

Buying a Used 7xx/9xx

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General Tips on Buying a Used Car:

Maintenance History. [Inquiry] If you know the VIN for a car is there anyway to get a history of the service and mileage of last service?

[Response: Beau Springer] Yes, but the "work" has to have been done [recorded]

at a Volvo Dealership/Service Center since the system used to record and track the service is on a "closed" Volvo network. In addition to this, the person doing the work history research must be willing to "de-code" the service codes for you. I tried utilizing this service last Friday at my local Volvo Dealership, so your mileage may vary depending on the level of cooperation that you receive.

Body Damage. [Inquiry] How do I tell if a car has had an accident? [Response: Rob Bareiss] Look at the paint. The factory paint is usually very smooth. The car is uniform in color. The gloss of the paint is the same from panel to panel. The fit of doors and hoods is correct, straight, and evenly spaced side-to-side. When a car gets hit, usually the affected panel is replaced, not repaired. The area around it gets primed and repainted at the same time. Sometimes there are non-accident related reasons to repaint a car- parking lot scratches, scrapes, key scratches, "garbage can" scrapes down the side, paint chips in nose and wheelwells. Generally you can tell if the panels have been replaced. Are all the factory decals and insulation on the inside? under the hood? in the doorjamb? When a quarter panel is replaced, there WILL be obvious welds at the rear door opening and in the hatch or trunk frame. Look at the seams on both sides of the hatch. Look at the inside of both rear doors up the back edge. Both should look the same. It all should be smooth and should match the outside paint. There is NEVER overspray on ANYTHING from the factory. You should not see any paint spray on the door hardware, or on the rubber window seals, or the chrome, or in the corner of the headlights. IF YOU FIND such items, ask for an explanation. Ask about the car's history, if known. Ask your mechanic if he agrees with whatever you find. If it's untouched and original, great. If it's repainted original bodywork, fine. If it's had a full nose and 2 doors, red flags should go up. Have it inspected much more closely.

Odometer Fraud. Not having that much time, I did an internet search and found [Carfax](#) (1-800-FIND-VIN). They search through DMV and auction records in the US and Canada and while they don't give a complete ownership history of the car or any details on previous owners, they can tell you if the car was ever totaled, salvaged, stolen, or in my case, that the car actually had 183k instead of 63k. [Editor] A new service from Equifax competes with Carfax: [AutoCheck](#)

Odometer Change. I'd check the maintenance book to see whether the speedometer/odometer has been changed. I believe that quite a few of these had problems, and were replaced. The manual should say what the mileage was on the unit that was removed, if there was a replacement. Add this to the mileage showing on the odometer in the car for total mileage. Maintenance and repair records often state the mileage at which the car came into the shop, and can substitute for the maintenance manual, if it's not available.

Flood Damage. [Tip from Bob] Recent floods in North Carolina and Houston resulted in thousands of flood-damaged, totaled cars. Weak title laws and frequent title fraud result in many of these cars entering the used car market. The flooded cars (last week Houston became one of a 28-county disaster area) will no doubt have some Volvos in the mix, and some may wind up for sale far away from Houston. If the price is too good to pass up, there is one check that works: using a

mirror look on the top of the fuel tank for flood-left debris

[Editor] You can check in other nooks withing the car for flood debris: inside door panels, up under the instrument panel, etc. Flood damaged cars usually suffer from major problems, including electrical, engine, accessory, and transmission. While the title is supposed to state whether the car has been flood damaged, many titles are fraudulent. In the US or Canada, check the VIN through [Carfax](#) as a first step. Caveat emptor.

Maintenance Requirements. For tips on necessary maintenance, removing tobacco smells, etc. for a used car see the [FAQ section](#) in Preventive Maintenance.

