



# THE SAAB CLUB

OCTOBER 1984, NEWSLETTER #131

## CHANGES FOR '85 SAABS INCLUDE 16 VALVES

Saab Press Info: When the 1985 Saab Turbo was unveiled at the company's 330 dealerships on October 1, 1984, the Swedish automaker broke new ground: The 16-valve 1985 Saab Turbo is the only sedan in America powered by a turbo-charged engine with four valves per cylinder.

The new Turbo develops 160 horsepower and an impressive 188 foot-pounds of torque. Peak power and torque are delivered at low engine speeds for quick engine response, whether driving on the open road or in city traffic.

"Driving pleasure begins with control," said Bjorn Envall, Saab's design chief. All Saabs use front-wheel drive and display excellent directional stability and resistance to crosswinds. The Saab 900 this year is equipped with new low-pressure gas-filled shock absorbers for improved handling. The 1985 Saab 900S and Turbo models continue to use high-pressure shock absorbers of the type used in competition.

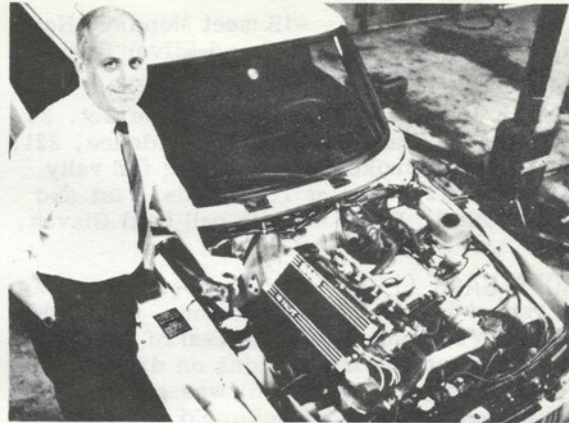
The 900 is the least expensive model for 1985, yet it has an extensive list of standard equipment. In addition to air conditioning and heated front seats with lumbar support and adjustable headrests, the list includes power steering, halogen headlights, tachometer, rear window defogger and bronze tinted glass.

The 900S adds power windows, central locking system, sunroof, lightweight alloy wheels, and electrically-operated mirrors to the well-equipped basic model. New equipment for the 1985 900S includes a four-speaker sound system, cruise control and time-delayed shut-off for the courtesy lights.

The 1985 Turbo has high-performance tires, reflecting the top speed of some 130 miles per hour, and new alloy wheels with large ventilation holes for the brakes. All Turbos now have a front spoiler for improved high-speed stability.

### Third Generation Turbo

The new turbocharged and intercooled Saab engine has two intake and two exhaust valves per cylinder. The extra valves let the engine breathe better: More air enters the combustion chamber during each intake stroke. Combustion is cleaner and more complete, and more efficient.



*Per Gillbrand, father of the Saab Turbo, is the head of Saab's technical research laboratory.*

The layout of the four-valve cylinder head yields another advantage. Per Gillbrand, engineer in charge of Saab engine development, explains that this design makes it possible to place the spark plug in the middle of the dome-shaped combustion chamber.

"With the spark plug right in the middle, combustion is smoother," he said. "The flame ignited by the spark spreads quickly along a short path."

On engines with the spark plug on one side of the combustion chamber, the flame's path is long and asymmetrical. The fuel/air mixture may pre-ignite before the flame reaches the far end of the combustion chamber and "knocking" occurs. To avoid harmful knocking, the compression ratio in such engines is kept low.

The 1985 Saab Turbo engine, with the spark plug located centrally, has a compression ratio of 9 to 1, exceptionally high for a turbo. A high compression ratio enables the engine to use the energy content of the fuel more effectively.

### Other Features

The 1985 Turbo also comes equipped with an intercooler, which at maximum output, cools the intake air from 250 to 140 degrees Fahrenheit. By lowering intake temperatures, the intercooler

*Continued on page three*

Saab Clubs of North America

Editor and publisher: Jeff Delahorne, 5805 Oneida St., Duluth, MN 55804

(218) 525-3253 9 a.m.-8 p.m. except Sunday

Consultants: Dick Grossman, Jack Ashcraft, Carolanne Curtis, Andy Buc, Ted Tucker

**NEW ENGLAND SONETT CLUB**--next meeting will be held on Saturday, December 1, 1984 at the Terra Nova Restaurant, NH Route 3A, in Litchfield, NH from 1:00 pm to 4:00 pm. Ron Katz, Performance Tire Specialist for Merchants Tire Company will address the club on performance tires for the Sonett. We have reserved the entire restaurant area for the meeting, but will have to guarantee attendance. \$3.50 per person will cover attendance and hot hors d'oeuvres. Please send \$3.50 fee and reserve your place in advance. NESCL, PO Box 4362, Manchester, NH 03108.

**MILWAUKEE SAAB CLUB**-- will meet Monday, Nov. 26, at Shakey's Pizza, Hwy 100 and Silver Spring, at 7:30 pm. For more info call 964-7463.

**TULSA SAAB CLUB**--next meeting will be Oct. 23 at 7:00 pm, at the Pam & Ray Kurr residence, 2313 W. Galveston St., Broken Arrow. The fall rally will be Oct. 28, 12:30 pm at Toys R Us, 71st and Memorial in Tulsa. For more info call Paul Glavas, 250-2150.

**MINNESOTA SAAB CLUB**-- Our October meeting included a report by one of our members, who sells for McDonald VW-Saab, on the arrival of the new 16-valve Saabs and his impressions on driving one. A Saab cassette deck cleaning kit was given away as a door prize, courtesy of McDonald VW-Saab. Another door prize will be given away next month. The Minnesota Saab Club continues monthly meetings on the first Thursday of each month, Shakey's Pizza, Larpenteur and Snelling, 8 pm.

**OREGON TRAIL PRO-RALLY**-- November 16-18, Beaverton, Oregon. Call Nick Moore, event chairman, 503-761-6026, or Rick Beson, 503-297-3931 for more information.

**SAAB CLUB NATIONAL CAPITAL AREA**--will hold their annual autocross on Sunday, Oct. 28, at the Springfield (VA) Metro Parking Lot, beginning at 8 am. Volunteers are needed to help lay out the course and be workers during the event. Contact DeWitt Boyd, 703-536-5358.

**APPALACHIA SAAB CLUB**-- will be meeting the third Tuesday of each month at Pennington's Fund Raising Co., 214 Market St., Johnson City, TN. Anyone interested in Saabs is welcome. For more info, call Mike Woods, 615-753-2101 or write Rt. 6 Box 349, Jonesborough, TN 37659.

**MEMBERSHIP/SUBSCRIPTION**

Dues for membership/subscription are as follows:

First year, third-class mail . . . . .	\$14.00
First year, first-class . . . . .	\$15.00
Renewal, third-class . . . . .	\$11.00
Renewal, first-class . . . . .	\$12.00

First-year membership includes two back-issue newsletters, Club tech sheets and emblem. Renewal notification will be stamped on the open rectangle at the top of this page. A treasurer's report will be made three times a year. This is a nonprofit organization.

