



Swede Tooth

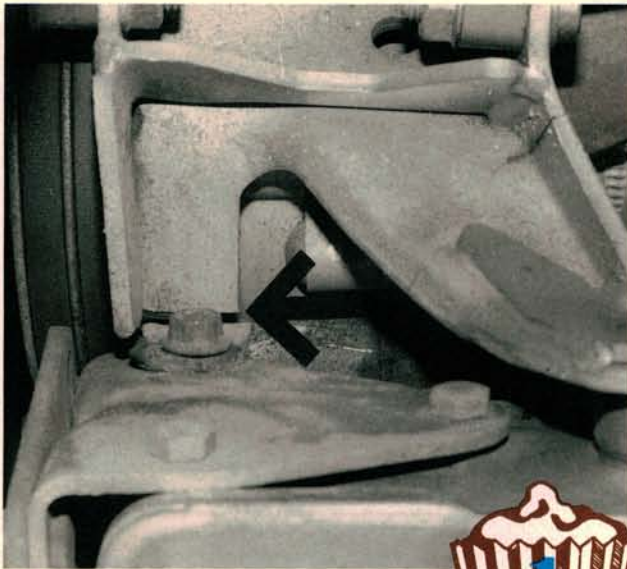
Saabs and Volvos have always stood out from the crowd with their distinctive styling and sometimes unique mechanical designs. But once you become familiar with a few of the quirks and oddities common to the two, you'll find a number of profitable repairs which will help "Sweden" your bottom line.

This month's Swedish Service Sampler will deal with assorted problems and repair tips which apply to both Saabs and Volvos.

Then, we'll run a special edition of Electrical Service which will deal exclusively with electrical problems and fixes for these two vehicles.

Our sincere thanks to the great folks at both locations of the Swedish Solution in Cleveland Heights and Orange Village, Ohio. These gentlemen do nothing but Saabs and Volvos, and are always willing to share their time and expertise.

—By Ralph Birnbaum



Saab



If you get a nasty vibration with the air conditioner turned on in a Saab 900, check the condition of the A/C compressor bracket and the tightness of all attachment bolts. The brackets are plenty thick, but will crack from vibration as this one has done.



Saab



There are two universal joints in the Saab 900 steering column. The one outside the firewall can rust and bind over time and lead to "steering by Armstrong." Some steering racks have been mistakenly blamed and replaced before the real cause of the problem was discovered.



Saab



The idle on this Saab 900 hunts on occasion, and right now it's staying too high. It seems the idle stabilizer is varnished up and wants to stick. Tapping lightly on the housing "unsticks" it and our idle drops to its normal base setting. Our host shop replaces these on a regular basis.



Saab



These newer style hydraulic Saab motor mounts are used on 9000s and late model 900s. They will fracture over time in the general area shown by our arrows and leak oil. A bad mount may be more noticeable in a 900 when drivetrain torque produces a noise, and causes excessive shifter movement.

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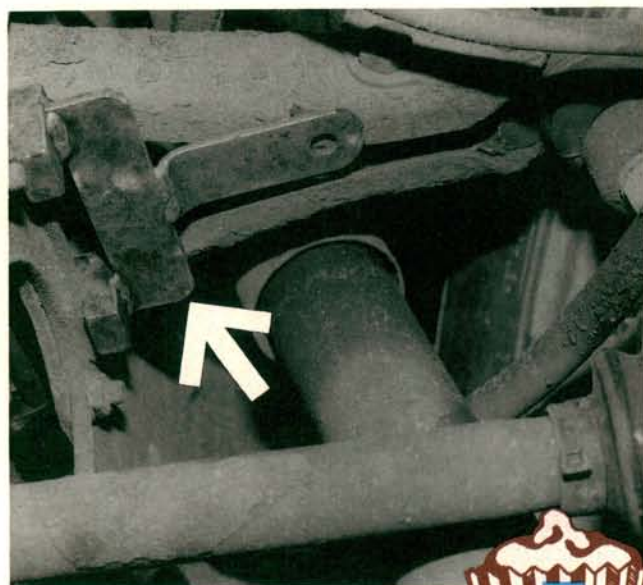
Saab

This is NOT the crankcase drain plug on a Saab. But some folks still insist on draining the differential instead of the crankcase during an oil change. The differential fries, even though the engine ends up plenty full. After all, the stuff coming out of the differential drain hole is engine oil, isn't it?