Model Tips:

Buying a Used 740:

Check the following before buying:

1. cooling system pressure test to check for cylinder head or block cracks, or other cooling system leaks; inspect hoses and other parts for cracks/leaks
2. look inside valve cover for varnishing/condition of rockers/cam etc (should give a fair indication of oil change interval)
3. a compression test
4. starting the car when cold and noting color of any exhaust smoke
5. examine the air filter
6. Rear axle pinion seal for leaks
7. A check of the rear axle fluid for suspended metal particulate
8. color of brake fluid, dark meaning high moisture content and no recent change, and likely repairs
9. Listen for knocks, squeaks, groans from the front end. All the bushings there could be up for replacement.
10. Check the bottom of the front of the engine for leaks; flame trap may be plugged resulting in blowby past the seals
11. engine wiring harness for loss of insulation, cracking, etc.
12. rust in the tailgate or center and side storage bins in the trunk and the floors
13. Overdrive engagement in transmission if manua

[Don Foster:] Inspect the aluminum pipe in the A/C line under the metal clamp -- they corrode through, then you have an expensive repair (if you want A/C). Also inspect the operation of the air conditioning system. See the [High Mileage](#) section for more details, as well as individual [FAQ](#) functional sections

Buying a Used GLE with B234F. See the 740 tips above. [Tip: Jason Kneier] The block is the same as the B230 you are familiar with. Only the head head/manifolds are different. It's good that the car appears to have been cared for, as these engines are slightly less robust than the 8V versions.

The two concerns I have heard regarding this engine are :

1. The head is an INTERFERENCE design. Change the timing belt and oil pump

bolt religiously, and make a point to pop that cover off every now and then just to inspect it, because if it breaks you will bend valves. [Chris Herbst] ANY timing or balance belt on a multi-valve Volvo should be changed if at all in doubt

2. Keep an eye on the hydraulic lifters, as they are inherently weaker than physical valve lifters.

One other thing - a lot of the 16V engines got the ZF-22 4spd lockup tranny. This tranny is problematic, but is easily replaced with an AW70L or 71L. With proper care, this will be a great car! [Tip: Abe Crombie] The [oil pump bolt](#) is a weak point. It would be a good idea to replace it if it not noted as having been replaced at the same time as cam belt. The bolt is not a high strength bolt and can be obtained at a parts store. Loctite is a good idea when it is installed. The tensioner for balance shaft belt can lose its plastic teeth and this throws off the cam belt. Jason's correct mention of the valves hit pistons (interference) is a good reason to not let either of the things I mentioned happen. The transmission (in the '89 740 GLE) is not the ZF gearbox with the bad history but is a different gear ratioed version of the AW71L called the AW72L. Its gear ratios are revised to better suit the 16 valve engines lower torque production at lower revs as compared to the 8 valve versions.

[Comment: Al Asamov] As this is an interference engine(if a timing belt should break, valves can be damaged at least), you will have to be scrupulous about getting the timing belt(s) changed at intervals. If you love to drive, this car will please you. If you resent paying for scheduled maintenance, something else might suit you better.

[Tip from Paul Bente] If you buy one, change timing belt and the intermediate shaft pulley bolt religiously every 50K, use synthetic oil (Amsoil or Mobil 1), use combustion chamber and fuel injector cleaner frequently.

[Tip: Sheldon Fast] I would replace all belts and inspect very closely the timing belt covers, and in fact if original I would replace them with the newer versions (the plastic covers over the timing belt disintegrate and a piece can fall into the belt cogs, jamming it.) I would also replace the idlers if at all less than perfect and replace the seals. The belts could deteriorate if there was excessive oil leakage getting on to the belts. The cases of destruction have usually been caused by exceeding the service interval, or I have heard of poor oiling service causing cambearings to seize leading to belt breakage. This is one of the many reasons I use synthetic oil.

Buying a Used 760 with V-6

See the 740 tips above.

[Inquiry] What is your opinion of the reliability of a used six-cylinder 760?

[Response: Abe Crombie] The odd fire mechanical fuel injected version used from 1976 through 1986 is the one with the tendencies for premature cam failure.

- The 1982-1986 760 GLE uses this engine.
- The 1987-1990 v6 is the later revised version with LH electronic fuel injection and superb reliability and smooth running.

