Alfa Romeo 164S Pre-Purchase Inspection and Buyer's Guide

by John Stewart

Here's my personal take on buying a 164S. While not totally comprehensive, hopefully it provides future 164S owners the benefit of my experience, at least. I have my car now several years and have been working through many of the common faults to 164s and fixing the buffoonery of previous owners. I've included a difference matrix (see Appendix 3) with the more common "L" models vs. the "S." The later 94-95 LS and Q models are not covered. Those are quite different animals with the more powerful 24-valve engine, among many other differences. They may look much like the earlier 12-valve models, but there is less commonality in parts than one might think.

1991 Alfa Romeo 164S

Although I've owned two (and still own one) 70's era Spiders, I decided to take the plunge into a *modern* Alfa . . . a '91 164S. I wanted the S model due to more powerful engine, the adaptive suspension system, the look of the car, and performance. I liked the seats better than the L models, as well. Some people think the side skirts and spoiler are tacky looking, but I like them. Nevertheless, the 164 basic body style has classic good looks that still looks fresh 20 years later. The 164S is not a true sports car, but rather a luxury sport sedan in the $30k+ range (inflation adjusted to $56k+ in 2015) when new in 1991. The Alfa 3L V-6 "S" engine is wonderful. It looks and sounds great and has loads of power and torque. The "S" has a tasteful interior with a nice combination of luxury and sportiness.

All "S" models came in exterior colors of Red, Black, or White with either Tan or Black leather interior. All had the extended skirting and spoiler on the trunk lid. All came with a 5 speed manual transmission and Speedline (aka "sausage-cutter") rims.

Properly maintained (a key point), the engine it is very reliable and long-lived. Many owners get well over 200k miles before needing overhaul. Badly maintained or abused, they can be troublesome and expensive.

The Alfa 5 speed transmission is also great, although if compared to a conventional rear wheel drive transmission, the shifter action, due to the linkage required, is not as precise. The "B and L" model transmissions have a smaller input shaft bearing that sometimes wears prematurely, but is usually replaced at the first clutch change. The "S" model transmission has a larger bearing that is very sturdy.

Unless abused, both the L and S clutches hold up well. The “S” model has a sturdier high performance clutch.

164 bodies hold up well and have good rust-proofing, as compared to Alfa’s earlier models. Neglected cars will likely have rust around the fuel filler door. Keep them clean (including the underside) and the paintwork waxed, and many cars look new even after 20 years. The black leather interior, if given good regular leather treatments, wears very well and holds its color. The tan interiors typically fade (probably due to ultraviolet and heat exposure) and do not hold up as well.

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Leather-covered instrument hoods typically dry-out and curl up at the front, however, they can be recovered in more durable matching vinyl. Alfa carpeting (in both tan and black) the on the other hand almost inevitably fades . . the black into a strange shade of bluish-gray. Not unsightly, but nevertheless faded. Many owners have reported re-dyeing the carpets with good success.

The S models have a Controlled Dampening Suspension (CDS) System, where the struts have two ride settings, “Auto” and a much firmer “Sport” setting. This should be checked by a prospective owner due to potentially very high cost of replacement parts (shocks $1k each). I’ll expound on the CDS system a bit, since it is a little difficult to understand at first.

The CDS ride modulation is accomplished via an electrically controlled valve on each shock that switches between normal (AUTO) and firm (SPORT) ride. Annunciation of the mode and manual override (to Sport only) is on the center console (amber and red light). In AUTO there are six sensors that feed data into the CDS computer that switches the system between soft and sport ride settings:

1) Vertical acceleration sensor
2) Steering wheel angle and rotation speed sensor
3) Brake pressure 290 psi or more
4) Speedometer
5) Throttle angle 20 deg or more sensor
6) Transmission 1st or 2nd gear sensor.

The driver can also manually select SPORT (firm) setting via a button on the center panel. Also, if the computer detects a failure in the system, it defaults to SPORT setting and the small red light above the SPORT button on the center dash panel will illuminate. On your test drive, manually select between AUTO and SPORT to get a feel for the difference in ride quality as well as make sure there is no fault in the system. As mentioned, replacement S shocks are *very expensive* (over $1,000 *each*). However, the CDS system can be abandoned and regular “L” model shocks (normal/soft) substituted. Depending on the failure, S shocks can be overhauled by an astute home mechanic relatively cheaply. Not easy, but do-able. One of the AlfaBB.com members has written an excellent technical repair procedure for doing this. An inoperative CDS system may not necessarily be a deal-breaker when buying a 164S, but it is a consideration as to value since you'd have to live with it in sport (firm) ride mode.

When I went shopping, I set my criteria on:

1. Excellent body and paint. Either Black/black or Red/black on the color. From what I had seen, the tan interiors seem to appear to wear worse than the black.

