

# The Chapman Report



Published by the Golden Gate Lotus Club [www.gglotus.org](http://www.gglotus.org) August 2003

## President's & VP's Message

by Peter Richen

I just made my reservation for the West Coast Lotus Meet in Portland, August 28 through 31. I've had to work some long hours recently (my company is bidding for a project in Iraq), and a road trip will be a nice way to unwind.

Don't know if you noticed recently, but Mike Ostrov was featured in an article in CLASSIC CARS magazine, and Kyoshi Hamai has published an article in CLASSIC MOTORSPORTS, titled Buyers Guide – Lotus Elan (the '63 to '73 Elan).

There won't be a meeting in August. Hope to see you in Portland.

by Scott Hogben

As I reported last month, the last track day saw me working on my car all night long with several minor catastrophes to keep the nerves on edge. I swore that this track day would be different and that I wouldn't get into the habit of staying up all night to do wrenching that I could have done weeks in advance. Well, it was looking good for me because all I wanted to do was get the front of the car lowered just a little bit more to get the lower wishbones parallel with the ground, get a better throttle return spring on, put some new carb O-rings on, and replace two manifold studs that had fallen off. I did wait until only a couple of days before the event to do the work but to get these items done in a couple of evenings was not out of the question at all.

I installed some shorter, higher rate springs on the front of the car that I had

from the days when I ran Spax shocks and all that went very quickly and easily and lowered the car the correct amount. But I decided to forego the throttle return spring because I needed to get the carbs back on the engine before it got too late. I replaced the studs, installed the O-rings, and bolted everything back together, all by 11:30pm the night before the event.

Everything went together smoothly and I started the car up but within seconds it was running like crap. My thoughts of getting to sleep at a decent hour were squashed. After shutting off the engine, I could hear a dripping noise on the garage floor and I knew that was bad news. I got out to find gas pouring out of the airbox and it was obvious that something was wrong with a needle valve for the float in one or both of the carburetors. I pulled the spark plugs to clean them and found the problem to be with the front carb. After disassembling and finding nothing wrong with the float and needle valve, I reassembled everything and fired the car up again. It ran about as well as those crappy Weber carburetors have ever allowed it run, and no gas was coming out of the airbox! I gathered up my tools, pumped up the tires and was in bed by 2:30am.

After waking up an hour later than I

wanted to, and getting to the track in time to sit through the last half the driver's meeting, I ate my Alpha-Bits and prepped the car for the day. It was a little on the hot side and the humidity was even worse, but on the whole, I've found the summer months at Thunderhill aren't as bad as one would think and this day was no different. The humidity made you sweat, but the temperature wasn't bad at all.

I took it easy with the car in the morning because I wanted to make sure I got used to the different springs on the front. It wasn't long before I realized that the car was suffering from more understeer this time. Since the condition of the track was so different from the last time, and since other people were complaining about their cars handling differently that day, I can't really say that the springs were entirely to blame, but I wasn't as happy with them on the road either. But at least the car ran well, even if I did have just a little trouble with the carburetors in one session in the afternoon.

On the whole, the day was great, as can be expected from any GGLC track day. The afternoon turned cloudy, which helped with the temperatures, but the humidity stayed high. I found

....next page

### August Meeting

#### Monterey Historics:

If you bump into another member there, have a meeting!

## GGLC Calender

August 15-17	Monterey Historics Pebble Beach, etc.	Laguna Seca Monterey
August 23	Lotus Club Track Day	Thunderhill
September --	Lotus Club Track Day	Thunderhill
September 19	Monthly Meeting	Host: David Anderson
October 13	Lotus Club Track Day	Buttonwillow

*continued from page 1*

myself not driving as smoothly as I have before and I knew I was tired from a long week, and a long night was well, so I took it easy in the afternoon but still managed to have a great time with some of the regulars that I've met that attend our events.

