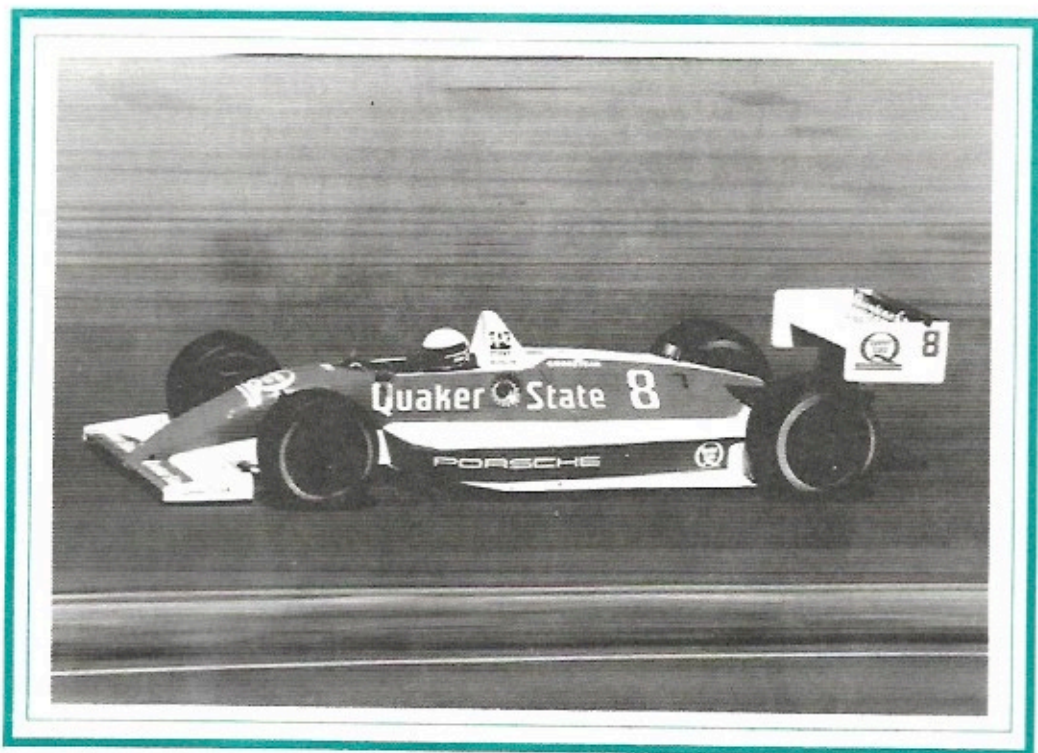




War Bonnet Region

# WAR WHOOOP

May - June 1989



**Porsche Club Of America**

## On The Cover

The 1989 Porsche Indy Car pictured on the cover did very poor this year at Indianapolis. The Porsche dropped out of the race very early. The cause was what is said to be a 10,000 to one chance, a broken valve spring.

The good news is one week after Indianapolis in the Miller High Life 200 the Porsche driven by Teo Fabi came in third. This is the best finish so far in the CART/PPG Indy Car World Series.

Editor : Glen Hoskins

3833 N.W. 32nd

Oklahoma City OK 73112

405/942-3743 Work; 405/947-6375 Home

*The WAR WHOOP is the official publication of the War Bonnet Region, Porsche Club of America. Opinions expressed herein do not necessarily represent the official position of the region or the Porsche Club of America. The WAR WHOOP is published bi-monthly. Material submitted for publication must be received by the 15th of any odd numbered month. Associate regions, by this statement, are authorized to use material in this publication provided proper credits are included.*

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1989

War Bonnet Region  
**OFFICERS AND CHAIRMEN**

**President**

Al Lang  
P.O. Box 20766  
Oklahoma City OK 73156  
405/755-0208

**Membership**

Glen Hoskins  
3833 N.W. 32nd St.  
Oklahoma City OK 73112  
405/942-3743

**Vice President**

Rob Lewis  
10408 Rycroft Rd.  
Oklahoma City OK 73162  
405/722-2050

**Activities**

Rob Lewis  
10408 Rycroft Rd.  
Oklahoma City OK 73162  
405/722-2050

**Treasurer**

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**Secretary**

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# The Editor/Membership News

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As you start to read this War Whoop you will notice that this is the "wordiest" War Whoop ever. Every story in this issue except this story came from other regions. Every one of these articles plus many more are on the Zone 5 BBS. The Zone 5 BBS is a new tool for any of the members of PCA. Editors of any regional newsletter are the primary beneficiary. If you are interested in the BBS contact me, my phone number and address are in the front of the War Whoop. I am the SYSOP or System Operator of the BBS.

This issue marks my fourth full year as editor of the War Whoop. In the four years as editor I have produced 24 issues of the War Whoop, three phone directories, and the program for Tech 89.

Membership has been steady, only one new member to present. CPT Mary A Kilcullen 7204 SW Drakestone Blvd. Lawton OK 73505

Our last event was a double header, the afternoon was filled with a up close and personal look at some of the routine maintenance all Porsches need . We assembled at BRI Imports and listened and watched as one of the BRI master mechanics went through the steps of what every car owner should check or have checked. We watched as a 911 a 944 and a 928 went up on the lift and listened to easy things to do and things best left to the Pro.

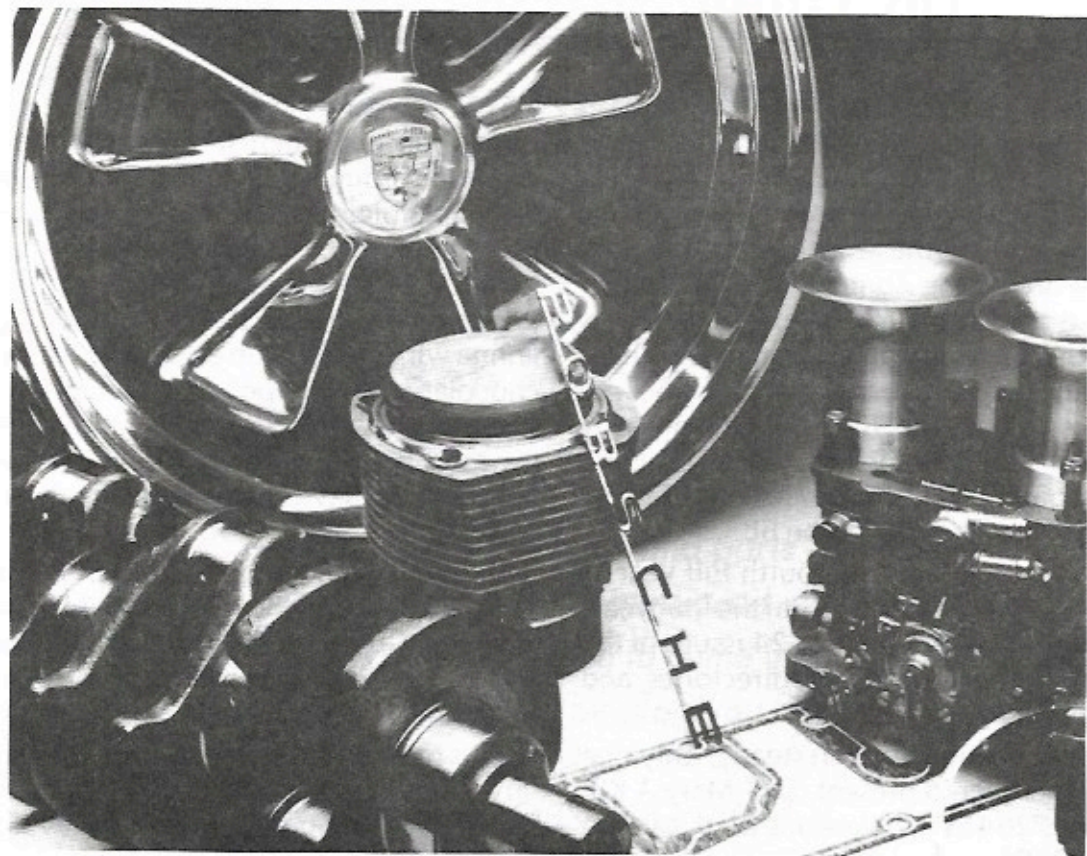
That evening we assembled at the Lang's house for our first "Pig out Dinner". Everyone brought the highest calorie food dish possible. The winner of the prize pigs, was Greg Stell. Greg's mother runs Cake Decorators Delight, and when I first told him about this event he said "I'm gonna win my first club event with Mom's chocolate cake recipe". The chocoholics of the world would admit this cake is rich! It was delicious, and rich! Next year we will have to have a special category for professionals.

