



NINES

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The SAAB Club Magazine



The Red Dog BMW and Pigs On Ice 9000 Turbo take a break on the ice of the MacKenzie River.

In the Arctic with Pigs On Ice

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Historic Competition

The Longest Day, 1980

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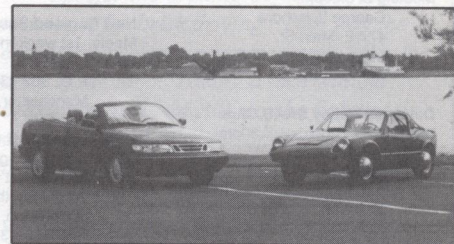
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Regional Club News

National Saab Owner's Convention

Aug 12-14 - Oconomowoc, WI.
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Central Penn Saab Club

July 31 - a touring picnic outing to East Broad Top Railroad.
Aug 21 - Last Rose of Summer Rally. Tim at 717/626-5264.

Western Penn Saab Club

July 23 - Pittsburgh Vintage Grand Prix Car Show. Swedish cars division, all vintage Saabs welcome. Andy Bittenbinder, 412/364-4780.

Pierce Town Saab Experience

Sept. 17 - Rally?, Algoma, WI
Brian Davitt, 414-487-5209

Milwaukee Saab Club

Sept 12 - Board Meeting
Sept 16-17 - Press on Regardless tour rally
Oct 23 - Lake Superior Pro Rally, Houghton MI

Minnesota Saab Club

Meetings on Aug. 4 & Sept. 1, at Professors, Har Mar Mall, Roseville.

New England Sonett Club

Aug 6 - Marcus Dairy Car Cruise, Danbury, CT, Bruce Turk, 914/778-2469.
Aug 27 - Boulevard Knights Car Cruise, Newburgh Mall, Newburgh, NY.
Sept 17 - Meeting at Rhinebaeck Aerodrome, Rhinebeck, NY,
Oct 9 - Out of the Woodwork, a sports car concourse and show for out of the ordinary cars. Sponsored by the TVR Club at Round Valley State Park, Lebabon, NJ. Info: 607/432-6276.

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Those wishing to submit articles or letters on 5¼" or 3½" IBM-formatted disks, please convert to ASCII text files (<filename>.TXT). Please include a printed hard copy, and a SASE if you want the disk returned.

Photos: Preferred format for photos is black-and-white, in 5"x7" or 8"x10". Good contrast color photos can usually be accommodated, no smaller than 3½"x5", please. Photos used on the cover will be rewarded with a one year subscription to NINES.

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Central Penn SAAB Club

Meets: 1st Tuesday, Bube's Brewery, Mt Joy, PA. Social hour at 6:30pm, Meeting at 8:00pm.

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Delaware Valley SAAB Club

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New England Sonett Club

Meets: 1st weekend in March, June, Sept. & Dec.
P.O. Box 4362
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Letters to NINES

Chicago to Orlando (& back again)

You'd never try something like this if you had enough money to fly there. In fact most people who have tried this would probably never drive straight through either. But then again, some people really like their cars (me), like to drive them (me), and really wanna get started with their vacation (me, Me, ME!). I think that last part was the true reason we drove non-stop. We were tired when we got there though, don't do it unless you sleep well in cars.

Back to the point of all this, though; love of SAAB's. We just bought a used one. A cool silver-green (I don't know the color name) '89 9000 CD. Has about 62,000 miles on it, and I can't tell it from new. But the idea of driving a car from Chicago all the way to Orlando didn't thrill me to say the least; in ANY car. If anything went wrong, we'd be talking to people who'd never seen a SAAB, let alone worked on one. I had a '83 900 once that needed clutch work in a town I didn't know where the mechanic I found opened the hood to take a look and said, "Sir, isn't this engine in here backward 'er somthin'?" (I drove away....).

Anyway, our 9000 had no problems at all. The car had plenty of room for our stuff and us to sprawl out in. Mileage was good - 26 to 27 miles/gal. None of that makes this car so appealing to me, it's more. This car makes me feel good about being on the road. Confidence is important on trips this long. I'd never tried a trip this long before, but I felt good about the drive. Several times I'd look around on I-65 and see nothing but a couple of cars way off in the distance, but I felt good. I knew I'd have no trouble. I'm sure that I could have, but I didn't. I love driving this car. It was nothing but a joy. Just set the cruise, lean back, & steer. I think I'll always love these cars, and probably will never buy anything else.

By the time we got into Florida, the temperature was almost 95. After 15 hours of driving we used the air conditioning for three more hours, and didn't even have overheating problems; which I was worried about too. Our SAAB kept us cool all the way to the end. I think SAAB deserves a big thank you; for designing such a cool



automobile, and not just a car to get you there. With such quirky beginnings, it's amazing how sophisticated these cars are today. I hope everyone feels as good about them as I do. I realize car parts wear out and break down, it's a fact. When my SAAB does, I'll fix it lovingly.

Todd VanHeirseele

Eyes on Swedish Design

Enclosed are a few pictures of some of the Saabs on display at the recent "Eyes On Classic Design" auto show at the Edsel Ford House in Grosse Pointe Shores, Michigan on June 19, 1994. The 8 Saabs were joined by 8 Volvos in the "European Style" (a Volvo?) category. Saab Cars USA sent the Long Run 9000, the Sonett II, the Sonett I, and a 1950 92. SCNA members provided the balance of the cars, with the spotless 1967 96 V4 of Joe Caparosa, as well as his 1973 Sonett III in attendance. Also appearing was the freshly-painted 1978 99 Turbo of Gary Stottler and my own 1985 900 Turbo. Unfortunately, the three awards in our category all went to the Volvos.

So, we're looking forward to seeing you at the convention and I'm anxious to hear how the Sonett II is coming along, as I can now relate to the experience of reviving an old one. Since last year's convention I purchased two project cars, a Sonett III (Andy Fedorowski's "Kermit") and most recently a 1961 96 (pictured in it's original garage) from the original owner. The Stroker sat for 15 years in a garage in the Saginaw, Michigan area, so the pan is about gone. Not such a big deal, but I am struggling with what to do with the rusty shock towers etc. Can't have it falling apart right away! The engine is free, though, and I even got a tow bar with

the deal. All for \$1! Lots of advice from the likes of Larry Williams, Pat Greer and Paul Becker have taught me a lot and made me believe that I may get it running by Fall.

Jim Laman
Holland, MI

Fastest cornering

You guys can answer this if anyone can. When going into a right hand turn at a good clip in a 3 door Saab is it better to apply the brakes lightly before the apex in order to transfer weight to the car's front tires thus avoiding the characteristic under steer of these cars, or is it faster to take the turn with equal weight distribution on all four wheels by not braking at all? The left foot braking method done carefully and especially on gravel is a great way to get a Saabs tail out, while avoiding understeer. But is it faster? Interesting huh?

David Cracchiolo
Grosse Pointe, MI

I prefer the braking-before-the-corner technique for brisk driving. That way the engine is accelerating immediately after the apex of the turn. Taking a turn without braking means you still may be fighting the edge of control after the apex which translates to a slower straightaway speed.

The left foot braking technique is usually considered fastest for competition purposes in a front-wheel drive car. It's how the Saab rally drivers were able to make faster times on stages than their higher powered opponents.

Easing on the brakes with the left foot while still under power causes the rear end to approach an oversteer condition and transfers the weight better for the corner. Since the front wheels remain under power

the brakes have little effect on the front, while the non-powered rears tend toward lockup. This technique also keeps engine revs high for better torque on exiting the corner.

Letting up on the gas when approaching a corner in a front-wheel drive car can induce oversteer as engine braking will cause the front wheels to slow faster than the rest of the car. This is where untrained drivers

usually get into trouble. The natural reaction when the car starts to slide is to stomp on the brakes. If the tires lock up, the car will slide at a straight line tangent to the arc it was in and skid off on the outside of the corner. Overcorrecting can lead to a rollover. The correct action if the rear starts to skid is to accelerate slightly to force the rear wheels back into line.

Got something to say about your Saab, the company, driving, the Saab Club? Send your letters to Letters to NINES, 2416 London Road #900, Duluth, MN 55812. Please limit your comments to about 300 words.

Drivers Strike Back!

Fed-up with unresponsive legislators and bureaucrats, drivers have gone public with their frustration.

Very public!

In what might be described as an "in your face" act, the National Motorists Association has bought billboard space on I-90, just outside Albany, New York. They aren't pulling any punches.

Albany was picked as the site for this billboard for three principal reasons: New York is one of the few states that refuses to raise speed limits on Interstate highways, it operates an administrative kangaroo court system for traffic cases, and it views traffic fines as a legitimate means to fund government services.

New York State is not alone in its abuse of motorists. Other eastern states such as Pennsylvania, Connecticut, New Jersey, Maryland, Rhode Island and Delaware have also turned a deaf ear to the legitimate complaints of motorists. All six states retain the 55 mph speed limit and view speed enforcement as a revenue collection tool.

James Baxter, President
National Motorists Association
Dane WI

Government attempts to play down impact of detector ban

Federal lawyers say the Federal Highway Administration's ban of radar and laser detectors from the nation's commercial trucks and buses is completely justified, but a motorists' rights group challenging the regulation charges that the agency failed to make a legitimate cost-benefit assessment of the rule and succumbed to political pressure from detector opponents in Congress.

The FHWA regulation, which went into effect last January, is the subject of a suit filed in the Sixth Circuit Court of Appeals by the Radio Association Defending Airwave Rights, Inc. (RADAR) and Ohio commercial driver Frank Figuero.

Responding to a Department of Justice brief defending the ban, RADAR points out the "record demonstrates that FHWA did not address important aspects of the problem, that FHWA failed to make a legitimate and 'practicable' cost-benefit assessment of the rule, and that FHWA reversed its prior position - without explanation - that no rule banning radar detectors should issue in response to political pressure applied by the congressional committee with jurisdiction over its budget."

Annapolis, Maryland, attorney Steven Resnick, representing RADAR and Figuero, makes these points about the FHWA's official response to the lawsuit:

- The agency has in the past acted only when there is a "demonstrated safety justification." In the case of this ban, the FHWA repeatedly conceded it could find no relationship between radar detector use and commercial vehicle accidents, and then abruptly discarded the agency's own professional evaluation of highway safety data in an attempt to justify the ban.

- The FHWA failed to evaluate the effect of the ban on the entire traffic stream. Observing that studies show that the risk of accidents is least when there is little variance between vehicle speeds, RADAR believes the detector ban will increase the difference between the speeds of commercial vehicles and passenger vehicles, increasing the risk of accidents instead of making roads safer.

- Only the "weakest attempt" has been made to justify the FHWA's flip-flop on the need for the ban. Abandoning the position that the agency needed data linking detectors with accidents, the FHWA decided that the secretary of transportation had the power to impose the ban anyway, even though 40 state legislatures (and Congress as a whole) have considered and rejected restrictions on detectors.

- While the agency argues it would be impracticable to conduct a proper cost-benefit analysis, RADAR points out that the FHWA could easily estimate the costs of enforcement but did not do so because the numbers would have worked against the arguments in favor of the ban. According to one estimate, it will cost each state an average of \$2 million annually to enforce the ban.

No date has been set to hear the case, although federal lawyers have attempted to prevent the court from taking oral testimony from both sides.

R.A.D.A.R.
Tipp City OH



Doktor Nio's Saab Klinik

Submit your questions with as complete information on the problem as possible, also giving the year and model of SAAB. Problems of general interest will be answered here. No requests for personal replies please. Questions which would require modification of, or would defeat Federally required emissions systems will not be answered. For a proper diagnosis, it is recommended that you contact an authorized SAAB dealer or repair shop.

Send your questions to: SAAB KLINIK, 2416 London Road, Unit 900, Duluth, MN 55812-2221

Cold Start Complaints

My apologies to the readers of NINES who are used to responses regarding cold drivability problems that are published in this column. I will try in this edition to cover all the faults, hints and remedies for LH fuel systems poor cold behavior.

The most common complaints heard are of poor idle quality and repeated stalling during cold engine conditions where the outside ambient temperature is above 50 degrees F. The majority of the models reporting this difficulty are equipped with the early LH 2.2 fuel system. This system is on the '85 thru '88 16 valve turbo engines and '86-'87 normally aspirated 16 valves. These systems can be identified by the metal air mass meter with a brass plug over the idle mixture screw, a dashpot (damper) for the throttle lever, and an AIC or IAC as the Feds insist on calling it, idle control valve with a three wire plug. The later LH 2.4 and 2.4.2 systems are not as prone to develop this cold engine syndrome. None of these systems can be tested properly without the use of a high quality multimeter used only in accordance with the manufacturer's directives. The multimeter must be of the type that will not draw any current from the circuit it is testing. Furthermore, all tests must be performed by probing the rear of the connector by peeling the boot back to gain access and the ECU or control unit must never be unplugged while the ignition is on or within 60 seconds of turning off the ignition. A fuel pressure gauge is invaluable for complete and through testing of these systems. Many tool suppliers such as Snap-On, K-D or Mac Tools offer the complete set for around \$250.00. An ignition dwell meter can be helpful to check the duty cycle for the AIC valve. As I have mentioned before, a twelve volt test lamp is a great tool for the do-it-yourself SAAB owner to have as well as a few jumper wires, some with a male terminal on each end and one with one male end and one alligator clip. Don't forget to use proper caution with open fuel lines and live ignition as I will not be held responsible for your beloved SAAB bursting into flames

or the resulting damage and injuries to you and your property.

Now that I have your attention, let's begin with the simple basics.

Inspect the ignition components. Spark plugs should be the type specified by SAAB. NGK BCP6ES for normal duty, low speed turbo and normally aspirated use. The premium version of this plug is the BCP6EV, again for all normally aspirated 16 valve engines and low speed turbo use. The BCP7ES and BCP7EV (premium plug) is suited for hard driven turbo engines. I will not recommend any other spark plug for these engines. The factory meets all applicable emission and fuel economy regulations utilizing the spark plugs that work best for all engine testing including the 50,000 miles emissions test. No one can tell me more testing time was spent in the 16 valve engines with their plug than the SAAB factory engineers with the NGK line.

The plugs should be gapped at .024". They should be tightened to a torque of 22 ft. lbs. This is imperative for a gas tight seal and proper heat range function. Inspect the plug wires for cracks or stiff insulation. The leads should have resistance values of 2000 to 4000 ohms. Do not replace the wires with anything but Bougicard OE wires. They are top quality. Inspect the distributor cap and replace it if contacts are burnt or tracer lines are apparent. Measure rotor resistance of 1000 ohms. If greater or the contact is burnt, replace it by breaking off the old rotor and pressing the new one in place with a spot of "Super Glue" or the equivalent.

Set the ignition timing according to the federal sticker on the left wheel house. Be sure to test for vacuum advance or pressure retard on turbos if so equipped. The later 900 engines have a crankpulley pick-up that has a habit of losing proper alignment and the basic timing setting will jump around. Check this closely on '89 and newer 900s.

Inspect the intake and fuel systems intergity. Remove the air filter cartridge and all intake hoses and pipes. There are a lot of them on the turbo engines. Clean all the

intake plumbing with carb and gunk spray, including the throttle throat and throttle plate, automatic idle valve hoses and the shutter in the valve itself. Inspect ALL pipes and hoses downstream of the air mass meter for splits, cracks or leaks, especially on turbo engines, up to and including the elbow hose clamped to the intake throat of the turbocharger. This last hose on the turbo intake houses the infamous "hooter" valve which is notorious for leaking vacuum. Test it by connecting a vacuum hose to the little nipple and drawing vacuum and see if it holds. If it does not, replace it. Be sure it is clamped securely in the hose. The pressure hoses that come out the top of the turbo to the intercoller and throttle plate on turbo engines should also be cleaned and checked for splits and cracks. Reassemble the intake plumbing making certain there are no misaligned pipes or clamps. Install a new air filter into the freshly cleaned air box. Once everything is in its place, the all important inspection of vacuum hoses is next. The vacuum hoses are the small black hoses, the diameter of a pencil, running from various ports on the manifold to points at the engine such as the fuel pressure regulator, the crankcase vent fitting and/or valve, the distributor vacuum control, heater control vacuum tank, the fuel evaporation control canister in the left front fender, etc. Carefully inspect each hose for cracks or splits and to the fit of the hoses to their respective fittings. Turbos have a nasty habit of blowing these hose connections apart under high boost.

Inspect all fuel hose connections to ensure there are no leaks, even minute ones that can depressurize the fuel system. At this point, change the fuel filter. Fuel filters have been ignored, especially on the 900 sixteen valve cars because of its location above the rear axle on the passenger side of the chassis. Clogged filters can shut the engine down suddenly and without warning but it may restart and seemingly run fine for a while.

Start the engine and check for fuel leaks at the filter before going any further!

Part II in the next issue

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In the past three months we have developed a love-hate relationship with our new 1993 Saab 900S. The problem is a couple of times a week the car won't start. The engine rolls over, I've checked the plugs and found them to be dry and lots of sparks. I then call for the tow truck and send the car back to the dealer. In every case the car starts first try for the service manager. We both agree I'm not flooding the engine and that whatever the problem is the tow ride resets the "whatever". The service manager tells me they can't fix it until it won't start for them and the defective part reveals itself. Do you have any ideas? Also, why can't they look and find the problem?

G. M. Johnson
Kanata Ont. Canada

Give your service manager a chance to experience the problem by leaving the car overnight and requesting a loaner. The '93 can be tested with ISAT, and fault codes, if any are available, can be brought up. Let him have the car under the exact same conditions as when you experience the problem.

I recently was given some 1990-91 copies of your very interesting Saab magazine and after reading them I decided to get your help in hopefully solving a dilemma that I have with my 1986 Saab 900 8 valve.

For a few years now I have had a problem with starting the car when cold, especially during the winter months. The Reading 128 Saab dealership has been of no help except to remove dollars from my account!

In order to start I have to turn the ignition on and off a few times then crank and immediately depress the accelerator. This exercise has to be repeated two or three times. If I attempt to start without touching the accelerator the engine will start and die!

With the car running and warmed up but with the headlights and foglights (or any load combination!) on and I come to a stop, the engine might run fine or suddenly shut off as if the ignition switch was switched off! Re-starting is no problem but if I'm stuck in traffic this can become tedious not to mention

wear and tear on the starter.

I did clean the contacts on the fuel pump relay, and yes I did try restarting while coasting using 2nd gear, but it seems the ignition has to be turned off-then-on in order for the car to start (using the starter). Please help me before the starter or I go!!

George Jakubowicz
Reading, MA

There must be a Saab or Bosch CIS technician close to you who can diagnose your problems. Leave the car with him for two or three days and have him take the following steps:

1. Check all routine tune-up elements from filters to valve clearance and ignition settings. Set mixture with a lambda meter.
2. Perform an injector pressure, spray pattern and leakdown test, then test line and control pressure.
3. Park the car outside overnight with fuel pressure gauge in place and measure values with the engine cold the next morning by jumping the fuel pump. Control and line pressures should correspond to the applicable graph in the service manual. Next, check the auxiliary air regulator and make certain the shutter is open when cold. Unbolt the cold start valve and bump the starter, the valve should spray. Install the valve and start the engine. Monitor the control pressure as the engine warms and see that the idle air is regulated as the temperature comes up. Obviously if fuel control pressure is not low enough when cold or the air regulator is not opening when cold, these regulator should be replaced. The same goes for the cold start valve though it is rare that the valve is at fault, it's more likely a wiring fault if it does not function.

When fault tracing cold driveability problems with the CIS system on eight valve engines always keep in mind that if the engine starts immediately then runs rough or dies, the cold start valve has brought the engine to life but the other systems are not set up properly. If it does not fire at all and you must grind and grind, but you are certain you have spark, then the cold start valve is not spraying the initial fuel to start the engine.