A group of us met in Vacaville for dinner and some car talk and then went home. I was pleased with the car but now I'm eager to look into the alignment of both the front and the rear. I'd like to find out if all four wheels are pointed in the same direction relative to the chassis. But my next big tweak on the car will be the balance of the wheels. I'm on a mission to find out why the rear shakes so bad. Stay tuned and I'll see you at the next meeting.



# EBay Watch

*Pamela Sez.....*

A '69 Elan in Belmont didn't sell though bid up to \$24K? Well, it has a Spyder chassis, BDA motor and mush more. Ad says over \$36K spent. Who owns this car, one of our members? The problem is that you don't always get your money out of a full restoration, especially when you take it this far.

A Caterham in Massachusetts didn't sell, with one bid for \$35K. The owner said it had cost him \$53K from Sevens&Elans. It had the Ford Zetec, which the owner valued at \$13K alone. Money's tight out there right.

These sellers are going to have to be very humble to sell one of these cars in this market.

I bought a set of wing lamps for a Seven, but I have to go to London to get them. That's OK, have to see the Rovers battle Chelsea at Stamford

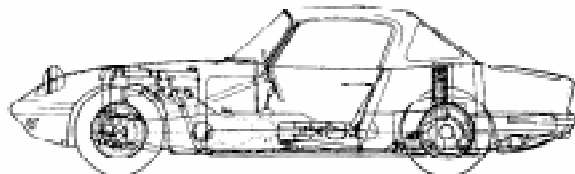
## **KAMPEÑA MOTORS** **LOTUS SPECIALISTS**

*Infineon Raceway*  
**28935 Arnold Drive F-10**  
**Sonoma, CA 95476**  
**Phone # 707-933-8039**

**WWW.KAMPENA.COM**

**Parts and Service for Lotus Cars**  
**Specializing in Lotus Elans and Europas**  
**Quality and Considerate Service**  
**Total Ground Up Restorations to**  
**Routine Maintenance**

**Huge Inventory of New and Used Parts**  
**Many Hard to Find Pieces**



# HSR Lotus Challenged

by James McClure

Just what Southern California needs, a vintage festival to rival the Monterey Historics. And that's exactly the way this event was promoted. And the people to put such an event on? HSR West. They're a west coast stepson of the HSR that sanctions vintage event back east, and are apparently very successful there. For a venue, how about Penske's California Speedway? It's definitely large enough for a lengthy entry and many extras such as wine tasting, exhibitions and vendors' booths. And the promise of a 'Lotus Challenge' only race, with Sevens, Caterhams and Elises battling it out on the California Speedway roadcourse. I have to go check this out, maybe enter my Lotus Seven.

Well, that's not what happened. First, I decided not to enter, as they didn't have cars similar to my old Seven to compete with, and they wanted \$450 for an entry fee! Too much money, especially if all I would be doing is pointing much faster cars past me down the oval. But I decided to go down there as a spectator and see how another vintage group runs their show.

Secondly, the number of entries was very low, considering the vast space available in the pits. The number was low enough that some of the race groups were combined. NO Lotus Challenge Race Group! Hey, there were only about six loti that showed up for that race; two sevens, one twenty-three, three Elise variations, and no Caterhams at all.

Also, there were no special vendors, corporate sponsorship kiosks, no wine tasting! Sure, hotdogs and hamburgers were there. The only side treat was the 'test a jag on the slalom' demo. The vintage cars? Yeah, lots of VARA stickers and DOT 'legal' slicks. Porsches had their own race, as did the NASCAR bunch and the Formula Ford group. For those of you who haven't been to a VARA sanctioned race, the requirements are that the car must resemble the stated name from ten feet away, viewing of what's under the hood not included. Supercharged, 1400cc bugeye Sprites Rule!

So, would I go again?

I'm not even sure this event is going to be back, unless HSR commits to getting more quality cars, maybe even a concourse included. Don't gouge the entrants with high fees. These cars are what the crowd is coming to see. They're going to need to create more interesting options for the would-be customers. Hey guys, just go to the Historics or the Wine Country Classic. Take your camera and talk to the vendors there.

