



NINES

THE SAAB CLUB NEWSLETTER

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1992
no. 210



photo by John Wynn, copyright 1991

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Regional Club News

Calendar of Events

National SAAB Owners Convention

Aug. 7-9 - Columbus, Ohio

Headquarters hotel: Marriott North
Room rate: \$68 for single, double or double/double occupancy.

Reservations: 614/885-1885
or 1-800-228-3429.

Dan Orzano, chmn: 614/231-3892.

Delaware Valley SAAB Club

Feb 29 - Winter Party. Harry's Savoy Grill, Wilmington, DE. Reservations required, by 2/22/92.

3-Cylinder Enthusiasts BBQ

July 12 - Bruce Welch, 802/276-3356, Williamstown VT.

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America discovers Columbus in '92

The 1992 National SAAB Owners Convention in Columbus, Ohio, will be three full days of nearly non-stop activity.

The convention will be August 7, 8 and 9, and, based on the input of members from across the U.S. and Canada, will feature multiple tech sessions on a variety of topics for all Saabs, as well as other events you've come to appreciate at past conventions.

We are trying to plan for tours of area attractions, especially those dealing with the 500th Anniversary of the discovery of America. If you think you may be interested in these tours, please drop us a line at the address below so we can begin securing tickets and transportation. Trip options and prices will be included on the registration form. Here are a few examples of what awaits you:

The largest event being staged in North America to celebrate the Quincentennial is AmeriFlora, located on the near eastside of Columbus, a short trip for interested Saabers. It consists of exhibits, entertainment, shopping and incredible floral gardens.

An exact replica of the Santa Maria is currently moored in downtown Columbus. Visitors can climb aboard and see just what Christopher Columbus and his crew used to cross the Atlantic Ocean.

The Ohio State Fair begins the same weekend as the convention. COSI, Ohio's Center of Science and Industry museum, features hands-on exhibits focusing on science and technology. The Columbus Zoo is world famous for its success in breeding gorillas and cheetahs.

There are many other possibilities such as a tour of the local Anheuser-Busch brewery, Malibu Gran Prix racing, or tours of the German Village, Short North Art Galleries, or Brewery historical districts.

If you would like more information on these and other destinations, call 1-800-BUCKEYE and ask for them by name, or a complete travel and tourism kit.

We are also trying to obtain a discount on air travel for those who may choose to fly instead of drive their Saabs. If you think you will be flying in, please drop us a line, stating where you will be coming from and how many will be flying.

SAAB Club of Central Ohio
2434 Dover Road
Columbus Ohio 43209
614/231-3892

SAAB Club of North America

2416 London Road, Unit 900
Duluth, MN 55812-2221

218/724-1336, 9am - 6pm Mon - Sat

Fax number: 218/728-6307

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Tim Winker

Editorial Ass't / Membership

Joan Oswald

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Editorial contributions are welcome. All material submitted is assumed to be for publication unless clearly labeled otherwise. Double-spaced typewritten articles are preferred, but most anything is acceptable. We cannot answer every inquiry and reserve the right to edit materials submitted.

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

CHANGE OF ADDRESS: Eight weeks notice is required for change of address. Please send new address and old address, including zip codes, to the SAAB Club at the address above.

RETURNED CHECKS: There will be a fee of \$10.00 charged for checks returned for any reason.

Austria to host International Club Meet

Saab-Club Österreich has taken the task of organizing this year's International Saab Club meeting. The weekend of October 2-4 is the time, Salzburg (the birthplace of Mozart) is the place.

Further details will be published as they become available, but if you have an interest in attending, contact:

Martin Sailer
Oberer Marktplatz 167
A-4830 Hallstatt
AUSTRIA
tele: 0043-6134-254

Letters to NINES

Bigger, better, less often

First let me express my appreciation of the fine product you produce, the NINES newsletter. I feel the club is lucky to have someone of your talent and dedication.

I do sense a problem with maintaining a regular publishing schedule. My issue seems to arrive later each month. The two double issues this year allowed a temporary "catch up", but I think a new publishing schedule should be implemented so that receipt of the magazine is on a regular basis without requiring superhuman effort or hiring additional (read expensive) staff.

My suggestion is to go to a bimonthly publishing schedule (every other month). I would further suggest the first issue each year be dated February, the last, December, with a target of having the newsletter arrive on the 10th day of the cover month, making it easier to get through the Christmas season.

I wasn't a club member in the old days (my back issues start in 1985), but I get the feeling that in the early days (the '70s) that the newsletter was quite simple, i.e. several mimeographed pages stapled together, the main function being the listing of meeting time and place for the local club or clubs of the core area at that time, the North Central and the Northeast, in addition to a few rambling comments by the editor.

The present newsletter (actually more like a magazine) is quite different. What you have done, Tim, is spoil us. We now have come to expect a professional looking magazine, full of significant and meaty articles, service subjects and news releases from Saab, as well as ads that offer the Saab owner beneficial choices.

I also feel that it is important and beneficial to the club members that the editor attend functions of Saab Clubs, local, national and even international, also Saab corporate functions as well as participate in events such as One Lap of America, the Alcan Rally, etc. I also sense that these activities help elevate the level of job satisfaction of our editor.

I also suspect that in order to produce the professional and consistently substantial newsletter as well as participate in the above mentioned activities has often required

some rather intense efforts between monthly mailings.

Rather than publish a lightweight and inconsistent newsletter, albeit monthly, I would much rather that you maintain your current standards of excellence on a bimonthly basis.

Frederick Kearney
Folsom CA

You've hit the nail on the head with regard to making deadlines. It takes time to travel for a story (such as the Detroit Auto Show tales in this issue), then write it (or them), and still try to maintain deadlines and the quality I expect from each issue of NINES. My first goal is to provide a quality product, with the deadline as second in importance. Don't forget, there is also the day to day operation of running the business that takes time. I do expect to stay closer to home for the next several months, but have been invited to participate in a couple of endurance rallies this Spring.

In an effort to catch up, and to present some longer stories that are in the works, February and March will be combined into a double issue again.

A bimonthly schedule has been discussed before, and I have recently asked several regular contributors their feelings on the possibility. Those that prefer to see NINES remain a monthly did so because of the classified section, wanting regular access to used parts, etc. Another suggestion was to publish a bimonthly magazine (about double the current size), with a 4-page newsletter featuring ads and club news on alternate months. That idea has the strongest support. Opinions? Suggestions?

While I enjoy sharing the tales of the Alcan, One Lap, the Detroit Auto Show, and club meets, I also feel it is important to attend these functions from a public relations standpoint. It helps create an awareness of the SAAB Club to people in the automotive industry who don't normally pay a lot of attention to Saab. When I'm away from home/office, I try to visit Saab repair shops and dealerships, particularly those that are active participants in the club.

Promotion of the SAAB Club can help to increase the membership, which should mean more income, which could lead to more employees, which would make it easier to meet deadlines. - TW

Towing with a 9000

I enjoyed your Winter Beater Mk. II article in the July/August NINES. The towing, carrying, cooling and other informa-

tion was quite useful as we use our 9000T in business hauling heavy loads. We seldom travel without being loaded to the ceiling. Our 1986 Cranberry five door 9000T will turn 100,000 miles before the end of the month, the last 30,000 miles since January. We have nicknamed it our High Speed Truck.

I had the good fortune to meet Jerry Danner of Mile High Body Shop in Denver a couple of weeks ago. He uses his 9000T to haul other Saabs for his business. Makes a plush tow truck. He had a couple of tips he had run across lately, such as the oversized late model CD shocks fitting the earlier 9000 models, etc. I thought I had seen an article on towing with a 9000T in NINES, but couldn't find it. You should interview him or have him write an article on towing with the 9000T as a follow up to your 900T towing article.

It seems that every time we are about ready to give up on keeping Saabs in a non-Saab area, we find the help we need from somewhere. Mile High Body Shop and Import Parts Warehouse of Denver with their long lines service are the latest to help us keep Saabs going at a reasonable cost!

Mick Wood
Las Cruces NM

Trust & Quality found in Club

As a new SAAB Club member and Saab enthusiast ('83 900S), I can say I am even more impressed with the people I've met in the club than the cars.

All the folks at Andrews have such a commitment to quality and service, unlike any others I have come across in the automotive community. Quality will always sell itself.

Paul Theilman, from whom I purchased a set of snows mounted on some wonderful EMS wheels through the newsletter. Having never made a purchase like this, I was very impressed by the degree of trust Paul showed when he mailed me the wheels so I could inspect them before sending off payment to him. Thank you, Paul, for the great set of snows and for showing me that honor, personal integrity and trust are still very much a part of our society.

Mark R. Moe
Minneapolis MN

Opinions expressed in **Letters to NINES** are those of the writer, and not necessarily those of the SAAB Club. Please limit your letters to 300 words.

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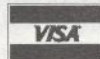
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Saab offers special financing again

Saab Cars USA, Inc., and its dealers are again offering special lease and finance deals on new Saab 900s and 9000s. The latest incentive program is effective through March 31st, 1992.

A 1992 Saab 900 three door can be leased for \$299 per month for 48 months. A similar lease on a '92 Saab 9000 is only \$399 per month. Details are available at Saab dealerships.

Special financing is also available on new Saabs with a 25 percent down payment. The special lease and finance rates are offered through Saab Financial Services, Corp.

Feb-Mar double issue

In an effort to return to our regular publishing schedule, the February and March issues of NINES will be combined under one cover.

The double issue will contain some longer articles, possibly a tech session or two from last year's national convention.

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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

My 1981 900 Turbo is actually parts from two broken 900T's each with 100,000 miles, squeezed into one by Andrews, Inc. After 10,000 trouble-free miles, it starts poorly when the engine is not near operating temperature. It will fire right off and run for 2-3 seconds then die, fire and run for a few more seconds then die, and so on. Babying the accelerator will keep it running until warm. I've cleaned or replaced the fuel injectors, and replaced the air filter and spark plugs. What do I look for now?

Also the hydraulic clutch (which shares the fluid reservoir with the brakes) seems to actuate very close to the floor till the car is warmed up, then actuates a little farther up. I'm told this is normal of these clutches. Is this true? Pumping the pedal seems to help. Fluid is never low and no leaking is visible.

Jon Baldwin
Osseo MN

Please refer to the previous article concerning pressure tests of line and control pressures. Be certain there is a bit of residual fuel pressure left in the system after 20 minutes. Check the spec for your year and model, I think the minimum is 30 psi. With a cold engine, check the fuel control pressure to see if it drops to the low values while the engine is cool.

In response to your clutch problems, I could easily recommend you replace both the slave and clutch master cylinders, but the easier one is the master. Before you connect the pedal to the push-rod, remove the pedal and have a washer welded into place for the pivot is likely to be badly worn and sloppy. If the slave cylinder is of the original early style, you may have to slide the snap ring that acts as a piston stop, towards the slave, (away from the clutch) while the clutch is depressed. This keeps the piston and release bearing in contact with the clutch so there is no free-play.

I am about to undertake a V4 rebuild. I have two questions about possible modifications:

- 1) Is it possible to convert to fuel injection?
- 2) Is there a CDI conversion, such as Saab p/n 20100, available?

My interest is to improve the standard fuel delivery and ignition system which seem to require a lot of maintenance.

