REMARQUE
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Team Lotus to get Honda Power

After four seasons of running Renault engines, Team Lotus will sever its ties with the French Company and team up with Honda for the 1987 season. The two men most credited for the recent successes of Lotus, chief engineer Gerard Ducarouge and number-one driver Ayrton Senna, will stay with the team as part of the deal. A Japanese driver will fill the number-two driver's seat now occupied by Johnny Dumphries, but Honda will not, as has been speculated, be buying the team.

The Lotus-Renault relationship began with high hopes and saw some success, but never produced a world championship. The Lotus-Senna-Honda combination, in contrast, will undoubtedly be one of the strong favorites for the '87 title: The Ducarouge-designed Lotus chassis is arguably the best in Formula One; Senna is one of the quickest drivers—a rapidly maturing star in only his third Grand Prix season; Honda has poured tremendous resources into its Formula One engine program, and its powerplant is now the only close challenger to the Porsche engine, which has powered McLaren to the championship for two years running. (Nigel Mansell, in a Williams-Honda, currently leads the 1986 standings.)

Renault pioneered the use of turbos in Formula One, starting with its own team in 1977. As turbos continued to become more and more dominant in the late Seventies and early Eighties, Lotus stayed with the normally aspirated Cosworth-Ford. It had used the unit, with much success, since 1967, and Colin Chapman was quite used to making up for in chassis design what he was giving away in sheer horsepower. Moreover, turbos during this time had significant problems with reliability and throttle lag, and the only teams that had access to them were the ones who were building their own.

Notwithstanding the Lotus victory in the 1982 Austrian GP—its first in nearly four years—by the end of that season it had become apparent even to Lotus that teams with normally aspirated engines could no longer be competitive under the F1 technical rules. Renault, meanwhile, had been unable to develop a winning chassis on its own, and so agreed to sell Lotus engines beginning in 1983 to improve its chances.

The Lotus-Renault partnership got off to a rocky start. Colin Chapman died the night before the first Renault-powered Lotus racer had its initial track test. The new chassis, it turned out, was not a good one. The team floundered around for months, until midyear, when Frenchman Gerard Ducarouge came aboard as the chief engineer.

Within six weeks, a brand-new, Ducarouge-designed, Renault-powered Lotus chassis was at the front of the grid at the 1983 British GP. But, while Ducarouge was able to turn a team that had been relatively uncompetitive for over four years into an instant contender, that competitiveness was slow to translate to victories—and the fault was, to a significant degree, due to the unreliability of the Renault engine. Tires were then part of the problem, to be sure; but, long after Lotus had moved from Pirellis to more competitive rubber, the quest for engine reliability continued, and then was augmented—and eventually superceded—by the need for better engine efficiency.

Efficiency concerns came to the fore when, in an effort to make the cars safer, in light of the ever-more-powerful turbos being developed, ground effects-producing skirts were banned in favor of flat bottoms, and progressively smaller fuel amounts were allowed.

The fuel constraints cemented a pattern that has persisted since the beginning of 1984. While the reliability of the Renault engine has steadily increased and development of the unit has continued (even though Renault disbanded its own team after 1985), the engine has not been able to match the efficiency of its competitors. As a result, Lotus has been able to claim the pole nearly as often as not, but has generally not been able to keep pace during the races with the McLaren-Porsches and the Williams-Hondas.

Honda has been in modern Formula One racing only since 1983, but has spared little in the way of effort and resources to become a championship contender—as much as $40 million to date, according to one report. Frank Williams says Honda's engine support to his team is worth $5 million a year. (Lotus, meanwhile, with a much smaller overall budget than Williams, reportedly has been paying Renault £1 million a year for its engines.)

In taking on Lotus, Honda is expanding its activities at a time when several other teams are looking for a new engine supplier, in the wake of BMW's recently announced withdrawal from Formula One. So Renault presumably will have no trouble signing up new clients. But it reportedly had hoped for a renewed deal with Lotus that would have been strengthened to reflect a designation of Lotus as its "factory team".

Lotus, looking to buttress its biggest weakness and thereby retain Ducarouge and Senna beyond their current, soon-to-be-expiring contracts, instead opted for the most competitive available alternative.

Canada and Detroit: Programmed to Succeed

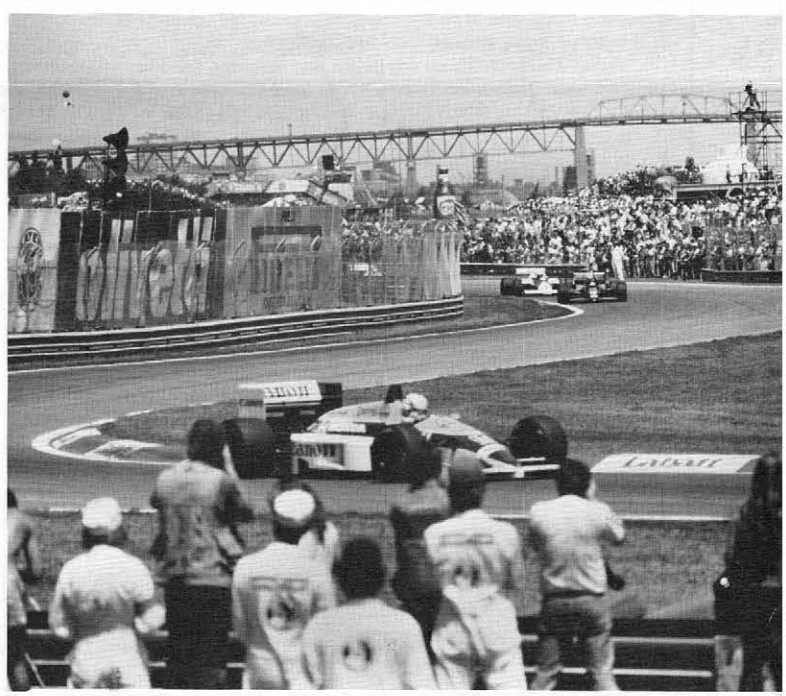
The magic word in Formula One this year is efficiency. Fuel economy, whether measured in horsepower-seconds per liter or in miles per gallon, has become, far and away, the most important determinant of Grand Prix race car performance. This is due to the advent of the strict 1986 fuel limitation: 195 liters (down from 220 in 1985), with no refueling allowed during a race.