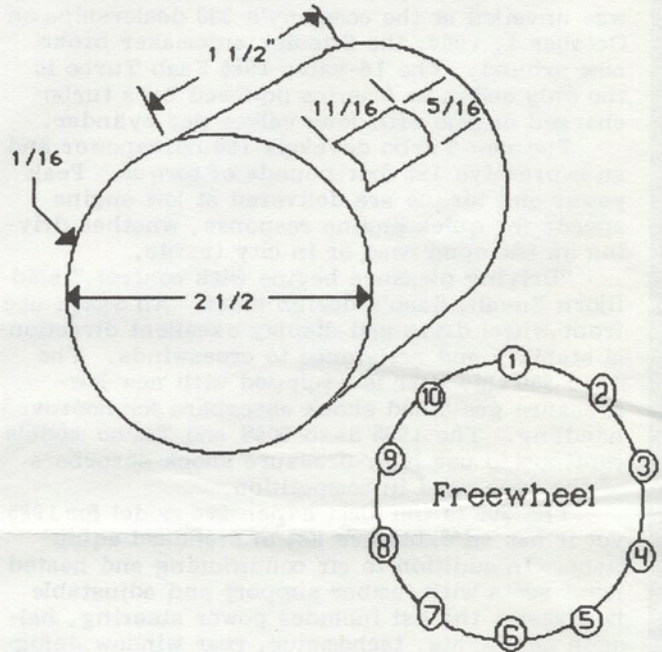
A collection of 15+ back issues with Club tech sheets punched for your 3-ring binder is available for \$8.00 postpaid. Individual back issues: 75¢ each.

Always specify: 96, 97, or 99/900 for appropriate tech sheets.

**MAKE YOUR OWN 96/SONETT FREEWHEEL TOOL**

While reassembling the transmission on my 96 DeLuxe I had great difficulty getting the 10-roller freewheel back together. Trying to hold all the parts in place and install it into the primary shaft seemed impossible. So I made a simple and cheap tool, which works great.

The tool shown in the plans was made for a 10-roller freewheel; if you want to use it for a six-roller unit, the hole in the side must be enlarged to accept the larger rollers. If used properly a freewheel can be assembled in approximately 10 minutes. Also, once the freewheel is assembled in the tool it can be pushed directly into the primary shaft.



Computer drawn graphics

**Operation:**

1. Remove all parts from the freewheel.
2. Insert all rollers only.
3. Remove roller #1 through hole and insert two springs and two brass pushrods, push down on roller and rotate freewheel to #6 roller.
4. Remove #6 roller through hole, and follow above steps.
5. Do this using the following sequence: 1, 6, 9, 4, 8, 3, 7 & 2.
6. Use your finger to hold down preloaded rollers as they pass the hole.

Jeff Ballini, Pompton Lakes, NJ

***hakkapeliitta***

Hakkapeliitta NR-09 snows are going fast! Compare the 185/65SR15 at \$89 against the only other snow tire in that size, the Pirelli Winter 190 at \$102. NR-09's give good dry road handling combined with super traction in both deep snow and on ice. Hakka's are so good they were banned from Pro Rallying for a time. A few 165-15's still left at \$68 ea. Prices including UPS. TAMARACK RALLYSPORT, Jeff Delahorne, 5805 Oneida, Duluth, MN 55804, 218-525-3253.

## BOSCH LH-JETRONIC INJECTION FOR '85 SAABS

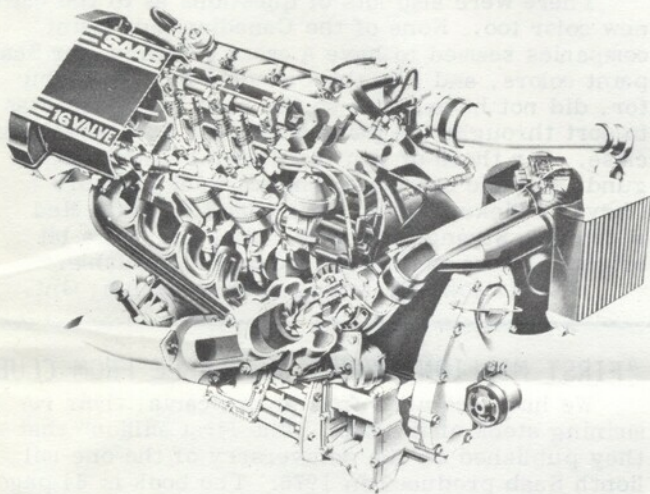
*Continued from page 1*

lowers thermal stress on the engine and lubricating system, thereby improving durability.

The new Bosch LH-Jetronic microprocessor-based electronic fuel injection system is used on the '85 Turbo. The advantage of the LH system is a new type of flowmeter, which measures the air mass instead of air volume. This has several benefits, including that it automatically corrects for changes in altitude.

Per Gillbrand believes that the 16-valve concept is the way of the future--as confirmed by the large numbers of such engines discussed by other auto-makers. "But most of their engines have not yet been developed to the production stage," he said.

"The development potential of the 16-valve engine is so vast that it will probably maintain its dominance well into the next century," Mr. Gillbrand added.



*The 1985 Saab Turbo engine, featuring double overhead camshafts, four valves per cylinder, and an intercooler.*

## STUCK CLUTCH DISCS LOCK 96 INTO REVERSE

I have a fine '73 96 and many spares including a rusty '69 and a complete engine and transmission out of a '73. I have removed and replaced nearly everything on a 96 more than once, but I am still a poor diagnostician.

The '73 was locked in reverse when I bought it. I took apart the linkage which didn't help. I had it towed to my house where just moving it made it possible to shift again, providing the car was not running. I removed and replaced the powertrain with my spare one. Low and behold it behaved exactly like the one I had just removed.

Finally it became clear that the clutch on both was tightly stuck to the flywheel. Both clutches were almost new and had been sitting for some time without being used. I sprayed some brake cleaning solvent on the clutch, jacked up both front wheels and put the car in third gear and revved it up. Jamming on the clutch and brakes popped the clutch loose and it has worked fine ever since. Apparently this happens fairly often to vehicles that are not used regularly.

Jeff Smith, Birmingham, AL

## B.F.G. COMP T/A'S PRAISED &amp; HOT STARTER

I have a tire recommendation for both 99's and 900's: B.F. Goodrich Comp T/A's. I put 185/70-VR15's on my 99 and the improvement is fantastic. Steering response is greatly improved, wet and dry handling and braking are better than ever, and, best of all, steering effort with manual steering is no more than with 165's. They've brought new enjoyment to driving my 99. Along with KYB Gas-Adjust shocks they also provide a very comfortable ride. Although the Comp T/A's are expensive (\$98 each from Tire America), they are well worth it if you plan to keep the car for three or four years. The 185 size also fits 5.0" rims and has adequate clearance.

I have had starter solenoid problems with the 99. After an hour or two of highway driving, and then stopping to refuel or eat, the starter will not engage or crank until it cools down, then it will start normally. The problem occurred with the original starter about two years ago and is now happening again with a rebuilt replacement starter. Has anyone had similar problems and found other starting system components at fault?