Edward O'Brian
San Francisco CA

A few years back I designed into a street rod, equipped with a big block Chevy V-8, a Bosch D-Jetronic fuel injection system not unlike the early 99 EFI. Anything is possible if you can machine your intake manifold for the injectors and the distributor for trigger contacts. For this application, it would be intriguing, but probably not cost effective. Jack Ashcraft can supply you with the single choke Weber carb or contact Motor Sport Service in Jamestown, NY for their double-barrel carb and manifold. If I recall correctly, vendors in NINES such as Group 6 Performance and Roadsport offer an electronic ignition change-over for the V-4.

I have a 1987 3-door 900S and wonder if other owners have problems with the outside finish of the car? The plastic moldings have lost their chrome, the bumpers are shedding an outer layer and I get lots of red paint every time I wax (not polish) the car. I am also a victim of the side window gasket strip scratching my windows.

Dean Tremble
Eagan MN

The chrome plastic mouldings you refer to I assume are in the window glass seal. It is the plastic that encases the chrome that tends to yellow or darken and it is prone to happen in different climates and atmospheres. The peeling bumper skin should have been taken care of under warranty. Consult your dealer as to when the factory rep is due in and can offer some assistance (also see page 16).

Red paint will break down much more quickly than any other color. Any hue that contains red pigment is more susceptible to oxidation than those that do not. May I recommend you use a very fine cleaner/polish and then a pure non-abrasive wax. Consult Zymol retailers for their opinion.

The scratching in your door glass was indeed a tolerance boo-boo. Have the clips modified as per past service information. (This also should have been attended to while under warranty.)

I've just purchased an '82 900 Turbo with 128,000 miles on it. A failed smog check prompted a trip to the local dealer where the mechanic removed an obstruction (washer) from behind the EGR valve, and replaced the oxygen sensor relay. With these repairs the hydrocarbon levels improved but still remained too high for California. I'm not as concerned about the engine apparently running rich as I am about its annoying cycling at idle and low speeds, and has considerable hesitation in throttle response when I accelerate from a throttle-off coast. The engine has new injectors, a cleaned throttle housing, new spark plugs, adjusted valves (two exhaust valves were "tight"), and 140 pounds of compression in all cylinders. My mechanic is at a loss to explain these problems and suggests that the engine may need a valve job despite its good compression.

Drew Murphy
Pacific Grove CA

You mentioned your mechanic replaced the oxygen sensor relay. Did he then check the function of the sensor itself? If the mixture cannot be set within the 40-60 pulse ratio at the lambda test point, the next item to check is fuel pressure, i.e. line pressure and control pressure. The control pressure regulator may not be raising the control pressure as the unit and engine warm up. It should start out around 15 to 20 psi and rise to 45 to 55 psi once the engine is warm. Line pressure should be about 75 psi. Check the factory specs for these values.

If all else fails, check the injector spray patterns with the pump running and the injectors in a clear container. If the fuel distributor diaphragm is perforated, low speed injections will be rhythmic, (the injectors will chatter) and too much fuel will be sprayed. Hydrocarbons can be higher than normal due to an excessively lean mixture as the flame will not have the power to burn all the fuel. Be sure all the intake and pressure hoses on and around the turbo and manifold are vacuum tight.

SERVICE SUBJECTS



FROM SAAB

Electric Antenna Malfunction in Cold Weather

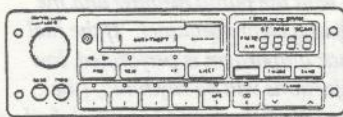
Application: Early 1992 900 & 9000 models
PSI 12/91-0158, Sec. 3/Pg. 15

On early 1992 900 and 9000 models the electric antenna may not power up in cold weather (below 40°F). The problem has been identified as a fault in the radio head. It is not an antenna malfunction. All cars that were wholesaled to dealers up till November 20, 1991 are affected.

The remedy involves the exchange of a defective radio with a new unit containing modified circuitry. An exchange bank of modified radios has been shipped to dealers based on new car inventory.

Cars Affected

All 1992 900 and 9000 models wholesaled before November 20, 1991. In the event that the wholesale date is unclear, the radio can be inspected to determine if it has modified circuitry or not. Modified radios are marked with a spot of black paint on the end of the shaft underneath the volume control knob. (The knob must be removed to inspect for the mark.) There is also a black spot on the Part No./Serial No. tag on the radio chassis.



Mid-line



Turbo

Lack of Bass Response in Rear Speakers

Application: Early 1992 9000 models
PSI 12/91-0162, Sec. 3/Pg. 16

Complaints of poor sound quality or lack of bass output may be remedied by making a wiring change to the rear speaker harness. The problem is located in the 6-pin connector at the rear speaker amplifier under the front passenger seat. If the wiring in this plug is incorrect, the rear speakers will be out of phase and strong bass response will be limited.

All 1992 9000 models up through VIN N1016651 may have this complaint. Some vehicles before this VIN may have been corrected at the ports-of-entry. Check the wire positions before making a repair.

Repair Procedure

1. Run the front passenger seat all the way forward to provide access to the amplifier.
2. Unlock the red locking clip and remove the 6-pin connector on the side of the amplifier.
3. Inspect the wiring to the connector housing to determine if the wires at pins 2 and 6 are correct (Figs 1 & 2).

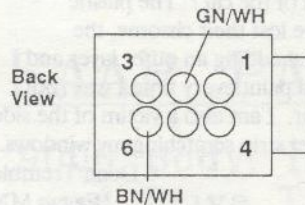


Figure 1. Correct wiring for the 9000 rear speaker amplifier connector

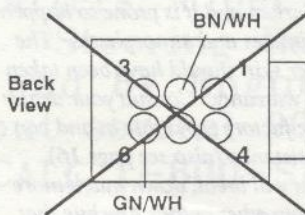


Figure 2. INCORRECT wiring for the 9000 rear speaker amplifier connector.

4. If the wiring is incorrect, use the special terminal removal tool, P/N 85-80-094, to carefully push out the terminals from pins 2 and 6. Swap these two leads and insert them back into the connector. Pin 2 should have the GN/WH wire and pin 6 should have the

BN/WH wire.

Note

Before inserting the pin removal tool, push the pin all the way forward from the rear. Then insert the tool as far as it will go and try to remove the pin from behind. If it will not release, withdraw the tool slightly and try again. Do not twist the tool as the tips may break.

Modification of Right Rear Rubber Floor Mat

Application: 9000 1992-
PSI 12/91-0165, Sec. 19/Pg. 30

On 1992 model year 9000s, the audio system rear amplifier is located under the front passenger seat. As a result, when installing accessory rubber floor mats there is insufficient room in the right rear footwell. Follow the procedure below for modifying the right rear mat when installing rubber mats in 1992-on 9000 models.

Note: Future inventory of rubber mats will have a depression molded into the mat to use as a guide when making this modification. There will not be a part number change when the modified mats are introduced.

Modification Procedure

1. On the bottom side of the right rear mat, draw a line 4 inches (100mm) down from the front edge (Figure 1).
2. Cut the mat along the drawn line.

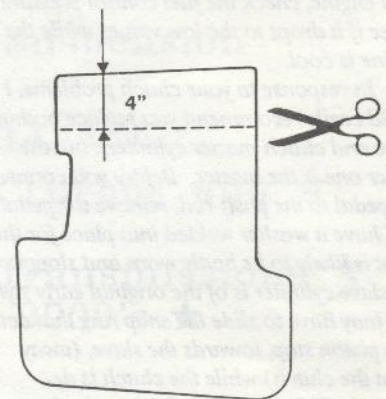


Figure 1. On the bottom side of the mat draw and then cut along the line 4 inches from the front edge.

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

Passive Belt System Power Circuit Modification

Application: 1987-89 900 models with Passive Belt Systems
PSI 12/91-0166, Sec. 8/Pg. 28

The passive belt system used on certain 1987-89 900 models draws a minor amount of electrical current when the car is parked. In certain cases this current draw may be sufficient to completely discharge the battery if the car has not been driven for a week or more, depending on the total current draw of all systems in the car and the condition of the battery. To remedy such cases where the minor current draw results in battery discharge, a kit has been developed which includes a time delay relay to cut off power to the passive belt system approximately 10 minutes after switching off the ignition.

The wiring modifications included in the kit will not alter the mechanical operation of the passive belt system. This kit will not remedy mechanical problems. Any mechanical malfunctions should be remedied before installing the kit.

The kit includes two relays that supply power to the passive belt system in two different ways. When the ignition key is switched on, power is supplied via the time delay relay during the time the ignition is on and for approximately 10 minutes afterward. If the ignition is not switched on, power will be supplied via the other relay whenever either front door is opened. This power circuit is disconnected when the door is closed.

Parts Required

Passive Belt Relay Kit 85 48 505

Installation Instructions

Installation instructions are included with the kit. Note, however, the following additional steps that are not included in the instructions.

After Step 17: Connect on of the two diodes in line with the orange wires, noting that the spade terminals on the diode are different sizes and match the connectors on the wires.

After Step 18: Connect the other diode in line with the white wires, noting that the spade terminals on the diode are different sizes and match the connectors on the wires. Refer to the wiring diagram included in the instructions for further clarification concerning the location of the two diodes in the revised wiring.

Running Change: Expanding Rivet in Lower Dash Panel

Application: 9000 models, 1991-on
PSI 12/91-0170, Sec. 8/Pg. 29

A new expanding rivet has been introduced into late 1991 9000 production. This rivet replaces the previous screw-type fastener and will hold more securely as well as be easier to install and remove. The new rivet will only be available in the color black.

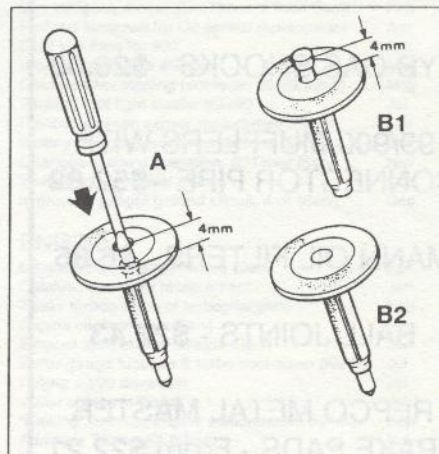
Parts

Expanding Rivet 42 59 248

Installation and Removal Procedure

Removal: Depress the pin about 4mm using a thin screwdriver or a similar tool (A). This will release the locking action and allow the rivet to be removed.

Installation: Pull the pin out about 4mm (B1). Fit the rivet in place and then depress the pin flush with the head of the rivet (B2).



A Removal
B Installation

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SAAB NEWS



Multi-fuel 9000 unveiled

Saab Automobile AB has unveiled a prototype Saab 9000 powered by an alternative, multi-fuel engine. The environmentally-friendly engine in this special Saab automatically adapts itself to run on gasoline, methanol, or ethanol, in any conceivable mixture ratio to lower exhaust emission levels.

The Saab alternative, multi-fuel engine is the result of further development of the Swedish automaker's advanced ignition and fuel injection systems which are fitted as standard equipment on all Saab 9000 models, and incorporates a small, 6-liter blending tank to supplement the standard fuel tank system. Patent applications have been filed for this Saab innovation.

