

LOTUS REMARQUE

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Volume 32, No. 12

Confessions of a Race Car Builder

By Johan Hybinette and Bob Metz

For Colorado member Johan Hybinette, it all started in 1985. He had worked hard and saved up enough money to purchase an Esprit. After looking high and low "all over the world," he found a 1979 Commemorative Esprit (#001 RHD) in Scotland for sale for \$6000 US dollars, not pounds sterling. Since he was to stay in Germany that summer working for VW, he thought it was a great opportunity to have transportation there.

Johan arrived in Scotland to look at the Esprit. Of course, he had already made up his mind that this was to be his car before he even saw it. After inspecting the car, ignoring major stress cracks and an engine with questionable qualities, he bought the car and immediately started the long drive to Germany.

Driving back to Germany, Johan tried to turn on the headlights, only to find that they never stayed up and performed a "magic wave number," closing and opening themselves continuously. Johan says, "At least I could see where I was going despite looking like some kind of emergency vehicle cruising down the highway." The following day he arrived in Germany, and now the car had begun to sound the horn every time the brakes were applied. Johan found it "kind of embarrassing" driving down the autobahn and having to brake behind the semis, accompanied by a loud howl from the air horns. Of course the truck drivers got mad and stayed in the fast lane refusing to let this black/gold pipsqueak by.

Johan finally made it to his destination, acquired his first set of tools, and attempted to keep his exotic ride on the road. He says, "I really loved my Lotus. It attracted women even if it was broken down. I even got a date while attempting to work on my car. I have no idea what I was doing with my car or how I managed to get this date. One thing was certain; I had to get my car fixed before I went. I worked really hard, and managed to overcome the Lucas 'prince of darkness' problems. I even plugged some oil leaks." Just before his date, Johan was sitting inside the engine compartment finishing work on the car. As he was exiting, he slipped and fell into the engine, hitting his head on the hot turbo and burning away a huge wad of hair. Now partially bald and looking "somewhat like Uncle Fester", Johan thought that all the way was no worse than part way, so he shaved all his hair and went on the date. She was evidently less than impressed, and that was the last time he saw her.

Johan brought the car back to the USA and decided to restore it. He really enjoyed taking every nut and bolt from the car, but it took him two years to put it back together! While working on restoring the car, he met his wife-to-be, Beate. She wasn't sure at the start whether he loved the car more than her (since he was sleeping with Lotus parts in the

bedroom). He sold the car to (he claims) regain some sanity, and they were married.

It didn't take long until he purchased another Esprit. He sold that one to buy a 1986, then a 1990 SE, and finally, "I got my dream car."

Johan writes: "I received a request from Bob Metz to write this article, admitting that I am certifiably insane. Well, here it goes..."

I purchased a yellow 1997 Esprit V8 from Fox Valley Motorcars in Chicago. Driving back to Denver, in the middle of Kansas at 3 AM, the car suddenly lost power. I pulled off the road and found that my timing belt had broken on

the left bank of the engine. I managed to find a U-Haul and trailered the car back to Denver.

As soon as I got home, I called Fox Valley and told them the story. They were surprised at what had happened (and the car was out of warranty). Nonetheless, Lotus Cars USA warranted the car. Fox Valley picked it up in Denver and the repairs were completed free of charge. The car was finished in the nick of time for LOG 2000 in Ottawa (where it took 2nd place in the concourse).

Race Car Builder (Continued on page 6)



Photo courtesy of Johan Hybinette

Johan's Esprit of ever-increasing excess, now with propane, nitrous, and wide body work.

ACROSS THE POND

By Gordon Morris

It's now fifty years - how can this be? - since Lotus first entered a car in the Le Mans 24 hour race. In 1954, Lotus exhibited the Type Six at the London Earls Court Motor Show and the young, vibrant company - a little to their surprise - had their Le Mans entry accepted the following year. The success of the Six led to the aerodynamic Eight, with Frank Costin's revolutionary wind cheating body. For 1955, Chapman produced the Mark Nine, which was a slimmed down - in both weight and dimensions - version of the Eight. Two pre production cars were built, one with the new Coventry Climax 1089cc lightweight engine, and the other with a 1498cc MG engine. The cars were aimed at the 1100 and 1500cc sports car classes in UK club racing - and at the same classes at Le Mans.

In the event, after much success on the UK circuits, mainly in the hands of ACBC himself, the Climax car was entered at Le Mans. This car was really at the cutting edge of sports car design at the time. The car weighed in at eight hundredweight - or just under 900

pounds - the Climax engine produced about 80 horsepower, the drag factor was very low, front suspension was by Ford split axles, while a de Dion "axle" took care of the rear. Originally fitted with huge finned drum brakes, the Le Mans Nine, registered XPE 6, was fitted with the new Girling disc brakes. The drivers were ACBC and Scotsman Ron Flockhart, who was to win the 24 hour race in 1956 and 1957 at the wheel of Ecurie Ecosse Jaguars and who also drove the Lotus Sixteen and Eighteen in Grands Prix.

