



Audi Club NW Newsletter June 2006

www.audiclubnw.com

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UPCOMING CLUB EVENTS

Social Events

Audi Expo 2006

Summer Picnic/Annual Meeting

Fall Wine Tour

Driving Events

Bremerton

Quattro Fest PIR

Date

June 24

August 19

TBD

Date

Sept. 9, 10

Nov. 3, 4 and 5

Location

Burien, WA

Mercer Island

Willamette Valley, OR

FEATURE ARTICLE

Bremerton Spring Getaway—Observations from a Fellow Participant Submitted by Carrie Steward

My story is for other women out there who are thinking of participating in one of these events in the future. I am in my early forties and had never done any performance driving before. My previous daily-drivers were a diesel Volkswagen Rabbit and a Honda Accord so the world of luxury and performance in an Audi is very new to me. From the day we ordered our S4 we talked about taking it to the track but once the Bremerton Spring Getaway weekend arrived I was very nervous! I was nervous that we would damage the car, and I was nervous that I would embarrass myself in front of a bunch of more experienced drivers that would laugh at me. Well, luckily enough, none of those things happened. When we gathered on Saturday morning I was glad to see quite a few other women in the driver's education course. I was nervous before driver's ed and then I was nervous again before autocross and then I was nervous again before lapping but realized that most of that nervousness was due to the unknown, not due to any fear of damage to the car or ridicule by others. Once I was in the car and performing the exercises I wasn't nervous any more and I had a lot of fun. The instructors were very patient and constructive in their feedback and I never felt criticized or pushed to do something I wasn't comfortable doing. The more experienced drivers were very friendly and helpful and I came to realize that we were all gathered for a common reason...we own awesome cars and we were there to have some fun with them. I had a lot of fun and found that my

apprehensions were all unfounded. If anyone, especially women, are thinking of participating in one of these events I would say do it!

PREVENTATIVE MAINTENANCE; CHICKEN SOUP FOR THE AUDI'S SOUL

Provided by Matrix Integrated

You may have heard your service/repair facility mention the words "Preventative maintenance" and wonder why you should spend money on your vehicle before something actually breaks. Well, more often than not, preventative maintenance actually costs less than fixing a broken component. This is especially true when it comes to components involved with your engine. Most late model Audi's have components incorporated with other components and systems incorporated into other systems. When one component (or system) fails prematurely, it can often affect or damage other components (or systems). Let's look at some common late model Audi components/systems that we constantly see needing attention at our facility.

--CV boots

Many items on your Audi are made of rubber or have gaskets comprised of rubber. With age and through the changing seasons (warm weather to cold weather), the rubber will start to crack and will eventually rupture. This is a common with your CV (constant velocity) boots. Over time, the rubber boots will start to crack (in between the accordion-style ridges) and will then split open and begin to fling grease on the inside of your wheel and wheelwell. A new boot kit costs much less than a destroyed CV joint and is less disastrous compared to a wheel locking up due to a seized joint.

--Output shaft seal

The output shaft (propshaft) seal is located at the rear of the transmission where it meets the center driveline. It is a rubber seal which is prone to cracking over time. Once it cracks, gear oil from the center diff will start to seep and leak from it. Paying attention to fluid loss can help save you from costly transmission/center differential damage.

--Upper control arms

Most late model Audi's (ie B5/B6/B7 A4/S4s and C5 A6s) have four upper control arms (suspension links) and four lower control arms. The arms themselves are made of aluminum and have ball joints at one end which are covered by rubber boots. Just as the CV boots are susceptible to age and changes in weather, so too are the boots on the control arms. Typically the boot will start to tear around the joint and then as time goes on, there will be more play felt in the joint, to the point where the joint can fail altogether. Clunking noises from the joints will continue to increase over time and vehicle handling will continue to decrease. Faulty control arms can lead to misalignment and eventually to ball joint failure, the wheel hitting the fender, and a loss of car control.

--Tie rod ends

Similar to control arms, the tie rod ends, located on the end of the power steering rack, have ball joints surrounded by rubber boots which tend to tear and split over time.

Typically the boot will start to tear around the joint and then as time goes on, there will be more play in the joint, leading to the joint failing altogether. Grinding noises from the tie rod ends will continue to increase over time and vehicle steering inputs will continue to decline. Faulty tie rod ends can lead to misalignment and eventually to the ball joint falling out and the loss of steering and car control.