The change in emphasis from chassis tuning to thermal efficiency is obvious everywhere—on the track, on the dashboards, and on the benches in the paddock. The acceleration from 900 horsepower makes itself brutally apparent in the exits from slow corners. High-resolution, computer-controlled digital readouts sit prominantly in front of the drivers, displaying the number of laps of fuel remaining at the present turbo boost level. And back in the garages, engineers huddle around the most important race car tuning instruments they have—the microprocessor development systems (MDSs) that program the electronic fuel injection computers.

Lotus uses the same computer Renault supplies to the Ligier and Tyrrell teams—a 2 x 8 x 12-inch, grey metal box sporting four round, military-style connectors. It is programmed after removing it from the car and plugging in wires from a test harness on the bench. Working with an Intel MDS keyboard, a monitor, floppy disk drives, an oscilloscope, a digital voltmeter and a 12-volt battery, the computer's memory is programmed with parameters that relate to track distance, race distance, preferred boost settings, and fuel consumption rates from previous sessions. After programming, the harness is disconnected and the computer is reinstalled on the car.

Qualifying well requires just a single hot lap with the boost turned

(See GRAND PRIX, page 7)



STARTING LINE

A registration form for LOG VI is in this issue. We're confident this year's meet will add to the string of successes the event has enjoyed since 1981, and we hope to see as many of our members as possible turn out. If Kathy Caswell is planning to attend (see separate story), you know it's going to be good!

A word on prices: We're pleased that we've been able to hold the line on prices across the board for this year's meet. But that doesn't mean that everything costs the same as last year—in fact, we'll have to work somewhat harder than before to defray some costs by lining up outside support.

The price schedule we're using is the same as last year's, and some members have questioned its rationale. Basically, we've tried to strike a happy medium between forcing everyone to accept a single-price, all-inclusive package deal, on the one hand, and going through the hassle of charging for everything on an item-by-item basis, on the other. By the same token, the prices are set with a view to breaking even on the whole event—not each individual activity. Last year, we accomplished that goal; on a cash flow of over $8,500, we ended up with a surplus of about $2 a participant.

As you can see, the meet has gotten ambitious enough and large enough so that financial planning is essential to avoid having the club take an unexpected bath. You can help the planning process greatly by sending in your registration as soon as possible (and avoid the late registration fee in the bargain).

LOGGING IT (LOVING IT, LOATHING IT)

I watch my mate as he stares at his beloved Lotus. The car sits tenderly on four strategically placed supports, awaiting "THOSE DAMNED PARTS FROM ENGLAND". Please hurry. Only two months to the meet. Will it run? Will it be ready? Will it make it??

I contemplate the long trip and the prospect of "Lotus Leg" and "Lotus Bum". Oh, how we suffer to be one of the chosen few to say, "Yeah, that's our Lotus—the one with the taped-up bumper!"

...D-Day finally arrives, and my husband sounds the call: "Hurry! Who cares what clothes to take—it doesn't matter! Hurry up—I don't care if you just got in from work—no, you can't go to the bathroom—just get in the car! It's going to take eight hours to get there, and we'll miss the wine and cheese. You can go when we get there."

...As the gorgeous country vibrates and bumps its way past my road's-eye view, I wonder what happened to the resolution I made after last year's meet—the one that went: "I'll never drive this far or sit this long again!" I have this feeling of us being either stared at or ignored (They don't show they're impressed, but of course they really are.) as we pursue that rare vision of ACTUALLY SEEING MORE THAN ONE LOTUS IN THE SAME PLACE AT THE SAME TIME!

...We finally arrive, and it's amazing—there really are other men out there who act just like mine! I spend the whole weekend: a) looking at my mate's bum as he bends under yet another Lotus (just to check out the modifications); b) trying to smell out the nearest shopping mall; and c) changing into another set of clothes that look as if they've been shoved into the trunk of a Lotus.

...Meet's over, and, as we begin the lengthy, bladder-shattering drive home ("Yes, dear, I had a great time."), I think to myself: "I'LL NEVER DRIVE THIS FAR OR SIT THIS LONG AGAIN!"

Or will I????

—Kathy Caswell

[*Kathy and husband Jamie are from Niagara Falls, Ontario, and "every year look forward to the annual meet".—Ed.*]

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COVER: After just 1-1/2 laps, Nigel Mansell's Williams-Honda already begins to dominate the Canadian GP as Ayrton Senna's Lotus holds off Alain Prost's McLaren. *(Photo by Glenn Davis.)*

LOG VI REGISTRATION INFORMATION

"Ground zero" for the Sixth Annual Lotus, Ltd. Owners Gathering will be The Ledges condominium area of Hawk Resorts' Salt Ash Colony. The Ledges condominiums were chosen to promote more interaction among members during the event than detached units, spaced farther apart, would provide.

There are approximately 100 "rooms" in these two-, three- and four-bedroom condos. THE SPECIAL LOTUS, LTD. PRICE IS $130 PER CONDO PER NIGHT. PLEASE NOTE THAT THIS PRICE IS PER UNIT—NOT PER BEDROOM—AND NOT PER PERSON!! If a member (or couple) teams up with another member (or couple) to share a condo, the cost will be $65 per night per member (or couple); a three-bedroom condo, split among three members (or couples), will be $43.33 per member (or couple) per night; a four-bedroom split four ways, $32.50 a night. Hawk will arrange for separate billing for all who share condos; optionally, you may elect to rent an entire condo yourself. Please be assured that the lodging facilities are large enough to afford all members of your party privacy and amenities that surpass a standard hotel suite.

YOU MUST MAKE YOUR OWN LODGING RESERVATIONS DIRECTLY WITH HAWK. CALL TOLL FREE (800) 572-0058. If you plan to share a condo with another member(s) or couple(s), please mention this fact and the other parties' names to Hawk personnel when making reservations; the Hawk staff will coordinate your lodging arrangements. If you would like to share a condo, but do not have a particular club member to share with, Hawk will match you up with another Lotusphile in the same situation; specify your preference for a two-, three- or four-bedroom unit, and Hawk will do their best to satisfy all requests.