Le Mans 1955 was marked, initially, by a torrid battle between Juan Manuel Fangio in the works Mercedes 300SLR and Mike Hawthorn in the works D type Jaguar. This duel was never resolved because another 300SLR crashed into the crowd by the finish line and 80 spectators lost their lives. In horror at what had happened, the Mercedes team withdrew from the race. Meanwhile, down the field, Team Lotus were doing well, leading the 1100cc class comfortably from the Porsche team, despite problems with clutch slip which were temporarily resolved by squirting a fire extinguisher and throwing sand into the clutch

Across the Pond (Continued on page 7)

LOTUS ReMARQUE

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Remember, Passcodes are case-sensitive.
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LOG 26 Proposals Sought

You've always wanted to show off your hometown highlights to your friends in the club...or perhaps you love to throw a party...or perhaps you're looking for some way to attend LOG without having to make a roadtrip out of it...now's your chance! Lotus Ltd. is currently seeking proposals for LOG 26 (to be held in the summer of 2006) and beyond. This is a chance for your local group to bring the big show home and to share the hospitality and local scenery with hundreds of your best car-loving friends. Every LOG is unique thanks to the spirit and dedication of the local groups that step up to plan and host our club's premier event every year (with some help from the national office), and if you've been thinking that it would be fun to put on a LOG, now is the time to let us know.

Interested parties should contact a club officer for more information. Even if you're not sure that 2006 is the right year for your group, this is an excellent time to contact us for more information.

Don't forget that LOG25 is coming up in St. Louis this August. If you'd like to lend a hand for a few hours, perhaps with concours parking or at the registration desk, contact club VP Mark Pfeffer.

Lotus Ltd. Financial Statement

12/31/2004

Income

Advertising Income	\$2,886.00
Windshield Stickers	\$43.00
Interest Income	\$73.98
LOG Income	
LOG Registration Income	\$57,871.00
LOG Sponsors Income	\$28,205.34
Membership Dues Income	\$33,080.37
Misc. Income	\$251.71
Reimbursements	\$3,186.00
Roster List Rental	\$100.00
Tech Manual Sales	\$82.00
Tire Rack Affinity Income	\$316.74
Track Events (Not at LOG)	\$12,440.00
TOTAL INCOME	\$138,536.14

Expenses

Insurance Expense	\$5,759.00
Bank Fees	\$206.57
LOG 25 Expense	\$1,000.00
LOG 24 Expenses	\$79,728.46
Roster Printing & Mailing	\$2,797.27
Office Expense	\$8,085.53
Total Remarque Expenses	\$15,470.51
Track Event Expenses (Not at LOG)	\$7,043.99
Taxes	\$131.59
Website Expenses	\$2,367.35
TOTAL EXPENSES	\$122,590.27

NET 2004 INCOME

\$15,945.87

Total 2004 Year End Cash Assets

\$55,157.87

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Caterham Cars Purchased in Management Buy-In

Caterham Cars, Press Release

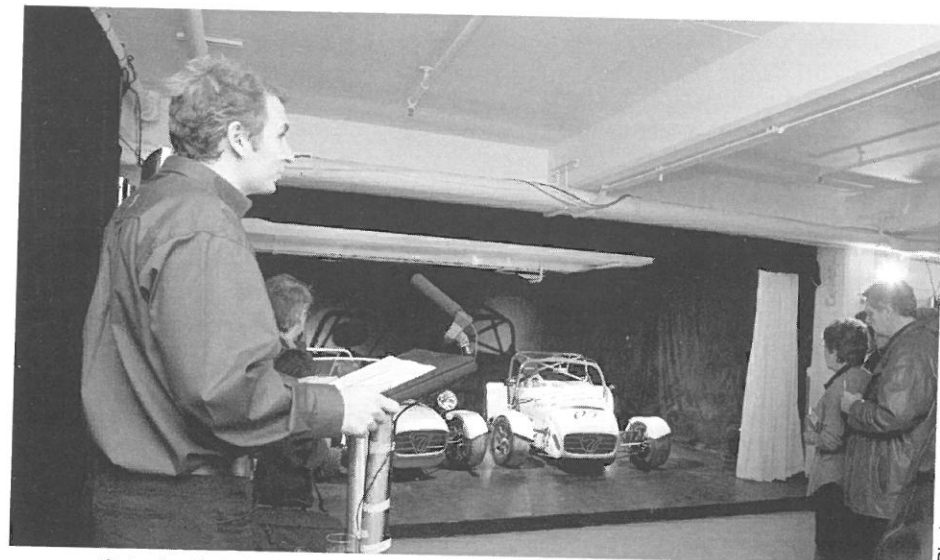
A management buy-in (MBI) team led by ex-Lotus General Manager, Ansar Ali, and backed by Corven Ventures, the private equity arm of the consulting and corporate finance firm Corven Group, has bought Caterham Cars for an undisclosed sum.