The 87-90 760 GLE models often have a low resale value due to the reputation of the earlier motor and can be found as a real value. Maintenance Notes: These motors are easier to access and repair than any of the late model GM or Ford V6's. The exhaust gaskets are easy as is cap and rotor access. The intake is sealed to head with O-rings and these don't go bad. The intake is dry so there's no water to leak. The water pump sits front and center, really easy. The front timing cover gaskets can slip out and fail allowing an oil leak, time consuming but not brain surgery to fix. The bolts for cover being snugged up would likely prevent this. The valves need 30K adjustment via adjustment screws with jam nuts; easy as a Beetle except for setting the a/c compressor off the RH valve cover. The heads have oil troughs through which the cams dip and get oiled before the oil supply reaches the rocker arms and drips off to oil cam lobes (No more short cam life as in earlier pre-87 motors). The timing chains seem to have a lifespan of over 250K miles. The LH 2.2 fuel system is as reliable as any 85-88 240 (actually think the AMM's do better than 240 version). Less spunky than the 4 cyl turbos but tons more quiet on high speed cruise (no 4 cyl buzzies on this engine). There are very few interchangeable parts between the pre-87 and 87-90 motors so don't let anybody scare you with stories they've heard about somebody who had a V6 Volvo and how bad it was. The 87-90 motor is a whole 'nother story. I give it two ratchets up.

[Tips from Herb Goltz] Things to look out for--

1. Change your oil every 3K mi-- use the specified 15W40 (actually a high detergent diesel oil-- keeps the oil galleys clean)
2. Change your coolant every two years (the aluminum used in the block is somewhat prone to corrosion)
3. Have the valves adjusted once a year (they are solid, not hydraulic like most modern motors). No need for shims like the B230-- the B280 has adjusters that look just like the old VW aircooleds
4. The B280F is prone to oil leaks at higher mileage (possibly also on low-mileage cars that sat for protracted periods of time). Mine leaks a bit from the timing chain covers (which have 25 bolts and two gaskets) and the rear main, and seeps slightly from behind the crank pulley. Higher-mileage engines will see front crank seal leaks.
5. This motor fouls throttle bodies just like the B230s do. If you get a surging idle, clean your throttle body first. That fixes 90% of weird idle problems. A gunky idle air valve seems to account for the other 10%.
6. This motor also uses a plastic capped aluminum rad. The plastic gets brittle and will crack when it gets older. Watch for it and replace it early
7. Make sure your water pump belts aren't too tight-- if they are the B280F will eat water pumps
8. The B280F has lots of coolant hoses-- replace them if they look suspect
9. The B28/280 has two timing chains that do wear and can break or more likely slip a tooth or 2. The engine is an 'interference' engine and valves will bend if the chain slips or breaks. There are wear indicators that can be checked with the valve covers off. While the lifetime is around 200k+ miles, you need to watch chain wear.

Besides these things, drive it and enjoy it! There are a lot of underinformed types out there that will want to tell you that any Volvo V6 is trouble. That simply isn't true. Their prejudice will get you a great value!

[Inquiry:] I'm about to buy a 1990 760 sedan, 85K and all service records. Opinions?

[Response: Eric D.] The biggest concern on the 760s are the abundance of luxury equipment, which gets pretty expensive if things start to break. Take some time and go over all of the power amenities and luxury features in the car, especially the power assists (seats, windows, sunroof, mirrors, antenna, etc.) and find out if it's all working properly. Make sure the sunroof itself tilts and slides properly, and doesn't leak. Also, make sure the automatic climate control system and A/C are working well--air conditioning units in these cars can have a reputation for spotty reliability and leaking hoses. At 85k miles, the Nivomat auto-levelling rear shocks should still be in good shape and should last well over 100k miles, but be aware that they are very expensive to replace, and cannot be substituted with standard shocks on this model.

[Response: Zippy] Go for a 740 turbo, as new as you can get. Those are 25 year plus life span cars and have HALF the problems of the 760s. Failing to find a 740 Turbo, settle for a 940 Turbo. Skip any Volvo that has "60" in the name, unless you like paying lots of money to repair things like vacuum motors in the AC, costly power seat parts (older is definitely not better with power seats) and other "refinements" over the 7/940s.