The next event is the June 11th Picnic at Red Rock Canyon. You should have received a flyer by now, but if not, call Rob Lewis or Glen Hoskins for more information.

Four members mark their fifth anniversary with PCA In May, Larry Ottaway, David Dauthenhahn, Michael Savuto, and Mike Lindsey.

I failed to mention in last months issue that Bob Hess is now a 20 year member of PCA. Bob joined in April of 1969. Evan Vohs is a 15 year members as of April. Both Steve Bailey, and James Bierly are 10 year members as of last April.

Only two other members of War Bonnet Region have been members longer than that. Bob Miller at 21 years as of May, and Al Williams, who joined PCA in July of 1965. That was before War Bonnet Region existed.



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# PORSCHE POWERED MOODY PFM-3200

---

By: Marty Schacht

The enclosed material is condensed from an article appearing in Aviation Week and Space Technology, August 22, 1988, p.p. 94-99, authored by Mr. Ed Phillips of the AW & ST Washington, D.C. office. I have authorization from Mr. David Quast, Assistant Managing Editor of Aviation Week & Space Technology, to condense Mr. Phillips' article. Supplementary information contained herein was obtained from the Mooney factory brochure and Mooney sales material.  
\*\*\*\*\*

The August 22, 1988 edition of Aviation Week and Space Technology (AW & ST), Washington, D.C. in an article by author, Mr. Ed Phillips, reports on a novel production aircraft, the Porsche powered Moody PFM manufactured by the Kerrville, TX based Mooney Aircraft Corporation. The venerable M20 series upon which the Moody PFM is based, has been in production for the past 32 years. Traditionally, the M20 has been powered by four cylinder Lycoming or six cylinder Continental engines.

To accommodate the new power-plant from Porsche, the nose-wheel on the Moody PFM was moved eight (8) inches forward, with a twelve (12) inch plug added to the fuselage between the windows and the baggage compartment door. This change provides optimal balance and resulted in more cabin and luggage space. The Moody PFM aircraft was certified by the FAA in March of this year.

Power plant for the Moody PFM is the Porsche Flugmotor 3200 (PFM 3200) originally certified by the FAA for aircraft use in 1984. The PFM 3200, based on the Porsche automobile engine, a 3.2 liter,

horizontally opposed, six cylinder engine, developing 217 HP at 5,300 RPM. Contrasted to earthbound 911 engines, the PFM 3200's cams are driven by gears rather than chains. Air cooling is provided by a 11 blade axial cooling fan. Weight of the complete power plant and the 74 inch in diameter composite constant speed propeller is 561 pounds.

Lubrication for the PFM 3200 is dry sump. A tank mounted on the fire-wall contains 7.5 quarts of synthetic oil which is circulated and returned to the tank via a nose mounted cooler. Conventional oils are not approved. A recent check with the factory reveals the recommended oil to be Mobil 1.

The PFM 3200 incorporates Bosch K-Jetronic mechanical fuel injection receiving fuel from two electric fuel pumps, a main and a boost pump. A third emergency pump is provided and is operational for back up during takeoff and landings.

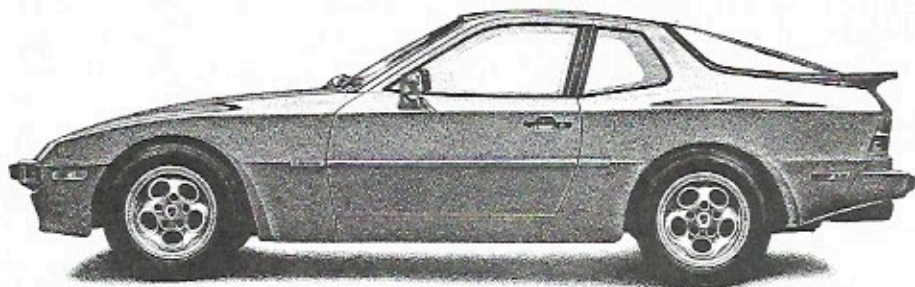
The main and boost pumps can provide 70 psi of pressure, or up to 100 gallons per hour fuel flow. This high pressure system provides an added benefit for hot starting. After the power plant is shut down, the main and boost fuel pumps act as check valves and trap fuel in the lines to the injectors which close if pressure drops below 47 psi. Upon restart, fuel pressure is driven above 47 psi, fuel is then ready for delivery at the injectors. Fuel vapor lock is eliminated and a hot start can be accomplished after one or two rotations of the propeller.

Continued on page 8

## Oklahoma's newest PORSCHE dealer.

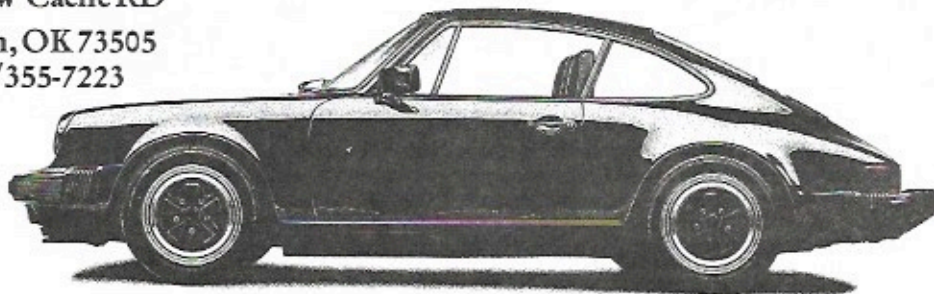
Professor Ferry Porsche designed the first car to bear his name in 1948. Since then, nothing much has changed. Every Porsche is built with the same devotion to innovation. With the same uncompromising approach to engineering. And with the same design objective: undiluted driving exhilaration. All of this will become thrilling clear when you test drive any of the new Porsches at your authorized Porsche dealer. And whichever car you finally choose, you'll inevitably come to the same comforting realization that every Porsche driver comes to: Porsches may change. What makes them Porsches doesn't.