Caterham is the pre-eminent sports car manufacturer in its sector producing lightweight, affordable road and racecars with supercar performance. The company's heritage stems from the legendary Lotus Seven sports car acquired from Lotus Cars in 1973. Over the last 30 years Caterham, headed by its founder Graham Nearn and subsequently by his son, Simon, have successfully developed the Caterham Seven. Today, the company sells more than 500 cars a year in over 15 countries, generating a turnover in excess of £15 million.

In October 2004 Caterham launched its exciting new Caterham Seven CSR model, which draws its power from two bespoke high performance engine variants from Cosworth Racing. The CSR not only establishes a new benchmark in handling and performance, but also renews an alliance with racing legend Cosworth, who return to the road car market after a ten-year absence.

The MBI team will bring sector experience to compliment the existing Caterham management. Ansar Ali as Managing Director is joined by Gideon Wigger, another ex Lotus manager, as Operations Director, and by David Obertelli as Finance Director. James Basden (founding Director of Corven) and Mark Edwards (Director of Corven Ventures), both of whom have extensive automotive experience, will join the board as Non-Executive Chairman and Non-Executive Director respectively. Outgoing Caterham Cars Managing Director, Simon Nearn, will continue to assist the new management team on a consultancy basis. The combined management will seek to underpin the fundamentals of the business and drive the Caterham brand forward to meet customer demands whilst enhancing profitability.

Ansar Ali commented, "This is a unique opportunity and one that places on me a responsibility to ensure that we remain true custodians of the Caterham legend and brand. I am looking forward to the challenge of harnessing the inherent capabilities of



Outgoing Caterham Cars Managing Director, Simon Nearn, will continue to assist the new management team on a consultancy basis.

the business – its employees, suppliers and partners – in order to continue to deliver sector leading products, outstanding customer value and financial returns to our shareholders and partners."

Simon Nearn commented, "For a number of years we have been seeking inward investment to support the ever spiralling cost of new product development. I am delighted to announce the conclusion of this process, which sees the arrival of a highly experienced new management team, backed by a level of financial commitment that will ultimately enable the Caterham Brand to realise its full potential.

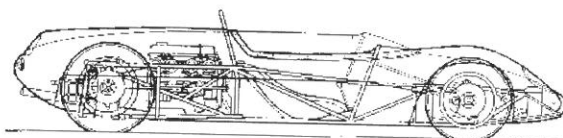
"Caterham Cars has until now been a strictly family business and although it has grown significantly in recent years, a shared sense of purpose and an infectious enthusiasm for the product has driven us as a team. Ansar and his colleagues not only recognise this dedication, but also share our enthusiasm

for the Seven. They are ideally placed to begin the next chapter in the Caterham story."

Chairman and founder Graham Nearn added, "It is clearly an emotional time for many of those who have contributed to the success of the business over the last four decades, and it is both reassuring and fitting that the new owners of the business should come from Lotus, where of course the Seven story began. That this should happen at a time when our historic links with Cosworth are being renewed seems particularly appropriate".

Photo courtesy of Caterham Cars

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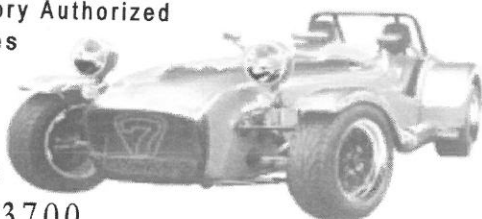
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470 hp/tonne Race-Ready Sport Exige Debuts at Autosport International Show

Story and Photos from Group Lotus, plc

Lotus Sport, the performance division of Lotus Cars Ltd., has developed the new Lotus Sport Exige, a direct motorsport derivative of the successful Lotus Exige.

The Lotus designed and engineered racecar was part manufactured by RTN, the team responsible for the Le Mans winning Bentley, using the latest motorsport techniques and procedures to produce a lightweight yet strong carbon-fibre bodywork structure around the standard road-going Lotus Exige Aluminium extruded and bonded chassis.

The Lotus Sport designed fully adjustable suspension system with double wishbones all round was fabricated and manufactured by Pilbeam. Power is provided by a 400 hp Swindon Racing Engines tuned GM 3 litre V6 racing engine linked to a Hewland sequential six-speed gearbox, with AP-Racing providing the braking system.

This one-off racecar has been built for a South East Asian client and is expected to race in selected sportscar races in Asia. There are no plans as yet to build further examples of the Lotus Sport Exige but the base structure has been carefully designed to comply with key motorsport regulations around the world. Adhering to the key Lotus philosophy of performance through lightweight, the Lotus Sport Exige weighs in at just 850kg.

The whole project, conducted in complete secrecy has taken less than 6 months and the car will run for the first time at the 21/2 mile Hethel test track in mid January.