Oh, and get that Lotus Challenge Race back on the schedule.



*Lots of room on the Cal Speedway front straight!*



*Loti on the pregrid.*

# Ultimate Europa,

## Part 6

by John Zender

- A New Modern Motor Are you wondering why this story is titled "Part 6"? The first 5 sections were written and printed in the CR over the last 5 years or so and are accessible through the GGLC website [www.gglotus.org](http://www.gglotus.org). Photos of the car and the various modifications are available at [www.fusiontechnology.com](http://www.fusiontechnology.com) I'll begin with a short summary of the work completed on Europa 54/1408 "The Flamer" that occurred previously. The car was original sold in Germany and imported to the U.S. in about 1980. I purchased the car in 83 and kept it mostly stock for the first 15 years. Over the last 5 years I've updating the car in stages starting with installation of a 150 HP Cosworth BDA and a 5 speed NG3 gearbox from a Turbo Fuego. Along with the motor I installed a modified TC chassis with enlarged footwell, Tilton pedal assembly, and vented front disk brakes with 4-pot racing calipers. The next phase involved creation of a Lotus 47style rear suspension along with rear disk brakes. A full roll cage, fuel cell, and compete re-wire was finished off the last modifications to the car. The Flamer stayed in this state for about 2 years while I did a bunch of track events and worked on my Esprit. The Flamer worked very well in this state but the motor required constant maintenance and boatloads of 20W-50. Some type of modern motor with 200+ horsepower was the desired solution, and the BD's crankshaft shattering in Turn 3 at Thunderhill provided the motivation. I never really considered anything but a Ford motor since it fits with the spirit of Lotus. A lot of people had been installing 2.0L Zetecs in various loti with success. The Zetec is an iron block hat looks much like a TC, and has the same bolt pattern for the bellhousing. Ford also has a new motor called the Duratec that will be replacing he Zetec in all their 4 cylinder cars. The Duratec is an aluminum block available

in 1.8, 2.0, and 2.3L versions. The Duratec is lighter than the Zetec and utilizes many unique, modern design elements. The Duratec bolt pattern is different than the older Ford motors and the exhaust and intake have switched sides. Installing the motor in the TC chassis was a bit tricky. The Duratec block is asymmetrical because the water pump and oil pump housings are both located on the left side. The overall length of the Duratec is about 1/2 shorter than the BD, but the new motor is much taller and hangs lower. In a Europa, height is no problem, but the stock oil pan ends up hanging about 1-1/2 inches below the bellhousing (about 3-1/2" from the ground in the Flamer). I banged the oil pan on the ground during the first week on the road and created a small crack. A little sealant cured the leak, but the real fix is to modify the pan by adding width and removing some depth. The first and most difficult part of the installation was mating the Duratec block to the Renault gearbox. There's a variety of ways to accomplish this, but I chose to modify the existing Europa TC bellhousing to mate with the Duratec block. After making a bunch of measurements, I plasma cut about 1-1/2" off the front of the bellhousing and then milled it parallel to the backside. I had a piece of 1-3/4" aluminum plate water-jet cut to match the back of the Duratec block and then welded it to the TC bellhousing. After welding, I milled the plate flat, and drilled it for the Duratec bolt pattern. My bellhousing had already been modified to accept the NG3 input shaft, bearing, and seal. You can check the previous articles for details regarding the input shaft etc. I doubted that a normal heavy duty Europa clutch would handle the additional torque of the 2.3 motor, and the Duratec pressure plate was too large to fit inside the modified bellhousing anyway. I re-drilled the Duratec flywheel to accept a 2.2 liter Esprit clutch from Dave Bean Engineering (same bolt pattern as a Europa). This clutch is super-stiff and is not compatible with the original Europa cable system. I had already created a hydraulic clutch system for the BDA