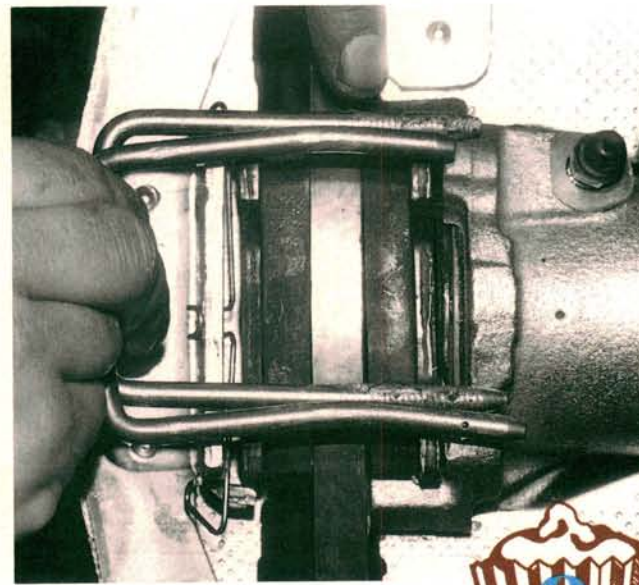
Saab

Harmonic balancers on Saab 900s are hidden down low, out of sight. If you hear a scraping or grinding noise from that area, check the balancer. The outer ring can separate from the rubber connecting it to the inner hub. Then it walks toward the engine until it starts grinding away at the front cover.



Saab

When checking the front suspension on a Saab 900, or replacing ball joints, insert this special tool (or equivalent) between the control arm and chassis. Otherwise the coil spring pushes the suspension all the way down, and you may not find a loose or worn part.



Saab

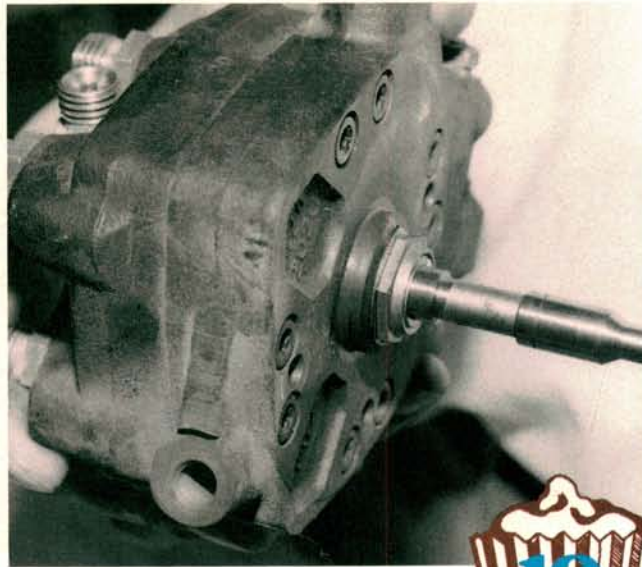
Caliper wear on Saab 900s can cause a loud clunk when braking in reverse. Replace the calipers and brake hardware, and put a slight downward bend in the brake pad retainer clips as shown. For a detailed explanation of this procedure, please refer to page 14 of the August 1988 issue of *Import Service*.

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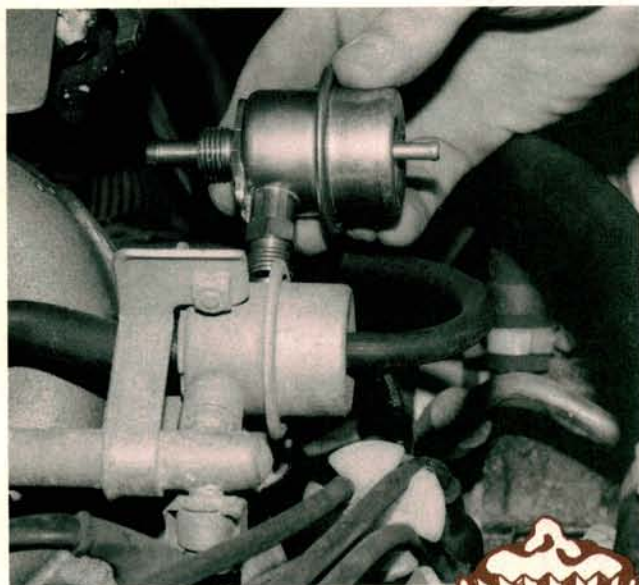
Saab or Volvo

If a Saab or Volvo bucks or hesitates on acceleration, and the ignition system is okay, the prepump feeding the main fuel pump may be bad, starving the main pump. Volvo prepumps feed directly to the main pump. Saabs fill a chamber in the gas tank which feeds the main pump.