--Brake rotors/pads

Your brake rotors and pads are friction items which means they will wear down over time. Most Audi front brake pads have wear sensors which are cast into the pad. Most Audi rear pads do not have wear sensors and should be inspected every time the car is serviced. When this sensor is cut by the rotor due to the pad wearing down, a brake pad warning light will appear in your instrument cluster, alerting you that the pads need to be replaced. If you continue to drive on your pads beyond their thickness, you will notice grinding noises from the brakes. Your rotors have a minimum thickness specification and once this thickness is reached, new rotors are needed. New rotors might be needed before this specification is met if cracking has occurred (due to overheating), heat discolorations are present, and/or there is excessive rotor runout/warpage.

--Brake fluid

Brake fluid is hygroscopic which means it absorbs water and it will absorb that moisture from the water present in the atmosphere. Old brake fluid or fluid contaminated by water can lead to a mushy brake pedal and poor stopping distances. Brake fluid should be inspected for the amount of moisture it contains as well as its color. If your brake fluid is dingy brown, then you should have the brake fluid flushed and replaced with fresh fluid. Bottom line, regardless of color, your brake fluid should be changed at least every two years.

--Tires

Tires literally keep your vehicle in touch with the road. Furthermore, tires are the only component on your Audi that actually stop your vehicle (brakes merely help slow you down). So, needless to say, good tire condition is critical to your safety and to the safety of other vehicles around you. Tires are produced with wear bars that help educate you when your tread depth has reached minimum thickness. Driving on tires that are below the wear bars can cause hydroplaning, a flat tire, and possible tire blow-outs. Be on the lookout for irregular treadwear patterns as well. These can indicate other issues such as misalignment due to faulty tie rod ends or other worn suspension components. One of the most overlooked aspects of tires is air pressure. Low tire pressure can cause the vehicle to pull to one side or another as well as increase tire wear. As well, the Department of Energy estimates that the average vehicle owner can improve fuel economy by 3.3% by keeping tires properly inflated. So, keep your tires in good condition and they will keep you and your vehicle on the road.

--Timing belt/water pump/thermostat/coolant

Most late model Audi engines are interference engines. This means that the valves in the cylinder head and pistons in the engine block would collide (interfere) with each other if they were not kept in time by the timing belt. One of the most catastrophic failures your

vehicle can endure is a broken timing belt (For a standard V6 Audi engine, a repair bill would be over \$5000 parts and labor). When the timing belt shreds and snaps, the valves make contact with the pistons, usually bending the valves. If the timing belt breaks while you're driving spiritedly (high RPM), the head of the valve can possibly break off and bounce around in the cylinder, damaging the piston and perhaps other components.

Unfortunately there is no good way to inspect and predict timing belt life so we base our recommendations off of mileage. Audi used to recommend the timing belt service at 100,000 miles and they have now dropped it to 80,000 miles. Based on the client vehicles we have seen at our facility, we recommend the full timing belt service (timing belt items, water pump, thermostat, and coolant) every 60,000 miles as a preventative maintenance measure. For most vehicles, there is a considerable labor savings in changing the water pump and thermostat at the same time as the timing belt items. For many vehicles (B5 A4/S4, C5 A6 V6/V8), the water pump is the culprit for premature timing belt failures. Since the timing belt drives the water pump, and if the water pump bearing seizes, the timing belt will start to shred and then valves collide with pistons.

Moreover, ensuring that your coolant is not dingy or dirty brown will keep your cooling system operating at peak performance. We recommend and use the OEM Pentosin blue (G11, for pre '97 vehicles) or red (G12, for post '97 vehicles) coolant. Do NOT use the fluorescent green name brand coolants as they do not mix with the OEM G12 coolant. Mixing the name brand coolant with OEM G12 coolant will cause overheating and possible engine damage. In an emergency, top off coolant with water and service as soon as possible.