### Wilmes Imports



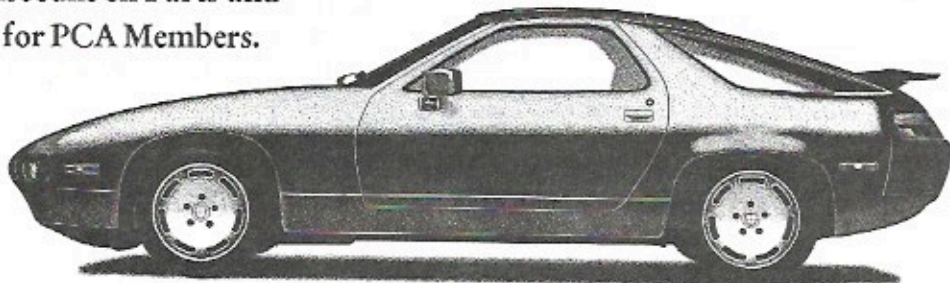
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*Porsche 928S4*



Spark to PFM 2300 is provided by a Magnetti Marelli dual ignition system under electronic microprocessor control. The Magnetti Marelli system sensors monitor manifold pressure, RPM and piston top dead center. This information is fed to the microprocessors which constantly adjust spark for optimum power and fuel efficiency. Interestingly, both microprocessors re-boot themselves every 30 milliseconds to protect against electromagnetic interference such as a lightning strike. As a precaution, during 1,100 RPM pre-takeoff checks, if either microprocessor ignition system is malfunctioning, the PFM 3200 is automatically shut down. Further electrical redundancy is provided by Two (2) 70-Amp alternators feeding dual 24 Volt batteries.

The PFM 3200 engine runs cooler than conventional aircraft engines due to the output of the axial cooling fan being proportional to power settings: more demand equals increased engine cooling. Contrast this to conventional aircraft engines where cooling is a function of air speed.

As a result of this cooling feature, when making rapid descents in the Moody PFM, minimal power plant temperature fluctuations may be anticipated. Pilots reports this to be the optimal aircraft power plant operating condition.

In addition, during periods of peak power plant demand such as take off, supplemental engine cooling is provided by the Bosch fuel injection system enrichment feature, delivering an enriched 12.5:1 fuel mixture.

A fully loaded Mooney PFM weighing in at 2,900 lbs. with 66.5 gallons of fuel aboard, at 8,000 feet, can cruise at 161 kt. per hour. Range with 45 minutes of fuel reserve is approximately 600 miles, about 10 miles per gallon.

The Moody PFM is delivered with a Porsche designed cabin interior as standard equipment, featuring the same fabrics and leathers available in the 911. Leather interior is optional. Gauges are high tech Penn-Airborne digi-

tal-drive, analog display modules adapted from the F-16. Pilots of the Moody PFM report another most desirable comfort feature, significantly lower cabin noise levels in the Moody PFM compared to conventional aircraft.

Flying the aircraft is greatly simplified because of a unique single lever power control automatically adjusting fuel flow and propeller RPM. This eliminates the pilot tasks of monitoring and adjusting cowl flaps, mixture and propeller RPM controls, required with conventional aircraft. The simple controls of the Moody PFM allows pilots the luxury of concentrating on the primary task, flying the airplane.

Routine aircraft inspection and maintenance is required every 100 engine operating hours. The fuel filter must be changed, spark plugs inspected, oil and filter changed, and valve clearances checked. At an average of 125 MPH, you'll need maintenance every 12,500 air miles.

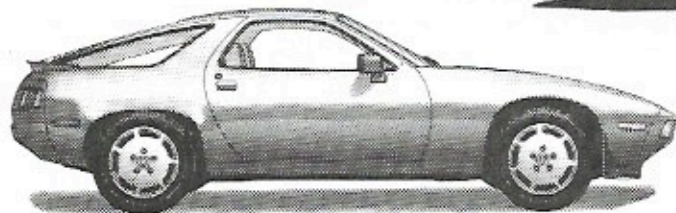
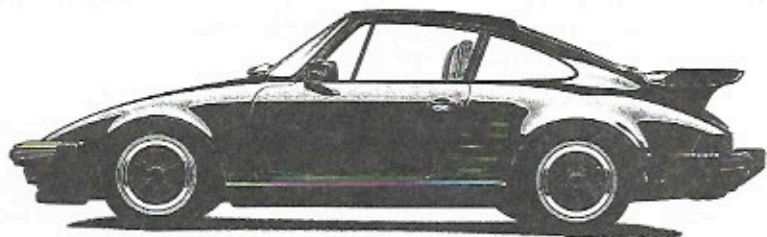
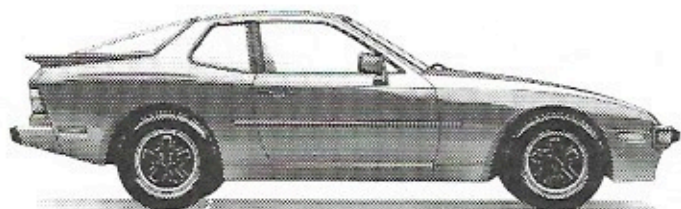
Time between overhaul is 2,000 hours. A Moody PFM averaging 125 mph will require an overhaul every 250,000 air miles. A Porsche factory remanufactured PFM 3200 is available for \$14,000, approximately \$0.06 per flying mile. Should a remanufactured engine require service in excess of a \$2,500 deductible during the 2,000 hours, or four years, Porsche Aviation Products, Inc. will absorb the costs.

The Moody factory sells direct; they have recently eliminated dealers. Moody is quoting \$142,900 for the basic system exclusive of avionics. Avionics and options will add from \$15,000 to \$60,000 to the price. Qualified buyers may finance 90% of the purchase price, generally over ten years.

Many thanks to Mr. Ed Phillips for his article, the basis of this condensation, and Mr. David Quast from Aviation Week & Space Technology for permission to cite from the article.

May 3, 1989

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# Everything You Need To Know About Headlights

## Purchasing Headlight Units

Modern sealed beam headlights seem to last forever barring breakage. However, over the years they slowly dim and lose much of their effectiveness. The process is so gradual you scarcely notice it unless you drive a newer car at night. Then you may wonder where your headlights went.

Over the years the white hot filament slowly oxidizes. The "smoke" from the oxidation is deposited on the lens and the reflector, and eventually can cause an appreciable reduction in light transmitted to the highway ahead. So, if your headlights are ten or so years old, you might consider replacing them. (Note: We are talking about the standard 7 inch, #2 Hi/Low beam unit and not the rectangular units. The principles are the same, but the mechanics of replacement are different.)