John Paschkewitz  
697 Lakeside Circle  
Robins AFB, GA 30198

*ED. NOTE: Be sure that the heat shield over the starter is in place and that the ground strap to the transmission is clean and has a good contact.*

## 96 CV BOOT INSTALLATION HITS A SNAG

In my letter in the July '84 issue (p. 2), I was talking about changing U-joint boots by "simply" stretching the boot over the inner "tee" instead of removing the CV joint from the axle. The word "simply" should be retracted. I tore one of the boots upon installation (I noticed this after closer inspection).

Also, I plan to use nylon "tie-wraps" to secure the boots (all except the large inner U-joints). I plan to use 5 mm-wide wraps for securing to the axles and 10mm-wide on the CV joint. What experience do you have using these wraps instead of metal banding?

1977 99GL 3 dr. Fuel Tank Leak--Anyone who owns this model Saab should inspect the filler and vent hoses for the gas tank. Our '77 99GL was dripping gas when filled up. I inspected the vent hose and found that it was rotted in several areas.

I think it would be a good idea if you were to reprint the recall M-041 (Aug. '82, p. 6), or at least make reference to this article. This could be a dangerous situation.

V-4 Steel Balance Shaft Gears--are available from Saab as of Oct. 1984. Part No. 88 10 277. The cost is \$100.

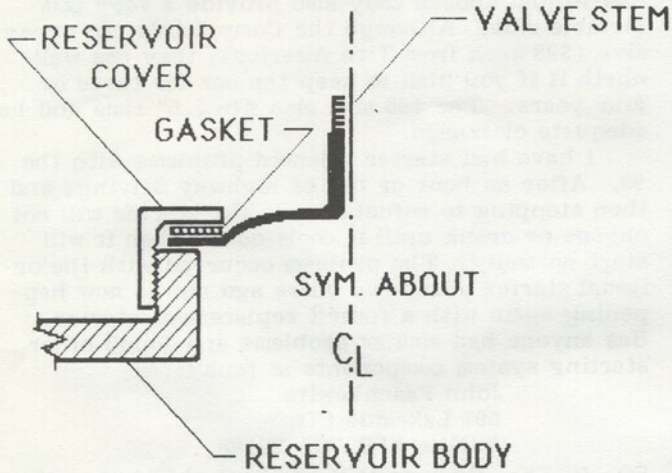
Pete Briggs, 303 Wisteria Dr,  
Thibodaux, LA 70301

*ED. NOTE: Regarding Recall M-041. This was for insufficient clearance where the fuel tank vent line runs through the trunk, not for rotting of the line. It is, however, a good idea to check this line in all 1977 and '78 wagonbacks.*

*Concerning nylon tie-wraps on U-joint boots: I have used them on many V-4's (and 99's) and they work well. I have had good luck stretching U-joint boots over the inner axle "tee" on V-4's. You do have to be very careful, however.*

99 and 900 CLUTCH BLEEDING BY PRESSURE

The Saab factory manual recommends the use of a coolant system pressure tester to pressure bleed the clutch. Not having one of these devices, and also reading what the Haynes manual says about perhaps adapting a bicycle pump, I decided to try and make do with an adapter to my air compressor. The arrangement that I came up with worked perfectly the first time I tried it.



You can remove the low brake fluid warning sensor unit from the center of the combined brake/clutch fluid reservoir cover and remove the gasket from the sensor. Place the gasket in the cover. Next, cut the valve stem from an old inner tube leaving a circular piece of rubber to fit the opening in the cover as illustrated below. Assemble to the fluid reservoir and tighten the cover to achieve an air-tight seal. You can then use any kind of pump or air compressor to pressurize the system to a few psi. Open the bleeder valve and bleed the system per the manual's directions--without having to depress the pedal.

Tom Nelson, Box 25,  
El Rancho, CO 80401

*ED. NOTE: I learned at the Convention a trick that helps bleed the '76 and later "donut" slave cylinders. When installing a new or rebuilt unit, fill the cylinder before attaching it to the line, carefully rolling it around to expel all air bubbles. Then connect the line and bleed in place. Apparently air can be trapped in the cylinder and not be expelled with normal bleeding, leading to possibly erratic clutch action. This info is courtesy of Saab-Scania Rep. "Red" Rambo.*

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REFINISHING EMS WHEELS & CANADIAN PAINTS

At the Convention a number of people wondered about how we got the EMS wheels on our '78 99GLE so shiny. I must give credit to Don Andrews of AAR for the tip on cleaning off the corrosion. The secret here is to sand in a circular motion following the "grain," which is "around" the wheel. Depending on how bad the condition of the wheel, I would strongly recommend hiring the kid next door to do this incredibly boring job.

Step two is even less inspiring; I used 0000 steel wool (Don suggested a product unavailable in Canada) to polish out the sandpaper marks. This was relatively easy, but still no big amusement. Paint in the black areas to bring them back to pristine and then spray the whole thing with clear ur-ethane, you pick the flavor, high gloss or satin. Do not use lacquer or you'll be doing it again too soon.

There were also lots of questions as to the car's new color too. None of the Canadian auto paint companies seemed to have a cross reference for Saab paint colors, and BL, the Canadian Saab distributor, did not have same, so the next best thing was to sort through the paint chips and find something close. For those of you faced with painting a Burgundy Metallic car you might consider the 1979 Chrysler Pickup Truck color called "Sunfire Red Metallic." Strange but true. This color is a bit brighter, more metal and in Canada, available.

J. John D. Ayling, Peterborough, Ont.

"FIRST MILLION" BOOKS AVAILABLE FROM CLUB

We have acquired from Saab-Scania, their remaining stock of the book "The First Million" that they published on the anniversary of the one-millionth Saab produced in 1976. The book is 64 pages written and illustrated by Saab Designer Gunnar Sjogren. Softcover: \$3.00 ppd; Hardcover: \$5 ppd  
Poster: We also have the 1976 poster done by Mark Sterhnenberger for Saab, in color, of a 92, a 96, two Sonetts and an EMS. \$4.00 ppd.



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## SAAB-SCANIA REP. RESPONDS TO OIL FILTER DIMENSION PROBLEMS IN AUGUST NEWSLETTER

I read with interest the letter in your August bulletin (p. 2) from F.A. Delahorne regarding oil filter seals on non-Saab oil filters. Obviously, his incorrect filter could have been a very expensive repair if he hadn't been observant.

Many of your members write in with information about non-Saab parts to replace original equipment items. Some of them are original and interesting substitutions, but there is always a certain risk. This happens to be a classic case of that risk being potentially disastrous.

I would like to make a couple of observations to the membership.

°Saab changed the design of its oil filter seal gasket in 1978 to a thicker style. This means that Mr. Delahorne's supplier had spares which were six years out of date in their design. At best, his information was six years obsolete, at worst his parts were six years obsolete.