For those staying Friday and Saturday night, Hawk has agreed to provide Sunday night lodging at half-price—an excellent value!

On the food front: The LOG VI schedule includes a Friday evening wine and cheese reception (free), a midday cook-out during the Saturday casual concours (free), and our traditional Saturday night awards banquet (with door-prize drawings). As noted on the registration form, BANQUET TICKETS MUST BE PURCHASED SEPARATELY—the modest price of $25 per person includes an open-bar cocktail hour, hors d'oeuvres and a "command performance" buffet dinner by Detlev Kreiner, one of 17 Master Chefs in the U.S.

Individual plans should be made for breakfasts and Sunday meals.

There are restaurants nearby, but, for those who prefer to "dine in", each condo is equipped with full kitchen facilities and utensils. For a slight additional charge, Hawk will go shopping for you and have your fridge stocked with the groceries of your choice—ask Hawk reservations personnel for the details of this service.

* * *

Salt Ash
Rental Conditions

Confirmation: A two-night or 50% deposit is required within 7 days of making reservations.

Cancellation: If cancellation is received at least 14 days in advance of scheduled arrival, the deposit less 10% handling charge, will be refunded. If cancellation is received less than 14 days prior to scheduled arrival, deposit is nonrefundable.

Check-in Time: Check-in time is 4:00 PM.

Check-out Time: Check-out time is 11:00 AM.

Credit Cards: MasterCard, Visa, American Express and Diners Club accepted.

Checks: We are happy to accept your personal check with proper identification.

Pets: Sorry, pets are not permitted.

* * *

Remember: Your meet registration must be made with the club. Your lodging reservations must be made directly with Hawk. SPACE IS LIMITED! SO ACT NOW!

*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*

The premier event of the year for Lotus owners everywhere!

When? September 19-21, 1986

Where? Hawk's Salt Ash Colony
Plymouth, VT

*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*LOG VI*

** Friday night wine and cheese reception **

** Saturday casual concours and cookout **

** Saturday night awards banquet **

** Autocross ** ** Alpine slide ** ** Photo contest **

** Liar's concours essay contest **

** Guest speakers ** ** Slide shows ** ** Tech seminars ** ** AND MORE! **

Sixth Annual Lotus, Ltd. Owner's Gathering

REGISTRATION FORM

Name:_____

Address:_____

City:_____ State: _____ Zip:_____ Country:____

Lotus car(s) you intend to bring (year/model/series):

Liar's Concours: Not bringing your Lotus? No problem! Write an essay on why not, and send it in or bring it to compete for a special award. Originality counts!

Entry Fee: $20 per individual or couple member, $30 nonmember _____
Late Registration Fee (after September 5th): $10 (if applicable)_____
Saturday Night Awards Banquet: ____ persons @ $25 each = _____
(NOTE: Only banquet attendees will be eligible for door prize drawings!!)
Commemorative Shirt: ____ shirts @ $12 each = _____
(indicate size: S M L XL)

TOTAL REGISTRATION FEE ENCLOSED: _____

(Make checks payable to Lotus, Ltd. and send to Box L, College Park, MD 20740. Outside the U.S., send an international money order payable in U.S. dollars.)

(office use)
Reg #: Car #:

NOTE: MEET REGISTRATIONS MAY BE CANCELLED THROUGH SEPT. 17TH, WITH FULL REFUND, BY CALLING (301) 441-1955. HOWEVER, THE CANCELLATION POLICY FOR ROOM RESERVATIONS IS DIFFERENT!! READ THE SALT ASH RENTAL CONDITIONS!!

RADIATOR FAN MANUAL OVERRIDE

(PART I)

Recently the thermostatic switch on my Series Six Europa failed for the second time. The first time this happened the resultant overheating episode led to a warped head and a four-year engine rebuild. (Things don't happen very rapidly around here!) The replacement switch was the Dodge Omni part mentioned in a *reMARQUE* article several years ago, and it was supposed to be the hot setup—but it only lasted 1700 miles.

This time, rather than draining the cooling system to replace the worthless thing, I decided to rig up a manual switch—something that was mysteriously omitted in the design of the later Europas.

I made the decision to implement the manual override in two phases. In the initial phase I just replaced the radiator switch with a manual one in the cockpit. The final installation should include a relay to handle the current load of the motor, thus protecting the obviously fragile thermostatic switch in the radiator. Figure 1 shows the existing wiring, figure 2 the intermediate setup, and figure 3 the proposed "final solution".

The only problems I encountered in installing the temporary switch were minor: determining which of the four yellow/green wires on the fuse block was the fan, and finding a good place for the switch.

Isolating the wire to the fan was fairly simple. The four wires connected to that terminal of the fuse block are paired into two spade-type connectors. The first step was to bypass the faulty thermostatic switch by removing the two wires connected to it and fastening them together. I then turned on the ignition switch to see if the fan would start. (If it does not, there is a problem with the fuse, fan motor or wiring that must be corrected.)

Once the fan was running, I popped under the dash on the passenger's side and removed one pair of yellow/green wires from the fuse block. (If the fan stops, you know that one of the two wires on the pulled connector is the fan; if it does not stop, the other pair of yellow/green wires on the same terminal of the fuse block contains the fan wire.)

The next problem was to determine which of the two wires on the pulled connector was the fan. Both of these wires dissappeared into a thick mass of wiring harness, ever to be seen again. Somehow the wire to the radiator fan had to be isolated. I flipped a coin and cut one of the two possibilities, then reconnected the remaining wire to the fuse block. Somehow I was lucky and cut the right wire. (Either way, the fan wire is determined.) But do not cut this wire close to the terminal! Leave a stub of wire on the terminal in order to simplify reconnection!)

Then the second problem was addressed: where to put the switch.

