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Front Cover:

It was a 'dark and stormy night' . . . it truly was! At this year's North Shore Fall Color Tour up on the north shore of Lake Superior Friday evening was stormy. The waves and gale force winds were definitely awe inspiring to say the least. Photo by Eventmaster John Dixon.

Address changes

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Wow, here it is the last month of the year. First of all, my season's greetings to each and everyone. It's been a great year in Nord Stern. Lots of interesting events this year and next year looks to be even better. I see more folks setting up to volunteer as organizers and consequently participation by members has increased. Certainly a measure of success. Which brings me to my topic this month.

Just how did you become a member of this club? Did you stumble on it after having purchased a Porsche and, say, via web surfing find out about PCA and regional clubs? Did the dealerships copy of the newsletter catch your eye? Or did someone mention the club to you? There certainly are lots of ways folks end up joining the club - but the personal invitation is often the most effective.

I think our club has remained quite healthy over the years for a variety of reasons; good programming, constant re-evaluation of what works, what doesn't, timely communication via the newsletter and our listservs, a website, National support and activities, developing leaderships via our workup chair positions and much more. But that personal connection is key - whether for someone just learning about the club or even for all of those who did continue their involvement. So with these thoughts in mind, I want to share a recent editorial from Susan Shire, Chicago Region newsletter editor which recalls a recent experience she had:

A funny story for you ... as I pulled into the parking lot of the medical building I spied a very lovely, brand new Carrera S carefully tucked away in a protected corner . It was silver and it truly sparkled in the late morning dappled sunlight with faint reflected hues of the autumn leaves. Oh to be in that car on a long and winding road rather than on my way to have a tooth pulled!

Making small talk with the oral surgeon as I settled into the chair, "There's a lovely Porsche in the lot ... yours by any chance?"

"Yes" he replied "did you hit it?"

Laughing around his fingers in my mouth injecting something to make me numb, "No, I didn't hit it, but I happen to be employed by PCA AND the editor of the local chapter's magazine. The cars call to me ... I notice them."

As my mouth grew numb and talking more difficult, I hurriedly told him about PCA, the benefits, the fun, and the people. I gave him the phone number for the National Office as well as the address of our Region web page. I explained about the autocross school, the tech sessions, and the DEs.

Tugging on my tooth, he asked about instructors, fees, registration, and "we would really let him take his car out on a real track?" My answers were grunts ... the nurse was now laughing out loud.

The procedure over, the surgeon left the room and the nurse profusely thanked me ..."we're all so tired of hearing about his car. You've given him somewhere else to go to talk about his car." I assured her that we all shared the same obsession!

The surgeon reviewed the post-op procedures with me ... and then asked if he could call me if he or his wife had more questions regarding his car and PCA. I assured him that he could call anytime ... I might not know the answer but I certainly could point him to someone who would.

At check-out, I was surprised and pleased to notice a 'professional discount' of 10% on my bill and a handwritten note that said "talk to you soon!"

Sometimes our obsession with these cars does have pay back.

As we enter the Holiday Season, hopefully you will spend time with those you cherish and hold dear. Relish that time ... count your blessings.

Happy Thanksgiving!

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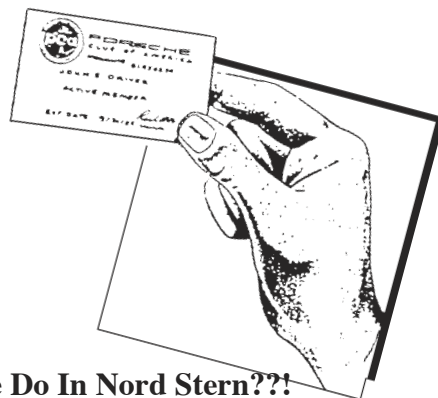
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Welcome

Welcome . . .

New Members (and
returning members!)
We hope to see you
at upcoming events!



So, Just What Do We Do In Nord Stern??!

A *brief* synopsis of activities and events offered by your club, Nord Stern, and/or PCA or, just enough info to pique your interest??!!

*Check here next month to
welcome new members . . .*

Autocross: A low-speed driving event, teaching one how to maneuver one's car around a set course of pylons on a closed circuit. Instruction is available, drivers compete against the clock. No modifications to one's car are necessary. Some safety equipment needed (helmet).

Concours: A setting where Porsches are displayed for general viewing and/or inspection competition. Experienced judges evaluate the various models based upon cleanliness, overall condition and authenticity.

Driver Training: A driving course designed to teach and enhance high speed driving skill and technique on an actual racecourse. Training includes classroom sessions, on-track 'exercises' plus supervised lapping sessions.

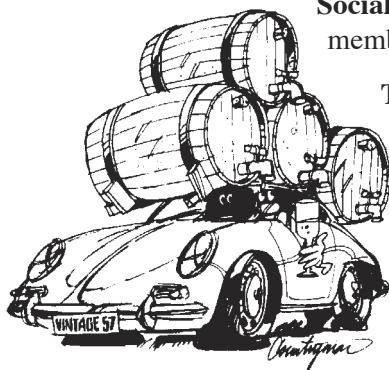
Driver Education: High speed driving event on a closed-course racetrack (Brainerd, Blackhawk Farms, Road America) where drivers are grouped according to prior lap times. Prior Driver Training participation is required. Performance enhancements are frequently made (but not required!).

Time Trials: On course timed lap with controlled starts and exiting.

PCA Club Racing: Wheel-to-wheel competition between drivers who hold PCA club racing licenses. There is a race class for every model Porsche. Safety modifications to your vehicle required.

Rally: An event wherein a driver and co-driver complete a predetermined route along open roads following a specific set of navigational instructions. Can be a TDS (time-distance-speed) or a 'fun' rally.

Social: Organized gatherings of club members, affiliates and family member to meet, eat and drink beverages! See our motto on page 1!



Tech Session: Casual educational session that span a wide range of topics, from general maintenance, through Concours prep, performance enhancements and general car/mechanical knowledge!

ClubTalk/TechTalk: E-mail listservs for member subscribers focusing on car issues and discussions as well as a place to ask questions, get recommendations and comments. Get last minute breaking news on upcoming events and activities. See Nord Stern's website for directions on how to subscribe.

The Prez Sez . . .

by Rick LaVerdiere

The Holiday Season is a time for all to reflect and to give thanks. I thank you ALL for the honor and privilege of serving as Nord Stern President this year. It was a wonderful and rewarding opportunity to meet new members, form new friendships and spend time with old friends.

Member participation in Nord Stern events this year is at a record level, thanks to the dedication and contributions of the Nord Stern Chairs and volunteers. A special thank you to each of them, and to Nord Stern sponsors and advertisers for their continuing support.

There are too many members who have made contributions this past year for me to single out individually in this column. However, I would be remised not to mention one. Christie Boeder, as editor of the Nord Stern Newsletter, continues to receive national recognition for what she describes as her "labor of love." More importantly, she remains the heart and soul of Nord Stern and takes interest in all things Nord Stern and its members. Thank you, Christie, for your input and guidance on the issues that arose this year, and your enthusiasm, energy and support on many projects.

Be sure to mark your calendars for the Nord Stern holiday party on January 19 at the Interlachen County Club in Edina. Our special guest this year is legendary and award winning racing broadcaster, Chris Economaki. Chris is best remembered as the ABC Wide World of Sports racing broadcaster for 20 years, and later the CBS sports racing broadcaster for 10 years. For that 30 year period of time, he was the voice for epic racing events around the world including Formula 1 Racing, LeMans, Daytona 500, and the Indianapolis 500. After 50 years, he continues as the editor for National Speed Sport News, the premiere publication for racing news. Chris is known for his unique style and for his stories of legendary racing figures.

Wishing you
and your family
Happy Holiday Season
a Merry Christmas. I
forward to seeing you at the
next Nord Stern Event.



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Letters to the Editor . . .

Third Thursday at Clubhouse Jager

Great turn out and even better company. And a fun artwalk thrown in.

For those that have not yet joined the group for 3rd Thursday...

Look for the notice next month.

Mike Jekot

I agree. We had a great time and enjoyed the walk down to see your art work Mike. It was a nice & fun mix of people . . . and four gals were even there this time!!

Thanks, Sarah DeLong

Was a very cool place and it was fun to see all the car groupies after being gone. See y'll soon!

Scott Kuhne

996 Suspension Upgrades

I wanted to ask you all your opinions on the following suspension upgrades for the 996. 1) H&R Coilovers (1900USD) 2) PSS9 (1900 ish) 3) JIC Coilovers (2800 USD) Are GT3 or other non OEM sway bars necessary with any of these upgrades? I'd like a little more camber adjustability to make tires last longer and the JIC's come with front camber plates built in. Thanks,

Billy Preston

Yep I'm looking at upgrading the suspension to JICs to tell the truth. Why JICs? They include front camber plates which saves 600 bucks and with the medium springs will likely be good for a long while as I progress. What worries me is apparently PSM needs the steering angle adjusting at the dealer whenever alignment changes. This makes camber changes at the track kind of difficult. Anyone any experience with that?

Jack Pierce

I have some experience in this area having run a number of different suspensions over the years. Ranging from the full race Penske's to box stock. Right now for my 996 I am actually serious considering PSS9's and the Porsche X74.