--Camshaft chain tensioner/valve cover gaskets, suction pump (breather valve)

Over time, the suction pump (part of the crankcase breather/PCV system) clogs and the buildup of excessive crankcase pressure causes the camshaft chain tensioner and valve cover gaskets to leak. Noticing the first signs of seepage around the chain tensioner and valve cover gaskets can help save some labor costs. If the seepage is noticed early on, there is a good chance that replacing the clogged suction pump could stop the seepage from turning into leaks. If not, the chain tensioner/valve cover gaskets, cam seals, and cam caps need to be replaced along with the suction pump.

If the chain tensioner/valve cover gasket leaks persist for long enough, it is possible that the excess oil usage can cause the vehicle to run rich, ruin other hoses, and even lead to a vehicle fire from oil leaking onto the catalytic converters (especially on 2.7T vehicles).

--Vacuum lines

Vacuum lines/hoses are rubber lines with a woven cloth exterior. As with any of the rubber parts we have mentioned, the rubber breaks down over time and ruptures. This rupturing will be a fairly distinct fraying of the vacuum line. Frayed/broken vacuum lines typically cause the vehicle to run too lean, throwing a check engine light on in the instrument cluster. However, a broken vacuum line can also cause your Audi to run too

rich if the engine ECU is trying to overcompensate for the leak. This can cause an excess of wasted fuel and decreased fuel economy.

If you have had your engine ECU codes scanned and are trying to locate a broken vacuum line, here's a helpful hint; if the vehicle is throwing a "system too lean" code, look for a broken vacuum line(s) after the throttle body but before the valves in the cylinder head. If the vehicle is throwing a "system too rich" code, search for a broken vacuum line(s) after the MAF(mass air flow) sensor but before the throttle body. Frayed/broken vacuum lines are a common occurrence on higher mileage Audi's, but a relatively simple and low cost fix.

Simple inspections by your service facility during oil changes can catch issues before they get out of hand. To help maintain your vehicle further, here are a few quick ways to check your Audi yourself;

- When you fill up with gas, open your hood and check the oil condition/level.
- Take note of any drips under your vehicle.
- Make sure your tires are inflated to proper specs.
- Listen for any strange noises when starting the vehicle and/or driving.
- Visit your repair facility when any abnormal lights pop up in the instrument cluster.
- Perform regular maintenance in a timely manner and on schedule.

All in all, by taking a proactive approach and monitoring the health of your vehicle, both by doing so yourself and having your trusted automotive specialist do so each time you visit them, you can significantly decrease vehicle expenses over your time of ownership.

For more technical information, please visit us at www.matrixintegrated.cc and www.matrixintegrated.cc/technical.php. Please feel to also contact us at info@matrixintegrated.cc.

LANE COURTESY

http://www.motorists.org/right/real_world_tips.html

The following provided by the National Motorists' Association

American drivers are renowned for neither understanding nor appreciating the importance of lane courtesy, i.e., slower traffic keep right and faster traffic pass on the left. If you're in the left lane and slower vehicles are in your way, give the other drivers a chance to find an opening in the right lane. Don't climb onto their trunk; signal your intentions with 4 or 5 blinks of your left directional. A brief flash of the headlights may be necessary to clarify your intentions. (See it!) If they refuse to move, don't lose your temper. Write the lane blockers off as ignorant, incompetent or inconsiderate and work your way around them as best you can. If traffic is heavy, revert to the prior recommendation on speed.

Remember, just as current day speed limits have very little to do with safety, lane courtesy has nothing to do with speed limits. If you're in the left lane and someone wants to pass, move over and let them by. Leave traffic law enforcement to the authorities.

PROPER HELMET FIT: SIX KEY STEPS courtesy of <http://www.bellracing.com/>

1. Measurement

Measuring the head is a starting point for the entire sizing procedure. Due to varying shapes, heads that are apparently the same size when measured by a tape may not necessarily fit the same size helmet.

A small metal tape measure, or a cloth tape may be used to make your initial measurement.

The circumference of the head should be measured at a point approximately one inch above the eyebrows in front, and at a point in the back of the head that results in the largest possible measurement. Take several measurements, to make sure you have the largest one.

PLEASE NOTE THAT THIS IS A ROUGH GUIDE AND NOT EXACT. THE SHAPE OF YOUR HEAD IS AS IMPORTANT AS THE MEASUREMENT WHICH MAY AFFECT FINAL FIT!