Buying a Used 940. See the 740 tips above. Volvo improved the brakes in 1992, by reducing front rotor diameter from 11.3 inches to 11 inches and increasing thickness considerably. New calipers to accommodate the wider rotors. The change was intended to reduce warpage of rotors. The 1990-on engines are all very good and stronger than the 85-88 motors and stronger than the 88-89 motors. In 93 or 94 oil jets were added to cool the underside of the pistons. I believe all 92 and later 740/940s were automatics, but the changeover may have been 93.

[Editor's Notes:] Check some of the 940 anomalies before buying. These include puckering door panels around the lock buttons which are very expensive (\$800 parts) to replace (especially model year 1995), the functioning of the transmission shift lock switch and release button, and functioning of all body electrical components including power seats, power sunroof, power mirrors, mirror heaters, rear defrost. Check as well the performance of the air conditioning system: repairs are expensive and these cars have suffered from leaking condensers.

See the notes on rust in front frame members at [940 Rust Alert](#)

940SE. [Rob Bareiss] In North American markets, Volvo imported a 1991 "940SE" which has differences from the normal 940. The 940SE wagon has the same solid rear axle as the 740's, but it has the Nivomat self-leveling rear shocks rather than the conventional shock/spring arrangement of the 740 or 940 wagon. This can be converted, as noted in the [FAQ](#) and then you won't have to buy \$400 shock absorbers. The sedan has the multi-link rear suspension and has no good choices for shock replacement other than buying new expensive Nivomats. Another difference is in the front bodywork. The car has the lights, hood, cowl, grill, turn signals, and bumpers of a 89+ 760 or a 92-94 960. That means that it has corner lamps that are different from a base 740, either early or late, and the lamp

assemblies will be different also depending on whether you've got foglights. However, many parts from the regular 740/940 models do fit the SE. Virtually everything mechanical is the same.

Buying a Used 960/90. See the general 740 tips above.

[Major Caution:] See the [960/90 section](#) about [sticking valves](#), [cracked exhaust manifolds](#), [driveline noises](#), [leaking rear main seals](#), [failing engine wiring harnesses](#), and other major problems. Reports from Brickboard buyers are not encouraging about the reliability and cost to repair these cars.

College Cars: Thinking about buying a 960/S-V90 for your high school or college kid as a first car? **DON'T**. These cars suffer from complex, expensive systems. They require regular maintenance. If certain maintenance is not done on time or correctly, the engine will self-destruct. These are not cars for people who don't pay attention to rigorous maintenance schedules.

[Inquiry:] What is the best 960 model year to buy? [Response: Lars Lundblad] Regarding Volvo 960, the best year model to buy secondhand is 1996. Problems with 960:

- 1991-2 Camshaft belt too thin, giving vibrations and in some cases total breakdown See [960 Timing Belt Change](#)
- [Editor's Note: see [Porous 960 B6304 Blocks](#) for major block porosity problems, reportedly occurring randomly in 92-95 960 cars.]
- 1994 Camshaft belt (wider) to get away from problems. Helped much.
- 1995 New construction on the camshaft belt now much wider, no problems reported since then.
- 1995 New look on the outside, nicer and newer. A lot of things are specific to local markets. See your local dealer to get a "printout" on what was standard equipment in what year/model in your market.
- 1996 (in Europe) Totally new electric system (Motronic 1.8 ignition system; no reports of failure), new engine control system, SRS (airbag) in

1996 960 is the best year/model to buy secondhand, at least in my opinion. The Volvo 6 cylinder engine 3,0 liters (2,5 1995-) is extremely well built it runs and runs. It is the same engine that is in S/V70 (850) only with one fewer cylinders. Before I bought my 960 1996, I looked around and in the southern part of Sweden I met a cabdriver whose 960 1993 had run for 700,000 kilometers with no repairs, just the standard "service".

[Response 2: Ross Gunn] I have a '95 960 (Canadian market), and it has most of what is mentioned here as new in '96 (2 front air bags, multi-link rear suspension with composite (flat) rear spring. I'm not sure what changes in the electrical system and engine control system Lars refers to, but mine has the Motronic 1.8 ignition system. I also don't know what front suspension changes he refers to. As far as I am aware, there are no significant changes after '95, so '95 or newer should be a good choice. The S90 is the same as the 960 and will be discontinued after this model year.