The blending tank ensures that any combination of gasoline, methanol or ethanol will mix in a slow, carefully controlled manner so that the fuel injection system of the Saab engine can adapt itself in accordance with the different chemical properties of each fuel. This adaptive fuel injection function is controlled by the standard oxygen sensor located in the exhaust system, which normally maintains the proper air/fuel ratio for the Saab 9000 exhaust emission control system. The fuel injection system has been recalibrated to provide a wider control range than the standard specification, with control electronics and software logic developed by Saab.

Saab's system is unique, compared to other multi-fuel systems, in that a separate sensor is unnecessary for detecting the alcohol content of the fuel since the standard oxygen sensor is employed.

In the interest of the environment, alcohol-based fuels such as methanol and ethanol are considered as good alternatives to gasoline, as are alcohol enhanced fuels such as methanol-based M85 -- a mixture of 85 percent methanol and 15 percent gasoline. Methanol can be produced from wood or even refuse, and since methanol has a higher octane rating than gasoline, engines can easily be recalibrated to deliver greater outputs.

Another advantage that methanol offers is that it generates lower emission levels of hydrocarbons (HC) and carbon monoxide (CO), which minimizes smog formation.

Ethanol can be produced from grain, sugar cane, etc. and its potential for air quality improvements is similar to that of methanol.


'91 Saab sales buck national trend

Sales of new Saab cars in the U.S. during calendar year 1991 bucked the industry trend and remained virtually unchanged from the 1990 total.

William S. Kelly, Saab Cars USA, Inc.'s president and chief executive officer, announced at the Detroit International Auto Show, "In a market segment characterized by annual losses on the order of 15 to 50 percent, Saab's impressive 1991 year-end sales result of 26,100 vehicle (including tourist deliveries) demonstrates that Saab automobiles are perceived as the right cars for the demanding decade of the '90s."

A total of 26,397 Saabs were retailed during calendar-year 1990.

Group / Title	Month	Page	Group / Title	Month	Page	Group / Title	Month	Page
ELECTRICAL			MISCELLANEOUS			TRANSMISSION & CLUTCH		
Blinking pictogram (Klinik)	Jan	5	Stuffed 9000! Impression of base 9000	Apr	8	Lube analysis	Jun	14
A/C cooling fan replacement (Serv)	Jan	6	Shop manuals for 9000 (Klinik)	Jun	5	MISCELLANEOUS		
Daytime running lights (Serv)	Jan	7	9000CS introduction	Sep	6	Saab racing in Europe (photos)	Jan	22
Correct bulb for Charge warning light (Serv)	Jan	7	ACC not cooling enough (Klinik)	Oct	5	4-wheel favorite among 2-wheel fans (bicyclists)	Feb	16
Illumination of "Check Engine" lamp (Serv)	Jan	7	Cellular phone tips (Serv)	Oct	6	Delving into SAAB Club history	Feb	19
Remote start	Jan	14	AC losing freon (Klinik)	Nov	5	Erik Carlsson - Saab's Rally Ace	Feb	31
Faulty fuel gauge (Klinik)	Feb	6	Summary of RECALL campaigns	Nov	7	LACAR, redesigned 900	Feb	33
Intermittent "Check Engine" light (Klinik)	Feb	7	Correction to '92 Owners Manual, Re: dash lights	Dec	6	Seven Sensible Signals for Safer Driving	Feb	38
Blown fuses (Tim Brown's Tech Barn)	Feb	29	Boosting Performance	Dec	14	Safest Sedan, 900 - IIHS	Apr	4
Auto Idle Control (AIC) (Klinik)	Apr	5	All Models & General Interest					
Brake lights stay on (Klinik)	May	5	BODY					
Dim Electronic Display Unit (Klinik)	Jun	5	Truly clean windshield	Jan	17	Lonnegren Remembers (Saab history)	Apr	10
Front speaker "buzz" (Serv)	Jun	17	How to avoid seat fatigue	Feb	17	Don't Spoil the Soil with Used Oil	Apr	18
Revised oxygen sensor replacement (Serv)	Oct	6	The Zymol difference	Sep	16	VSRG tests a rear drive SAAB roadster	Apr	22
New engine compartment light (Serv)	Oct	6	BRAKES & SUSPENSION					
Battery charging recommendations (Serv)	Oct	6	Tires - Michelin MXL	Jan	18	Road test results, 93 thru 9000	May	18
ENGINE			Technical look at Saab Traction Control	Feb	13	Sideways at Sixteen (autocrossing)	Jun	22
Tuning Kits (Klinik)	Jan	5	Tires - Yokohama A008	Feb	24	Book - The Machine that Changed the World	Jul	18
Turbo bypass valve (Klinik)	Jan	5	COOLING SYSTEM					
Talkin' turbos (Care of turbochargers)	Feb	25	Thermo Accumulator description	Jun	10	The next 900	Sep	8
Front exhaust pipe (Tim Brown's Tech Barn)	Feb	29	ELECTRICAL					
Squeal when starting (Klinik)	May	5	Tail light tools (Ashcraft)	Feb	21	'91 National Convention report	Sep	9
Retrofitting water cooled turbo (Serv)	Jun	17	Simple alarm warning light	Feb	24	Professional racing on a budget - Barber Saab	Sep	17
FUEL SYSTEM			Rewiring horn for ignition-off use (Klinik)	Sep	5	List of known SAAB 92s in the U.S.	Sep	23
Fuel filter blockage (Serv)	Jun	7	ENGINE					
Buzzing/knocking noise (Serv)	Jun	17	Oil filter wrench	Jun	14	Saab HQ moving to Atlanta	Oct	7
TRANSMISSION & CLUTCH			Torque and horsepower ratings (Klinik)	Jul	5	Jekyll & Hyde - Impressions of 9000T & 900 conv.	Oct	8
RECALL 280, Selector cable attachment (Serv)	Feb	8	New synthetic blend oil from Spectro	Sep	14	Saab studies active steering	Oct	9
Growling clutch (Klinik)	Apr	5	FUEL SYSTEM					
Squeal when starting (Klinik)	May	5	Books on fuel injection	Dec	17	Saab for '92 - new model intro	Oct	10
ZF Auto Trans in 9000 - Special section:			TRANSMISSION & CLUTCH					
AT oil cooler leakage	May	8	RECALL 280, Selector cable attachment (Serv)	Feb	8	Replacement radios - Yamaha YCR-705	Oct	17
Trans damage from coolant contamination	May	8	Apr 5	5	Pop, pop! Fizz, fizz! - The Alcan 5000 Rally	Nov	9	
Flushing AT cooling circuit	May	9	May 5	5	300,000 miles on a 900	Nov	14	
Noise from ATF cooling system	May	10	May 8	8	True test of Traction Control System	Dec	8	
Tranny talk	Jun	15	May 9	9	Vintage Sonett smokes 'em on way to class title	Dec	9	
			May 10	10	'91 Rally & Racing results	Dec	10	
			Jun 15	15	Crewing for a 99 Rally Car	Dec	11	

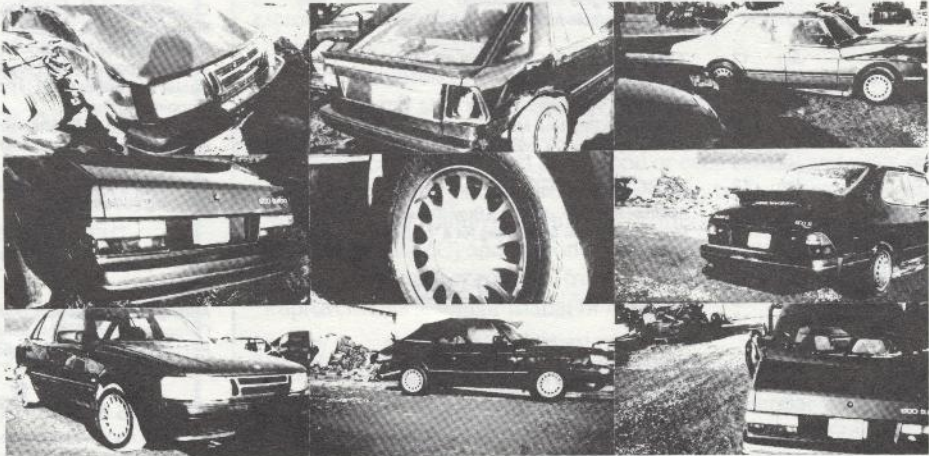


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A Saab used for making Winter roads safer.

Winter! Although it is best known for cold temperatures and snow, those who live in the *rust belt* know that winter also does cruel things to cars. The primary reason is not the snow itself, but the chemicals used to melt the snow.

The most commonly used de-icing product is still salt--plain old sodium chloride--which works fast and is inexpensive. It is also corrosive to the materials used to build cars and to roadways, and it creates environmental problems when it runs off into streams and lakes.

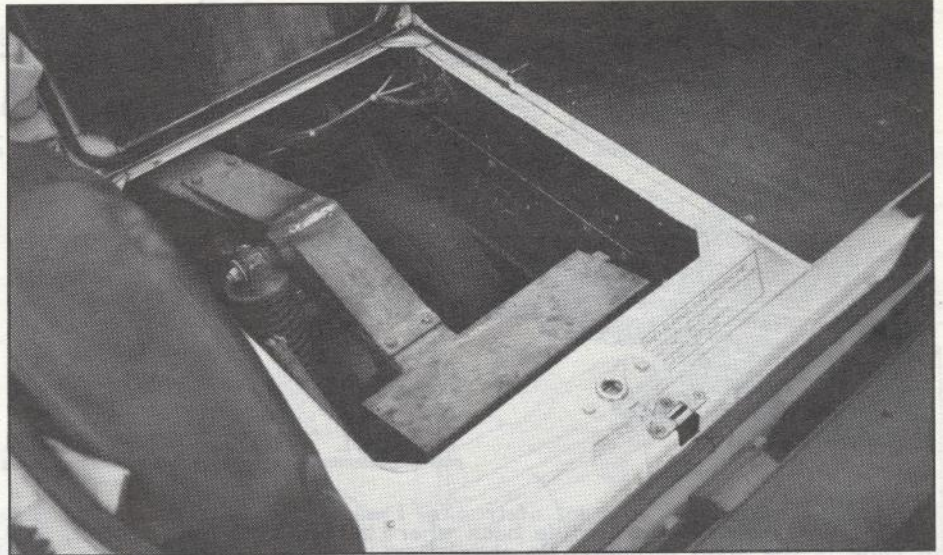
Wouldn't it be nice if someone could come up with a better way of keeping roads safe under winter driving conditions? Someone is working on the problem.

The Keweenaw Research Center, an arm of Michigan Technological University in Houghton, tests snow melting chemicals under a grant from the National Research Council's Strategic Highway Research Program (SHARP). To do an effective job, they make unique use of a Saab Friction Tester (SFT), a Saab 900 Turbo specially equipped to measure slippery surfaces.

The SFT was designed primarily for airport runways, to let pilots know how effective their wheel brakes will be once they touch down. Airport managers use it in the winter to test snow and ice conditions, and in the summer to check the amount of rubber buildup. A water tank in the SFT allows the driver to spray water on the runway surface and the fifth wheel measures the amount of slip.