You can learn more about the X74 setup by searching on Rennlist and buy it complete from www.carnewal.com. This is very close to the GT3 suspension which is fabulous. Being Porsche parts they will fit and keep their value. The advantage of the PSS9's is that there are a huge number of them out there and they are very highly regarded. The advantage of the X74 is that Porsche really knows what it is doing when it comes to a high performance suspension. There are relatively few cars out there with JIC's and when the next fad comes along they will be worthless.

From my experience, I would never do double or triple adjustable racing shock for a street/track car again. What you get is a compromised race suspension or a god-awful street suspension. When I had my Penske setup, I only had 15 or 20 years of track experience and that wasn't enough to give me the wisdom to deal with the multitude of variables that I could change. This meant I could never get the car to handle better than it did with the Bilstein suspension I had before. I put the Bilstein's back on and had a better handling car. The key question you should be able to answer before making the switch to a racing suspension is; "What problem am I trying to solve?" It needs to be as detailed as "In a medium speed corner, I'm loose on turn-in and push at the center of the turn and then loose again at the exit." And at the same time "In high speed corners I am slightly loose on turn-in and push in the center." If your problems are not that specific, you don't need a racing suspension and will in fact go slower because you will be chasing the setup every single time you are on the track. Same with the camber plates. Adjustable camber plates are only useful if you plan to use them. Do you plan to adjust your camber as you set up the car? Most just set them once and never use them again because they have neither the equipment nor the knowledge to do alignment as part of the process of setting up the car. My 2 cents.

Roger Johnson

Having had a set of double adjustable Penske's on my race car for a number of years I agree with Roger's comments. While they looked cool, and gave me lots of things to play with I never knew if the last adjustment made it better or worse. Unless you drive at the absolute limit and as Roger says, know which end of the car is sliding and why, you'll just easily make it worse with an adjustment and not even know. That's why at even the SCCA club level, racers with fancy shocks hire a shock analyst for a weekend to help them sort it out and then they don't touch anything once it's set. I think the most important thing is that you get shocks that are valved to match the wt. of your springs and that the springs are matched to the weight distribution of your car and the tire and wheel sizes you are running. That why buying a Porsche super high end package as Roger suggests makes sense, Porsche's done their homework to figure out what works on that particular model. Sure if they are adjustable, all the better, but I'd want to know their recommended settings and why before I started to twist the knobs myself.

Lee Jacobsohn

This is the season for dissenting views I suppose. With all due respect to Roger and Lee, I loved the dual adjustable Moton Club Sports I had on my car for a couple of years. They allow you to adjust how your weight shifts under braking and acceleration

Jim Breakey

You guys (and gals) have been around cars and car chatter longer than I have been. What are your favorite web forums and websites?

Jack Pierce

Fourtitude - <http://www.fourtitude.com/index.html>

And, of course, Performance Insider and Trackpedia. How do I ever get anything done at work?

Luke Ibis

Bruce and I would like to thank Kim and Keith Fritze for organizing our annual awards dinner held last night at Edina Country. It was a great evening with lots of time to meet, greet and eat! Everything was so well done - down to the W's and P's on our nametags (if you were there you know what those were for!).

Food was very tasty, the award presentations were very entertaining and a good time was had by all. Thanks, Prez Rick (Mr. Lame Duck...) for hosting a lively round of awards and the honoring several members who have contributed much to the club. Since I don't want to forget anyone, will make sure Rick gets me the info for the newsletter!

Great evening, guys! Thanks, Kim/Keith/Rick...

Bruce and Christie Boeder

I agree with Christie, it was a wonderful evening. I only wish I had more time to visit with more club members.

Rick did a great job MCing the event and the food was excellent. And the slide show was great addition.

Thanks to Kim and Keith for a great time. Any chance you could work in a round of golf next year??? It would have been warm enough this year for sure.

I can hardly wait until the Annual Dinner at Interlachen in January. More quality time with my friends, great food, and hopefully no snow this year.

Dale Trippler



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There are few subjects in the pistonhead world that cause more debate, controversy, and downright divisiveness than engine oil. After all, oil is the lifeblood of an engine and everyone likely has a brand and change interval that they prefer. Researching this article has been, frankly, a very painful experience. Any casual web search will lead the curious through a world of half-truths, sketchy web forums, a Cayenne-load of pseudoscience, and endless advertisements for Amsoil distributorships. Brutal. Finding the truth can easily become very tricky business.

In this month's edition of Technikzeit I'm not going to try to venture recommendations on which oil is best. I'm not going to tell you how often you should change your oil or if you should do it yourself or leave it to the pros. I'm not even going to share the delicious recipe for Mobil 1-glazed pizza that I stumbled upon while rebuilding my 944's engine! My only goal is to shed a little light on the fascinating technology and engineering that go into modern engine oil. Remember, though (and this will become a repeated theme this month), that your owner's manual is the final word on what is best for your car and application.

The Basics

Engine oil is liquid oil used to lubricate the moving parts of internal combustion engines. An engine is full of metal parts moving against each other at very high speeds. This motion causes friction, absorbing otherwise useful power and converting it into heat. Engine oil forms a film between the surfaces of the moving parts to minimize direct, metal-to-metal contact which in turn minimizes heat and wear. Aside from reducing heat from friction, motor oil carries away some of the heat produced by the combustion cycle, which is key since most metals tend to become softer and less resistant to abrasion at high temperatures.

Coating metal parts with oil keeps them from being exposed to oxygen, inhibiting metal corrosion at elevated operating temperatures. Engine oil also contains a carefully selected set of detergents to help keep the engine clean and carry away harmful chemicals that are formed during combustion such as silicon dioxide and acids.

In the engine's crankcase, oil lubricates the rotating or sliding surfaces between the crankshaft journals, bearings, and connecting rods. The vehicle's oil pump takes oil from the oil pan or sump and sends it through the oil filter and then into oil galleries from which it lubricates the main bearings. Typically, oil pressure-fed from the from the oil galleries to the main bearings enters holes in the main journals of the crankshaft, moves through passageways, and exits through holes in the rod journals to lubricate the rod bearings. Most modern engines also have passageways in the rods that carry oil to the wrist pins that connect the rods to the pistons and, in some cases, have oil sprayers that cool the interior surfaces of the piston and lubricate the cylinder walls. The oil film also helps act as a seal between the piston rings and the cylinder walls

to separate the combustion chamber from the crankcase. Refer to Figure 1 for a view of the oil passages and galleries in a typical 4-cylinder engine.

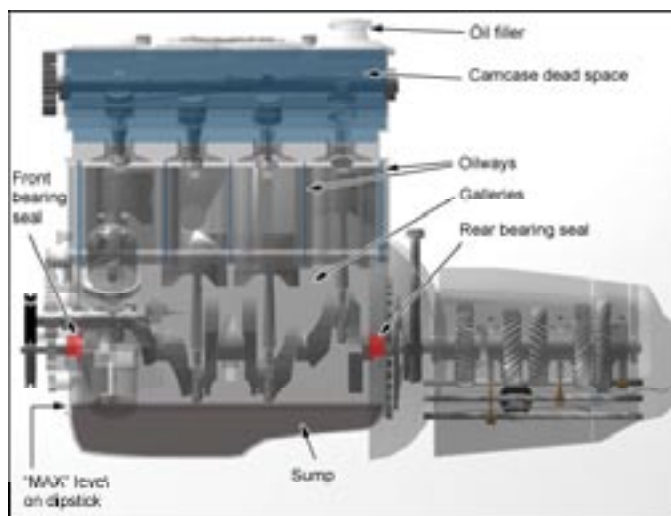


Figure 1 – Oil Passages and Galleries

It's time now to talk about some basic properties that are applicable to engine oil. First and perhaps most important is viscosity. Viscosity can be thought of as the "thickness" of the oil, or a quantity of resistance to flow. Engine oil viscosity must be high enough to act as a lubricating film, but low enough to flow when cold. Viscosity index is the term used to describe how much the viscosity changes as temperature changes – more on this later. Next is pour point, which indicates the lowest temperature at which the oil can still be poured. The lower the pour point, the better the oil flows when cold.

Another important property is flash point, the lowest temperature at which the oil gives off vapors that can ignite. It is obviously very dangerous for oil in an engine to ignite, so a high flash point is desirable. The final property we'll discuss is total base number, or TBN. TBN is a measure of the reserve alkalinity available to neutralize acids produced during the combustion process. All of these properties are regulated and measured as part of the oil certification process, which we'll talk about in the next section.

Oil Grades and Service Categories

If you watch motorsports on TV or subscribe to any of the various automotive publications, you'll see a lot of advertisements claiming that their specific product is the best oil for your engine. The fact is, all engine oil brands approved for use in street engines must meet the same minimum performance standards, and today, it's the original equipment manufacturers that set those standards. On one hand, this is great because it is now easier than ever to buy high-quality oil. On the other, there are important differences in the types or grades of oil that make it all too easy to buy the wrong

one. No matter what brand is used, there are a lot of decisions to make when selecting oil for a given engine; choosing between petroleum and synthetic oil is only one of several decisions (more on this later). The only way to know for sure that the right oil is being used in any given engine is to check the specifications in the owner's manual, service manual, or another trusted source. Caveat emptor, friends!

