fast times
the newsletter of **Bavarian Autosport**
Spring 2010

Got curb rash? Repair alloy wheels yourself and save.

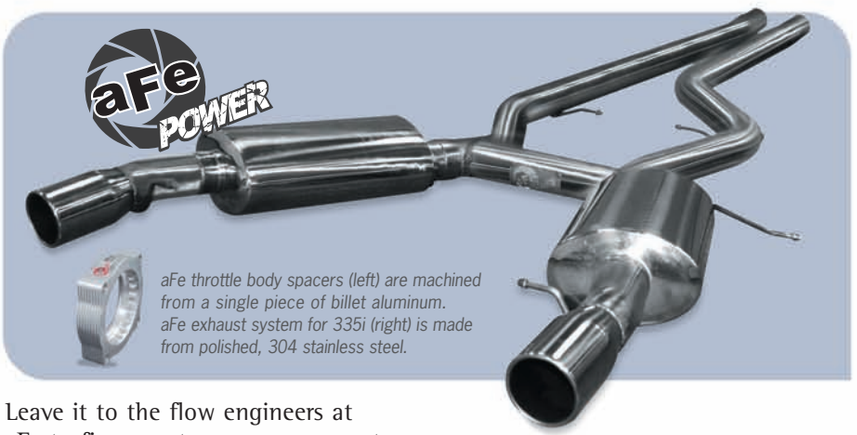
Above: Unretouched photos of the wheel on Drew's 325i showing the original curb rash and the results after using the wheel repair kit (right).

You could easily save hundreds of dollars. With BMW replacement wheels costing anywhere from $300–600 each, this kit from Europe makes a lot of sense. It lets you repair scraped or gouged alloy wheels yourself and save huge. The kit incudes a tube of wheel putty, a can of wheel paint, a can of clear coat, a set of metal files, sandpaper and more, all for just $59.95. (Psst! Order one by April 30th and we'll take $5 off the price.) And one kit can do several wheels. Drew, one of our phone reps, volunteered to test the kit on a curbed wheel on his 2003 325i. Here's his report:

> *"I finished the wheel repair this evening… This is a kit we should offer. It does take some time; the more time you spend, the better it will come out. I did my wheel on the car with the tire still mounted. It was fine, but I think it would be easier with the wheel off the car and no tire mounted on it. (If you're leaving the wheel on the car, I recommend getting extra tape to mask off a large enough area to prevent over-spray…) The color match on the paint is very close; from 5 ft. away my roommates could not tell where the repair was done. Even after I pointed out where the damage had been, it was still difficult to notice… The results are not perfect – not like putting on a new wheel – but you can't go wrong for the money. This is a product we can offer with confidence."*

continued on page 2…

NEW! aFe brings its expertise to exhausts and throttle bodies.



aFe throttle body spacers (left) are machined from a single piece of billet aluminum. aFe exhaust system for 335i (right) is made from polished, 304 stainless steel.

Leave it to the flow engineers at aFe to figure out even more ways to improve your car's power. And leave it to Bavarian Autosport to put them on sale:

1. 335i stainless steel exhaust provides an additional 11 hp and 10 ftlb of torque. Made from highly polished 304 stainless steel, this system utilizes a unique crossover pipe that helps equalize exhaust pressure and tunes the exhaust pulse. Includes dual 3.5" stainless steel tips and a Pro 5R performance air filter for maximum flow. Normally $1194.95 – now $1074.95.

2. Aluminum throttle body spacers increase power by 5–6 hp and 2.5–3.5 ftlb of torque. Precision machined from single pieces of billet aluminum, their unique, serrated helix design improves throttle response with no annoying whistle like other spacers. Available for newer V8 engines on 5 and 7 series 99 thru 08, 6 series 04 thru 08 and X5 00 thru 06, as well as 135i, 335i/xi and 535i/xi thru 08. Normally $129.95–149.95, they're now just $116.95–134.95.