Professional Perspective

Education: Become Part of the Process

This same title was used by Gale Westerlund, Chairman of ASA (Automotive Service Association) for his column in the June issue of Auto Inc. The magazine goes to the independent repair shops and dealerships that you visit. Westerlund discusses quality repair work and the relationship of education in this process. He tells us to use the local technical colleges, I-Car (Inter-Industry Conference on Auto Collision Repair), voluntary certification programs, ASE (Automotive Service Excellence), and ASAMI (Association of Management Institute) which offers courses to the whole industry. He goes on to say that some of the manufacturers and suppliers of auto parts have some courses available. Good advice!

Our shop has used these sources for the 21 years we have been in business. Look at your own local shops. Notice the plaques from ASE Certification, various other training accomplishments and awards the technicians have earned. To be a technician today and not be educated would be extremely difficult. Experience is a good teacher, but there are many expensive lessons if that is the teaching method. And the consumer will likely pick up the tab for this type of education.

As technicians try to keep up with new developments, unless they can get car manufacturer training, they depend on suppliers and equipment manufacturers to offer courses to up date them on new equipment. That's not too bad if you work on Chevy or Ford. How many manufacturers of equipment keep up on the latest Saab introductions or who supplies these special parts for Saabs. NOBODY but Saab!

Those Swedes at Saab Automobile AB make one fine machine. Many of us here in the USA have come to appreciate them. But not all Saab owners are happy with their cars. Was it the design, quality or serviceability of it? In my experience the biggest complaint is the lack of repair service. Sometimes it is because of no service and sometimes poor or overpriced repairs. The alternative? You buy something that you can get fixed. It doesn't matter if it's a watch or a washing

machine. If it doesn't work, you'll buy one that does.

Saab Cars USA, Inc., seems to think that their 300 plus dealers can take care of most everyone's trouble. It seems they have underestimated the consumers though. In a JD Power and Associates survey, 45,000 people who bought 1994 model cars asked how well the dealer and sales people knew the cars, how well the cars were prepped and how they were treated when taking delivery. The average score for all makes of cars was 117. Saab dealers scored were ranked in 13th place at 131. At the top of the list was Lexus at 159, with Mercedes just above Saab at 134. The disturbing part is the other competition that ranked above. How about Saturn, Cadillac, Lincoln, Audi, Buick, Oldsmobile, Jaguar, Mercury, and Volvo. We're talking about educating dealers to do simple tasks here. These are not rocket formulas or how to make a Trionic system work correctly. It should be pointed out that Saab ranked above Acura, Honda, Nissan, Toyota and Volkswagon. The Saab dealers aren't that bad. But you have to be good today to survive - maybe the best when you're trying to sell a niche car.

Once you have your new car, you want good service and that means educated service people. Not all buyers are comfortable taking their car to the dealership, however. For reasons of geographic inconvenience, or just plain distrust of the dealership, owners often turn to independent repair shops, especially after the car is a few years old.

The independent Saab repair shops of America, for as long as I can remember, have asked Saab officials at the National Owners Convention about opening their training facilities to people other than dealerships. We always get the same answer. No!

During the roundtable discussion at the 1993 convention I asked when Saab would open more dealerships in Minnesota. Just a few years ago there were six scattered around the state, but now there are only two and both are in the Twin Cities. Anyone who lives outside the Minneapolis/St. Paul area and wants to own a Saab has to make special arrangements to get their car serviced at one of the dealerships.

The official reply was that Saab was looking for ways to extend it's dealer network in some areas of the country. Privately it was suggested that we should open our own school to train independent Saab technicians. Now some people may have had their egos inflated by that but I was insulted. How absurd! If we can't get

factory training for our own people from Saab, how could we have credibility training others in specialized areas that we aren't always sure about ourselves??! Give us a break.

We know that Saab has fixes for older cars that they sometimes share with their dealers but not with the independents. Old Saabs are seldom repaired by dealers. If the Saabs of this country depended on only dealer repairs, Saab would have failed in this country long ago. Saab needs us all!

I don't think Saab will ever have the consistent sales of new cars and resale values they would like until the whole country has a unified, trained force of independent and dealer technicians. Only Saab can stop the competition between independents and dealers and get the ball rolling. Most independents have never asked for free training. How much would it cost per class, per hour? Saab would have to decide, and technicians pay the price if they want the training.

Since Saab keeps telling us their franchise agreements keep them from doing many things, how about licensing service centers; independent shops who buy a service franchise, but no new car sales. Present dealers could maintain their status with satellite shops, if you will, feeding them new and used car buyers and also doing the warranty work so outlying areas would have authorized service.

How do you become part of the education process? When you meet anybody who's anybody from Saab (as at the National Convention), state your opinion. Demand answers. You want the best service for your Saab. Most of the technicians want to provide you with that also. We are using all the resources we have available at present. We would certainly like the chance to get the rest of the training.

By the way, I called the GM Training Center in Minneapolis. Since the General is kind of our daddy now, I thought I'd ask if he'd teach me the ropes. The initial response was no training for independents. The statement actually was "why should we train people to install NAPA parts?" But I then found out if I talked nicely to the instructor or someone other than the secretary, we might be accepted. Eventually, I was able to talk to a very helpful Lyle Pagel. He assured me that training is available to independents who buy and install Delco parts. Actually the AC Delco wholesale parts distributor

Continued on page 35

Notes in the Margin

Tire types

Saab OEM tire supplier "Pirelli" has one of the smallest customer bases in the US of any major tire producer, but it is one of the greatest contributors to education among U.S. auto enthusiasts. Saab Club conventioners are familiar with Pirelli's perennial vendor's table, technical sessions, and autocross support. The April, 1994, *Road & Track* magazine featured an article in which the writers were given a day's time at a Pirelli test track for back-to-back blind testing of different tire types. I urge the members to get a hold of that issue; I don't think we can overemphasize the importance of the tires in a car's handling pleasure and safety. All of the cornering and driving forces are transmitted through those four patches of rubber (except in mid-yump).

The same article touched on Bridgestone's "Blizzak" tire, which features a dual compound tread. The outer thickness is a soft, hydrophilic compound which is said to produce exceptional grip on ice and snow despite the relatively conservative tread pattern. When about half the tread is worn away, the portion made from a normal summer compound is exposed. This can provide the solution to the vexing problem of what to do with a snow tire when it is half worn and thus no longer suitable for deep snow and slush. You don't like using a "normal" snow tire in the summer because the soft cold weather tread compound, the aggressive tread pattern, and the internal construction cause poor handling. The Bridgestone, in its summer tire mode, need not suffer from those problems. It could even eliminate the need for two sets of wheels if your driving pattern results in wearing the summer tread away in a single season. Anyway, that is the theory.

Joel Kauffman reported in Nines #222 a disturbing observation that his Bridgestone Turanzas lost wet traction at about half tread, which occurred at well under half the "sticker" mileage rating for those tires. He traced this experience to a dual-compound tread like the one on the Blizzak. Perhaps the Blizzak is a better use for "dual-extrusion tread" technology.

Marketing

The 900 is being built in 3 body styles, with 4 engines, 2 interiors, and 2 1/2 transmissions (sonsonic counts as half). 8 of the 60 permutations are available in America or coming soon, and according to one Saab salesman, at least four of the eight are wrong. Quoting financial gossip columnist Dan Dorfman, "remember, this is one man's opinion," but here is what I was told:

The Saab repeat buyers are overwhelmingly choosing the Saab 2.3 engine (no surprise), but they show a strong preference for a leather interior. Guess what: at this writing, there are no leather 2.3 900S sedans. Conquest sales (i.e., the unwashed) insist on the V-6, but they are balking at the price point which results from leather, ACC, and sunroof being mandatory on all the V-6 models. Apparently the modestly priced "V-6 package" (V-6, alloys, and traction control) for the "S" is no longer available, leaving V-6 buyers with only the "SE".

What about a 2.3 coupe? The base coupe, in the catalog since Saab s/n 001, is available here but not in Canada (according to the sales brochure at the airport). And in the US, subtracting two doors to make a coupe adds \$1000 to the price! The club membership is already up in arms because the turbo engine is not available on the sedan.

Does the General have too many V-6's and do they expect Saab to solve the problem? Want leather in a 5-door? Have a V-6. Want a base coupe in Canada? Have a V-6. Want more power in a 5-door? Have a V-6 (and not much more power anyway). There is always a temptation to "drive" the market when supply is constrained (remember, the 900 is sold out for a year in Europe), but that practice always comes back to haunt you when that initial demand is satisfied and it is business as usual.

I realize the difficulty of importing every combination and permutation of models, features, and colors. Maybe offering some "special editions" is a solution. I remember the "25th anniversary" 1982 Turbo 4-door in metallic purple with color matched wheels and tan interior. More recent was the "Griffin" 9000CD model. Why not a Special Edition 4 cylinder with leather and sunroof in green only, or 5-door turbo in red or black only. (I prefer white, myself.) Or even a Canada to US Certification Kit, available to dealers, to widen the model choice to us on the "North Coast." Maybe Saab of America will sharpen its focus now that its leader is also an officer of Saab Automobile AB.

DIY Tools

Making a "pressure bleeder," vital for bleeding and flushing the clutch hydraulics, from a brake fluid reservoir cap, a brass soccerball air-fill needle, and a bicycle hand pump is an old trick. I found a 5/64" drill to be the right size for carefully drilling out the vent hole to accept the needle for my '91 turbo's first biennial brake fluid change. I use a large exacto knife handle to hold the drill bit and turn it in by hand for precise drilling in soft materials, like plastic. As a final step, I cut off the needle and put the stub back in the hole. This maintains the small size of the original vent hole to reduce the chance of dirt, water and/or oil from entering the brake system. The cut-off needle stands a bit above the cap, providing even more resistance to contamination.

During the process, I became sensitive to a special need for regular fluid changes with the ATE ABS system. As the fluid accumulator fills and bleeds down, the brake system "breathes", resulting in much more exposure to atmospheric moisture than in regular systems. It is also a reason to make sure the cap is always clean. Many brake systems are semi-sealed, like the one on my van which has a sheet of rubber between the reservoir and the cover. The rubber can dish in or out to handle atmospheric changes, and air seepage is sufficient to handle the fluid level change as the pads wear. Such a seal wouldn't handle the large level changes associated with charging the accumulator, but a "rolling seal" like they have inside the pressurized struts (that's why they can hold pressure for years) would work. Then add a little RTV on the master cylinder and caliper dust boots and we have a completely sealed braking system, extending the flush interval.

Another old trick is using a plastic oil bottle with the bottom cut off as funnel for pouring oil in. I keep one capped empty bottle (intact) each time I change oil and throw out the "used" funnel. This reduces the mess potential on the shelf, and I always have the "raw materials" for a new funnel.

Tridon, the supermarket wiper blade company, distributes (to supermarkets) turn signal relays which work in SAABs for about 10 bucks. I have never had a Bosch last 100,000 miles, and they are not cheap. In the interest of science I have voided my flasher warranty by installing a Tridon. Tune in 8 years from now and see how long it lasted.

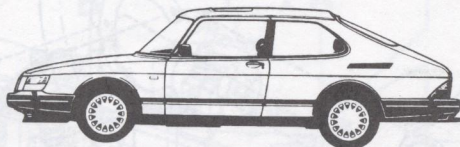
Stephen Goldberger

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Service Subjects from Saab

Recall 278

Overheating of Back-Up Light Switch - 9000 A/T

PSI 05/94-0466, Sec 9, Page 5
 Supersedes PSI 06/90-0010
 Application: 1986 - 1990 9000 with Automatic Transmission

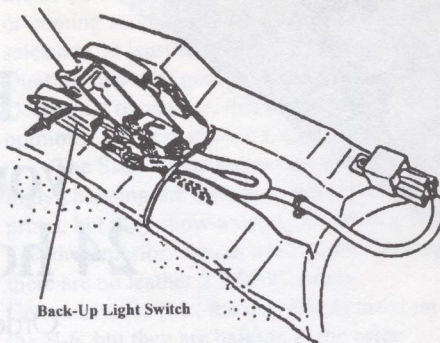
Saab Cars USA, Inc. has notified the National Highway Traffic Safety Administration (NHTSA) that a defect which relates to motor vehicle safety may exist in certain 1986, 1987, 1988, 1989, and early 1990 9000 models with automatic transmissions. Approximately 24,000 vehicles were originally affected.

The defect consists of the possibility that the combination neutral safety/back-up light switch may overheat from the current flow through the back-up lamp circuit when the ignition is switched on the automatic transmission selector lever is in the Reverse (R) position for long periods of time. If overheating of the switch assembly does occur, smoke, or possibly, fire could develop in the center console area of the passenger compartment even if the engine has been switched off.

These cars were recalled to modify the back-up light wiring circuit to reduce the maximum electrical current flow through the neutral safety/back-up light switch, and to replace the switch.

This bulletin was re-issued in May 1994 to include information on a special follow-up notice to owners of affected vehicles not yet modified according to Saab's records. To owners of affected vehicles, Saab recommends the following advice until this recall work is completed: Refrain from extensive idling, particularly while the gear selector is in the Reverse (R) or Park (P) position. Should you see or smell smoke coming from the center console or dashboard area:

- 1) pull over to the side of the road as soon as it is safe and possible to do so;
- 2) promptly shut off the ignition and evacuate the vehicle;
- 3) do not attempt to restart the vehicle; and
- 4) immediately contact the nearest Saab dealer.



Back-Up Light Switch

Vehicles Affected By This Recall:

1986 through mid - 1990 9000S, Turbo and CD Turbo models with automatic transmission as follows:
 VIN Serial No. G1000001 - G1011813
 VIN Serial No. H2000001 - L2008735

IMPORTANT! Revised Procedures

This PSI includes some differences in procedures from S.I. 03/90-1226. Please note that in all Recall 278 repairs made henceforth:

- The neutral safety switch should be replaced instead of inspected.
- There is a revised location for the placement of the eight-pin connector that is part of the modification wiring harness.
- The routing of the wiring harness that leads to the eight-pin connector has been changed on 1986-89 cars.

Saab Parts and Service Information updates are provided to NINES as a courtesy to Saab owners by Daniel L. David, General Manager, Service and Parts, Saab Cars USA, Inc.

Recall 285

Replacement of Front Disc Brake Shields - '94 900

PSI 05/94-0467, Sec. 9, Page 6
 Application: 1994 900 3- & 5-door models

Saab Cars USA, Inc. has notified the National Highway Traffic Safety Administration (NHTSA) that a defect which relates to motor vehicle safety may exist in certain 1994 900 3- and 5-door Saab 900 models.

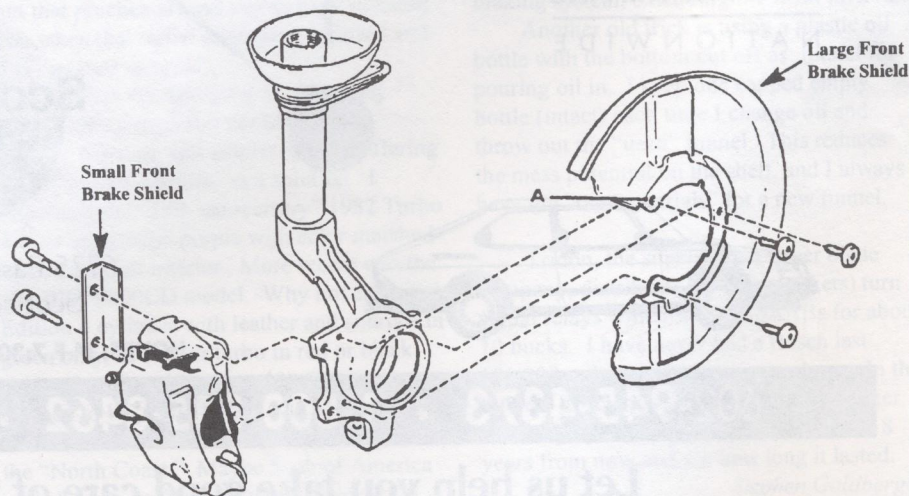
It is possible for the brake pads and discs to become coated with a layer of slush, road salt, or water while driving in snow or heavy rain conditions. This coating could result in a short delay in braking action that increases the normal braking distance. The existing front brake shields are to be replaced with a newly designed part to prevent this possible coating from occurring.

Vehicles Affected By This Recall:

1994 900 models within the following VIN Serial No. Ranges:
 R2000001-R2028886

Parts Required:

Front Brake Shield Kit 89 94 022



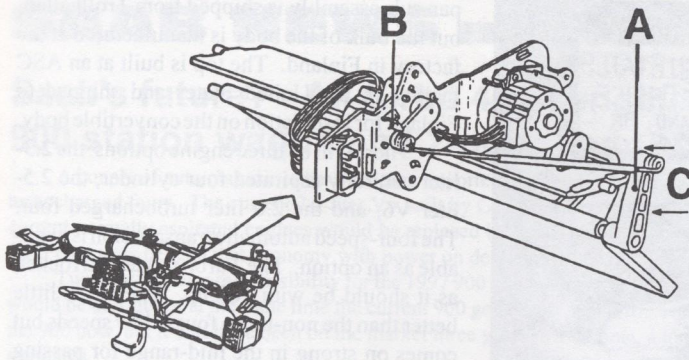


Figure 1. Air-Mixing Damper

Air Mixing Damper

PSI 05/94-0464, Sec. 8, Page 86

Supersedes PSI 12/92-0282

Application: 1990-92 9000 with ACC2

On cars equipped with a second generation automatic climate control system (ACC2), it has been found that the stepper motor actuating the air-mixing damper can have too wide a range of movement. In some instances, this could lead to breakage of one of the damper levers. See Figure 1-A.

A spare lever made of steel had been produced so that the damaged dampers can be easily repaired. The spare lever can be used if the air-mixing damper has been damaged within the marked area. See Figure 1-C. If the damage is located outside this area, the whole damper must be replaced according to the instructions in this bulletin.

A rubber bushing is fitted on the limit stop nearest the switch (Figure 1-B) in production as of VIN Serial No. N1042529 which limits the range of movement.

Cars Affected

1990-92 9000 models with ACC2 up to VIN Serial No. N1042558, inclusive.

Parts:

Kit	74 96 433
(includes: Rubber bushing	P/N 43 82 826
Steel lever	P/N 43 83 857

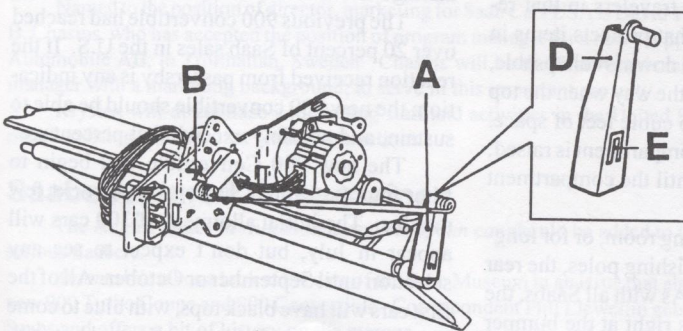


Figure 2. Installing steel lever

Action:

Installing steel lever:

1. Switch the ignition on.
2. Select "LO" on the ACC unit.
3. Switch the ignition off.
4. Remove the cover from the bulkhead partition space.
5. Disconnect the cable from the damaged part of the lever.
6. Slip on the lever. See Figure 2-D.
7. Fix the steel lever by pressing in the locking tongue. Figure 2-E.
8. Refit the cable and press the clip in place.
9. Refit the cover on the bulkhead partition space.
10. Remove the ACC control module from the dash.
11. Slip rubber bushing P/N 43 82 826 onto the rear limit stop of lever. See Figure 2-B.
12. Position the ACC control module in the dash.
13. Calibrate the ACC control module by switching on the ignition then pressing "AUTO" and "VENT" at the same time.

Replacing the air-mixing damper:

On 1991 and earlier models:

1. Lift the fan housing out of the car. See Service Manual Section 8:3, M1985-88-.

On 1992 and later models:

1. Lift the evaporator housing of the car. See Service Manual Section 0, News, Model Year 1992.
2. Remove the air-mixing damper. See Figure 3-2.
3. Position the new air-mixing damper.
4. Refit the fan housing/evaporator housing in the car. See appropriate service manual.