As I mentioned above, viscosity is a measure of the oil's ability to flow at a given temperature which indicates how thick the oil film will be on metal parts. The Society of Automotive Engineers (SAE) is the keeper of viscosity specifications, and has established a numerical code system for grading motor oils according to their kinematic velocity. For single-grade oils, the kinematic viscosity is measured at a reference temperature of 100 °C (212 °F) in units of mm²/s (or in "centistokes", an equivalent older, non-SI unit, abbreviated cSt). Based on the range of viscosity the oil falls in at that temperature, the oil is graded as an SAE number 0, 5, 10, 20, 30, 40, 50, 60 or 70. The higher the viscosity, the higher the SAE grade number is. These numbers are often referred to as the "weight" of an engine oil. The reference temperature is meant to approximate the operating temperature to which motor oil is exposed in an engine.

The temperature range that oil is exposed to in most vehicles can be wide, ranging from the very cold ambient temperatures of a Minnesota winter before the vehicle is started up to very hot operating temperatures when the vehicle is fully warmed up in hot summer weather, so the resulting difference in viscosities for any single-grade oil is too large between the extremes of temperature. To bring the difference in viscosities closer together, special polymer additives called viscosity index improvers are added to the oil making it a multi-grade motor oil. The viscosity of a multi-grade oil still varies logarithmically with temperature, but the slope representing the change is lessened. This slope representing the change with temperature depends on the nature and amount of the additives to the base oil. The API/SAE designation for multi-grade oils includes two grade numbers; for example, 10W-30 designates a multi-grade oil that we're all familiar with. The first number associated with the W is not rated at any single temperature. The "10W" simply means that this oil can be pumped by your engine as easily as a single-grade 10 weight oil can be pumped when cold. "5W" can be pumped at a lower temperature than "10W", and "0W" can be pumped at even lower temperatures than "5W". The second number, 30, means that the viscosity of this multi-grade oil at the 100°C operating temperature corresponds to the viscosity of a single-grade 30 oil at same temperature. This doesn't mean that multi-grade oil gets thicker as it gets hotter; it means the oil flows the same as straight 30-weight oil does when it gets hot. The engine oil grade and viscosity to be used in a given vehicle is specified by the manufacturer. See Figure 2 for a chart comparing the temperature ranges of various oil viscosities.

In addition to viscosity specifications, you need to select the right American Petroleum Institute (API) service category. Most service manuals specify motor oil with the API "starburst"

symbol (see Figure 3), certifying that the oil meets all the needs of a light-duty automotive gasoline engine. The service category certifies the oil's ability to pass specific lab tests that measure the oil's ability to perform in an engine. As described previously, oil is tested for the way it pours when hot or cold, its ability to resist wear, foaming, oxidation and deposit formation at various temperatures

and several other physical and chemical qualities. It is tested when new, and again after being run in a standardized engine. Many of the certification tests are bench tests, and for these, the engine is used only to "age" the oil. Still, oil that can pass all the tests will perform predictably in a real-world engine.



Figure 2 – Viscosity Service Ranges



The API service symbol

Figure 3 – Example API Service Symbol

API licenses two different certification labels to oil marketers. The specifications for one of those labels are generated by the International Lubricant Standardization and Approval Committee (ILSAC), a group consisting of the Big Three domestic car manufacturers and the

Japanese car manufacturers. ILSAC defines the performance characteristics and the chemistry of the oil it will accept for use in its engines, and API makes sure the oil sold by marketers displaying that label meets that definition. Some oils meet both the API service category and the ILSAC specifications; these will carry both labels. There is another group of service ratings generated by European carmakers under the ACEA, which translates from French to English as the European Automobile Manufacturers Association. Many ACEA specifications are based on the same American Society for Testing and Materials (ASTM) tests used by API. The ACEA service ratings don't always appear on oil containers sold in the United States. While things may change in the future, the service categories based on ILSAC specifications are officially considered "close enough" for European cars sold in the United States.

Continued on page 13

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Starting with the 2004 model year, the federal government required auto manufacturers to cover catalytic converters under warranty for 120,000 miles. The active ingredients in a catalytic converter are platinum, rhodium and palladium, and they are very expensive metals. Most catalysts eventually fail because of poisons in the engine-out exhaust gas, and two of those poisons, phosphorous and sulfur, are in motor oil. Even new engines consume some oil through the crankcase ventilation system, and while it's a very small amount, it may be very difficult for catalysts to meet the 120,000-mile warranty requirement if they are connected to engines using earlier service category oils. Rather than increase the metal loading capacity (and, therefore, the cost) of new catalytic converters, the automakers decided it was time to change the chemistry of motor oil.

Engine oil has been redesigned several times as vehicles evolved to help manufacturers meet ever-tightening emissions and fuel economy requirements. The API service classes have two general classifications: S for Service (typical passenger cars and light trucks using gasoline engines) and C for commercial applications (typical diesel equipment). The latest API service standard designation is SM for gasoline engines. The SM standard refers to a group of laboratory and engine tests and denotes an oil with much lower amounts of catalyst-damaging sulfur and phosphorus. Other current API service categories include SL and SJ for gasoline engines. All previous service designations are considered obsolete. There are six diesel engine service designations which are current: CI-4, CH-4, CG-4, CF-4, CF-2, and CF; all others are obsolete. It is possible for an oil to conform to both the gasoline and diesel standards. Engine oil which has been tested and meets the API standards has the API starburst symbol with the service designation printed on the container. So far, chemists have been able to create oil for new engines with anti-wear and detergent properties that also satisfy the needs of earlier engines, meaning that the latest service category rating should be fine in any automobile engine. Some marketers have been making the earlier SL category oil with the new low-sulfur, low-phosphorus base stock, but only the SM service rating has

both the base stock and additives that conform to the latest specifications.

The oldest service category still considered current is SJ, which conforms to ILSAC GF-2 specifications. According to API, it is still suitable for 2001 and earlier model-year engines and may still be available. As always, follow the advice in your owner's manual or factory service manual if you are considering using an older service category oil.

Oil Production and Formulation

Now that you're either thoroughly bored or completely confused (likely the former) by grades and service categories, steel yourself for just a little more chemistry as we move on to the differences between traditional oil and the newer synthetics. Before diving in, it's important to understand a term that I've used a couple times already: base stock. As the term implies, base stocks are the basic lubricating hydrocarbons that are the core components of motor oil. Lubricating base stocks are categorized into 5 groups by the API.

Group I base stocks are composed of fractionally distilled petroleum which is further refined with solvent extraction processes to improve certain properties such as oxidation resistance and to remove wax. Group II base stocks are composed of fractionally distilled petroleum that has been hydrocracked to further refine and purify it. Group III base stocks have similar characteristics to Group II stocks, except that Group III base stocks have higher viscosity indexes. Group III base stocks are produced by further hydrocracking of Group II base stocks or of hydroisomerized slack wax, a byproduct of the dewaxing process. Group IV base stocks are polyalphaolefins (PAOs). Group V is a catch all group for any other synthetic and mineral base stocks. Examples of group V base stocks include polyol esters, polyalkylene glycols (PAG oils), and perfluoropolyalkylethers (PFPAEs). Groups I and II are generally referred to as traditional or mineral oil, groups IV and V are considered synthetic oils, and Group III is a bit more nebulous. It used to be considered a mineral oil, but recent advances in the refining process have allowed manufacturers to create very specific molecule sizes and distributions similar to Group IV stocks. Therefore, Group III stocks are now generally considered synthetics due to the high degree of refining used and

Continued on page 21



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Brian Oldendorf, Jill Daneu and Riley Rogers



Right, Pam Pearson and friend



Greg & Cheryl Adams with Don & Pam Lawrence



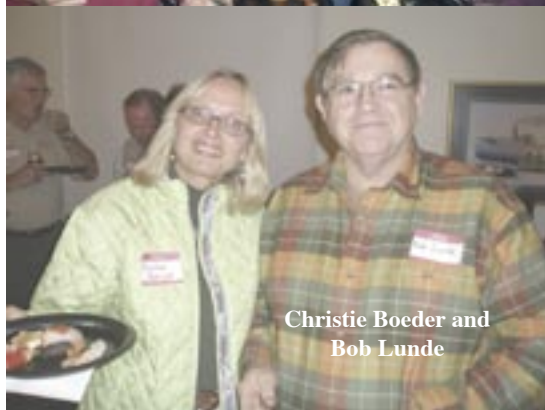
Mary Lunde and Darlene Miller



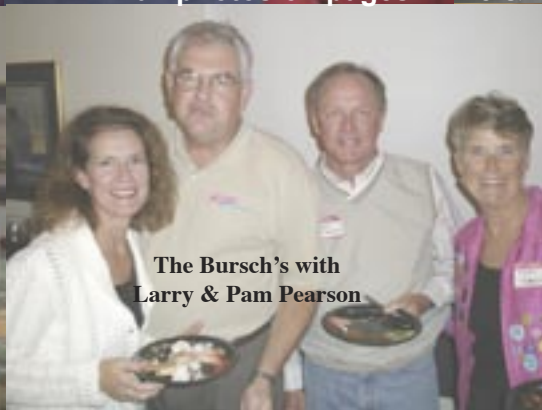
Bret Bailey, Bruce Boeder and Don Miller

Out and About at '06 Fall Color Tour

all photos on pages 14-15 & 17 by Eventmaster John Dixon



Christie Boeder and Bob Lunde



The Bursch's with Larry & Pam Pearson



Cid Holton, John Dixon and Jill Daneu



John Dyson, Joe Olson, Rob Welch



Jim Holton, Don Miller, Cid Holton



Ed Vazquez, Jill Daneu, Wendy Oldendorf



Cheryl Adams, Pam & Don Lawrence, Jayne Mueller



Janine & Todd Knettel, Laura M. & Bret Bailey



Michael Dixon (John and Susanne Dixon's son) and Lilly



Mary Lunde &
Susanne Dixon



Dawn & Kevin
Stensrud



Jill Daneu
& Christie
Boeder doing
their best at
the 'blonde'
thing!