The switch I selected for the job was a lighted rocker switch from

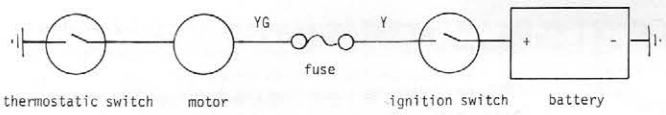


FIGURE 1 - ORIGINAL CIRCUIT (SEE LOTUS-SUPPLIED WIRING DIAGRAM)

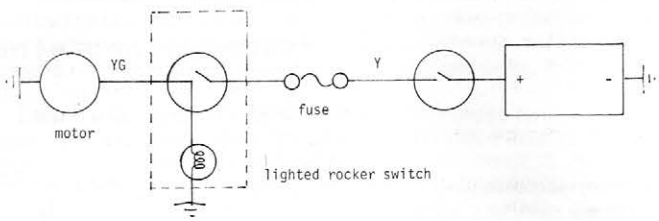
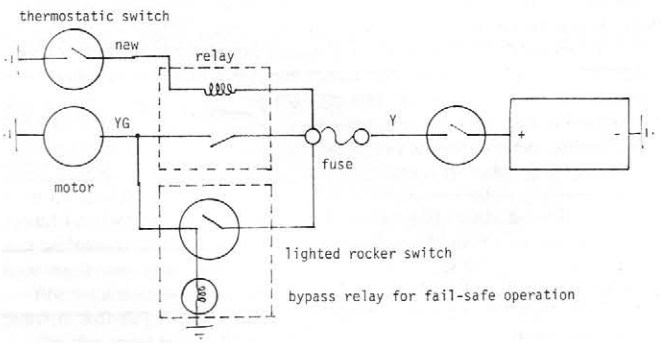
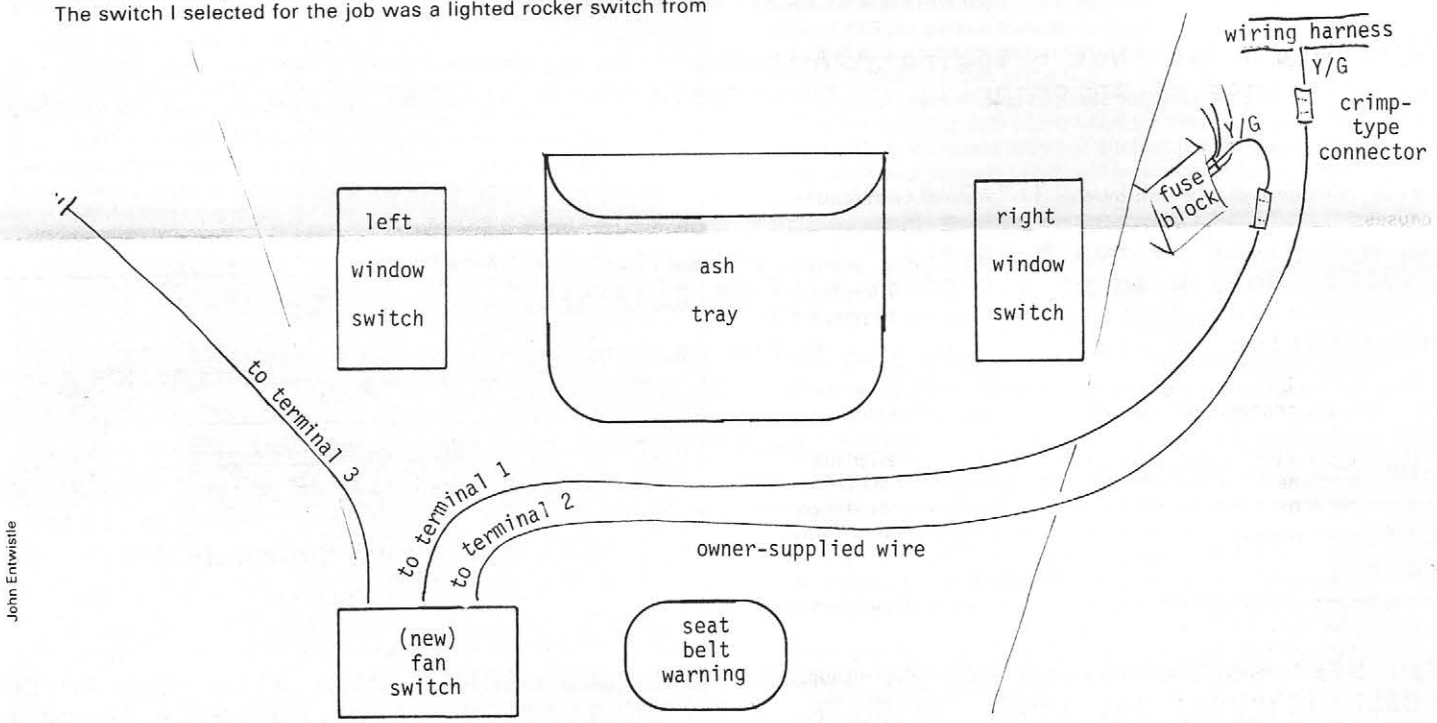


FIGURE 2 - PRESENT (TEMPORARY) CIRCUIT



John Entwistle

FIGURE 3 - PLANNED CIRCUIT ("FINAL SOLUTION")



John Entwistle

General Layout of the Console - The fuse block is located on the central backbone, right side, under the dash and behind the edge of the center console. All wires are run behind the center console. Crimp-on connectors and spade-type terminals are used throughout.

Radio Shack, part number 275-704A. (This is contact-rated 20A at 12V, with a 12V lamp. Unfortunately it has a square base, which complicates mounting.)

I decided to install the switch on the center console, to the left of the seat belt warning lamp (still functional on my car) and oriented the same way. (It could also be tucked under the dash if you don't want to alter the console from stock.) I used the bracket supplied with the switch as a template, and cut the hole with a razor blade and an exacto knife using a #1 blade. (The material of the console is a soft plastic, easily cut with a razor blade on a warm day. Great care should be taken not to slip or cut too large a hole while performing this operation.)

Once the hole had been cut it was a simple matter to fish the necessary wires from the switch to the fuse block. (I used 10-gauge wire, but, since the factory used 16-gauge, the same could be used to connect the switch.) One wire was connected to the stub of the yellow/green on the terminal that connects to the fuse block. (This is connected to terminal 1 on the switch.) A second wire connected the "cut-off" portion of the yellow/green wire which runs into the wiring harness to terminal 2 of the switch. (I used crimp-type connectors and terminals for all connections, but they could be soldered and taped or covered with heat shrink.)

