

THE
SAAB
CLUB

COMPACT
FRONTWHEEL
DRIVE CLUB
of AMERICA

nov 1980

DEDICATED TO SMALL-
ENGINEED SMALL CARS &
ENERGY CONSERVATION

SAAB Clubs of North America • publisher: Jeff Delahorne 5805 Oneida St. Duluth, Minn. 55804 (218)525-3253
Consultants: Dick Grossman, Rick Sanders, Jack Ashcraft, Merle Young, Carolanne Curtis

MEMBERSHIP/SUBSCRIPTION

Newsletter #87 our 70th multipaged monthly. Dues for membership/subscription are \$10. for the first year, including two back copies, 12+ tech' sheets and emblem. Renewal dues: \$8.00 Past dues notification will be rubber 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 non-profit organization.

Or: a three-ringed binder with a collection of back articles & tech' sheets is available for \$6.00 postpaid. Or, .30¢ one issue.

Always specify: 96, 97, 99, or 900 and year, for appropriate sheets.

EDITOR'S REPORT: DUES INCREASE TO \$8.00

Dick raised the issue in the October newsletter of increasing the renewal dues to \$8.00 and so far there has been no adverse reaction to that idea. Many of the 20 to 30 renewals I get each day already include the higher amount; a few even more than \$8.00. So starting January 1, 1981 the renewal dues will be \$8.00 per year, and new member dues \$10.00 for the first year. The increase is not for higher printing costs or the like, it is for paying the editor a higher salary than the \$400 per month that Dick and Ruth underpaid themselves. I am not publishing the newsletter to get rich, and at \$8.00 a year there is little fear of that, but I hope no one will argue with a salary of more than \$1.25 per hour. So, enough about money...

Some of the members include a note with their renewal check, expressing their opinion about what they like or dislike in the newsletter. I encourage this. But if there is something you would like to see in the newsletter, the best way is to send it to me. I do not have the imagination or resources to write all the tech' tips or find out about Saabs racing in Outfox, ME. Give and ye shall receive.

Some local chapters wanted to know about when the deadline for each month would be. I hope to settle down to a schedule of going to the printer on the second Monday or Tuesday of the month, and mailing on the third Monday or Tuesday. This issue closed 14 Nov.

Please note the new phone number, 218-525-3253. I am always glad to talk to club members on the phone, at reasonable hours of the day, say 9 am to 8 pm CST. If you call with mechanical questions about 99s you will be disappointed. I have never owned one and consequently know very little about them. Also, I am not a parts warehouse. What two-stroke and V-4 parts I do have, I am hoarding for my own two cars. Try a want ad. I am happy to chew the fat about Saabs in general, at your expense of course.

CALIFORNIA FLYERS

Now that the Saab Club has reactivated, people who have the gray 7 x 8 1/2" California flyers can resume passing them out. We feel that since the flyers encourage prospective members to write their local chapter, the Chicago address on the flyer will not cause problems.

Andy Buc

GREATER NEW YORK AREA SAAB CLUB

National members interested in joining the Greater New York City area chapter can contact Josh Rubinfeld 1170 Ocean Parkway, Brooklyn, NY 11230.

Josh also reports that the distributor vacuum advance from the 1978 Turbo is a direct replacement for 900 Turbos, thus eliminating ignition retard under boost. Josh would also like to hear from any club members who have installed water injection units on their Turbo.

CENTRAL ILLINOIS SAAB CLUB--will meet 23 Nov. at 2 pm, 1507 W. University Ave. in Champaign. Margrit Adler also reports that the central Illinois club has been loose in membership and formation, but has been meeting each month doing brake, cooling system, and trouble-shooting work at each others houses. They plan to make an effort to get full membership and set up dues this month.

CONTRIBUTIONS FOR DICK G.'s MEDICAL BILLS

By now all readers of this newsletter know about Dick Grossman's heart attack in August and his subsequent stepping down from editorship of the club newsletter. What you don't know is that his hospital bills came to roughly the price of a new Turbo and since national health care is at least four more years away, the government is not paying. One member suggested a levy on each member to help out, but that seemed a little heavy-handed to me, so I thought I would print the above information and solicit voluntary contributions from members. Without Dick the newsletter just would not exist, and at \$400 a month "pay" he has literally been providing a service to the club. Some members may regard this request as "tacky" or inappropriate, but I like to think that the personal nature of the Saab Club makes something like this possible. Dick will probably chew me out for doing this, but I am the editor now and he cannot stop me. So send whatever you can to Dick at 1918 W. Hood, Chicago, IL 60660. If 3000 members send only \$3 each, that would make a big dent.

Jeff Delahorne, ed.

LETTER TO DICK GROSSMAN....

I came to treat my '77 GL as a utilitarian "thing" which is supposed to work for me. But your views served to remind me not only of its inevitable minor shortcomings--but also of a sense that the designers do care about the survival of the occupants, in all nuances from controllability to, in the end, real crash-worthiness. (a fact I have tested in the past)

I have appreciated your feisty style of discourse! This in the sense that a lukewarm attitude is like no attitude at all! and frequently boring for lacking any color. Even where I seem to "disagree" with certain of your observations, I have found this to come more from my own particular attitude about cars or Saabs, and not because your view was illogical or "wrong" (whatever wrong means...).

Also, it is refreshing for me to see that you are one who has realized that "logic is not enough" in most matters--even those which seem technical or scientific at first glance, i. e. --choices of a particular engineering solution to suit an overall plan. (Which is what I mean by, "Saab engineers do care"--no matter how ineptly does Saab Sweden choose their overseas representatives!!

In the largest sense, I believe you and I do share a sense of there being such a thing as integrity to be found within the concept and execution of a "thing," a car, or in this case, a Saab automobile. I felt a similar impression about Citroen's during many years of experience with them--of course colored by the Gallic approach to all things! (But I learned about hydraulics in order to merit their daily use without feeling helpless in case of a failure!)