Lisa H. & Rob
Welch



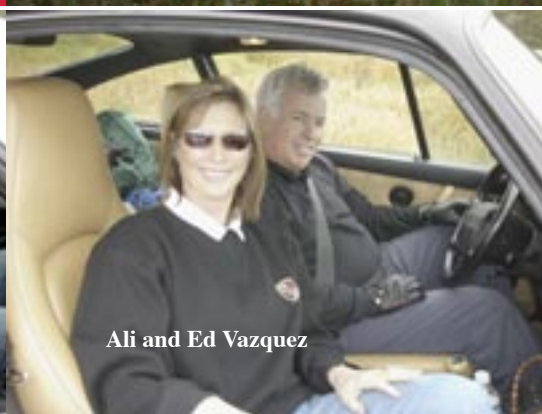
Group Shot!



'Members of the
year' John and
Susanne Dixon



Cid Holton



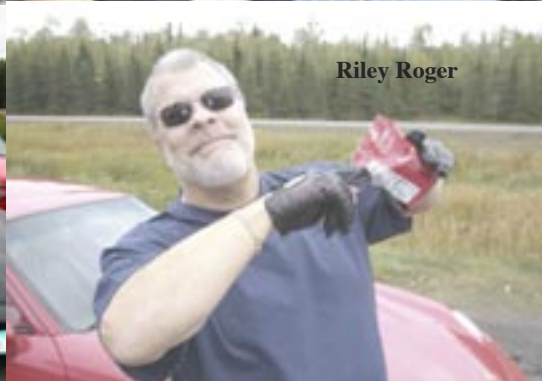
Ali and Ed Vazquez



Gayle Robinson -
playing cards???



Roy Henneberger &
Jane Jirele



Riley Roger



Kim Fritze



Brian and Wendy
Oldendorf



Pam Herman and
Dan Polglaze



One of many of the beautiful views along the North Shore of Lake Superior. This truly is a very special area of Minnesota. This annual trek in the fall by many Nord Stern members is always so much fun as it combines the opportunity to drive our cars, contemplate lots of beautiful scenic vistas, socialize with many other members and sample the ample good fare at various restaurants and delis in the area. Our host, John Dixon, manages each year to plot out a fun and challenging route highlighting the uniqueness of the geography and topography. Be sure to get this on your calendar if you are NOT already one of the regulars! Photo by John Dixon

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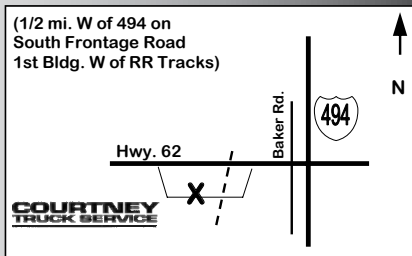


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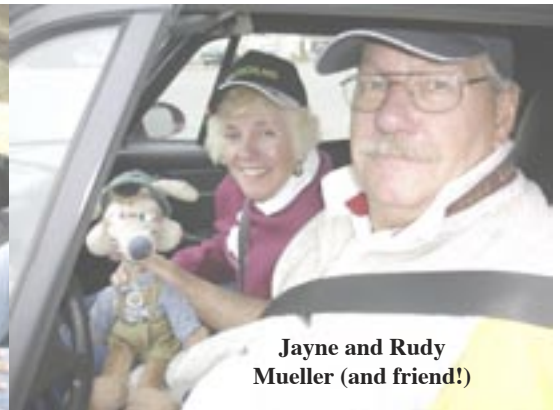




Jill and Fred Daneu



Maralee and John
Dyson of Iowa



Jayne and Rudy
Mueller (and friend!)



Mary and Bob Lundé



Dale Trippler



Jane Jirele and Roy
Henneberger



Being able drive top
down brings out the
smiles



Anne and Luis Arisso



The shades are very cool!



The lunch tables were
full with happy Nord
Sterners!



2006 Kalender . . . Check Here for New and Added Events!

December

- 14 Nord Stern Business Meeting**
2nd Tuesday of the month
Social: 6:30 pm; Meeting 7-9 pm
Location: Axel's Restaurant in Roseville
Eventmaster: Rick LaVerdiere 651 998-1511
ricklav968@hotmail.com
- 21 Third Thursday Social**
Clubhouse Jager
10th Ave N. and Washington/Minneapolis
Questions: Phil Hancock, phancock356@hotmail.com

2006

April

- 10 Nord Stern Business Meeting**
2nd Tuesday of the month
Social: 6:30 pm; Meeting 7-9 pm
Location: Axel's Restaurant in Roseville
Eventmaster: Cal Townsend 952 431-4442
tw820@aol.com
- 19 Third Thursday Social**
Clubhouse Jager
10th Ave N. and Washington/Minneapolis
Questions: Phil Hancock, phancock356@hotmail.com

2007

January

- 9 Nord Stern Business Meeting**
2nd Tuesday of the month
Social: 6:30 pm; Meeting 7-9 pm
Location: Axel's Restaurant in Roseville
Eventmaster: Cal Townsend 952 431-4442
tw820@aol.com
- 18 Third Thursday Social**
Clubhouse Jager
10th Ave N. and Washington/Minneapolis
Questions: Phil Hancock, phancock356@hotmail.com

2007

May

- 20 Nord Stern Autocross**
Dakota County
Co-host w/COM - Details TBA

2007

July

- 9-10 Road America Driver Ed**
Monday and Tuesday
Elkhart Lake, WI - Eventmaster: TBA
Contact Dave Anderson;; dave@anderson.com

2007

February

- 13 Nord Stern Business Meeting**
2nd Tuesday of the month
Social: 6:30 pm; Meeting 7-9 pm
Location: Axel's Restaurant in Roseville
Eventmaster: Cal Townsend 952 431-4442
tw820@aol.com
- 15 Third Thursday Social**
Clubhouse Jager
10th Ave N. and Washington/Minneapolis
Questions: Phil Hancock, phancock356@hotmail.com

2007

September

- 9 Nord Stern Autocross**
Dakota County
Co-host w/COM - Details TBA

2007

March

- 13 Nord Stern Business Meeting**
2nd Tuesday of the month
Social: 6:30 pm; Meeting 7-9 pm
Location: Axel's Restaurant in Roseville
Eventmaster: Cal Townsend 952 431-4442
tw820@aol.com
- 15 Third Thursday Social**
Clubhouse Jager
10th Ave N. and Washington/Minneapolis
Questions: Phil Hancock, phancock356@hotmail.com

2007



Frankly, no trip Up North for the Fall Color Tour is completed with the required Moose siting (right, Jill?!). This year was no exception as this fine fellow joined us for lunch on Saturday afternoon at the Birch View Restaurant in Grand Marais. Photo by John Dixon

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Let's be clear here, all base stocks have their start in petroleum that is pumped out of the ground. There are some interesting differences, though, with synthetic stocks. As mentioned above, Group III synthetics are heavily refined, highly pure oils that are produced by hydrocracking, a process where refined petroleum bases are broken down into lighter, more uniform molecules using high pressures and temperatures in the presence of a catalytic material. Group IV PAO stocks are made from refracted gas captured during refining. This petroleum gas is basically condensed down to liquid oil using chemical processes that gradually lengthen the petroleum chains. Group V polyol esters are made of incredibly stable molecules that lack reactive carbon atoms so that they won't react adversely with other compounds. Group V PAGs are made completely industrially by breaking up all types of oils (including animal and vegetable oils) and recombining selected molecules to build a completely custom lubricating stock.

Many automobile manufacturers now recommend the exclusive use of synthetic oil, including Porsche, Volkswagen/Audi, and BMW, and for good reason. Synthetic lubricants first hit the scene in the mid-1960's for the aerospace industry where traditional oils did not hold up in high stress, high heat applications like jet engines and turbines. Higher purity and better viscosity control means that synthetics have good mechanical properties at extremes of high and low temperatures. The molecules can be made large enough and "softer" to retain good viscosity at higher temperatures, yet branched molecular structures interfere with solidification, allowing good flow at lower temperatures and better shear protection at high temperatures. Thus, although the viscosity still decreases as temperature increases, these synthetic motor oils have a much improved viscosity index over traditional oils. Their specially designed properties allow a wider temperature range at higher and lower temperatures and often include a lower pour point. Because the viscosity changes much less with temperature, synthetic oils need little or no viscosity index improvers that are used with the traditional petroleum based oils. The viscosity index improvers are the components most vulnerable to thermal and mechanical degradation as the oil heat cycles, ages, and eventually wears out. Put simply, synthetics do not degrade as quickly as traditional motor oils.