installation, so I modified it for the Duratec. The Duratec water pump hangs high on the left front of the block and interferes with the top rail of the Europa chassis. My original plan was to notch the chassis to clear the pulley, but it turned out that I would have to add a couple more pulleys to make the serpentine belt work correctly. I eliminated the problem by removing the water pump impeller, shaft, bearing, and pulley and installed an electric pump adjacent to the radiator. The Duratec comes with a special thermostat controlled by an electrical signal from the Ford ECU. Although my Electromotive ECU could control the thermostat, I decided to keep it simple and install a standard type thermostat where the water exits the rear of the head. To accomplish this I fabricated a custom thermostat housing and swirlpot out of aluminum. I interfaced the water pump to a spare ECU output so that it turns on above 50 degrees C. For the BDA installation I had to relocate the NG3 shift shaft to exit the left side of the rear cover. Because of the location of the oil filter and the asymmetrical shape of the motor, I traded my modified NG3 rear cover with a non-modified right side shifter, and moved all the linkage back to the other side of the car. The exhaust was the easiest part of the installation as I simply purchased a header intended for a 2001 Ford Ranger, cut off the collector flange, and welded on a stainless steel quick release flange from Burn's Stainless. I fabricated the remainder of the exhaust from SST and use a large Flowmaster muffler to keep things quite (sort of). I purchased a set of 45mm Jenvey throttle bodies that bolt directly to the Duratec head without an adapter manifold. The original Duratec injectors were only good for about 150HP so I upgraded 'em to 30lb/hr units from Ford Motorsports (intended for 5.0 Mustang) that are good for up to 250HP. I installed an Aeromotive adjustable fuel pressure regulator, Bosch fuel pump, an Canton fuel filter to complete the petrol delivery system. I modified the original Ford fuel rail by welding on -6AN

fittings and connected all the components with -6 braided line. There's not much room for an alternator, but I was able to fit my mini ND unit that was installed on the BDA. I made a custom mounting bracket and located the alternator high, on the right side of the motor. The unit sits about an inch above the upper chassis rail and has a short serpentine belt that goes only around the crank pulley and the alternator, but also touches the original Duratec idler pulley on its backside. I did a lot of research on ECU packages via the internet. Many companies are out there making stuff, but I chose an Electromotive TEC3 unit that is sold by Spencer's Motorsports in Hayward.. The TEC3 is one of the higher-end units and is capable of handling any modifications or additions I may make in the future including turbos, nitrous, all types of datalogging, etc. The TEC3 is fully programmable via laptop and has literally hundreds of datapoints, parameters, and functions that can be adjusted to make your motor run perfectly. The Electromotive manual is very complete and full of (virtually all) the information you need to correctly install and tune the system. It is, however, written for persons who already have knowledge of electronics and fuel injection. If you're not comfortable reading schematics and cutting and splicing wires, then the installation will be difficult and/or very time consuming. After completion of the Duratec installation I brought the Flamer to Mustang Ranch in Santa Clara for a dyno run and tune. The programmable fuel injection coupled with a dyno and quick-reacting oxygen sensor make tuning the motor for max horsepower super-simple. We ran the motor up 3 times and were able to achieve 164 HP and 155 ft-lbs torque at the wheels. That translates into about 200 HP at the crankshaft! The horsepower peaked at 6500 rpm and the torque maxed at around 5000. There was 140 ft-lbs available at 3000. Pretty good for a bone-stock Ranger motor (with programmable fuel injection and no smog worries). The old Cosworth probably put out about 150 HP at the crankshaft. The extra 50HP and bunch

more torque should be obvious to both my backside and the stopwatch. Next season I'll likely upgrade the cams and pistons to get another 25-50 HP, but I'm very content for now. Final tuning of the fuel injection for good driveability, cold starting, etc will be achieved little by little over the next few months via my laptop in the passengers seat. It's nice to be able to enter a new number and feel a real difference in performance. It's certainly a lot nicer than pulling carburetors apart, installing jets, goofing with the choke cable, timing light, distributor etc. Well folks, this could be it, the final installment of my series "Building the Ultimate Europa". I'll certainly continue to work on the car making small modifications and improvements, but I believe all the major stuff is complete. Then again.....a turbo could give me another 100 *end* HP.....