The manufacturer must begin by caring, and that is an emotional attitude, not a technical process. Without caring we see Pintos, etc. It is not an accident, I think, that the "world car," in all its forms, has become very like a VW Rabbit. Important other considerations (like longevity, reliability, etc.) aside, all those cars lack one dimension of real "caring"--they are not as survivable (in a crash) as a Saab!

Ashton Brown, Kensington, CA

D.G. REPLIES:

I did print: "that the Citroen is the best line of cars," and I did offer to assist the local Citroen club a few years ago and this summer. It is no fault of mine that France and Citroen refuse to sell in the USA. Not even Canada tried. So, I don't know where we "disagree."

Another Saab buff/club member said he disagreed with some of my attacks on GM. I asked where? Do you think most all of the board of Directors should be ACCOUNTANT-LAWYERS? He said, "No." So where do we disagree? He said something about a lot of cars for the price. I answered that GM's 5 million car sales per year ought to come up with plenty of choices and several low priced cars--compared to SAAB's 85,000+ sales per year. (maximum year: 95,000, average sales to USA 10% or 8,600 to 12,000 per year in USA.)

D.G. CONTINUED...

I'm cursing GM & Ford, etc. for not offering a cheap, medium priced, and hi-priced Front-Wheel-Drive car 30 years ago! Tiny SAAB-SCANIA did 5 years ago(96, 97, 99, 99 Turbo).

Subaru makes a low-priced, easy to repair, (easy to die in) FWD car, but, they have an excuse for not producing a wide range of FWD models; tough competition, tiny country, a terrible war to survive from. The same for VW and Germany. BUT GM was never hurt by World War II! (They even had the gall to sue and collect damages from the US government for damages to their OPEL FACTORY that were bombed by our palnes).

Perhaps where we might disagree is: "a car should be made low priced and durable, and survivable"--practically impossible. I think the long lasting car is going to cost somewhat more than the lowest price car. I think the crash durable car must cost a little more than a bottom priced car. Keep in mind people who make really nice products are not inclined to sell their treasures cheaply.

MEMBER REPLIES TO EDITOR'S FORD COMPLAINT

You mention Ford parts department's reluctance to cross reference Sonett parts. There is a good reason for this. The number stamped on the part is an engineering number and to the best of my knowledge has no relationship to the actual "part number." Plus I know of no interchange book available. Probably due to the fact that part numbers change often, are replaced by, and superseded by other numbers. An interchange book that would have value only to us extreme few would be outdated in three months and frankly too damned expensive to up keep. So, it's trial and error. Unless you find a damned good parts man who can visually recognize the part as a Ford part and recall the part number.

Rick Jordan, Punxsutawney, PA

SAABS TAKE ONE 2ND, ONE 3RD AT SCCA NATIONAL

Saab press release--Don Knowles of Springfield, VA drove two Swedish Saabs to very fine second and third place finishes in Showroom Stock A and B at the Champion Spark Plug Road Racing Classic at Road Atlanta on 24 and 25 October.

Racing a 900 Turbo hatchback sedan against a field of sports cars in the Showroom Stock A class, Knowles worked his way past a number of Porsche 924, Datsun 280ZX, and Mazda RX7 cars to finish in second place behind a Porsche.

In the Showroom Stock B race, where Knowles was the two-time defending champion, he climbed from seventh place to finish third.

In the F-Production race for modified sports cars, two Saab Sonetts participated for the first time ever in the national championships with Jack Lawrence of Jamestown, NY finishing fifth overall in his first race ever at the RoadAtlanta track.

FREEWHEELING--ONE MORE TIME....

Anything "new" in automobiles seldom is. The publicity may say it is just invented, but most were tried and discarded years ago. Why discarded? They were probably ahead of technology and materials. Such is the case with freewheel, some of us o'dtimers remember freewheel back in the '30s.

But why did Saab use it? Remember that the first Saabs had two cycle engines with the lubricating oil mixed with the gasoline. Freewheel was necessary so that when the rear wheels were driving the car, as in descending a hill, the engine would not be revved above the throttle opening. (throttle closed, but engine turning at road speed) When the throttle is closed, only a very small amount of gas and oil is sucked through, and the amount of oil simply is not enough to lubricate the bearings. A lockout was provided, but that was mostly used when you had to push start the car.

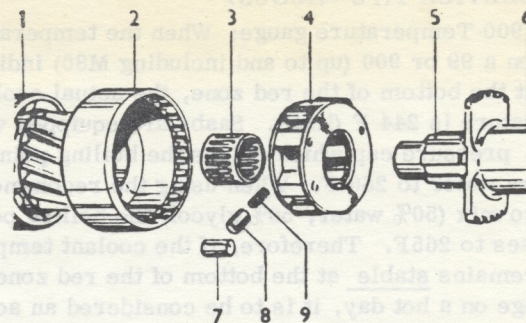
In 1967 the V-4 was offered as an option, and the original two-stroke transmission was retained, including the freewheel. Although this same transmission was used with some modification through to the end of the 95, 96, and 97 import, the freewheel was never removed. Some owners swear by them, and some swear at them.

The freewheel assembly is contained on the front of the primary shaft of the transmission. The end of this shaft is in the shape of a cup, roughly the size of a tuna fish can. Inside this cup there is an assembly consisting of a round cylinder, rollers, and springs. The center of this cylinder is splined, and fits over splines on the clutch shaft which is driven by the engine through the clutch. When you use power, the springs push the rollers against the inside of the cup, along with centrifugal force, and the friction of the rollers against the cup moves the car. When the car is coasting, the cup rolls around the rollers, and the unit "freewheels." There is a "lockout" knob on the floor, and moving the knob slides a locking device that locks the shaft coming from the engine (clutch shaft) to the primary shaft through a set of small teeth.