°Priced at five dollars, suggested list price, the original Saab oil filter is not an expensive replacement part. Others may be cheaper by a little bit, but none is better suited for use on a Saab. Of course, if it should fail, the original equipment filter is covered by the Saab spare parts warranty of 12 months unlimited miles. I would suggest that that is a very nice insurance policy on any part used to repair your car.

I have modified my personal Saabs over the years with halogen lights, Electronic Ignitions and appearance/performance accessories. I like my cars to be individualized and unique. But my experience as an owner and as a factory representative suggests that maintaining your Saab with original Saab spare parts is, in the long run, not only the wisest, but also the least expensive way.

Mr. Delahorne's "pay back" on an engine job should he have lost an engine due to an incorrect oil filter, would have been a very large deficit figure--probably on the order of 1000 to 1. That is a lot of spare parts and accessories to keep his Saab better maintained, more fun to drive and more distinctive.

Carlton G. Dingman  
Parts Information Manager /  
Sport and Rally  
Saab-Scania of America, Inc.

## FRAM'S RESPONSE TO OIL FILTER SIZE DIFF.

We have received a copy of the Saab Club Newsletter #129 which was issued in August of 1984. On its back page (p. 2) there is a section concerning oil filter gasket leakage on the 1982 900 Saab. Upon obtaining this information, we requested our Technical Sales Department investigate that complaint.

An installation check was made on this vehicle by our Technical Sales Department and they found that the Fram PH16 is an acceptable replacement for the Saab unit (part number 9309576). The gasket outside dimension on the PH16 is only .025 inches smaller than the original equipment unit and the Fram inside diameter is .085 inches smaller. The gasket on the Fram PH16 extends .060 inches above the lock seam whereas the Saab original equipment unit extends .075 inches. These differences were found to not adversely effect the installation.

Our Technical Sales Department did note, however, a similar complaint and it was found that the person involved did not properly tighten the filter due to the difficulty of the location of the unit.

We would like to apologize to Mr. F.A. Delahorne of Tulsa, Oklahoma, for any problems he may have encountered with the Fram filter.

Fram Corporation,  
Carl N. Hytinen  
Product Analyst

## MORE OIL FILTER GASKET LEAKAGE PROBLEMS

I own a 1978 99 and on two occasions have experienced oil filter gasket leaks as previously described in the Newsletter. Both of these leakages occurred using Fram PH-16 filters, and both leaks were around the O-ring gasket, and only after start up. I noticed puddles of oil at work, and at home, and soon found the leak. Another brand of filter cured my leaks.

Manual Fan Switch--I have also wired my fan to the "extra" switch as diagrammed in the Newsletter and have used it many times to prevent overheating.

Hot Start Problem--Sometimes when my car has a hot start problem, I cure it fast by pulling out the fuel pump relay, and then crank the engine a few times. Then I replace the relay and the car starts right up.

David Bartlett, Jr., E. Millinocket, ME

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## TURBOCHARGER FAILURE ANALYSIS & PREVENTION

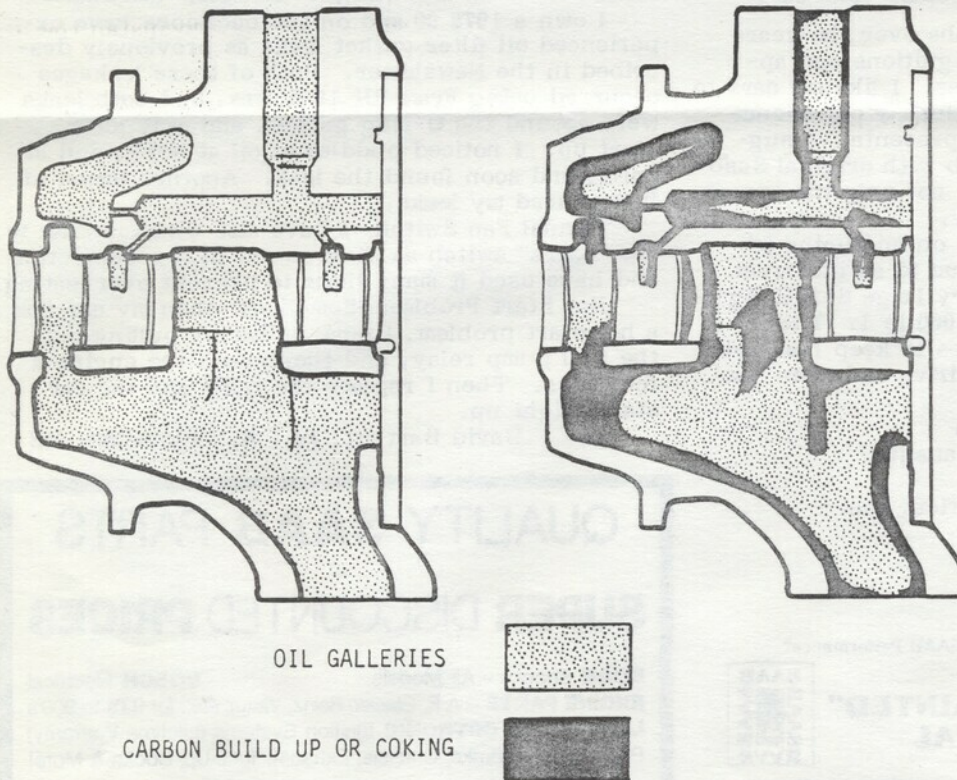
Saab Service Info 08/84-704: The chief causes of turbocharger failure are oil contamination and/or breakdown (coking), insufficient lubrication and ingestion of foreign objects.

To prevent such problems the engine oil must be maintained properly, oil starvation and excessive heat build up in the turbocharger must be avoided and care must be taken when performing service and repairs involving the intake and exhaust systems.

Correctly analyzing a turbocharger failure and installing the replacement unit in accordance with the proper precautions will help prevent an expensive comeback. It is also import to advise the vehicle owner when changes in his or her driving or maintenance habits are in order.

### TURBOCHARGER FAILURE ANALYSIS

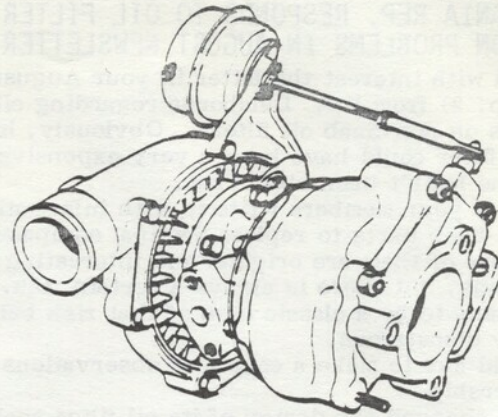
Oil contamination or breakdown will cause scored bearings and shaft journals and deposit build up in the oil passages and seals which, in turn, results in heavy oil blow-by, reduced heat dissipation and insufficient lubrication. This type of damage may be verified when the turbocharger is removed by looking into the oil inlet and outlet of the center housing with the aid of an inspection light. Oil sludge and carbon build up (coking) will be observed.



The cutaway views illustrate this. The shaded areas indicate the oil inlet (top), oil galley, oil passages to the bearings and oil outlet (bottom). The dark areas in the view on the right indicate typical carbon deposits and plugged passages.