Since a lighted switch was used, a ground connection had to be provided for the lamp. Poking around under the driver's side of the dash, I found an unused ground wire connected to the base of the hand brake assembly. (I can't guarantee that all cars will be equipped with this option, but the handbrake assembly must be grounded for the brake warning light to work, so this is a good place to start. A wire must run from this or any other good ground to terminal three of the switch in order for the light to work.)

After connecting all this up, my fan now runs whenever the ignition is on and this switch is thrown. The light in the rocker lights when the fan switch is in the "on" position, regardless of whether or not the fan is really running, so the light may be superfluous. I can hear the fan roaring anyway, except at high speeds. (The light does provide information about the state of the fuse.)

The entire installation took about 45 minutes. The switch cost $3.99, and a spool of wire about the same. Since installing the switch I have managed to avoid high temperatures at stop lights and in traffic by turning on the fan at the first sign of trouble. I cannot speak for the long-term durability of the switch, but I do think it will be easier to replace than the thermostatic one in the radiator. I sort of wish that I had installed this switch before cooking the car four years ago.

If I ever get around to it, I will finish the installation by replacing the thermostatic switch and adding a relay to the circuit, as per figure 3.

—John Entwistle

CURING A SOFT BRAKE PEDAL IN THE ELAN

Occasionally members complain to me about their inability to rectify problems with a too-soft brake pedal in their Elans. If your car suffers from this condition, I have several ideas as to what might be the cause—or causes:

1) There may be air in the hydraulics. I have been quite successful in adapting an air fitting onto a spare main reservoir cap, as described in my article in the August '85 *reMARQUE*. With about 10 psi and the car on stands with its wheels removed, the entire system can be pressure-bled in only 10 minutes.

2) The original flexible brake lines between the wheel cylinders and the body-mounted, fixed fittings may still be using their original, textile-reinforced rubber hoses. Even with all of the air out of the system, these old hoses will flex upon brake actuation, giving the sensation of a soft pedal. Should this be the case, I suggest that you fit a set of after-market Aeroquip stainless steel braid-reinforced hoses. I believe that RD Enterprises, among others, carries them to fit. Alternatively, you could choose to make them up yourself, getting the line, fittings and adapters from an Aeroquip dealer; check your local phone book. (In this case, however, you should be careful to determine the proper lengths, taking into consideration that additional fittings to adapt to the British pipe threads on the original Elan connections will be necessary.)

3) The brake master cylinder may need rebuilding. If so, you may be experiencing the effects of a poor seal on its piston. Again, such suppliers as RD and Tingle's can provide the rebuild kit.

4) The LOTUS brakes on the SE (Special Equipment) Elan in 1967 were fitted with vacuum boosters to provide even better braking than the unboosted systems, which were very good in themselves. However, I doubt that a weak or faulty booster would produce a soft pedal.

5) The LOTUS brakes are so good that you could have one or more calipers be frozen and, hence, inoperative, and not be aware of it. For this reason I suggest that all of the brake calipers be rebuilt (at the same time you fit the Aeroquip hoses). Note that the front and rear calipers are different on the Elans—but not on the Plus 2s. Also, these calipers should NEVER be separated into their halves, because a rebuild kit for that level of repair is nearly unobtainable—even from Girling, its manufacturer. So rebuild the piston and its O-ring seals only, unless inspection demands otherwise (for example, in the case of a severely rusted, scored piston bore).

6) I also do not recommend using synthetic (silicone) brake fluid. Girling's seal materials may not be compatible (although there is some dispute on this). I think it is better to flush and refill the entire brake (and clutch) hydraulics every couple of years, rather than take a chance. Loss of brakes can be a real bummer!

—Phil Connaught

[*Dave Painter comments:*

"Notwithstanding Phil's experience and earlier article on air pressure bleeding, I believe a much better alternative is to rent a commercial diaphragm-type pressure bleeder. The cost is low, and there is less likelihood of ending up with air in the system—especially with silicone fluid.

"Phil's point on older lines is a good one. Outer dry rot is usually indicative of inner dry rot on textile-reinforced hoses. Aeroquip lines will indeed solve the problem, but they're not legal in all states (Virginia, to name one). I think new, original-style hoses are the best bet for most of us; they're cheaper, and don't require special adapters.

"With respect to frozen calipers, remember that they can sometimes result in a harder—not softer—pedal.

"I disagree with Phil about the use of silicone brake fluid. It is slightly more compressible and sometimes tougher to bleed, but I feel the advantages outweigh the disadvantages. Compatibility is not a problem.

"Finally, I would suggest that the master cylinder mount and the firewall be checked; sometimes flexing is the cause of a soft pedal problem."]

LOCALOTUS

On June 22nd, the ninth annual British Car Day was held at scenic Allen Pond Park in Bowie, Maryland, just outside Washington, DC. Twenty-three Lotuses participated, ranging from a half-dozen Sevens to a Series One Esprit. Other cars of interest included a variety of Elans, Plus 2s and Europas, an early Elite, and a Toyota-powered Rotus Seven.

Although still just a small fraction of the hundreds of cars at the event, the Lotus contingent has steadily grown in recent years. We expect this trend to continue, as no less than five Lotus, Ltd. members there promised that their cars would be roadworthy by the next BCD!

In addition to a popular-vote concours, the show featured numerous vendors in the "autojumble" area and an entire section of British cars for sale. Lotus, Ltd./DC also had its second annual picnic at the event, but attendance was sporadic, due to the numerous diversions.

—Phil Mitchell

Phil Mitchell

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Orlando, FL—Tom Gerry, (305) 862-0318
Tucson, AZ—Jeff LaVigne, (602) 795-1807
Washington, DC—Phil Mitchell, (301) 942-6059

TRANSMISSIONS

With reference to the May issue's "Lotus Doctor" column, I would advise as follows:

1) David Painter is possibly correct that early Sevens had their fiberglass attached to the skin with well nuts, but all the ones that I have seen have used an aluminum Rivnut, which does require a special tool to insert it.

2) My firm, Sevens and Elans, has been in business since January 1985, and since the summer of 1985 has had in stock all the exterior aluminum panels that are required.