- Troubles with the freewheel come in three types:
- 1) slipping freewheel
 - 2) freewheel cylinder (or hub) coming apart
 - 3) wearing away of the teeth on the lockout device

But how to tell which is which? A slipping freewheel usually shows itself as a revving engine with no movement of the car. It usually occurs when first putting the car into gear and attempting to drive away. (It happened to me in second gear too, ed.) Letting the engine return to a low speed and a slow and careful clutch engagement will usually move the car, and there is no noise. The cure I use is to drain the gear oil and refill with 1 1/2 quarts of kerosene, and drive carefully around the block a couple of times, drain the kerosene and refill with 80 weight transmission oil. I have heard of other "cures," but kerosene is the one that always works for me.

The second problems is that the freewheel unit has come apart. If you want to replace it, see if you can find an older unit. (The older, pre '69 freewheels are



FREEWHEEL ASSEMBLY

- | | |
|-------------------------------------|-------------------|
| 1. Ball bearing | 5. Clutch shaft |
| 2. Freewheel sleeve (primary shaft) | 6. Locking device |
| 3. Needle bearing | 7. Roller |
| 4. Freewheel hub | 8. Plunger |
| | 9. Spring |

IMPORTANT

Fit the hub so that the freewheel engages firmly when the hub is turned clockwise.

6 roller units, while the later ones are 10 roller and are more fragile, ed.) The older ones may no longer be available, but they never seemed to come apart.

The third failure is the wearing away of the teeth on the lockout device. Engagement or disengagement of the freewheel while in motion is probably one of the most common reasons for the teeth wearing. To avoid any doubt about positive engagement or disengagement, STOP THE CAR AND PULL OR PUSH THE KNOB. When failure begins with the lockout device, you usually get a grrrrrr on letting out the clutch. This will happen more and more frequently, and can sometimes be cured by pulling out a bit harder on the knob. All sorts of things have been used to hold the nylon lever in the rearmost position; blocks of wood, springs, etc. All, at best, are a temporary cure.

When the car is undriveable, you have got to do a "freewheel" job. This involves removing the engine and transmission, splitting them apart, taking the bell housing off, and then putting it all back in. IT IS NOT A JOB TO BE TACKLED UNLESS YOU ARE AN ACCOMPLISHED MECHANIC. If the lockout device teeth are not too badly worn, it may still be used. I usually put in a new one, just to be sure. It is not that expensive, and I only want to do the job once. Get rid of the rod and handle, and the brass fork that works the locking device. Fabricate (or buy from MSS) a sleeve that will hold the locking device permanently in the locked position. Goodbye freewheel, goodbye trouble!

Robert H. Mitchell, Linwood, NJ

99 WINDSHIELD WASHER COVER FIX

The cover to the windshield washer fluid tank on our 77 99 cracked badly, and the genuine Saab replacements also cracked in a very short time. So I took the plastic cover from a can of Davis Baking Powder, drilled a small hole in the center, and snapped it on the washer fluid tank. So far it's lasted longer than all the others.

Judd Jones, Freedom, ME

SAAB SERVICE TIPS--AUGUST

99/900 Temperature gauge: When the temperature gauge on a 99 or 900 (up to and including M80) indicates at the bottom of the red zone, the actual coolant temperature is 244 F (118C). Saabs are equipped with a 15 lb. pressure cap which raises the boiling point of ordinary water to 250 F. When using the recommended glyco mix (50% water, 50% glycol) the boiling point increases to 265F. Therefore, if the coolant temperature remains stable at the bottom of the red zone of the gauge on a hot day, it is to be considered an acceptable operating temperature.

The function of the thermostat in the system is to speed the warmup of a cold engine by restricting the flow of coolant until a predetermined temperature is reached. Once that temperature is reached. Once that temperature is reached the thermostat opens allowing maximum coolant flow as long as coolant temperature remains above the preset opening temperature. The thermostat does not control operating temperature once it has opened.

Overheating with hood open: Operating a Saab with the hood open restricts air flow to the radiator. Therefore, prolonged idling in the shop (or outside) with the hood open on hot days can lead to overheating. Therefore, watch the temperature carefully and/or lower the hood and use a "make-up" fan to supply additional air if it is necessary to run the engine under these conditions.

900 Fog light relay: Installing the relay on the Saab fog light package as per the instructions and photo in the instruction sheet can lead to water from the cowl drain running directly into the relay and corroding the contacts. Repositioning the relay forward and away from the drain will solve the problem.

DOT 4 brake fluid for clutch: When high ambient and operating temperatures combine to affect clutch action, try substituting DOT 4 brake fluid which will provide an additional 45 F anti-boil protection. Since the brake master cylinder and the clutch share a common reservoir it will be necessary to drain and refill both systems to ensure a proper supply of DOT 4 fluid to the clutch. NOTE: Brake fluid should be changed every 30,000 miles or every two years, whichever comes first. (ed. note: one commonly available DOT 4 brake fluid is Castrol LMA.)

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SAAB SERVICE TIPS--SEPTEMBER

Oil viscosity: Cold weather is coming and in Northern climates has already arrived (we had snow in Duluth today, 9 Nov., ed.). The subject of motor oil viscosity is an important one. 10W40 or 10W30 oil is quite acceptable down to 0 F. Use 5W20 at temperatures below 0 F. The general rule on 5W20 is to avoid using it if there is a possibility of the temperature rising above 32 F. Also sustained high speeds (even at the coldest temperatures) are to be avoided when using 5W20 oil.

Aluminum and plastic bolts: With the increased use of plastic and aluminum as weight savers in automobiles tightening of screws and bolts becomes more critical. These materials do not have the thread strength of the steels previously used and when tightening torque specs are provided it is important to follow them. Remember if you could strip the threads in steel, you can do it easier in aluminum or plastic.

Air Cond. suction hose: Care should be exercised when installing an air conditioning suction hose on 1979 Saabs equipped with pulse air. Position the hose to avoid contact with the pulse air check valve as contact between the hose and the check valve will result in premature failure of the suction hose.