Motor oil also contains a carefully selected set of additives, including detergents and dispersants to keep the engine clean and minimize sludge buildup, corrosion inhibitors such as zinc oxide and chromate, and alkaline additives to neutralize acidic oxidation products of the oil. Motor oil also generally contains a small amount of zinc dialkyldithiophosphate (ZDDP) as an anti-wear additive to protect contacting metal surfaces. Other additives in motor oil include small amounts of molybdenum containing compounds, chlorinated paraffins, and stearic acid for further anti-wear and extreme pressure protection.

Considerations for "Air-Cooled" Engines

As we all well know, engines that are commonly called "air-cooled" are, in fact, predominantly cooled by their lubricating oil. For these engines, selecting the proper oil is even more critical. So what makes an oil particularly suitable for an air-cooled engine?

Similar to oil for turbocharged engines, oil used in air-cooled applications must be thermally stable, have a very high flashpoint, and, according to Porsche, must "maintain proper lubrication and protect vital engine components under the extreme pressure and the high temperature conditions" found in air-cooled engines. In non-marketing language, this means that oil must be made from a very temperature stable base stock and contain an appropriate amount of anti-wear additives to cope with the additional friction stress. Porsche recommends Mobil 1 0W-40 as factory fill, and at least one local racer of a GT-1 class 930 swears by Mobil 1 15W-50. While it would be easy to lapse into oil geekery, seeking out custom blends made from specific oil wells that produce petroleum that is "just right", we have to remember that Porsche is a big company that spends a lot of money just to gather data and make recommendations.

Based on testing performed by LN Engineering, a manufacturer of billet Nikasil cylinders for high-performance air-cooled Porsches and Volkswagens, it would be wise to stick with Porsche's recommendations. They have analyzed most of the available oils in viscosities suitable for air-cooled engines and found that Mobil 1 reliably set the bar for anti-wear additives and shear stability. A full overview of their oil test data and recommendations can be found on the web at <http://www.lnengineering.com/oil.html>.

Change Intervals

An engine is a very tough environment for even the best oil. Aside from the thermal and mechanical degradation imposed by driving, the oil picks up microscopic bits of metal from normal engine wear and tiny bits of soot from the combustion process. Although the oil filter removes some of this material it slowly loses effectiveness, and the oil will eventually wear out. While many people still believe that oil should be changed every 3000 miles, it does not generally have scientific or engineering basis when applied today's engines and oils. This standard originated at a time when non-detergent, non-multi-weight oil mineral oil was the norm. Though the 3000 mile change interval is still being relentlessly promoted by certain entities, most notably the oil change industry and mechanic trade groups, studies have actually shown that more wear occurs when the oil is fresher (1000-2000 miles old) when the anti-wear additives have not yet "bedded in" and the oil has not yet equalized to the pH and temperature cycles in the engine. Manufacturers now recommend a 6000 mile change interval on average. However some automakers, including Porsche, recommend a much longer change interval – usually 10,000 to 15,000 miles – on their new models.

Continued on page 23

Driving Is Definitely Half the Fun . . .

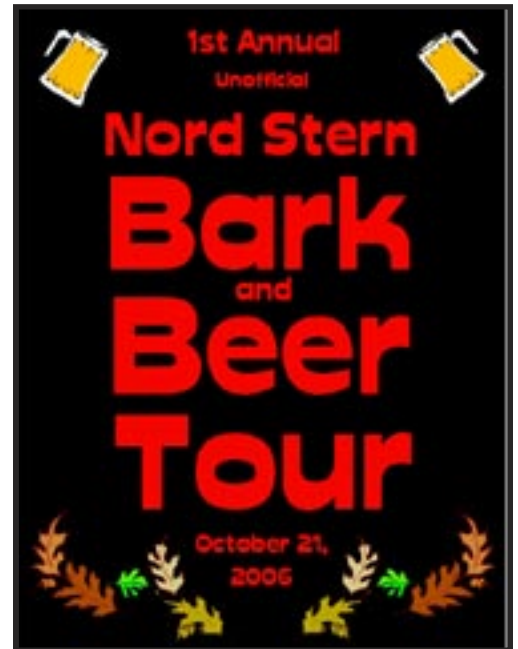
Photos and text by Jeff Boehm

Long after the leaves had changed color and dropped from the trees a group of Ldiehards (Porsche and otherwise) decided to hit the road. We all met in Winona on Saturday October 21st and ventured off into Wisconsin with Mike Lancial providing the route.

We had quite the diverse group with models from the 60's, 70's, 80's, 90's and 2000's including several 356's, a 912, three 928's, a 951, a 996 and 996 TT, a couple of Boxsters and the rest various years of 911's plus a Corvette and a Limited Edition 1986 Dodge Omni GLH"S" - one of 500 'Hot-rodded" by Carole Shelby with 175 HP.

We all met in Winona and took of into Wisconsin and their great twisty county roads. Our first stop was in Arcadia, WI and a great place for lunch at Hansen's Holdup (www.hansensholdup.com). The "Holdup" only seats 35 - 40 people inside and we pretty much filled it to capacity. From Arcadia we ran more twisty county roads to Nelson, WI where many of us visited the Nelson Cheese Factory and then home.

Although this was not an official Nord Stern Event I did make a T-Shirt just for the drive . . . !



continued from page 11

This longer interval is provided for by a combination of factors. First, synthetic oil technology has come a very long way and all of the properties that synthetics possess allow it to remain stable and viscous with reliable detergent and anti-wear properties through a very long service life. Second, oil filter technology has also improved greatly. Modern OEM filters are generally made of synthetic material and are densely constructed, sometimes allowing filtration down to the micron level. Third, and perhaps most importantly, automobile manufacturers work very closely with lubricant producers to establish very rigorous testing and certification standards for their OEM or “factory fill” oils. Engineers from the auto company familiar with all the specifics of a given engine design will meet with engineers from the lubricant companies to establish the specifications that oil must meet. All of this work with their suppliers pays off, as they are able to request oil that reliably meets OEM quality standards allowing for lowered warranty costs and better long-term customer satisfaction. A good example of this is Volkswagen/Audi’s 50X. XX oil quality standards, which only a small group of oils sold in the US meet.

As with everything else, your owner’s manual or factory service manual are the final word on change intervals. You will generally be quite safe if you change your oil following their recommended maintenance schedule using oil and filters that meet their OEM standard.

Conclusion

Engine oil is a fascinating substance, and will surely evolve in ways we scarcely imagine in the coming years. Already, the increasing popularity of gas/electric hybrid cars and ultra-low sulfur diesel engines is causing upheaval and change in the lubricant industry. There are also evolving production processes that may allow oil to be made from recycled plastics in the future. Who knows...one day engine oil may last the life of the car, relegating the concept of an oil change to the dustbin of history.

That’s it for this month. As always your comments, questions, and “you’re really full of it!” rants are welcome at luke.ibis@gmail.com. Until next time, keep your eyes on the road!

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When Is It A Dedicated Track Car?

Photos and Text by Jack Pierce

You pick up a relatively inexpensive car (Porsche, BMW, Audi) and you decide to join a car club and get on the track. Or forget the marquee brands; you can easily take any flavor of performance car (Mustang, Camaro, 350Z, S2000, STI, Mini, or Miata) and get on the track with NASA. The point is you've been bitten by the bug. As it was told to me, you are on the slippery slope of performance driving. It will most likely only get worse, and rarely gets better.

The natural start to this is making the new car your daily driver, and taking it to the track. For some, there's too much anxiety to putting your new baby through high speed events. If this is you, you were never really on the slippery slope. But for those who only want to go faster...if the rush of speed only makes you want more car stuff and keeps you asking more questions, then you are hooked. When you find that you need a dedicated track car, that your daily driver isn't enough, you have left the slippery slope and are now in freefall into the dark abyss.

You laugh—and we all have fun with this—but there are times when cars get wadded up and leave the track on a flatbed. Normal insurance may payoff, but you may have to lawyer up and a spend time working it out. There is also track insurance available, but the out of pocket can be significant. This sport is like gambling in that you should only put as much on the line as you can afford to lose.



So, when is it a track car? When are you in the dark abyss? Beyond the obvious signs—like towing it to track on a trailer—it's a little hard to say. Let's take a look at some of the steps a beginning driver will take along the way. Some will see this as a guide to the truth; others will recognize it as a list of warning signs.

1. You will not get on the track with any organization without taking some sort of driver training. They are all concerned with your safety and the safety of their members. Listen to what they say, you may think you know what to do, but you don't. Thank goodness! So, step one is always safety first.

2. If you find performance driving at all interesting at this point, you owe it to yourself to take additional training. Get



advanced training through your club...they all offer it. Search out and pay for professional courses. Skip Barber is an incredible experience. I've done their 3-Day Racing School and I'm working at doing a course with Donnybrooke Racing, next.

3. The first money you spend on your car should be tires... best bang for your performance buck, and everyone will tell you that. The reason is that every bit of performance that is in your car passes to the track surface through your tires. Cheap tires... engine, driving skills, and all else gets cut short.

