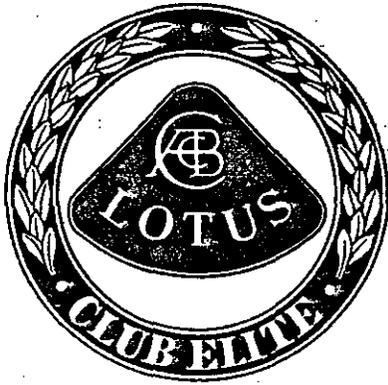


LOTUS ELITE LE MANS CLASS WINNER 959 1960 1961 1962 1963 64



CLUB ELITE

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Dear Members:

Last May Joan and I happened to have two days to spend in London between planes and divided the time according to mutual interests. On the first day we went to museums and on the second day, given the opportunity, we decided to make a pilgrimage to the Super Seven factory in Caterham-on-the-Hill, Surrey, where the Super Sevens have been assembled now for some years. A telephone call from our hotel brought Alex Davids to the phone, who gave us directions for the seemingly short 25 mile trip from central London.

We had fully in mind whizzing out from central London in a fancy rented Jaguar or such. However, we learned that such rental cars were more printed words in the brochure than they are actually available; we had to settle for a poorly tuned, dispirited Austin Mini. The rental agency provided what they imagined to be an extremely helpful map to direct us to Caterham, but one which neglected to include significant details of the downtown London street arrangement.

Departing central London on the north side of the Thames after four false starts, in which every attempt to cross the river resulted in our being back downtown again, we finally were shunted off behind Victoria Station and succeeded at least in getting over the Thames before attempting to follow the A22 to the southwest. We were ill prepared for the spectacular array of English road signs. A few large signs, prominently displayed over the motorways, indicated such vague entities as "The West", while most others used a variety of designations, including small squares with a letter and a number, not pointing anywhere in particular, but simply casually affixed to a sign post, even to the wall of a building, and often so situated at a cross road or fork in the road that it was impossible to determine the direction of the route. We found the A22 to be anything but a super highway; it was, instead, a conglomeration of city streets leading past seemingly interminable budget housing neighborhoods interrupted from time to time by the English equivalent of shopping centers, town centers, all of which only slowly, stubbornly, gave way to gradual increases in the interval between buildings and the appearance of some grass here and there. Wounded at the 15-20 mph pace, punctuated by 3 and 4 block long bursts of 40 and 50, we wheeled over to the side and spent a pleasant half hour visiting with a Citroën dealer, seeing the CX versions that are unfortunately not to arrive on American shores in the foreseeable future. Fortified by this stop, we pressed on, this time finding the A22 less difficult to follow and then, miraculously, discovering ourselves well beyond the city and suburbs and, for a few short miles at least, zooming along a delightful four lane highway in rolling countryside. The countryside rolled in a manner similar to the way it does in the Virginia Piedmont, with long downhills followed by long uphills.

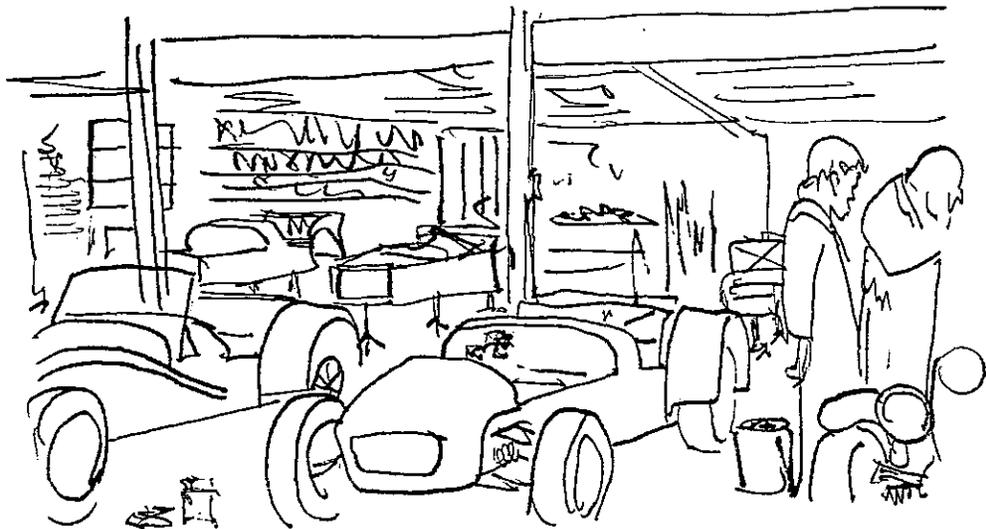
As with other things English, Caterham turned out to be two places - Caterham, then