You have three options. The first, and least expensive, is to simply replace your units with new standard sealed beam units. You can usually find them for less than \$10 each, and on sale for even less.

A second option, and slightly more costly, is to replace your units with Halogen sealed beam units. They use less energy and are noticeably brighter. They usually run about \$20 each, however, if you are patient and willing to put up with the silly rebate process, you can find them on sale for less than \$10 each.

The most effective light of all is the European style Bosch Quartz light. These are very bright, legal if you are careful to get the legal kind, slightly more complicated to install, and very expensive. They will cost \$300 to \$700 a pair, depending on where you make your purchase. And that does not include the

cost of painting the new headlight rims to match the color of your car.

## Replacing Sealed Beam Units

Replacing sealed beam headlight units is simple, and if done carefully will not disturb your headlight adjustment. First, remove the headlight rim. On pre-1976 cars, these screws can rust, so if they don't come out easily, follow the same procedure mentioned below. Then look for three small Phillips-head machine screws evenly placed around the headlight at one (1) o'clock, four (4) o'clock, and eight (8) o'clock positions. Remove these to release the unit from its receptacle. Do not disturb the two slightly larger Phillips-head screws, one at twelve (12) o'clock and the other at nine (9) o'clock because these are the adjustment screws.

Those three small (4mm) screws will usually rust making them difficult to remove. If you have time, you can ease their removal by treating each with a drop of penetrating oil such as Liquid Wrench or WD-40 a day or so before you plan to remove them. Also, note that the Phillips slots are very shallow. It is easy to strip those slots right out of the screw head if you are not careful. If that happens, you may be able to loosen the screw by gripping its head hard with a long-nose plier and twisting hard. If that doesn't work, remove the receptacle so that you can get your pliers around back and onto the threads of the screw. You can apply enough pressure to break the rust seal and remove the screw taking care not to mar the threads.

Continued on Page 12

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References Available Upon Request

Mike Lindsey

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PCAMember

If you can find them, replace the steel screws with screws made of brass. Lacking brass, coat the threads of your steel screws with anti-seize lubricant before you install them. This should ease their removal next time. Also, if you did mess up any of the Phillips slots, buy new screws. They cost only a dime each.

After you have removed the three 4mm screws, your unit will come right out of its receptacle. Carefully unplug the unit and discard it. Check the three-pole connector for corrosion and clean as needed. Coat the new headlight prongs with "dielectric" grease. Don't forget to clear your drain holes and check the headlight bucket for rust. Most body shops recommend you remove the rubber drain nipple in the bottom of the bucket so moisture will not be trapped by a dirty and plugged drain nipple. Plug in the new unit, then screw it back in place and check for operation. Unless you have some reason to readjust your headlights, you may now replace your headlight rim and the job is done.

### Changing To Quartz

If you select the quartz lights, be sure to get an iron-clad guarantee from the seller that what you are buying is legal in the United States (many are made for off-road-only use and are not legal on the highway). Look for the DOT marking which should be stamped on the base of the bulb. If you cannot find a DOT stamp followed by a series of numbers, don't buy the bulb.

Since the quartz light is not a sealed beam per se, it fits into a receptacle that is different than the receptacle that held your sealed beam. This is no problem for you, however, since they both use the same mounting holes located in your fender wells. Also, you will have to rewire your plug, but, once again, no

problem, since the instructions which are furnished with the unit are easy to follow.

If you replaced your old sealed beams with the quartz lights, you will have to adjust them.

### Adjusting Your Headlights

You may want to check the adjustment, either because you changed to quartz or Halogen lights, or because you accidentally disturbed the adjustment or want to obtain optimum efficiency. You can pay a shop \$25 to \$35 for an adjustment, or you can easily do it yourself. With your car normally loaded, and with a full tank of gas, measure the height of each headlight center and mark that measurement on a vertical surface such as your garage door. Do this with the car close to the garage door (outside the garage on a level driveway unless you have a BIG garage) so that your marks, like two small crosses, depict not only the vertical center but the horizontal center of each bulb. These marks become your adjustment guides. The horizontal line guides the height adjustment, and the vertical lines help you align your beams straight ahead, in line with your car.

Now, wait until it gets dark and move your car straight back for about 25 feet. Turn the headlights on to low beam and adjust them vertically so the top of each beam is 1 1/2 inches below the horizontal line. This adjustment is made using the adjustment screw that is at twelve (12) o'clock above the headlight. If any horizontal adjustment is needed to bring the center of the beam so it is bisected by the vertical line, use the nine (9) o'clock adjustment screw.

After all of this work, your new, correctly adjusted, headlights should help you see a lot better while driving at night. Good driving.

(Note: This article was written by Herb Hoover, Sacramento Valley Region, and appeared SVR's newsletter, The Drifter.

# HOT SUMMER OIL GOT YOU DOWN?

---

By: Marty Schacht, P.C.A., San Diego  
P.O.C., Los Angeles

Imagine this: The perfect warm Summer day (Spring if you are out in the California desert in Holtville), is going great. You are getting some good lap times at your favorite Time Trial or Slalom track, or you could be creeping along in busy metropolitan traffic. You happen to look down to your oil temperature gauge and grimace. The oil temperature needle is creeping up past the middle of your gauge, oil temperature is at least 230 deg F. and climbing, and you are worried. You should be!

What should you do? At a Slalom, finish your lap, get back in line and hope the oil cools down. At a Time Trial, your common sense tells you to slow down and take some cool down laps until the temperature needle goes down. The trouble with this approach is that your common sense is now obliged to do battle with your adrenaline! You see a well earned passing opportunity coming up but you know it's time to let the car have a breather; what a dilemma!

If you are in traffic, turn off your air conditioner and roll down the windows. If the temperature keeps rising, you should probably pull off the freeway to a surface street and hope to get some air circulating around your fender mounted cooler, that is, if you are fortunate enough to have one.

So why concern yourself about a few degrees F.? As we all know, heat is the primary enemy of the air cooled (Oil Cooled) 911 engine. Excessive engine heat resulting from inadequate oil cooling robs the engine of horsepower and drastically shortens engine life.

Heat is a significant factor with all 911 engines, especially the 2.7 Magnesium engine produced from 1974 through 1977. As a

result of these engine not containing sufficient oil cooling reserves, especially cars delivered without an auxiliary fender mounted oil loop cooler, these 911's will generally experience problems with early seal failure, pulled studs as well as premature valve guide wear.

Excessive heat in the 74 engine was not as critical as the 1975-77 models equipped with the E.P.A. induced, most dreaded, anti-smog Thermal Reactors. Nearly everyone you talk to with a 75-77 car has at least one "horror" story to tell.

Factory oil (Loop) coolers were not routinely delivered with most models produced from 1974-1977 although they were available. The garden variety 911's were predestined to do battle with excessive heat throughout their sometimes brief engine life.