4. When you upgrade your tires, think about new wheels at the same time. There are several reasons why. First, plus sizing to a larger diameter will give you a shorter sidewall and more rigidity, translating to better cornering. To keep the same basic envelope of air supporting the weight of your car, a shorter sidewall will also mean a wider aspect ratio and tread. The shape of your contact patch will therefore change and become broader, providing even more lateral stability (and better cornering). Contrary to what you might be told, the contact patch is not larger; it just changes shape and gets broader. One note here: wheels are in the category known as "unsprung weight." Without explaining what that means, you will pay in lost performance for a heavier wheel, and you will gain in performance with a lighter wheel. Spend the money for a lighter wheel; or at least one that doesn't add weight.

5. Next thing to look at is your suspension. You don't have to go crazy here; several hundred dollars is all the investment that is required. The thing to remember is the role of the suspension is to keep the tires flat on the road. Tires are either grippin' or slippin' and they do a much better job grippin' if they are flat.



6. The first thing you want to do suspension-wise is lower your car. Think of it this way. Stand a mounted tire up

*Continued on
page 27*



Sweet Baby Jen . . .

photo by Ron Faust

I was going through some old photos and I thought I would send this one. This is our daughter Jen, almost age one in 1973, in her bucket in the back of our signal orange 1970 911T (Editor's note: this is the car I have featured as a Nord Stern cover when it was parked under a giant Redwood in California - still one of my favorite photos!).

We were on the way to Glacier National Park in a small road trip. Luckily, rear seat belt laws (not even the front ones) had been invented by then or we would have arrested for child abuse as well as speeding. I had gotten to Minnesota by then but was still sporting the badge of the Redwood Region, my first club. Poor Jen, you gotta have a little sympathy for the children of parents with bad car genes.

(Editor's note: As Ken Kamstra would say, no such thing as 'bad car genes! They are the stuff of life - o pun intended!' If you have a favorite car/child photo, do send them in to share with Nord Stern!)

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Track Car . . .

continued from page 25

on the driveway and push against the top of it until it falls over. Now stand it up again and push against the middle of the wheel until it falls over. How much more effort (or load) did it take the second time? Lowering the center of gravity, by lowering your car with a good set of aftermarket springs will greatly increase the loading it takes to roll your tires up off the track surface. A good set of anti-roll bars should go with the springs, and should be at least somewhat adjustable to help you deal with understeer and oversteer (sorry, this is not the article to detail this area, either).

7. When you have changed your suspension, re-align your car. Even when you have “only” changed the wheels, if the wheel offset has changed you **MUST** do a realignment of your entire suspension. Camber and toe will have changed significantly, and if you do not get these back into factory specs your results on the track will be anywhere from disappointing, to unpredictable, to dangerous. Do you want to set the alignment up for the track, rather than the street? No, not for now. Remember, this is still your daily driver.

8. Driving lessons and some experience...better tires...lowering your car...next thing you know, you will need to do a brake upgrade. You will be driving harder into the turns and using way more brakes than before. You will be going through pads, and you could easily be boiling brake fluid. You will know this when you mash on the brake pedal and it's all spongy. You see friction between the pads and rotors heats up enough to boil the stock brake fluid so that liquid will turn to gas, and gas compresses under pressure. That means no brakes...and that means **GET OFF THE TRACK**.

9. The first brake upgrade, then, is high temperature fluid. You will likely want to couple that with more aggressive brake pads. Do you need bigger rotors and calipers? Probably not yet. They can be expensive. Look at one step more aggressive pads, first, and experiment. Also, get some advice from others with a bit more experience.

10. By now, you're no doubt on a first-name basis with someone at a shop that is familiar with track cars. If not, find one. You will know the good ones by talking to your friends. There are probably more than one, so find the one that is the best match for what you want, and what you can afford. Go talk to the folks at the different shops and see who you like. Who takes the time to talk with you? Do any of these guys run with your club, or come to support your events? It's not a bad idea to support those who support you.

11. This point is out of sequence. It belongs up top, somewhere, but it will make more sense down here. Safety. You

can't participate without a helmet (you will find the lighter, more expensive ones are more comfortable). You shouldn't participate without a fire suit (again, the lighter, more expensive ones are more comfortable). You don't have to roll your car or be careless for it to catch on fire. You can simply go off in the dry grass and set that on fire...or a loose fuel line can wear through, dumping fuel onto a hot engine...I have seen both. Safety gear is cheap insurance in a sport that is dangerous enough not to ignore the easy ways to protect yourself.

12. Along with safety comes physical fitness. If you belong to gym, spend some time in an aerobics class and do



Too Shiney!

some pushups. Endurance and shoulder/arm strength get tested in performance driving. While you're at it. Do a few hundred reps—front, back, side-to-side—on the neck machine. A three pound helmet in a 3g maneuver is like a ten pound weight tugging at your neck. Be prepared, and as you begin to get more aggressive on the track watch out for signs of fatigue, including changes in vision and judgment. Drink plenty of liquids; watch out

for heat stress.

Now, with all the above in mind, let's say you're coming through your first or second season on the track. You've learned that some tracks are harder on brakes or tires than others. Some are more demanding and technical than others; some are more suited to horsepower cars, while others favor momentum cars. Are you going through more brake pads than you were at the start of the year? Is the rubber on your tires disappearing more quickly? Are you beginning to wonder if you should have a dedicated track car? If these questions and more are beginning to fill your head, then you may have left the slippery slope behind. Welcome to warmth of the dark abyss!

Though it may be dark, there are many friends in the abyss. Since you are in freefall, the slippery sense of the slope is gone. In the abyss you will be wondering:

- What kind of dedicated track car...and what do my buddies have?
- What kind of trailer to buy...open or closed? How much stuff does it need to hold?
- How many different kinds of tires do I need? How many sets of wheels?
- What goes into an annual track/racing budget, should I even keep track?
- Is there any way on earth that I can write some of this off?

Article courtesy of www.performanceINSIDER.com
Exploring the DNA of Performance™



Nord Stern member Shannon Ivey, #303, racing this past October at the Daytona Speedway at the inaugural PCA Club Race. As Shannon noted: "Another Great pit stop from the Johnson Autosport group good for 5th overall and 2nd in G class in the Orange run group Enduro!!" Thanks Matt.
Photo courtesy Color Tech Motorsports Photography

Annual Awards Banquet . . . Bravos Rather than Boos

submitted by Rick LaVerdiere

The annual Awards Dinner this year featured something old and something new - but nothing borrowed and nothing blue! Seriously, President Rick LaVerdiere honored several outstanding individuals and business' this year with the following awards:

- Volunteer of the year, Dale Trippler and Ed Tripet
- Rookie of the year, Jack Pierce
- Driver of the year, John McCarthy;
- Friends of Nord Stern Award, Carousal Porsche, Maplewood Imports, and Auto Edge
- Member of the year, Jon Beatty, John and Suzanne Dixon.

Congratulations to all of the above individuals. The awards are well deserved and each of them contributed to making 2006 one of the best years in Nord Stern's long history. It was year packed with great programming, lots of driving events and lots of social. Participations was up, number of events was up, and it just was a very fun year!

The additional awards were presented the respective Committee Chairs:

Rallye:

- 1st Place with 12.20 points is Jack and Jane Brock
- 2nd Place with 21.20 Points is Jim and Kari Benson
- 3rd Place with 21.70 Points is Rudy and Jayne Mueller

Driver Education and Autocross:

- Mens class B/Luis Fraguada 1st place
- Mens class D/Ron Lewis 1st place
- Womens class D/Kim Fritze 1st place
- Mens class I/Roy Henneberger 1st place

Concours:

Corey Johnson	356B 1963 Red	Full A 298	1st
	& Full Grand Champion		
Wally Duffy	356 1952 Blue	Full A 287	2nd
	& People's Choice		
Steve Lindemer	911 1965 Red	Full B 288.5	1st
Chris Runge	930S 1987 Red	Full B 288	2nd
Luis Fraguada, Sr	911 GT2 2002 Silver	Full E 290.5	1st
Neil Contrardi	911 2001 Red	Full E 287	2nd
Rhonda Cottrell	356B 1963 Red	Street A 153.5	1st
	& Street Grand Champion		
John Mayer	356 '56 Speed. Blue	Street A 153	2nd
Lon Tusler	356C 1965 Red	Street A 151	3rd
Bill Donald	912 1969 Silver	Street B 151.5	1st
Phil Saari	911 1972 Orange	Street B 151.5	1st
Steve Fountinelle	911 1976 Yellow	Street B 139.5	3rd
Jacob Wener	914 1973 Black	Street B 136	4th
Richard Hascall	944 1988 Red	Street D 147	1st
Jim Tourtillotte	924S 1988 Red	Street D 140	2nd
Chet Ellingson	997 2006 Black	Street E 142.5	1st
Ray Bentdahl	997 Turbo 2001 Red	Street E 142.5	1st
Dave Roberts	944TCS 1987 White	Race R 174	1st
	& Race Grand Champion		
Matt Lawson	944T 1987 Red	Race R 157	2nd
Walter Duffy	356A 1957 Silver	Race R 154	3rd

Nord Stern Business Meeting Minutes

November 14, 2006

submitted by Secretary Eleanor Renwick

President Rick LaVerdiere brought the meeting to order. He thanked all officers and committee chairs for their excellent service and dedication during this past year.