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BAVARIAN autosport
PRODUCTS FOR BMW ENTHUSIASTS

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How easy is this?!

do-it-yourself

(continued from page 1)

Thankfully, Drew took pictures throughout the repair process. We present them here as we explain, step by step, how to use the kit to repair your own, damaged alloys. *Note: paint matches BMW silver wheels; not for use on shadow chrome, brilliant line, etc.*

1. *The damage the curb did to Drew's wheel (above) is pretty typical and includes gouges, scrapes and protruding ridges of metal. Drew began the repair by using the metal files to remove the ridges, smooth off the rough edges and clean up the gouges and scrapes.*

Note: *For this repair, Drew used the full kit that includes the files, sand paper, clear coat, etc. We recommend this kit for most repairs. If you already own a set of small metal files and a can of clear coat, we also offer a micro kit that includes just the putty and wheel paint, or you can get a tube of putty only. Just be aware that the files, sandpaper, etc. are not offered separately so you would not be able to order those later.*

"... you can't go wrong for the money. This is a product we can offer with confidence."

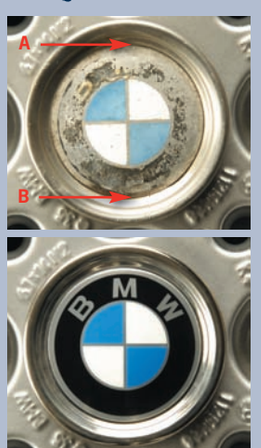
2. *After masking off the wheel, Drew applied the putty to the damage, pressed and smoothed it with his fingers and allowed it to harden for a couple of hours. Once hardened, the masking is removed and sandpaper is used to shape and smooth the putty to match the rest of the wheel.*

3. *Prior to painting, more masking was applied to prevent overspray from getting on nearby surfaces.*

4. *The picture at right shows the repair right after it had been painted. If you look closely, you can see a very slight ridge on the inside, where the repair meets the wheel surface. Drew says had he not been in a hurry to complete the repair in time for our New Products meeting, he would have taken more time when sanding. Still, the results are quite impressive: take a long look at the picture below and see if you can figure out where the repair was made.*

Remember: *now through April 30th, save $5 on a complete wheel repair kit – originally $59.95, it's now just $54.95.*

Replace those nasty wheel emblems.



Top: old, faded wheel emblem. Bottom: same wheel with new replacement emblem. When taking a measurement, include the outer silver ring.

Once your wheels have been repaired, cleaned and are all shiny and new-looking, don't let yellowed, faded or damaged emblems ruin their appearance. Replacing wheel emblems is a simple job – just peel off the old ones, clean up the residue and stick the new emblems on. BMW makes several sizes of replacement wheel emblems. How do you know which size is the one for your wheels? Just measure the diameter of your existing emblems. Measurements should be taken in millimeters (mm) from the top of the emblem *(point A at left)* to the bottom *(point B)*. Listed below are some common sizes of replacement emblems. If you don't see your size listed here, ask your phone rep or find it online.

BMW wheel emblem, 45mm	36 13 1 181 082	$5.95
BMW wheel emblem, 58mm	36 13 1 181 081	$6.95
BMW wheel emblem, 64.5mm	36 13 1 181 080	$7.95
BMW wheel emblem, 68mm	36 13 6 783 536	$9.95
BMW wheel emblem, 70mm	36 13 1 181 079	$6.95

Special Purchase!

Mintex Xtreme brake pads.

Did you know that Mintex makes high-performance pads called Xtreme? These are primarily track pads with a high-friction compound that fades very little at high temperature (up to and above 500 degrees C). But the pads also offer surprisingly decent stopping power when cold, making them fine for street use by skilled drivers (and you know who you are). We have been selling Mintex replacement brake pads for many years but have not offered the Xtreme. So when Mintex decided to stop selling Xtreme pads in North America, they offered us all of their remaining U.S. inventory at a really great price. As a result, we can offer them to you at a really great price, too. Originally $84.95–169.95 a set, they're now only $59.95 a set... and available only from Bavarian Autosport. To find out if we have Xtreme pads for your BMW or MINI, call us or visit www.BavAuto.com.