The 1978 through present aluminum engines do not seem so readily humbled by heat, but they will get plenty hot when you push them hard in a summer Time Trial, Slaloms or a long session in heavy stop and go traffic with the air conditioning on.

All SC's were delivered with the loop cooler first introduced with the 1973 911S. Prior to 1973, factory coolers were aluminum radiator type. This style of cooler evolved to the loop as experience had shown that the exposed aluminum radiator was subject to corrosion.

The loop cooler and its predecessor were "passive" in design. Passive in the sense that the cooler mounted in the fender well performs its cooling function by transferring heat of the circulated oil to moving air. When sitting in traffic, "passive" coolers drastically lose their efficiency for the lack of moving air. The 1984 Carreras dropped the loop cooler and were delivered with a "passive" brass radiator, 85's and 86's came with a "passive" shrouded aluminum radiators, and 87 to present 911's are delivered with the radiator

introduced in 1985 complimented with a powerful electric fan placed at the front end of the radiator. The fan making the radiator "active", turns on when a thermocoupled device built into the top of the radiator senses when the oil temperatures reaches 118 deg C (244 deg F). It would appear that the factory feels that 244 degrees is the critical peak temperature. Remember, 244 degrees is slightly above the half way point on your oil temperature dial.

For those who are interested in knowing the actual engine oil temperature, contrasted to a vague estimate provided by the standard SC oil temperature gauge, a calibrated replacement gauge is available from various after-market sources for approximately \$60.00. It is easily installed with simple hand tools.

The heat problem is especially noticeable if you regularly drive in heavy traffic, or are a regular Time Trialer or Slalom participant, especially in the summer months! What are your options if you have a 1974 through 1986 911 and you want to seriously address excessive engine oil temperature generated on the hot summer days of most of California and the Southwest? It depends on whether you subscribe to, as I do, the dictum that factory parts are the only way, and after-market products are generally suspect.

A serious concern all Porsche owners should have with all after-market products, especially oil coolers that carry the life blood (Oil) of your valuable investment, are these products 100% dependable? And are they as good as, or better than a Porsche factory product? One thing you know for certain about late model (85-88) Carrera oil radiators, there are at least 40,000 of them out there and they appear to work well.

As to after-market cooler design, quality and efficiency, it depends on who you talk to. The Lemke design TerbaTrol cooler, mounted in the right front fender, has received favorable reviews from such luminaries as Bruce Anderson, PCA National Technical Director. Lemke has published an excellent

technical leaflet promoting their product. They talk about all the right things; Keep your engine oil temperature in the 180 to 210 F. range to prolong life.

However my experience with Lemke TerbaTrol coolers on two separate cars, a 1974 911 and a 1980 SC, the coolers are marginal at best in heavy traffic, especially with the air conditioner on. But they do work if you go fast enough to keep air passing over them.

Lemke also produces a 100 CM cooler incorporated into a spoiler of their own design (The Carroseria Design) as well as a new application, a 100 CM cooler that is mounted under the body. In both of these applications, the 100 CM coolers can be mounted in series with the Lemke fender mounted unit.

After-market Catalog "Junkies" and faithful Panorama readers know there are multiple after-market sources for oil coolers and spoilers. If you take the time to contact these after-market manufacturers as I have done, with the exception of Creative Motorsports in San Dimas, CA or Lemke in Indianapolis, you'll generally receive vague or inaccurate answers to your questions. Your request for a users list of their product will generally be ignored.

I would hope that any conscientious Porsche owner would be extremely reluctant to add an after-market oil cooler to their "investment" without first talking to a number of people who have already successfully evaluated the product, and are completely satisfied. Anything less appears to me to be somewhat suicidal!

However if you want to receive the benefits of running cooler oil, and you are a purist of sorts wanting to stay "factory", there is an attractive, albeit somewhat expensive, option available. Incorporate the 1987 Carrera "active" radiator cooler with the fan mounted in front of the shroud enclosing the radiator.

Inspiration for this project was provided by Pete Zimmerman who runs Red Line Service, Inc, an independent Porsche repair shop located in Santa Monica, CA. The actual installation work was performed by Mike Schatz, a talented craftsman who sees perfection in his work as an attainable goal.

The Carrera radiator is mounted directly behind the headlight in the right front fender of your 1974-1984 911. The 1984 Carrera is included because it is supplied with a "passive" brass cooler very similar to the Lemke TurbaTrol design. For 85 and 86 Carrera owners, with some minor modification involving brackets and wiring, your oil radiators may be retrofitted and converted to "active" with the high output oil radiator fan introduced with the 87 Carreras.

A possible option for 1974 through 1983 911's is to install the 87 Carrera radiator incorporating the "old style" spoiler with the exposed fog lights. Simply have the mounting tab fabricated and mounted on the right side of the spoiler. In addition, depending on the year of the car, a mounting bracket may need to be fabricated and attached to the back of the right headlight tub; it was necessary on my 1980 SC installation. Also, in order for the Carrera radiator to function, it is necessary to remove the front bumper and cut a notch on the right underside to allow the maximum amount of air to enter the oil radiator. You will have to relocate the horn to accommodate the Carrera cooler; a factory bracket is available.

However if you want the "trick" setup, consider replacing the 1974-1983 valance with the 1987 Carrera valance containing the recessed fog lights and the necessary mounting tab for the cooler. You'll have to fabricate the tab if you stay with a 86 or earlier valance. You'll also need a Carrera water bottle; the pre-84 bottle is slightly too large.

Caution for Porsche owners contemplating converting a 1974-77 911 delivered without a factory loop cooler. In addition to the parts specified later in the article, you will need to

purchase the hardware to get the oil to the cooler. This includes multiple sections of what I believe to be brass pipe as well as the thermostat that activates the cooler circuit when oil temperature reaches approximately 180 deg F. There is a significant amount of heat transfer (cooling) provided by the pipe which would be lost if rubber lines are substituted.

Another "trick" setup suggested by Mike Schatz from Red Line Service, involves the wiring of a dash mounted override switch for the oil radiator fan. This way it becomes your call to activate the cooler fan rather than having to wait for the factory thermocouple to turn the fan on when oil temperature reaches 244 deg F. Or, you could search for a thermocouple with a lower activation temperature. Personally, I like to flick the switch; but I am getting head of the story.

Parts for the conversion are all factory. In my experience, the oil radiator with fan and shroud will cost from \$500 to \$1,000 depending on whether you buy new or used. The Carrera 1984-86 spoiler is available used for about \$200 and you must add a mounting tab to the right side. New, the 87 Carrera valance is about \$275. Budget another \$200 to paint the valance. The fogs can be obtained for about \$250 a pair, or you can wait and install them later.

The remaining mounting brackets, hardware, relays, fan control harness, etc. will cost approximately \$325 including about \$80 for the new Carrera water bottle. valance. Bottom line, your looking at a minimum of \$1,500 in factory parts. Assuming you do all the labor yourself, the cost of the Carrera factory conversion is similar to what you could expect to pay for a high quality aftermarket spoiler with hardware, cooler and paint.