Exhaust heat shield: The exhaust heat shield on '79 and '80 900s must be reinstalled over the freon lines to the AC compressor after any work that required removal of the shield. The purpose of the shield is to prevent overheating of the lines and the freon within them. Operating the car without the shield in place can result in damage to the compressor.

SAAB SERVICE TIPS--OCTOBER

Fuel level sender screws: Do not over tighten fuel level send screws in model 1980 plastic fuel tanks. The thread in the tank is machined into a molded-in nut. It is possible to break the nut loose from the plastic flange of the tank if too much torque is applied. Once the nut is loosened in the flange, it will be impossible to remove the mounting screws. The tank will have to be replaced. If misalignment of the screw holes in the sender flange is noted, open up all the holes by one drill size. This will provide sufficient clearance to allow starting all the screws without cross threading. Do not force and cross thread the screws.

Adhesive residue: Remove adhesive residue from the dash and other vinyl surfaces with 3M adhesive remover or an all purpose automotive surface cleaner such as Ditzler "Acryli-Clean" #DX-330 or equal. There are a variety of these materials available that will remove adhesive residue left by masking, duct, or electrical tapes. Surface cleaners will also work well at removing undercoating overspray. DO NOT USE LACQUER THINNER! It is too "hot" to use for "cleaning" paint or vinyl surfaces and will harm the surface of the material.

ELECTRONIC IGNITION EXPERIENCES IN 99

I noticed Merle Young's favorable experiences with "TRW Lumentron" electronic ignition reported in the August '80 issue. My experiences are as follows:

1) The real name is Lumination, and TRW no longer has anything to do with its manufacture. (I had one hell of a time locating the real manufacturer.)

2) The US dealer that you can write to is:

Lumination Ltd.
960 H Sivert Drive
Wood Dale, IL 60191
phone: 312-595-4470

3) The price for mine was \$50 in Dec. '79.

4) I bought my '73 99 used. The previous owner said that his main reason for selling was that "nobody could keep it tuned." I have had flawless results, very smooth running, quick starting and no apparent degradation in ignition in the past 12,000 miles, quite a contrast to the previous owner's stated experience.

5) My mileage comparisons are these: based on five tankfuls of gas, I got 19.3 mpg around town (hilly Pittsburgh), in summer, with my carburetted 99. After I installed Lumination, my figures show 21.1 mpg for the same conditions, over six tankfuls, a 9% gain. Best highway mileage I ever got before was 29 mpg, and the best since was 31.1 mpg, a 7% gain. If the increase in mileage was only 5%, the device would pay for itself in 17,500 miles, assuming 20 mpg before the installation and that gas stayed at \$1.20/gal. I therefore feel that it really was a good investment.

6) I got my unit simply by calling the company. When they sent me the unit and their literature, I looked up my model year and type in their catalog, and figured I should have gotten the LCK 303 unit, however, I had already installed what they sent me, the LCK 306K. I subsequently wrote them and asked whether I had the wrong unit, but they never replied. What they sent me does work fine, but I would recommend looking over their literature first, as I still suspect that I do not have the ideal unit for my model Saab.

7) I had some problems with the installation, and never knew if it was because I had the "wrong" unit or not. These problems were that the plastic light chopper they sent was a trifle too small for the distributor shaft. I solved this by sanding inside of chopper with a Dremel tool lightly, and then heating the plastic chopper with a hair dryer to expand it and then get a shrink fit onto the shaft. I assume this would not have been necessary if I had gotten the correct unit. (four different Lumination units are available for Saabs, it depends on your distributor). Also, the instructions state "mark position of drive gear relative to the central shaft." Make sure you do this and do not wipe off the marks accidentally as I did. Finally, the directions state that the red wire goes to ignition switch. It's simpler to run it to the side of the ballast resistor away from the coil.

8) A potential problem is (as I have been told), 'yeah, but what if the thing really does go kaputt, and you're out on the prairie, you can't adjust or change the points to get it started again, and you're really stuck!' Having considered that possibility, I saved my old points and keep them in the glove compartment, with a wiring

diagram, just in case.

9) Finally, a question: According to June 77 Popular Science, best results with electronic ignition can only be had by using different plugs and increased gap (I did this; Champion RN9Y at I think .030 inch) and also better plug wires and distributor cap, which I have not done yet. (That magazine showed an average highway mileage increase of from 6 to 9%, depending on many factors.) But Merle Young's original recommendation of Lumination also stated that a 50,000 volt Mallory coil was worthwhile. Since then I have read that too much spark voltage can destroy pistons, also can create lots of arcing throughout the ignition circuit, so I have not installed my Mallory coil. Is it safe or not, and what is the benefit?

K.J. Strack, Pittsburgh

(ed. note: I do not know about any serious consequences of too high spark voltage, maybe some other members do. My two cents' worth about different plugs is to throw away your Champions and use NGK or Bosch. Lots of people are going to complain here, saying they have used Champions with no trouble, but I have seen improved performance in several different vehicles, just by using NGKs instead of Champions.)

OHIO MEMBER REJOINS; CLUB TOO HELPFUL?

I had been a member in 77 and 78, but slipped in 79/80. The reason was that my 74 99 LE had been so completely de-bugged (thanks in great part to your newsletter's maintenance articles and tips) that I really lost touch with the car. It seems to have gotten better with age (66,000 miles). So that you can better appreciate just how useful your information letters are here's a partial list of fixes and advice that I achieved almost totally with your help.

- 1) Alternator diodes failed--your replacement instructions were the only information I used to fix them.
- 2) Ignition key stuck in lock, due to shifter lockout failure (automatic trans.)
- 3) Switch to NGK spark plugs--the best results by far.
- 4) Checked differential fluid level and found it almost empty (have refilled every 20,000 miles since then).
- 5) Added KYB shocks, both front and rear--very nice ride and handling improvement.
- 6) Bought recommended Haynes and Chilton Saab manuals. (they do not help with the diagnosis like your newsletter.)