Oil contamination and breakdown can be prevented by:

1. Using the correct oil product. Saab's primary



recommendation is SAE 10W-330 oil meeting API Service SF and CC or SF and CD. (5W-30 is acceptable for sub-zero temperatures and 10W-40 is acceptable for extremely hot climates provided that the API Service Ratings are met.)

Research indicates that viscosity index improvers and other additives in the base oil affect lubrication in the turbocharger. Viscosity index improvers may breakdown at high temperature and contribute to "coking" and carbon build up. Wide range multi-grade oils contain the most viscosity index improvers and thus should be avoided. (Conversely, single grade oils may provide insufficient lubrication at colder temperatures.) Oils with extra anti-

oxidants and detergents may be beneficial and oils specially formulated for turbocharged engines have them. Meeting the API Service Rating of CC or CD in addition to SF helps ensure sufficient protection against oxidation, rust, deposits and bearing corrosion. Separately packaged additives generally do not address the primary problem of the turbocharger environment and in fact may "over load" the oil and contribute directly to the coking phenomenon. Hence, extra additives are not recommended.

2. Changing the engine oil and filter according to the recommended interval for the type of driving the owner does.

3. Proper engine hot shutdown procedure. Idling before switching the engine off reduces the peak temperature the stagnant oil is exposed to after the engine

is shut down.

4. Removing and cleaning the oil feed and return lines when installing a replacement turbocharger.

Insufficient lubrication will cause bearing failure which in turn results in turbine or compressor wheel rub, seal damage and, possibly shaft breakage. This type of damage may be verified by visual

*Continued at top of next page*

## TURBOCHARGER FAILURE ANALYSIS, continued

inspection of the wheels through the ends of the wheel housing. This failure may occur in combination with oil contamination or breakdown and, if so, the deposits (coking) shown above will also be observable.

Insufficient lubrication can be prevented by:

1. Preventing oil contamination and breakdown.
2. Proper engine cold start procedure.
3. Proper engine hot shut-down procedure. Switching the engine off at high rpm may drop the oil pressure and starve the bearings while the turbocharger is spinning at high rpm.
4. Priming the replacement turbocharger when installing it.

Foreign object ingestion will cause damage to the turbine and compressor wheel blades which, in turn, results in imbalance and damage to seals and bearings. This type of damage may be verified by a visual inspection of the wheels through the ends of the housings. Rolled, broken or eroded blades may be visible.

Foreign object ingestions can be prevented by:

1. Never running the engine without a proper air filter.
2. Taking care when changing the air filter that debris from the old filter does not enter the inlet pipes.
3. Taking care that dirt, fasteners, shop rags, etc. do not enter the inlet pipes, turbocharger or exhaust manifold when these assemblies are removed during engine removal or repair work. Clean hose connections and clamps before disassembly.
4. Making sure the system "upstream" of the turbocharger is clean and free of foreign objects when replacing a unit which had foreign object damage.

## INSTALLING REPLACEMENT TURBOCHARGERS

1. Remove the oil feed and return lines and thoroughly clean them. They cannot be properly cleaned on the engine.
2. Check for foreign objects which may be in the inlet or exhaust pipes.
3. Align the end housings of the new unit and tighten as necessary. Prime the center bearing of the new unit with clean oil through the inlet.
4. CHANGE THE ENGINE OIL AND FILTER. Use 10W-30 engine oil, API Service Rating SF/CC or SF/CD. Do not put in any separately packaged additives.
5. Crank the engine with the fuel pump relay and the ignition distributor plug removed for about one minute to ensure that the turbocharger bearings have sufficient lubrication on the first start. (Crank for ten seconds at a time to avoid starter overheating.) Note that after replacement of a turbocharger which caused a blow-by condition, it is normal for some oil smoke to be present in the exhaust gas for a short while until the residue in the exhaust pipe clears out (this may take up to 20 minutes).

## ADVICE TO THE OWNER

Read and follow the Special Instructions in your Saab Owner's Manual. In particular:

- Let the engine idle 10 seconds after starting and avoid high rpm until the temperature gauge needle enters the green zone.

-- Let the engine idle 20-30 seconds before switching it off (60 seconds if stopping immediately after hard driving) to allow the turbocharger bearing to cool down.

-- Change the engine oil and filter every 3750 miles. Normal service recommendations for model years 1978-84 specify every 5000 miles. However, the shorter mileage interval should be used if the owner's driving conditions include stop-and-go driving, extensive idling and repeated starting in cold climates without sufficient engine warm-up. (This is especially important if you found evidence of sludge or carbon build up in the failed unit and oil lines.)

# SAAB SERVICE TIPS

## SAAB SERVICE TIPS--AUGUST 1984

1. As an alternative to power steering pump replacement in the event of leakage, a seal kit is now available to rebuild the pump. The kit is P/N 89-89-840. Remember to remove any rust which may have accumulated on the input shaft and to coat all seals with power steering fluid.

2. When installing Dana speed control in M84 cars, the instructions state to remove the 10 amp fuse from position 8 of the fuse panel and install the 5 amp fuse provided in the adapter kit (P/N 02-06-342). We have found that it is not necessary to replace the 10 amp fuse and that you should leave it undisturbed in the fuse panel.

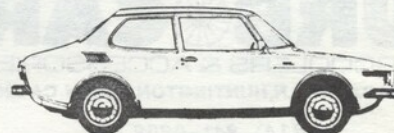
Position 8 protects the circuit for the cruise control, electric rear view mirror controls and the test point for the Saab Pulse Relation Meter. A blown fuse #8 will also prevent enrichment under acceleration during warm-up.

3. Improperly installing a pre-pump (M83½-) can cause the pump to be partially crushed, preventing it from properly filling the main pump canister.

When diagnosing intermittent fuel delivery in hot, stop-and-go driving, be sure that the pre-pump is actually functioning. It is not sufficient to simply listen to pump operation. You must check the flow.

4. Organic (asbestos-free) front brake pads are not recommended for use on Turbos. Due to the aggressive way that most Turbos are driven, it is important that the semi-metallic (asbestos-free) brake pads (P/N 89-93-263) are the only pads used when it is replacement time. Disregard the text on the labeling of the organic front brake pads (P/N 89-93-297). These pads are not recommended for use on Turbos.

*The Club thanks Mr. Daniel L. David, Manager, Technical Services Department, and Mr. Robert J. Sinclair, President, at Saab-Scania of America for making Saab Service Information bulletins available.*



# VALVE CLATTER by Jeff Delahorne

## ODDS AND ENDS

**Project 92**--Robert Allen of Hamden, CT reports that Saab-Scania's restoration of a 92 to be put on display at headquarters has made some headway. "The completed car was spied outside Connecticut Auto Restorations in North Haven prior to delivery to Orange. Of course it's green and spit-shined with motor compartment detailed. On curious note is that matching fabric to upholster the seats was impossible, so Saab sent a tattered sample to Sweden and had cloth woven specially. For those who have never seen the grandfather of all Saab's, your chance is coming soon. I have a handle on a restorable '57 93, allegedly the fourth car imported; split windscreen, suicide doors and all. Anyone interested in a project?"

