

# fast times

the newsletter of Bavarian Autosport

Spring 2015

## Replacement rotors & pads from the world's top performance brake company – Brembo.

Brembo has a reputation as the world's leading developer and manufacturer of brake components and high-performance braking systems. Founded in 1961, their high-performance brake kits have, for decades, been the yardstick against which all other braking systems are measured.

Brembo also designs and manufactures brake components used as original equipment on many BMWs, as well as numerous other high-performance marques.

Recently, Brembo began offering stock replacement brake rotors and brake pads for BMWs and MINIs, applying their high-performance expertise to daily drivers.



**Designed to perform – built to last.** All Brembo replacement rotors are engineered to meet or exceed OEM specifications, so you know they'll perform just as well as your car's original rotors... and yet Brembo rotors cost less than BMW and MINI rotors.

Specifically designed for the North American market, Brembo's brake pad friction compound is made of over 100 materials. Once molded, it is thermal scorched to minimize fading and the need for running-in. Multi-layer steel and red elastomer shims (*right*) minimize vibrations and noise. Plus you get a Brembo decal in every box!



Brembo replacement rotors are available for a wide range of BMWs and MINIs; Brembo replacement pads are available for several applications. You can buy them separately or, depending on your year and model, as a complete replacement kit (*below*) that also includes brake rotor hold-down bolts, new brake sensor wires and Noise Free (brake pad anti-squeal treatment).

Now thru April 30th, take 10% off Brembo replacement rotors and pads. Install them yourself and save even more. See how easy it is in Otto's DIY video (see URL below).



▶ DIY video – replacing rotors & pads:  
[blog.BavAuto.com/go/brakejob](http://blog.BavAuto.com/go/brakejob)

## Did winter do a number on your paint and wheels?



You (yes, you) can repair the damage yourself and save hundreds, if not thousands of dollars over what a body shop would charge. See page 2...

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# Do-it yourself

repairing paint chips | repairing alloy wheels

## DIY: An easy and inexpensive way to repair chips and scratches in paint.



When we hand-wash and detail our BMWs and MINIs, we notice the graceful curves of the quarter panels transitioning into the tail, or the way the belt line works into the front wheel arches. We also notice all the little imperfections such as paint chips and scratches in the hood, fenders, etc. The cost to have a body shop repair these imperfections can easily run into four figures. While a full body shop repair is, of course, the

best way to fully eliminate these paint chips and imperfections, we offer some paint repair kits that can make the damage nearly invisible to most viewers for about \$60. And while you may have seen hoods that look like they have a bad case of poison ivy after someone blobbed on touch-up paint, you don't have to worry about that with these repair kits. They use what amounts to a chemical sandpaper that eliminates blobs before the paint completely dries. Watch Bavarian Ottos' DIY paint chip repair video (*bottom*) to see how easy and inexpensive these repairs can be.

### Got a lot of paint chips? Dr. ColorChip™ Road Rash repair kits

**to the rescue!** The Dr. ColorChip "Road Rash" paint repair system was developed so car dealers could recondition trade-ins. It's ideal for cars that have many paint chips to fix. With a Road Rash kit, you can repair complete areas – front of the hood, nose panel, bumper, leading edges of fender flares, etc. – without needing to work on each chip individually.

We offer four different kits: Basic (for up to a dozen chips); Standard (for one to two dozen chips); Deluxe (for more than 24 chips) and Squirt & Squeegee (for cars with hundreds of chips).



Now thru April 30th, save \$5 on the Dr. ColorChip Deluxe kit and the Squirt & Squeegee kit. Normally \$59.95–64.95, they're now just \$54.95–59.95. (When ordering, please specify your BMW/MINI color code.)



DIY video – repairing paint chips:  
[blog.BavAuto.com/go/paintchip](http://blog.BavAuto.com/go/paintchip)

## DIY: Repair gouges and scrapes on your BMW's/MINI's silver alloy wheels.



"Aw, #\$\$&!!!" You just scraped one of your wheels on a curb. We know exactly how you feel. That's why in 2009, on one of our trips to Germany, we were excited to discover a new wheel repair kit. It claimed to let you repair scraped or gouged BMW and MINI silver alloy wheels all by yourself, with excellent results. We were a bit skeptical, but with replacement wheels costing anywhere from \$300–600 apiece, if this kit worked 75% as well as was claimed, it could save BMW and MINI owners a ton of dough.