Chris Arnold, General Manager for Lotus Sport explains the philosophy behind the Lotus Sport Exige: "The Lotus Sport Exige is a competition car developed directly from the road going Exige. The racecar uses the existing tub with only minor modifications, and careful design has enabled Lotus Sport to package an upgraded powertrain assembly whilst maintaining an equivalent weight to the existing road car. When this package is combined with further improvements to suspension and bodywork, it produces a fantastic looking car with great track potential.

The car has been taken from concept to reality in only six months and I thank all our engineering partners and the staff at Lotus who have worked so hard on this fantastic project."

As the Lotus Sport Exige is, at present, a one-off racecar, a price cannot be given for the racecar package.

Chassis and suspension systems

The Lotus Sport Exige is directly developed from the road-going Lotus Exige that was unveiled at the Geneva Motorshow in 2004. The heart of the Sport Exige is the bonded and extruded Aluminium Chassis, the technology for which was first introduced in the Lotus Elise in 1995.

The Exige chassis, which is also used in the Lotus Elise 111R, is the latest development of this award winning structure and weighs 68kg and has a torsional stiffness of 10500 Nm/degree.

Made up of 25 separate extrusions, and bonded with an epoxy adhesive, the chassis in the Lotus Sport Exige is an exceptionally stiff, strong and lightweight structure. This Lotus technology is so world-leading that it has been used on other non-Lotus products including high performance production front-engined V12 and V8 GT cars.

An FIA approved 8-point roll cage has been bolted to the chassis, prior to the bodywork being fitted.

Double wishbone front suspension is mounted to the same suspension hard points as the road-going Lotus Exige, whilst the

adjustable carbon rear wing provide increased levels of downforce. The interior of the Lotus Sport Exige is similar to the standard Exige, but the standard roadcar wiring harness is replaced with a full Raychem 25 system incorporating Mil-spec connectors from Beru Formula 1 Harnesses.

Conventional fuses are replaced with circuit breakers, and a Stack display with integrated data recording is fitted as standard.

A racing bucket seat (driver side only) is mounted as right hand drive to optimise weight balance through right hand corners (most circuits run clockwise). A six-point seat belt, prepared for using HANS Safety System, and a removable steering wheel (with quick-connect coupling) is included in the interior package.

The composite energy absorbing crash structure used on the standard road cars is also carried over to the Lotus Sport Exige. This glass fibre composite structure, around five times more energy absorbing than the equivalent steel component, also houses the larger water radiator and provides efficient cooling and air ducting over the carbon front clamshell.

A 100 litre FT3 safety fuel cell (with quick refuelling system) is mounted behind the driver and in front of the engine (as with the road-going Exige). A fully plumbed in electrical fire extinguishing system completes the body package.

Brakes

AP Racing provides the non-ABS braking system, which includes the pedal box (with brake balance bar and cylinders). AP

Racing also provides the powerful six piston brake calipers at the front and four piston brake calipers at the rear. These calipers are mated to vented discs (344 mm diameter at the front and 330 mm diameter at the rear).

Rims and Tyres

Ultra lightweight OZ Racing Chrono single-piece cast magnesium rims (8.8J x 17 ET40 at the front and 11.25J x 18 ET50 at the rear) are shod with Yokohama tyres (250/610-17 at the front and 280/650-18 at the rear).

Powertrain: Engine and Transmission

A narrow angle V6, 2,998 cc Swindon Racing Engines tuned GM racing engine is mounted longitudinally in the Lotus Sport Exige. The naturally aspirated 32-valve engine produces 400 hp (296 kW or 405 PS) at 7,750 rpm and 294 lb.ft (398 Nm or 40.6 kgm) of torque at 6,500 rpm and has a maximum engine speed of 8,250 rpm. When the light weight of the Lotus Sport Exige is taken into consideration, the power to weight ratio is a phenomenal 470 hp / tonne (0.351 kW/kg or 476 PS/tonne). The engine itself weighs 157 kg.

Breathing is via an F1-style airbox and air



rear suspension picks up to a revised rear subframe.

However, being a full racecar, there is adjustment for ride height, camber and castor, as well as adjustable front and rear anti-roll bars. Coil springs are mounted over Ohlins ST44 3-way adjustable dampers front and rear.

The Body

Lightweight "Z-Preg." carbon fibre bodywork was specially manufactured for Lotus by RTN, the team responsible for the Le Mans winning Bentley. These panels (front clam, "A" panel, body side and sill, roof, engine cover and rear clam) have been made using an innovative low temperature curing process. The moulds were taken directly from the Sport Exige styling "clay" and the resulting carbon fibre panels are race-ready without having to rely on the costly tooling process used in current carbon fibre technology. This is thought to be the first time that this technology has been used on such large carbon fibre panels.

An aerodynamically developed front splitter, carbon fibre rear diffuser and an

snorkel from the roof panel of the Sport Exige directly into the six carbon fibre air trumpets.

The dry-sump engine, with a bore of 89.0 mm and stroke of 93.7 mm is water cooled and also uses an oil-water heat exchanger to efficiently cool the oil. The whole engine is controlled by a Motec M600 electronic engine management system fitted inside the cockpit.