One tip: "Testors" flat black plastic model paint works perfectly to cover the discolored fake plastic-chrome trim around windows on 99s, and it weathers extremely well. Mine has been on two years.

Kenneth B. Buell, Cincinnati, OH

CLUB MEMBER TO START SAAB REGISTER

Gary Reider of Boyertown, Pa. would like to start a Saab Car Register, including: car owner, serial #, engine #, car location by state, and any special details or interesting history. His plan is to start with all Sonetts and all two-stroke Saabs and work up to the 99/900 series. Any club members interested in this project can write Gary at RD #4, Box 232, Boyertown, PA 19512. He will publish the results for anyone interested.

SAAB WINS NATIONAL TITLE IN PRO-RALLY

Saab press info--Another first in the Production Class, and seventh overall, at the Big Bend Bash Rally at Terlingua, Texas sealed the national driver's crown in the Production Class for the Saab team of Jon Davis of Houghton, MI, and Harry Ward of Toledo, OH.

The Texas win also gave the national make championship for production cars to Saab, by far the most successful car in the new SCCA Production Class. Saabs have won the Production Class in six of the ten Pro-Rallies run so far in 1980. Other Saab rallyists who have contributed to the Saab Make Championship include club members Dan Wing of Bellingham, WA, and Tom French of Dallas, TX.

Production Class rules allow almost no modifications, except for safety purposes and for the necessary suspension reinforcements. In all other respects, the cars are very much as they come from the dealer showrooms. "We have actually done very little to reinforce this car, and it has taken a lot of very hard beatings during the entire season without giving us the least bit of trouble," said Davis. "Saabs have always been superior as rally cars, and our Production Class record proves that a stock Saab car can stand up to almost everything."

RECOMMENDED SHOP: J&M Saab, 6406 Ivarene Ave. Hollywood, CA, ph: 462-3819. All models of Saabs repaired, since 1967.

TEMPERATURE SENSOR HINTS FOR 99 EFI

I have a '71 99E with 118,000 miles on it. About 5 weeks ago, I was on the highway, near home, when the engine cut out. I tried for a restart, but no luck. I went through the usual process of elimination: ignition, fuel pump, etc., without success. However, after the beast cooled down somewhat, it started again, ran for about a quarter of a mile and then stopped. I got home in quarter mile bursts and had at the troubleshooting process in earnest, succeeding only in convincing myself that the trouble was in the EFI somewhere beyond my knowledge. I had the car towed to the local dealer, Nelson Motors of Old Saybrook, a first class operation, who isolated the fault in a temperature sensor which they replaced. The \$30 labor and \$30 parts charge was OK by me.

The car ran fine for a week and then it cut out on the road again. This time I was ready for it, because Wayne, the service manager at Nelso, had showed me a trick where you pull the two-wire plug from the temperature sensor and jump it with a paper clip. The temperature sensor is on the port side above the oil pump. Jumping this fools the black box of the EFI about the engine temperature and lets you restart the engine, get home or to a dealer, and avoid a tow charge.

Nelson replaced the sensor again under warranty and the car now has run for three weeks, so I think we got it the second time. If you are the confident sort, you can just buy a sensor and replace it yourself, as that is a simple task.

Frank Van Haste, Niantic, CT

SONETT SHOCKS, TRAILER HITCH, AND ETC.

After I put a trailer hitch on my '73 Sonett, I noticed that I needed more spring in the rear, so I put on 96 rear springs. Since I had gas filled shocks in the front, I wanted them in the rear, too, but I could not afford the price for Bilsteins so I checked out KYB and found that they "don't make them for Sonetts or 96s." I checked around and learned that the KYB Toyota Corolla rear shocks, #KG4621, are only slightly longer and fit quite well.

Anyone wanting to know now to put a trailer hitch on a Sonett (safely) let me know. I pulled a 1200 pound trailer with a tongue weight of 45 pounds out to Arizona and back to New Hampshire last year without a problem of any kind. (ed. note: Sure you can do it, but do not expect your gear box to last 100,000 miles if you pull a trailer that heavy frequently. Also 1200 lbs. is an awful lot for an 1800 lb. car.)

I have been wanting a set of auxillary lights for my Sonett and when I went to my local Saab dealer to order them, the parts man quoted me a price of four dollars and change each. I decided I would probably end up with two high beam lamps and nothing to mount them with so I did not order them. Can anyone advise? (ed.: Sure, try a want ad. Seriously, Saab no longer has the aux. high beam buckets available for the Sonett III. I suggest trying to mount some headlight buckets from a wrecked car with a four headlight system, or mounting some smaller size driving lights.)

I would also like to lower engine rpm with either different ring and pinion or transmission gears. I would rather change the ring and pinion if there is one, to cut my rpm by 15 to 25%.

Phil Colprit, Boscawen, NH

(ed. note: Your Sonett already has the lowest ration ring gear and pinion available in a 96 type gear box. The Sonett has a 4.67:1 ratio while the 95 and 96 V-4s have a 4.88:1 ratio and earlier two-strokes had 5.43:1 ratios. If there is anything you can do, I don't know what it is. Ring gears and pinion shafts are notoriously expensive, too.)

SOUTHERN CALIFORNIA SONETT CLUB--meets the second Thursday each month at Hobo Joe's restaurant, East of 405 freeway on Brookhurst, Orange County. Parking lot meeting 7:30, formal meeting 8:00. For more info: Phil Zarrow, 714-892-9639
Southern California Saab Club members are also invited to the **LAST OPT RALLY**, a time-speed-distance rally on 23 Nov. Driver's meeting 8:15 am, I-10 freeway, Rosemead north exit, between bank and Winchell Donuts. Rallymaster: Karl Walton, 213-965-5440
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OCTOBER SERVICE TIPS CONTINUED...