Concerning the labor: I had all the conversion work on my 1980 SC, including addition of the override switch and wiring of the fogs, done at Red Line Service. Mike Schatz took about 9 hours to complete the job. It took him



a bit longer than usual because of electrical work needed to install the Carrera fog lights. My old SC fog lights being replaced were not factory and the car was in need of some electrical work to correct a previous wiring job.

Also, minimal additional labor was required to fabricate the upper cooler bracket as well as install the 87 Carrera valance and needed water bottle. You can save a substantial amount on the conversion job if you choose to stay with your old 74-83 valance and those "cobby" fog lights.

Some questions you may wish to consider are, is it worth this level of expense just for some peace of mind? And, does the conversion to the factory 1987 Carrera cooler perform sufficiently better to make this an investment worthy of consideration?

To some, me included, the peace of mind factor is substantial. When the engine runs cooler, the engine lasts longer and performs better, period! Plus, the upgrade will add to the value of your car if you should ever sell it!

Does the active Carrera cooler perform significantly sufficiently better, investment notwithstanding? Consider this: On a recent late April trip back from Holtville in 95 degree temperatures, I cruised I-8 up the mountain, approximately a 4,000 foot grade over 15 miles, toward San Diego at 3,000 to 4,000 RPM in fifth gear. With the air conditioning on high, oil temperature never went above 205 degrees! Try that with your hoop cooler!

In heavy Los Angeles traffic, the cooler has demonstrated it can do the job. I especially enjoy having the option to turn on the fan override switch when the temperature gets over 205 degrees and watch the temperature fall off!

How about Slaloms and Time Trials? During the recent April 22-23 San Diego PCA "Slalom" at Holtville, CA, located out in the Salton Sea desert area, which was run like a Time Trial with continuous laps, track temperatures were between 95 and 100

degrees. I stayed out for the full 20 minutes and got the oil up to nearly 250 degrees. Other 911s and Carreras were getting as hot, some hotter, but much sooner and were pulling in the pits to cool downs.

The final timing session at the end of a very hot day at Holtville, CA, with track temperatures at nearly 100 degrees, I started my three laps with a cool engine at 180 degrees with the oil radiator fan on. At the end of my laps, engine oil temperature had only risen to 210 degrees. Also, earlier in the cooler part of the day, I ran a full 20 minute session and the oil temperature never exceeded 230 degrees. On a hot summer day with a classic one run Slalom course, the Carrera oil radiator and fan will just about guarantee that you'll run out of brakes before you get the oil temperature too high.

I suspected that in a "traditional" Time Trial track lay out such as Riverside International Raceway (Holtville was a Slalom) and with longer straits to shake off heat and less on and off on the throttle, oil radiator performance would be excellent.

My suspicions were confirmed at the recent Los Angeles based Porsche Owners Club Time Trial held at Riverside International Raceway over the new "short" course, a 2.5 mile track. In moderately warm weather, 80 deg F+, at the end of my 20 minute sessions, oil temperature never exceeded 215 deg F. For my next Time Trial to be held at the Firebird Raceway in Phoenix, AZ, in mid-May, I'll be removing my right front parking light for some additional air circulation.

Bottom line for most of us, the greatest percentage of our driving is done on the streets and highways. This is where it is most important to keep our Porsche engines at the proper operating temperature range, especially in the hot summer months where the air conditioners are running hard. And if we can run cool at Time Trials and Slaloms, that is a

Continued on Page 18

# Bob Dumont

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bonus! If you want maximum cooling for Time Trials and you are not reluctant to change the stock outward appearance of your 911, you should probably get in touch with Creative Motorsports in San Dimas, CA. They have put together an attractive front valance mounted cooler package and have a number of customers successfully running this set up in Time Trial competitions.

I observed these spoiler mounted coolers in action at the recent POC Time Trial held at Riverside International Raceway. The guys with this set up were thrashing their cars as hard, or harder, than the rest of us but their cars were running cool, seldom exceeding 200 degrees, usually lower. I didn't believe it either but I personally "eyeballed" their oil temperature gauges after they came in from 20 minutes of continuous lapping around the track.

Bill Follmer and Jim Vial from Creative Motorsports are also a source for factory oil coolers at very competitive prices.

My thanks to Pete Zimmerman at Red Line Service in Santa Monica, and especially Mike Schatz for the sanitary installation. If I had it to do all over again, I'd go right back to Red Line; they made it very painless and hassle free. Enclosed is a complete listing of needed parts and Porsche parts numbers provided by Pete Zimmerman:

PART	PART NUMBER	PRICE
Carrera Cooler	930 207 053 02	\$728.80*
Shroud	930 207 319 13	\$50.75*
Blower	911 624 121 00	\$267.35*
Horn Support	911 635 107 00	
Fender Support	911 504 080 00	
Cooler Brckt, Upr	930 207 927 00	
Cooler Brckt, Upr Fabricated**		
Cooler Brckt, Lwr	911 501 490 01	
Shck Damprs (1 Upr/2 Lwr)	930 207 239 01	
Harness, Fan Control	911 612 805 00	
Relay	911 615 108 01	
Washer Fluid Bottle	911 628 075 08	

\* Prices from Stoddard, Willoughby, Ohio

\*\* According to Pete Zimmerman, this bracket has to be welded or bolted to the back side of the headlight bucket. It provides an anchor for the top center of the cooler assembly. If you should need to wire in the factory Carrera fogs, Pete Zimmerman also provided me with a list of parts and numbers:

PART	PART NUMBER
Harness	911 612 027 03
Switch	911 613 149 00
Knob	911 613 028 03
Escutcheon	911 613 213 01
Symbol, Fog	911 613 233 01
Relay	911 615 108 01

April 24, 1989

P.S.: For you die-hards who insist in Time Trialing with the factory oil cooler conversion and you want additional air directed into the cooler, you may wish to incorporate a modification suggested by Marc Rothman from the Factory, an independent Porsche repair shop in Marina Del Rey, CA. He reverse drills the right front parking lights/turn signal assembly which allows for quick removal at a Time Trial or Slalom. Once the lights are removed, wire screening is duct taped over the opening to keep the rocks out of the aluminum radiator.

And if you really want to get air into the cooler, remove your right headlight, cut a large hole in the back of the headlight bucket and cover the headlight with some screening material fastened down with duct tape. However when the wet weather comes, and your not out Time Trialing, the hole you cut is going to allow water into your right headlight unless you are very meticulous about how you seal up the headlight bucket.

# Lawton and Saturday Morning

---

WILMES PORSCHE, 4330 NW Cache Road in Lawton will be the site of coffee and donuts the second Saturday of each month. Bring your mirror glaze, wax, P-21S, Armor All, Hide Food, or whatever you please, and we will sit around and have good fellowship, tell war stories, have coffee and donuts, and spend a little time being productive with our Saturday morning. The wash rack will be open and there is plenty of shade for cleaning that "baby" of yours (and don't forget to include the spouse). This will be an excellent time to invite all of the Porsche owners you know to come on out and get to know each other. Starting time will be at 10:00 AM- BE THERE!!!