The friction measuring equipment takes up most of the back seat and hatch area of the 900. When the measuring wheel is lowered onto the pavement, a chain drive is engaged which is geared to provide a fixed slip on the measuring tire. The resistance on the measuring tire created by the difference in the speed of the tire versus the speed of the vehicle itself (the "slip") results in forces on a torque sensor within the chain drive.

That information is sent to the car's on-board computer, which converts the data into easily readable graph form on a paper printout. The computer and printer are located within easy reach of the driver so he can enter data at the beginning of the run and get a printed record at the end of the run. A gauge on top of the dash also gives a constant reading of the traction available so the driver can keep his eyes on the road.

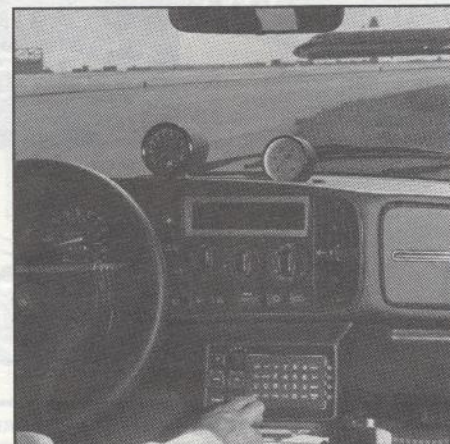


The fifth wheel is easily accessible from the hatch area.

Houghton, located in Upper Michigan on the Keweenaw Peninsula that juts into the southern edge of Lake Superior, averages about twenty feet of snowfall annually. A perfect place to test for any snow related condition.

During the winter months, Houghton County Airport uses only two of its three runways. KRC rents the other runway for its tests of de-icing chemicals. The chemicals are spread in thirteen test sections, each 100 feet long and separated by 200 foot buffers. Each pass down the runway is about three-quarters of a mile.

According to Russ Alger, research engineer/scientist at the KRC's Institute of Snow Research, "We spread out a quantity of different kinds of de-icing chemicals, then measure all the weather parameters--we need to know the temperature, if it's windy, or it's snowing out or raining out or whatever--and compare how each works.



"Two things we're looking at: One, how well the de-icing chemicals work, and two, how little of each chemical can we use. We're backing off the chemicals through the winter to find out how small an amount we can put out there and make it work."

The SFT is quite user friendly, only the driver is needed to record the data. "It's a one person operation," said Alger. "We hire somebody for the winter. We train them how to use the car and they pretty much run it all winter long."

Though the SFT is capable of speeds over 70 miles per hour in order to simulate aircraft landing speeds, KRC's tests are run at about 25 mph. "We try to maintain a constant speed for each test pass," said Alger, "but the tape also records the speed so we also have that for comparison in our data."

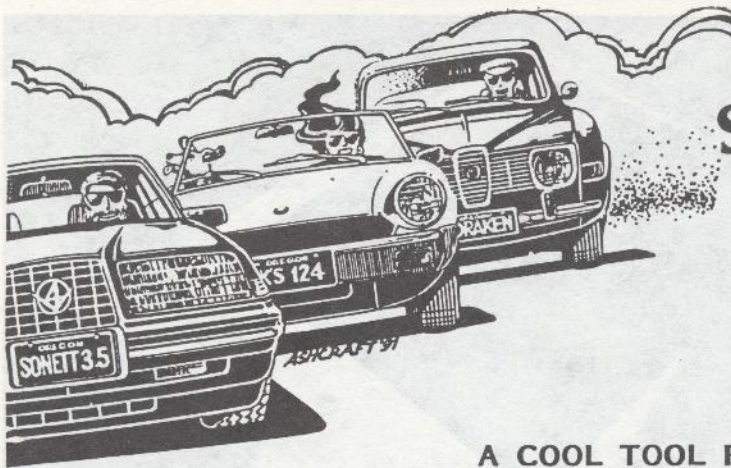
One thing that the test driver has to watch for is variables that could affect the testing. "Even if you hit a stripe painted on the runway, it will pick up the difference between the pavement and the pavement that's been painted."

In past years much of the testing on de-icing products was done under contract to Chevron Chemical. "They hired us to test a chemical they already have on the market to see how they can better it," said Alger.

"Whoever wins the battle will make some money, and whoever doesn't is going to throw a bunch out the window."

In the long run, it is the consumer who will win, through longer car life and reduced taxes for road maintenance.

Tim Winker



SHIFTIN' GEARS

by Jack Ashcraft

A COOL TOOL FOR A SAAB

One thing Oregon has is a lot of trucks. I was in a big truck repair shop a while back where a friend of mine is the shop foreman. He showed me a couple of big Cummings diesels--both out of 18 wheelers--in for repair. One, with about 450,000 miles, looked about like what you would expect: a lot of scale in the cooling system, some rust, quite a lot of erosion of the water passages, and a radiator too far gone to save. In fact, it had sprung a leak, overheated the big engine, and that led to it being in for overhaul. A lot of money was going to be spent on it.

My friend led me over to another big Cummings that was about ready to be reassembled. It looked almost new. The water jackets were clean, well colored with antifreeze green, and the passages were clean and free from erosion. Guess the mileage on this one? I assumed some other malady had brought the big engine to its knees, like loss of an oil pump, and I told him it probably had a hundred thousand miles on it. He chuckled and told me I was only about eight hundred and fifty thousand miles short! The engine was coming up on a million miles!

I was positively astounded. Well, John said, it gets exceptionally good, regular maintenance, but the REAL secret is this thing. He held up what looked like a regular spin-on oil filter to me. It was a coolant filter. Said so on the canister. Keeps the crud like you saw in the first engine out of the engine water jackets and even more importantly, out of the radiator, he told me. If you put one of these on the rig when it's new, and change the filter regularly, the radiator stays clean and the truck always runs as cool as it did when it was new!

If you don't give the cooling system the chance to go downhill, you don't have to worry about overheating and cracking a cylinder head, seizing up piston rings, or scoring the cylinders. And, he held up the filter and rattled it, this time release capsule keeps putting out an anti-corrosion agent throughout the life of the filter!

Not long after that my Saab 96 V4 had the first prototype coolant filter kit mounted in the engine bay. And now after a year with the filter installed, I can tell you it's the most un-dramatic item I ever put on a car. The engine stays cool, the heater heats, everything works just like it did before. Really dull. But when I drained the coolant to change it and the filter a couple weeks ago, I was pleased to note that the fluid in the freshly cleaned drain pan was as clean as the day I poured it in the car. No dirt, no scale, no crud, no nothing in it. Clean coolant was all there was.

I got out the hack saw and cut the filter apart. THEN I found out where all the crud went! Scale, dirt, bits of metal, bits of silicone sealer, some small pieces of unidentifiable metal--probably bits out of the engine block water jacket. All in the filter. The stuff that radiator men love because it keeps them in business cleaning radiators.

Do these things work? Baby, you better believe it!

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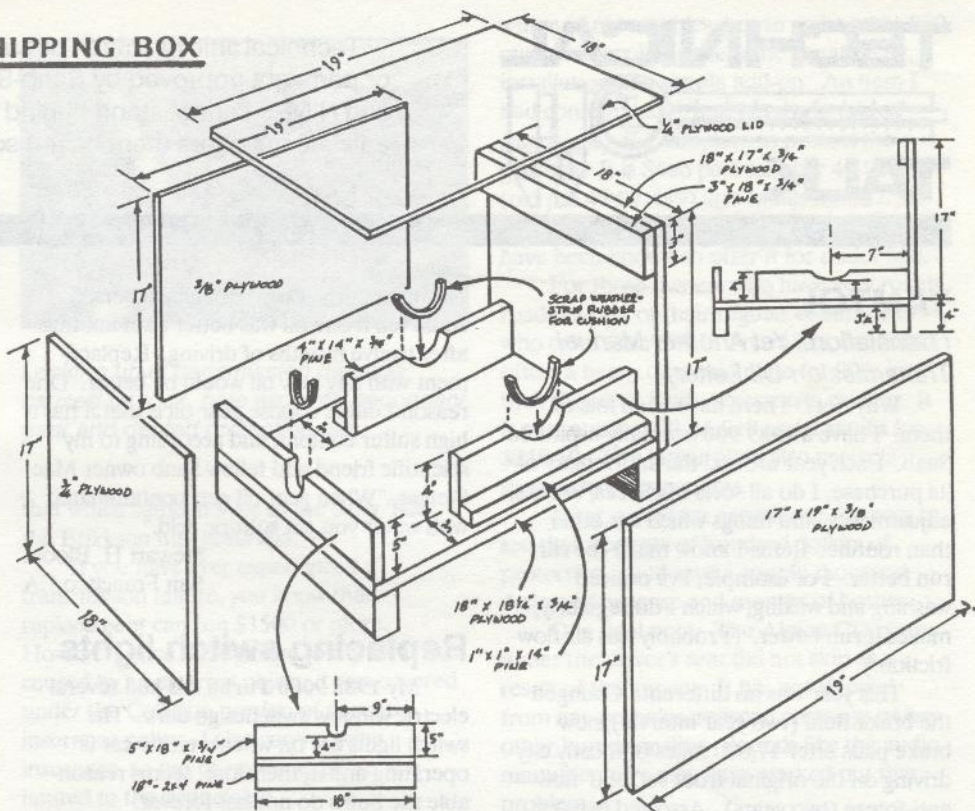
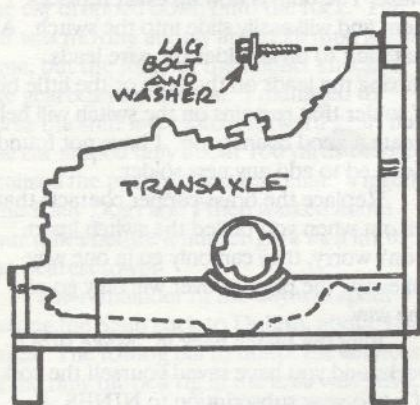
JACK ASHCRAFT AUTOMOTIVE DESIGN, 2201 WOODLAWN DRIVE, MEDFORD, OR 97504 503-779-0731

95-96-97 TRANSAXLE SHIPPING BOX

I shipped a rebuilt Saab V4 transaxle the other day and realized that these things are really unhandy beasts to package for shipment. I decided a proper shipping box was in order, and here it is, complete with dimensions and data.

The transaxle is cradled firmly in place, is well protected, and once the top lag bolt is tightened up, won't move around during shipment and damage anything.

The box is made so it can be lifted with a fork lift if the freight company representative does not wish to lift the weight. The box I shipped had a completely assembled rib case transaxle (but without oil) and weighed 91 pounds.



NEW CATALOG OF DRAKENPARTS

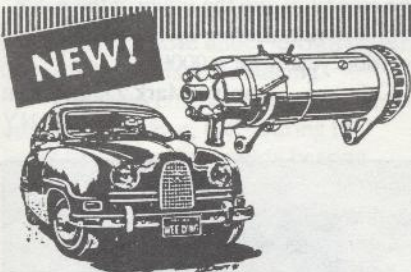
"DRAKEN", the Swedish word for DRAGON, was the Viking symbol carved and affixed to the bow of their long ships. As the ninth century dawned, Swedes, Danes and Norwegians struck Europe, the Mediterranean and some of coastal Africa with a savage fury.

Their advance eventually encompassed the entire European continent, part of Russia, all of Eng-

land and their long ships pushed as far east as Constantinople and anchored in the great harbor at Alexandria.