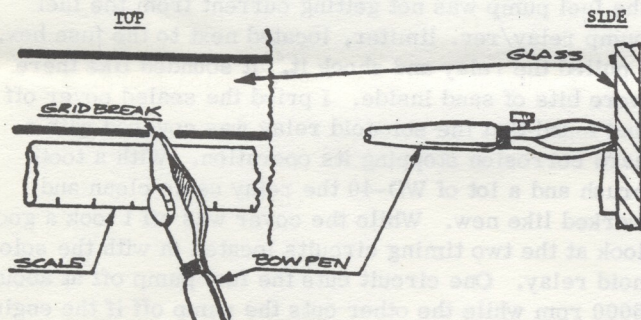
Antenna leads: Antenna leads that slip out of the radio antenna lead socket can be positively retained by the following method:

- 1) Bend out one of the side tabs on the plug to form a 90 degree angle with the plug.
- 2) Loosen a chassis screw, turn the tab under the screw head and tighten screw.

Rear window defogger: A relatively easy and effective method of repairing breaks in rear window defogger grids has been brought to our attention.

- 1) Determine the location of the break using an ohm meter. Mark each break.
- 2) Remove window from car and clean the area of each break with thinner.
- 3) Apply conductive silver paint (P/N 0270256) to the broken grids by means of a bow pen. Tint, applying tincture of iodine with a brush to the silver after it is semi-dry. (This tint will be inside, making the repair less obvious.)
- 4) Finish the drying process using an electric heat gun or hair dryer.
- 5) Recheck with ohm meter for continuity of each wire and repair area.

NOTE: Experiment with the bow pen to learn the correct touch to obtain the proper width and thickness of the conductive silver paint.



V-4 GAS LINE HOSE TO CARBURETOR CONNECTION

I currently own a 1968 V-4 deluxe. One word of caution I'd like to pass along to the older Saab V-4 owners: keep a watch on the condition of the rubber gas line hose where it slips onto the Solex carburetor metal tubing. I have seen far too many disastrous engine fires as a result of gas line hose deterioration, resulting in fuel leaking onto the hot manifold.

Also, beware of pneumatic tire changers as they have a penchant for warping 96 steel wheels (at least this is the case in al have a penchant for warping 96 steel wheels (at least this is the case in Alaska).

Ray L. Meyer, Anchorage, AK

(ed. note: I have also seen the metal tubing on Solex carburetors slip out of the carburetor body with the rubber fuel line still attached. This too can result in a very nasty engine fire. I heard once of a safety recall to loctite the tubing into the carburetor which is a very good idea.)

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ENGINE, BODY CHANGES FOR 1981 SAAB 900s

The 1981 Saab two-liter engine is a radically redesigned powerplant called the Saab H-Engine, which is 25 pounds lighter than its predecessor and which has helped to reduce the overall weight of the 1981 Saab between 45 and 90 pounds as compared to similar models for 1980.

The lower weight of the Type H engine is primarily due to a number of simplified features. For example, it has been found possible to eliminate the auxiliary drive shaft (idler shaft), which in the past was used to drive the distributor, and the oil and water pumps. The distributor is now mounted directly on a new cast aluminum camshaft cover and is driven directly by the camshaft, which has resulted in a very compact arrangement. The water pump is powered by the alternator belt, while the oil pump is driven directly by the crankshaft. The Saab H-Engine has fewer moving parts than the earlier engine, while at the same time, thanks to the redesigned auxiliary components, the engine block itself is simpler and easier to service.

The turbocharged engine not only incorporates all of the modifications of the H-Engine, but also has a new turbocharger with an integrated wastegate, which is controlled by the pressure in the intake manifold instead of by the pressure in the exhaust manifold as in the past. The new turbocharger also use a redesigned turbine, which gives better throttle response, especially at low speeds.

New for 1981 is the four-door "notchback" sedan body style. The previous 900 EMS and GLE models are merged into the "900S" models while the Turbo will be available with an automatic transmission or five-speed manual. Other changes include increased fuel tank capacity to 16.6 gallons, and tachometer with clock standard equipment.

from SAAB-SCANIA press info

BOSCH CIS INJECTION TROUBLE-SHOOTING GUIDE

Brent Peterson, a club member from St. Louis Park, MN has kindly donated to the club a packet of 50 pocket trouble-shooting guides sold by Bosch. These guides are for the K-Jetronic (CIS) fuel injection system used in (I believe) '75 and later 99s and 900s. They look like a useful thing to carry in the glove box and are available until the supply runs out by sending a stamped self-addressed envelope to the Saab Club.

Brent also reports that technical instructions books for Bosch starters, L-Jetronic, and K-Jetronic fuel injection are available for \$2 each from Robert Bosch Corp., 1501 W. Ardmore Ave., Itasca, IL 60143.

SAAB CLUB OF SO. CALIFORNIA TURBO CLINIC

Saab Club of Southern California's turbo clinic, conducted by John Buss of Scandia Imports, was very successful. John mentioned the following things about 99/900s in general and turbos in particular:

A turbo is a high-tech vehicle, basically a racing car tha's housebroken, and you must treat it accordingly. Oil is critical in a turbo. When shutting the engine down, let it first idle until the engine fan comes on. The reason for this is that normal operating temperature for the turbocharger is 1600 F. If the oil comes to rest in the turbocharger, carbon in the oil will crystallize, scoring the turbocharger shaft. By waiting for the fan to come on, you let the turbocharger cool dramatically, although it won't show it on the temperature gauge. This is very important as you pile on years and miles. Don't use ester alcohol-based oils or viscosity index improvers (such as STP). In the first 18 months that turbos were sold in the US, it was found in every case of turbocharger failure that some kind of viscosity index improver had been used.