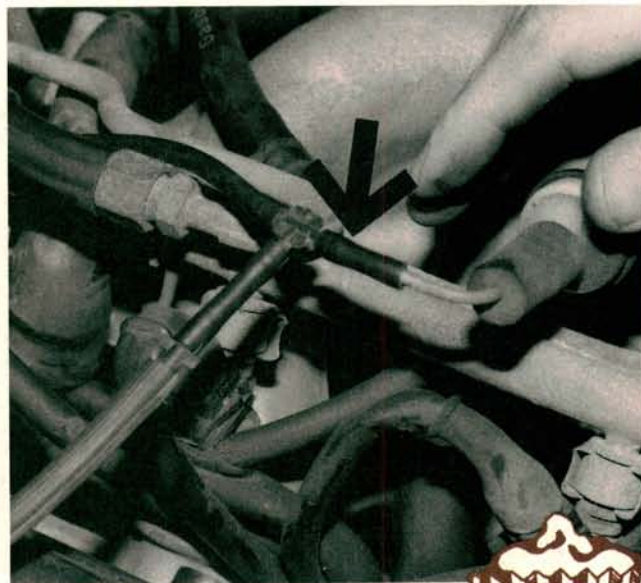
Saab or Volvo

Some K-Jet cars will intermittently refuse to restart after sitting for between 10 minutes and 2 hours. If rest pressure in the fuel system drops too quickly, and the fuel pump check valve is okay, the problem may be a faulty fuel distributor. Fuel may be leaking past the control plunger.



Volvo

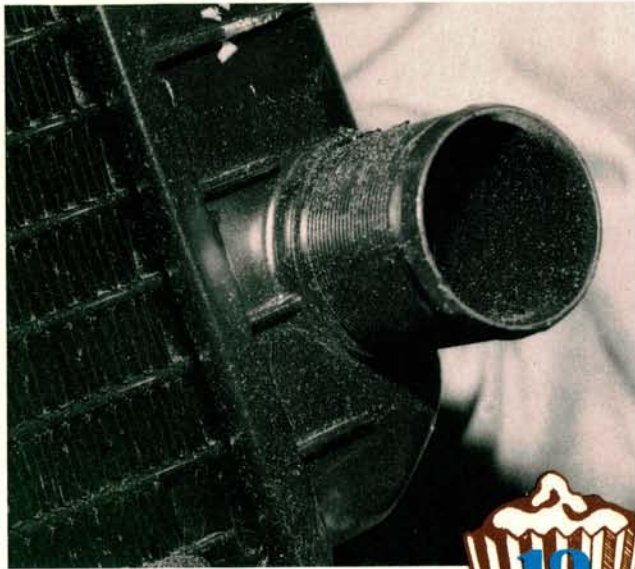
If the customer complains that his LH equipped Volvo starts hard cold, coughs black smoke, and has a fuel pump which growls like an unfed dog, check fuel pressure first thing. Stuck pressure regulators can send system pressure to the 100 PSI range, causing an extremely rich mixture.



Volvo

If your Volvo has a combined problem which seems to affect proper operation of both the cruise control and heater/defroster controls, check the vacuum hoses at the main vacuum source on the intake manifold. Cracks in dry hoses can cause leaks in the main vacuum source to both systems.

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Volvo

Overheating problems on 1986 and newer Volvos can be caused by plugged radiators. The radiators are the aluminum/plastic variety, and the giveaway that it's plugged is a cold lower right hand corner of the radiator near the lower hose outlet.



Volvo

Volvo flame traps have been mentioned before in these pages. Acting as a crankcase breather restriction, they can get so plugged that the crankcase can't breathe. If your Volvo customer can't get the oil leaks stopped, it may be because crankcase pressure is forcing oil past seals and gaskets.



Volvo

A common cause of irregular idle and driveability problems on Volvos can be traced to carbon deposits which can interfere with normal throttle movement. The throttle can bind, which throws off the throttle switch adjustment. Clean with carb cleaner and check throttle switch adjustment when you're through.