# Lotus Bytes

by James McClure, et al

**No Corral at Monterey Historics.** We received only three calls from members interested in purchasing tickets through the club. Next year we will start getting information to the members sooner for this event. Hopefully, we will then get the needed 35 tickets sold to have a corral space again.

We have some new guidelines from John Zender on the Track Days that he runs. They're on the website. The main change is that novice track day drivers will be required to get instruction from an experienced driver. There will be a number of 'instructor level' personnel at all of the track events. Please seek out their expertise, whether you're new to driving on that particular course or any course. Even the slowest driver must know the correct line for the course, as any driver that is attempting to pass you will be expecting you to be on the line and STAY on it. It is the passing driver's obligation to make a safe pass by adjusting his line and speed. With that in mind, when do you pass or get passed within a turn? NEVER, unless both drivers are in a true racing situation, which is never the case at a track day or driving school. Just watch professional racing on TV and record the types of passes and how successful they were. How many passes were made on the straight, either in the acceleration out of a turn and or the braking zone before the turn? Now, how many were really made within the turn? A small percentage, and these are the riskiest type and will lead to the greatest chance of car damage. And these are the professionals, with lots of track time, probably hundreds or thousands of hours of wheel-to-wheel experience. I

I've made a number of passes within a turn, but only in competition and only after I had some knowledge of the opposing driver and his driving habits, and I knew that HE knew how I drive. And I would still only make that type of pass when that was my only option to get around that driver.

## End Of The Cam

by Scott Hogben

Friday 11th July:vc Lotus on the case with electro-hydraulic valve actuation system[PARA]Lotus Engineering has signed a licensing agreement with leading Eaton Automotive to develop for production the British company's 'Active Valve Train' system.[PARA]The companies will collaborate closely in the development of Lotus' current Active Valve Train research system to try and bring it into a production ready state. [PARA]The technology promises to reduce emissions and improve fuel economy. Furthermore, simulations show that for a conventional baseline engine, the improved operational efficiency increases torque by up to 10%.[PARA]Lotus and Eaton hope to have vehicles demonstrating AVT technology within two years and to have systems in production and available for delivery by 2008. An undisclosed major European vehicle manufacturer has already signed an agreement to acquire the system for one of its platforms. [PARA]The fully variable AVT system is several generations ahead of the various mechanical systems introduced by OEMs to improve the flexibility of their engines. It offers a level of valve control never seen before in production engines. [PARA]Replacing the camshaft with lighter and more compact hardware, the electro-hydraulic valve actuation technology enables virtually infinite manipulation of the timing, duration and extent of lift for each valve. The complex control system selects and implements the valve lift profile that achieves optimal operational efficiency across the engine's entire speed and load range.



### Spencer's Motorsports Is Closing

I would like to send a special thank you to all my customers, vendors and supporters that have been with me during the past nineteen years. I couldn't have made it without you.

*Please see yellow flyer for more details*



*Autocourse Inc.*  
*California's Caterham Dealer*

## Track Rentals

[www.autocourseinc.com](http://www.autocourseinc.com) 949-499-4782

# JAE

Independent **LOTUS** Parts & Service  
[www.jaeparts.com](http://www.jaeparts.com)  
Tel: 805-967-5767 Fax: 805-967-6183

Factory parts for the latest Esprits and M100 Elans to Vintage racing and restoration parts for the classic Lotus. Also, pain-free next-day drop ship service for parts we may not have.

