

Lotus Enthusiasts Organization

NY-NJ Area

Dateline: March 10, 2003



Will this long, snowy, cold winter never end? We all really have cabin fever. But wait! **The Lotus Enthusiast's Organization** has the answer to your antsiness. It's called our annual **Driving Fever** party, and it's coming up on **Sunday March 23rd** at David and Sandy Nagler's home in Chester, NY.

This is always a well-attended event, and lots of Significant Others attend, so bring the wives and hubbies. After sampling Sandy's yummy comestibles we'll do some slot-car racing (bring your own HO scale cars!) and perhaps amble over to David's Lotus Shack (his gigantic garage) and do some R/C car racing....David informs me that he has a radio controlled Elise and will take on all comers!

It's always a good time, but Sandy asks that you **RSVP by Sunday, March 16th** if you will be coming. Directions are on the LEO Website under "Events" (see the footer message at the bottom of the page for the URL). To RSVP, email LotusHack@lotusowners.com or call (845) 469-6001.

Like last year, if weather permits, I'll lead a caravan from the intersection of Route 15 and Berkshire Valley Road in Jefferson Township. Email or call if you'd like to join me.



Oxygen Sensor 101 An article by Jim Conforti

“I'm trying to understand the O2 sensor a bit more. I understand that it's an Oxygen Sensor and that the ECM relies on its data to determine the proper amount of fuel to maintain the right air/fuel ratio.... Correct??”

An O2 sensor is a battery. I know it sounds funny, but that's exactly what it is. An electrochemical cell, sort of like if you stick a copper wire and zinc wire in a lemon and get electricity.

The difference is that OXYGEN is what makes it "go".

In specific, the DIFFERENCE in the CONCENTRATION of Oxygen between the outside air, and the inside of your exhaust pipe determines the voltage of the O2 sensor.

If the mixture in the exhaust pipe is RICH, which means it has MORE fuel than can be burned up completely, then the oxygen concentration INSIDE the pipe is LOW, which means that the DIFFERENCE in Oxygen from INSIDE to OUTSIDE is BIG.

BIG DIFFERENCE, BIG VOLTAGE, somewhere usually between 800 and 1000 millivolts (0.8 and 1.0 volts)

If the mixture in the exhaust pipe is LEAN, which means it has LESS fuel than can be burned completely, then there is left over OXYGEN in the pipe, which means OXYGEN CONCENTRATION inside is HIGH and the DIFFERENCE between OUTSIDE and INSIDE is LOW.

SMALL DIFFERENCE, SMALL VOLTAGE, somewhere usually between 300 and 100mv (0.3 to 0.1v)

If the voltage is around 450 to 550 mV (0.45 to 0.55) the mixture is what is called STOICHIOMETRIC, in other words, the air-fuel ratio is 14.7:1

You asked about the Lotus V8. Let's just consider ONE side (bank) of the V8, essentially a 4 cylinder turbo motor. As the exhaust gas passes out of the turbo, it passes by the FIRST O2 sensor, which is used by the engine computer to control air fuel ratio.

This is done at IDLE and PART THROTTLE. (Not at FULL THROTTLE!)



Typical Oxygen Sensor:
May have up to four wires.

It is done for EMISSIONS because the catalyst needs a mixture which "averages" out to be STOICHIOMETRIC over time, but that in fact is varying a bit from rich to lean constantly. Simply, the computer adds or subtracts fuel and watches for the VOLTAGE SIGNAL from the O2 sensor to change from HIGH VOLTAGE (above 500mV) to LOWER VOLTAGE (below 500mV) and then back again.

Essentially it makes the car go RICH LEAN RICH LEAN RICH LEAN by very small amounts, very quickly (usually 2-5 times per sec.)

The SECOND sensor, which looks like it's IN the CAT, should actually be considered to be AFTER the CAT. The reason is that the catalyst has two "sections"; the sensor is actually BETWEEN the sections, and AFTER the first one.

Now, if the CATALYST is doing it's job, when the mixture is RICH it burns up the fuel with the stored oxygen from a second ago when the mixture was LEAN.. since it is burning everything up, the output of the CATALYST should have an OXYGEN content which varies very little compared to what is seen by the first sensor.

The SECOND sensor on that side is checking. If it sees that the CAT isn't working it sets off the MIL Malfunction Indicator Lamp, also know as the "Check Engine" light.

So, the first sensor is to control engine emissions.

The second sensor is to make sure that the first sensor, and everything up to and including the CATALYST are working properly and in fact the emissions ARE low.

Jim Conforti



Post LOG Track Session – Monday and Tuesday, August 18-19

I would like to tell everybody that is interested in doing a track day while they are in the Western New York area for LOG 23 in Grand Island NY, August 15,16,17, that while we will not be sponsoring a track day that weekend, there is an event at Watkins Glen the Monday and Tuesday following LOG that you may want to check out.