Size Cross Reference

Motorcycle Helmet Sizing Chart

YOUTH HELMET SIZE	HEAD CIRC. (IN)	HEAD CIRC. (CM)	HAT SIZE
Youth SM	19 1/2" - 20"	50cm - 51cm	5 7/8 - 6 1/8
Youth MD	20" - 20 1/2"	51cm - 52cm	6 1/8 - 6 3/8
Youth LG	20 1/2" - 21"	52cm - 53cm	6 3/8 - 6 5/8

ADULT HELMET SIZE	HEAD CIRC. (IN)	HEAD CIRC. (CM)	HAT SIZE
XS	20 7/8" - 21 1/4"	53cm - 54cm	6 5/8 - 6 3/4
SM	21 5/8" - 22"	55cm - 56cm	6 7/8 - 7
MD	22 3/8" - 22 3/4"	57cm - 58cm	7 1/8 - 7 1/4
LG	23 1/4" - 23 5/8"	59cm - 60cm	7 3/8 - 7 1/2
XL	24" - 24 3/8"	61cm - 62cm	7 5/8 - 7 3/4
XXL	24 3/4" - 25 1/4"	63cm - 64cm	7 7/8 - 8

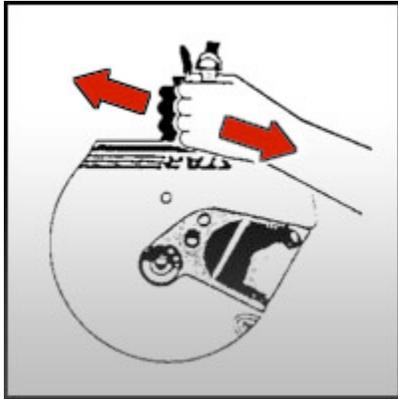
Auto Helmet Sizing Chart

ADULT HELMET SIZE	HEAD CIRC. (IN)	HEAD CIRC. (CM)	HAT SIZE
XXS	21 1/4" - 21 5/8"	54cm - 55cm	6 3/4 - 6 7/8
XS	22	56cm	7
SM	22 3/8"	57cm	7 1/8
MD	22 3/4" - 23 1/8"	58cm - 59cm	7 1/4 - 7 3/8
LG	23 1/2" - 23 7/8"	60cm - 61cm	7 1/2 - 7 5/8

XL	24 1/4"	62cm	7 3/4
M3 XTRA 8	25 1/8" - 25 1/2"	64cm - 65cm	8
M3 XTRA 8 1/4	25 7/8" - 26 1/4"	66cm - 67cm	8 1/4
M3 XTRA 8 1/2	26 3/8"	68cm	8 1/2

2. Try-On

Once you've determined your preliminary tape measurement, select the helmet that is closest in hat size to the tape measurement. If it is between sizes, round-up to the next largest size. Now try on your helmet.



If you are not familiar with helmets, you should use these instructions on the proper procedure for putting one on:

- A.** Grasp the helmet by the chin straps, with the front of the helmet facing you and the top of the helmet facing down.
- B.** Place your thumbs on the inside surface of the straps and balance the helmet with your index fingers.
- C. Spread the helmet apart with your hands, and slip it down over your head.**

Helmets of different shapes go on differently. Sometimes, the front of the helmet must go on first; other times, the rear. If the helmet flops down on your head with no resistance, you have your first indication that it may be too large. Obviously, if it won't slide down over your head at all, it is too small.

Many people unfamiliar with helmets are reluctant to pull down if they meet resistance as the helmet goes on. To tell if it is really too small, or just snug going on you should continue the effort to get the helmet on. Only if the helmet is impossible to put on should you move up to the next size, as helmets that go on snug generally fit very well once on all the way.

Remember, most people will select a helmet that is too large for them. They will regret it later, because ill-fitting helmets are more likely to be noisy, windy and fatiguing to wear.

We have noted that some people have a tendency to wear a helmet perched on the backs of their heads, like hats. Be sure that the helmet is sitting squarely on your head. Use the location of the eyes in the eyeport of a full face model as a gauge.