2. No major heavy mechanical problems. The car was going to be located where I didn't have a garage to work in, therefore any maintenance had to be driveway do-able.

With that in mind, I looked for about six months at various cars on eBay and Craigslist. The really good ones got snapped up very fast, while the ones with big problems languished for sale. Prices were all over the map. From $4500 to $7000 (2011) in reasonably similar condition. Although the one advertised for $4500 was simply a stunning bargain.

That said, keep in mind that you're not going to find a perfect one. These cars are 20 years old now. So, when looking at a car, you have a right to expect the seller to be up front and honest about what doesn't work and the maintenance history. You shouldn't get a lot of "I don't knows" when asking questions. On the other hand he doesn't need you to pick apart every dirty nut and bolt. Armed with some knowledge of common failure items and their costs, you can make a reasonable assessment of what the total cost of the car will be, and make an offer accordingly. Make no mistake. These are not inexpensive cars to restore or maintain, *especially if you pay a shop to do it*.

The car I bought had:

Good things

1. Outstanding body, original paint, and interior. Like new, really. Only the instrument hood needed recovering.
2. Good tight suspension, CDS suspension that worked, good steering, no leaks anywhere in the car.
3. Solid engine, fresh timing belt, mechanical tensioner, water pump. Good clutch and transmission.
4. Only 64k miles, verified by Carfax.
5. Serviceable tires with even wear.

Bad things

1. Stepper motors inoperative ($300 for a replacement assembly, or about $40 if using salvaged gears from a BMW stepper motor, a $10 drum reinforcement ring, and a day's labor)

2. Fuel smell when the left front window was open. Bad rubber elbow on fuel tank vent system in trunk. ($5 fix with a generic auto parts store part). See #3 below.

3. A bird's nest of wiring from an aftermarket alarm system and stereo system, neither of which worked. A cabinet in the trunk that covered the fuel pump & sending unit access. (4 afternoons of my time to remove it all). It prevented access to the fuel tank vent system.

4. OEM spare doughnut instead of full sized spare. ($50 salvage wheel + $90 tire)

5. Oil pressure sending unit was not giving accurate indications. ($30 fix using better aftermarket sender unit)

6. Airbag light was on. ($30 fix with salvage airbag squib unit)

7. Front brakes and rotors needed replacing (about $150 for parts)

8. Cruise control inoperative. (maladjusted brake & clutch cut-out switches)

9. Gear shifter (reaction rod) bushing worn. ($15 part)

In short here is the Executive Summary of my buying recommendations

1. "Owned and maintained by an Alfa mechanic" doesn't necessarily mean squat. There were several problems with the car that I'm sure that the mechanic-owner knew about but did not reveal, such as the fuel vent problem being covered up from access by the ridiculous sound/alarm system box.

2. Get the Carfax on the car before you go see it. I looked at one car before I got the Carfax. After I agreed to buy it (based on the sellers affirmation that the Carfax was clean) and before money changed hands, I ran a Carfax and found a 50k discrepancy in the mileage. Deal off.

3. The great cars sell quick. Go early to see it and have cash-in-hand when going to look.

4. Just because the seller owns an Alfa, does not make him necessarily trustworthy.

5. Buy the best body, paint, and interior you can find.

6. A well-maintained mid-mileage 164 is better than a neglected low mileage one.

7. Maintenance documentation shows the seller cared about the car.

8. Beware of sellers "blowing-off" of potentially serious mechanical symptoms such as slipping clutches, poor running engines ("just needs a tune-up"), etc.

9. Modifications: Be VERY skeptical of modifications to the car, especially add-ons that cover things up. For instance, in the car I bought, the previous owner had installed an expensive and highly complicated aftermarket alarm system along with a stereo system/woofer in a large wooden encasement in the forward part of the trunk. And it didn't work, BTW. The major problem, besides the broken systems and added wiring, was the fact that this permanently installed box across the forward third of the trunk covered up access to the fuel pump, fuel level sender unit, and vent tubing. And remember that eventually, probably very soon, you'll need to start replacing some of these very old rubber parts.

10. Don't try and drive the car cross-country right after purchase. Ship it. A broken 164 in Podunk, AK is pretty darn broke and will cost a lot more overall than a shipping bill to begin with. Factor in your gas, hotels, food, etc.

The following is my summary of recommendations for a detailed buyer's inspection.

Body/Exterior

1. Paint condition/clear-coat separation. Especially mirrors, roof, trunk lid and sunroof. Those areas are the first to go bad.

2. Rust around fuel filler door.

3. Look on the inside of the fuel filler door for a sticker that says "*Recall 96V-140*." That signifies that the fuel hose to the tank was replaced under recall because the original had a propensity to fail and cause gasoline leakage.