Volvo

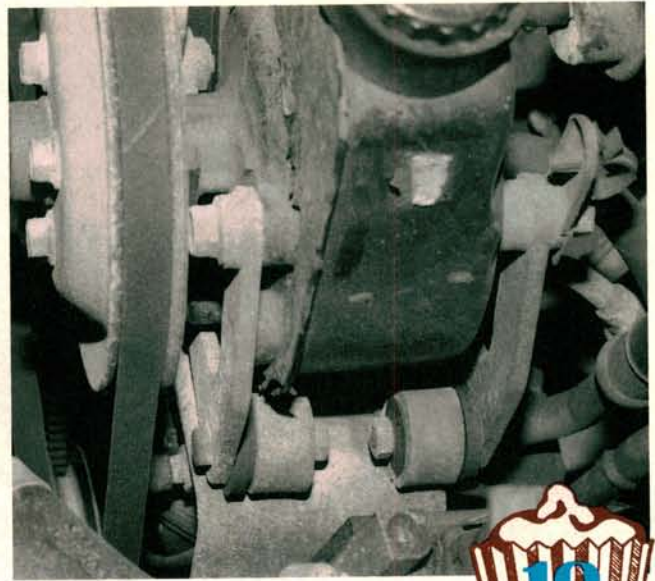
When replacing the tailgate supports on a 7-Series Volvo wagon, check the pivot studs at the base of the rod for wear. Some will wear to a point where they can pop off if someone lifts up on the hatch when it's already fully open. The new pivot studs screw into the body, and are easily replaced.

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Volvo

You say the owner of that Volvo diesel with 80,000 miles on it is reluctant to change the timing belt? Show him this photo and emphasize that this belt snapped at about 85 grand, laying waste to assorted internal engine components in a fraction of a second. The recommended interval is 75,000 miles.



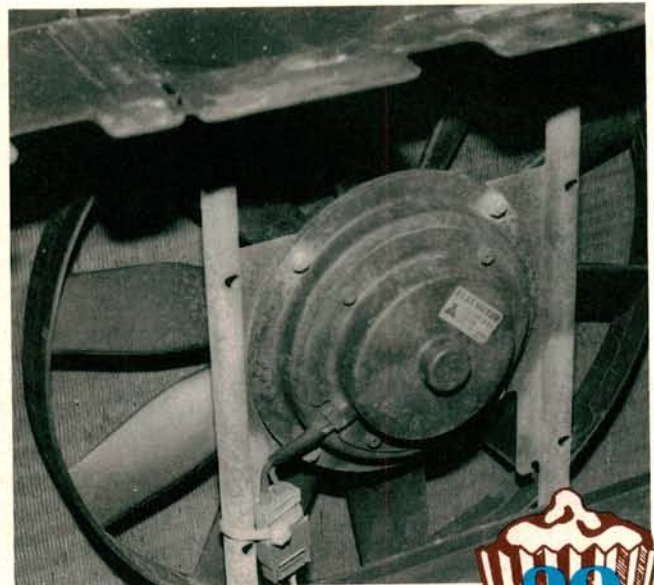
Volvo

This Volvo power steering pump is mounted in rubber bushings. The pump housing moves on separate slides to adjust belt tension. When adjusting belt tension, make sure the pump pulley is perfectly parallel to the crank pulley when you tighten the bolts or you'll have belt noise and premature belt wear.



Volvo

When the coolant gets hot on a Volvo 7-Series, the radiator thermo switch closes and turns on an electrical auxiliary fan. The closed switch also tells the computer to advance ignition timing. If base timing is adjusted when the switch is closed the ignition timing will be retarded when the switch opens.



Volvo

Don't assume that the switch mentioned in the previous step is good just because the fan isn't running. Many of these fans are seizing and won't turn even when the switch closes. The fan on the very first car we checked was bad. By the way, the nut holding the fan to the motor is a left-hand thread.

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Volvo

Some Volvos were equipped with Chrysler distributors. The pins on the Chrysler Hall generator are thinner than the mating connectors in the Volvo harness. Three spacers (arrow) must be installed on the pins to ensure a tight connection. If you replace a pickup make sure you install new spacers.