**Rare V-4 Parts**--I got a letter from a fellow out in Washington state who has a line on lots of no longer available V-4 parts from Sweden. Two-barrell manifolds, close-ratio gear sets, etc. Contact John Vanlandingham, 8540 1/2 Interlake N., Seattle, WA 98103, 206-526-1280.

**900 Fender Flares**--For those of you who want to get a jump on the SPG Turbo (formerly Turbo Aero), contact Cartina, Inc. Miami, FL (305-594-0422). They have some dramatic-looking fender flares, side skirts etc. for 900 that give the car a look reminiscent of a Quattro.

**It's A Boy!**--For those of you who saw Carolanne at the Convention, you knew it was only a matter of time. Erik Carlsson Delahorne was born October 2, and is doing just fine.

## MANUAL COOLING FAN SWICH WIRING EASY

As a safety valve I have wired in a manual override for the cooling fan utilizing the rear window defroster switch ('77 99). I never use my defroster so I leave this modification on all year, however, for those who do use it in the winter, it is a five minute job to replace the connectors in the original location for the winter months and back to the fan override for the summer. There is no new wiring to be run except for a three inch piece to bridge the fan relay terminal at the fuse block to the blue lead reserved for the defroster relay terminal.

Proceed as follows:

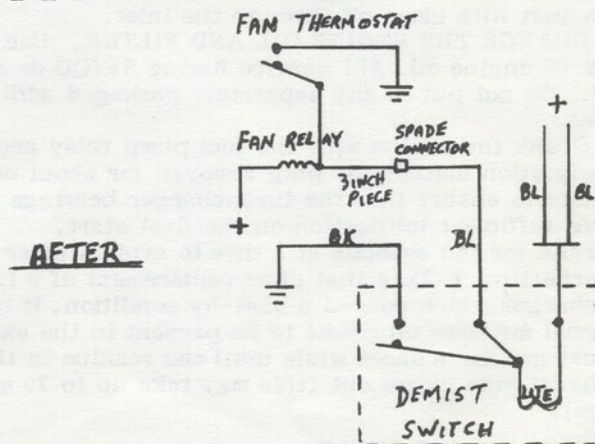
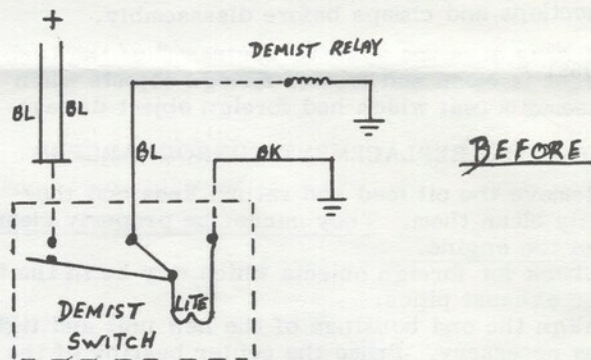
1. Disconnect the positive terminal at the battery. Pull out the defroster switch on the dash and disconnect the double blue lead connector and the black lead connector.

At the fuse block:

2. Bridge (with a piggy back connector) or solder a three inch piece of wire equipped at the other end with a spade connector, to the black lead attached on the fan relay terminal.
3. Remove the blue wire from the defroster relay terminal (with the female connector attached)
4. Plug together this lead with the three inch wire from step 2.

At the defroster switch:

5. Interchange the position to the switch of the double blue lead connector and the black one.
6. Reconnect the positive battery cable.



Note: Do not interchange the leads at the defroster switch before removing the battery potential or the leads at the fuse block. If you do, you will blow a fuse or burn something else. It is better to be safe than sorry. Remove the battery lead before starting.

John Smith, Montreal, Quebec

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# PARTS MART



## CLASSIFIED AD RATES

Ads offering parts or Saabs for sale or wanted at prices under \$200 are FREE to members and non-members. 25-word limit, plus name and address. Ads listing prices of \$201 to \$900, enclose \$2. Ads listing prices \$901 to \$2000, enclose \$5. \$2001 and up, enclose \$10. All ads without a price listed, enclose \$10.

Commercial ads: contact Editor for rates and info. We will delete all unnecessary superlatives and abbreviate where possible. Please enclose sufficient funds with ad copy; we will *not* bill.

## CLASSIFIED AD DEADLINE

*The Classified Ad deadline for the Nov/Dec Newsletter is Nov. 6. The deadline for the January '85 issue is Dec. 21, 1984.*

## SONETTS FOR SALE

1966 Sonett, lost storage, lost job, about to lose sanity--must sell: \$2000. Needs some work. Bill Silva, Jr., 7 Urban Ave, Pawtucket, RI 02860, 401-726-0621

1968 Sonett V-4, #1048, floor shift, sunroof, trans. rebt by Ted Tucker, Michelins, CD; needs new rocker panel & rear window--numerous underbody parts avail., replacem't r. window & int. parts avail. Take over restoration: \$2500; \$2000 w/o rear wind. Bob Cham, 5726 N. 8th St, Arlington, VA 22205, wk 703-620-5300, home, 703-243-3494.

1973 Sonett, orange, clutch frozen, eng. & trans. good, body & 5 wheels very good, some frame rust: \$700. John Slivka, 3381 Pheasant Hill Dr., Akron, OH 44313, 216-666-9358.

1973 Sonett III with nose off; runs good; 1970 & '72 Sonetts for parts; will not break up: \$1300 or best offer. Rum's Garage, John Rumrill, 107 Main St., N. Orange, MA 01364

1973 Sonett III, orig. green, body & window glass exc., eng. good, 81,000 mi., MSS exh., elect. good 5 mags w/ 4 good radials, all else needs work, driveable: \$900. Kim Uhlik, 5250 Rootstown Rd, Ravenna, OH 216-297-9329.

1973 Sonett III, gold ext/brown int., less than 40,000 mi., runs well, easily restorable cond. (some damage to hood) MSS exh & carb; frame good: \$3500 negotiable. Glenn DeVillier, 504-342-2040/344-1972

## 95's and 96's FOR SALE

1968 Saab 95 wagon w/ '73 Sonett eng., luggage rack, good tires, new paint, one dent, other wise good cond., spare motor, trans. & wrecked 96 incl. \$2000, Steve Parrish, Boone, NC, 704-963-6641 or 704-295-9516.

## 95's and 96's FOR SALE, continued

1968 96 V-4 Deluxe, 96,000 mi., good eng., trans, battery, radial tires, runs good, but floor & sills rusted: \$200. H.J. Arbeiter, Bensalem, PA, 215-639-4223.

1969 96, driveable or exc. parts car, new tires, exh. shocks, battery; body fair, interior decent, good engine: \$350. David Roth, 914-733-4880.

1969 96 V-4, rusty but runs well, 2 yr. old paint; spares incl.: \$500. '65 95 solid car from So. IL, '67 oil-injected motor: \$400; Lots of V-4 parts, send SASE for list. Ray Hammer, PO Box 126, Mineral, IL 61344 309-288-6241 after 6.