The Shelby club of Rochester, NY is having their annual track day at Watkins Glen, August 18 and 19 at the Watkins Glen track. The Watkins Glen track is about 2.5 hours from the LOG 23 hotel.

Cost of the event is \$365 for the two days. There is a late charge after June 20, but by that time the spots usually are taken. All details (including entry forms) are on the site below.

http://www.smcrinc.org/glen_event_frame.htm

The Shelby club keeps a running status of spots available on the site, as well as sign up forms and other information. Currently there are about 10 spots open for both novice and intermediate and about 18 open for expert. These spots fill up fast and some of the Lotus Ltd club members have already signed up for the event [including David Nagler and Jim Cummings – Ed.].



Elan at The Glen

I cannot emphasize that this event fills up fast...so if you want to do it...take a look.

The best place to look for a hotel in the Watkins Glen area is in the Corning area, which is about 20 minutes from the track. There is the Radisson (HQ of LOG 19), as well as many other "chain" motels in that area.

Lotus Ltd. and LOG 23 have no financial interest or benefit from this event and are not in any way connected with it. This is provided for your information only and if you attend, you do so at your own risk.

I am posting this as I have been asked if we were going to have a Track Day. As we are not, I hope perhaps this will be of interest to some of you.

Tony Vaccaro
LOG 23 Co-Chairman



PALS Events for 2003: The **Philadelphia Area Lotus Society (PALS)** had its 2003 planning meeting recently (Imagine that! Actually have a planning MEETING!) and came up with the following events schedule.

Bob Conrad, Events Honcho fur dem Southern Philly Boys, reports:

“Everyone agreed we would love to see LEO or any Lotus Enthusiasts at our events and maybe could hook up with them on something. We went over the LEO list of events and had some interest. Now if only the mud would subside so I can get my Europa out, I won't even mind the lousy throwout bearing!”

April 5 - Tech Day at Gary Visher's
May 10 - Covered Bridge Tour, Larry Palza
June - ???

July 19 & 20 - Poconos "G.T.E." [That stands for "Grand Touring Extravaganza", their words for a Lotus Drive -Ed.] and vintage races at Pocono Racetrack.

August 15 - 17 - Lotus Owners Gathering (LOG), Grand Island, NY

August 31 (Sunday) - PALS at the Shore.



LEO Events: Hey we got lots of events.... In addition to March's Driving Fever Party, we plan on meeting at least Monthly to get a generous helping of our Lotus cars and owners of a similar ilk.



The big EXCITING news is that on **Sunday, April 27th**, we will gather at the entrance to the NY Auto show, yes right there in front of the Jacob Javits Convention Center near 11th Avenue. There, we will display up to fifteen of our Lotus cars under a large canopy. Viewing time is from 11 AM to 7 PM, for the entire world to see. If you want to participate in this extravaganza, contact Joe Saturnia.

In May, The PALS covered bridge tour seems interesting, and we will have our usual Monthly breakfast on the third weekend of the month in or near New Providence. Joe has invited us over to his place for the breakfast goodies.

June is a nice month for the auto show season to begin, and once again I invite everyone to enter our **Touch of England** British Car Show in Ho-Ho-Kus (Bergen county). We'll be giving out lots of awards and door prizes (including a special Lotus class) on the Great Lawn of The Hermitage House and Museum. The date is Saturday June 14.

We are already planning some driving events in Connecticut/Westchester and Rural NJ. Details, as they become available.

Future events will be posted on our LEO website along with contact names and numbers so there is no need to go over it again here. **Let's make 2003 a GREAT Lotus year.** Hope to see everyone out!



The **GoKart Challenge** came off as it does every year at the Sports 'n' Games Funplex in East Hanover, on February 23rd. We had a great turnout, with Jim Cummings' "Racers-in-Training" (his sons) stealing the show at the urging of their proud Dad. The competitive juices were flowing, but it was an even match with no one overdoing it this year and running off the track. As usual, in the adult division our



Funplex Raceway

resident racers Jim “Dale Earnhardt Jr” Cummings and David “Tony Stewart” Nagler were the class of the field, with David getting yet another free ride when his cart mysteriously malfunctioned (you can only press so far on those accelerator pedals, David).

The meeting with Richard Parramint on March 3rd was a washout, as torrential rains served to thwart the meeting of Old World and the New. But Richard was kind enough to donate some apparel to the Club to be used as giveaways. Thanks Richard! And a last reminder to check out his Lotus Tours if you plan on travelling to the UK: <http://www.lotustours.co.uk/> ; it’s a great time, take it from a veteran of the trip!

Later,

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