Fair warning: these pads are not for everybody – brake dust, noise and rotor wear are moderate. Limited quantities – first come, first served.

🔧 Very simple installation. 🔧🔧 Relatively simple; your BMW may need to be raised.

from our tech team

ask "bavarian otto"

Over 240 years of BMW experience is just a phone call or e-mail away.

If you add up all the years the enthusiasts at Bavarian Autosport have been working on BMWs and MINIs – and helping people like you work on theirs – it totals well over 240 years. That's a lot of knowledge under one roof. And it's all yours for the asking. Have a question? Ask that savvy, BMW and MINI enthusiast, "Bavarian Otto" – just call 800.535.2002, e-mail Otto@BavAuto.com or check out our new blog at blog.BavAuto.com

I want more exhaust without exhausting my bank account. 🔧🔧

Dear Bavarian Otto,

I just bought a 2004 330cic and the sound of the exhaust system, inside the car with the top up, is really wimpy like a Dodge mini van. How can I make it more robust sounding without breaking my piggy bank?

Kim S.

Otto replies:

We can offer you multiple choices for a direct-fit muffler upgrade for your 330cic. The simplest systems mount right in place of the original muffler and not only add a moderate amount of power but emit a much more performance-oriented sound... without being too loud. The Scorpion exhaust is the most affordable at $499.95. [Ed. note: Now on sale for $449.95 thru April 30.] *It is a 100% stainless steel system made in England. It comes with a limited lifetime warranty and your choice of two tip styles: a single oval tip or twin round tips. We show you how to install a muffler yourself in the Spring 2008 issue of* Fast Times, *which you can read at www.BavAuto.com/newsletter.*

An emblem-atic problem. 🔧

Dear Bavarian Otto,

While driving down the road I saw the paint fly off the logo on the hood ornament. Is that crazy or what? I stopped to see what had happened and indeed the paint has been taken away by almost 96%. I noticed a small puncture in the emblem – maybe a rock hit it and created a pocket of air and caused the paint to fly off. How do I replace it? What tools do I need? Thanks.

Dan M.

Otto replies:

It's not uncommon for original BMW hood emblems to come apart as yours has. Replacement is easy. All you need is a new BMW emblem, two of the plastic emblem grommets and a pry tool. (We offer a couple of nylon pry tool sets – #ST 9007 and #ST9029 – that won't scratch the paint on your hood.) We show you how to do it in the Summer 2004 issue of Fast Times *(www.BavAuto.com/newsletter). We have also made a short video that shows you how to do it. You can watch the video on our web site – enter your year and model, search for* hood emblem *and click on "more info...". Or go to www.YouTube.com and search for "Bavarian Autosport". You might also consider getting our invisible emblem shield (#ES 375) to prevent the same thing from happening again.*

Simple questions deserve simple answers. 🔧

Dear Bavarian Otto,

How do I replace the spark plugs on my 1998 528i?

Ruben.

Otto replies:

Changing the spark plugs on your 528i is a simple task that can save you a lot of money over what a dealer would charge. We show you how to do it in the Spring 2005 Fast Times. *Go to www.BavAuto.com/newsletter and click on 2005 in the newsletter archives. (Note that you should change the spark plug connector boots, too, so don't forget to order those as well.)*

Really? Pads *and* rotors? Every time? 🔧🔧

Dear Bavarian Otto,

Recently I had my 2000 528i serviced at the BMW dealership. The service manager told me my brakes will need replacing within the next 2-4 thousand miles. Ok, no problem. However, he said the rotors and pads should be replaced as a set. I questioned that statement and the response was BMW designed the brake rotor and pad to be replaced together. Is this true? I understand that all-new is better than part-new, but replacing the rotors every time the pads wear out seems excessive and expensive.

John L.