The power is transferred from the engine to the rear wheels via a single mass stepped flywheel, AP Racing twin-disc cerametallic race clutch and Hewland NLT sequential six-speed dog type transmission (with in-line shift mechanism). The gearbox itself is cooled through an oil-water heat exchanger. A limited slip differential (separate power and brake ramp angles) completes the powertrain package.

Design

The one-off racecar has been designed by Barney Hatt (Principal Designer for Lotus Design), under the direction of Russell Carr (Chief of Design). Taking the already aerodynamic road going Exige, Hatt designed the Lotus Sport Exige with the requirements to carry the design of the Exige and the brand attributes of Lotus into a competitive racecar.

Russell Carr explains the work needed to design the Lotus Sport Exige: "The objective was to create a dramatic design and to take into account aerodynamic criteria to produce a race car that was not only competitive but also stunningly good looking. General motorsport regulations also had to be adhered to so the fact that the resulting racecar looks like a natural competition evolution of the road going Exige is a testament to the purity and effectiveness of the original design."

Dimensions

The Lotus Sport Exige is slightly longer (350 mm) and wider (100 mm) than the road-going Exige to accommodate the larger engine, wider track, longer wheelbase and to optimise the aerodynamics. The length is mainly from the cockpit rearwards but the short rear overhang design of the road-going Exige is maintained.

Lotus Sport Exige Technical Specifications

Engine

- Narrow (56°) angle V6 engine, water-cooled
- 2,998 cc, stroke 93.7 mm, bore 89.0 mm.
- Max. power: 400 hp (296 kW or 405 PS) at 7,750 rpm
- Max. torque: 294 lb.ft (398 Nm or 40.6 kgm) at 6,500 rpm
- Max. rpm: 8,250 rpm
- Four valve technology
- Oil-cooler (oil-water heat exchanger)

- Dry-sump lubrication
- SRE Multi-roller barrel throttle bodies
- F1 style airbox and air snorkel
- Motec M600 electronic engine management system
- Required fuel quality: 98 octane super unleaded
- Race exhaust: multiple pipe manifold, open exhaust
- No catalytic converter
- Note: service limits will apply

Transmission

- Hewland sequential six-speed dog type transmission, straight cut gears
- In-line shift mechanism
- Gear ratios: Crown wheel & pinion gear 9:35
 - 1st gear 12:36
 - 2nd gear 15:33
 - 3rd gear 18:30
 - 4th gear 20:26
 - 5th gear 24:26
 - 6th gear 26:24
- Oil-water heat exchanger
- Single-mass flywheel
- AP Racing twin-disc cerametallic race clutch
- Limited slip differential (separate power



- and brake ramp angles)
- Rear-wheel drive
- Note: service limits apply

Chassis

- RHD race vehicle developed from Lotus Exige road car
- Lotus bonded aluminium chassis and composite crash structure
- Bolted on 8-point roll cage (in accordance with FIA-Regulations 2004)
- Three-point AP Racing air jack system

Bodywork

- Weight optimised and widened Exige
- Lotus Design RTN "Z-preg." carbon fibre bodywork
- Aerodynamically developed front splitter and rear diffuser
- Adjustable carbon rear wing
- Racing bucket seat (driver side only)
- Six-point seat belt, prepared for using HANS Safety System
- Removable steering wheel (with quick-connect coupling)
- Electrical fire extinguishing system
- 100 litre FT3 safety fuel cell with quick refuelling system
- Total weight of bodywork excluding

doors ~ 44 kg

Suspension

- Double wishbone front suspension with spherical bearings
- Adjustable front anti-roll bar
- Non-PAS
- Double wishbone rear suspension with spherical bearings
- Adjustable rear anti-roll bar
- Ohlins ST44 3-way adjustable dampers
- Coil over damper springs front and rear
- Suspension adjustable for ride heights, camber and castor

Braking system

- Non-ABS system
- AP Racing pedal box with brake balance bar and AP Racing cylinders
- Aeroquip style brake lines
- Front AP Racing six piston brake calipers
- AP Racing 344mm dia. vented discs
- Aluminium disc bells, race brake pads
- Rear AP Racing four piston brake calipers
- AP Racing 330mm dia. vented discs
- Aluminium disc bells, race brake pads

Rims/Tyres

- OZ Racing Chrono single-piece cast magnesium rims:
- F - 8.8J x 17 ET40
- R - 11.25J x 18 ET50
- Yokohama tyres
- F - 250/610-17
- R - 280/650-18
- Single central wheel nuts with locking device

Electrical System

- Motec M600 engine management
- Stack display with integrated data recording
- Raychem 25 system wiring looms and Mil spec connectors
- Red Top battery: 12 Volt, 50 Ah
- Twin Bosch fuel pumps with change over switch
- Floor mounted carbon fibre centre switch console
- Circuit breaker switches (no fuses)
- 120 Ah Alternator

Dimensions

Lotus Sport Exige Production Lotus Exige (Road Specification)