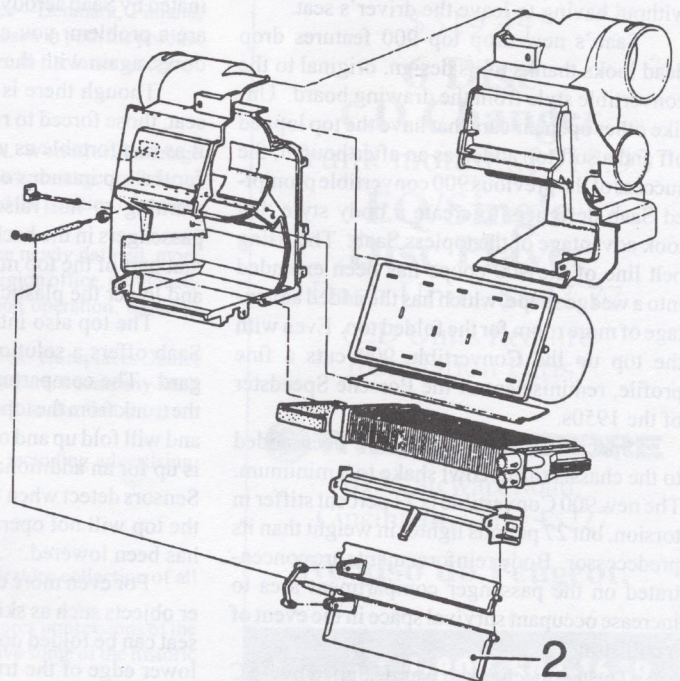


Figure 3. Replacing air-mixing damper



From Finland to Finland

It's a sunny day on the Scandinavian Riviera (a.k.a. the North Shore of Lake Superior) and a 1995 900 Convertible beckons. Slip an "Ace of Base" cassette into the player (after all, they're from Gothenburg, Sweden) and let's go for a ride. Snap the two latches at the top of the windshield, hold the switch on the console for about 30 seconds, push another button to lower all four windows and we're off! All without having to leave the driver's seat.

Saab's new drop top 900 features drop dead looks thanks to its design, original to the convertible style from the drawing board. Unlike other open air cars that have the top lopped off and a soft top added as an afterthought, the success of the previous 900 convertible prompted Saab designers to create a body style that took advantage of the topless Saab. The rising belt line of the 900 coupe has been extended into a wedge shape, which has the added advantage of more room for the folded top. Even with the top up the Convertible 900 cuts a fine profile, reminiscent of the Porsche Speedster of the 1950s.

Special reinforcements have been added to the chassis to cut cowl shake to a minimum. The new 900 Convertible is 73 percent stiffer in torsion, but 27 pounds lighter in weight than its predecessor. Body reinforcements are concentrated on the passenger compartment area to increase occupant survival space in the event of a collision.

The top mechanism was designed by ASC in Michigan in conjunction with Saab engineers. A micro-computer-controlled system of electric motors carefully guides the cloth top into its protective well, then locks the flush,

hard plastic boot into place for added aerodynamics. And all it takes is the push of a single button. The problems that made convertible tops such a pain that they nearly disappeared with the advent of cheap air conditioning in the 1970s are history. Open air motoring is now a pleasure.

Wind buffeting, another problem associated with convertibles, has been virtually eliminated by Saab aerodynamicists. If cross winds are a problem, you can always raise the windows, again with the touch of a single button.

Though there is room for two in the rear seat, those forced to ride in the back won't find it as comfortable as up front. The mechanism for the top intrudes on the sides, and there is a warning to not raise or lower the top with passengers in the back due to a forward motion that part of the top must make in order to raise and lower the plastic cover.

The top also intrudes on trunk space, but Saab offers a solution for travelers in that regard. The compartment that protects items in the trunk from the top when down is collapsable, and will fold up and out of the way when the top is up for an additional two cubic feet of space. Sensors detect when the compartment is raised; the top will not operate until the compartment has been lowered.

For even more carrying room, or for longer objects such as skis or fishing poles, the rear seat can be folded down. As with all Saabs, the lower edge of the trunk is right at the bumper height so liftover is minimal.

As with the previous convertible, the new model is assembled at the Saab-Valmet factory in Uusikaupunki (Nystad), Finland. The floor

pan sub-assembly is shipped from Trollhattan, but the bulk of the body is manufactured at the factory in Finland. The top is built at an ASC facility in the United States and shipped to Finland for installation on the convertible body.

There will be three engine options: the 2.3-liter naturally aspirated four cylinder, the 2.5-liter V6, and the 2.0 liter turbocharged four. The four-speed automatic transmission is available as an option. The Turbo model is a rocket, as it should be with 185 hp. The V6 is little better than the non-turbo four at low speeds but comes on strong in the mid-range for passing power.

Instead of flying your humble editor to some exotic locale to drive the new Convertible, Saab's new head of public relations, Elke Martin, chose Duluth as the site for the intro. Mid-June weather (heck, all summer weather near the Great Lakes) can be unpredictable, even from day to day, and a breeze off the large heat sink known as Gitchee Gumee can drop temperatures in the city to 20 degrees lower than surrounding countryside. Fortunately, Mom Nature provided temps in the 70s and 80s, a relief for journalists from Detroit who had just come from a week of 90-plus.

The planned route took us to Ely, gateway to the Boundary Waters Canoe Area Wilderness, but yours truly veered slightly, adding another 30 miles to the odometer and pausing in Finland, Minnesota, for some photos. Minnesota Highway 1 between Finland and Ely is very similar to terrain in Saab's homeland, and the road is coiled ribbon with only a few places available to pass senior citizens in Buicks. The posted speed limit is 50 but it's difficult to maintain in the best of cars, which would have to include the 900.

Also similar to Sweden is the Minnesota wildlife, and Martin, riding along with Saab's Dan David, had a close encounter with a moose. Happily the encounter was only close and the Saab folks got to see their first moose without damage to car or critter.

The previous 900 convertible had reached over 20 percent of Saab sales in the U.S. If the reaction received from passersby is any indication, the new 900 convertible should be able to sustain, and possibly exceed, that percentage.

The new 900 Convertible will begin to filter into the United States over the next few months. The initial allotment of 300 cars will appear in July, but don't expect to see any selection until September or October. All of the first cars will have black tops, with blue to come later in the year and a tan top planned but with no introduction date as yet. Pricing starts at \$31,990 for the 900S Convertible.

Tim Winker

SAAB NEWS

Saab's future? - All turbo 4-cyl engines, 900 station wagon and 2-door body styles

A couple of auto magazines have recently reported that the future for Saab engines consists solely of turbocharged fours. The current 2.5 liter V6 built by GM would be replaced by a twin-turbo four, and the current normally aspirated engines would be replaced by a 150-hp turbo powerplant dubbed "Eco-turbo". Saab engineers believe that economy with power on demand will be the future of automotive engines.

Two new models are a possibility for the 1997 900 lineup - a sports wagon and a two-door coupe. They would be introduced at the same time the current 900 gets a minor facelift. The new may not have worn off the 900 now, but it will have been on the market three years by that time, a long period by current industry standards.

Don't look for the Sensonic clutchless manual transmission on the new 900 Turbo anytime soon in the U.S. It may be available in a few areas in the Spring of 1995.

9000 Named Safest Car in Sweden for 3rd time

Folksam Insurance Company, Sweden's largest automobile insurer, has selected the Saab 9000 for its Safe Car Award for the third consecutive time. According to Folksam's latest study, the 9000—including both hatchbacks and sedans—is 65 percent safer than the average car on Swedish roads. Folksam also recognized the Saab 9000 as Sweden's safest car in its two previous studies, conducted in 1990 and 1992.

The insurer has determined that the most reliable means of assessing the safety of today's broad range of new cars is to evaluate personal injuries in real-world accidents, rather than focus solely on controlled laboratory tests. Findings in Folksam's current study are based on nearly 100,000 actual accidents in Sweden between 1985 and 1993.

New 900 awarded Scandinavian Design Prize

Since the debut, the 1994 Saab 900 has blazed a now well traveled trail to the winner's circle. Recipient of numerous industry accolades and awards, the all-new 900 5-door has now added the prestigious Scandinavian Design Prize 1994 to its portfolio of world-wide honors. The award was presented at the May 5, 1994, Design Forum in Helsinki, Finland. At the ceremony, Saab was commended for designing "a technological, innovative and above all 'human-oriented' car."

The Scandinavian Design Prize is annually awarded to companies that best define and execute the crucial relationship between design and industrial innovation, while at the same time highlighting Scandinavian identity. National design organizations in all four Scandinavian countries—Denmark, Finland, Norway and Sweden—nominate candidates for the competition, and one winner is chosen in both the product and corporate category. The Lillehammer Olympic Games received the Design Prize in the latter category.

Recent Appointments at Saab Cars USA

William A. Worrell has been named central region manager for Saab Cars USA. Worrell will manage Saab's regional field staff, including both district sales managers and service and parts managers. Prior to this assignment, Worrell served as Saab's sunbelt marketing manager. He has also held the position of eastern region district manager.

Worrell's appointment follows a restructuring of Saab's four regions into three newly defined, more efficient areas of operation—the western, central and eastern regions. Saab's central region office, previously located in Elk Grove Village, Illinois, has been merged with Saab's southern region operation, based in Norcross, Georgia.

Named to the position of director, marketing for Saab Cars USA is David T. Krysiak. He replaces Daniel B. Chasins, who has accepted the position of program manager for a new car project at parent company Saab Automobile AB, in Trollhattan, Sweden. Chasins will be the first American, as well as the first program manager with a marketing background, to serve in this important capacity.

Krysiak will direct Saab's marketing staff and activities in the United States, including advertising, merchandising, and product planning functions.

Saabs featured in magazines

The August issues of *Automobile* and *European Car* should be added to the literature collection of all serious Saabers.

Automobile takes a look at the cars of the Saab Museum in an issue that also features impressions of the new 900 Turbo Coupe and 900 Convertible. Correspondent Phil Llewellyn gets to drive some of the historic Saabs and offers a bit of history on the marque.

Two Saabs grace the cover of the latest *European Car* - the new 900SE Turbo and Ove Hasselberg's mid-engine, rear-drive 900 Turbo. (I've been trying to get someone on the left coast to write about the latter for about a year.) Former Saab rally champion and current goodwill ambassador Erik Carlsson is profiled in the same issue of *ec*.



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GRACE ON GLAZE

Ahh, the lure of the Alcan.

In my previous episode on the Alcan 5000 Rally (NINES #208, Nov 91) I closed by saying I was making plans for the 1992 Winter event. I wasn't able to participate due to commitments to run another couple of long-distance rallies in '92, the Downeast Rally and One Lap of America. Regular calls from Satch Carlson kept my interest up to run the Alcan Rally one more time.

Jerry Hines may be the person who does the legwork to lay out the course and set up the hotels for all the competitors, but Carlson is the unofficial publicity person. Satch's influence accounts for about half the people involved in running the Alcan. This year, Satch signed on to navigate for rookie driver Steve Norman, owner of BMW Seattle, in a BMW 325ix, the all-wheel drive model. Satch's brother, Dennis Gunn, was the third team member for the BMW.

Satch has two cars that are prepared for running the Alcan; a black 1987 Saab 900 SPG - the same car that Satch, Russ Huntoon and I drove to second place in 1991 - and a white Mazda 323GTX. If at all possible, he rents these two cars out so that others who don't have the time, money or desire to dedicate their own vehicle to Alcan prep can still participate. Both cars made the trip this year, the Mazda crewed by the father-son team of R. Dale Kraushaar and Russ Kraushaar with Jules Moritz as third driver, and the Saab covered by the husband-wife

team of Jim and Christy Breazeale and Alcan veteran navigator Adrian Crane.

Sponsor for the Alcan this year was Isuzu, who provided a Rodeo as a sweep vehicle, a couple more Rodeos for filmmaker John Corser, and a Rodeo entered for race car drivers Paul Dallenbach and Johnny Unser. With Carlson's help, Isuzu hired ace navigator Tom Grimshaw for the Rodeo team.

While the Dallenbach, Unser, Grimshaw Rodeo was certainly a favorite, there was



another team that stood an equal, or possibly better, chance of winning the whole thing. That was a factory-backed Ford Explorer with Billy Edwards doing the driving, and Alcan veteran Greg Lester navigating. Along for the ride was Jim Shahin, a writer for American Airlines magazine. Billy is a driving instructor for Track Time Driving Schools and always a front running competitor at events like One Lap of America. (Those who attended the 1992 National Saab Owners Convention in Columbus, Ohio, may remember Billy as the guy who conducted the driving school.)

The early plan for Saab Club involvement was to get Saab's P.R. department to put up a new 900 (or better yet, several new 900s) to demonstrate the capabilities of Saab's Traction Control and anti-lock brakes under poor weather conditions. Russ Huntoon put together a proposal for he and me, with Reno Saab dealer and former Pro Stock drag racer Brad Yuill as third team member, to pilot the Saab.

There was tradition to be upheld, we reasoned in our proposal. When the first Saabs rolled off the assembly line in late 1949, a couple were immediately prepped to run the 1950 Monte Carlo Rally and both finished that famous event. When Saab Motors was established in the U.S. market in 1956, a three car team was entered in the Great American Mountain Rallye, with the Saab 93 driven by Bob Wehman and Louis Braun winning the rally overall. Saab took the GAMR team trophy as well with factory test driver Rolf Melde and Morrow Mishkin finishing 6th, and a third Saab driven by the husband and wife team of Jerry and Doris Jankowitz in 17th despite the handicap of a broken speedometer cable.

The Saab rally tradition should be continued! A new Saab model should participate in a winter rally, and not just any winter rally, but The Alcan! 4,000 miles through the Canadian wilderness and the Arctic! But the Saab PR department said all the cars they use for such promotion were in the hands of journalists for test drives and they couldn't free one up for the length of time required to outfit it and run the rally. Of course if we wanted a car for a golf or tennis tournament, the marketing department could provide one. But an event where humans would actually be driving a Saab? Sorry, that isn't how cars are marketed in the '90s.

Rallymaster Hines called a couple of weeks later with a carrot. A friend of his, Jerry Lietch, had a 1986 9000 Turbo that was outfitted to run the Alcan, but Lietch couldn't



"We're off on the Road to Inuvik..." The Saab teams pose at the Arctic Circle crossing. Wind chill was about -80°F. L to R: Blackbird 900 - Adrian Crane, Christy and Jim Breazeale; Pigs On Ice 9000 - Brad Yuill, Russ Huntoon & Tim Winker.

participate because of other commitments. Would we be interested in renting the 9000? A deal was struck, the folks at Saab kicked in some sponsorship money (I take back any disparaging remarks made above), and the team made plane reservations for Seattle.

I arrived a couple of days early to do some last minute work on the 9000 and pick up supplies. And as long as I was in Seattle, I wanted to get together with members of the Northwest Saab Owners group to schmooze and share Saab tales between rallyists and other Saab folks. My preference was to meet at one of the popular Seattle brewpubs or micro breweries, Red Hook if it could be arranged. Imagine my surprise to find out that Jim Breazeale, who would be driving the Blackbird 900, is a brewer at Red Hook. Arrangements were easy, and we got the cook's tour of the brewery to boot. Several Northwest Saabers showed for some fine beer and good conversation.

The Alcan has a reputation of being loosely organized. That is, due to rubber mileages and other gray areas, the rally has never achieved the status it probably deserves. Several nationally ranked rallyists have run the Alcan and vowed not to return when they have encountered these problems first-hand. As a result, anyone has a chance to be competitive, including our 9000.

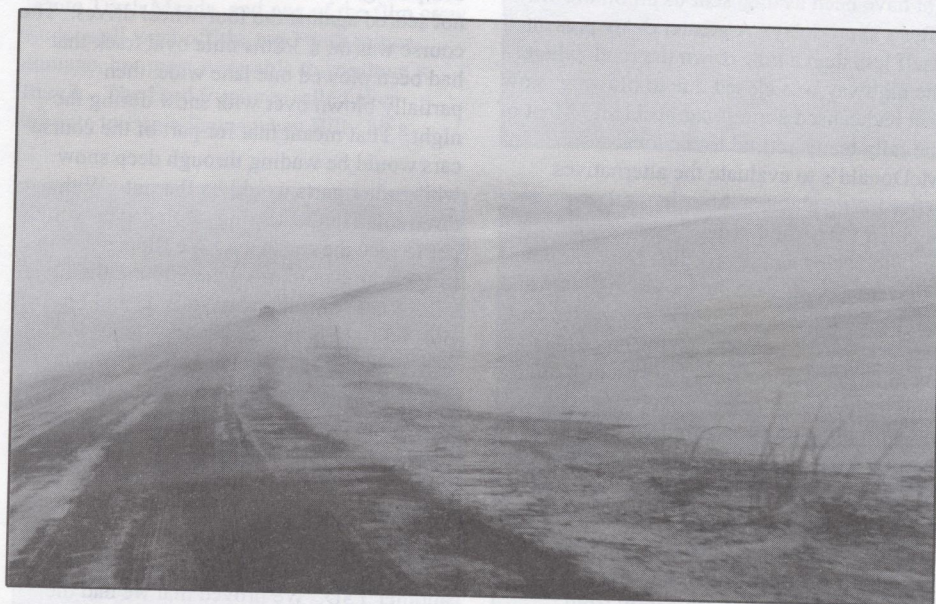
It was raining in Seattle as we left the West Coast Camlin hotel on the morning of February 25. The foul weather turned to snow as we moved into the lower reaches of the Cascade mountains in preparation for the first of many time-speed-distance (TSD) rally sections that make up the bulk of the scoring on the Alcan. By the time we reached the start of the TSD section there were several

inches of heavy, wet snow covering everything, especially the road. Our speed for the first several miles was 48 mph, perfectly legal and just a bit brisk when road conditions were dry. With the snow, the drivers had their hands full trying to keep up.

We were car 7, which meant we started six minutes after car 1. Russ was to drive, while I would be flipping the switches on the Timewise rally computer. Car 6 was a Chevy Blazer, unfortunately not well equipped for the rigors of the Alcan. We caught and passed the Blazer in the first mile. Russ was able to stay pretty close to on-time until a steep uphill section later in the rally section. The given speed was only 35, but uphill in a front-wheel drive car on snow is not a

terribly good combination. We found out later that we had actually scored pretty well on the section, but one checkpoint was removed from the scoring, and everyone was allowed to drop their worst first day score, which immediately dropped us from third to sixth place.

Since all of the competing vehicles and worker vehicles were equipped with business band and citizens band radios, we were able to stay in contact over many miles, particularly on the business band. As with CB, all of the teams were best known by their radio handles. The black 900 was, of course, the Blackbird; the Mazda was again White Trash; Dallenbach, Unser and Grimshaw in the Rodeo were the Jerky Boys; the red BMW



The desolation of the Dempster Highway. White and gray are the true colors.



Blackbird at the Quesnel Solo. The roof rack carries extra tail and brake lights.

with Satch, Steve Norman and Satch's brother Dennis Gunn was Red Dog. We were the Pigs On Ice, so named by a friend of Russ's who went so far as to print business cards for the team. The radio not only kept us in communication in case of emergency, but was also a source of amusement as we spent many hours on trivia games and jokes.

After getting out of poor weather conditions of the higher reaches, we soon came to the border crossing into Canada at Sumas. Customs officers requested about every other car to pull over and IDs were checked to make sure there were no undesirable amongst the rally crowd. Must not have been as they sent us all on our way after a short delay. A greater delay presented itself less than a mile down the road, where the highway was closed due to blowing snow that had caused a multi-car accident. Most of the rally teams retired to the local McDonald's to evaluate the alternatives. After losing about an hour in total, we decided to try the frontage road, which was not blockaded against traffic. Sure enough, we were able to skirt the closed highway and get back on the prescribed rally course. But we were now faced with an average speed of 58 mph to reach the next TSD section on time. Since most traffic travels above the speed limit anyway, we figured it could be done if we kept our gas stop time to a minimum. Fate had other plans.