Any oil filter you use in a turbo must have a gasket projecting beyond the edge of the can. Two filters meeting this condition are Fram PH16 and Purolater FCO-17.

A little pinging under heavy load in a turbo is normal and harmless, but don't be a fool and stick your foot in it! Severe power loss when on boost indicates detonation--BACK OFF! Overheating will result in fried piston rings and oil burning. If you drive on boost most of the time, fit a 160 F thermostat. This will make it necessary to wait longer for the fan to come on when shutting down.

When changing oil, disconnect the coil wire and crank the engine over until the oil light goes out. Crank in 15 second bursts and give the starter a chance to disengage between them.

If you undo any nuts on the turbocharger or exhaust manifold, use anti-seize compound when replacing them to keep them from welding to their studs.

Water in the gas isn't good for any car, but CIS equipped cars are especially sensitive to it. Using Gumout monthly is a good idea.

The word on 99/900 transmission oil is that boxes with chain drive between engine and transmission, use motor oil--5W20 or 10W40, depending on climate. (5 (5W20 when below 32F constantly, ed.) On boxes with transfer gears, use 75 EP. There's no Saab-Scania position one way or the other on molybdenum disulfide additives. On automatic 99/900s, final drive lubricant will bleed into the transmission. Just a fact of life that will be corrected in '81. If you have a pre-'81 car (who doesn't?), grit your teeth, replenish the final drive oil, and change the transmission fluid.

When undoing any fuel line connections (to replace a fuel filter, for example), first clean around the connections with WD-40.

Injection problems in Lambda Sond equipped cars most often originate in the oxygen sensor. Suspect this particularly if the car runs lousy except on full throttle as the sensor is out of the picture on full throttle.

Test by unplugging the sensor. While you are at it, test the fuel-injection brain by grounding out the male connector to the sensor. If the brain is OK, the engine should rough up, then smooth out again. The sensor may get contaminated with lead even if you are conscientious about using unleaded gas--the latter is sometimes contaminated with lead.

In dealing with a zone representative on a warranty claim, you may find it helpful to know that a zone rep is evaluated on how much he spends on warranty claims and less is better (of course!). How forthcoming a zone rep will be with your claim may be in inverse proportion to how many other claims he's had recently.

In the interest of getting the weight down in order to meet CAFE requirements, 81 Saabs will have a new engine. It'll be a clean sheet design.

Andy Buc, North Hollywood, CA

99 TURBO FUEL PUMP RELAY REPAIR

30,000 miles on my 78 Turbo 99 and I had my first bit of trouble the other day. I had noticed for a few weeks prior that the car would occasionally miss. The missing got worse until the car stopped and would not start (in my driveway thank goodness). I had noticed just before the engine died for the last time that the fuel pump had quit. With the aid of a volt-ohm meter and the schematic in the owner's manual, I found that the fuel pump was not getting current from the fuel pump relay/rev. limiter, located next to the fuse box. I pulled the relay and shook it. It sounded like there were bits of sand inside. I pried the sealed cover off and found that the solenoid relay was covered with a hard corrosion stopping its operation. With a tooth brush and a lot of WD-40 the relay came clean and worked like new. While the cover was off I took a good look at the two timing circuits located in with the solenoid relay. One circuit cuts the fuel pump off at about 6000 rpm while the other cuts the pump off if the engine loses ignition. It looked as if during manufacture, two of the diodes in the circuit had not been soldered together (they were just touching). I soldered them to prevent future trouble. When I put the cover back on and purposely did not seal it.

The solenoid relay is located at the bottom of the assembly where moisture collects. Hopefully now moisture will have a place to drain.

I would like to thank Dick G. for making my first year as a Saab Club member most enjoyable and rewarding.

Rick Finch, Smyrna, GA

CLUB MEMBER MECHANIC CHANGES LOCATION

Petersen Automotive of Des Plaines, IL has become Peterson-Frew Automotive and moved to 727 First Avenue, Des Plaines, IL 60016. Jon has a new business "associate" W. Lachlan Frew. Please note the change on your recommended mechanic list.

RECOMMENDED SERVICE: Masada Motors, 6740 Vineland Ave., North Hollywood, CA 91606, ph: 213-760-3503.

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 \$201 to \$900 enclose \$2.00. Ads listing \$901 to \$2000, enclose \$5.00. \$2001 and up, \$10.00 for 25 words, no charge for name and address.

We will delete superlatives, and abbreviate where possible. Do not count 2 letter words. All ads without a price must enclose \$10.00. Commercial ads, \$10.00. Please enclose sufficient funds, any extra will be refunded.

FOR SALE: 1971 96 95,000 miles, good condition, needs clutch work, \$800
Rick Dickerson, La Verne, CA 714-593-4688

FOR SALE: 1972 95, body repaired, but solid--high miles and extra parts: \$1200 Arden Morris, Rt 6, Box 565, Irwin, PA 15642, 412-863-2106

FOR SALE: 1971 96, mostly complete--extra parts: \$450: Arden Morris, Rt 6, Box 565, Irwin, PA 15642 412-863-2106

FOR SALE: 1970 96, body wrecked and rusty--engine, trans., tires, glass all OK, but battery dead and radiator leaks--spare parts: \$100 Howard Hake, 295 Edgewood Dr., Antioch, IL 60002, 312-395-5979

FOR SALE: 1967 Sonett two-stroke, #235--solid, needs clutch, paint, etc. Spare engine and trans. only with car: \$3200 Bob Bondurant 516-575-2214 days

FOR SALE: 1700cc V-4 engine and trans. assembly, 1971, 60,000 miles on set--excellent--will ship anywhere: \$600 Jeff Bell, 18502 Winslow, Shaker Heights, OH 44122 work 216-464-5800 ex. 15

FOR SALE: SAAB service manuals: a) 99 up to 1972 b) V-4 up to 1973 c) 95, 96, & Sport up to 1968 Each is large dealer service manual and in good but used cond. \$10 each or best offer. David Mondecar, 2909 Grandview Ave., Atlanta, GA 30305 404-231-0696