3) Judging by comments from Seven owners, I feel that attaching the wheel arch extensions and rear panel would most probably be beyond the expertise of the average owner, due to the difficult curves that must be formed. Also, the panels have to be welded together.

4) I would concur with David that DSK did a very good sales job on their own suspension items. At present there is a racing series in England for roadgoing Lotus and Caterham Sevens which use the standard suspension without any strengthening added.

Chris Tchorznicki
Cambridge, Massachusetts

I enjoyed the Westfield Eleven article in the April *reMARQUE*. It outlined everything I'm going through with my Westfield Seven project. There are more Westfield owners in the club, so let's start communicating about the problems, fun and tech hints on the Westfield.

Westfield Owners
c/o Tom Styczynski
1868 Montemar Way
San Jose, California 95125

I am writing in response to Dan Miller's letter in the May, 1986 issue of *reMARQUE*, in which he states, referring to the autocross preparation of the Europa,"...autocrossers thinking of going all the way to replacing the frame and the rear suspension should bear in mind the car will end up in a modified class" and (from) "a purist point of view, this will likely hurt the resale value of the car."

Though I realize that these were likely casual rather than calculated comments, they do merit concern. Because of the close, almost fraternal nature of Lotus ownership, such remarks, no matter how casual, may be taken as gospel. I would like to take this opportunity to address some of the points brought up by Dan.

As with most members, I am first and foremost a longtime Lotus enthusiast. I love the cars and admire the man who made them possible. Yet I write to you in a two-fold capacity, for I am also the Stateside representative for Spyder Ltd., a British engineering firm that specializes in the design and manufacture of replacement chassis for Lotus cars, specifically the Europa and Elan. Their current offerings range from tubular replacement wishbones and antiroll bars to complete spaceframe chasses with either the standard rear suspension or an updated double-wishbone system designed by Spyder, fully adjustable if desired. Also on offer is a rollover bar with side-impact and footwell protection.

Spyder's heritage is derived from competition involvement. Their work stresses performance, durability and safety. I believe it would be a disservice not to precisely define the role that Spyder components might play in the care and maintenance of the Elan and the Europa.

A Spyder chassis setup is not for everyone. For the individual maintaining a car to absolutely original spec (Original is used advisedly, as the original, nongalvanized chassis is no longer available.), it is understood that every step must be taken to utilize the original, stressed-sheet-metal unit. Also, if a chassis is in good repair and provides all the motoring drama required, then well enough is left alone. But there are few other instances (autocross classifications notwithstanding) that would mitigate against the use of the Spyder if a car requires a new chassis. It is a rigid, drop-in replacement which addresses many of the original unit's inherent problems. The quality is unsurpassed. Buyers may choose to use their original suspension or elect to use the Spyder-developed double-wishbone system.

The choice of Spyder components will dictate a car's autocross classification, but in all circumstances, buyers should first check the rules of the club with which they run. In any case, whatever the class, the car will be competitive. Imagine the cornering power of a Europa with a spaceframe and a double-wishbone rear suspension system! Spyder components more fully exploit the designed-in potential of Chapman's classics.

Regarding value, obviously no one would argue for the use of a Spyder chassis in a 26R or a 47. The fact is that Spyder-equipped cars in the U.K., when found for sale, are proudly advertised as such and usually command £500 to £1000 more than their standard-chassis counterparts. Of the Spyder-equipped cars here in the U.S., I have found none for sale. Could this be owner satisfaction?

Lee Weinstein
Chatham Township, New Jersey

READERS NOTE: LOTUS reMARQUE *cover dates may be "old", but contents (including classifieds) are current unless otherwise noted. Renewals are based on issue dates, not calendar dates.—Ed.*

THE LOTUS DOCTOR

Q: I've replaced the motor mounts on my 1972 Elan Sprint a half-dozen times each. It seems every time I check them, I find the rubber has separated from the metal. What gives?

A: According to Dave Painter, your chassis may not be straight.

PIT STOPS

Aug. 10 (Sun.)—New Hope (PA) Auto Show, New Hope, PA. Lotus, Ltd.'s NY/NJ/PA group has scheduled a gathering in conjunction with the show. There will be a Lotus class, with trophies. Information: Pat Dennis, (201) 334-6649.

Aug. 10 (Sun.)—Annual outing of Central Ohio Lotus group. Road trip to the Piatt Castles and Ohio Caverns. Information: Roger Sieling, (614) 262-8279.

Aug. 16-17 (Sat.-Sun.)—First Annual Seven Owners Gathering, sponsored and hosted by Sevens & Elans, Cambridge, MA. Tech seminar, dinner, country tour, concours. Special guest will be Caterham development engineer Jez Coates. Information: Chris Tchorznicki (Sevens & Elans), 248 Hampshire St., Cambridge, MA 02139, (617) 497-7777.

Aug. 17 (Sun.)—D.C.-area Lotus, Ltd. group. High performance driving school/track day, Summit Point Raceway, Summit Point, WV. Will be held in conjunction with the D.C.-area RX-7 club. Cost: $60 for Lotus, Ltd. members. Instruction available, safety inspection mandatory. Spots still available, or come out and observe. Information: Phil Mitchell, (301) 942-6059 eves.

Aug. 24 (Sun.)—D.C. area Lotus, Ltd. group. Championship autocross (May's Maze returns!), at the Capital Centre in Landover, MD. Lloyd Cayes is the O.D. Registration opens at 9, first car off at 10. Entry fee: $9. WORKERS NEEDED! For information, to help or to preregister: Lloyd Cayes, (703) 560-4169.

Sep. 19-21 (Fri.-Sun.)—Sixth Annual Lotus, Ltd. Owners Gathering, Hawk at Salt Ash, Plymouth, VT. Reception, casual concours, autocross, awards banquet, tech seminars, more. Information: Scott Stickle, (802) 325-3325.

Oct. 4 (Sat.)—D.C. area Lotus, Ltd. group. British Car Festival, Waynesboro, VA. Lotuses wanted. Information: Phil Mitchell, (301) 942-6059 eves.