Both Brad and Russ were stopped by the RCMP for speeding, then the rubber intake boot blew off the turbo, rendering the car virtually immobile. Fortunately Brad recognized the turbo problem as it occurred

and was able to make repairs in a matter of minutes. Unfortunately these delays put us well behind the rest of the pack. We were 15 minutes late to the start of the next rally section near Williams Lake and were forced to take the maximum penalty of 200 points.

We arrived at the overnight stop in Quesnel just in time to watch the women's figure skating at the Winter Olympics and see Tonya Harding fall on her butt, too.

Saturday morning began with the first Solo II section at Goldpan Speedway. The Solo, or autocross, is a closed course slalom where the fastest time wins. Fortunately the two Saabs, the only two-wheel drive cars competing, would be in their own class and not scored against the four-wheel drives. The course was on a 3/8ths mile oval track that had been plowed one lane wide, then partially blown over with snow during the night. That meant that for part of the course cars would be wading through deep snow while other parts would be flat out. With three solos in the scoring, each driver would get to race the car twice. We flipped a coin to see who would drive the 9000 in the first solo; Russ was odd man, so Brad and I got first shot. I ran in the first session, trying to stay smooth. I was quicker than Diamond Jim in the Blackbird, but the times of the second drivers would decide the outcome. Brad was about a half second faster than me on his run, but Adrian whipped out a very quick lap in the 900 to set the pace for the 2WD class.

Immediately after the solo there was another TSD. We proved that we had the stuff to be competitive by getting the lowest

score of all the teams on the rally section, a small consolation for the previous day's troubles.

Next stop on the route was Dawson Creek, B.C., where we met the mayor at the visitors center near Mile 0 of the Alaska Highway. Another hour up the road and another TSD section near Fort St. John, this one with a double switchback hillclimb. Again, the Pigs On Ice team scored well, but when a poorly located checkpoint was removed from the total, we lost one of our best scores of the section, a 2 where other teams had collected 4s and more.

Our overnight stop was in Fort Nelson, where the bar was closed before midnight. On a Saturday! There were no competitive sections on Sunday, just the 600 mile transit to Whitehorse, Yukon Territory. While refueling in Watson Lake (across the road from the famous Signpost Forest), we heard via the radio that one of the sweep vehicles, a seriously prepared Ford Bronco, had flipped over. Damage was minimal, but one of the passengers was in great pain and was transported to the nearest hospital. The injury turned out to be only a sprain, but the Bronco headed back to Seattle, accompanied by another sweep vehicle.

Somewhere on this stretch, the Blackbird began to exhibit symptoms of poor running, occasionally dropping to three cylinders. A roadside investigation revealed a cracked porcelain on one of their expensive Split Fire spark plugs. A set of NGKs was installed and the problem was cured.

Heated underground parking was available at the hotel in Whitehorse, so we were able to dry out the cars.

Monday began with two competitive sections within the city limits of Whitehorse, a hillclimb rally and a Solo II on the Yukon River. Brad took over the driving chores for the rally. In trying to make up time, he bumped the speed up to near 40 mph on a 30 mph section, only to lose all confidence after a crest when the road suddenly made a downhill decreasing radius turn. We were going a little too fast and he went for the brakes. The 9000 skidded toward the snowbank on the outside of the curve and stuck fast. No damage, but another max penalty for the section.

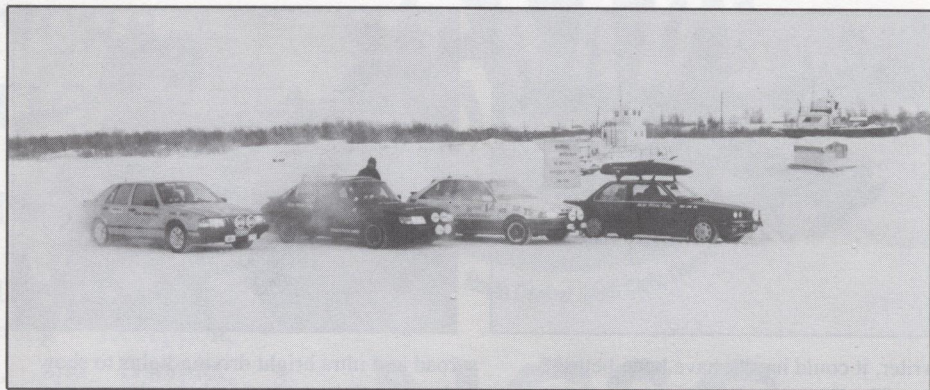
The autocross section went better, as yours truly was able to put together a smooth enough run to top the 2WD class. Satch surprised everyone, including himself, by setting fastest time overall in the BMW.

Three and a half days into the Alcan, and most of the competitive sections were

already run. There were only the rally near Wasilla, Alaska, and the Big Lake Solo left, and both would be on the final day.

On to Dawson via the Yukon Highway, and a night-o-rest at the Downtown Hotel. Along the way the teams were kept entertained by a flood of trivia questions from Satch. Some of us even knew the correct answers. It was during this stretch that the radio handles were modified. The Red Dog became the Puce Poodle, the Magenta Malmute, the Crimson Cocker, the Russet Retriever, and the Blood Hound. Pigs On Ice became Polar Porkers and Glazed Ham.

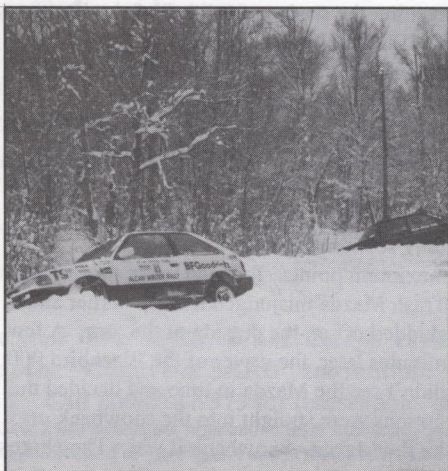
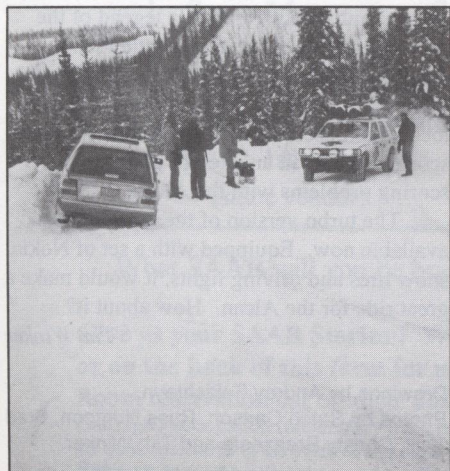
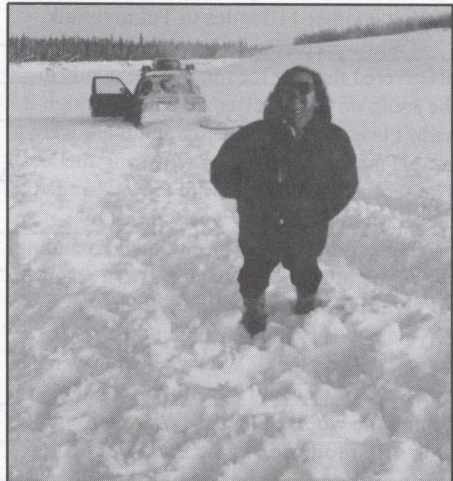
Part of the reason for the trivia questions was to get rallyists primed for another form of competition, the trivia contest broadcast on the National Trivia Network. NTN broadcasts 15 multiple-choice questions per game; scoring is based on how quickly you answer each question. The primary competition is among the local patrons, but once the local scores are tallied, the network posts the rankings of everyone who participated. Alcaners (Alcanists?) raised the scores of the Downtown Hotel for that evening, and several finished in the top rankings. Your humble editor bested the bar and ended up 13th overall on one game. Tom Grimshaw wrapped up the evening by setting the best



The Alaska Rally Team lines up for a portrait on the MacKenzie River at Inuvik. L to R: Pigs On Ice 9000, Blackbird 900, White Trash Mazda, Red Dog BMW.

score for the bar, and for the entire network!
 The drive to Inuvik on the Dempster Highway was a bit controversial. It was nearly 600 miles one way, but there were no competition sections. The general feeling was for the teams to drive as far as the Arctic Circle about 20 miles north of Eagle Plains just to say we'd been there, then head back to Dawson for another night of trivia. The weather tried its best to discourage us; as we made the turn north onto the Dempster Highway, the temperature was about 10 degrees Fahrenheit, but within the hour it was -10F. The temperature continued to drop to an indicated -29F on the 9000's dashboard readout (the BMW's on board thermometer quit at -22F), accompanied by high winds which created snow drifts across the road that could catch a car and toss it off the road... and several did. The Subaru 4WD Wagon of Justin and Colin Brost and Susi Fouse, the White Trash Mazda, and one of the film crew Rodeos all went off the road with minor damage, but most were able to continue to Inuvik. The Ford Explorer rolled over enroute to Eagle Plains when Billy hit a

snowdrift while trying to avoid the remains of the Blackbird's front spoiler. Billy told me later that it was his first ever auto accident. Team navigator Greg Lester related that the rest of the drive to Inuvik was pretty silent, but as they neared their destination, Jim Shahin offered, "Speaking as a person, this has been a terrible day. Speaking as a





Far Left: The winning Isuzu Rodeo.
Left: The winning drivers, Paul Dallenbach and Johnny Unser.

writer, it could hardly have been better.”

The Dempster Highway is particularly desolate. When we arrived at Eagle Plains, the road was closed due to the drifting snow, but plows were on duty and it was cleared within a few hours. The next habitation of any size was Fort McPherson, then it was another 150 miles to Inuvik.

Inuvik, with a population of 3,400, has the distinction of being the largest Canadian city north of the Arctic Circle. It is the end of the Dempster Highway, at least in summer. During the winter months, the MacKenzie River is plowed so vehicles can make it another 110 miles to Tuktoyuktuk.

While preparing to leave Inuvik, we discovered that the ice road also extends to the south on the MacKenzie River, though it hadn't been plowed recently and there were a couple inches of new snow covering the ice. The four Alaska Rally Team crews decided to see where it went. Twenty miles of driving at unregulated speed down a winding river later, it came to a dead end at a resort on the riverbank. The only thing to do was to drive the twenty miles back up the river. Damn, the bad luck! We switched drivers so that more of us could have fun. Huntoon got behind the wheel of the BMW and promptly took off. I followed in the Polar Pork Chop, tossing it into the curves as best I could what with the snow and the overly neutral tendencies of the 9000. Since we had lots of time to look at maps on the way to our next overnight stop, we came up with the possibility that if that road were plowed all the way to where the Dempster crosses the Arctic Red River, we could have a sixty mile stage on the frozen river!

The drive from Inuvik to Glennallen, Alaska, was the only overnight driving for this year's event. Nature cooperated with a brilliant display of Aurora Borealis. Most teams pulled off the road several times to witness the grand spectacle as the lights changed from green to red in their dance across the Yukon skies.

With virtually no other traffic on the

road and ultra bright driving lights to show the way, those team members who were in charge of the steering wheel tended to ignore the posted speed limit in favor of pushing a little harder to make it to Glenallen earlier.

As we neared the Alaska border, Russ misjudged a corner and the 9000 slid up and over the snowbank alongside the road, coming to rest at about a 45 degree angle, stopped from going completely over by a couple feet of soft snow on the opposite side of the bank. I was pretty well wedged in the back seat at the time and decided to remain there since I figured it would take more than human effort to extricate the car. Several competitors worked at digging the Saab out, but even a towing attempt by one of the Isuzu Rodeos failed to budge the car. After a couple of hours, a very large tow truck arrived and with minimal effort the 9000 was plopped back on the road. Breakfast in Tok Junction, a few hours up the road, was a bit grumpy, but we got over it later.

It was in Glennallen where we had our “Northern Exposure” experience. The fictional town of Cicely on the TV show is just that, nothing but a place dreamed up by a bunch of Hollywood writers. But while walking out to the car in the middle of the afternoon, I encountered a moose sauntering through the parking lot. As if that weren't enough, at the local bar/restaurant later in the evening the strains of Edith Piaf singing “La Vie En Rose” came from the loudspeakers of the jukebox. I had to pinch myself to make sure this wasn't some weird dream.

Two more competitive events were held on the final day. And standings changed due to a couple of minor mishaps. Two of the top running teams slid off the road early in the rally section and were forced to take maximum points. It began when the White Trash Mazda misjudged a sharp corner and skidded off on the outside of the turn. A few minutes later, the driver of the Blackbird 900 didn't see the Mazda in time and decided the options were straight into the snowbank or hit the Mazda. Snowbank it was. The photos

show both of the cars belonging to Satch buried in snow side-by-side on the outside of a curve. As Satch put it, “It's nice to see all of my assets in one bank.” Billy Edwards missed a poorly marked turn in the Explorer and picked up a big score at one checkpoint, while our scores got continually larger over the rally because my teammates had kindly raised the tire pressures, thereby throwing off our correction factor by a couple of percentage points. Still, we did better than most teams.

The final competitive event was another Solo, this time on Big Lake, using part of a course maintained by the sports car club in Anchorage. Not much changed on this event since there were very few points that could be added to scores. Russ Huntoon did get a chance to drive the AWD BMW 325 in a timed run to celebrate his 50th birthday. It was the first time in all the years he's known Satch that he was able to compete against his old buddy head-to-head in equal conditions. You'll have to ask them who won.

We tallied up final scores on the way to Anchorage and, to no one's surprise, the factory Isuzu team was the winner.

The awards banquet was filled with frivolity and speeches and thanks to all for a wonderful time. Unfortunately we were too tired to stay up late and finish the keg of Red Hook ESB arranged by Jim Breazeale and Ron Clyborne.

The Alcan Rally is run as a summer event in odd years and a winter event in even years, so the next Alcan will be in September, 1995. In the meantime, however, Satch has decided to put on his own winter rally with a similar format, to be called, “The Rally of the Lost Patrol.” We had a chance to learn more about the Lost Patrol, a legend of the Klondike, when we were in Eagle Plains waiting for the road to be cleared. This rally will be similar to the Alcan in the roads and locations it uses, but will use a little different scoring system in an attempt to clear up scoring problems with the Alcan.

The turbo version of the new 900 is available now. Equipped with a set of Nokia snow tires and driving lights, it would make a great ride for the Alcan. How about it?

Tim Winker

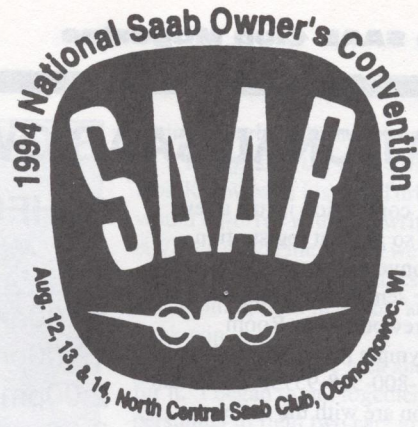
Drawings by Andrey Feldshteyn.
Photos by Satch Carlson, Russ Huntoon, Brad Yuill, Christy Breazeale and Tim Winker.

1994 NATIONAL SAAB OWNERS CONVENTION

REGISTRATION FORM

Registration Includes: All Clinics and Presentations; Friday Evening Reception; Saturday Breakfast, Lunch, and Banquet; Sunday Breakfast; and Rally and Concours Participation Option.

Additional Charge for Autocross Participation and Swap Meet Space



NCSC

North Central SAAB Club

1. Name _____
 Address _____
 City _____ State/Prvnc _____ Zip/P.Code _____

Other Adults in Party _____ Address (if different) _____
 2. _____
 3. _____
 4. _____

Children in Party (4 - 12 \$55; 3 & under, no charge) _____ Age _____ Guardian _____
 5. _____
 6. _____

Events Participation *	
Event	Number
Rally	___ Car(s)
Concours	___ Car(s)
Autocross	___ Car(s) \$5 each
Swap Meet	___ Space(s) †

* You may sign up at Check-In but this will guarantee your place
 † \$20 1st space \$15 each additional (same vendor)

FEES	
#Adult _____	X \$65 = _____
#Child _____	X \$55 = _____
#Autocrs _____	X \$5 = _____
Swap Meet _____	= _____
TOTAL _____	= _____

Mail to NCSC, PO Box 11701
 Shorewood, WI, 53211
 Make checks payable to:
 North Central Saab Club

What SAAB will you be bringing? _____

Give us your SAAB Stories!! Write your favorite SAAB anecdote or experience on a separate sheet of paper or on the back of this form for use at the "Culture of SAAB" convention. ☆

Room reservation cut off date: July 15 Call 800-558-9573 for reservations and mention the Saab Convention.

One registration packet (preliminary info., maps, etc.) will be sent per registration form submitted. Additional addresses (Adults #2-#4) are requested for communication in the event of any registration problems. For more than 4 adults please submit a second completed form (photocopies fine).

☆"SAAB Stories" become the property of the North Central SAAB Club.

1994 NATIONAL SAAB OWNERS CONVENTION

The National convention is just a few short weeks away so get that registration form in today. Convention registration is \$65 and should be sent to the North Central Saab Club in Shorewood, WI. Room reservations at Olympia resort should be made by calling 1-800-558-9573. Be certain to mention that you are with the Saab convention. After July 15th, the discounted rate will still apply but you take your chances on room availability. This rate is also available for the two days before and two days after the convention.

As the theme of this year's event is the Culture of Saab, we are very pleased to announce that the banquet speaker will be the new head of Saab Cars USA; Jim Crumlish. With an insight into the latest happenings at Saab his comments will be the highpoint of the series of cultural sessions presented throughout the weekend.

Starting where it all began for Saab, our own capable Ian Simpson will present a session on Saab Airplanes. Saab collectibles and memorabilia will be discussed next on Friday afternoon and be on display throughout the event. Saab's rally history and their part in it will be the topic when rally greats Erik Carlsson and Jon Davis join to discuss this important and exciting part of Saab's past. And you too, as an owner and enthusiast, are part of the 'Culture of Saab.' The organization, maintenance and FUN of local clubs will be discussed in a Saturday session. On Sunday, dealers who were among the first to sell that quirky car from Sweden will recall the early days of Saabs in the USA. The technical sessions promise to be interesting as well. This year's presenters include convention favorite, Frank Freeman, the ever popular John Moss, and speakers from Pirelli Tires and Bosch Inc.

After talking about Saabs for a while, all of Saturday afternoon is set aside for the enjoyment of the car itself. Improve your driving skills or just test out that car on the autocross course set up not far off site. This year's rally, which includes a lap of the autocross course, promises to be exceptional. The winding, twisting roads over the kettle-moraine terrain, that the last glacier kindly left, are nothing but fun to drive. Saab Cars USA will again provide several new cars for test driving, these will be available throughout the day. Don't forget that Saab related businesses from around the country will be represented by their vendors at the swap meet

SCHEDULE OF EVENTS

Friday, August 12

10:00am-8:00pm	Registration Open
12:00pm	Car Wash Open
2:00pm-6:00pm	Swap Meet
2:00pm-3:30pm	Cultural Session: SAAB AIRPLANES
4:00pm-5:30pm	Cultural Session: SAAB COLLECTABLES
4:00pm-5:30pm	Technical Session: TBA (PIRELLI TIRES)
7:00pm	Reception Party

Saturday, August 13

7:15am-8:30am	Breakfast
7:30am-11:00am	Registration Open
8:00am	Car Wash Open
8:30am-5:00pm	Swap Meet
8:30am-10:00am	Cultural Session: SAAB RALLY HISTORY
8:30am-10:00am	Tech Session: GENERAL MAINTENANCE
10:00am	Concours Begins
10:30am-12:00pm	Cultural Session: LOCAL SAAB CLUBS
10:30am-12:00pm	Technical Session: TBA (BOSCH)
12:00pm-1:15pm	Lunch
1:30pm	Rally
1:30pm	Autocross
6:30pm-7:30pm	Cocktail Hour
7:30pm	Banquet with Guest Speaker, Saab Cars USA CEO James Crumlish, and Awards (or sitting service)

Sunday, August 14

7:15am-8:30am	Breakfast
8:30am-11:00am	Swap Meet
8:30am-10:00am	Cultural Session: EARLY SAAB DEALERS
8:30am-10:00am	Technical Session: THE NEW 900
10:30am	SAAB Roundtable Discussion

Please note that the above schedules are tentative and subject to change.

which will run throughout the event.