**CALL NOW FOR COMPETITIVE PRICES,  
EXPERIENCE AND SERVICE.**

## More Classifieds

**For Sale:** Elan/Cortina parts, left over from my Cortina race car. Many Twincam parts. Please Email for an extensive list. Brian Robinson [brian.robinson7@sympatico.ca](mailto:brian.robinson7@sympatico.ca)  
Tel: (519) 940-3082 (5/03)

**For Sale:** 1991 ESPRIT TURBO SE-JIM CLARK / INDY SPECIAL, #6 Of 20. Special 25<sup>th</sup> anniversary model, V.I.N. # SCCFC20B6MHF60208, 50K miles, Perfect condition, new Goodyear F1 tires, Special green with yellow wheels, striping, and yellow upholstery. 6 CD changer, \$32,500. Pictures available. Ken Nelson, NAPA, CA, (707) 258-9948 (6/03)

**For Sale:** 1999 Lotus Esprit V8, azure with light tan interior and blue piping. It has 33,000 miles and has had all the scheduled services done by the dealer. It has, in addition to the normal hard top, an unused and boxed glass sun roof and is also equipped with an XM satellite radio (Which can be removed, if desired.). The car is garaged at my home in San Francisco and in very fine condition with little tire wear. Pictures are available as email attachments. I want \$45,000 or better, but will consider all serious offers. John Fairfield, (415) 647-1953 or [jfairfield@worldnet.att.net](mailto:jfairfield@worldnet.att.net) (6/03)

**For Sale:** Twincam motor. It's a MWE built 1.6 with all the goodies ( 175HP dyno). I'm keeping the injectors but will part with the long block. Included are the 2 1/8 TT jet hot coated headers and the BRM valve cover. I can supply all the specs. Please pass it on to anyone. I'm keeping the sale to the west coast and will sell for a very reasonable price. Andy Dijak 818-903-9418 (7/03)

**For Sale:** 69 S4 Elan, white daily driver for last 21 years, 122,500 mi. rebuilt engine and transmission by Schlossnagel racing at 116,568 mi. in 1995. Full service records since 1982 purchase at 66,3887 mi. and can be e-mailed as attachment. Never wrecked or restored. Always garaged. Stock except: Crave Cams optical ignition system, adjustable ZC needles, thermostat electric radiator fan, Michelin X 165/70R13 Chuck Botts, San Diego, Ca. [cbotts@san.rr.com](mailto:cbotts@san.rr.com) or 858-292-1480

**For sale:** NOS Europa 5 speed transmission. Must be to be among the last available in the world; bought from UK Lotus dealership. Still covered in original shipping grease and plastic wrap! Andrew (8/03) [Irlandstech@nndfn.com](mailto:Irlandstech@nndfn.com), [andrewp1989@hotmail.com](mailto:andrewp1989@hotmail.com)



**www.davebean.com**

Official North American  
**Lotus**  
Vintage Parts Distributor




**dave bean engineering**

Phone ..... (209) 754-5802  
Fax ..... (209) 754-5177  
US & Canadian Fax Orders ..... (800) 469-7789

636 east saint charles street • star route 3 • san andreas ca 95249 • usa








*Lyn Barber*

**LYN BARBER**  
Auto Technician  
(925) 939-6769  
[LREDMANB@AOL.COM](mailto:LREDMANB@AOL.COM)

**KARDEN AUTOMOTIVE**  
1400 CENTRAL RD. #6, WALNUT CREEK, CA 94596

The Chapman Report is published monthly by the Golden Gate Lotus Club, PO Box 117303, Burlingame, CA 94011. The GGLC is a non-profit incorporated car club and is not affiliated with Group Lotus, Team Lotus or Lotus Cars USA. The GGLC's annual membership dues are \$25.00.

Opinions expressed in the Chapman Report are those of the authors and do not represent those of the GGLC or its officers.

Submissions to the Chapman Report are accepted and encouraged. Please email them to [flaming\\_palms@yahoo.com](mailto:flaming_palms@yahoo.com) in MS Word, rtf or ASCII text. Submissions may also be mailed to Jim McClure, 11238 Bubba Road, Cupertino, CA 95014.