4. Rust on undercarriage, steel fuel pipes, brake lines, and especially power steering cooling loop (under drivers floor)

5. Brake disc scoring and wear.

6. Rust on rear suspension.

7. Weak hood struts. (not cheap, about $50 each)

8. Springs that need adjusting on the trunk hinges.

9. Plugged up sunroof drain holes.

10. Sunroof smoothness of operation and weatherproof sealing.

11. Door handles are notoriously weak and break. Be careful and check them. Look for a little fatigue "dimple" on outside of handle that shows bending.

12. Keys. Both valet and primary key. Primary key blanks have to be ordered over the internet and are about $12. The "valet" key blanks/cutting are available at most key shops and can be made into primary keys that also open the glove box and trunk, by filing down the small ridge on either side of the key a little. Very easy to do. Ask the seller about extra keys and make sure they work in the trunk and glove box. Also ask about the Key Fob Anti-Theft Alarm Button. Without that, you can't arm/disarm the alarm function. OEM replacements aren't available, although some owners have had success with training aftermarket fobs to do the job. Also, be sure to get the Alarm Siren disable key (small brass key), so you can shutdown the system without the key fob, if necessary. Realistically, your 25 year old 164 is not likely to be a candidate for theft, so a working alarm system may be irrelevant. If it is working, I highly recommend that you disconnect the starter-disable function of the alarm system as a safety measure

13. Bosch Projector (Euro) Headlights are a big plus over the stock Carellos. Projectors are hard to get and expensive.

14. Look for leaks under the car, especially from the steering rack. Seal leaks are common as these cars age. Steering racks are about $350 for rebuilds, not including labor to install (not easy).

Tires/Brakes

1.164s wear front tires and brakes more quickly than most other cars. Inspect accordingly. Look for even wear and good alignment. Beware of old dry-rotted tires. Many 164s are garage queens and hardly driven. Old (aged) tires are hazardous, even if they have good tread.
2. Seized/dragging rear brakes are not an unheard of fault in 164s. It comes from the parking brake mechanism not releasing completely. Usually requires replacement of the calipers, which are expensive and not rebuildable. Release the parking brake and the car should roll easily. The 164 parking brake holds very well when working correctly.

3. After the test drive, check that the brakes are heated evenly and you don't have a dragging brake. Look for scoring/rust on brake rotors.

Interior

1. Driver seat condition. Rare factory special Recaro Seat option (very very few cars) is a big plus.

2. Tan interiors seem to wear worse, at least look worse when worn, than black interiors

3. Operation of seat heaters (common failure item).

4. Overhead console. Cracking/falling apart. New parts no longer available and any salvage part you find will probably be in as bad a shape as yours. Be very care to not pressure the outer frame because it very easily cracks. If you touch it, probably some black gook will come off on your hand. This oxidized "soft touch" coating can be removed with lacquer thinner. The appearance will remain the same but the black gook that rubs off on everything will go away.

5. Shrinkage/pealing up of the edges of the instrument panel hood leather cover. It is possible to recover with new leather or vinyl. About $100.

6. Any cracks/damage in front glass windscreen. They're hard-to-get and expensive.

7. Black carpet commonly fades. Can be re-dyed.

8. Check operation of seat motors. Somewhat common complaint that they stick in the rear-most position.

Air Conditioning & HVAC Panel Controls

1. Stepper motors behind the dash. These control movement of the various doors that mix air to satisfy the automatic heating/cooling system. These are common failure items and are very difficult to access, requiring loosening and pulling the entire dashboard back. If you can find it, the new part cost is about $300. The specific failure mode of the steppers is not the motor itself, but a gear in the little gearbox attached to the motor. Many BMWs use the same stepper gearbox, and replacement gears can be obtained from salvage BMW steppers for about $20 each ($40 for the parts to repair both Alfa stepper motors). Once the stepper motor assembly is out of the car, replacing the faulty gears is relatively easy. If you pay a mechanic to replace the steppers, the labor cost will be very high. Bad steppers are characterized by failure of the dash buttons to change the direction/temp of the air and a constant clicking noise made by the motors trying to move the doors despite broken gears in the stepper motor assembly. If failed, the motors usually freeze in the windshield defrost position. Some sellers might disconnect the electrical connector to the steppers to prevent the constant clicking. You can see

connector behind the access plate on the left inside of the glove box. Just remove the cover and look in.

2. The HVAC control panel also has a self-test function if you wish to perform it. (see attached sheet)

3. R134 Conversions. This is an important and potentially expensive item to consider.

1991-93 models were R12 refrigerant. Many systems were converted to R134, with various degrees of fastidiousness. Beware of a cheapo job with just throwing in some cans of R134 w/oil charges. A good R134 conversion should consist of a minimum of removing and draining the compressor of its R12 lubricating oil and refilling with Ester Oil. A new R134 receiver drier (different desiccant than a R12 drier) should be fitted and replenished with the appropriate amount of R134 Ester Oil. And, of course, replacing the old R12 sealing o-rings with R134 spec ones on any opened connection.