Caterham-on-the-Hill, the latter being where the Super Seven factory was. A helpful motorist aide directed us to Caterham, which lay at the bottom of the hill, through which we passed quickly and then motored up a long cobblestone and irregularly macadamized street through the town center to the very top of the hill in search of the Super Seven factory. I learned from Canadian friends that Caterham had suffered considerably during WWII, as it lay near a major air field that was regularly attacked by the Germans. No such evidence of the scars of war was apparent to us while we were in Caterham or Caterham-on-the-Hill. We found both to be thoroughly delightful, quiet, small villages, in which one would have no idea that a factory of any kind existed.

Directed to the top of the hill by helpful Caterham citizens, we whizzed past the Super Seven establishment without even noticing its presence behind the Esso station. When we found ourselves out in the countryside again, we decided that the Esso station mentioned by the citizen must have been the one near the Caterham place, so we turned around and went back. The standard sized Esso station had behind it a collection of low buildings, the most prominent of which and closest to the road looked like it might have been someone's farmhouse at one time. A slightly tilted Lotus sign made us at least believe we should inquire whether this, in fact, was the Caterham Car Sales Super Seven factory. I counted up the buildings all hooked together by one means or another and found their total to be seven, and finally the address made sense: Caterham Car Sales, Seven House, Town End, Caterham-on-the-Hill, Surrey. Why the English would choose such mailing number designations as CR3 5UG remains beyond me, but so do many things British.

The factory lay on a space of land the width of a typical service station and perhaps 3-4 times as deep. The end of the building closest to the road had a main entrance door which we found locked. Walking cautiously around the side, we entered a section referred to as 'Stores' and found a small counter with Mr. Alex Davids behind it. A delightful man of medium height, sparse hair, and sunny disposition, he very kindly recalled not only our telephone conversation, but also our many correspondences over the years for parts, and produced this very correspondence by simply reaching underneath a shelf and pulling our letters from an alphabetic file. The Stores section seems to occupy most of what we would take to have been the original farmhouse and is approximately the size of the storerooms in many small foreign car shops. Some of the more weather-worthy stores lay outside, including the fenders (wings) and body noses - all pre-painted in standard Lotus colors. Behind the house cum stores section are the other six buildings, most of which are no larger than a large living room and hooked together by means of small breezeways one story in height, covered by a low roof. Immediately behind the Stores section is what is described as the Show-room, a space sufficiently large to house some six or eight used Super Sevens and a small office occupied by Messrs. Wakefield and Nearn, from which they sallied forth to greet the soiled American travellers and recall with gusto some of the problems we have had with our car and their efforts to solve same. This collection of handshakes and pleasant exchanges led



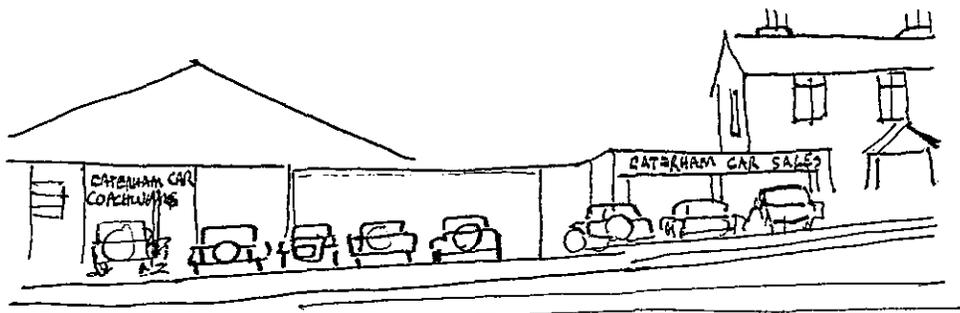
to a short tour of the factory area, immediately behind the Showroom.