Contact Don Scott at 405/355-7144 if you have any questions.

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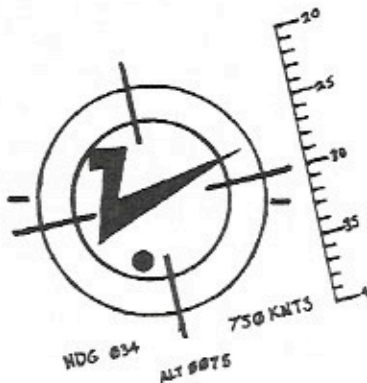
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# TOP GUN



Saturday, June 24th

The third rally in the Maverick Region 1989 Rally Series will be something unique. This rally originally was to be a preview of the Parade Rally, but it looks like the generals for that event will not be mailed until 30 days before. Too short a time to prepare a worthy event. So we used the Maverick Region Rules to prepare an event that could change the way you rally. This event has been cold run (four times) and critiqued by experienced rallyists with a combined total experience of over 150 years. It will be different from anything you've seen before or probably see again.



**THE CONCEPT:** A level and equal playing field - one trap per leg, based on following the correct course, all traps looped, minimal use of Note and ITIS instructions, no OR instructions, no overload (looking for too many things at once), infrequent CAST changes, no hidden signs, no hidden checkpoints, no protection, no curve arrows, no rallymaster vs. contestants traps, no cheap shots requiring divine knowledge, rules used for traps delineated on a separate handout, maps provided, critiques that fully explain the logic of the trap, the rules used, and their interaction.

The rally will start and end at Frijoles on the south corner of Hwy 114 and O'Connor Rd in Irving. Late registration 8:30am, first car 10:01am. Event is about 3 hours long. Cost will be \$15 per car.

Rallymaster Ed Tix (214)620-7599 or Phyllis Camp (214)235-5556

Send entries to: Phyllis Camp, 421 Fairview, Richardson TX 75081

DRIVER  
NAME

NAVIGATOR  
NAME

ADDRESS

ADDRESS

CITY

STATE ZIP

CITY

STATE ZIP

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AREA CODE, PHONE

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# The Doctor Is In

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by Dr. I. M. Yefsti Sacramento Valley Region (courtesy of The Drifter)

Q. I am having trouble shifting my 1971 911 from 3rd to 4th gear. If I shift into 4th normally, that is, letting the gear-shift go its own way, it shifts back into 2nd gear even though the shifter is in the 4th gear position. If I carefully shift from third to neutral to the top of 5th, then push the gear-shift straight up to 4th, everything works fine. I can then shift into 5th at the appropriate time with no problem. Downshifting is normal, there are no unusual noises, and this all started with no warning at all. Is this going to be expensive?

A. There are several external possibilities that can cause this problem. The shift linkage for all Porsche models 911, 912, and 914 up to 1972 is essentially the same. The culprit could be the shift tower itself, the shift ball cup, the shift rod bushing just behind the shift tower in the shift tunnel, the shift coupler (a flexible u-joint type coupling) at the rear of the shift rod in the shift tunnel, the adjustment clamp, or the tapered pin just aft of the coupler.

First of all, remove the cover over the tunnel (between the seats) and inspect the coupler, clamp, and tapered pin. Anything loose? Commonly the tapered pin will come loose and merely needs to be tightened. Certain models (up to '69 I believe) have a safety wiring provision for this pin. If this is not loose,

carefully look at the coupler. It is plastic bushed and is designed to have about 1/32" fore and aft movement, but no side to side movement. Check this and if it is sloppy, replace the coupler (see following adjustment procedure).

If all looks good, then check for possible slippage or misadjustment of the clamp. This attaches the end of the shift rod to the front of the coupler and permits both side to side and fore and aft adjustments. It can slip.

To adjust this coupling, first mark with paint (or whatever) the fore and aft position of the clamp and rod. Now shift your transmission into neutral, then loosen the clamp (it's a 13mm nut and bolt). With the gear shift lever all the way to the driver's right, turn the connector counter-clockwise facing forward) all the way to the driver's left, then tighten the clamp keeping the same fore/aft position. Now try the shifting again. There is a good chance this will solve the problem. If not, and if the lever still has a sloppy feel, it will either be the shift tower or bushings, or (heaven forbid) a loose shift fork in the transmission. Keep old "I.M." advised.

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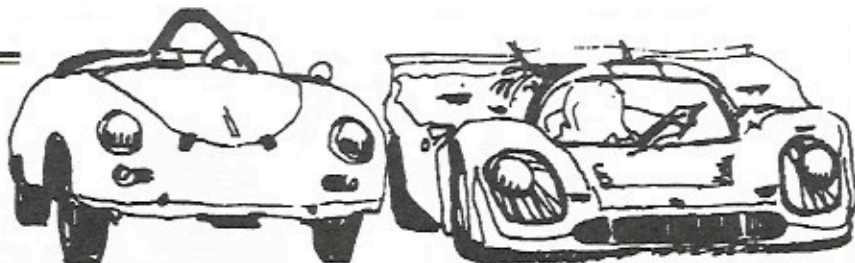
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## LITTLE LEMANS IX

June brings the traditional running of Little LeMans in Austin, Texas. The autocross course is laid-out as a scale version of the LeMans track. The event's open to all European car makes; last year, over 100 cars from all over Texas participated. Lamborghinis, Lotuses, Alfa Romeos, Jaguars, Ferraris, Mercedes, BMWs, MGs, Volkswagens, Triumphs, and, of course, Porsches will converge for a day of competition and fun. We'll also be awarding door prizes throughout the day. We'll continue the tradition we started last year by offering a Hill Country Tour and Welcome Party on the preceding evening, Saturday, 10 June.

Not only will you have an opportunity for a beautiful ride through the Highland Lakes and a visit with your friends, but you'll also have a chance at a door prize awarded during the evening. To enter, complete the form below. Don't forget to order your T-Shirts; we never finish Sunday with extras. Submit your entry by 3 June, and you'll be eligible for our Grand Door Prize, to be awarded during the event. Once we receive your entry, we'll mail you all the details. If you have any questions, call

Jim Bob Bryant at (512)835-1647,  
or Ralph Renkert at (512)258-0570.

### LITTLE LEMANS IX ENTRY FORM

Name \_\_\_\_\_  
2nd Driver \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
Home Phone \_\_\_\_\_  
Business Phone \_\_\_\_\_

Marque \_\_\_\_\_  
Model \_\_\_\_\_  
Year \_\_\_\_\_ Body Style \_\_\_\_\_  
Displacement \_\_\_\_\_ Horsepower \_\_\_\_\_  
Weight \_\_\_\_\_  
Modifications \_\_\_\_\_

We will have \_\_\_\_\_ people attending the Saturday evening Welcome Party and Tour.

I would like to spend Saturday night with a local region member. There will be \_\_\_\_\_ of us.