1970 96, has '80 model 99 front seats, rust free, Motorsport steering wheel, MSS exh. & carb, Marchal headlights, Blaupunkt, good Klebers: \$2000 firm, Dave May, 404-971-4063.

1970 96, Texas car, needs work: \$200. Rudy Santarius, Rt. 3 3257 Harmony Dr., Lodi, WI 53555, 608-592-5548 weekends, call anytime.

1970 96, 67,000 mi. exc. int., new paint job 2 yrs. ago, new tires & exh. sys., new rotors & pads, good running car, am-fm: \$900 or best offer. Mil Radvansky, 636 Woodbine, Oak Park, IL 60302, 312-386-8734 after 6 pm.

1971 95, eng. & trans. rebt 5,000 mi. ago, clean int., new carb, clutch & CV joints; body & trans. need some work: \$600. Charles Young, 750 Edmonds St., Edmonds, WA 98020, wk 206-774-4124, home 206-775-4727.

1971 96, rare orange factory-built rally car, good running stock drive train, solid floor, clean int.; also '71 96 parts car w/ good trans. & other parts: \$800 for both. Walt Kovalevsky, 3-19 150 St., Whitestone, NY 11357, 212-746-3015 eve's til 11:30.

1972 96, 72,000 mi., recent new brakes & trans., needs engine repairs; body in good cond.: \$1000 or make offer. Elizabeth Furrey, 230 Stuckhardt Rd, Trotwood, OH 45426, 513-837-1043.

1973 96, mechanically sound, int. fair, body good but needs work: \$400 obo. Les Thieme, 616-651-7347.

## 95, 96, & SONETT PARTS FOR SALE

1980 96GL color poster, 19"x28": \$20; "From Green to Blue" color poster w/ illus. of 27 diff. Saabs from 92's to last 96: \$15; also have a variety of sales literature & shop manuals for all models. Robert Allen, 114 Kimberly Rd, Hamden, CT 06518, 203-248-8798.

*Classified Ads continued on next page.....*

## 95, 96, and SONETT PARTS FOR SALE, cont'd

V-4 Parts: Fifteen years accumulation. All good. Mostly NOS. Stamp for list. Michael Crestohl, PO Box 642, Victoria Station, Montreal, Que. H3Z 2Y7 514-482-1984.

V-4 Front muffler w/ easy-on mod.: \$20; V-4 water pump: \$15; radiator: \$50; other parts. Art Olive, 6560-340 St., Stacy, MN 55079, 612-462-1691 or 638-4397.

New 1964 transmission for 3 cyl. 96, still in factory box: \$450. W.H. Oakey, Jr, Hertford, NC 27944, 919-426-5595.

1969 Body & chassis (no motor, trans, wheels or tires) all good, no rust: \$175 or best off. Bee Bailey, 2930 Old State Hwy, Fortuna, CA 95540, 707-725-2271.

'73 Sonett III front clip, exc. condition, with pop-up headlights removed & glassed over: \$600. '72 96 crossflow radiator: \$50. Many other 96 & 95 parts. Nicholas B. Hayden, 3385 W. 86, Cleveland, OH 44102, 216-431-9413 or 281-9823.

V-4 engine from '70 95, no starter or trans. but runs; had recent valve job: \$50. Kevin Reeves, 723 Adams St, Bedford, OH 44146, 216-349-0240 day or 439-5987 eve.

Three B O.D. 1.0 750 pistons w/ pins & rings: \$50 set; one 750 eng. gasket set: \$10; four wrist pin needle bearings, 6, -7, -5: \$10 ea. Larry Bean, 2873 Grosvenor Dr, Cincinnati, OH 45239.

'70 95, black interior, exc. cond.: \$75; Other misc. parts, make offer. Steve Balderson, 2510 High, Des Moines, IA 50312, 515-282-9279.

V-4 Timing gear sets, 3 gears, gaskets & seal, new \$82 inc. postage. Mark Zenick, PO Box 216, Ashfield, MA 01330.

From '70 96: Wheel jack & tools w/ case: \$15; 2 gas tank caps (1 w/ lock), new frt brake pads, switches brake stop light & push/pull dashboard headlight: \$5 ea; mud guard & new fan belt: \$3 ea. Add ship. Misc. tune-up elec. parts--free. Len P. Vidger, 2320 Whitman Way, San Bruno, CA 94066, 415-873-3495.

'71 Sonett door: \$75; '73 Sonett gas tank: \$15; full set good fenders from '69 96: \$100; good hood: \$35; trunk: \$25; '61 96 compl. w/ good eng. & trans.: \$100. Bibb T. Gault, Frels #268, S.H.S.U., Huntsville, TX 77341, 409-294-4333 after 9 pm.

Open deck V-4, bare block, heads, intake, & Solex Milled for 11.0-to-1 c.r.: \$75 Ron Wilcox, 156 Orchard Hill Rd, Harwinton, CT 06791, 203-485-1196

## 95, 96, &amp; SONETT WANTEDS

Wanted: Sales literature, posters, manuals and dealer promotional items. Robert Allen, 114 Kimberly Rd, Hamden, CT 06518, 203-248-8798.

Wanted: Two-stroke 95, 96 or GT in driveable cond; trade for restored NSU Sport Prinz '67 and '66 NSU Sport Prinz parts car, or sell NSU's for \$2000. Jim Siegrist, 1209 S. Overdale Dr., Gillette, WY 82716, 307-682-6368.

## 95, 96 and SONETT WANTED, continued

Wanted: Sonett III plastic grill in good cond. Ron Canaday, 720-G N. 63rd St., Kansas City, KS 66102 913-299-4751 (M-Th)

Wanted: Set of oversize pistons for 850 Sport eng.. Need 2, prefer full set. OD 0.5A OK but can use larger size: \$35 ea or ? Or will buy Sport engine in good cond.: \$250 or ? Donald Loomis, 1501 Lomaland El Paso, TX 79935, 915-591-0981 eve's & weekends.

Wanted: Two plastic wheel inserts for Sonett '72-74. Dan Accurso, 42 W. Elm St., Monroe, OH 45050, 513-539-8959.

## 99's and 900's FOR SALE

1972 99 EM, 1.8L eng., good int. & ext., new front tires, shocks, rotors, & clutch. Stainless steel exh. A/C, am-fm: \$800 or best offer. Also 1971 99EM, 1.7L parts car--no brain box or injector wires. All parts worked: \$200 obo. Mil Radvansky, 636 Woodbine, Oak Park, IL 60302, 312-386-8734 after 6 pm.

1977 99 hatchback, 4 spd, Halogen lights, cruise, A/C, 33,500 miles, new front Michelins, new clutch master: \$6,800. Avail. mid-November. Margrit Adler, Champaign, IL 217-356-9244 after 4 pm.

1978 99 Turbo, black, 62,000 mi., new clutch, brakes, recent valve job w/Na-filled exh. valves, new fuel pump, accumulator, injectors, w/u relay, etc. P-6's, am-fm: \$5295 Tom Parker, 3705 Sharon Rd, Midland, MI 48640, 517-835-8387.