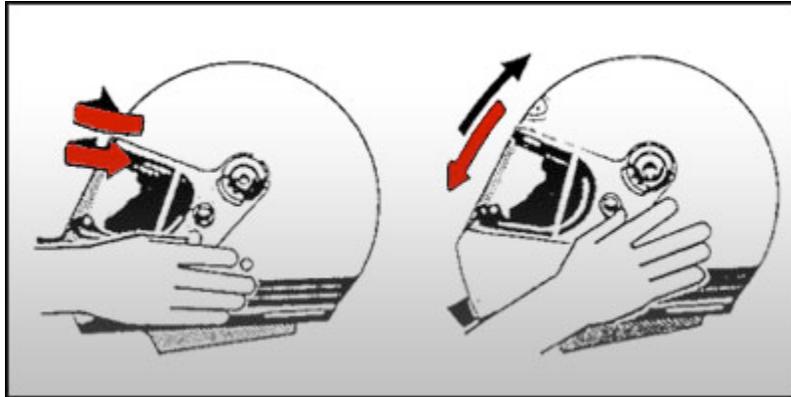
The eyes should be approximately in the center, with the top edge of the liner padding just above the eyebrows.

3. Checking Horizontal and Vertical Movement

Now that you are wearing the helmet, use a mirror to look carefully at the way it fits. Check to see if the cheek pads are in contact with the cheeks. Is there excess pressure on the cheeks?

Look for gaps between the temples and the brow pad.

Check the back of the helmet where the neck roll (if the helmet has one) makes contact with the neck. Does it touch at all? Or is it pushing the helmet away at the rear, causing it to roll down over the eyes in front?



After you have made your visual check, grab the helmet in your hands - one on either side - and try to rotate the helmet from side-to-side. Note any movement of the skin while doing this, as well as the amount of resistance to movement. Hold your head steady to do this.

Next check movement up and down, again noting skin movement and resistance. If in either test there was little or no skin movement, and/or the helmet moved very easily, the helmet is too large.

It is important to note here that you should think about the comfort of the helmet during the fitting process - with respect to comfort, pressure points, or anything else that will help you make the right sizing choice.

A properly fitted helmet will cause the skin to move as the helmet moves. And, it will feel to the wearer as if evenly distributed pressure is being continuously exerted around the head.

NOTE: Helmets are a little like shoes, in that they do break in a little. For this reason, the best attitude to have when fitting is that the helmet should be as tight fitting as you can stand to wear it - taking into consideration the length of time it will be worn.

For Example: A drag racer's helmet can be very tight, because it will only be worn for a few minutes at a time. On the other hand, a police officer, who wears a helmet for hours at a time is more concerned with comfort.

4. Retention Check

Now fasten the chin strap, so you can check it. After the strap has been tightly fastened, hold your head steady, and note that this test may be a little uncomfortable, but that it is very important. Reach over the top of the helmet, grabbing the bottom edge with your fingers. Then try to roll the helmet off your head. If it comes off, it is undoubtedly too large.

NOTE: Do not use a helmet that can be rolled off the head with the strap fastened! Try not to cause severe pain, but do give a good, strong pull on the helmet. THIS TEST IS VERY IMPORTANT

5. Pressure Point Check

Finally, unfasten the chin strap and remove the helmet. Immediately after the helmet has been removed, use a mirror to observe the coloration of the skin on the forehead and cheeks. A reddening of the skin in a small area may indicate a pressure point.

Pressure points sometimes are not noticed by the wearer until after several minutes, or even hours of wear. They sometimes cause headaches and are, at the least, uncomfortable.

If you notice a pressure point, note if you experienced discomfort in that area while wearing the helmet. If you can't remember, put the helmet back on for a few minutes, paying particular attention to the anticipated pressure point(s). If the pressure point discomfort continues, go to the next largest size, repeating steps three, four and five.

6. Confirming Proper Fit

One way to confirm your evaluation of proper fit is to try on helmets that are one size larger and one size smaller than the one you think is right. Keep in mind that people gravitate towards larger sizes.

Another way, is to wear the helmet around the store for a few minutes. This will allow any pressure points to show up.

WARNING: No helmet can protect the user from all foreseeable impacts. For maximum protection, a helmet must fit securely and should provide adequate peripheral vision. The chin strap must be securely fastened.

Questions or Comments? Email us: helmetssupport@earthlink.net

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Newsletter assembled by Mel Trenor

Please send comments or suggestions for future articles to mtrenor@hotmail.com