A good conversion would also replace the Expansion Valve with a R134 specific one, which operates at somewhat different pressure specs.

A really thorough conversion, in addition to the above, would purge the entire system of the old mineral oil, refit a larger, more efficient parallel-flow condenser, a R134 specific compressor and a refill with R134 PAG oil. If all the old R12 mineral oil was removed, then PAG is your best choice. Otherwise most people prefer to use Ester Oil because it’s more tolerant of residual mineral oil in the system.

Replacement of the old R-12 hoses is not ordinarily done unless they're bad. Re-use of R-12 hoses will usually result in the seepage through the hoses (R-134a is a much smaller molecule than R-12) of about 1 can (12 oz) of R-134a per year.

Be advised that the 164 air-conditioning may not get as cold as you might be used to in other cars, but should cool the car adequately with a good conversion. One thing to note is that there is no heater doal (shutoff) valve in the heater system. The heater core stays hot all the time. A common inexpensive retrofit is to add a shutoff valve to the input hose of the heater core and turn it off during A/C season. This will reduce residual heat in the passenger compartment and allow the A/C to perform better.

The fan blower motor should operate freely and well. In the highest setting (4) it will blow very hard. This is also common failure item and somewhat difficult to replace.

Common failure items in the A/C system are:

1. Compressor pulley bearing.

2. Serpentine drive belt idler bearing.

Note: Unlike most cars, the compressor is driven by the same serpentine drive belt as the water pump, so a compressor bearing/belt failure *disables the entire engine*. Beware of any squeaks or bearing noises from the belt driven side of the engine. It could be an impending bearing failure.

<u>Engine</u>

The engine should start easily, run smooth, and pull nicely. The 164S engine due to the higher performance cams tend to idle with a very slight lumpiness, which is normal. One weak point for the early production models is oil consumption. Some early 1991's had weak piston rings and those engines tended to use oil, sometimes in the 400-700 miles/qt. However, this has proven over time to not be detrimental and the engines run fine without smoking. Ask the owner what his oil consumption runs.

1. Timing Belt. This is an item of critical importance. Most owners use 30k miles and 5 years as maximum for changing the timing belt. Most change the tensioner and water pump every other belt change. The shop cost to change a timing belt is probably about $600-700, plus parts. A seller should have documentation on the last timing belt change, either from a shop or receipt for the parts if he did it himself. You'll have to judge for yourself, if you think he was competent to do the work. The penalty for a broken timing belt is usually several bent valves and a very large repair bill. There are three different types of timing belt tensioners that are used on 164 engines. The most common one is the mechanical tensioner. While probably ok, mechanical tensioners can break at installation if not done correctly, or break in service. A broken spring in a mechanical tensioner can result in timing belt slippage on start-up. Also, NEVER allow the engine to rotate backwards (like rolling backwards on a hill) with a mechanical tensioner. Belt slippage is possible. That said, most 164s running around today use the mechanical tensioner without incident. Hydraulic and Fixed tensioners do not have these problems. See the downloadable guide on timing belt tensioners on the AlfaBB for detailed information.

2. If maintained well, the Alfa V-6 engine is very reliable and long lasting. If not maintained well, it can be troublesome and expensive.

3. Check fuel hoses. If original (you can tell by the factory crimp-on clamps), expect to replace them as soon as possible. Two of the hoses that come up from under the car to the engine compartment are difficult to access. Use 7.5mm hose and fuel injection specific clamps. 7.9mm/5/16" fuel injection line commonly available will work but will require tightening up harder on the clamp. Correct 7.5mm line is available from International Auto Parts. The system is under 45 psi pressure and small leaks are a fire hazard.

4. Check coolant and heater hoses. Factory clamps mean the hoses are probably very old. Heater cores are another problem area somewhat known for leaks.

5. Radiator Fan. Let the car idle and heat up. Look for the fan to turn on when the temperature gauge gets to the long mark between 170 and 240. It may only come on momentarily, cool the water, and then shut off. The temperature gauge sender is at the water pump on the engine, but the radiator fan temp sensor is on the upper left side of the Radiator. See lower paragraph for info on accuracy of 164 coolant temp gauges.