1979 900 EMS, 84,000 mi., very good cond., dark red, A/C 4 spd, recent brakes, exhaust, clutch, well-maintained: \$4150/offer. David Silverman, Chicago, 312-472-1874 days, 271-7350 eve-weekends

1981 900 Turbo, 3 dr., 40,000 mi., Anthracite Gray, Blaupunkt, new NCT's, 4 mounted snow tires: \$9500 Chip Larson, 306D Carpenter Pl, Ft. Riley, KS 66442, 913-784-3190.

## 99 &amp; 900 PARTS FOR SALE

Used Turbo unit for '78 to '80: \$150. Rum's Garage, John Rumrill, 107 Main St., N. Orange, MA 01364.

900 Parts: Eng., trans, brakes & elec. manuals: \$20 set. Brand new Oxygen sensor, unused: \$25; front brake tool: \$5; New locking gas cap: \$5. John McWilliams, 6 Borg Ct., Little Rock, AR 72209, 501-455-4796.

From '74 99LE: steering wheel & horn ass'y, like new: \$25; gas cap: \$3; Clinton repair manual: \$5. Edgar S. Lisowski, 5519 Grandview Dr., Greendale, WI 53129, 414-425-7307.

99 Parts: 2 starters, pre-'75 fuel pump (elec.), 1.8 liter intake & exh. manifolds, much more, write for list. Need: 99, '77-up left front turn sig. ass'y; Sonett Gearbox. Paul Harmon, 1924 Birchwood, Okemos, MI 48854.

Four Pirelli P6 195/60HR15 mounted on '83 Turbo black (painted) wheels, 15,000 miles: \$600 plus freight collect. Cartina, Inc., 5220 NW 72 Ave #35 Miami, FL 33166, 305-594-0422.

## 99 and 900 PARTS FOR SALE, continued

99 Hood, good condition: \$125. Larry Zinkin, Wheatey Heights, NY, 516-420-3365 days.

'79 99 Exh. manifold: \$35; '79-80 900 water pump cover: \$30; Used snow tires: 2 Kleber 165-15's, less than 3,000: \$30 ea; Two Pirelli MS-35, 165-16, less than 5,000: \$25 ea; all plus UPS. Jeff Delahorne, 5805 Oneida, Duluth, MN 55804, 218-525-3253.

1.85 cyl. head, new springs & guides: \$200; late 99 lower control arms, re-enforced: \$55 ea; used 99 trans, 73-74: \$250; '76 grille: \$45; 900 dash: \$125 Quantum Mechanics, 45 Huntington Ave, So. Yarmouth, MA 02664, 617-394-5193.

Four Pirelli 195/60-15 Tires, only 11,000 mi.: \$240 for all four; will also sell in pairs. Kim Frick, 6016 Buckskin Ct., Indianapolis, IN 46250, 317-849-9516

Head for 1.7, 1.85, mild cam, dual valve springs, aluminum retainers: \$300; MSS intake for 45 DCOE Weber: \$75. Ron Wilcox, 156 Orchard Hill Rd, Harwinton, CT 06791, 203-485-1196.

## 99 and 900 WANTEDS

Wanted: will consider trade for, or purchase of 1983 900 automatic trans. Must be in exc. cond. Might consider trading 5 spd (19,000 mi.). Randell Odum 14526 Diplomat Dr, Tampa, FL 33612, 813-961-5647

Wanted: manifold from late '82 900 Turbo (or '83/84 Turbo) Please write or call w/ price. Tom Nelson, Box 25, El Rancho, CO 80401, 303-526-9138 eve's.

Wanted: parts for '75-80 99: front non-Turbo spoiler, rear hatchback spoiler, tach/clock, & trailer hitch; all for '78 99GLE. Robert Allen, 114 Kimberly Rd, Hamden, CT 06518, 203-248-8798.

Wanted: 99 EMS or Turbo spoiler. Quantum Mechanics, 45 Huntington Ave, S. Yarmouth, MA 02664 617-394-5193.

Wanted: grille for '77 99, no cracks: \$45. M. Berger, 1868 Selma, Youngstown, OH 44504, 216-746-6897.

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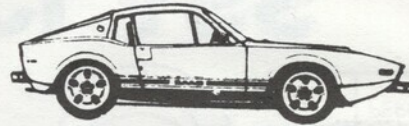
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## SAAB'S FINNISH ASS'Y LINE ROLLING ALONG

(Reprinted from Oct. '84 *Smoke Signals*, Newsletter of the Saab Club National Capital Area)

The journal *Look at Finland* is a quality promo magazine for the nation's tourist bureau which depicts the land's various splendors. Among those shown in the first issue for 1984 is the Saab-Valmet assembly plant in Uusikaupunki on the west coast of Finland. In a six page, beautiful color spread, five-door hatchback 900's can be seen in various stages of assembly. According to the article, the plant in 1983 put together 25,000 cars for the U.S. market, which is the lion's share of its 35,000 capacity. Daily the factory receives 200 tons of parts from Sweden and other factories in Finland and the 3000 workers weld, bolt, and otherwise fasten them together into 900's. The managing director of Saab-Valmet is as proud of his diligent, careful, highly-productive, quality conscious workers as he is of the durable, top-notch Saab 900's they turn out.



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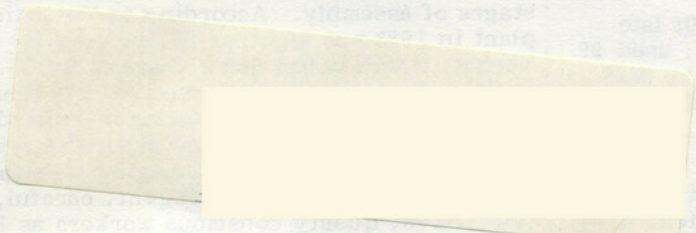
## SPECIALS (While Supply Lasts):

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- 2) Michelotti Automatic Flip-up Halogen Lights specify Amber Fog or Clear Driving; includes complete installation kit: \$89 + \$3 H & I.
- 3) Genuine Sheepskin Seat Covers. Cover entire seating area. Full wraparound on sides and back with matching sheepskin-look synthetic fabric. Colors: tan, black, silver, grey: \$89 each + \$3 H & I

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OCT. 1984



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  - White Club Coffee Mugs--with blue Club emblem on both sides-----\$5.00 plus \$1.50 post.
  - Convention Posters--Swedish yellow and blue 17x22 glossy poster with convention "Saab grills" logo rolled in a mailing tube----\$3.00 plus \$1 post.
  - T-Shirts
    - Convention T-shirts, yellow w/ convention logo XL only in limited quantity--\$7.00 each
    - "Old Saab-ers" 96 two-stroke, light blue, XL only-----\$6.00 each
    - "Giant Killer" Sonett V-4, gold, M, L, XL \$6.00 each
    - "Darth Vader" 900 Turbo, tan, L, XL only \$6.00 each
- \$2.00 per order postage on all T-shirt orders.



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