Otto replies:

While it can be a good idea to replace brake rotors when replacing pads (due to poor wear patterns or excessive wear), this is not a requirement in all cases. If the rotor wear surface is nice and smooth and there is no warpage in the rotor, you can use the old rotors with a fresh set of pads... as long as the rotor is thicker than the specified minimum (stamped into the rotor's edge). This is a job you can easily do yourself and save hundreds of dollars. Take a look at the Spring 2008 Fast Times, *which contains a step-by-step DIY article on replacing pads and rotors. You can find it at www.BavAuto.com/newsletter. If you're not replacing the rotors, all you would need is a set of new brake pads, a brake sensor wire and a can of Noise Free. (Time saver: This would be a good time to do a brake fluid change. See how easy a job this is in the Summer 2004* Fast Times.*)*

Bavarian Profile

Cheryl Jones

It was early one January when Cheryl accepted a position at Bavarian Autosport, thinking it would be a job she'd take for a few months until something better came along. To her surprise (and our delight), she liked the job so much she decided to stay. That was 12 years ago. Today, Cheryl is one of the key people in our Purchasing department, placing hundreds of special and drop-ship orders every day. (If you've ever received a set of custom mats in 10 days instead of four weeks, you can thank Cheryl.) Prior to joining Bavarian, Cheryl lived and worked all around the country, including stints in Lawrence, MA, Falls Church, VA and Ogunquit, ME. She has seven grandchildren and recently signed up for kick-boxing and self-defense lessons. (Any correlation there, Cheryl?) She also does archery and eventually wants to get into competition. And while she does not own a BMW, she has driven them in BMW's Ultimate Drive for the Cure and says if she could own any model, it would be a 3 series convertible. (Why couldn't we have had a grandma like that?)

🔧🔧🔧 Specific tools needed; repair experience recommended. 🔧🔧🔧🔧 Experienced technicians only.

Proper tire care, part 2: For longer tire life, reduce negative camber. 🔧🔧🔧

See if this sounds familiar… As you pass by your BMW or MINI, checking out the smart lines of the body, the tires look just fine to you. And when you clean the wheels and the tires, or add some air, the tread blocks look nice and deep. Then just a short time later, you are under the car and discover with some amazement and disbelief (or you are told by a technician) that the tires need to be replaced – to the tune of several hundred dollars – because the insides of the tires are completely bald! *(See Fig. 1.)* How can this be? You've driven only a few thousand miles on them, or had them on the car for just a couple of seasons of use… and the outside tread looks almost new! Welcome to the world of negative camber.

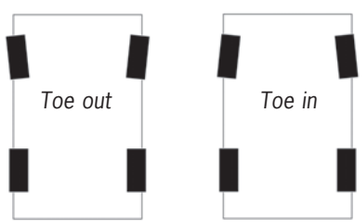

Figure 1

The suspension on our BMWs and MINIs is designed to deliver comfort, performance, safety and economy. These four considerations do not always make good bedfellows, and the chassis designers must compromise on one or more of these goals. For example, comfort and performance require lightweight suspension components (in comparison to chassis weight). This results in a trade-off in long-term durability plus sensitivity to issues that can cause vibrations. Similarly, designing for performance requires suspension geometry and alignment specifications that may cause accelerated wear on components – not the best for economy.

Our BMWs and MINIs are designed to be comfortable and safe at high speeds on unrestricted highways, tricky mountain roads and those beautiful, country two-lanes that point to destinations yet unknown. To be safe in all of these scenarios, the chassis and suspension must be designed primarily for performance. This is accomplished through the suspension geometry design (how the suspension parts move as the suspension is compressed and extended) and the wheel alignment. What is wheel alignment? It is how the wheel/tire and the suspension members are sitting when the vehicle is at rest. There are three main elements in alignment – Toe, Caster and Camber, explained below.

Toe: This is the angle that the front and/or rear wheels have, when looking from above *(Fig. 2)*. Like looking down at your feet, your toes are toward the front. If the toes of your feet are further apart than your heels, you are "toe out." If your toes are closer together than your heels, you are "toe in." Thus, if the fronts of the front wheels/tires are farther apart than the rear of the tires, this is called toe out, and if the fronts of the tires are closer together than the rears, this is toe in.