6. Check for leaks, especially under the transmission bell housing. Could be a bad rear main seal.

7. Check for leaks from the power steering rack assembly.

8. Check reaction rod shifter bushing. They are typically worn making the shifter action imprecise.

Trunk

1. When first opening the trunk, sniff for any trace of gasoline. In the forward part of the trunk, there is access to the main fuel supply pump and the fuel level sender. Even minute seepage can cause a gas smell in the trunk and passenger compartment. There are also several vent lines that run in the rear of the trunk and the evaporative vent system tank in the upper right front side of the trunk. These are all covered by the easily removed front trunk trim. I recommend asking the owner to remove the front trim piece so you can get a good look at the fuel system hoses. The large rubber elbow coming off the fuel flange is especially known to develop cracks that allow fuel vapor (remember the tank pressurizes itself after driving a while) into the trunk and passenger compartment. If the car has an original elbow and factory clamps, count on replacing it. A suitable substitute elbow can be found at any good auto parts store.

2. Remove the floor trim and look at the spare tire. OEM was the emergency "doughnut." A good plus would be a full-size spare. Check to see if the OEM took kit is there along with the jack.

3. Look on the right side of the trunk. You should see a small red cord coming though a slit in the dark gray trunk trim. That's the manual release for the fuel filler door. It's important in case the electrical solenoid opener operated by button on the dash stops working.

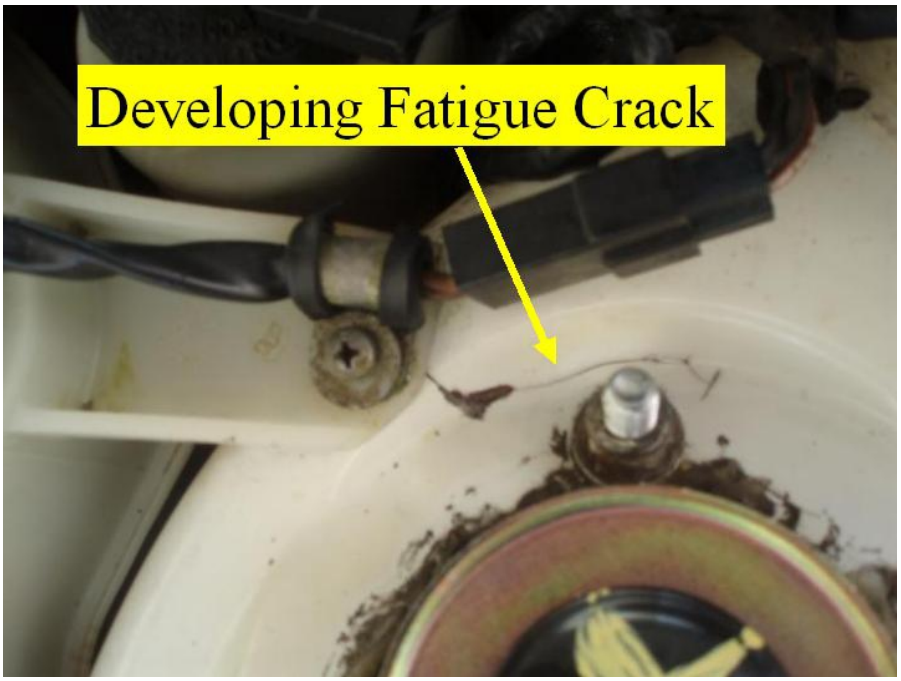
4. A common problem is the outlet vents in the lower rear fender coming loose and allowing fuel fumes (especially on the left side where the exhaust pipe is.

Airbag

Airbag caution lights on the dash are a common problem. When starting the car, the airbag light will come on for a few seconds, and then go out. If it stays on and flashing, the system has failed it's self test. You can continue to drive like this, however, the airbag system may not operate when needed in a collision. The problem may be as simple as a bad connection at the connector (behind the right front seat center console kick panel), requiring nothing more than to separate and clean the connector and reconnect, or something as serious as a bad airbag in the steering wheel. The malfunction code is extracted through a procedure where you ground a test connector located behind the right door kick panel and read the number of flashes on the airbag caution light. In my case, I had an airbag caution light when I bought the car and it turned out to be a bad airbag in the steering wheel. I replaced it myself with a salvage part very inexpensively.

Suspension

1. The S models have an adaptive electronic (CDS) shock system. It's driver selectable on the center panel, but also switches depending on driving conditions. It is common that these fail. When you first turn the key to on, look for the red light between the AUTO and SPORT button to come on momentarily, then go out. During your test drive, push the "Sport" button on the dash panel and see that the light switches to Sport mode. Sport mode will be a noticeably stiffer ride.



2. In the left rear side of the engine compartment, look at the strut mounting point in the body sheet metal. Especially check the bolthole closest to the coolant reservoir. Some cars develop a stress crack propagating from that hole and going into the body sheet metal. In such cases, the crack must be welded up and reinforcement added to the bolt hole.

3. Look for any bent or badly rusted rear cross-members/suspension parts. The rear suspension of the 164 is relatively lightweight and subject to being damaged by careless owners and mechanics jacking

the car incorrectly. And BTW, NEVER EVER jack a 164 by the rear suspension. DON'T tow it, pull it or ***anything*** else by the rear suspension. Use the dedicated tow hook on the right rear.