Recapping recent events of the year:

Social: reported a great Awards Banquet. Attendance was much greater than originally anticipated which meant a larger room was needed. Great work! The Holiday Party date has been rescheduled for Friday night, January 19- 2007. Two speakers have been retained for the event. Watch your Nord Stern for further details.

For next year:

Rules: the committee is expected to review current passing rules for probable revision and will have a proposal for the board's consideration.

Registration and Safety: working together on reducing paperwork, refining the tech form, and finalizing online registration.

Website: the committee includes Dave Anderson, Roger Johnson, Jack Pierce, and Rick LaVerdiere. These people will redesign and update features to include online registration. At the request of the present webmaster, the committee is seeking a new person for the position.

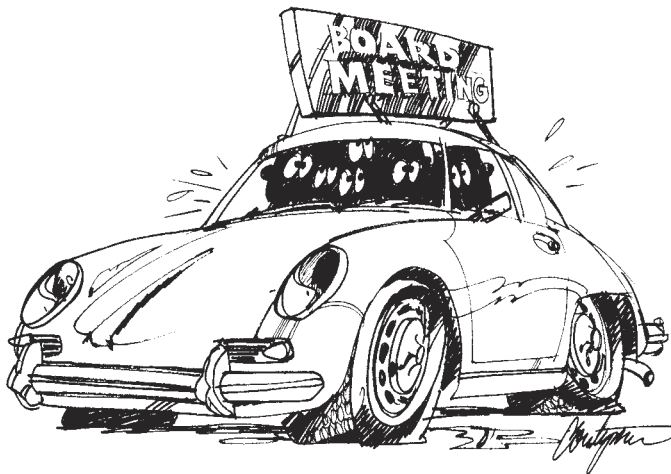
Bylaws: the Board will be revising them to reflect the way the club actually operates.

50th Anniversary: will commence working toward defining the events and activities for the celebration.

Incoming President, Cal Townsend announced the officers and chairs for 2007. At the January meeting they will work on event dates and plans for the year.

- President: Cal Townsend
- Vice-President: Pam Viau
- Secretary: Bob Barker
- Treasurer, Jeff Bluhm
- Advertising: Ed Vasquez
- Autocross/Time Trial: Harvey Robideau
- Board of Directors: Rick LaVerdiere, Ron Smith, Chip Smith
- BIR Relations: Rick LaVerdiere
- Charity Fundraiser: Keith Jones

- Concours: Dale Trippler
- Club Race: Roger Johnson
- DE Registrar: Keith Fritze
- Dealer Relations: Roger Johnson
- Driver Education: Andy Busche
- Driver Training: Jon Beatty
- Insurance: Michele Johnson
- Membership: Steve Sherf
- Met Council: Bob Kosky
- Newsletter: Christie Boeder
- Rally: Lon & Lorry Tusler
- Road America DE: Dave Anderson
- Rules: Chuck Porter
- Safety: Jim Bahner
- Shop Relations: Ron Johnson
- Social: Kim & Keith Fritze
- Taste of the Track: Bob Barker
- Timing & Scoring: Ed Tripet
- Touring: Sarah DeLong and Mike Lancial



Tech Quiz . . .

compiled by Skip Carter & Greg Philips of Grand Prix Region PCA, Long Beach , CA from Parade Tech Quizzes

911 (1978-1989) QUESTIONS

1. The 1974 Porsche 911 had new seats with:

- a. Built-in headrests
- b. Standard heated seats
- c. Racing belts
- d. None of the above

Excellence, Vol. 2, page 666

2. Porsche 911 engines for the 1974 model year were redesigned to use which one of the following:

- a. Hirth roller bearings
- b. Bosch K-Jetronic fuel injection
- c. 24 valves
- d. Water cooling

Excellence, Vol.2, page 666

3. In 1974 the Carrera line was split between pure racing models and a:

- a. Rally model
- b. Four seater
- c. Touring Carrera built for the road
- d. None of the above

Excellence, Vol.2, page 667

4. In 1975 the Targa was offered with a roof bar of brushed stainless or:

- a. Body color stainless steel
- b. Magnesium
- c. Boron steel
- d. Matte black stainless steel

Excellence, Vol. 2, page 672

5. The 1976 911's had _____ painted the same color as the body.

- a. Outside rearview mirrors
- b. Wheels
- c. Door handles
- d. None of the above

Excellence, Vol. 2, page 675

6. In 1976 all non-turbo Porsche 911 engines had high-speed ten-blade cooling fans.

True or False

Excellence, Vol. 2, page 677

7. The 912E had what kind of disc rotors?

- a. Vented
- b. Drilled
- c. Solid
- d. None of the above

Excellence, Vol.2, page 677

8. The 250,000th Porsche sports car left the assembly line in Stuttgart-Zuffenhausen on June 3, 1977. What model was it?

- a. GT3
- b. 987
- c. Speedster
- d. Coupe

Excellence, Vol. 2, page 681

9. The 1976 911 had an outside rearview mirror that was adjusted by means of a small toggle switch on the door capping and by electric motors behind the mirror.

True or False

Excellence, Vol. 2, page 675

10. What was the special edition 911S of 1975?

- a. Golden Anniversary
- b. Silver Anniversary
- c. Gmund Anniversary
- d. None of the above

Excellence, Vol. 2, page 671

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Answers:
1. a
2. b
3. c
4. F
5. a
6. F
7. c
8. p
9. L
10. b

For Sale . . .

Members of the region are welcome to place ads of a non-commercial nature at no charge for two months. \$10 for non-members. Submissions must be received by the 7th of the month prior to publication date: editor@nordstern.org

August 1989 Porsche 911 Carrera Coupe

3.2 1/6 cyl./215 HP/5-speed manual, all power extras, tail, electric sun roof, A/C, Hi-Fi sound system and CD. Special Silver Anniversary (25th) Edition and Alloy Wheels, decent Dunlop SP tires, 79,680 original miles, silver metallic color, spotless grey inside, full grey leather seats, not driven winters (I had a winter car), garage kept, no accident car is in excellent condition, exterior and interior, no scratches, no nicks, no dents, one of the



nicest you will ever find all records, service history available, clean CARFAX Vehicle History Report, brand new drive belts, new steering column bearing, recently new glass in both headlights after a rock had chipped one glass, VIN# WPOAB0917KS120797. The car is also listed in carsoup.com with another photo.

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1974 911 RSR Replica coupe

VIN WP0AA0911BS120071 Sunoco Blue with Silver Carrera graphics. 3.0 SC motor. Built on a 1981 SC chassis. 122,574 miles (no leaks), excellent oil pressure, even at idle.

Exterior:

Carbon fiber parts: hood, rear bumper, IROC whale tail...All other body panels in fiberglass from GT Racing, with the exception of the doors and roof...all painted Sonoco blue with tasteful amounts of carbon fiber showing. H4 Headlights. Side skirts. Finished with silver Carrera graphics and Clear Bra.



Interior:

Also in carbon fiber: dash, radio blank, door window sills, and inside door panels. Door panels have billet aluminum handcrafted door handles. Air conditioning, sun roof, electric mirrors and windows. Blue/black RSR type interior with blue/black Sparco seats with matching blue Simpson cam loc

seat belts (drivers side) and blue Simpson regular seat belts (passenger side). New blue headliner. Original weight 2900 lbs, now 2520 lbs.

Wheels:

9" & 11" Fuchs wheels with 245 x 40 x 17 front and 275 x 40 x 17 Bridgestone Potenza rears. Sonoco blue powder painted Titanium lug nuts. A fine example of an RSR with all the comforts. \$27,900.

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Joining the Nord Stern cadre of writers, authors, staffers, or whatever you want to call those willing to share their views, opinions, expertise and/or observations on all things Porsche and automotive-related is Ted Glaser from sunny Florida. I met Ted this past October at the Daytona Speedway while husband Bruce was stewarding the first-ever PCA club race at this amazing track. Ted is a long-time SCCA Starter and self-professed track junkie. He writes a monthly column for the local award-winning SCCA newsletter and volunteered to share them with us. It's with a great deal of pleasure that I introduce him to Nord Stern with this initial column - the breadth and depth of his involvement and knowledge of the automotive world is evident and I hope you enjoy this as much as Bruce and I did meeting him. Obviously, the opinions and predictions expressed within are Ted's and do not necessarily reflect any Nord Stern Club or newsletter positions.

Technology and Business:

The recently launched Aston Martin V8 Vantage has been hailed as the savior of one of the quintessential British marques. In fact the car is not as British as it seems: Aston is part of Ford and the Vantage engine is made in Cologne, Germany.

Ford is the latest in a long line of owners of the company famous for producing the cars of choice for James Bond and the Prince of Wales. It was founded in a London garage in 1914 by Lionel Martin and Robert Bamford, deriving its name from the hill climb at Aston Clinton, and the principal backer's last name.

In 1922 Aston Martins competed in the French Grand Prix and set world speed and endurance records at Brooklands. Martin left in 1925 and the next year a number of rich investors took control.

Throughout the 1920s and 1930s Aston Martins were handmade for wealthy owners who indulged in motor sport. In 1947 the company was acquired by the engineering tycoon David Brown, who merged it with Lagonda, a small sports car manufacturer. This heralded the golden era of the marque and the introduction of the legendary DB series with the DB2, which boasted the now familiar sleek lines and Lagonda's 2.6 litre engine.