Some eight or nine cars were actively being produced as we wandered through. Each car appears to be produced in one spot with a series of jigs and stands used to support the original body, onto which are gradually attached the components that make it a road-worthy car. The Goodyear G800 fabric-belted tires are standard on most of the cars. Some 15 or so Super Sevens were lined up military fashion along a fence facing toward the building. These cars were complete except for engine and transmission. A small clutch of other types of Lotus cars were present, including two Plus Twos and a Europa, but these appear not to be the main effort on the part of the factory and repair shop.

After this brief tour and a short lunch at a drug store-restaurant down the street, we returned to settle down to more serious business with Mr. Davids and his Stores assistant. We were pleasantly surprised at the comparatively low cost of most of the replacement parts that we saw. In reviewing the bills of items sent to us in the past and some from orders being packed for shipment for Japan, India, and California while we watched, the cost of shipment in many instances exceeded the price of the original item, a point that obviously distressed Alex. We were disappointed to learn of the non-availability of many of the uniquely Lotus parts that fitted the old Series II Super Seven of the type that we have, such as horn, badges, red covered interiors and seats, old Smith's style instruments, and sundry such items. Through Alex's painstaking effort it became apparent to us that many Super Sevens in the early days, such as the one we own, were often assembled in a rather one-off fashion, with highly individualized carburetor manifold linkages, electrics, etc. Steering wheels and road wheels in particular appear to undergo considerable variation from car to car, including some by specialty manufacturers no longer in business; in many instances road wheels of the type that fit the old Elan and early Europa were also considered by the factory to be standard on the Series II and III Super Seven as depicted in the current version of the Caterham Super Seven shop manual. Alex Davids and all those present made it quite apparent that their business was keeping Super Seven owners happy, saying, "That's what keeps food on the table", and they expressed their conviction that Super Seven was "an investment, not just a car". This interest and attention to detail was quite apparent in the extra efforts that they had gone through on the part of our orders in the past, long before we ever made a trip to the factory, and in the orders that he showed me coming from around the world.

The people at the factory give us the impression that they have no intention of changing their line of work and look forward to having the Super Seven available into the indefinite future. Considering the low volume of cars required to keep this small operation going, my guess is that they should be quite successful in continuing to do so exactly as they say.

We bought a set of wings, front and rear, which Alex and his colleagues carefully wrapped up and stuffed into our Mini, new side curtains in a slightly different design from the old and more waterproof, new windshield wiper arms and blades of better design than the old style, a complete set of bushes, assorted switches, bezels, and lights completed our shopping list. They pointed us back to the A22, saying we would have no trouble finding our way back to the city - just follow the signs. They were right: any time we had any question in mind as to where to go, we simply looked for the sign that said "To the CITY". A memorable day for us. We'd recommend the trip to everybody.



Rebuilding the Coventry Climax

I had put this off since we first bought the car, but finally decided that the time had come for an engine rebuild. Carl Whitney, a Club member and professional mechanic, agreed to undertake the major parts of the rebuild. For my part, I wanted to help disassemble and re-assemble the engine, so I had a clear idea of what was going on. As a Christmas present, my understanding wife gave me the green light to have the engine rebuilt. Two days before Christmas, I drove out to Whitney's place in Westford to start the first phase of the job. It took only some four hours to pull the engine and tear it down completely to a basket.