Volvo

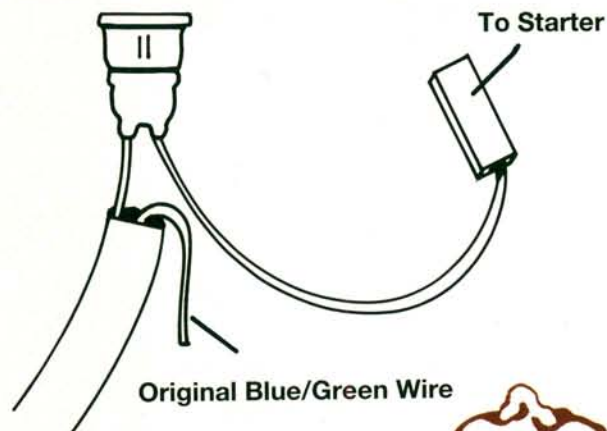
If you have a no-start caused by a no-spark on a Volvo Regina system, crank the engine and watch the dashboard tach. If the tach needle bounces, you know the ignition module, the distributor pickup, the coil primary circuit, and all related wiring are okay. The problem is in the secondary ignition circuit.



Volvo

This patch harness can repair a Volvo 7-Series which starts but floods and stalls at temperatures below 25 degrees F. Remove the blue/green wire from the plug at the cold start injector. Snip off the end of the wire and insulate the bare end by taping back against the carside harness.

To Cold Start Injector



Volvo

Insert the metal wire connector in the plug to the cold start harness and plug it back onto the cold start injector. Take the insulated end of the harness and plug it onto the spare pin (15a or 16) at the starter solenoid. Now the injector will work only when the starter is cranked.

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Swedish Sampler

Here's a grab bag of miscellaneous information on both cars.

Volvo Fluid Requirements

Power Steering	All Cars	Type F™
Manual Transmission	All Cars	Type F
Automatic Transmissions		
BW55/AW55	All	Type F
AW70/AW71	1982-1983*	Type F

*(These were filled with type F at the factory. Dexron II and type F should never be mixed in these units in the event that topping off is necessary. Dexron II can be used in rebuilt or replacement units.)

AW70/71	1984 and later	Dexron II™
AW70L	All	Dexron II
AW72L	All	Dexron II
ZFHP22	All	Dexron II

Volvo's fluid recommendations also include a caution about friction modified versus non-friction modified fluids, as follows:

- Cans labeled Dexron II/Mercon are acceptable.
- Cans labeled Mercon only are NOT.
- Type F is acceptable for use in power steering units, manual transmissions, and older automatics.
- Type F is NOT acceptable in newer automatics.

On Volvo 240 and 245 (station wagon models) through the 1984 model year, inoperative or intermittent wipers (both front and rear), may be caused by water filled relays. The relays are behind the carpeting just ahead of the driver's left foot. The relays were mounted "face up" and drowned if there was a water leak on that side.

If a Saab 900 through the 1986 model year doesn't want to slide over a gate when shifted from 2nd to 3rd gears, the shift linkage centering spring is probably broken. It's located outside the transmission, inside the shift console, and can be replaced from inside the car.

If you lift a Volvo in the air on a frame contact lift, and it's equipped with the new Nivomat rear suspension system, the shocks will fully extend, and the rear of the car may be lower than normal when you first let it down. The shocks have an internal "pump" which will raise the car as it is driven, to a preset level. They do more than just dampen, they also work with special springs to keep the car at proper ride height.

The bushings in the torque rod to the lower control arm on 7-series Volvos can wear a point where the control arm wants to move fore and aft during acceleration or braking. The bushings are easy to replace and can eliminate that nasty clunk.

Here's a caution for your friendly tow truck driver: Many rear axles and panhard rods on Saab 900s have been damaged when the flatbed driver hooks his pull down chains to the axle or panhard rod, and pulls the car down until the tires are flat. Just an ounce of prevention.

Dirty ABS wheel sensors can cause the ABS warning light to illuminate. Metal shavings and debris cling to the head of the sensor and its normal wheel speed signal gets weak. Our host shop has started cleaning them with brake cleaner and compressed air as part of a maintenance.

Some fog light kits for Saab 9000s come with mounting bolts to attach the lights to the body. But the bolts are too long and can interfere with the wiring harness which runs along the front of the car. There may not be an immediate problem, but the bolts will eventually wear through the harness.

If you add one of those third brake lights to a Saab, don't just tap into one of the tail light assemblies to power it. The current imbalance will trigger the bulb warning pictogram on the dash. To avoid this problem, go all the way to the brake light switch and tap in there.