It was followed by the DB4 and continued with the DB5 — James Bond's car — in 1963. In 1972 Brown sold to a Birmingham-based consortium that in 1975 sold to two American businessmen. The Americans produced the original V8 Vantage and the convertible Volante but sold to CH Industrial, which passed the company on to Automotive Investments in 1983.

One year later the company was sold to businessmen Peter Livanos and Victor Gauntlett before Ford ended the game of 'hot potato' and bought 75% of the company in 1987, acquiring the rest six years later.

Company car drivers in the UK are more than twice as likely to be caught speeding as other motorists. A study of 100,000 company car drivers showed one in six were captured driving too

fast last year, compared with just one in 10 of all motorists.

This means the UK's 2.7m company car drivers are paying out at least £26m (~\$48m) in speeding fines every year (based on the lowest fixed penalty charge of £60, ~\$111), according to the study by LeasePlan UK, a vehicle leasing company.

It may be their minds just aren't on the road; in a separate study by Lex Vehicle Leasing only 36% of company car motorists said they concentrated solely on driving while at the wheel. More than half (55%) use hands-free mobile phone kits.

Watch your Kellogg's cereal boxes for Ford Fusion toy cars. 600,000 will be given away.

A new "multi-function torque converter" for automatic transmissions has been developed by Germany-based LuK GmbH & Co. oHG. The new torque-converter design promises to improve fuel economy in the Environmental Protection Agency's city cycle by up to 6.9% simply by disengaging itself from the driveline during idle and going into "lockup" mode faster than a conventional torque converter during acceleration. LuK is in discussions with four OEMs in North America and two in Europe. Because of industry lead times, the earliest it could see production would be 2010.

Failure to design in quality is expensive. Ford Motor Co. spent almost \$4 billion in warranty costs last year — about 3% of its 2005 revenue, says Reale, based on U.S. Securities and Exchange Commission data. Overall industry warranty claims reached \$13 billion in 2005.

Ford Motor Co.'s upcoming 3.5L DOHC V-6, dubbed the Duratec 35, has room to grow to 4.0L or can drop down to 3.0L. It will power the upcoming Lincoln MKZ sedan and Lincoln MKX, Ford Edge and Mazda CX-9 cross/utility vehicles, will be used in a variety of upcoming Ford, Lincoln and Mercury products. The new engine will be built at Ford's Lima, OH, plant, which underwent a \$335 million overhaul in 2003 as part of the auto maker's flexible manufacturing scheme.

GM has dozens of highly successful alliances with other auto makers. Besides NUMMI (Toyota), it also is collaborating with BMW and DaimlerChrysler on a dramatically new hybrid-electric propulsion system. Additionally, GM also has successfully partnered with Ford and Chrysler to develop and manufacture transmissions.

'Big Brother' car insurance operations are being tested in the UK. Young drivers can save 40% on their car insurance if they agree to be home before 11pm and don't mind their insurer keeping tabs on them. More Than Insurance will offer the discount to drivers aged 18-25 who agree to have a telematics system (a black box containing GPS tracking and wireless communication technology) fitted to their cars. If the vehicle is driven between 11pm and 6am they will be charged an extra £25 (~\$46.25) per night. According to the insurer, young drivers are twice as likely



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to be killed or seriously injured in a car accident between those hours. It plans to recruit 2,000 volunteers between 18 and 25 years old as part of a trial of the new technology. Norwich Union was the first British insurer to use an in-car telematics system and GPS tracking. It is running a trial “pay as you go” insurance for young drivers, monitoring when they drive and charging a different rate per mile depending on the time of day.

Another UK inroad into automotive freedoms has been announced. A new government-backed system that would force vehicles to observe speed limits using an engine limiter is set to create controversy.

The Intelligent Speed Adaptation (ISA) device includes GPS and mapping to identify speed limits in any location. Last week it was demonstrated how it would work on motorcycles.

Riders will hear two warning beeps if they stray over the limit. When they reach 5mph over the limit their seat will vibrate. If they don't slow down the system will retard the throttle to slow the motorcycle down until it is at or below the speed limit.

The system can also be used in cars and there is speculation the system is the first step in government plans to force car makers to fit variable limiters. It was developed at the Motor Industry Research Association with funding from the Department for Transport.

Motoring organizations have warned that the system could hinder drivers trying to accelerate out of danger. A DfT spokesman said there were no plans to make the device compulsory in the UK.

There are reports that the Ford Motor Company is trying to sell Jaguar and Land Rover as a package. The US car giant would probably seek to retain a minority shareholding in the company, suggesting that the plan is to find a financial group rather than another car company to buy the business. Thus if the company could be turned around and made successful Ford could reacquire the business at a later date. There have been talks with car companies seeking a luxury brand, notably Renault. Hyundai has declined.

Peugeot's type 908 diesel-powered Le Mans car was unveiled at the Paris Motor Show on October 1. Peugeot Sport will have a staff of 120 for its Le Mans program, with a budget of 100 million Euros (~\$120mm) set aside to try and win Le Mans within three years. The 5.5 litre twin turbo V12 that will power a pair of Peugeot 908s at the 2007 Le Mans 24 hours is a 100 degree V12 twin turbo with a pair of Peugeot particulate filters. The initial performance figures are very impressive, with more than 700 bhp and more than 1200 Nm of torque. The 100 degree V-angle has been chosen to allow “the center of gravity of the engine to be kept as low as possible, without affecting the torsional rigidity of the package”.

Trivia:

The F-1 Grand Prix of Turkey at Istanbul is run in a counterclockwise direction as are the F-1 races at Imola and Interlagos.

Favio Briatore has become one of F-1s legendary team principals. After his success with Benetton and Michael

Continued on page 34

Ted's Trivia . . .

continued from page 33

Schumacher in 1994 and 1995, he repeated the trick in 2005 with Fernando Alonso. It was even stranger as he was an Italian running a French team and all the other championships this century had been won by a Frenchman running an Italian team.

Anniversaries:

To many, October 26 1997 - exactly eight years ago - was and will remain one of the most remarkable days in F1 history. A day earlier, first, second and third on the grid for the European grand prix at Jerez - Jacques Villeneuve, Michael Schumacher and Heinz-Harald Frentzen - had posted identical times in qualifying. The real drama, though, had yet to come. In a last-ditch effort to win his first championship for Ferrari - but with an ailing red car - Schumacher deliberately turned in on Williams' Villeneuve but only found himself beached in the gravel. Canada's 26-year-old won the title, and Schumacher later found himself disqualified from the entire season. At the end of the race, the synchronized swimming began. Villeneuve, who was leading, let first Mika Hakkinen and then David Coulthard pass him. It was a McLaren one-two and 1998 and 1999 world champion Hakkinen's first of twenty wins.



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Crystal Ball:

2007 - Mercedes vehicles in North America will have with Bluetec diesel technology.

Bluetec debuts in the U.S. aboard the '07 E320 sedan. In subsequent months, Mercedes plans to expand its U.S. diesel offerings with an ML320 CDI and R320 CDI, culminating in the spring with a GL320 CDI.

The vehicles are expected to benefit from the integration of AdBlue as early as 2008, in time for the '09 model year, says Bernie Glaser, Mercedes-Benz USA general manager-product management.

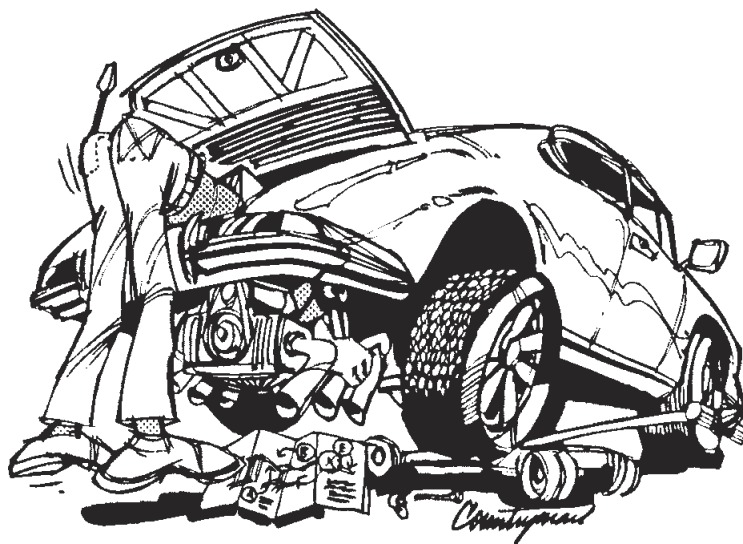
AdBlue converts oxides of nitrogen emissions to nitrogen and water by introducing a water-based urea solution to Bluetec's advanced after-treatment system. The system combines exhaust gas re-circulation with an oxidizing catalyst and particulate filter.

The addition of AdBlue would make Mercedes diesels Federal Bin 5 compliant and saleable in all 50 U.S. states, but first must be approved by the Environmental Protection Agency before it can be introduced. The urea-based solution must be replenished to achieve the desired results.

Mercedes officials anticipate this will be done at regular service intervals. (HAH),

2007 - BMW's upcoming X5 boasts a new six-speed automatic gearbox and BMW's adaptive drive system, which uses hydraulic anti-roll bars to improve handling.

See you at the races!





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