We began by draining the usual fluids. At Carl's suggestion, I found that removal of the manifold and carburetor as one unit made the rest of the disassembly go very quickly. Then came the disconnection of all the heater pipes and water hoses, followed by the removal of the slave cylinder for the clutch. From the inside of the car the Royalite transmission tunnel was lifted up, the snap ring for the shift lever removed, and the shift lever taken out of the way. With the Royalite cover removed, the transmission tunnel's hand-laid fiberglass construction was quite evident, including some of the insulation glued around the base on either side near the seats. With this material pulled away, it was easy to see the through bolt that located the transmission; with an air wrench the nut was loosened and the bolt pulled through. We removed the engine independent from the transmission. The engine was slowly eased off the bell housing, following which it was steeply angulated and removed from the car. The transmission was then lifted out by hand by standing in the engine bay and pulling it gently forward. It proved to be much heavier than I had thought.

We then simply hung the engine by its strap from the engine lift, and disassembly began. Removal of the pan proved simply a matter of removing the bolts and tapping it clear, at which point the sump tray was seen, and contained a prominent crack. Removing the bolts and nuts holding the oil pump and strainer was a bit tricky. The gears were found galled. At this point the fly wheel was removed from the crankshaft, which gave an unobstructed view to the oil sealing rings and sealing plate. Considerable oil had leaked through the seal, and one of the sealing rings was found seized to the crankshaft, a not uncommon complaint, I gather. The sealing ring plate slid easily off the sealing rings, and a locating dow was already present for re-assembly later.

The head was next removed. When the cam bearings were lifted off, we were horrified to see that they had been ground almost beyond recognition by what appeared to be a sand-like abrasion. The bearings were unusable and the cam itself looked in need of a regrind. The head was otherwise fine; the extra-large guides and valves installed two years ago were in good working order.

Disassembly of the big ends in the block confirmed our worst fears: the rear main bearing was also heavily affected, the bearing surfaces ground down to the copper backing and the crank surface similarly scored. Other main and con rod bearings were similarly affected, but less dramatically so. A mild degree of increased end float was noted as well. The bungs were removed and the crank sent out.

Regarding the ground bearings, I was chagrined to recall having had the head glass beaded two years ago prior to reassembly. Although at the time the head seemed completely clean of glass beads, we had little alternative to interpret that the sand-ground appearance of the bearings were likely the effect of the residual glass beads somehow not fully removed in the careful wash! Perhaps most disturbing was the seemingly normal or only mildly abnormal running data on the engine just before tear-down: compression of 210 in each cylinder; warmed-up oil pressure of 37 at 4000rpm under load; oil consumption of about a quart per 200 miles.

To make matters even more discouraging regarding future diagnosis of incipient engine failure, on disassembly of the rods and pistons, a very loose wrist pin was found, and considerable 'barrel' wear in each cylinder. The liners, by the way, came out with little effort: a wooden block and a mallet brought them up clear from the block, into which they fitted

with just a bit of pressing.

Worn springs in the distributor were found to be the likely cause for the excessive advance. Although the water pump seemed normal, it was rebuilt.

The crank was welded up and ground back by a racing shop. In reassembly, little of the original was re-used. New parts included pistons, rings, liners, fibre timing gear, thrust washers, crank sealing rings and plate, flywheel ringgear, oil pump gears, sump tray, cam chain and guides, as well as the usual new bearings, gaskets, etc. The engine was cleaned but NOT glass beaded!

The transmission appeared to have several worn syncro rings, leaky seals, but was otherwise healthy.

A new fan was fitted into the Smith heater, which is similar to the heater fitted in a Triumph Spitfire. The heater itself consisted of a thin sheet metal box, held together by hex-headed screws. At each end of the box, a tiny radiator is attached in series by simple metal pipes. Not a very impressive arrangement for harsh New England winters, but good enough if the car has no major air leaks. The motor and fan blades from the Smith's Triumph heater fitted exactly into the spot where the old heater motor had been. The heater is fitted in the car and held in place by the small screws that attach the louvre doors to the inside of the car's cabin.