Wheelbase 2500 mm 2300 mm

Track - front 1545 mm 1457 mm

Track - rear 1528 mm 1507 mm

Overall length 4142 mm 3797 mm

Overall width (door mirrors excluded) 1840 mm 1727 mm

Overall width (door mirrors included) 1850 mm 1850 mm

Overall height - 1125 mm 1159 mm (mid-laden)

Overhang - front 950 mm 805 mm

Overhang - rear 692 mm 692 mm

Vehicle mass - unladen (running order, full tank of fuel, no occupants, no luggage) ~ 850 kg 875 kg (no options)

RACE CAR BUILDER (Cont. from page 1)

I got the car back into my garage. I took stock of it for a week and eventually decided that I wanted to run high speed open highway races with it. Nevada's Silver State Challenge offers the opportunity for such racing twice a year. For this I first needed to install a roll cage. Imagine taking this lovely concourse-winning car and ripping it apart to install a roll cage in it. (Roll cages are usually quite ugly, don't you know.) My mission was to make it look good as well as be safe.

My wife nearly had a heart attack at seeing the car with the entire interior torn out.

The next day I took the car to a top-quality welder and we (the car and I) spent 3 months there, installing the roll cage, fuel cells and exhaust system. The installation was flawless and non-intrusive. It even looked good. To my surprise the handling of the car was also vastly improved.

I went to several races and had a great time. I was even beginning to get a little bored with the car's reliability. Then one day while driving home, opportunity came. My car was sideswiped by a truck, forcing me off the road and leaving gouges in the paint and the body.

Certainly, I could just fix the damage and be done. But nooo-o-o, instead I decided that the car needed a wider body to fit bigger tires, so I took my hacksaw out and started cutting...

Later that day my wife found me standing knee deep in fiberglass dust hacking away on my Lotus with a Sawzall. Last time she saw the car, it was in perfect condition. Now the whole rear end was cut away. I tried to explain but... I am insane and I LOVE MY LOTUS.

I had never molded fiberglass before but I was determined to learn. With some help from Travis Andrews and Lew Gaskell I managed to widen the car another 4". It wasn't easy and took a lot of time. As soon as the sides were cut out from the car, we cut them into smaller pieces (a bit like a jigsaw puzzle). Now all we had to do was to reassemble the pieces again, but 2" wider on each side.

Once fitted, the pieces were covered with fiberglass mat and the cracks filled with "kittyhair." After this was complete both sides had to be sanded down so they were the same. The wheel wells were also strengthened with steel sheet.

I completed all body work in my garage on a \$200.00 budget. I finished the car with a beautiful Glasurit paint job.

With the wide body finished, I turned to re-gearing the transmission

for higher speeds. I found a DeLorean mechanic who is an expert on the Renault transmissions. (The DeLorean used the same transmission as the late-model Esprit.) After the transmission was re-installed it was time to test the car. I took a short road trip - out to the Bonneville Salt Flats with hopes of breaking 200MPH with my car. To get an exact speed reading I equipped the car with a GPS unit.

At Bonneville, the car accelerated quickly to 160 MPH according to the GPS unit. The speedometer, on the other hand, was reading 175MPH. (I guess Lotus wants you to think your car is going faster than it really is.) As my speedometer went off the scale and the GPS was indicating 175 MPH, I began to experience a tunnel-vision effect from the high speed. The car was running like clockwork; it was very stable at speed. To my disappointment the car topped out at 198 MPH. Only 2 MPH away from 200 MPH and the rev limiter kicked in! Back to that DeLorean mechanic with tar and feathers. The car was calculated to do 212 MPH with the new gearing. Maybe next time.

I went to a few other events before the season ended and parked the car for the winter in my garage.

I just kept on looking at the car thinking what else could be done to it. After all, the car wasn't going anywhere during the winter months. Intercooling the engine looked good to me. Many people told me that it could not be done without sacrificing the trunk area. The only occasion where the Lotus V8 has been intercooled before is in the GT1 racers. Why not? Heck, I could probably even make the installation look good as well.

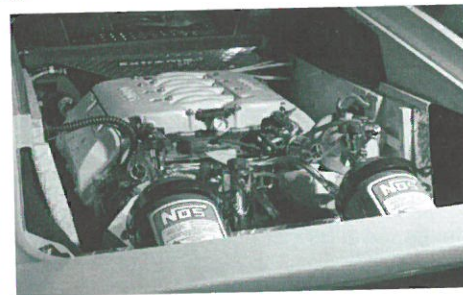
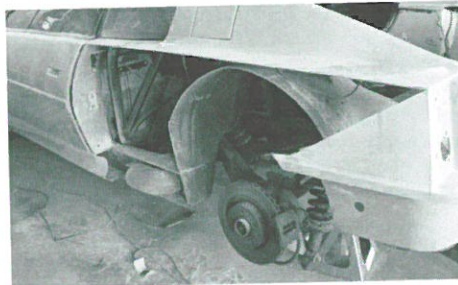
I decided air/air intercooling takes up way too much space. So I proceeded to design an air/water setup. The V8 uses twin turbos, so I had to use twin intercoolers. I came up with two installation designs. The first design would fit inside the existing engine cover. The second took away 2" of trunk area, but it looked a lot better. I went ahead with the second design, adding a radiator at the front of the car, an extra quiet 17GPM water pump, a tank, twin blow-off valves, twin intercoolers, and about a mile of braided hose. At the same time I was installing the intercoolers, I also installed a high performance air intake system, which required cutting away the existing filter boxes. (By this time I was so used to cutting parts off my car, I didn't even hesitate.) During installation, I also color-coordinated the engine, including the valve covers and plenum.