To get to the Olympia Resort in Oconomowoc, WI, just get to I-94 as it cuts across Southern Wisconsin and take the Hwy 67 exit north (approx. 30 mi. west of Milwaukee). After the first stop light the road starts to turn and Olympia is on your left. (You'll probably have spotted their

watertower by then.) Have a great rest of the summer and we'll see you in August.

Ann Buschhaus Chair
1994 National Saab Owners Convention
P.O. Box 11701
Shorewood, WI 53211
414-332-2383



The starting grid at the 1980 Longest Day. The Saab qualified fourth behind two Porsches and the C/D Mazda, which are already out of the photo.

THE DAY OF THE TURBO.

The Longest Day of Nelson Ledges, 1980.

by Bill Fishburne

It's nice to look back at one event in your life and think, in all honesty, that you wouldn't change a thing. That is exactly how I feel about The Longest Day 24-hour endurance race at Nelson Ledges, Ohio, in 1980.

To many of us, it was a perfect race. For Saab, it was their most significant racing victory ever in the United States. Certainly, it was a surprise to the national media.

The stage was set for the event in 1976 when Len Lonnegren, then Saab's Director of Public Relations, determined the company needed motorsports visibility in order to sell more cars. Len, and Saab president Bob Sinclair, established a Showroom Stock racing team with that objective in 1977, and team driver Don Knowles won two SCCA National Championships in 1978 and 1979. In 1977 factory sponsored Saab 99s won division championships in the Northeast, Southeast, Central and North Pacific divisions. Four cars, four champions.

Sales went up. Enthusiasm was high, and by the time the team drivers went to the

99 Turbo in 1979, SCCA starting grids were full of Saabs.

Things took a turn for the worse in 1980 when we started racing the then-new 900. It wasn't quite as fast as the old 99 Turbo. It was a bit heavier, had the same old brakes, and didn't turn in as well on high-speed corners.

These factors reduced the team's chances in sprint races. So how could Saab keep their momentum in motorsports?

The answer came in the form of a new race to be run in Ohio. It would be the nation's first 24-hour race for production street cars, and anybody could enter who had an SCCA approved Showroom Stock car.

I discussed the idea with Lonnegren and he was enthusiastic, but wondered how much publicity the race would really generate. I agreed, and we worked on that for a week or two. Throughout the previous two seasons I had hung out at the tracks with Rich Ceppos, an Associate Editor of *Car and Driver* (C/D) magazine. So I called Rich to see if he and the magazine staffers would be interested in

racing a Turbo 900 at Nelson.

I suggested the C/D editors team up with Don Knowles in his 900 Turbo, while I would co-drive with two writers from *Road & Track* magazine. Thus we'd have the two leading enthusiast magazines pitted against one another, both in Saabs, and may the best book win.

Saab bought the idea and agreed to pay for it. I began to put together enough crew personnel to field two cars in a 24 hour race. Of course, since I'd never done anything like that before, I enlisted the aid of Preston Miller, who had. Preston owned Miller & Norburn, a BMW racing shop in Durham, NC. He had entered several cars in the Daytona 24 hour race, and quickly agreed to do our little event at Nelson Ledges.

Meanwhile, R&T editor John Dinkel, and competition editor Joe Rusz also agreed to participate. All that remained was to finalize the agreement with C/D.

It didn't happen. Don Sherman, then C/D Technical Editor, was an avid Mazda booster. He and editor Pat Bedard had years of experience racing rotary engine cars, and were not persuaded that a turbocharged four in a tall sedan would be competitive either in speed or reliability. So, instead of being on the Saab team, C/D decided to enter their own Mazda RX-7, with support from both Mazda and the Racing Beat engine tuning shop.

With that news, we scrubbed our second car and combined Knowles, Dinkel, Rusz and myself as drivers. C/D's Mazda automatically became our number one competition, with Bedard, Sherman, Ceppos and novice Larry Griffin at the wheel. *Motor Trend* got into the act by allowing staff writer Peter Frey to co-drive a very fast factory-sponsored Porsche 924 with Carlos Rodriguez and Garth Ullom. Two-time SCCA National Champion in SSA, D.J. (Fuzzy) Fazekas, also co-drove a 924 with Freddy Baker, another former National Champion.

Another strong team was fielded by Trinity Racing, who brought four RX-7's in a tractor trailer from California. There were so many people with the team that, at times, it seemed that every other person you met was with Trinity.

In all, there were 21 cars in the field, and most of them were fielded by very good teams.

We were totally unprepared for the blistering times set in qualifying by the Ullom/Ramirez 924. They set a new SSA lap record of 1:26 around the fast, two-mile Nelson Ledges road course. Knowles



Above: Knowles during night practice.
Below: Shaylor Duncan changes brake pads during a pit stop.

qualified our car at a stately 1:29.5.

Our blatant self-promotion knew no bounds. By special arrangement with everyone, I drove the first shift carrying 220 lb. Fred Griffith, a Cleveland television personality and his 40-lb. battery-powered TV camera. Fred and I conversed during the two-hour stint until I began to lose my concentration, and Fred just plain turned green. The best times I could muster were in the 1:32 range, and about an hour into the race we started getting lapped by the faster

cars, led by Ullom.

After an hour and 15 minutes, the other cars began making their pit stops. First the Mazdas, then the Porsches, finally the Mustang V-8. I was delighted to see the C/D Mazda stop so soon, as Bedard had failed to even wave when he'd passed.

The early pit stops by the leaders set the tone for the race. It meant we were competitive, depending upon exactly how long we could stay out, and how fast we were able to refuel, service the car, and get back out.



An hour and a 45 minutes passed and still Fred and I stayed out. The other crew chiefs wandered down pit lane to ask when we planned to stop. Their faces revealed the same amazement felt by the Babylonian king when he saw the handwriting on the wall. The race was not to be won on the track. But it surely would be lost in the pits.

Our first stop came at exactly two hours. The little 14-gallon gas tank took on 13.5 gallons from two NASCAR dump cans funneled through the required one-inch restrictor. Lead mechanics David Wolfe and Shaylor Duncan changed both front tires, checked the brake pads and had us going again in less than two minutes. During that time Fred and I climbed out, and I was replaced by John Dinkel. Refueling had been perfectly accomplished by Chas Conklin, a New York advertising executive who had no trouble at all with the 100-lb NASCAR gas cans.

We were in 4th place after the stop, an improvement from 7th when the other cars started their round of pit stops. What that meant was that there was still a race going on. We had to keep stretching our stops and improve our speed in order to get into the lead. The other teams had plenty of speed, but had to stretch their stops.

Car and Driver held a team meeting. What would happen if they saved the brakes and ran the same pads for the full distance? It would save them about ten minutes in the pits at the cost of a second or so per lap that would be lost with less aggressive braking.

Trinity made a similar decision. Meanwhile, Ramirez, Ron Smaldone and Fazekas were burning up the track. By the end of the third hour our Saab was, once again, a full lap down.

We had several things going for us that should be noted. First of all, my bride of 10 days, Barbara, had organized our food program so that no one had to wander off to find food. There were plenty of hamburgers at all times, and bacon and eggs in the morning, to keep the mechanics, tire busters and drivers focused. Secondly, Barbara and Debbie Perdue, David Wolfe's girlfriend, had organized our timing and scoring effort to keep two ladies in the scoring tower at all times.

That became important in the night, when a scoring error moved us down an extra lap. Debbie pitched a fit, demanded a recount, and we regained the lost ground. Without Debbie and the other ladies, we'd not have won.

Meanwhile, the battle on the track



The Winning Saab 900 Team:

Above: (from left) Bob Jack, Pirelli; Joe Rusz and John Dinkel, R&T; David Wolfe, chief mechanic; Preston Miller, crew chief; Chas Conklin, "Fuel Fool." Right: Don Knowles (in the driver's seat) and Bill Fishburne.



became serious. Ron Smaldone's car landed on its roof going into the Carousel turn. A Pinto (remember when?) landed on its roof at the Oak Tree turn, and the only Fiesta entered flipped through the high-speed kink on the back straight.

The Trinity cars suffered from inadequate preparation and poor driving. They had come from Southern California expecting a cakewalk and found they were in a 24-hour sprint. The Porsches began to suffer a variety of mechanical problems that required major pit attention.

By midnight, the event was a two-car contest. It was our Saab against the incredibly fast C/D Mazda. On the aggregate, Knowles and I lost a half-second a lap to Bedard, Sherman or Ceppos. We had Griffin covered. On the other hand, Dinkel and Rusz were equal to Griffin, but lost almost two seconds a lap to the other three C/D drivers. To make matters worse, John couldn't see well enough to drive at night, and Joe suffered a severe loss of self confidence when he missed the apex of turn 13 at midnight, and whacked the tire wall.

I took over from Don at 4 a.m. during the most phenomenal pit stop you could imagine. We changed all four tires, added a quart of oil, replaced front and rear brake pads, put in the usual 13.5 gallons of gas and got going again in four minutes flat.

The crew's effort was so special and inspiring that I drove two stints back-to-back. Our lap times with the turbo in the cool morning air came down, down, down, until we were at 1:27.5. At that pace, we were the fastest car on the track — faster at night than in daylight.

It was the most memorable race of my life. A faint ground mist had fallen as I took the wheel, but it never became a dense fog. As we moved towards sunup, the edges of the road became more visible. The air seemed to lighten, and ghostly images in the background hardened through the mist. Soon, I could see the road beyond the hot center of the driving light beams; and soon, too, the ghostly images became trees and signs and other familiar landmarks.

The campers began to stir before the sun was fully up. The car ran perfectly, and the cool morning air was fresh with the scent of bacon and eggs.

The morning light heralded an all-out sprint to the finish.

As we continued to push the car in the

heat of the day, our fuel economy fell off to a maximum of an hour and 45 minutes between stops. Every shift was at or past the redline, and engine braking with heel-and-toe downshifts was essential to get the car slowed down for the turns. Tire wear was also a problem. We had shaven too much Pirelli P-6 tread from the vital left fronts, resulting in rapid wear. We were into the cords before every pit stop, but we didn't stop until the fuel ran out.

Dinkel gave it one last daylight effort at 8 a.m., but was unable to hold the pace. I was napping at 9 a.m. when Preston woke me up.

"Feesh," he said in his North Carolina drawl, "do you want to win this race? If you do, you'll have to get Dinkel out of the car. He's losing two and three seconds a lap, and the Mazda is in the lead."

I checked the lap times, and reluctantly called John in. Knowles got back in the car while Preston and I met with John and Joe. I said, "You guys have contributed, you're part of the team. You've both driven very well, but now we're in the battle that will win or lose the war. Do you want to race, or do you want to win?"

Both said win, and asked that they not be put back in the car. That left Don and I to battle the C/D team.

Appreciate this: John and Joe were the only reason we were in the race at all. Saab would never have financed the deal without their participation. We hoped for good editorial coverage, but nothing was promised. At the same time, they had made significant contributions to the team as individuals. We benefited from their presence and their driving assistance. They stepped down like gentlemen.

Knowles and I drove as hard as we possibly could. We knew that if we crashed, or lost to the Mazda, we would be the goats of the race and total jerks for not letting John and Joe drive.

That morning in Connecticut, Len Lonnegren decided to fly out to Cleveland and see how the race was going. Saab's pitiful little racing budget was being stretched by this event, and he wondered, quite frankly, if Bedard and Sherman weren't right. Maybe a highly-stressed turbo four wasn't the right car for an endurance race. He checked the weather report. Nelson Ledges was in the middle of a summer high pressure center. It was hot, and getting hotter.

There was no way to contact the team at the track. Were they still running? Or had



Left: Setting out on the Victory Lap.

Below: Bill gets a congratulatory hug from his wife, Barbara. It was their honeymoon.

they blown early and gone home? What would Sinclair say if that happened? How many full-page magazine ads could have been purchased with the money he'd invested in this adventure? What if the car crashed and Fred Griffith, the TV guy, was hurt?

A hundred thoughts ran through his mind as he drove from Orange to Hartford and boarded the commuter flight to LaGuardia. An hour later his flight lifted off, and by 10 a.m. he landed at Cleveland Hopkins Airport. He rented a car and drove 45 minutes to the track.

"Is the Saab still running?" He asked the ticket taker.

"It's leading," was the reply. Lonnegren said a quiet prayer of thanksgiving and drove across the bridge into the paddock. The green Saab came tearing by as he crossed, with a little white Mazda on its tail.

I drove my last stint in the hottest part of a hot summer day, against Sherman. With a migraine headache clouding my mind, I struggled to hold the lead Knowles had handed me. But Sherman ground me down. Half a second here, a quarter of a second there, it took an hour, but eventually the little white Wankel was right behind me. On the same lap.

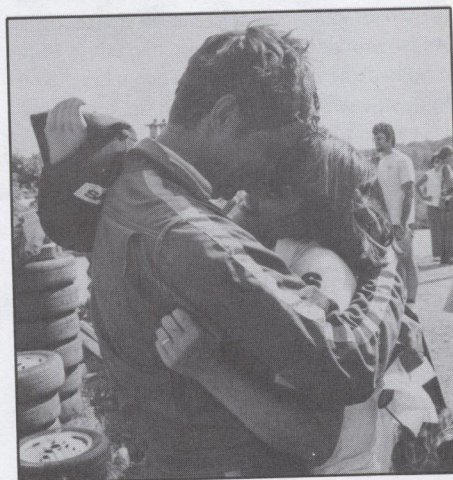
I played traffic against him. I got a block from the Peugeot 604 on the back straight. I set a moving screen with Joe Nonnamaker's VW Rabbit in turn one. It all came to a head in the left-hand turn three, the Oak Tree turn. I held the inside line going in with one of the black Trinity Mazdas on my right. Sherman went to the outside and braked late, trying to sweep around the Trinity car and my green Saab.

It didn't work. The Trinity driver woke up, got brave, and late-braked both of us. That put Sherman in an impossible situation. He skidded sideways off the track and came to a harmless halt in the grass, but lost 20 seconds in the process.

On the next lap around, Preston gave me a thumbs up. My head hurt so badly I didn't acknowledge his signal. I was drained, and the adrenaline that the race with Sherman had caused was wearing off. Two laps later, Preston called me in. There was an hour and a half left in the race, and Knowles could finish without another stop.

I stumbled out of the car retching and shivering in the 100 degree heat. Lennie and Barbara took me to the medical tent for ice, fluids and a pain reliever. The team, meanwhile, packed away the major spare parts and waited, nervously, for the drama to play out.

It ended as it had begun. With 45



minutes to go and both cars still on the same lap, the Mazda pitted for fuel and tires. Knowles kept going, and was two laps ahead when the stops were over. A 924 was third, but was later disqualified.

One by one, the other crews came down pit lane to offer congratulations. Bedard, Ceppos and Griffin led the way. We laughed, we drank champagne, we hugged and we cried.

The Longest Day of 1980 was over. It was won by a team of people who cared for each other and worked together to achieve a goal. And it was made possible by a wonderful man, Lennart Lonnegren, who believed in us, and in his car.

Where are they now?

Bill Fishburne is a writer who owns part of a computer store and lives in Asheville, NC. He and Barbara now have two children.

Don Knowles is a senior staff member on the Senate Finance Committee. He is said to be the only man in Washington who knows where the money is. He still races, and is a member of the exclusive Road Racing Driver's Club, in recognition of his many contributions to the sport over his 20-year career.

Joe Rusz is Competition Editor of Road & Track in Newport Beach, California. He continues to be an amateur sportsman, and says his participation in the race was one of the most memorable events of his career in journalism.

John Dinkel left the editorship of Road & Track and is a free-lance writer and R&T contributing editor. He, too, continued to drive for several years, returning with the Saab team to attempt a defense of their Longest Day crown in 1981.

Len Lonnegren retired from Saab in 1989. He continues to reside in Connecticut, and is a consultant to the company.

Preston Miller works for Ford Motorsport and is the manager of their NASCAR racing program. He is largely credited for Ford's resurgence in NASCAR racing.

Shaylor Duncan continued to work with racing cars for several years.

David Wolfe runs Scandinavian Auto Works, a Saab repair shop in Kennesaw, GA.



The Baja: In a 99

by Alan C. Clarke, SAE

The 99 in the photo was in the rough, somewhere south of Camalu, I think, during the 1973 Baja 500.

The car was owned and driven by the legendary Ingvar Lindqvist, the "Baja Iceman" as one magazine writer tagged him. I had the honor of helping prepare the car and navigating for him during the 1973 race.

Lindqvist, as you may recall, had an outstanding record in Baja racing using the 96 sedans. He ran in four Mexican 1000's, winning the Production 2 Wheel drive class in 1968, '69, & '70, becoming the first three time winner in Baja racing. He won the Baja 500 in 1970 and placed second in 1969. He still feels he won in '69, but due to a mix-up in filing a protest, an AMC SC-Rambler Factory team was awarded the win.

In all respects, Lindqvist was indeed the Father of the fabled Baja Saabs. His words on winning? He told a writer "Prepare a car well, use a good system of notes and don't go any faster than you have to." He had a velvet touch with machines, and I do not think he ever DNF'd in any Baja event.

He used to race a Saab two-stroke powered H-modified in SCCA events. I recall seeing him at Willow Springs Raceway in the mid 1960's. He and his chief wrench, Malte Anderson, were relaxing in the

California sun before race time. I offered him the use of my nearby home and garage if they needed it. He replied in his usual low key manner, something like, "No thanks we come here to race, not work on cars." That was really his motto.

The 1969 and 1970 Mexican 1000's were given some international interest as SAAB sent the factory teams and some cars. Eric Carlsson in '69 was very fast, but due to constant velocity joint failures (twice), he lost the lead (twice), and Lindqvist went on to a class win. The 1970 race really proved how fast Carlsson was. At the halfway point between Punta Prieta and El Arco, Carlsson was five minutes faster than Parnelli Jones in the Big Oly (Funny Car) "Bronco". Eric was just 12 minutes slower than a full competition dune buggy. However, they later got stuck in beach sand/muck and lost several hours. Once back in the road, Carlsson set fastest times over all between check points 7 to 8 and 8 to La Paz. Lindqvist had steered away from the beach and finished 1st in class. Carlsson placed 4th in class while his wife Pat, placed 5th in another factory 96. Lindqvist's time was 19:14.

After no racing for awhile, Lindqvist got the urge to try a 99 in Baja. Although time was short he thought he had enough time to

prepare one for the 1973 June Baja 500. This would be a check-out run and maybe, if all's well, to try it in the fall Mexican 1000 to La Paz. He asked me if I would like to help prepare the car and ride with him. (Is the Pope Catholic?)

The 99 came off his used lot. It was a tired 1970 four door. (four doors are neat in Baja as you have quick access to your gear, shovels, sand jacks, sleeping bags(?) etc.)

I worked with his race car development guys, Sven Aberg and Malte Anderson in the Lindqvist shop, Culver City CA. We initially gutted it, then, rebuilt it with a 2.0-liter engine and automatic trans. The auto (slush box) was chosen by Lindqvist as he thought it would work well, be easy to drive in the rough, and those early five speeds were not as tough as he would like. All the necessary race stuff was added, extra shocks, skid plates, lights, heavy springs, a fuel cell, etc. Two Halda Tripmaster mileage odometers were mounted. These were to be our brains.