The Vikings traded as readily as they plundered, settled as readily as they sacked, always from the great Draken ships that launched with them the legends of the Norsemen.

As a descendant of those Norsemen, I felt it was somehow appropriate to use that name for parts built by other descendants of those fierce warriors: DRAKENPARTS.



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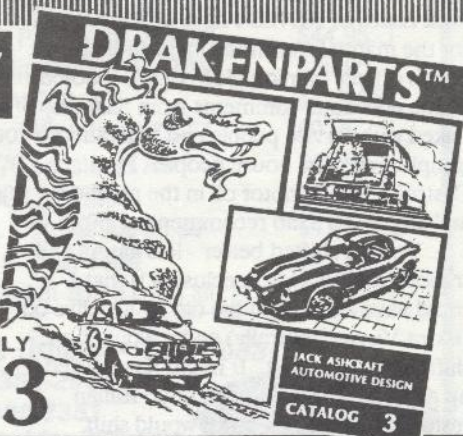
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TECHNICAL TALK

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YAMTOL

(Translation: Yet Another Manual Transmission Oil Letter)

Why not? There have been lots of them. I have a 1989 900 normally-aspirated Saab. Each year around the anniversary of its purchase, I do all sorts of checks, tweaks, adjustments, and things which are other than routine. Items I know make the car run better. For example, I've noticed washing and waxing, which I do regularly, makes it run better. (Probably less air flow friction.)

This year was no different: Changed the brake fluid (two year interval), new brake pads after 17,000 miles of mostly city driving on the original front set, and new anti-freeze (two years). Assorted tweaks and minor thumps hear and of course there. In California we have to get cars smog checked every two years for license renewal, so I paid extra attention to that stuff. Put in some new Bosch spark plugs for example.

One great problem I have with Saab cars is that they are of such low maintenance I have had to find other things to do with my spare time, like reading, writing, concerts, hiking, relationships and the like. I learned auto mechanics the hard way - I used to own British cars. Great on-the-job training.

But, I ramble - to the issue at hand: Oil. For the annual tweakfest I read all the back issues of NINES I have concerning oil for the manual transmission, including Saab's official opinion (July 1990). I noted all the anecdotal comments from Saabers, talked with service people and to a random sampling of parts house people. I put Castrol 10W-30 motor oil in the gearbox and engine, as Saab recommends.

Voila! it shifted better - less gating and smoother shifts. My conclusion is that I could have exchanged the old oil for olive oil (Extra Virgin, naturally) and it would have shifted better at first. It might have seized up after two miles, in front of an Italian restaurant no doubt, but it would shift better.

Unless one has three cars to test

simultaneously, I can't imagine a person could tell if one oil was better than another after twelve months of driving. Replacement with any new oil would be better. One reason I didn't choose gear oil is that it has a high sulfur content, and according to my scientific friend and fellow Saab owner Mac Steiger, "When gear oil gets contaminated with water you get sulfuric acid."

Stewart H. Bloom
San Francisco CA

Replacing switch lights

My 1988 9000 Turbo has had several electric window switches go dark. The switch lights are on whenever the car is operating and it, therefore, seems reasonable the bulbs do not last forever.

However, it is quite disconcerting to learn that an owner cannot simply drop by the parts counter of the local dealership to buy a replacement bulb. Rather, the entire switch module must be replaced, at a rather pricey figure.

Faced with the mere risk of destroying the old switch module, I took it apart to see if I could avoid the expense of the entire switch. All of the switches have a plastic cover which can be easily pried off. Place a very small flathead screwdriver or penknife blade under the plastic cover and pry it off.

Then the bulb can be re-soldered with a soldering gun. I have worked on maybe ten switches for myself and friends. The plastic parts of the switch do not seem to melt easily. Have no fear! What's the worst that can happen - you break an already

unusable switch.

Your local Radio Shack carries an Archer brand bulb, catalogue #272-1141. It's a 12-volt, .025 amp bulb, and it costs about 99 cents.

Carefully use a knife to slit the vinyl covering on the new bulb, then remove it. Also, remove the insulation on the wire leads. The bulb is now an exact replacement and will easily slide into the switch. All that's left to do is solder the wire leads. Fluxing the leads on the bulb or the little bit of solder that remains on the switch will help create a good connection. I have not found the need to add any new solder.

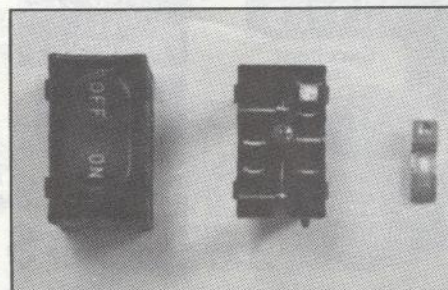
Replace the brass/copper contacts that fell out when you pulled the switch apart. Don't worry, they can only go in one way. Likewise, the plastic cover will only go on one way.

Plug the switch back in. Make sure it works and you have saved yourself the cost of a two-year subscription to NINES.

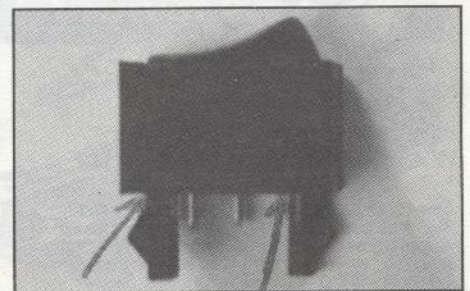
I have made repairs of this type on all the center console switches, heated seat rheostats, and the rear window switches in the rear doors.

While I am writing, I have a question. My 9000T has a glass moon roof. I have been looking for a new 9000T 5-door, but they all have a solid steel sunroof. Why? How come the 9000CDs get the wood dash but not the 9000 5-door? Some of us want all the amenities and the utility of the hatch. And how about offering that special convertible yellow for a 9000!

Aaron Mark Zimmerman
Syracuse NY



Disassembled switch



Arrows point to pry off points.

Gearbox insurance

Winter has been in full force here at SAAB Club HQ since Halloween when Ma Nature dumped three feet of snow on us. Unfortunately, the Winter Beater Mk. II (my '85 900 Turbo) spent much of it under a blanket of the white stuff. Yr Hmbl Edtr broke it.

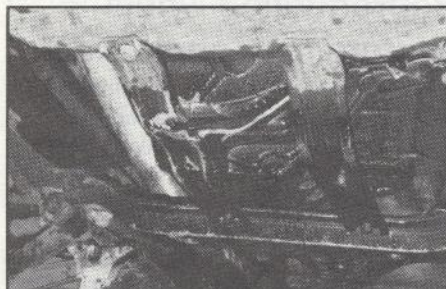
I knew there was a chance that the 5-speed on my 900 might someday fail. What I hadn't counted on was failure due to external forces. While driving on a one-lane path in the Superior National Forest of northern Minnesota the underside of the gearbox came in hard contact with a buried rock. There was a slight dip in the road, and as the suspension compressed in response, the car dropped down onto the rock. The car was moving at only about 20 mph at the time, but the force of the impact knocked the gearbox into neutral. I managed to force the shift lever into a forward gear, but the car limped only about 100 yards before I realized the problem was terminal. Viggen (the Rally Dog) and I then walked about four miles before a hunter gave us a lift to the nearest town.

The remainder of the day was spent getting the Saab back to Duluth, about 120 miles. The towing bill to utilize the services of the only tilt-bed rig in the area was \$250.

The only shop in the immediate area that could handle a tranny transplant, Foreign Affairs (formerly Swedish Express), was swamped with business and it was three months before the WB Mk. II was back on the road.

Closer inspection revealed that the rock had not only busted a chunk out of the bottom of the box, but that the forward portion of the case had split up both sides. Since the gearbox is also the forward mounting point for the drivetrain, the car was unable to move under its own power because the shafts were binding.

The replacement gearbox was a rebuilt unit from Andrews, Inc. During the rebuilding, a stronger pinion bearing housing was installed to replace the original Saab housing. The aftermarket housing is manufactured by Eriksson Industries, a rebuilder of transmissions, engines, and heads for Saab and other European makes. According to Nat Wentworth, owner of Eriksson Industries, the Eriksson housing is made of an aircraft grade 356 heat-treated aluminum. Though Saab's current bearing housing, the one installed in new 900s and sold as a replacement part, is stronger than



Looking up at transmission damage caused by rock, note exposed secondary gear and dented protection bar.

that which came in 900s of the early '80s, the Eriksson unit costs less.

If you have ever experienced a transmission failure, you know that replacement can run \$1500 or more. However, since the damage to my Saab was caused by an external object, it was covered under the Collision portion of my auto insurance policy. I also carry towing insurance, so out of pocket expense was limited to the deductible.

The purpose of this article is not to

whine of my troubles, but to assist other 900 owners in avoiding the same situation by installation of a simple add-on. An item I had contemplated, and have now added (hindsight), is a skidplate to protect the gearbox. It is Saab part number 40-08-793 (old p/n 40-07-449) and retails for \$57.10. Some dealers and aftermarket suppliers have been known to offer it for under \$50.

For those owners who have very rough roads as part of their regular commute or who drive their 900 in Pro rallies, Saab also offers a heavy duty skid plate for 900s in their Genuine Saab Accessories catalog. It is part number 00-24-919 and it retails for \$218.50. This larger plate also protects suspension components.

After my recent experience, it's easy to see that a couple of hundred dollars of protection could save a couple thousand dollars of expense and months of bother.

One final note: The Alpine CD player under the driver's seat did not skip as a result of the impact. It has not skipped from any potholes, railroad crossings or any other bumps or dips. Sounds like the audio manufacturers may have worked out that problem.

Tim Winker

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Reproduction wheel centers for Sonett/EMS

The blue and silver wheel centers for the soccerball style wheels that came on **Sonett III** and early **99EMS** models (Saab p/n 8918823) have been out of production for many years. Used ones in good condition sell for \$20 or more. In the July/August 91 issue, Hans Jartoft of Club Sonett Sweden and the Swedish Saab Register requested input from members who might be interested in a short run of reproduction wheel centers.

The requests are in and we now have an idea of what they will cost. Based on the current exchange rate (6 kroner to \$1), we should be able to offer the badges at about \$20 apiece.

We have ordered 100 of the wheel centers (enough for only 25 cars), and hope to have them sometime this Summer. We will contact those who sent a request first, the few that remain will then be offered to the rest of the membership.

Fade to Black

The sunny southwest is not kind to cars. My '87 900S has suffered sun damage on several parts, and I have noticed similar damage on many Saabs here in Phoenix. I have seen this fading on BMW's as well. Most common is damage to the plastic chrome trim around the windows, which eventually turns dark brown and brittle. Stephen Wynne (SAAB Klinik, Sept 91) attributes the fading to a conditioner he was using, but my experiences suggest that the trim fades with or without treatment.

One solution I have seen is to paint the trim black to match the surrounding rubber molding. Black trim is standard on turbo models. For those wishing to replace the chrome trim around the windshield there is an economical solution. The trim that fits the rear window on Saab hatchbacks may be used for the windshield on any 900 if it is cut into pieces. There is not enough material to make all four sections necessary for the windshield, but usually there is a salvageable section of the old trim from the windshield or rear window which can be used as one of the short vertical pieces around the windshield. Windshield trim is sold in four separate pieces at the dealer, but costs more than the one-piece rear hatch trim. Using rear hatch trim will save \$30-\$40.