FOR SALE: 95, 96, 97 air conditioner unit--works well--removed from 1972 96 in June. Complete with balance shaft pulley: \$90 plus shipping Mark Welden, 975 Rock Creek Rd., Charlottesville, VA 22901 804-293-3566

FOR SALE: Four new studded radial snow tires, 165-SR15, mounted on V-4 rims: \$135. Also new V-4 roof rack, in box: \$30
Aage Hogfeldt, 87 Fairview Ave, West Haven, CT 06516

FOR SALE: Lots of stuff from scrapping 95s, 96s, and 99s. Send SASE or call 609-927-4613, 5 to 7 pm only
Bob Mitchell, 136 E. Seaview Ave., Linwood, NJ 08221

FOR SALE: Solex 2 barrel manifold, 2 stroke to 1965: \$15. Weber 40 or 45 DCOE manifold, 2 stroke 1966 on or GT: \$15. Left front fender to 1964, good condition: \$25. Good V-4 trans.: \$150.
Gary Reider, RD#4, Box 232, Boyertown, PA 19512 215-845-2982

FOR SALE: Model 93 hood and right rear fender: \$10 each. Generator-water pump, less pulley: \$5. 750cc head: \$10. 850cc block: \$20
Larry Bean, 2873 Grosvenor Dr., Cincinnati, OH 45239

WANTED: Urgently need oil reservoir to fit 1967 Sonett serial #198. Note: Oil reservoir from any Sedan model will not fit. Must be specially made for Sonett. Will pay \$100 or ?
Thor Carlson, 326 Morris Ave., Boonton, NJ 07005 201-334-1738

WANTED: Rear window for 1968 Sonett V-4
David Hosmer, weekdays 203-443-2797

WANTED: Two Sonett mage wheel, straight and true: \$80.
Randy Bartell, 1312 1/2 Montana St., L.A., CA 90026

WANTED: For Sonett II, front rubber bumper, grill, and driver's door lock mechanism
David L. Allison, Rt. 1, Box 245 B, Neelyville, MO 63954

FOR SALE: Parts from 1971 99 2 door--starter motor, doors with glass, side and rear glass, trunk lid, and rear bumper.
Ron Meyers, 201-763-9182

FOR SALE: New Bosch electric fuel pump, #0580 960 004, will pay shipping: \$120
Steve Buckles, 1238 E. Cambridge, Phoenix, AZ 85006 602-277-4280 (after 6 AZ time)

FOR SALE: Instrument cluster from 1974 99LE--in housing, 34,000 miles on speedometer: \$50 plus ship.
R. Panella, 1139 Taylor Ave., New Kensington, PA 15068. 412-337-6118 after 6 pm

FOR SALE: 1977 99 EMS, silver with sunroof--55,000 miles--excellent condition throughout: best offer around \$4200
Charlie Seymour, RFD #1, Limerick, ME 04048 207-793-2023 or 793-8421 12-15-80 thru 1-10-81

WANTED: Four full wheel covers or hub caps to fit 1974 99LE \$20-\$30 or ? Also one hood hood spring for same car: \$5-\$10 or ?
Dallas G. Silvis, Jr., RD #4, Kittanning, PA 16201 412-763-9590

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FOR SALE: SONETT PARTS--'73 front safety bumper with mount: \$45. Two '71 doors with hardware: \$150 ea. '73 floor shift: \$30. '73 steering wheel with button: \$30. '73 motor hatch: \$35. '71 radiator: \$35. Stock air filter with filtrons: \$25. '73 dash F.A. Cond.: \$50. Have many more parts, please write.
Bibb T. Gault P.O. Box 1026, Jourdanton, TX 78026
512-769-3752

FOR SALE: V-4 parts--'96 front grill: \$15, '96 right side grill: \$10, V-4 water pump: \$12, V-4 fuel pump: \$12, '96 front bumper end: \$20, '96 rear bumper end: \$20, V-4 solenoid, Bosch 0331302033: \$25, V-4 water pipe: \$15, '96 right rear lens: \$13, '96 left rear lens: \$13, V-4 front muffler: \$15, '96 handbrake cables (2): \$10, Outer joint: \$75. All parts new, prices plus shipping costs.
Rev. John Kuchta, 1018 Barber Lane, Joliet, IL 60435

FOR SALE: Jensen AM/FM cassette stereo radio-- custom fit for 900s--high quality features, excellent condition: \$155 Free installation in Pittsburgh area.
R. Panella, 1139 Taylor Ave., New Kensington, PA 15068 412-337-6118 after 6 pm

FOR SALE: Air conditioner system from 1975 99. Includes extra compressor and fan: \$180 plus postage
Scott Sawyer 617-369-0224

WANTED: Two barrel manifold to fit Holley or Weber progressive carburetor for 1973 Sonett III.
Martin Vuckovich, 3707 W. Glenn Dr., Phoenix, AZ 85021, ph: 602-841-7603

FOR SALE: 1970 Sonett III, #121, 49,000 original miles new brakes, rebuilt trans., new upholstery, formerly owned by astronaut "Buzz" Aldrin: \$3000
213-792-8505 or 213-241-7787

WANTED: Four full wheel covers or hub caps to fit 1974 SAAB 900...
Dallas G. Blivis, Jr., RD #4, Kilmantock, PA 18201
412-783-9590

FOR SALE: Four new standard radial snow tires, 185-80-15, mounted on V-4 rims: \$125. Also new V-4 tool rack, in box: \$20
Ago Heights, 37 Fairview Ave, West Haven, CT 06518
FOR SALE: 1974 Saab 900...
Send SASE or call 809-827-4813, 8 to 7 pm only
Bob Mitchell, 138 N. Cavalry Ave., Lincolnwood, IL 60468