely roadworthy, and that the manufacturers current inspection requirements have been complied with

Date: 9. 7. 72 Signed: [Signature]

for and on behalf of

(Dealer's name QUADRIFOLO MOTORS LTD and address) OGREY STREET, SOUTHAMPTON Telephone: 29003

Plate No. W1000015 Lot No. 0898

FORM 112

A dealer inspection certificate; this component car clearly had some issues!

Having taken all this trouble to build a new Elan, the owner was obliged to have the car inspected and road tested by a Lotus dealer, who would then validate the warranty. According to dealers of the time, the most common faults they found on inspecting a home-built car would be to the ride height and to the brakes, two rather critical aspects to the capability of the Elan. Once that was done the Elan was to be enjoyed and driven hard by the new owner, much as if it had been delivered fully built from the factory. Of course, for those owners who had built the kit themselves, there was not only the satisfaction of having done so, but also the increased pleasure from knowing how their new performance car was put together and their ability to fix any problems that might arise.

By the time Lotus introduced the Elan +2S in mid-1969, the car was only sold in fully factory built form. However, the Elan continued to be available in component form right up until 31 March 1973. There was a flurry of Sprint sales in late March, all of which were from dealer stock or at Hethel awaiting shipment out. The next day Purchase Tax was replaced with VAT, by which time Lotus had ceased production of the Elan Sprint anyway, having taken the decision to do so at a board meeting in July 1972.

The Elan was always an expensive car compared to most of its peers. It was the first car that allowed Lotus to make a profit from consumer car production. This was helped by the availability of the Elan in component form, since it allowed the car to appeal to a wider target audience than might otherwise have been the case. The down side was that badly built component cars developed reliability issues, which did not reflect well on Lotus and led to the unfair assessment of what the word Lotus actually stood for, an acronym that is not deserved. A well maintained and looked after Elan is as capable of being as reliable as any other contemporary sports car. Indeed, Charles Bulmer was to report that, after 12,000 miles in his self-built Elan Coupe, it was the most reliable car he had ever owned.