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## A HISTORY OF LITTLE LEMANS

Little LeMans was conceived by Hill Country Region member Ralph Renkert in 1981 after seeing a Porsche advertisement featuring the famous French circuit. By means of a computer, the course was scaled down (approximately 1:22) and established as an autocross course. The event would be open to all European makes.

HCR members Carey Spreen, Rick Diaz, and Alfa club member Greg Hawthorne helped Ralph make that first Little LeMans a reality. The course was set up in the TG&Y parking lot in Round Rock. Entries were limited to thirty cars(!). And thirty cars showed up, with forty drivers.

Lone Star (Houston) and Longhorn (San Antonio) Region entries made it a multi-regional event. The marques competing were Porsche, Alfa

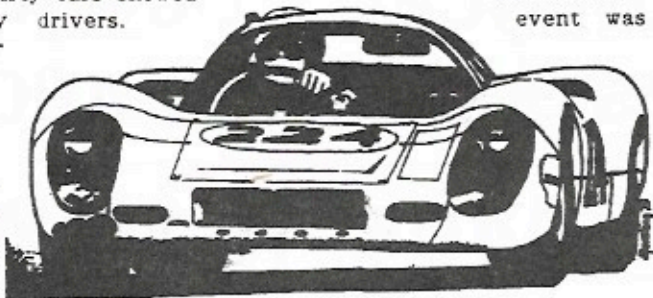
Romeo, DeTomaso, Ferrari, Jaguar, Lancia, and Maserati. (There was a report of an unofficial LeMans Sno-Cone truck.) The tradition of Little LeMans commemorative T-shirts was also begun at this inaugural event. To cap off the event, the September '81 Panorama included an article on Little LeMans I, the first ever article from HCR.

Little LeMans II moved to its current site, the Toney Burger Center in south Austin. This event was distinguished by the fact that it is the only Little LeMans ever won by an HCR member! Howard Phillips took the honors. Thirty drivers participated. The event was covered by the Austin American-Statesman.

Little LeMans III was held in San Antonio at the Blossom Athletic Center. Thirty three drivers in seven marques entered, including exotics such as Porsche 930, Ferraris, and a BMW M-1 (which won the event). A second Little LeMans article appeared in the September '83 issue of Panorama.

Little Lemans IV returned to the Burger Center in Austin, with Paul Vollmar of Lone Star Region taking first place.

Little Lemans V featured the rare treat of Porsche 930s, Ferrari Boxers, and a Lamborghini Countach competing in the same event. A report on the event was printed in the August '85 Panorama.



Little LeMans VI had over 100 entrants, and was covered by Motor Trend Magazine. This was the first Little LeMans

with creature comforts, such as a concession stand, a sound system, and computer-assisted registration. Reports turned up in the December issues of Motor Trend and Panorama.

Little LeMans VII entries ranged from Saab Sonnetts to Triumph Spitfires to Ferrari 330GTs to Lotus Turbo Espirits.

Little LeMans VIII was the biggest ever, with over 100 drivers, including more than 65 entrants who drove more than 180 miles to attend! In addition, HCR offered for the first time a tour and welcome dinner on the Saturday evening before the autocross. And Paul Vollmar became the first two-time winner in his 914-6. Second place? A Mini-Cooper, of course!

# The Calendar for 1989

## JUNE

3rd (Saturday) Breakfast at Village Inn 9:00 AM  
11th (Sunday) Picnic at Red Rock Canyon  
11th Hill Country Region Little LeMans

## JULY

1st (Saturday) Breakfast at Village Inn 9:00 AM  
TBA Splash Party and Hot Dogs for the family  
22nd to 29th Porsche Parade in Mich.

## AUGUST

5th (Saturday) Breakfast at Village Inn 9:00 AM  
TBA Drivers School - Perhaps at night

## SEPTEMBER

2nd (Saturday) Breakfast at Village Inn 9:00 AM  
17th (Sunday) Betty Crocker Rally - Dinner 1st  
- 3rd Whiskey Bay Region Cajun Classique

## OCTOBER

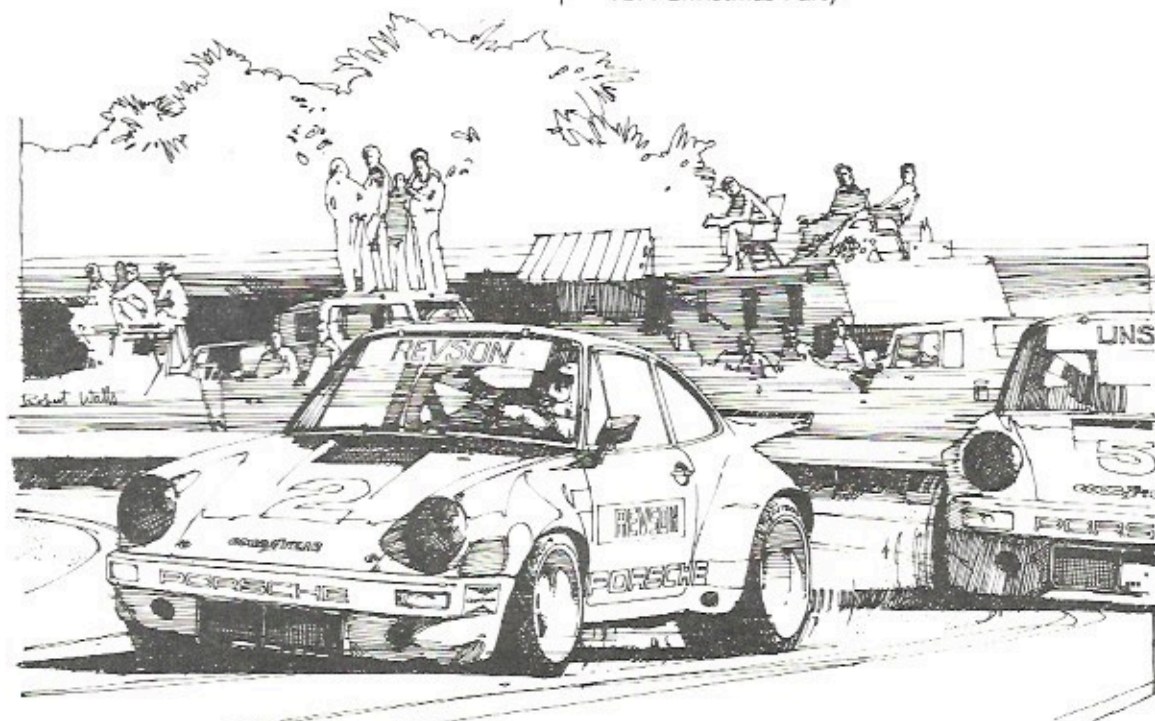
7th (Saturday) Breakfast at Village Inn 9:00 AM  
14th-15th Fall Tour 13th - 15th Maverick Region  
Round-Up

## NOVEMBER

4th (Saturday) Breakfast at Village Inn 9:00 AM  
TBA German Dinner

## DECEMBER

2nd (Saturday) Breakfast at Village Inn 9:00 AM  
TBA Christmas Party



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