Flaking paint on '87 or newer bumpers is also a problem which seems worse on cars

exposed to a lot of sun. The owner of a body shop told me that Saab used to repaint many of these under warranty. The color of the bumpers is Edwardian Grey Metallic, a body color, with flexing agents added. This paint is not easy to work with and requires respiratory equipment for safe spraying.

The do-it-yourself alternative is made especially for flexible bumpers and comes in spray cans. It is called SEM urethane bumper coater and works best with SEM primer. I have been able to find it only in colors for domestic cars, but Ford Dark Titanium Metallic #39263 is a very close match. It is made by SEM Products of Belmont, California.

I enjoy reading NINES. It has saved me a lot of money and frustration when servicing my car. Special thanks to Rick Parr and his fix for 16-valve cold running problems (Technical Talk, November 91). I am sure that this will help many cars like mine with engines that die after a cold start on a warm day even when all components check out OK. Too bad Saab engineers and my Saab dealer couldn't solve this problem. Rick Parr's solution cost me only 25 cents!

Paul Burger
Phoenix AZ

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Potpourri of hints

To insure not stripping threads when installing spark plugs, clean the threads in the head by screwing in a plumbers 3/8-inch copper fitting brush. This will make the plug go in real easy. Be sure to clean the threads on the old plugs, too.

Want to adjust the shift linkage on a 99 or 900 without buying a special wrench or paying a dealer to do it? File or grind three notches in a 3/8-inch socket and you've got a tool to loosen and tighten those crazy bolts.

Does anybody know how to take the warp out of a hatchback shelf?

J. T. Easter
Pierceton IN

Here are a couple of things I've done in my '87 900S 3-door:

1) **Sound system upgrade:** Put in a Kenwood receiver routed through a Sony equalizer to three 40-watt amps for front, rear and two rear woofers. Replaced the front speakers with Proton speakers, mounted in used mounts so when I sell the car I can pull them out and make the car like new. I took out the rear deck and built one out of plywood, cut holes and mounted

two rears and two bass units and covered with 1/4-inch mesh over the speakers and finished with acoustic cloth. This yields a crisp sound with excellent response.

2) Had the **water pump** go out on the way back from Northern Minnesota and was able to limp on in to Andrews in Princeton. They noted that my model lacked the notch in the air conditioning bracket which made the job tougher. They put the notch in.

3) While I was at Andrews, I noted all the parts autos. I purchased a whole used **oil cooler system** from them at an excellent price and put it in my 900S. I often pull a boat so this will take lots of stress off the engine.

During the installation, I touched the metal **clutch hydraulic line** with the lead from the alternator and "in a flash", it had a hole in it. I was able to cut and flare a tube and install a brass connector. I used an empty mustard dispenser with two pieces of old leather gasket to pressure bleed the system. It worked. Moral: Disconnect the battery cable first, dummy.

4) **Transmission:** Have used Pennzoil 75/90 with four ounces of Tufoil for 40,000 miles. Much improved over 10W-40 though stiff in below zero weather.

Now use Red Line lube and that improved shifting even more. Seems to have gotten better as it washed the Tufoil off the synchros. I'm a frugal do-it-yourselfer and that stuff is still worth the price. The car has never shifted so well. Will continue to use Tufoil in the crankcase.

5) Any other members having problems with soft red finish, window moldings losing their chrome finish, or bumper finish peeling off?

Dean E. Tremble
Eagan MN

See "Fade to Black" on page 16. - TW

Regarding a letter in NINES (Sept '90, pg. 5), BASF G-48, Saab coolant, is also sold under Volvo and BMW labels. There are a few cities with Volvo or BMW dealers but have no Saab dealers.

Phosphate-free coolant allows use of hard water without precipitation of coolant solutes. However, distilled water is still a good idea.

In view of the recent GM recall of cars with acidic anti-freeze installed, a purist might test the coolant pH (pH or litmus paper is available at chemical supply stores).

Lars Yeestrom
Louisville KY

We finally found some MAGIC SNOT that works!



As you may remember, we have never been very impressed by oil additives. We have tried virtually every brand that is on the market, and this is the first one that has given us verifiable results. We have **PROVEN** that it **INCREASES** gas mileage by up to 17% and also gives a noticeable **INCREASE** in power. Both Ford and GM have done laboratory tests which prove that it works in these ways plus reduces engine wear by 47%. The product is called **OEM**, and the key ingredient is Sakura-Lube; an organic Molybdenum compound that is used by virtually every Japanese automotive engine manufacturer. **OEM** also includes the same PTFE compounds that are in all the other additives, but

only **OEM** has Sakura-Lube, and that's the key. It's simple to use: just put **OEM** in with your next oil change as 1 of the quarts of oil. (Drive it for a full 5,000 miles to get the maximum benefit.) Then repeat the process once every year. Your engine will start easier, run cooler and last longer. **OEM** lasts a full year, giving you more **MILEAGE** and **POWER** from each drop of gas for only \$19.95 - **that's just \$1.70 per month!** They also have a gearbox treatment that gives the same benefits for only \$9.95! If you've ever wished you could get through all the claims to find a product that really works, this is it! Order now and prove it to yourself, the way we did....**BY THE FANTASTIC RESULTS IT GIVES YOU!**

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this plus a sweetheart price! Just **\$39.95** for the best set of ignition wires made! Order a set now before I come to my senses. These wires are beautiful and they fit all V4s. By the way, did you know that we also have stainless brake lines for Sonnetts /95/96s? For just \$74.95 you can upgrade your brake lines for more positive braking action! Call now for complete information!



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The limited Griffin Edition 9000CD Turbo anchors the Saab display at Detroit.

Auto show display practical, not glitzy

The Auto Show is an opportunity to see what's new in the auto industry, to see future trends, and for potential buyers to compare cars side by side. Consequently, the auto manufacturers use the auto show as a marketing tool, to draw you into their display to view their products. Depending on the "niche", the displays are flashy, or luxurious, or sporty, or practical.

Visitors to this year's Los Angeles and Detroit auto shows saw Saab in a new environment. The displays included one of each Saab model in LeMans Blue, plus a Monte Carlo Yellow 900 Turbo Convertible, with the Griffin Edition 9000CD Turbo at center stage.

"We try to put our cars into the display in a logical lineup," said Arsey Miller, manager of sales training and product display for Saab Cars USA, Inc. "We also add some technical displays such as anti-lock brakes or our passenger compartment air filtration system."

The Detroit and Los Angeles shows were unique this year because the parent company, Saab Automobile AB, wanted to be involved. Both are important to Saab's marketing plan. Detroit has grown in just a few years from a show put on by the Detroit area auto dealers to one of the most important and prestigious auto shows in the world. Los Angeles is important as a market growth area. Saab's major competi-

tors, such as BMW and Audi, spend millions of dollars for their displays at Detroit alone. Saab is trying to solidify its image as a manufacturer of premium automobiles. They wanted a display similar to those they have for the major European auto shows.

Saab Automobile AB and Saab Cars USA worked to design and complete the displays in less than two months. They incorporate a European look but utilize American technology. Many of the materials were shipped from Sweden, while the main structure, staffing, organization, construction and overall operation were the responsibility of the U.S. distributor.

Much of that responsibility fell to Arsey Miller, who plans how Saab's displays will look at most of the auto shows in the United States.

The most radical change to the Saab booth was the addition of a hospitality suite. Saab did a direct mailing campaign in the Los Angeles and Detroit markets inviting 10,000 prospective qualified Saab customers to stop at their display. Saab dealers in those areas were given invitations for their prospective customers as well. Customers could walk through the display, then were invited into the glassed-in hospitality suite for refreshments, and could also talk with a Saab representative. The extra few minutes was meant to solidify Saab in their mind. Those that did participate were followed up

with any additional information requested, and a thank you letter from Jan-Ake Jonsson, vice-president of sales and marketing.

Saab's position as a leader in technology, particularly its aviation heritage was evidenced by the use of aluminum in the structure. The cars were positioned on aluminum pads with flush screw heads, designed to look like aircraft panels. The colors were shown on pylons shaped like an airfoil.

Birch wood from Sweden was used to create a comfortable warm atmosphere, and to reinforce the Swedish heritage of the product. Scandinavian furniture filled the hospitality and office areas. The choice of blue and yellow for the cars shown - the colors of the Swedish flag - also reflect the cars' upbringing.

Swedishness was also in evidence in the refreshments. Ramlösa, a popular Swedish mineral water, or Pommas, a sparkling apple ginger ale were offered.

"Our mission at the shows is to present a pleasant atmosphere for current and prospective Saab owners to view our products," said Miller. "It is also an area where visitors can talk about changes in the vehicles, get updated information on the cars, or request additional information be sent to them if it is not immediately available."

The same display may be used at the Atlanta auto show in mid-March, as Saab wants its new neighbors to become better acquainted with their products. It could possibly also be utilized for the New York Auto Show, which is held the week after Easter.

The Chicago Auto Show in February will feature the Flexible Fuel 9000 (see page 8), which is also equipped with Saab's freon-free air conditioning system. Saab convertibles in new colors will also be part of the Chicago display -- Scarabe with tan interior and a tan top, and LeMans Blue with a dark blue top.

"An auto show is an excellent environment for Saab owners to see how truly remarkable the cars are compared to the competition," said Miller. "We welcome any Saab owner into our display. Tell us the good news about your Saab, but don't be afraid to tell us the bad also."

Tim Winker


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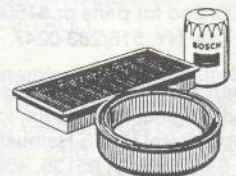
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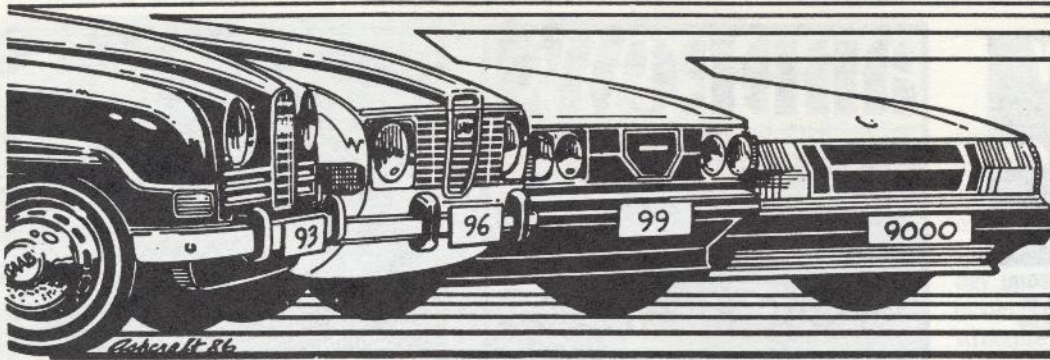
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COMMERCIAL DISPLAY ADS: Contact the editor for rates and info. Deadline, the 10th of each month for the following month's issue.

'66 Monte Carlo 850 w/'71 V4. Not assembled. Good engine & trans. Solid body, some floor rust. Incl many '71 95 parts, \$600 obo. George Koch, 721 Plummer School Rd, W Newton PA 15089. 412/872-4154.