Carl Whitney wound up doing the entire reassembly, as my own occupational commitments did not allow me a single free day since that time. His recent bout with the flu and my preoccupations at work have prevented us from meeting up to put the reassembled engine transmission back in the car, but we expect to do so in the next few weeks. I hope to be able to give a good report in my next Newsletter.

Carl Whitney wound up doing the entire reassembly and reinstallation, thanks to my being overcommitted -as usual- to occupational preoccupations. It was probably just as well, since I am far better at tearing down than I am at reliable reassembly! Some four months of waffling between the two of us on when we were going to get together finally passed before Carl and I agreed he should just go ahead without me.

Now that the engine is back in the car and being actively broken in, a few observations seem in order. With the fibre timing gear, the engine is very noticeably quieter, so much so that one can talk at higher RPMs and be heard in the cockpit. The balance job done on the engine components has made for an almost vibration-free experience in the car, something never previously experienced personally. The garage floor is no longer awash with rear engine seal leaked oil. Blow-by has disappeared, and the undercarriage is now clean, and not liberally smeared with oil residues. The replacement springs in the distributor and the lowered compression (was 220+ in each cylinder prior to rebuild) have made the engine free of pinging on Shell premium or Sonoco 240. The new clutch engages so close to the floor compared with the end-of-travel engagement of the old wornout clutch that we had to rebleed the slave cylinder several times before we believed it...I prefer the traditional clutch to the diaphragm type, and have reinstalled a traditional clutch in the current rebuild...the engagement is smooth and vibration-free. With the Webbers on, even the smallest venturi tubes make for fairly unimpressive low-end response but much above 3000 there is abundant torque. In reinstalling the engine, special attention was paid to the position of the front motor mount bracket, moving it just a few mms so that the oil filter can no longer batter the side of the steering column...bounce-free steering is worth this extra effort. Best of all, the oil pressure no longer sinks nauseatingly on long uphill, but stays up there. Worth every cent, I say!

Elite II

Coincident with the renewed thrills of flinging about our Elite now that it is freshly rebuilt, we have been trying out a 1974 Elite II, chassis 0063, one of the first to reach American shores. Despite its three years, it has remained a showroom model, its originally high price and unfavorable press having precipitated cold feet among its prospective owners heretofore...not even registered as having been sold, a fact our Massachusetts Registry proved unable to deal with in its maze of regulations.

The Elites I & II are so different they should have different companies of origin. The Elite II, with its fat 60-series tires, thorough insulation from sound, torquey (for a Lotus) engine, a plush fitments, handles and sounds like a Mercedes compared with the Elite I. Once underway, say above 40 mph, the tire size requires less grestling, and the engine sounds begin to penetrate the cabin...from that point on, it carries the unmistakable Lotus thrills of handling and is a worthy successor to its progenitor. Somehow I prefer the Elite I from a purely fun standpoint...yet there is no arguing that I am unwilling to drive and park the Elite I where it is in danger of rude experiences, it leaks when stressed heavily with water, the windshields fog up in dank weather, others beside myself weary quickly of the invasions on the sensations in sound, buzz, roll, squeal, and roar while the Elite II is different in every way: others find the A/C comfortable, the quiet engine pleasant enough without interfering with the stereo, the tracion of the 60-series tires such that little squeal and body roll occur on turns and less nausea as well, the seats comfortable, the tracable engine willing to pull under lower RPMs than the Climax, and a possibility of riding in the wet and staying dry, even parking downtown! I must admit I share these views, provided the Elite I is at the ready to provide the single occupant thrills.

Once others discover the features of the Elite II, I doubt seriously Chapman will have a worry in the world. It's more a matter of seeing the Lotus from another perspective than it is complaining -as I did by letter- of the car's appearance and features that make it such a departure from those that went before. When I compare the Super Seven with the Elite I, the Elite I with the Europa I, the Europa I with the Elan +2s 130, the new Elite II seems more understandable than it does without all those intervening steps. Try one, I suspect you'll agree -AFTER you've been in it for 500+ miles and close your eyes to the unexpected styling features. But keep your Elite I.

Till next time...


J.P. & Joan Mohr