Driving the car

1. If possible ask the owner to have the engine cold when you arrive to see the car. The car should start readily and idle nicely. The "S" engine idle may be very slightly "lumpy." Check the gauges:

a. RPM about 1200 or so cold, 900-1000 rpm hot. If it idles high or erratically, it could need a simple adjustment of the hi-low switch on the intake.

b. Oil Pressure gauge: Alfa oil pressure sending units are traditionally problematic and notoriously inaccurate. Even new ones seem to fail in a moderate amount of time. On cold start oil pressure should be about 55 psi above idle and about 30 psi at idle. A bad gauge will gradually go down a lot in indication as the oil heats up, maybe down to almost zero at idle. However, the oil low-pressure light should NOT come on. Aftermarket sending units are available that are more reliable than OEM.

A good seller will have installed a new oil pressure sending unit, so that the prospective buyer can see a true indication. Beware of low oil pressure indications. It's probably just an indicator problem, but then again it might not be, and you're taking the chance if you buy the car and the low pressure is for real.

2. The engine coolant will heat up in traffic and at idle to the unlabeled mark between the 170 and 240 marks. That's about 210F. This is normal, although the needle will not be sticking straight up like on most American cars. It takes a little getting used to, but is normal. At speed, the temp will moderate some. As mentioned before, the fan should come on low speed when the temp in the radiator reaches 198F and high speed at 205F, and also when the air conditioner pressure reaches a certain level. Keep in mind that the dashboard gauge temp sensor is located on the engine and the fan switch in the left radiator tank. Hence there may be some slight difference in when the fan comes on vs. the dashboard gauge reading. The dashboard gauge typically indicates about 15-20F higher than the actual coolant temp coming out of the thermostat (that's where the gauge sending unit is). I verified this temp discrepancy with a hand-held IR temp gun. Some owners solder in a 27 ohm to 100 ohm resistor in the temp sender connector. This brings the temp indications on the dash down to actual levels.

3. Clutch. The clutch should feel right, engage positively and not have a squeak in the pedal movement. A squeak could be cured by nothing more than some WD-40 on the pivots and rubbing parts, or could be a master cylinder going bad. Slipping is a definite problem. A clutch disc and pressure plate for an "S" model (different than the L) alone is over $400. Probably looking at $1000+ parts/labor to have a shop change it.

4. Torque Steer. Since the 164 is front wheel drive, you will notice some torque steer under acceleration. After a while of driving the car, you'll get used to it and it probably won't bother you.

Last thoughts:

If at all possible, have a friend that is familiar with 164s accompany you on the checkout. If you have an Alfa shop close by that is familiar with 164s, you might want to contact them ahead of time and see what they would charge for a pre-purchase inspection. $200-300 may be money well spent if it keeps you from getting a car with expensive problems.

Of course, any prospective owner should consider the cost of maintaining and repairing the car. *164s are NOT cheap to maintain*, especially if you take the car to a shop for repair/maintenance. Keep in

mind, these cars are 25 years old now and the normal wear/aging-out items . . . bushings, seals, pumps, rubber lines, etc. have reached the end of their expected service life. I'm sure that *Alfa engineers never designed for, nor had the expectation that these cars would remain in service this long*. A lot of 164s, because of the cost of having a specialty shop repair them, have owners that ignored upkeep and replacement of a lot of these worn parts. That means that YOU as the new owner will have to deal with them.

If you do your own maintenance and repair work, you'll find that most parts are not more expensive than the norm, but sometimes can require some searching. Almost all critical parts are available or have suitable substitutes. Working on a 164 is no harder than many other cars of its same genre. And, of course, here on the AlfaBB.com, free help is only a mouse click away from many highly experienced and knowledgeable long-time owner/mechanics.

NOTE :
This guide is not all-inclusive nor authoritative and should be used with that in mind. It is meant to simply provide a general overview to help a prospective owner evaluate a potential purchase.

Any comments/suggestions can be addressed to: John Stewart, email: roadtrip@rap.midco.net

Appendix 1

Inspection Checklist:

Things to ask the owner on the phone at first contact:

Administrative:

1. How long have you owned the car? How many owners has it had? _____

2. Do you have maintenance records? How far back? _____

3. What shop serviced the car? _____

4. Do you have a current CARFAX on the car? What is the VIN number? Mileage on odometer? _____

VIN_____. (Run a CARFAX if you think you might be serious about the car. Do this BEFORE you go look at it.)