During the week prior to the race, we pre-ran the entire course, using a VW Baja Bug, owned by Sven Aberg. I took about 100 pages of notes as Lindqvist graded the turns, curves, and yumps as "one", "two", or "three", "fast", "caution", "Very slow/danger". We spent four days in the outback and covered all 610 miles. We slept under the stars at each day's end.

After returning to Ensenada, I had the job of rewriting the notes and recalibrating the Haldas to the SAAB drive train, as speedo output and tire sizes were vastly different from the VW to the 99. It all apparently came out right as on-the-road checks were done. The land marks noted in the log from the VW were right with the miles noted with the Haldas in the 99. I was relieved. My relief was short lived, however. As soon as we got into the race, the Halda mileage did not agree with my notes. Why??

I later found what I think was the cause. Just prior to leaving the staging area for the start, and well meaning "pit man" who had previous Baja time, added 20 psi to all our tires. That inflation increase added to a tire growth problem due to heat. (Ambient temperatures of 110 degrees were recorded at several check points that afternoon.) I had not thought of this potential problem, and did not think about being on Bias ply tires. The tires were chosen based upon contingency money. One tire manufacture had \$6,650 in awards, and most racers tended to use whatever pays best. I think our all terrain, bias-ply tires just grew due to high internal pressure, partly from the last minute pump

up, and then from the heat of racing. So the rolling circumference changed, so did the odometer readings. (A steel belted radial tire will not change its rolling circumference due to higher internal pressure.) I am not sure Lindqvist agreed with this reason. Maybe I blew it when recalibrating the Haldas to the Saab speedo drive. I will always hope it was the tires. The end result was that my 100 pages of notes were not accurate! The error was progressive, getting worse up to each pre-established "milestone"/landmark when I could "Reset" and zero the Haldas to start again. This dilemma was to result in some exciting moments, as the car was usually ahead of the notes. We would be power sliding into a blind curve in the dust and dark and I could not always tell him where we were, or how fast the curve was!!! He was not amused. We had to compensate for the mileage errors by going a bit slower at times. Otherwise we were making good time.

After making it through the silt beds of Laguna Chapala, it was about 2:00 AM. Suddenly the car just quit. We blundered around in the dark for quite awhile trying to fix the beast. We finally decided it was a simple vapor lock, although we were not thinking too clearly, and had looked at everything else first. We finally got going, after some extended cool down time. The car

was really hot. It had not been shut off for over 12 hours and the 1.8-liter radiator did not like the 2.0-liter engine and tranny oil cooler, much less the abuse.

We greeted the sunrise, still going like Hell towards San Felipe. We were surprised by a wrong way dune buggy on a blind curve. It was a near miss. Lindqvist slid to a stop in soft, fine sand. The car was buried up to the floor pan. We were stuck for almost three hours!!! I thought we would die in that sand before we got out. We would get moving, only to bog down again in three or four feet. Finally we got moving and made good time into Ensenada, and a most welcome finish line.

We finished 10th in class with a time of 20 hours and 24 minutes. Class winner was a tough VW (driven by Dick Lee), with a time of 15:16. I think we could have placed 3rd or 4th had not we been dead for 3+ hours.

Overall winner was Parnelli Jones/Bill Stroppe in the truly awesome "Big Oly" Ford "Bronco". That year, P.J. rolled the bronco three times, twice before check point one!!! Their time was 12:18, for an average speed of 49.5 mph. Our average was almost 30 mph. That does not sound fast until you try it.

Other than the vapor lock, the old 99 did quite well. Nothing broke! I often wonder what a larger radiator, a big electric fuel

pump and a set of radials would have done for us? More experience in the navigator's seat could not hurt either.

Lindqvist decided, due to business pressures, not to keep the car and he subsequently sold it. I heard it went to Northern CA to run some rally type events. I wonder if any readers out there know what happened to the Beast? I am sure that there is part of my body in that car somewhere.

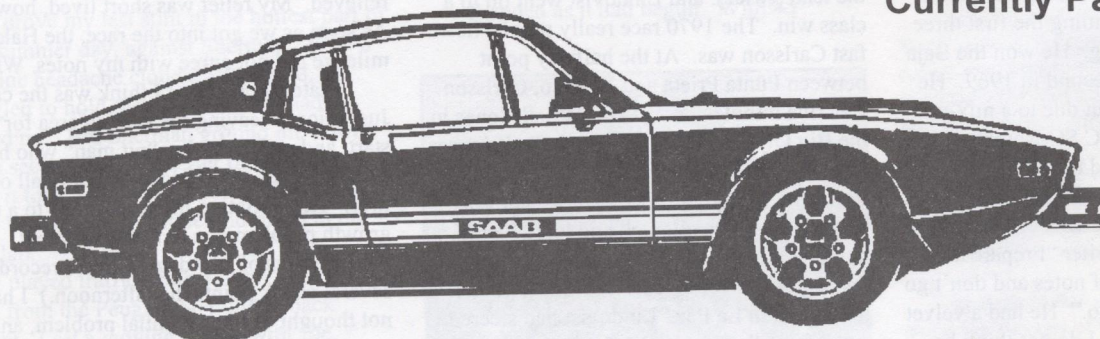
Even though it has been 21 years since that race, many of those events and sensations are still fresh in my mind. The dirt, zero visibility dust, the heat, the noise, the boojum trees looking two dimensional in the glare of the Cibie's and that damned bucket seat. It was the most incredible ride of my life. I owe Lindqvist many thanks for taking a green navigator on that adventure. He was very patient with me and was always a gentleman. Lindqvist was one hell of a driver. He had an uncanny ability to go super-hard, yet able to tippy-toe when necessary, always aware of the limitations of the car. He also kept his sense of humor, like when we saw an excursion off the trail, "Look there, I think it's a piece of Parnelli's Ving?" he mused, as we roared by.

Would I do it again? You bet, only this time, some more padding in the seat please.

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Attention Saab repair shops!

The SAAB Club is updating the list of independent Saab repair shops, body shops, parts suppliers and Saab dealers for an upcoming issue. Please fill out the questionnaire below and mail it as soon as possible to:

The SAAB Club Mechanics List, 2416 London Road #900, Duluth, Minn. 55812, or fax it to 218-728-6307.

Please furnish the following information for the SAAB Club Mechanics List.

Company name _____
 Contact person/s _____
 Address _____
 City/State/Zip _____
 Phone (incl. area code) _____
 Days and Hours of operation _____
 Hourly labor rate _____
 Number of mechanics _____
 Mechanics' training (ASE, Saab, etc.) _____
 Number of service bays _____
 List any specialized work or equipment (i.e. 4-gas analyzer, alignment rack, body work, performance tuning, two-stroke and V4 repair, etc.) _____

FIGHT THAT SPEEDING TICKET!

Most everyone has felt the frustration and anger that accompanies a speeding ticket. The ticket was probably issued on a clear day, with dry roads and light traffic. Your speed was reasonable for the conditions and within the safe capabilities of your car and the highway. The glitch was that you were exceeding the "posted limit". But, who wasn't?

So, why did you get the ticket, instead of someone else? Maybe it was the length of your hair, the color or make of your car, or you were unlucky enough to be the first car to enter Officer Quota's speed trap.

What's doubly maddening is if you weren't exceeding the speed limit, but an incompetent or unethical radar operator says you were, and issues a completely erroneous ticket.

It's decision time: To fight or not to fight your speeding ticket. You might believe that to fight is futile. After all, didn't the local district attorney just claim a 97% conviction rate on traffic tickets?

Here's what they don't tell you. Ninety-five percent of the traffic tickets are not contested! **And, half of those that are contested are won by the defendant.**

Here's something else our friends in traffic courts don't publicize: Almost any district attorney would rather reduce a fine or points, than spend time prosecuting a speeding ticket. If 10% of all traffic tickets were contested, the court system would come to a screeching halt. So would the practice of using traffic enforcement for revenue generation.

To fight the ticket is to automatically win. True, you may be found guilty, but you've still won. You had your day in court, your dignity is preserved, and the profit that the state or municipality expected from your ticket evaporated the minute you stood up and said "I plead not guilty".

Radar is not infallible, in fact, a long way from it. **Vascar is easily misused**. Many speed limits are illegally posted. There are legal justifications for exceeding the posted speed limit. Police officers often ignore proper procedures when clocking vehicle speeds, and confused, crowded court dockets can result in wholesale dismissals.

You can't win if you don't fight back, and you can't fight back if you're not prepared. Our organization, the National Motorists

Association, is dedicated to protecting motorists' rights, including your access to a fair trial for traffic law violations.

We offer our members books, videos, and personal information so they can ably represent themselves in traffic court. We also offer an attorney referral service for those who wish or need professional representation on traffic matters.

We're so confident in your ability to win in traffic court that after one year of continuous membership, should you receive a speeding ticket, plead not guilty, take your case to trial and subsequently are found guilty, we will pay the ticket!

That's right, we'll pay the ticket if you plead not guilty, go to trial, and lose.

We've paid very few tickets, because our members win their trials, have the charges dismissed on technicalities, or are offered a plea bargain that greatly diminishes the penalties.

Isn't it time to fight back?

Give us a call at 1-800-882-2785 for National Motorists Association membership information. Do it today!

Technical Talk

Round Doesn't Always Make Right

For those of you who have taken the plunge into after market wheels, I hope you have fared better than I. Despite my growing reluctance, based on past experiences, to dabble with after market wheels, not all automobile manufacturers provide the range of tire/wheel options to meet the needs of the enthusiast. Consequently, the market for after market wheels has flourished driven by both the demand for increased performance for some and style for others. Despite the assurances offered by after market specialists, there are a number of important issues that buyers should be aware of before laying out kilobucks on a new set of wheels.

The obvious concerns revolving around offset and clearances are critical to understand due to their implications for both performance and safety. Make sure that your supplier is experienced in these areas and stands behind their recommended solutions. You should also request that prior to mounting and balancing that your supplier check and document the run-out of your wheels. All high quality after market wheels should have run-out specs less than 0.005 of an inch, however don't expect the wheels you purchase to be perfect. Wheels with a run-out greater than 0.030" should be considered out of round and replaced.

When it comes to balancing wheels, find a shop which specializes in dynamic balancing for high performance cars. Despite the perception that any one can spin balance a wheel, either on the car or off, the shops which cater to performance cars are likely to do a better job since their customers are typically more discerning and unlikely to compromise when it comes to vibration.

So what do you do when your car runs straight and true with its stock wheels but vibrates with its new after market wheels even when you know they are perfectly balanced and within specification when it comes to offset, clearance, and run out? The answer lies in either the tire or the wheel. It may be possible for the tire itself to be out of round or incorrectly seated on the rim.

Often, rotating the tire 180 degrees on the rim and rebalancing the wheel may cure the problem. High performance tires are made to exacting standards due to their intended use, so out of round conditions are rare.

A more insidious cause of vibration problems is due to a condition called "hub centricity". When a wheel is mounted to the hub, there are two important areas of contact. The first is "vertical mounting pad" which is the vertical plane between the wheel and the hub through which the mounting bolts attach the wheel to the hub. The second is the "horizontal mounting pad" which is where the center hole in the wheel fits over the cylindrical portion of the hub. The combined surface area of the horizontal and vertical mounting pads is important since these mounting surfaces help stabilize the wheel when it is in motion and eliminate vibration. A high quality after market wheel should therefore be designed to maximize contact between the horizontal and vertical mounting pads thereby minimizing hub centric vibrations. If the horizontal or vertical mounting pad of the wheel is too small relative to the hub, the wheel will vibrate on the hub at speed no matter how tightly it is attached.

Manufacturers often try to keep costs down by designing a wheel which will fit a variety of vehicles. Consequently, a wheel may sometimes not maximize contact with the hub. A common area where this occurs is at the intersection of the horizontal and vertical mounting pads. A wheel which is designed for more than one vehicle will often have the center hole countersunk or chamfered to allow for a range of hubs. As a result, a gap will exist between the wheel and the hub for certain applications. Manufacturers have resorted to "rings" which fill any gaps between the wheel and the hub and provide a cost effective way for one wheel to fit a variety of vehicles.

A vibration caused by a hub centricity problem typically cannot be corrected and leaves the buyer in the awkward position of having invested in new wheels which are usually straight and true off the car but vibrate when on the car. Hub centricity problems can be avoided by purchasing an after market wheel which maximizes contact with the hub and avoids the use of rings. If rings are required for your particular application, the rule is "the smaller the better". It is important that buyers be familiar with the concept of hub centricity since few after market suppliers are knowledgeable regarding the problems associated with hub centricity and therefore loath to take

back wheels which are used but not living up to the expectations of the buyer.

A Case Study in Hub Centricity

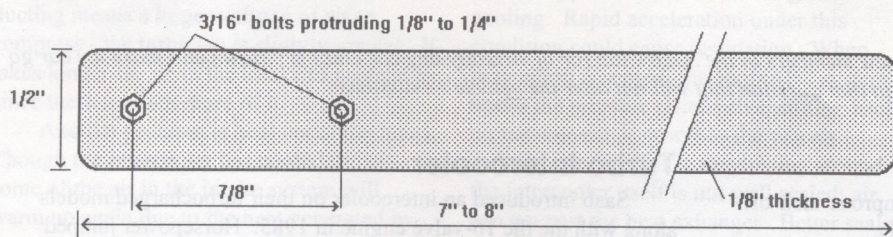
Fittipaldi (OZ for Fittipaldi) manufacturers a variety of wheels for the Saab 9000. In this case, Fittipaldi 15x7 "500" wheels were purchased for an 89 9000 Turbo for use with 225/50-15 tires. Although the car, wheels, and tires were all straight and true, no amount of dynamic balancing (both on car and off car) by 4 different shops could solve a high speed vibration problem. Vibrations were felt both through the steering wheel and seat of the pants suggesting a systemic problem. At the same time, no problem existed when the Saab OEM wheels (15x6 with 205/55-15 tires) were mounted. The problem was ultimately identified by Direct Tire in Watertown, MA who diagnosed a hub centricity problem.

Evidently, the Saab 9000 and late model Ford Mustangs have the same bolt pattern and offset. Therefore, Fittipaldi uses the same wheel for both cars. The only differences are that the center bore of the wheel is enlarged slightly from 64.1 mm to 65 mm for use on the Saab and the wheel is deeply chamfered on the back to provide an exact fit with the Mustang hub. However, the Saab hub does not require any chamfer and therefore a significant space exists between at the intersection of the horizontal and vertical mounting pads of the hub and the wheel. Fittipaldi also does not provide rings for adapting the wheel for use on a Saab 9000. The significant amount of chamfer on the wheel has the effect of significantly reducing the horizontal mounting pad contact area which allows the wheel to vibrate at high speed. The appropriate solution to this problem is for Fittipaldi to either not chamfer the back of wheels intended for use on Saabs or for Fittipaldi to supply a set of rings. Since Fittipaldi does neither, the application of a "500" wheel on a Saab cannot be recommended.

The obscure nature of hub centricity problems suggests that you purchase after market wheels only from suppliers who have a familiarity with the concept and are willing to stand behind their recommended solutions. Inversely, you should expect suppliers who do not have an understanding of hub centricity to sidestep the problem and claim that the vibration you feel is a result of improper balancing, chassis problems, or "increased road feel".

Steven Hendrick
Wayland MA

DIY Tools



99/900 Brake Caliper Tool

A necessary piece for the toolbox of anyone who owns a 1975 through 1987 99 or 900 is the tool for turning in the caliper piston on the front brakes. Because of Saab's unique arrangement of having the parking brake operate off the front brake system, the hydraulic operated piston must be turned in instead of pushed in like on many other cars.

Saab dealers stock the tool under part number 89 96 043, and the suggested price is less than \$10. Matco offers a similar tool (part #SA025) that retails for about \$20, but it is made of heavier stock than the OE tool and has a straight shank for better leverage on caliper pistons that have rusted in place.

But what if you're doing the brakes on a Saturday afternoon and the dealer's parts department is closed. Or maybe you don't live near a Saab dealership and by the time you've added in shipping and handling, that inexpensive tool doesn't fit the budget. Here is a simple home remedy.

The basic piece of steel should be 1/2" to 3/4" wide. If you use wider stock, you will have to cut a notch in the piece so it is no wider than 1/2" due to clearance limitations when turning the piston in. Use 3/16 inch bolts that stick out 1/8 to 1/4 inch beyond the nuts that hold them in place. The bolts should be 7/8 inch apart. You may want to make slightly larger holes in the steel to allow for a little adjustment room.

Tim Winker

Pressure Plate Press

If you change your own 99/900 clutches and don't have access to a shop press, here's a tip on removing the Saab spacer ring (Saab special tool number 83-90-023) from the pressure plate.

The ring fits between the pressure plate fingers and the housing to facilitate removal of the plate, clutch disc and slave cylinder. The ring holds the fingers back as if you were stepping on the clutch thus allowing the slave cylinder to move about. Once the slave cylinder is clear of the trans housing, all three parts come out together. To remove the spacer ring from the old pressure plate and install into the new one, try this:

- 1) Get a piece of 2x4 (1x2 will also work) about as long as the diameter of the pressure plate.
- 2) Take your floor jack, pressure plate and wood and go to one of the jacking points underneath the rocker sill.
- 3) Turn the pressure plate so that the fingers are facing the ground and the disc side is facing up.
- 4) Place the stick of wood on the disc side and position the two centrally, underneath the jacking point.
- 5) Place the cup of your floor jack in the center of the pressure plate, here the slave cylinder presses on the fingers.
- 6) Slowly begin raising the jack. The car will raise up until the fingers bend in, as if the slave cylinder were doing the pushing.
- 7) Remove the ring and lower the jack.

Insert ring into the new pressure plate by repeating the procedure.

The floor jack I used had a small cup and fit perfectly onto the pressure plate. I found this process easier and far safer than rigging up something in a door jamb.

When you remove the ring after everything is installed, avoid using the slave cylinder to push the fingers back. Instead, slide the ring out one finger section at a time using a small pry bar. If you use the slave cylinder the piston can pop out and jam and the seal can break. You'll lose all the fluid in the cylinder and the trans housing will free the unit.

You may have seen those car dollies available now. Each tire fits into a metal trough with a swivel caster at each corner. Four of these allow you to easily move your car like never before - no more jockeying back and forth with a floor jack. They range in price from \$80 - 130 a pair. I found it cheaper to make my own using a 1/4" steel plate about 11" x 14". Weld a 200 lb. rated swivel caster in each corner of the plate. Be sure to get steel wheels to avoid flat spotting the caster. The whole setup will support 3,200 lbs. - certainly enough for just about any Saab. Make some wedge blocks from a wooden fir strip to block each side of each tire. Without these the car may roll off. For shuttling clear across the acreage of your workshop, consider a ratcheting tie down strap for each corner. Each pair cost me about \$60.

Tom Remedios
Seattle WA

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More Power To You

by Tim Winker

One of the most commonly asked questions of new members to the Saab Club (or of virtually any car club) is "How can I make my car go faster?" Here are a couple of inexpensive answers to that question that will not alter the vehicle's emissions:

Transmission Ratios

One way for owners of later 99s and 900s to improve their off-the-line performance is to change the primary gearset.

The engine in 99s and 900s is a longitudinal layout, with the engine sitting backwards compared to most conventional drivetrains. The number one cylinder is closest to the firewall and the flywheel is at the front of the car. The primary gears transfer the engine power to the transmission, which sits under the engine.

Since 1978, when Saab switched from a gear driven primary setup to a chain driven one, there have been several different gearsets, depending on the combination of horsepower to economy that Saab engineers were attempting to achieve. All of the gearsets are an overdrive, ranging in ratios from 0.97 to 0.78. If you'd like your 900 Turbo to reach 0 to 60 in minimal time, and since top speed is something most cars in the U.S. never even come close to, a shorter overdrive might be just the ticket for your Saab. If you do a lot of highway driving and the engine in your 99 sounds like it's screaming, you may want to switch to taller gearing, or a smaller numbered overdrive.