2002 GGLC Officers are: President: Pete Richen, Vice President: Scott Hogben, Treasurer: Laura Hamai, Event Coordinator: John Zender, Membership Chairman: David Anderson

Chapman Report Staff: Editor: Jim McClure, Circulation Manager: Tom Carney, Advertising Manager: Mel Boss.

**For Sale:** Lotus Europa SP Race Car (#19). Unique car for someone who really wants to learn to drive a fast mid engine car without the hassle of class rules. 2001 SFR Super Production champion. 1:35's at Laguna, 1:54's at Thunderhill. Motec injected Cosworth, all the right stuff but still a Lotus. Some spares. Comes with lightweight custom single axle trailer (1800lb total with car). \$28k or best offer. Call Mike (408)891-5833 or email, [mikeohm7@earthlink.net](mailto:mikeohm7@earthlink.net) (4/03)

# Classifieds

(non-commercial ads are free to GGLC members and will run for three issues before requiring renewal)

**For Sale:** 1974 Lotus Elite. It is all original yellow with tan cloth interior. Was running two years ago but has been stored many years and does not currently run. Ken Benner>Please call at 510-659-1755 or work no. 408-742-3453 or my E-mail address:

[ken.benner@lmco.com](mailto:ken.benner@lmco.com) (6/03)

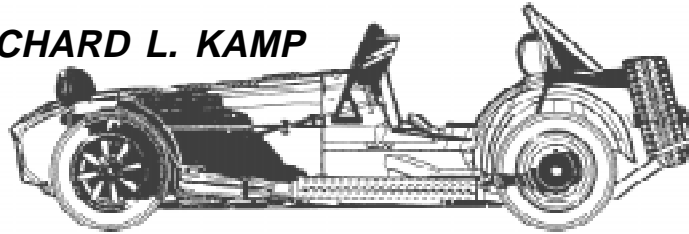
**For Sale:** Lotus Super 7 (1967, Series 2, orig. owner, street car), RHD, BRG/black, 1500 Cosworth Ford (low miles on rebuild), twin 40 DCOE's, includes full weather gear (all original top and side curtains in excellent condition), original wobbly web mags., Avon tires with low miles, original except Super Starter (orig. Lucas starter included), GT6+ front discs (orig. discs included), Ford semi-close-ratio (4 sp.) trans. (Dave Bean), strengthened rear axle/diff. housing, custom tonneau, custom wind-wings, twin Brooklands racing screens included. Never raced/ never crashed/always garaged between weekend trips. Asking \$25K. Joe ([jjcech@ucdavis.edu](mailto:jjcech@ucdavis.edu), 530-758-2922) (6/03)

## GOLDEN GATE SEVENS

*Infineon Raceway  
28935 Arnold Drive F-10  
Sonoma, CA 95476  
Phone # 707-933-8039*

**Authorized Dealer of Caterham Cars**

**RICHARD L. KAMP**



**Designed for Racing Built for Living**  
[www.goldengatesevens.com](http://www.goldengatesevens.com)

**For sale :** 1980 Lotus Europa 4 speed stick, 4 cyl. exterior grey/interior grey & black less than 30,000 original miles. This is a project car. Transmission/engine in car; engine needs to be finished. \$6,000 or best offer. Grizzly Flats, Ca Ron 530-642-0332 E-mail [neumann@directcon.net](mailto:neumann@directcon.net) (5/03)

**For Sale:** 1972 Lotus Elan Sprint (S4) DHC, White with gold bumpers, 50,100 miles, Twin cam "Big Valve" engine, Dual Zenith-Stromberg carb, Power windows, Tonneau cover.

All original equipment, original owner, well maintained and in very good condition, complete service records, original purchase documents, original shop manual, some Lotus press clippings. \$19,500 or best offer.

W. H. Schaw, (916) 448-4733 (6/03)

## First Class Mail

The Golden Gate Lotus Club  
PO Box 117303, Burlingame, CA 94011