5. Do you have some detailed pictures you can email me?

Condition:

1. Any damage or rust in the body of the car? _____

2. Is there rust underneath the car? _____

3. Is there any clear-coat failure? _____

4. Any check engine lights? _____

5. Is the Airbag light on? _____

6. Does the air conditioner work well? _____

7. Do the stepper motors work? _____

8. Any leaks? _____

9. How much oil does the engine burn? _____

10. When was the timing belt changed last? _____

11. When was the clutch changed last? _____

12. Do the electronic shock struts work? (S model only)? _____

13. How worn is the driver's seat? _____

These questions should give you an idea if you're interested enough to take the time to look at the car. Unless you know the car has been on the market a while, and you're interested in it, I'd advise that you go see it ASAP and take money. Excellent 164S's, at the right price, sell quickly.

In Person Inspection:

Body/Interior

1. Paint and clear coat. Rust especially around the fuel filler door.

2. Body panel fit.

3. Tire condition.

4. Look through the wheels to the brake discs. Are they scored? Brake pad wear?

5. Does hood and trunk stay up when opened. Put slight pressure downward to be sure.

6. Operate sunroof. Check seal. Look for dirt/obviously clogged drain holes.

7. Is Owners Manual in the compartment in the rear shelf?

8. Operate windows and use key to exercise power door locks.

9. Windshield. Check for cracks.

10. Operate both front seats, make sure they're not stuck full back.

11. Handbrake.

12. Radio. Check operation of automatic antenna

13. Have owner demonstrate A/C panel operation.
    a. All fan speeds
    b. Various modes / air vent changes

14. HVAC Pushbutton Panel Test. If desired, you can perform a diagnostics check of the HVAC control unit. Only takes a few seconds and will show failures in the system. Use appendix sheet with test procedure.

15. Instrument Panel Test. Push TEST button. All lights except ABS, Check Eng, and Airbag illuminate.

16. Check for broken inside door handles.

17. Side mirror adjustment motors.

Operating the car. The following are special items of interest.

1. When you get in the car, and you're tall, you might find the headroom confining. Be sure to run the seat down in that case. Regardless, the seating position is pretty high compared to other cars, which affords very good visibility.

2. Turn key on: Look for warning lights to go into test mode. Especially watch AIRBAG light to go out and stay out.

3. Start engine. Hopefully it's cold so you can evaluate cold start. Should start within the first couple rotations of the engine and idle smoothly, even cold.

4. Listen for excessive valve train ticking and noise.

5. Engine should pull strong; have good clutch action and positive gear changes. Feel for any loose slop in the shifter mechanism that would indicate worn linkage bushings.

6. Being new to the car, you probably won't feel the CDS suspension system switch back and forth from normal to firm ride, but look for a red indicator light about the SPORT button on the center console. Manually switch to SPORT mode (red light will come one) and compare the ride firmness with the AUTO setting.

7. Check the Voltage gauge: should be 14.2 volts with the alternator running.

8. Oil pressure: engine cold – 55+ psi, engine at hot idle – 20-35 psi, engine hot at speed – 45-60 psi

9. Coolant temp: Up to the unlabeled index mark between 175 and 230F . . . (about 210F) max. Radiator fan should be on with temp that high. At speed on the road, look for about 185F. Fan should come on low speed at 195F, and high speed at 205F.