Figure 2



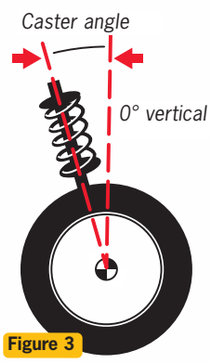


Figure 3

Caster: Caster, which is measured in degrees, is essentially the angle between 0° vertical and the inclination of the strut when viewed from the side of the car *(Fig. 3)*. If the strut is perfectly vertical, that would be zero degrees caster. If the strut is tilted toward the front of the car, the caster is negative. If the strut is tilted toward the rear, it is positive. A caster angle that is too far negative can make the steering feel light; too positive and it can feel heavy. Properly adjusted caster allows improved high-speed directional stability, better steering response, quicker turn-in, reduced "dive" on braking and reduced "lift" on acceleration.

Getting rid of your run-flat tires? Don't forget to add a spare.

Not sure if you have run-flat tires? Look for the run-flat markings on the sidewalls of the tires.

Run-flat tires have very strong sidewalls that allow a car to be driven several miles even when there is no air in the tire. While this improves safety, it degrades ride quality; almost every imperfection in the road creates a jarring impact that is felt by the occupants. Ever since the first BMWs and MINIs with run-flat tires appeared in showrooms, drivers have been complaining about ride quality and wondering what they can do to reduce the harshness of their ride. The most popular course of action is to replace the run-flat tires with standard tires. However, before you simply dismount your run-flats and mount new tires, consider this: BMWs and MINIs that are produced with run-flat tires typically have no spare tire or jack. (We have received more than one phone call from customers standing on a busy highway, staring at a flat tire and asking where BMW hid the spare and the jack.) If you've replaced your run-flat tires with regular tires, or are considering doing so, don't be caught by surprise – get one of our spare tire kits *(left)*. It consists of a BMW compact wheel, 4" wide tire, a BMW jack and a lug wrench. Or you use the BMW M Mobility kit (standard on M3 and M5) – it consists of a 12-volt compressor (plugs into cigarette lighter), in-line tire gauge and tire sealant. For more details, ask your phone rep or visit www.BavAuto.com.

Camber: This is the angle that the wheels/tires make when viewed from the front or rear of the car. If the wheel/tire is perfectly vertical it has zeros degrees of camber. If the top of the wheel/tire tilts outward, this is positive camber. If the top of the wheel/tire tilts inward (toward the center of the vehicle), this is negative camber. Too much negative camber causes the inside of the tire to wear much faster than the outside. This is especially true on BMWs and MINIs which come from the factory with comparatively high negative camber for better control at high speeds. In this case, economy had been compromised – you have to replace your expensive tires more often. This is especially true of BMWs and MINIs that have been lowered *(Fig 4)* and/or have plus-size wheels and tires.

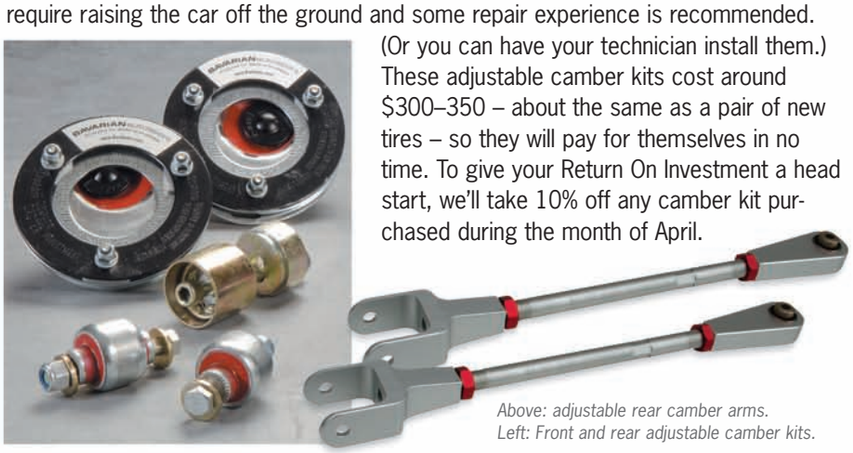
🔧 Very simple installation. 🔧🔧 Relatively simple; your BMW may need to be raised.