INFORMATION, PLEASE

I have an S1 Europa (Type 46) and an S2 (Type 65), and would like to receive correspondence or calls from those who have done or have interest in Mazda rotary-engined Europa S2s.—*Jeff Nyquist, 766 Hatton Ave., Eugene, OR 97404, (503) 689-2638.*

[As a general rule, you will do MUCH better taking the initiative to contact others, rather than asking people to contact you. We will soon be publishing an updated roster, with all the active members' car data that we have on file. Some members of interest to you may include: Europa S1 tech rep Jim Scherer, of Flanders, NJ, (201) 584-1250; Bob Murray, of Richmond, VA, (804) 276-0296, one of several Mazda-Europa owners in the club; and 47 owner Bill Colom, of Mystic, CT, (203) 572-9361. Also, the Lotus 47 Register has recently been reactivated under the leadership of Tim Hassall, "Wayside", Cotebrook, Nr. Tarporley, Cheshire CW6 0JL, England.—Ed.]

Who "borrowed" from me the club's only tape of the Lotus racing

movie at last year's annual meet?—*Mark Winston, P.O. Box L, College Park, MD 20740.*

LEFTOVER PARTS

Lotus Performance Cars, the U.S. distributor, reports **sales up 40%** over last year and more than 55 dealers...Ex-club member Ira Seinfeld **has pleaded guilty** in New York to illegally manufacturing machine guns, and remains in jail while awaiting sentencing next month...A joint venture between **GM and Moog**, a U.S. electronics and aerospace control systems manufacturer, has been set up to develop and manufacture Lotus' active suspension system; the new company will be called Moog Lotus Systems Inc....Lotus says demand for its cars in the U.S. and Germany has **caused a bottleneck** in supplies for the U.K.

(GRAND PRIX, from page 1)

up. It is during the untimed practice sessions, when turbo boost controls are near race settings, that the different efficiencies of the various engines become very apparent. At race boost, all engines consume the same amount of fuel, but they vary greatly in power output. This variation is easily seen by measuring the maximum speed at the end of a straight of moderate length that follows a slow corner, such as the start-finish line at Montreal. These measurements indicate only the acceleration of the cars; the effects of handling problems, aerodynamics and driver talent are minimal.

These numbers tell the story. For example, during the second untimed session at Montreal, the Honda-engined Williams cars were first- and second-fastest at the start-finish line. The Porsche-engined McLarens were third and fourth. The Ferraris were fifth and 10th. As for the six Renault-engined cars, the Ligiers were sixth and eighth, the Lotuses were ninth and 13th, and the Tyrrells were 11th and 18th. Among the five BMW-powered cars, the Benettons were seventh and 14th, the Arrows car was 19th, and the Brabhams were 22nd and 23rd. The Zakspeed cars were 15th- and 17th-fastest, and the Minardi and Osella cars, powered by Motori Moderni engines, were 16th, 21st, 24th and 25th. The Lola-Fords were 18th and 20th.

The start-finish line speed figures turned out to be good predictors of race performance. Nigel Mansell's Honda-powered Williams won. His teammate Piquet finished third, but set the fastest lap and might have won if it had not been for an extra pit stop. The McLarens, with engines benefitting from Porsche's years of endurance racing, finished second and fourth. Ayrton Senna's Lotus, from the beginning unable to match the pace of the frontrunners, finished fifth after a race-long duel with Rene Arnoux' Renault-powered Ligier. Jacques Laffite's Ligier finished seventh.

A week later, in Detroit, the qualifying pattern was much the same as at Montreal, with Senna turning up the boost once again to capture the pole position. But the race there was as much a test of chasses as of engines.

Fuel economy ceases to be the dominating influence on race car performance when circuit factors do not allow the drivers to accelerate at full throttle and high engine speeds for a large part of the 200-mile maximum allowable Grand Prix race distance. Such is the case at Detroit. There the circuit is characterized by a large number of relatively long, slow corners, and the cars spend a relatively high proportion of each lap braking, cornering and accelerating at low rpms. Because of the rather slow average speeds and the shortness of the race—only 157.5 miles long—this combination of factors reduces the amount of fuel that is needed to complete the race. As a result, at Detroit the better handling cars hold a competitive advantage, and the superiority of the Lotus chassis is clear. This can be seen by looking at the times set in the unofficial practice sessions, which, unlike qualifying, are generally spent running with full fuel tanks to set up the cars for the race.

In the first unofficial practice session, on Friday morning, Ayrton Senna's fastest lap, at 88.6 mph, was 0.5 mph faster than Nigel Mansell's Williams and nearly two mph faster than the Williams of Nelson Piquet. On Saturday morning, Senna was again faster than the two Williams cars. During the race itself, Senna's best was over a second faster than Mansell's (at a similar point in the race); Piquet turned the fastest lap of the day, but much earlier in the race, when he was running a different, softer compound that would not have been sufficiently durable.

The result was a race dominated by what Lotus chief mechanic Bob Dance called the best and strongest chassis in the field this season—Senna's Lotus. Laffite's Ligier-Renault was second. Rene Arnoux' Ligier-Renault was competitive, too; he held the lead at one point, and he ran strongly until an accident took him out of the race.

—Glenn Davis

CLASSIFIED

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FOR SALE: 1966 Elan Coupe, good condition. New header, starter motor, battery. Knockoffs, electric fan. Asking $6,000. Nick, (516) 921-6704 x287 days, (516) 225-0452 eves.

FOR SALE: 1967 Elan Plus 2, RHD, 91,000 mi., Bahama yellow, very nice condition. New donuts, Pirelli P4s. Recored radiator. $4,500 or best reasonable offer. Must sell. Mark, (703) 941-7622.

FOR SALE: 1978 Esprit S2, excellent original condition, red, tan leather, Blaupunkt Berlin, A008s, A/C, electric mirrors, 21,000 mi. Asking $18,000, will accept trade plus cash, most interested in Europa Special or Elan. Churck Gerarden, 19724 Rosewood Ct., Parker, CO 80134, (303) 841-8701 home, (303) 538-4369 work.

FOR SALE: Europa S2 parts—new wood dash, $100; new instrument and glove box binnacles, $10 ea.; emergency brake cables, $10. Many more, call or write for list. Chuck Gerarden, 19724 Rosewood Ct., Parker, CO 80134, (303) 841-8701 home, (303) 538-4369 work.