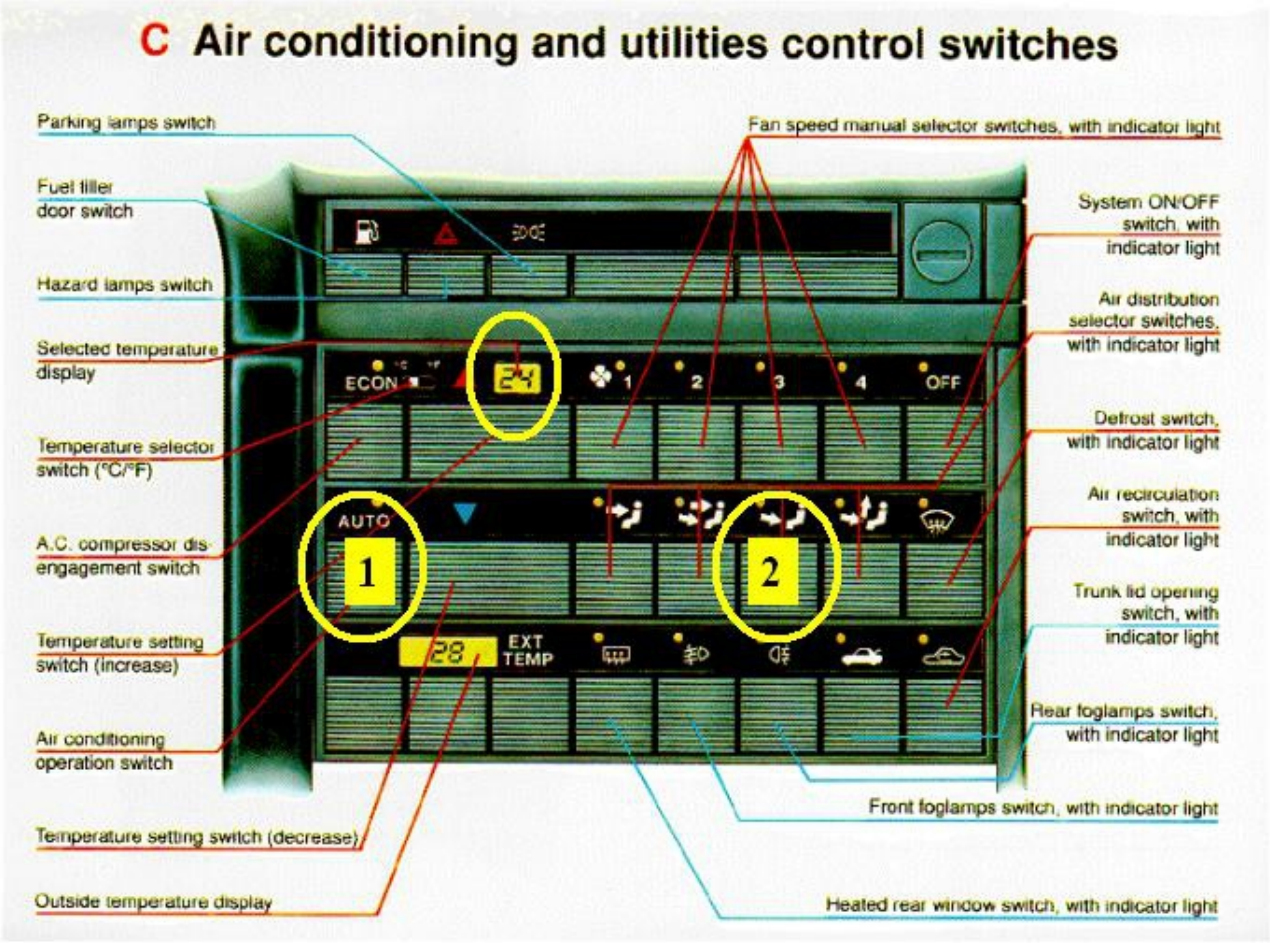
10. Run the air conditioner. Have the owner demonstrate operation of the HVAC system. If the air blowing out the vents can't change vents, then the stepper motors are almost certainly inoperative.

11. Open the driver's window and see if you smell any gas fumes. If you do they're probably being sucked into the passenger compartment from a leaky vent hose in the trunk, or leaky flange on the fuel tank and being vented out the driver's window.

11. After the test drive check for leaks under the car.

Appendix 2

Alfa Romeo 164 HVAC Panel Test



To perform the test:
1. Ignition Switch: RUN position
2. Simultaneous press buttons labeled 1 and 2.
3. Then release button 1, then button 2 successively

All lights should flash for 20 seconds.
If any malfunctions are present, the display will show how many.
To display the code for each malfunction, press button 2. You will get a two-digit code for each malfunction. (see malfunction codes below)

When finished, press button 2 again to return to normal operation.

HVAC Malfunction Codes

CODE	MALFUNCTION
1U	Open circuit on cabin air temperature sensor.
1C	Cabin air temperature sensor shorted to ground.
2U	Open circuit on external air temperature sensor.
2C	External air sensor shorted to ground.
3U	Open circuit on mixed air temperature sensor.
3C	Mixed air sensor shorted to ground.
5U	Open circuit on air mixing door motor.
5C	Air mixing door shorted to ground.
6U	Open circuit on air distribution door motor.
6C	Air distribution door shorted to ground.
7U	Open circuit on re-circulation door motor.
7C	Re-circulation door motor shorted to ground.
8U	Open or short circuit between speed regulator and electric fan.
8C	Faulty speed regulator. Short between speed regulator and control unit.
EU	Faulty control unit. Replace control unit Q21A

Appendix 3

The following matrix shows the primary differences between the "L" (Lusso/Luxury) and "S" (Sport) model 164s. Some "B" (Base) models were sold which had cloth interior and basic equipment and are not covered here.

	"L" Model	"S" Model
Exterior	Avail in more colors than "S" Standard wheels	Spoiler on rear trunk lid Ground effects trim Only avail in Red, Black, or White Speedline wheels Dual exhaust tips
Interior	Standard leather seats	Better seats with bolsters Red stitching on leather dash and door trim
Suspension	Standard struts	Adaptive suspension with dual selectable modes, auto (normal) and sport (firm) ride
Engine	183 HP standard compression	200 HP high compression
Transmission	Automatic or 5-speed Manual w/ standard-duty clutch	5-Manual only w/ heavy-duty clutch