Here's an example: A stock 1985 900 16-valve Turbo came from the factory with a 32:25 gearset, the top gear (32 teeth) taking the power from the engine and transferring it to the lower gear (25 teeth) in a ratio of 0.78. If you replace that gearset with a 31:26 set from an '84 8-valve 900 Turbo (ratio of 0.84) you'll gain some acceleration, but will run out of top end sooner. Fuel economy will likely suffer a little as well.

Why not change the final drive set, you may ask? Because there are only two final drive sets that have been used in Saab 99 and 900 transmissions. From 1978 to 1981 the ring and pinion is 9:35 for a ratio of 3.89, and from 1982 on the R&P is 9:33 for a 3.67 ratio. In addition, the primary gearset is more accessible, it is not necessary to remove the engine/transmission to replace the primary gears.

There are four primary gearsets: 31:30 (0.97), 30:27 (0.90), 31:26 (0.84), and 32:25 (0.78). A list of combinations along with gearbox series numbers is listed in Saab 900 Service Manual 4:1 Manual Transmission M 1979-88, pages 024-6 and 024-7. A summary of primary gearsets for gearbox series sold in U.S. spec Saabs is in the chart below. The series number is stamped into the front of the transmission on the primary housing.

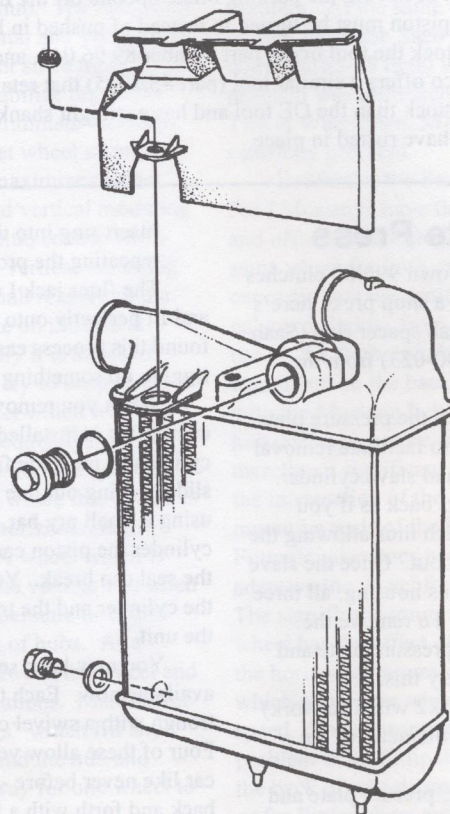
Gearbox Series	Gearset	Ratio	Model
99 models			
S+ #	31:30	0.97	'78 99 non-turbo
T+ #	30:27	0.90	'78 99 Turbo 4-speed
G34401	31:30	0.97	'79-on 99 non-turbo 4-speed

Gearbox Series	Gearset	Ratio	Model
900 models			
G34402	31:30	0.97	'79-'80 4-speed
G44602	31:26	0.84	'79 Turbo 4-speed
G45606	31:26	0.84	'82-'86 5-speed
G45702	32:25	0.78	'80 5-speed
G45704	32:25	0.78	'81 5-speed
GM45706	32:25	0.78	'85 900T16 5-speed
GM55702	32:25	0.78	'86-'88 900T16 5-speed

Turbo Intercooler

Saab introduced an intercooler on their turbocharged models along with the the 16-valve engine in 1985. Horsepower jumped from 135 to 160 with the new system, due in part to the assistance of the intercooler. The cooled air charge also allowed for higher compression in the 16-valve Saab engine.

Most of us know that the intercooler is some sort of radiator for the intake air, but what does it really do? And more importantly, how can it be optimized for peak efficiency?



When air is compressed, it warms up. A popular application of this principal is the diesel engine, where the compressed air in the cylinder fires without the aid of a spark plug.

On a turbocharged engine, the air compressed by the turbine can easily heat to over 300°F. If cooled, that same air becomes more dense, resulting in more molecules of air per charge,

hence more power. The cooler mixture also reduces the chance of detonation in the cylinders.

The process called *intercooling* places a heat exchanger between the turbo compressor and the engine. It is sometimes known as *aftercooling* because the cooler is after the compressor. The proper technical term is *charge air cooling*. The intercooler may reduce the temperature of the pressurized air by up to 100°F.

Most original equipment intercoolers are air-to-air for simplicity. An air-to water intercooler is more efficient, but requires another heat exchanger, a pump and coolant. Air-to-water intercoolers are used on trucks and industrial equipment where space conservation is not a factor. A separate heat exchanger is required as the existing engine cooling system would be overtaxed by trying to make it handle the extra duty of cooling the charged air.

The addition of an intercooler does have some compromises.

Since the intake system between the turbo and the manifold is now longer - more ducting means a larger volume of air to compress - the turbo lag is slightly greater. It takes longer for air in the intake to pressurize since there is much more of it.

Another problem is heat under the hood. Though the intercooler has cooled the air, some of the air in the intake system will warm up again due to the heat generated by the turbo and the engine. Saab has an advantage over some other systems in that the intake is all on the side of the engine opposite the turbocharger. Still, insulating the duct from the intercooler to the manifold will help to minimize heat loss. A non-flammable, high temperature insulation material should be used.

The best way to measure the efficiency of the intercooler is with a temperature gauge. The probe should be mounted in the intake manifold, after the air has been cooled by the intercooler and passed through the hot engine compartment. A household digital thermometer with a fast scan rate should be sufficient to give readings that will reflect changes. An example would be when stopped with the engine idling. There is no

air flowing through the intercooler when the car is stopped so there is no charge air cooling. Rapid acceleration under this condition could cause detonation. When detonation is sensed, the Saab APC system opens the pressure relief valve, cutting back on the amount of power to the wheels.

On pre-'87 Saabs, the ducting around the intercooler itself is not well sealed; air can get past the heat exchanger. Better sealing provides more airflow through the intercooler, thus a cooler charge at the engine. Check to verify that your Saab's intercooler isn't allowing any air past the housing.

Make sure all of the ducting is free of obstruction. As with the radiator for the engine's cooling system, clear debris and dead insects out of the screen at the intercooler and keep the intercooler fins clean.

The location of the air cleaner can also obstruct airflow through the intercooler. Replacing the air filter housing with an aftermarket filter such as the K&N filter has the two-fold benefit of better flow through the intercooler and less restriction of air intake to the engine.

A recent article in *Turbo Club News*, the official newsletter of the *Turbo Club of*

Technical articles written by subscribers may recommend procedures or parts not approved by Saab Cars USA, Inc. The SAAB Club and NINES cannot stand behind the correctness of information in these articles, but offers them based solely on the experiences of the writers.

America, suggests painting the intercooler black to give it better heat dissipation. According to the article "a flat black surface will get rid of about 13 times as much heat as a naturally-finished aluminum surface."

For 8-valve turbocharged 900s and 99s, the addition of an intercooler will improve the efficiency of the turbo system. There are several aftermarket intercooler kits that are made to fit the 900. (NINES #154 has an article on how to install a Renault Fuego intercooler in a 900.)

While these suggestions won't necessarily create massive horsepower increases, a properly functioning intercooler will improve the overall efficiency of the turbocharger system.



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An Alternating View

I was intrigued by Frank Freeman's tale of alternating woe. In 17 years of dual-Saab ownership, I thought I had experienced every generic Saab problem, and the charging system has never failed me. My research through the Saab, Ford Taurus, and Chevy Truck shop manuals on my shelf failed to produce any hard data regarding what voltage or current a battery really wants or gets. The Saab manual gives alternator output levels based on test bench readings, Chevy asks that the unit put out its rated capacity (+/- 10 amps) at high speed, and Ford publishes a rating but does not specify the rated speed or repair limits. For the regulator set points, Chevy allows "between 13.5 and 16 volts," Ford and Saab, "about 14 volts." All three manuals have extensive instructions for diagnosing and armature, stator, and diode problems, and for disassembly and component replacement.

William H. Crouse's book "Automotive Mechanics" contains good information on lead-acid batteries. The open circuit voltage of a fully charged lead-acid cell is 2.1 volts, or 12.6 volts for a "12 volt" battery. At the same time, a fully charged battery will not accept current unless the voltage is at least 2.6 volts per cell, or 15.6 volts. Until the cell is fully charged, current through the cell is used to plate lead and lead peroxide from the electrolyte onto the negative and positive plates, respectively. Once full charge is achieved, additional current serves only to electrolyze water in the battery acid to hydrogen and oxygen. This is a different reaction than the one which occurs during the charge and discharge cycle of the battery, and it necessarily occurs at a higher voltage.

At equilibrium, any regulator setting between the full-charge open circuit voltage of 2.1 volts per cell and 2.6 per cell will ultimately result in a fully charged battery without overcharge. Therefore, the rather loose specifications on regulator settings noted in the manuals are still sufficient for a system

that will ultimately charge batteries but not damage them.

The problem, however, is not equilibrium but charge rate and total output. Here we need to look into the physics of the alternator and rate of charge acceptance in the battery. First alternator physics. Counter to intuition, the voltage produced by a generator, with a fixed field strength, is proportional to the speed of the machine. With the speed and field held constant, the torque required to turn the machine is proportional to the current being drawn by the circuit. The internal resistance of the generator serves to reduce the terminal voltage, so with speed and field both fixed, the terminal voltage drops as the amount of current being produced increases.

The only limit on the output from the alternator according to the physics is the magnetic flux produced by the field coil. More field current generates proportionally more magnetic flux until the rotor pole pieces (the zig-zag clamshell over the rotor coil) become "saturated." The magnetic flux generated by additional rotor current will then be ineffectively dispersed in space rather than concentrated in the stator coils. Similarly, the armature (stator) pole pieces have a saturation limit.

Engineering limits on the alternator output include the drive system (the belt slips), the wire gage in the rotor and/or the stator (the wires get hot, the voltage drops), the insulation system used on the wires (the insulation burns up and the machine shorts out before the copper melts), and the current capacity of the diodes.

Finally, there is the battery. With the wide range of batteries likely to be installed in the aftermarket, it would not be wise to "tune" the alternator for a specific size or model, but the Germans do things like that. Maintenance free batteries are more resistant to overcharging at the cost of being degraded by deep discharge. "Regular" batteries are more tolerant of deep discharge, but tend to lose water faster. You would use a higher setpoint and faster charge rates if

you expected maintenance free batteries to be used. Saab's batteries are said to be "regular," while Saab labeled batteries sold in the US are maintenance free. Finally, a badly discharged battery will paradoxically resist high charge rates, and must be slow charged for a time before it accepts rapid charging.

Combining theory with Frank's experience shows that Bosch internal regulators are limiting field current to a lower value than the Ford. He reported 95 amps measured from Bosch alternator rated at 53 amps, presumably at the 1900 rpm measuring speed, equivalent to 800 engine RPM. This means that the Ford will pump roughly twice the current into the field coils as Bosch would, generating 3-4 times the heat. Will this present a problem to alternator life? In theory it does, but in reality most people don't sit there at idle for extended periods with the accessories cranking away. Note however that Ford's "side terminal" alternators must be able to routinely drive the "instaclear" electric windshield, probably at idle. (You don't drive fast when you can't see!) I'm sure Ford uses a heavier gauge field wire to handle the extra demand. And having the set point a half volt higher than Bosch is consistent with assuming the predominate usage of maintenance free batteries.

I have a related experience from my diesel van. For a couple of minutes after a cold start, the glow plugs cycle on and off. When the (8) plugs are on, they draw about 300 amps, more current than a Saab draws when starting. This looks like a dead short to the alternator. The van ate up four rebuilt alternators in quick succession until I installed a "genuine rebuilt by Delco" unit. Seemingly similar components are often specially designed to handle special needs.

I monitored the voltage reading in my 9000 since reading Frank's article. The voltage is 13.9 to 14.1, depending on temperature, right after a cold start. It gradually drops to about 13.5 or lower with running time. The voltage is the same idling at night with lights and air conditioner running, as at speed during the day with the sunroof open, the

ventilation set to "off", and the radio off. I recall higher voltages in the winter. This behavior could indicate a sophisticated battery management system which lowers the charging voltage as the battery achieves full charge, and boosts charge in the winter. Or it could be a temperature dependency which makes the set point drop at higher temperatures, explaining problems in Arizona which I have never seen. In fact, the latter theory goes a long way toward explaining why the Bosch units test "good", but fail to keep up the charge.

One final issue is wiring and instrumentation. In the 9000, the alternator is connected through the starter motor terminal directly to the battery, so the regulator is sensing battery voltage. The problem cars in the article are 900s. The EDU reads out the voltage at the instrument panel; who knows what drop is in the wiring? As an instrument for monitoring charge behavior, an honest to God ammeter strapped to the battery terminals is the instrument of choice, and it is the one which is lacking. I have one in my basement, but I haven't found a hole in the firewall big enough to route the gage of wiring needed to connect it.

Would I use or recommend Frank's regulator conversion kit? If I concluded, either through experience or testing, that my volt-age regulator were kaput, and if the Bosch regulator is more expensive, I wouldn't hesitate. If I added accessories which required a lot more current than the stock Bosch unit can produce, I would investigate modifying a higher-output unit to fit (they aren't necessarily bigger physically) before "juicing up" an existing unit. If I did "juice up" the Bosch unit, I would take care not to idle for extended periods while pumping out lots of current. I would watch the battery electrolyte level, given the higher voltage set point used by Ford. For sure, I wouldn't put in a different regulator to prevent a problem I haven't had yet.

Stephen Goldberger
N. Canton OH



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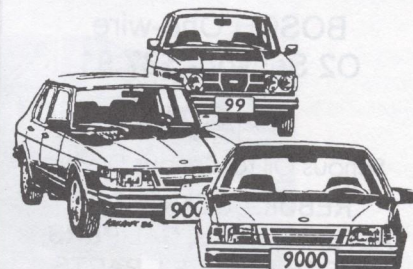
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Front suspension rebuild on a 99/900

The '78 99EMS (NINES #222) now has a front suspension rebuild and I have aches, bruises and general fatigue. The end product is a fantastic improvement in ride, handling and most important, the qualitative feel of the car. Any 99 or 900 with 100k+ miles is a candidate for a suspension rebuild and will benefit greatly. Unfortunately, unless a member can tell us a secret, it may be beyond the scope of most shade-tree mechanics, and was almost beyond mine.

I shopped the NINES classified and display ads and ended up with two steering rod ends, four ball joints, and eight suspension bushings for less than \$150. As I have the "pickle forks" necessary to loosen the ball joints and tie rod ends, I was only concerned about needing the weird, Saab only, front spring compressor.

Two Saab specialists, who because of past favors I choose not to name, assured me that it is not necessary to disassemble the front suspension to replace the inner suspension bushings. This is true for seven of the eight bushings. This last one is what in the busted-knuckle trade we used to call "a winker." No offense, Tim, but parts like this bushing and the #8 spark plug on the V-8 Chevy Monza, which required the motor mounts to be loosened and the engine jacked up, were done with "change seven and give the back one a flat-rate wink."

The left upper A-arm is a challenge to merely loosen the four bolts. Removing the rear bushing proved to be an impossibility. Working alone, while the spring remained in place on top of the A-arm, two 3-ft long pry bars above and a floor jack below would not move the rear end of the A-arm into a position allowing sufficient clearance at the firewall to remove the bushing.

Saab uses a special tool, shaped like a giant steel alligator to compress the front spring. I tried using two internal compressors externally - no go. I rented two McPherson strut compressors and using all four at once sort of got the spring off at great risk to life and limb.

Once the spring was off, the two 3-ft bars manipulated by the legs, while bending over and reaching down into the bottom of the engine compartment extricated the last bushing. Two competent and sagacious assistants on the pry bars and the floor jack might have allowed the bushing to be removed with the spring in place, but I would

have to see it done on this car to believe it.

Once out, the bushings can be removed from their aluminum brackets and the new ones installed using a bench vise as a press. Clean the A-arm shafts and do not tighten the large outer nuts until the weight of the car is back on the wheels.

Famous last words in most Chilton manuals, "Installation is the reverse of assembly." Since removing it was difficult, getting the spring back in with this make-shift system proved impossible. After three hours of wrestling, having the cheap made-in-Taiwan strut compressors slip and scare me to death, I devised a method about all which can be said is that it worked when nothing else would. Using the internal compressor, I squeezed the spring tight enough to fit back in. Using the external strut compressors, I held the spring compressed while I removed the internal compressor. I manufactured a 1/4" steel plate 6" square and drilled a 1/2" hole in the center. The upper spring mount/bump stop already has a 1/2" hole in its center. An 18" length of 1/2" threaded rod goes up the middle of the spring and through the upper spring mount/bump stop and is secured with a 1/2" nut. The steel plate is inserted one coil from the bottom and the rod goes through it and is secured with a nut tightened only to full thread engagement. The top nut is run down tight inside the upper mount cone. When this is secure the strut compressors can be removed.

The spring is inserted into position, the top of the threaded rod protrudes through the slot in the top of the inner fender, which gave me the idea in the first place. The suspension is jacked up to hold everything in place and the bottom nut and plate are removed. The top nut must be held with pliers while the rod is spun out and then the nut is fished out through the slot with a magnet. I am saving the "tool" but I devoutly hope that I never have to use it again. There must be a better method. Please share it.

During the process, I was beginning to doubt its very necessity as most of the parts removed looked fine. In fact, most Saab shops don't replace the bushings, as "they never give trouble, except the one by the turbo." They don't ever seem to fail completely, but they do loosen and lose enough resiliency that the renowned Saab precision feel is gradually lost.

Jack Vines
Spokane WA

Professional Perspective

Continued from page 7

would decide if the applicant was eligible to attend the training center based on the volume of parts purchased. Mr. Pagel assured me that they were extremely busy training dealer people but acknowledged the need to train technicians who use their quality parts to repair GM cars. If GM can do it, why can't Saab?

About the time I completed this column, the following article came via our satellite link to DTN Corporation. I think it further explains the need for Saab to participate in training of all technicians who work on Saabs.

Chuck Andrews
Andrews Inc
Princeton MN

National Shortage of Technicians Reported.

Washington (AP) - The crowded waiting rooms at automotive repair shops may soon get even busier. The nation is facing a shortage of about 60,000 technicians to work on cars, which have evolved in recent years into highly com-

puterized items. And the problem is expected to worsen when the new Clean Air Act requirements that enhance emissions inspections in many cities take effect in January.

"Many, many vehicles are expected to fail these tests and to require repairs to emission control systems," said Geoff Sundstrom, a spokesperson for the American Automobile Association. "AAA is very concerned that motorists have access to technicians with the ability to fix these problems the first time. Right now we are not confident that enough trained personnel are available to service these vehicles."

The Environmental Protection Agency, which administers the Clean Air requirements, said 60,000 more technicians are needed to meet the demand.

Chuck Groves, a special training-programs manager for the customer-service division of Ford Motor Co., said the problem is unquestionably due to the growing complexity of automobiles.

In 1990 models, just 18 percent of a car's functional pieces were controlled by computer. Just four model years later, that has increased to about 83 percent, Groves said.

"We have gone from what was a mechanical fix to now a diagnostic fix, and the one will

not supplant the other," he said. "There is a very disciplined approach today for computer-based skills and math skills. The approach to repair is radically different."

In addition to the shortage of people, many of the technicians already on the job just don't have the skills needed to fix advanced electronics - such as brakes and transmissions - and other technical components.

The EPA says the average technician is six to eight years behind in training.

Groves said specially trained technicians will be needed to service complicated air-conditioning systems that will replace old versions that pollute more. Technicians with unique expertise will be needed to handle alternative-fuel vehicles and "smart car" technology.