[Tips from Rob Bareiss] Make sure the timing belt has been changed and is documented. ANY timing or balance belt on a multi-valve Volvo should be changed

if at all in doubt. Check the VIN# out with a Volvo Service department, to see if the car has any "open service campaigns". That would mean it was not brought in for a dealer recall item. There could be a minor thing, but it's a good indicator of whether the previous owner cared about the car, or not. Look under the car, particularly for exhaust leaks at the rear flange or flex-joint of the catalytic converter (next to transmission). If you see or hear leaks, this is an EXPENSIVE fix on a 960. Volvo gets over \$1100 USD for a new cat; non-Volvo replacements are over \$500. Also look for oil drips at the front end of the transmission- a rear main oil seal is an EXPENSIVE repair. Drive the car- it should have no shake at all in the wheel when braking. Front rotors can warp, and they're over \$100 each to replace. Make sure the Auto Climate Control does everything right. Run the A/C fan on full, and accelerate hard. The vents must not stop working. If they do, you've got expensive work ahead. And finally, look to see that when you arrive, the back of the car is not sagging. These cars have very expensive Nivomat self-leveling shocks in the back- they're \$250-\$450 USD each! The car shouldn't sag more than 1 inch overnight.

[Editor's Notes:] Check some of the 960 anomalies before buying. These include puckering door panels around the lock buttons which are very expensive (\$800 parts) to replace (especially model year 1995), and functioning of all body electrical components including power seats, power sunroof, power mirrors, mirror heaters, rear defrost. Check as well the performance of the air conditioning system: repairs are expensive and these cars have suffered from leaking condensers. [Tip from Rafael Riverol] If you have a 960, I please take off the plastic cover atop the engine and examine the female connectors at each of the six coils. I suspect you will likely find crumbling insulation, brittle barrels and poor connections. I can tell you these can fail you anytime. You will also likely find crumbling wire sleeves that will allow wire chaffing against the engine head. Expect to replace both the timing belt and the belt tensioner and idler pulley. Failure to do so can destroy the engine.

Buying a Used Turbo. See the general 740 tips above.

[Inquiry:] What are the engine and model specs on the turbo series?

[Tip from Abe Crombie] I don't know what your \$\$ limit is but the 93-95 940 T will have the engine with piston oil cooling and the improved tolerances on lower end.

The 92 and later have the bigger brakes up front and larger piston size for rear calipers

The trans on turbo models is the same except the balls used as check valves could deteriorate and cause harsh shifts on 85-87 models.

The 88 and later have the larger diameter mains with a full circle thrust bearing for crank.

The 90 and later have the smaller, fast spool up time turbo but this hurts the absolute limit for boost as the exhaust housing is more restrictive.

92 and later have bigger radiator and intercooler with all electric cooling fans. The

sips structures in 92 and later likely adds some body rigidity.

87 and up have hydraulic engine mounts that are more costly and have a finite life span.

91-93 turbos have the auto locking diff, it was part of cold weather package (heated seats=locking diff) on 94-95. The auto locking diff is not the best for Hi-Perf track/gymkhana style activities.

[Editor] Pay attention to the maintenance given the turbo, including oil changes, [turbo hoses](#), vacuum hoses, coolant hoses (including the oil cooler coolant hoses), etc. Hoses embrittle in the higher underhood temperatures created by the turbo.

Buying a Used Diesel. See the general 740 tips above. Anyone contemplating buying a used 7xx/9xx with a D24 or D24T diesel engine should see more detailed notes at [Purchasing Used Diesel](#).

Buying a Used LPG Conversion. [Inquiry] Does anyone out there run a 740 that's had a gas conversion? One has come up for sale in my area and as I drive around 30k each year I am considering buying it as a second car solely for commuting up and down the motorway (and hoping to save a few pennies in the process). [Responses: George Holmer/ Ivor Guyett/] MPG goes down by 20 % so expect worse fuel economy than on petrol. Does performance suffer? No Does it need more servicing? Yes, it will need the head rebuilt about every 100,000 miles. Valve seats wear out and occasional misfires kill the AMM. Insurance may depend on whether kit is DIY installed or fitted by approved installer.

[Volvo Maintenance FAQ for 7xx/9xx/90 Cars](#)