The intercoolers were a bear to install and required a lot of custom fabrication. Eventually, as spring came closer, I was finally finishing the car. The end result really looked stunning.

I took the car out for its first journey. I left the hatch at home so that I could see the engine and monitor it for potential problems. Everything seemed to run fine. I stepped on the gas and I heard this ominous WHOOSH sound from the engine and then when I let off the gas another very loud PSSSSS sound emanated from the engine. It really scared the daylight out of me. It turned out that the new intakes were very loud and the blow-off valve sounds loudly as you let off the gas. This, I guess, is now normal for my car. I sure get odd looks from people in traffic.

Once I accepted this I took the car for another spin around town. Suddenly a 6 foot geyser of coolant fountained out of the engine compartment, straight up. I was only about a mile from home, so I drove my yellow water fountain back home. As I got home my whole engine compartment was soaked with sticky radiator fluid. Since my engine was now a show engine, I had to clean it up well. This took a whole day of work. Remember one thing: if you build a show engine you also will have to keep it clean which is a whole other chore to your car. Now the only other thing I have to do is to make changes to the transmission so that I can break that 200 mph limit with my car.

(Ed. Yes, Johan did crack the 200 mph mark, but that is another story...)



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ACROSS THE POND (Cont. from page 1)

housing. Sadly, distracted by clutch slip at an inopportune moment, ACBC lost control at Arnage corner and ended up in the sand trap. In the heat of the moment, Chapman reversed out of the sand and carried on back to the Team Lotus pit, where some more sand was applied to the clutch. A few laps later – still in the class lead – the organisers, understandably jumpy because of the enormity of the accident that took place only a few hours earlier, disqualified the Nine because ACBC had driven against the race traffic without the approval of a marshal.

XPE 6 disappeared for a decade or two after Team Lotus sold it on, but US collector Charles Levy found the car and its engine in Australia and had it properly and sympathetically restored by Mike Brotherhood in Wiltshire, England. So it was that Charles drove me around Boston in this famous car ten years ago. XPE 6 was the car which first drew my attention to Lotus when I was a schoolboy in Scotland in the Fifties. The housemaster was a keen car fan and left his copies of "Motor" and "Autocar" in the common room for us to read. In one of those magazines I came across an article describing a journey from London to Lands End and back in XPE 6, a few months after Le Mans. I was very taken by the way this obvious racing car coped with traffic, fog, ice and rain on its five hundred mile trip in November and I must have read that article a hundred times. The article was headed "The Lotus Eaters" and you can read it in Brooklands Books' The Lotus Sports Racers, which I believe is still in print.

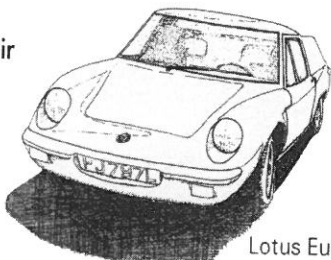
The road taken by XPE6 that foggy, drizzly November day led south west out of London along what was then the A30 Great West Road. Motorways have long since replaced the two way roads of the Fifties, but some parts of the original A30 remain, particularly in Wiltshire and Hampshire. Now that my Seven's electrical upgrade and winter servicing were complete, I was looking firstly for an excuse to give the car a good run, and secondly for some dry weather, in order to see if all was as it should be. Both came together on one of the numerous holidays we seem to have at this time of the year, when I drove SB 1688 forty miles along part of the A30 road to a country pub and restaurant just outside Petersfield, where I met up with half a dozen Lotus friends for a good lunch and a chat, as well as a chance to escape from domesticity for a few hours. I'm delighted to report that the car ran as I hoped it would. The alternator meant that I didn't need to cross my fingers and hope that the dynamo wouldn't break its mountings (again) when I used the lights on the way home, while electronic ignition has made the engine feel sharper and more responsive than before. Starting is much better too.

I've been fettling and restoring cars for many years now, but I confess to an almost childish delight (as well as some relief) when, after a lengthy rebuild or a lot of other work, the engine starts at once and purrs away as it should. Onlookers, Jan included, are inclined to remark that this is only what I set out to achieve, so why should I have such a silly grin on my face? To me, though, this is one of the real delights of working on cars like ours. Another is driving on the same roads as XPE 6 did nearly fifty years ago in a car with a direct lineage to that famous and successful Lotus.