'64 GT 850, good cond, complete. Recent rebuild of GT engine & triple Solex. Shop manual & some parts. Strong solid & ready for restoration, \$3500. Vic, Grapevine TX 76051. 817/685-8076.

'63 96 3-cyl. Perfect running, new red paint in & out, no rust, new chrome, orig immaculate int. New brake system incl conversion to front discs. New wheel bearings & much more. Color pics avail. Serious collectors only, \$5000. Mick Norquist, 520 Oakhurst Dr, Knoxville TN 37919. 615/623-7651.

2-Stroke & V4 Parts

Sport & rally Solex 2 barrel carb, manifold, air cleaner for 1968 V4 exc cond \$600, 6 alloy wheels for '70 Sonett, new \$125 ea. Front spoiler, \$200. '75 V4 factory manual paper, \$100. New in orig crate 850 motor, \$1500. Corgi scale model Carlsson 96, \$20. Manuals, sales lit, misc parts. Rob Allen. 203/248-8798.

'67 96 V4 engine & trans: exc runner when removed, Incl spare engine, \$450 for all. Most '67 96 parts avail incl manuals. John Healey, 203/230-9032 after 6pm.

'68 95 V4, clean Calif body, runs well, needs paint. New dash top, silicone brk fluid, \$2000. Ted Bunding, Sunnyvale CA. 415/960-7141 ans mach.

Giant Parts Sale at Nordic Motors! New & used parts for old Saabs: 2-stroke & V4. Rare, vintage, high performance, everything. Sunday, March 8, 11am - 4pm. Call for details, Nordic Motors, 617-648-6050.

High perf cross-ram manifold w/ mounting hdwe for dual side-draft Webers. New, never used w/ Saab competition sticker still on it. Make offer. New Rajay turbo for V4, \$350. Rebuilt transmissions, guaranteed for 1 yr, \$400-\$750 depending on cond & options. V4 restoration also. Nordic Motors. 617/648-6050.

Sonetts for Sale

'74 Sonett III, recent head, clutch, balance shaft, brakes, exhaust, etc, by Saabmasters. Beautiful new grey/black int, 4 spkr stereo, \$2800 obo. Steve Creed, 9252 Points Dr, Bellevue WA 98004. 206/635-0984 after 3/9/92.

Two '73 Sonetts. One w/ new blue paint, new Michelin 175-70 XVS, stainless steel rockers, bottom, & wheel-wells. Strong runner, never hit, \$4000. 2nd for parts or \$4500/both. Dave Hassel, Troy NY. 518/283-0247.

'73 Sonett III, alloys, Pirelli tires, AM/FM Cass, exc cond, original throughout, lots of TLC, \$4000 obo. Carol Heath-Helbush, 3342 Lake Albano, San Jose CA 95135. 408/270-1430.*

'73 Sonett, blue, new trans, clutch & pressure plate. Great runner. Garaged for 10+ yrs. All documentation & service records. Needs work, \$2650. Call Mike. 201/764-8958, days.*

Not for the timid! '68 Sonett V4, complete restoration bumper to bumper, cosmetic & mechanical. Very powerful 1700+ engine. If you've waited for the best, this is it! Send \$5 for photos, long list of work done. \$13,750. Jack Ashcraft, 2201 Woodlawn Drive, Medford OR 97504. 503/779-0731.

'69 Sonett V4, orig Sand, soccerballs w/ new XZX, VG, \$5000. '69 Sonett for restoration or parts, complete, orig Sand, rusted, VG fiberglass & rear window, \$1500. Both for \$6000. Rob Allen. 203/248-8798.

'68 Sonett V4, orig black-plate rust-free CA car. Never wrecked, good runner, \$4000 obo. Pics avail. Dave Shaw, 2300 John Match Dr, Colton CA 92324. 714/825-5761.

93s, 95s, & 96s For Sale

'73 96, low mi, solid w/spare eng & trans, Verona Green, \$825. Monty Tarr, Rt 1 Bx 385, Catlin IL 61817. 217/443-7402 days. 217/427-5203 eves.

'71 96, 98k mi, no rust, 15k since rings/valves/ bearings, cams, clutch, lightened flywheel, new Sonett ring & pinion. Konis, Bilsteins, rear sway-bar. Front spoiler. Five 175/70 MXL's. Hellas, wired for aux lights, \$2500. David Jonathan, Santa Barbara CA. 805/962-1243.

'71 96-V4 & '67 96-V4. Both run. '71 needs clutch master cyl, '67 needs starter. Prefer package deal. Negotiable \$800. Judy Coleman, 2694 A Albatross Rd N, Delray Beach FL 33444. 407/274-0488 eves.*

'68 Sonett, no rear clip or glass. Call or write with your needs. Willing to trade car +\$ for hot V4/trans or perf parts. Ken Burson, 4213 Walnut, Omaha NE 68105. 402/551-9665.

95-96-99 used parts, no list, write w/ requests. Door, glass, suspension. '70 96 body, '70 95 body (CA cars, no eng or trans), \$200 ea. Ted Bunding, 1058 W Evelyn Ave, Sunnyvale CA 94086.

Parting out '68 96 V4. Send SASE or call for list. Andy Buc, Box 70187, Seattle, WA 98107. 206/783-7832 days, weekends.

2 96 V4 transmissions, overhauled in Sweden. Several other parts incl V4 engine. Per Haugen, 9 Wood ledge Village, Hawley PA 18428. 717/685-4292.

'63 93 Bullnose hood, complete, \$150 obo + shpg. Adrian Haemming, 12736 Summit Ridge, Nevada City CA 95959. 916/432-3615.

Good used 8-39 ring gear pinion from reinforced case transmission F240340, \$75 + shipping. Also other gears, etc from this trans. William Seely, 3874 Union St, N. Chili NY 14514. 716/889-9731.

Duplicates of Sonett III door stripes. 77" long 2 mil marine grade vinyl. Orig black or white, \$35 pair. 20 additional colors avail. 6 metallic or reflective colors, extra cost. Thomas Cox, Jr., 3609 Hernwood Rd, Woodstock MD 21163. 410/465-6691.

6 1700cc engines, \$450 ea. Sonett III trannys, \$450 ea. Windshields, \$200 ea. Rear windows, \$200 ea. 1 pr hatch shocks, \$45. 1 pr '74 black Sonett race mirror, \$70. Sonett doors, \$200 pr. Rear fiberglass clips, \$250 ea. Mark School, 313 E Greenfield St, Appleton WI 54911. 414/731-5289.

'68 96 V4 Straight body, runs well, needs paint, 900 front seats, silicone brake fluid, \$2000. Ted Bunding, Sunnyvale CA. 415/960-7141 ans mach.

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'89 9000 Turbo, 21 k highway mi. 16" cross spoke wheels, 5 sp, leather, grey met, sport exhaust, extra gauges, color coded grill & mirrors, fender flare kit, \$17,725. Robert Lomitola, Cocoa FL. 407/631-8628.

'84 900S, 4 dr, met grey, AT, AC, Blaupunkt, cruise, all records, cream puff. Meticulously maintained, 91k mi, \$3985. Fred Green, San Jose CA. 408/978-5427.

'88 900 Turbo Convertible. Red w/ tan leather, 5 sp, 62k mi. New Dunlop D60 M2 tires, all records, very clean. 200 watt Sony stereo w/ 10 CD changer avail, \$17,000. Paul Hermann, 4141 Rosemeade #3101, Dallas TX 75287. 214/380-2647.*

'86 900S, 16 valve, 5 sp, silver, Shelby wheels w/ exc P6s, 105k mi, FL car, \$5000. Rob Allen, 203/248-8798.

'86 900S hatchback, 16v, 5 sp, cloth int, Rose Quartz/Burgundy, 5 sp, AM/FM cassette. CA car, good cond, 70k freeway mi, reg maint. Call for details. Frederick Fitts, Jr., 5161 La crescenta Ave, La Crescenta CA 91214-2137. 818/957-2197 after 6pm PST,

'82 900 Turbo, Anniversary edition, well maintained, very solid & dependable, \$2800. Monty Tarr, Rt 1, Bx 385, Catlin IL 61817. 217/443-7402 days. 217/427-5203 eves.

'82 900 Turbo, intercooler, 5sp, 118k mi. Shelby wheels, new Pirellis, new KYB shocks, many new parts. Drives like new, mint cond, needs trans work, \$1800. Ed, Ozone Park, NY. 718/937-4900 days.

'78 99 Turbo, body perfect & mechanically sound. New head, headliner & tires, Needs back seat & radio. Patrick, Hollywood, FL. 305/927-0085.*

'77 99 5dr, 4sp d, AM/FM cassette, rebuilt alternator, clutch, trans. New headliner, good cond, runs well, \$995. Russ Smith, 116 Cedar Lane, Oak Ridge TN 37830. 615/482-9482.

'78 99GLE, 5dr, AT, 130k mi, gd cond, alloy wheels, runs great, \$950. Fred Greene, San Jose CA. 408/978-5427.

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'87 900 Turbo parts - springs & shocks, headlights, 4 bumper ext, muffler & tailpipe, new whale tail. '76 99 parts - EMS wheels, distributor w/curve, head cushions. '75 99, runs, \$350. R. Chenet, 150 Meadowbrook Dr, Wexford PA 15090. 412/935-8315.

Tan cloth '87 S 3dr int, \$500. 16v S eng, 26k mi, \$1000, 4-'86S alloys w/ caps & nuts, \$400. EQ for '85 Turbo, \$75. 4 spoke/button sport leather steering wheel black, \$125. New red APC box, \$175. Turbo for 16v, \$250. Perfect red '87S passenger dr, \$350. 9000 km/hr speedo, \$100. Rob Allen, 203/248-8798.

Parting out: twenty 99s and thirty-two 900s, 1973 thru 1988; one '86 9000. New OE sunroof deflectors, 9000 only, \$39. Quantity discounts. Rod Beckner, 604 E 1st St, Albany OR 97321. Tele/Fax 503/928-6351.

For '77 99 3dr: Good RH & LH doors. Bill Seely 3874 Union St, North Chili NY 14514. 716/889-9731.

4 Alloy EMS rims, \$150/set obo + shpg. Adrian Haemming, 12736 Summit Ridge, Nevada City CA 95959. 916/432-3615.

Parting out 900's: plus semi-trailer full of body parts, engines, front clips, wheels, interiors, glass, etc. Auto Restoration Techniques, Columbus OH 614/299-2381.

2 B Engine Heads. 1 Turbo, 1 non, \$200 ea. 1 '87 16v head, \$400. 413/774-4515.

Complete set of early 900 service manuals. 900 factory hitch. 99/900 new factory console light. Set of new Gabriel Strider shocks for 99. Bill Martinson, 42-306th Ave NE, Fargo ND, 218/236-8584 days. 701/235-1043 eve.

99 Parts: 15 yr accumulation of everything, any yr & model 99 lamps, lenses, grills. '73-'74 4sp, '75-'77 4sp low mi, B-type eng '77, heads, EMS rack, EMS steering wheels, EMS wheels w/ nuts (2sets), \$100/4. Send SASE w/ needs. Davie Bottorff, 3301 Bella Bista Dr, LaFayette NY 13084. 315/469-4228.