The good news is this creates a readily identifiable industry that job seekers can enter. A technician typically needs a two-year degree from a technical school. Starting salaries are about \$25,000 to \$35,000 a year, and more skilled technicians can earn as much as \$75,000.

"You can no longer these days be an auto mechanic without being a qualified technician, an engineer," Labor Secretary Robert Reich told aspiring technicians at a recent contest. "These are tough jobs; these are high-skill jobs; these are good paying jobs."

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Saabs lead in SCCA PRO Rally points battle

Saabs are once again competitive on the SCCA PRO Rally circuit, thanks to a new classification in the rules. Group 2, designed for two-wheel drive cars with engines of 2.0-liters or less has proven to be a popular class with rallyists, and the class is currently dominated by Saab 99s and 900s.

Leading the Group 2 class after five events in the 1994 Michelin PRO Rally Series is the Saab 99 driven by Goran Ostlund, followed by the 900 of Sam Bryan. Both cars are prepared by Scania Autosport of Seattle, Washington. Ostlund is also fifth in the overall championship standings, with only unlimited all-wheel drive, turbocharged Open Class cars ahead of the normally aspirated 99.

Saab Club member Sean Tennis owns the car that Ostlund drives. It is a '75 99 2-door with modified B-engine, aluminum flywheel, and a close-ratio rally gearbox. Front brakes use the ventilated rotors from an '86 900 to cut down on heat buildup.

Bryan's car is an '80 900 chassis with newer sheet metal to resemble a later model 900. Power comes from a 2.0 liter engine with a modified 2.3 liter 16-valve head. It features crank-fired ignition and a programmable fuel injection system. It also has the close-ratio 4-speed rally gearbox. Four piston disk brakes from a Toyota Land Cruiser have been mounted up front for better stopping ability.

The only other Saab to have scored points in Group 2 to date is the 99 3-door of Saab Club member Gerry Sweet, who works for Reinertsen Motors in New Jersey. Several other Saabs have been entered in Group 2, including a couple from Pennsylvania.

Carl Jardevall continues to run a 3-door Saab 99 on the West Coast, but in the Open class as the car has a 16-valve turbo engine under the hood. His 1994 efforts have ended with mechanical failures at Wild West and Rim of the World.

99 Victorious at Great River Road Vintage Rally

Though most areas of the country would not consider a 15-year-old car to be "vintage" the 1979 Saab 99GL of Tim Winker and Diane Sargent recently won the Great River Road Rally for Vintage cars. The 500-mile rally ran along the Mississippi River from St. Paul, Minnesota, to LaCrosse, Wisconsin, and back, taking two days.

Among the other cars entered were a Ferrari 250GT Boano, a Mercedes Benz 300SL roadster, a Fiat Dino Coupe, a Porsche 914/6, a Jaguar XKE V12, and a 1963 Buick Riviera. Several Alfa Romeos were also on hand as the event was organized by the Stella del Nord Chapter of the Alfa Romea Owners Club.

The GRRR is part of the Great Northern Historic Rally Championship Series, which is designed for cars whose origins go back 20 years or more. Since the Saab 99 originated in 1968, it was eligible for the vintage event.

The winning 99 is the "NINE-T9", a Saab Club project car featured in several issues of NINES.

ITB 99 exceeds 10,000th mile at Longest Day enduro

Jack Baxter's Saab 99 passed its 10,000th mile of competing the the Longest Day of Nelson Ledges this year, the 7th time the car has competed in the annual 24-hour race. The 99 crossed the 10,000 mile mark in the early morning hours of this years event, shortly after the "Spirit of D.C." Datsun 240Z reached the same milestone. The 99's mileage total is now 11,024 at the Longest Day race. The Spirit of D.C. Datsun is the only car to have completed more total laps at the Longest Day.

The FTC Motorsports Saab had only a couple of minor problems on this year's 24-hour run: The left rear control arm nuts backed off and the control arm came loose, and the anti-sway bar mounts were ground away due to the roughness of the track. The '76 99 2-door, the only Saab entered this year, finished fourth in the Improved Touring B category, 12th overall. Drivers included Baxter, Helmut Forren, Pete Ferrara, Christine Shaw, and Tom Horan, all of Georgia. Sponsors for the Saab effort were S&J Automotive, Auto Transformation, Hoosier Tire and Sportsline Tents.

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SAAB SWAP

July 1994

Sonetts For Sale

Two '73 Sonetts, one partially restored. Also an extremely rare twin-downdraft 2bbl. 4 pack intake manifold and carburetors. Lots of extras. \$3,500. James Iverson, 406 1/2 S Duncan, Stillwater OK 74074. 405/624-7310.

'73 Sonett III, yellow, runs, new clutch, needs brake lines and minor work only, good body, has rust, parts cars available. \$750. Jon Lawson, 1544 Maurice #32, San Jose CA 95129. 408/252-9124.

'72 Sonett III, 85K miles, Orange/Black. Calif. car garaged in PA since '86. Good restoration prospect, no rust. 5 aluminum wheels, Aux lights. \$2,500/ obo. Tim Keck, 315 Westmont Ave, Horsham PA 19044. 215/674-4246 eves.

'69 Sonett V4, White/Black, original owner, given TLC, very good condition, VIN #1396. \$3,900. Karin, PO Box 1222, Santa Teresa NM 88008. 505/589-2222.

'67 Sonett II, #248. Replaced rockers, solid pan. Stored many years. \$3,500 obo. Call soon, I'm moving. Frank Andrews, R2 Box 125 Mine Rd, Oley PA 19547. 610/987-3636

93s, 95s, & 96s For Sale

'72 GN8 95, 68K mi, stored inside, new clutch will not disengage otherwise excellent condition. \$1,500. Also, all parts from low mileage accorded '70 96, new mounted studded snow tires. Jim Barr, 59 Birch Brook Rd, Peekskill NY 10566. 914/737-7216.

'72 95, solid body and pan, many spare body and engine parts, original owner's and repair manuals, Slightly disassembled, needs clutch slave cyl. \$600 obo. Dick Peterson, 212 N 5th St W, Mt. Vernon IA 52314. 319/895-8962.

68 96 Deluxe V4, good body, excellent trans, engine runs but needs work, Bilstein shocks, MSS type exhaust, tinted windows, 8 tires & rims. \$500. Myrl Fisk, PO Box 60784, Phoenix AZ 85082-0784. 602/840-6966.

'64 96 GT Monte Carlo, Light blue w/blue interior (mint), must sell, 90% restored, extra carbs, new windshield. Lic "SAAB 64", seen at last two conventions. \$4,900 obo. Joe Cotteleer, 204 Arcadia Ct, Vernon Hills IL 60061. 708/680-1353.

CLASSIFIED AD RATES

Ads offering parts or SAABs for sale or wanted are available to members and non-members. Ads are limited to 25 words, plus name address and phone number. Ad copy will be abbreviated and excess words deleted where possible. Enclose sufficient funds with your ad, we do not bill. No ads will be taken by phone. The Classified Ad rate is as follows:

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EVERY 5 EXTRA WORDS	\$1.00	\$1.50

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COMMERCIAL DISPLAY ADS: Contact the editor for rates and info. Deadline, the 10th of each month for the following month's issue.

Two '67 96s, one 3 cyl, one V4, not driven over 5 years but very restorable, no rust. \$300 ea obo. George M. Krohn, 5607 Benning Dr, Houston TX 77096. 713/721-3540.

'57 93, good condition. Price negotiable. Gabriel Boenzli, 35221 Riverside Dr, Albany OR 97321. 503/967-7276.

2-Stroke & V4 Parts For Sale

2-stroke pistons (850cc) oversize + 0.5, 1.0, 1.5, and 2.0mm, \$295/set. V4 1500 and 1700 pistons, std and oversize, \$275/set. Headgasket 95/96 '60-'64, \$20. Headgasket 95/96 '65-'68 +Sonett II, \$40. Upholstery black vinyl (original) over gastank etc, Sonett V4 '68-'69, \$100/set. Upholstery grey carpet (original) over gastank etc, Sonett II '66-'67, \$190/set. Door window rubberstrips, fits all Sonetts, \$30/set. Front bumper moulding Sonett II/V4 ref 7403835, \$50. Also: Lightening parts for all Sonetts. Auxiliary lights for Sonett III etc. Gearbox parts for 95/96/97. Can also deliver parts for 99/900/9000. Send \$2.00 or fax for partlist or info. **Motorsport Sweden**, Hacketorp, S-641 46 Katrineholm, Sweden. Phone/fax +46 150 12904.

4-Ronal 8 spoke alloy rims, fits 95/96/ Sonett. \$100 ea or all \$375 +shpg. 2-96 transmissions, 1 good, 1 bad. \$200 for both. Myrl Fisk, PO Box 60784, Phoenix AZ 85082-0784. 602/840-6966.

Sonett Salvage: Parting several Sonett V4s and IIIs. Call or write with needs. Mark School, 313 E Greenfield St, Appleton WI 54911. 414/731-5289

Sonett III body shell assembly and driver's door. Very good condition. Fits 1970-72. Best offer. Don Danneman, Danneman's Auto Service, 100 Lafayette Ave, Laurel MD 20707. 301/725-2244.

Parts Cars: '74 Sonett III, 98% complete, good transmission. '72 Sonett III, one-owner, rebuilt and neutered transmission. Both: Calif. cars, don't run, good chassis, cracked but repairable noses. \$300 each. Cars only, can not part out. Jon Lawson, 1544 Maurice #32, San Jose CA 95129. 408/252-9124.

99s and 900s For Sale

'89 900 Turbo, 16 valve, 5 spd, 3 door, 55K mi, heated leather seats, SR, stored winters. \$12,500. Harry J. Fleury, 16 Towers Rd, Essex Jct VT 05452-2611. 802/878-5423.

'87 900, 8 valve, 5 spd, 150K mi, need trans work, presently not running. Best offer. Robert Seligman, 1 Claridge Dr, Verona NJ 07044. Home 201/857-3540, work 908/236-6740.

'85 900 SPG, Black, recent \$7,000 rebuild, no damage, best on west coast. \$8,500. Thom Martin, 61533 Parrell, Bend OR 97702. 503/383-1773.

85 900 Turbo, 3dr, 5sp, 130K mi, Bronze Metallic, Tan velour. NINES Project car: Winter Beater Mk. II (issues #191, #192, & #205 - send \$2.00 for copies). VG condition, Gp6 APC box, Gp6 exh, K&N air filter, water-cooled turbo, Zymoled, armrest, trailer hitch, SR deflector, new P6s, rblt trans. \$4,500 obo. Tim Winker, Duluth, MN. 218-724-1336.

'84 900 Turbo, Gray, moroon interior. '85 900 Turbo, 16 valve, all Blue. Both with elec, 4 door, alum wheels. George Jaros, Rt 1, Box 84, Fergus Falls MN 56537. 218/739-5448.

'78 99T. 100K mi. New: turbo, exhaust, brakes. 4 Incas, very restorable, no rust, needs paint. \$1,500 obo. Andy Coll, 142 N Barnard St, State College PA 16801-3761. 814/876-8910. Internet:esv@psuvm.psu.edu.

'78 99 EMS, Grey, no rust, solid car, transmission shot, engine fine, Recaro KRX driver seat, 900 passenger seat and door trim. \$800 w/Recaro, \$500 obo without seat. Jeff Brookshire, 4695 Burns Rd, Lilburn GA 30247. Call btwn 6-11 404/931-2131.

'77 99 5dr. No rust, Calif. car. Excellent mechanicals. See NINES #222 for details. Continue the project and write about it, \$1,500. Otherwise \$2,500. Tim Winker, Duluth MN. 218/724-1336.

9000s For Sale

'93 9000 CSE Turbo, Platinum, 16K mi, all options, leather, perfect, 5 spd. Scott McNeil, 2985 Rubbins, Howell MI 48843. 517/548-0805.

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Parts & Accessories

99 Turbo parts: Inca's, \$75 ea. Spoilers, front \$90, rear \$40. Sway bar \$70. Floor console w/ gauges, \$70. 4 Konis, \$80. Tach, \$25. Oil cooler w/hardware, \$30. Lens Assy, \$20. What else? Michael D'Aleo, 23 Hutchins St, Saratoga Spgs NY 12866. 518/587-0457.

'82 900S engine, trans, still runs. \$200. Tim Young, PO Box 3616, Rt 1, Concord Hill Rd, Pittsfield NH 03263. 603/435-8660 eves.

Saab convertible top hydraulics. Motor pump, \$189. Top cylinders, \$135 ea. Hose set, \$100. COD, VISA, Mastercard accepted. HYDRO-E-LECTRIC, 48 Appleton Rd, Auburn MA 01501. 800/343-4261 or 508/832-3081.

Saab books, manuals and sales literature 1970 - 92. Send SASE for list. HYDRO-E-LECTRIC, 48 Appleton, Auburn MA 01501.

99, 900 headliner kit comes with glue, 3 1/2 yds and complete instructions, \$87.50. Other parts available. TROLLHATTAN MOTORS, INC. 410/682-4688 or 1-800 32 TROLL.

900, 9000 parts turbo, non-turbo, '91 and older engines, trans, doors, nose parts, clips, wheels, suspension, accessories, electrical, glass, radios, seats, dash, headliner, carpets, door panels. Also new parts. European Car Parts, 57 N Plains Industrial Rd, Wallingford CT 06492. 203/284-8989.

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Wanted - All Models

Saab 900 wood dash inlay. Must be in good condition. H. D. Rudenko, PO Box 156, Babson Park FL 33827. 813/638-2691 leave a message.

Clean, late model, rust-free 99 EMS. Sherrell Greene, 12113 Valley Trail, Knoxville TN 37922. 615/574-0626 days, 615/966-4534 eves.

Sonett III, with good frame, mechanical, interior and body not important. Andy Coll, 142 N Barnard St, State College PA 16801-3761. 814/867-8910. Internet: ESV@PSUVM.PSU.EDU.

A dedicated individual to purchase my entire collection of Saab Club newsletters/NINES magazines for April '79 to present. Best offer by 8/15/94 gets all. Terry Parsons, 3411 Bathgate Ln, San Jose CA 95121. 408/274-0301.

Index of articles from the New England Sonett Club Newsletter and from NINES. 99/900/9000 Index (43 pgs) \$12.50. Sonett Index (21 pgs) \$10.00. +\$2 shpg. Outlaw Productions, PO Box 605, Thornville OH 43076.

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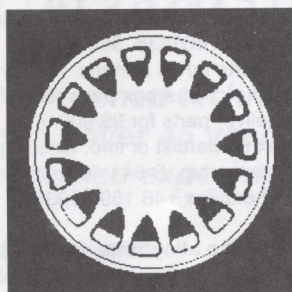
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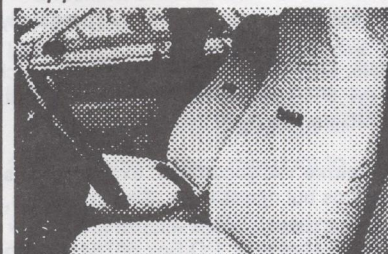
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Rear View

Rating the ratings

While sales of the new Saab 900 are keeping the factory in Trollhattan busy, a survey by J.D. Power has Saab executives scratching their heads. The most recent J.D. Power Initial Quality Survey placed Saab near the bottom of the list with 180 problems reported per 100 cars in the first 90 days of ownership, just one position ahead of Hyundai at 193. The industry average is 110 reported problems per 100 cars in the first 90 days. The IQS was based on registrations in November and December, the first couple of months the new 900 was available in the U.S.

Saab executives were surprised by the survey results, but surmise that the ranking may have been the result of a small sampling since Saab only sells about 25,000 cars a year in the United States. Audi, Porsche and Alfa Romeo, importers whose annual sales are just below Saab's, were excluded from the final list due to the small sample size. Another reason is that the sampling was for only the first 90 days of ownership. Saab expects to have a better showing over the first year.

The quality of the J.D. Power survey itself has been questioned as cars built on the same line may have very different rankings. An example is the Geo Prizm and Toyota Corolla, twin cars built by NUMMI in California. The Prizm was one of the top ranked models at 56 problems per 100 cars, while the Corolla was listed at 76, unchanged from the 1993 survey. The Prizm showed 89 problems per 100 cars in 1993.

Another possibility is the owners' expectations of their new cars. The Power survey is objective, based on the owner's perception of faults rather than dealership records or repairs. Consequently those who buy a particular model may be expecting a

few problems, while others expect perfection. The Prizm and Corolla rankings seem to reflect this possibility, as most new Prizm owners have previously owned a domestic car, while those buying the Toyota are expecting the fabled Toyota reliability.

There have been a couple of minor trouble spots with the new 900 that could have gotten it the 1.8 problems per car rating. One is a loose body molding. Another is a vibration problem that may be traced to either the GM power steering rack or to the Pirelli P4000 tires. A few owners have reported trouble with the central locking.

Saab has issued a recall of early 900s to replace the backing plates on the front brakes. The earlier design could allow slush to collect in the brakes during sub-freezing weather and possibly cause reduced braking power. This problem was discovered in testing by the factory and it is unlikely that owners noticed a difference.

Another oft-quoted consumer survey is the annual *Consumer Reports* "Frequency of Repair" index. Just how accurate is the CR rating, particularly as it pertains to Saab?

The index is based on a voluntary survey of the magazine's 5 million subscribers. Fewer than 10 percent respond to the survey, or roughly 500,000. That percentage is at the low end of what experts consider adequate for statistical reliability. Since the survey is voluntary, and it is based only on responses from CR subscribers, it may be biased toward the mindset of those who accept the *Consumer Reports* philosophy and not the public at large.

Saab is a small car company, accounting for 0.2 to 0.3% of the vehicles (cars and trucks) sold here each year. Assuming that Saab owners are among the same overall percentage of those who respond to the Frequency of Repair survey, 0.2 percent of 500,000 is 1000. Spread over six years and two models, each Saab model is represented

by fewer than 100 responses. That is hardly enough to make up a decent statistical sampling. If a problem is reported on more than 14.8% of the repair frequency surveys returned to CR, it gets the dreaded black dot - Worse than Average - considered a failing grade. One or two disgruntled owners, or exceptionally pleased owners, can change the sampling by several percentage points. The CR survey also makes no distinction between minor and major problems. Squeaky brakes could be rated just as poorly as brakes prone to sudden failure, yet which is the greater problem?

It is also interesting to note that the *Consumer Reports* ratings change from year to year where Saab is concerned; again proof of how the small sampling can affect the overall rating. One year the rating shows average repair, the next shows much worse than average, and the next better than average, yet the systems have not changed.

The NHTSA New Car Assessment Program crashes cars into a solid barrier at 35 mph, then rates the safety of the cars based on that single crash. There are plenty of flaws with this method of data gathering: It is not repeated, it does not take possible errors into account (an early crash of the Saab 9000 was rated poorly because the seat latch had not been secured by the testers), and very few crashes in the real world are into a solid barrier. Though NHTSA offers disclaimers when releasing its data, the media seems to look for simple answers and offers the results to the public without the warning.

The Insurance Institute for Highway Safety offers a better assessment of collision information as it takes its data from insurance records. It is based on what happens in the real world. Unfortunately, it can only cover cars a few years old and not new cars.

Statistics are only as good as the method of gathering the data. Know the sources.

Tim Winker

NINES

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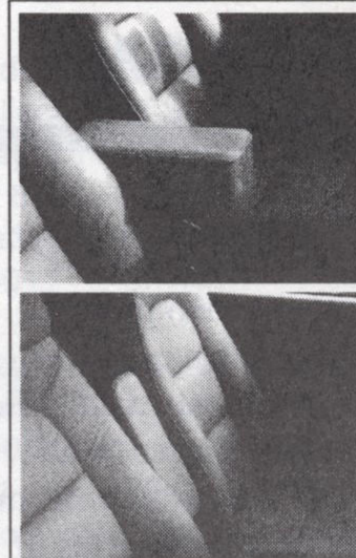
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