What can be done to prolong tire life?

In the Winter 2009-2010 issue of *Fast Times* (www.BavAuto.com/newsletter), we discussed several simple things you can do, including checking tire pressure regularly and rotating the tires. But you can also alter the factory camber specifications to reduce the negative camber.

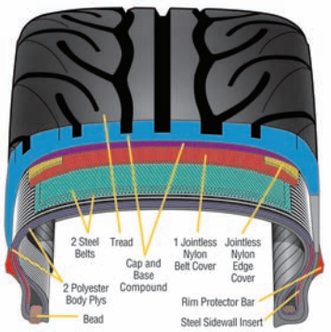
Why would you recommend altering the factory camber setting? Doesn't BMW know what's best for the car that they designed? Well, yes and no. As discussed previously, alignment specs are a compromise that is heavily weighted toward high-speed handling and safety. In North Amercia we do not have very high speed limits. If your BMW or MINI is more of a daily driver than a race car, you can modify the camber to increase tire life without reducing handling or safety. The BMW camber specifications generally run around 0.5 degree negative at the front, and 1.5 to 2.0 degrees negative at the rear. Front tires typically do not wear faster on the inside, but the camber in the rear will chew up tires much faster than is necessary for most drivers. When we reduce the negative camber to a more tire-friendly setting, we greatly increase tire life. For maximum tire wear, a constant effective camber of zero degrees would be perfect. However, due to tire dynamics and performance considerations, we do not want to simply adjust the static camber to zero degrees. A good rear camber setting for increased tire wear is about 0.5 degree negative, like the front. This will provide an excellent balance between tire life and street performance and safety. There's just one problem – most BMWs and MINIs do not have provisions for camber adjustment at the rear. (Minor adjustment is available on some of the newer models, but typically not enough to get to our desired 0.5 degree negative.)

The solution? We offer adjustable bushing mounts and/or control arms that allow you to change the camber. While these kits are considered "bolt-on," installation does require raising the car off the ground and some repair experience is recommended. (Or you can have your technician install them.) These adjustable camber kits cost around $300–350 – about the same as a pair of new tires – so they will pay for themselves in no time. To give your Return On Investment a head start, we'll take 10% off any camber kit purchased during the month of April.



Above: adjustable rear camber arms.
Left: Front and rear adjustable camber kits.

Another weapon in the fight against negative camber: the design of Yokohama Advan tires.



In addition to proper inflation, tire rotation, proper alignment and camber correction, we do have another option in the war against uneven tire wear. A few tire manufacturers have designed some of their ultra-high performance (UHP) tires specifically to compensate for excessive negative camber without quickly chewing off the inner tread areas. A good example of this is the Yokohama ADVAN line of tires, where the sidewall has been designed in such a way that it does not compress and distort under the uneven inner loading of the negative camber caused by performance suspensions. This does not completely eliminate the accelerated inner tread wear – it simply reduces the difference in wear between the inner and outer tread blocks so you get more useful tread life.

Product Focus:

"Double-custom" floor mats?

Custom fit + custom embroidery! Whether you choose our popular Plush mats, our rugged yet stylish Berber mats *(above)*, or our super-plush Ultimate mats, each set is:

- cut to fit your model precisely.
- finished with serged edging.
- backed by our unbeatable Lifetime Warranty.
- available four ways: plain, embroidered with the Bavarian Autosport logo on the front mats for no charge, and custom-embroidered with model numbers or letters on the front mats for an additional $25.

Choose your BMW's model number, or up to 12 letters in your choice of block or script style.

Now through April 30th we're offering custom embroidery for just $10. Normally $124.95–164.95, these mats are now just $109.95–149.95. For more details, give us a call or visit www.BavAuto.com.