Group 6/Ansa Sport Exhaust for '86-'88 9000T, new, orig \$160, will sell for \$125 incl domestic UPS, Pair factory sheepskins (burgundy) for 900/9000 (just cleaned), \$100 w/ shpg. Set of 4 205/55VR15 Semperit Directions, almost new, \$200 (includes shpg). Noel Young, 31 Horton Ave, Hawthorne NJ 07506. 201/423-0847.

99,900 headliner kit comes w/ glue, 3 1/2 yds & instructions, \$87.50. Other parts avail. Eve and Sat hours. Trollhattan Motors, Inc. 301/682-4699 or 1-800-32-TROLL.

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SPG wheels from '89 900. 4 complete w/ 3 center caps, exc cond, \$450 obo + shpg. Christopher Curtis, 133 Broadview Ave, Auburn ME 04210. 207/783-8735 morn.*

Saab Accessory wool seatcovers. Exc/new cond, \$250. '84 900S trlr hitch, \$40 (orig \$125). Rick Maxa, 2644 Harris Hill Rd, Elmira NY 14903. 607/733-8683 lv msg or /733-7191 (w).*

- Continued next page -

HISTORY OF THE THREE CYLINDER TWO STROKE

Mutants: Monster, Junior & a V6

Copyright by Simon DuStroke

'Monster' happened almost casually. Officially Monster was created to be a test bed for Saab's Formula Jr. ideas. Quite naturally, it took on a life of its own.

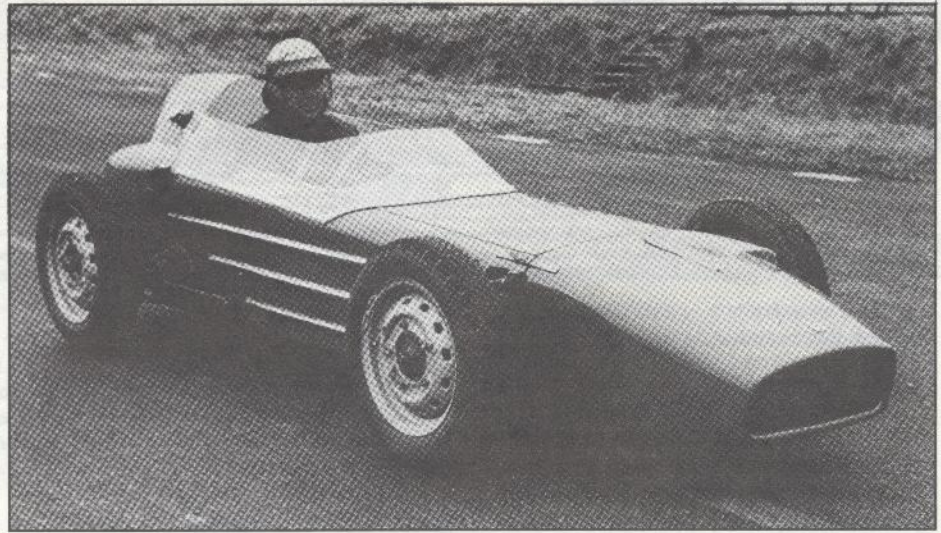
Monster was, and is, a stripped 93 with two three-cylinder engines mounted transversely in a split, inline 6 layout. On the front side of the split is the drive for the overhead fan shaft and the twin generators, and on the back side, the gearbox drive.

The name came from its incredible (138 bhp) power, its dramatic understeering and diabolical handling. Needless to say, with all this power there were some troubles with the gearbox as well.

Before the project ended, it attempted the world land speed record for its class. It managed about 120 mph (some sources say 122), but there were the usual problems getting this recognized.

The restored Monster now sits in the Company's museum.

In the late fifties, Formula Junior was created for single seat race cars under 1000cc. From 1959 it was recognized by the



Saab's Formula Junior had some success at the hands of Erik Carlsson and Carl Magnus Skogh.

FIA as a substitute for Formula 3. It was an exciting competitive formula and it drew Saab's interest.

The two Saab cars built were totally unlike any of the other competitors. The design featured an aluminum monocoque (with a fiberglass nose cone) while all the others were still using space frames.

But it was the mighty three that made it truly different. Not only was it a two stroke, but it was also front wheel drive! How? The engine laid on its side in front of the front wheels. The engine itself was bored out to about 940cc (sources vary 940-950cc) fed by twin dual throat Solex carbs. Four throats for three cylinders you ask? One throat was cut off!

It produced about 90 bhp (sources vary 90 to 96) at 7,000 rpm. The suspension was made up of mostly stock components, some employed in unique ways, along with some very unusual bits and pieces.

It was incredibly fast in a straight line, up to 130 mph, but turns showed that 70% of the weight over the front wheel meant loads and loads of understeer. Despite this, Saab had some success in the 1961 season winning at least one race and finishing well up in a half dozen others.

The glorious noise of these cars could always be heard over the other competitors. A 1962 season gave Saab a graceful way out. One of these cars lives in Saab's museum.

As the sixties moved on, the three-cylinder engine became more and more

reliable thanks to Rolfe Melde and his relentless engineering department. Strangely enough, he was never a fan of two stroke engines!

In 1962 he got permission to pursue a new engine design along three courses. First, further development of the existing three; second, test to destruction various four-stroke engines; and third, explore various two stroke alternatives. The third is our interest here.

There were a number of engines built. In particular there were two V-4 two strokes, one with the exhaust in the center of the V and the other with the carb in the center. The carb-center engine proved useless instantly because it was not possible to 'pulse charge' it conveniently. The second one had some problems with the carbs being too far from the center of the engine and thus suffering from vibration. The engine was also too wide and the center exhaust created a heat problem.

The third major engine examined was a V6 two-stroke. It was powerful, strong, light and compact. In a word, it was wonderful. But the political tide in the company was turning against the two-stroke. The new engine would have to be a four-stroke.

An era was ending...

Next Time: The 94 & 97

Simon DuStroke

Wanted, All Models

1 or 2: Ronal silver-spoke, Inca, & SPG wheels. Late 900 factory manuals, 93 parts incl bumper overrider, exhaust, many more. Saab collectibles, toy cars, posters, sales lit, dealer signs, etc. Rob Allen 203/248-8798.

Michelin MXV 195/60 R15 87 H. Need one in nearly new shape. S. Mader, 1950 Salem Pkwy, Westlake OH 44145. 216/835-6933,

Need weights from a 2-Stroke Monte Carlo crank. Whole MC850 engine considered. Oded Mandelblat, PO Box 1049, Ramatgan 52109, Israel.

Wanted immediately: 96 Factory trailer hitch. Please help! Pete Lendved, Sugar Loaf NY. 914/469-4927.

Fog light brackets & switch, \$15? Joel Schneid, Northampton MA. 413/584-2511.

4 SPG wheels in vy gd to exc cond for '85 900T. Fred Siegele, 1116 Braxton Ct, N Wales PA 19454. 215/368-7699.

900 for 1st car for teenager. \$1000? Mike Meade, Inrine KY. 606/723-5320.

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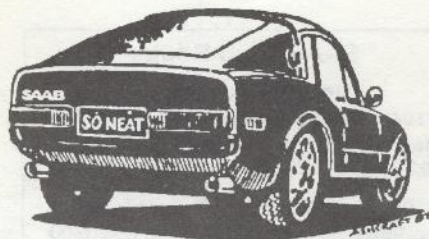
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Rear View

On the road again! This month (January) it was off to the North American International Auto Show, better known as the Detroit Auto Show. A look at Saab's role in that and other shows is elsewhere in this issue. More importantly, it gave me a chance to take a look at offerings from other car companies, and there was little that impressed me.

While the stars of a major auto show are the concept cars and new models, the automotive consumer has the opportunity to do side by side comparisons of their next potential mode of transportation. Though the sticker on new Saabs is higher than most cars purchased today, they still include as standard equipment many items that other manufacturers add on as high priced options. The display of new Saabs doesn't exactly draw in the wrestling and monster truck crowd like the displays of some other manufacturers. Some of those give the Auto Show a truly carnival atmosphere, so much so that their cars are almost secondary to the entertainment. Still, there was quite a bit to see and I recommend that any auto buff try to get to a major show at least every few years.

One very obvious shift at Detroit this year was the lack of models in evening gowns giving mindless rote speeches about the cars. Today many of the "spokes

models" (as they call 'em on Star Search) are required to know a bit about cars, and likely have driven the car they're talking about. Outfits have moved to business or sports attire, depending on the image of the vehicle. Sex hasn't disappeared, but the companies are more politically aware, and more careful.

Alternate fuel, electric and two-stroke powerplants were in abundance in concept vehicles. Some of them will even see use soon in fleet testing. Unfortunately, unless there is a breakthrough in technology in any of these other power sources, they still can't compete with the gasoline-powered internal combustion engine in today's economy.

The two-stroke engines are the candidates most likely to be seen in engine compartments in the next few years. The only resemblance to the two-stroke engines that Saab used to offer is in basic components. Many use valves and fuel injection to deliver the fuel, instead of the old scavenger system that created the rinning-a-dinnnnng sound. Though Saab's stokers were great on fuel economy, they didn't fare so well on emissions. The new generation of strokers have pretty well overcome that hurdle.

Alternate fuels in internal combustion engines are getting better, and if gasoline prices should rise they may become competitive, but cheap gasoline still controls the economy. Methanol and ethanol are not without driveability problems, they don't produce as many miles from a gallon as gasoline does, and ethanol is still more expensive to produce than gasoline, though government subsidies make it competitive.

While electric vehicles do not emit pollutants while in use, that electricity has to be produced somewhere, probably at a coal or oil-fired electric generating plant, and as the demand for electricity increases, so do emissions from the generating plants.

Another problem with electric cars is getting

rid of expired batteries. Battery disposal is already a serious problem, from the tiny button cells that power our digital watches and cameras, to the lead-acid multi-cells that start our cars. Perhaps a "pre-disposal" deposit would encourage complete use of a product, or act as incentive to the use of recyclable products.

Disposal of non-recyclable materials in autos continues to be a problem, but auto manufacturers, led by the Germans, are nearing the day when virtually all parts of the automobile can be recycled.

Just as the Detroit show was getting underway, President Bush and the bosses from the Big Three domestic auto companies returned from their trip to beg the Japanese to purchase more American goods. "Buy American" and "Japan Bashing" may make headlines, but they don't make better products. Most of us still prefer to buy quality no matter where a product may be produced. Until American companies, or businesses in any country for that matter, are able to make their products competitive on the world market, they will continue to rank behind those that have already put those practices into effect.

"Lean" production has become important in manufacturing, not just in the automotive industry. Saab has instituted some lean production techniques and quality has improved considerably. Other lean practices must be engineered into the design of a car, so cannot be instituted until the next 900 model reaches the assembly line, some time in 1993

Given the current standard of living in Sweden and the exchange rate, it is doubtful that the finished product will be any less expensive than it is today. Hopefully Saab will be able to make cars profitably and remain in the auto business well into the next century.

Tim Winker

NINES

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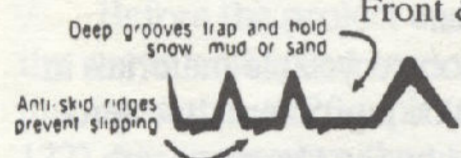
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