Lord March has announced that, because we now have a British Grand Prix this year (yawn!), the Festival of Speed will now take place at Goodwood House on the weekend of 24, 25 and 26 June. Club Lotus' annual Donington Lotus Festival will take place on 18, 19 and 20 March, with Club Elite's Dinner, replete with Lotus personalities, will be on the evening of Saturday 19 March. The events of this weekend are the closest we're likely to get to a British LOG, so, if you've got a spare weekend in March and a few thousand air miles doing nothing, head east towards the East Midlands for a frantic weekend of everything Lotus.

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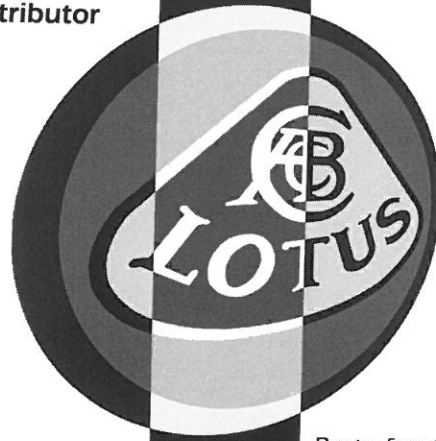


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Pit Stops

(Submit Local Group Events to Tony Vaccaro, (716) 689-8644, e-mail: tvacc@lotusowners.com)

February (Every Sat.) Amalgamated Lotus Owners, (Kansas City area), very informal breakfast with other like-minded folks at Sharp's 63St. Grill from 8:00am to approx 10:00am. Sharp's is at 63rd St. and Brookside Plaza in the Brookside area near the middle of the city. Contact Mark Bracewell (816) 459-7707 or mbracewell@kc.rr.com.

February 8 (Tues.) Alabama Lotus Car Club (ALCC) 6:30pm. Monthly meeting at Buster's off US 31, in Hoover, at the Hoover Square shopping center.

February 12 (Sat.) Alabama Lotus Car Club (ALCC) will travel to Champion Motorcars in Huntsville, tour the facilities and view several projects under construction. Those from B'ham will assemble at the Cracker Barrel in Gardendale (off Fieldstown Rd exit on I-65) and depart at 8:30 am. We will arrive at Champion 10:00-10:30 am. After lunch we will return to B'ham via back roads through the covered bridges area of Oneonta.

February 15 (Tue.) Club Lotus Northwest Membership Meeting. Our meetings are at the Portland Brewing Company in Portland at 6:30pm. Come join us for a pint of your favorite Pacific Northwest microbrew!

February 15 (Tues.) Texas Lotus Club --- Dallas. Regular third-Tues.-of-the-month Pub Meet. The Londoner, Beltway at Midway, Addison, TX, 7 p.m. Information: marthaclinkscale@yahoo.com.

February 20 (Sun.) Florida Lotus Club attending the Lake Worth, FL - Bryant Park All British Classic Car Show. For more info please visit: <http://www.goldcoastbritcar.org/events.html>

February 27 (Sun.) LEO (Lotus Enthusiast's Organization NJ/NYC area) Annual Go Kart Challenge. 11:00 Am at the Funplex, Route 10 West, Hanover, NJ. Join us for our annual indoor winter driving event. Info & RSVP: Atwell Haines, carbuff@lotusowners.com or 973-927-3765.

CARS FOR SALE

2005 ELISE, 3K mi., Touring pkg. w/ hardtop & starshield, no defects, like new, death forces sale. \$46,000 firm. Neil, (585) 477-7779 d, 330-5176 Sat.-Sun. (NY).

1995 ESPRIT S4S, like new, no dings/chips, always stored covered/inside, 6K mi., full recs., 2nd owner, recent fluids & mech. checkup, #2 & #5 race chips (uninstalled), prof. tinted windows, all orig. manuals (incl. svc. & parts bound & on CD), orig. sales lit. & articles, Lotus car cover. \$39,000.

1963 LOTUS 7, registered, xInt. running cond. Joseph, (732) 563-6782 (NJ), joseph.gorsky@era.com.

2001 BIRKIN CS3, black/black, 5-sp., 1K mi., Dunnel prepped, 220 hp Zetec, Webers, full carbon pkg., Kosei K1, Yoko A032, Carrera coil-overs. \$24,000. Bob, (978) 777-0547 (MA), birkinboy@hotmail.com.

1973 EUROPA SPCL., 5-sp., # 3510R, 24K mi., 2K mi. on eng. rebuilt in '86, yellow (orig. & Imron respray), many updates in '80s (incl. dash & seats, good cond., more info/pix avail. \$11,000. Pat, (614)783-5213 (OH).

1966 ELAN S3 DHC, BRG, 53K mi., recent eng., head, trans. rebuild & updates, body & chassis restored 1990, v. good, needs cosmetics. \$12,000. Jeff, elanS31966@aol.com, (505) 672-3025 (NM).

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