FOR SALE: Elan Plus 2S 130, blue, black interior. Much new, many spares, receipts, great shape. Jom Gordon, (203) 481-2797.

FOR SALE: 1974 Europa, bought 1979, 2nd owner, yellow/black, 24,000 mi. Weber head, sunroof, front turn signals remounted below bumper. $7,500. Richard, (301) 465-3973 eves.

FOR SALE: 1966 Elan, 5,000 mi. since frame-off restoration in 1985, red/black with hardtop. New suspension and interior, stainless steel exhaust, rebuilt drive train, perfect wood. $10,000. Richard, (301) 465-3973 eves.

FOR SALE: Fuse box (74M6001), used, from Europa TC, $19*; Lucas 17A fuses, new, $0.50 ea.; Europa TC (and J-H) latching gas caps (74L0720), like new,$30* ea.; Europa TC shifter boot (36J6026), used, $12*; front side marker lamp bezels from Europa TC (50B1852), used, $6 ea.; 7 PSI radiator cap, new, $6*; Europa TC alternator belt (74E6008), new, $5; Elan/Europa 30A ammeter (54M6062), like new, specify bezel, $35*; Elan/Europa 60 PSI oil pressure gauge (74N6000), like new, specify bezel, $45*; TC exhaust port gaskets, new, $2/all 4; Europa TC battery shield plate, used, $1; Europa TC radiator fan shield plate, like new, $2; Europa rear hub retaining washers (46D6006), used but nice, $3 for 2; TC rod bolt set (36E6175), low use, looks new, $30/set of 8; Ford 1600 fuel pump block-off plate, new, $3; 3/8 NPT to AN-10 fittings (AN816-10-8D), used, $2 ea.; Vegantune 4-port dry sump oil pump parts, used; Autolec battery kill switch, new,missing handle, $5*; Vegantune 181T F2 head, complete with cams, valves, springs, dynoed @ 172 BHP, fresh; stock Weber 40DCOE18, factory spec for Lotus, correct progression holes, linkage, jets, chokes, no longer avail. from Weber (deleted from catalog), new pair; electric fans, new, various sizes, $40-60*. Prices negotiable, add postage if *. R. Neil Ferguson, 11241 McCree Rd., Dallas, TX 75238, (214) 341-4177 anytime.

FOR SALE: 1984 Turbo Esprit, mint, black, red interior, 9,000 mi., garage kept. Best offer. Bruce Kehr, (301) 984-9791 days, (301) 983-9554 eves.

FOR SALE: 1967 Elan coupe, British racing green. Used for Solo A Prepared, has not seen street use for last four years, has had body off and everything else. Dry sump, mechanical tach, Eby flares, 6 x 13 Minilites, excellent condition. $9,500. Carl Grabowski, (312) 766-2725.

FOR SALE: 1965 Elan S2, fresh engine and paint, $6,000; 1971 Elan S4, with mostly new stuff. Rick, (702) 739-1426 or (702) 739-9778.

FOR SALE: Pirelli P7s, perfect condition, fit Europa. Fronts 195/55VR13, rears 205/60VR13. Set of 4, $250 plus shipping. Mark Friedell, (617) 876-2348.

FOR SALE: Black vinyl seat uphostery from '74 Europa Special. All pieces needed to reupholster one seat. Instructions included. $50 plus shipping. Mark Friedell, (617) 876-2348.

FOR SALE: 1974 Elite, white, brown interior, sunroof, 195/60 Eagle GT radials, four extra alloy wheels. Includes shop manual, parts manual, gearbox manual, one rear hatch glass, one driver's-side door glass, one driver's-side rear glass, complete engine and gearbox (in parts). Interior excellent but needs headliner over rear seats, exterior good-to-very good. $9,000 or make offer. Thomas, (513) 323-0956 or (513) 324-1070.

WANTED: 1983 Turbo Esprit SPECIAL EDITION, white and in good condition with low miles. Bill Wilson, (313) 855-0309 days, (313) 855-4393 eves.

FOR SALE: Parting out 1979 Elite 503—2.1-liter engine with low mileage, 5-speed transmission, differential, suspension, all other mechanical and body parts. Michael Katunar, 12 White Birch Trail, Rigaud, Quebec, Canada, (514) 451-0742.

FOR SALE: 1974 Europa TC, #4305, 24,000 mi. (never in snow), 2,000 mi. since professional rebuild of engine, 5-speed gearbox, transaxle and suspension. Blue Imron, champagne interior, factory alloy rims, new Goodrich radial T/As, factory manual. Original owner. Needs some carpet and dash work. M.J. Higgins, (701) 237-4472.

FOR SALE: 1978 Esprit, white/tan, Blaupunkt, A/C, 23,000 mi., Dellortos, very nice condition. $16,000. Bob, (617) 548-5800 days, (617) 540-0939 eves.

FOR SALE: 1977 Esprit, 38,000 mi. Excellent condition, carefully maintained, always garaged. Recent new clutch, many new extras including leather interior, Compomotive modular wheels, sun roof, Mono steering wheel, Pirelli P6 tires, Blaupunkt radio, cover, Koni shocks, S2 spoiler. $13,500 O.B.O. Jeff, (415) 949-1110 eves, (408) 434-4481 days.

FOR SALE: 1967 Elan parts—knock-off hubs, $30 ea.; 13 x 6 Chassis Engineering wheels, $50 ea.; front brakes, complete, good shape; more. Gary Neuroth, (602) 257-2346 days, (602) 988-3362 eves.

FOR SALE: Twin cam Elan head, with Strombergs, $450; Europa body shell, $200; ventilated rotors and piston calipers, $100; more. Karl Reinbolt, 19521 Meredith Ave., Cleveland, OH 44119, (216) 486-2575.

FOR SALE: 1977 Elite 503, yellow, beige interior, 5-speed, A/C, AM/FM/cassette. Webers, electronic ignition, electric mirrors. New shocks, tires and battery. Excellent condition, won 1st in class at LOG 4. Asking $11,500. Don Wolf, 53 Cedar Dr., Huntington, NY 11743, (516) 427-1992.

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