We brought a kit home with us and gave it to one of our Advisors to test. He was very impressed, saying, "From 5 feet 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." We published his findings in the Spring 2010 issue of *Fast Times*.



DIY video – repairing curbed wheels:  
[blog.BavAuto.com/go/wheel-repair](http://blog.BavAuto.com/go/wheel-repair)

Then last year we asked Bavarian Otto to make one of his famous DIY videos showing how to use the Wheel Repair kit. In the intervening months, his video has been watched more than 75,000 times. Check it out yourself (*left*) and see how easy it is...

Now thru April 30th, save \$5 on the full Wheel Repair kit – normally \$59.95, now just \$54.95.

## Free Griot's Garage gear!

Griot's Garage was recently named the Official Car Care Products of the BMW Car Club of America. If you've never tried their products, April is a great time to do it with two great offers of "free with purchase!" For more details see page 8...



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



# Ask "Bavarian Otto"

from [blog.BavAuto.com](http://blog.BavAuto.com)

Over 300 years of BMW/MINI experience is yours for the asking - free!



If you add up all the years the Advisors at Bavarian Autosport have been working on BMWs and MINIs – and helping people like you work on theirs – it totals well over 300 years. That's a lot of knowledge under one roof. And it's yours for the asking. Have a question about your BMW or MINI? Search Bavarian Otto's knowledge base of more than 1,000 tech Q&A at [blog.BavAuto.com](http://blog.BavAuto.com), or call 800.535.2002.

## The face is familiar, but the suspension... not so much. ⚡

Dear Bavarian Otto,

I've been noticing some vibration coming from the front end of my 2006 530xi. Having been an avid reader of your newsletters for many years, I determined the cause of the vibration was likely worn control arm bushings. I remembered you made a video about replacing control arms on E60s [Ed. note: 5 series 04 thru 10] so I watched it, ordered the parts and put my Bimmer up on jack stands, only to find that my all-wheel drive BMW doesn't look like the one in the video... Please help – the parts will be here soon!

Matt H.

Otto replies:

Our BMW suspensions are very susceptible to vibrations induced through worn bushings, ball joints, wheel bearings and tire and wheel issues. As you correctly noted (A+ for paying attention!), the most common source of front-end vibration is weak control arm bushings. These bushings absorb all of the vehicle's front-end loading during braking, cornering and even steady highway driving. With age and mileage, the original bushings become weak (although they may look just fine) and allow the control arms to oscillate, creating the vibration, or shimmy, that we feel. The video you watched ([blog.BavAuto.com/go/control-arm2](http://blog.BavAuto.com/go/control-arm2)) was for E60 cars WITHOUT all-wheel drive. The design and construction of the control arms on your 530xi are

different (as you found on your initial inspection). However, don't despair – your timing is perfect: I recently posted another DIY video that shows how to replace the control arms on E60/61 xi (all-wheel drive) models. You can find it on our tech blog at [blog.BavAuto.com/go/control-arm3](http://blog.BavAuto.com/go/control-arm3).



## I've got the part in my hands... now what? ⚡

Dear Bavarian Otto,

I have never replaced a thermostat in a 2003 525i, is it hard? Got any tips or pics of this? I ordered the thermostat from your catalog and have it now... Hope you can help!

Sherman P.

Otto replies:

The thermostat replacement on the M54 engine (the 2.5 liter 6-cylinder in your 525i) is relatively easy. Note that the thermostat and the housing are

all one piece (the thermostat is electric). Earlier this year we made a video about replacing the water pump on your M54 engine, which includes a segment about replacing the thermostat. We took that segment and made it into its own video. You can watch it at [blog.BavAuto.com/go/thermostat1](http://blog.BavAuto.com/go/thermostat1).



## Spring is in the air... and air is in the spring! ⚡

Dear Bavarian Otto,

In your last newsletter I saw that you now offer replacement air springs for my X5. Can a somewhat handy person install these himself (myself)?

Mark R.

Otto replies:

Yes. Air springs are relatively easy to replace on most models. (Some can be a bit more involved due to clearance issues and/or interior trim panel removal.) We've posted a how-to video at [blog.BavAuto.com/go/air-springs1](http://blog.BavAuto.com/go/air-springs1).

## product focus

### Get a rebate from Pirelli plus a chance at a trip to Italy!

Pirelli is one of the world's premier manufacturers of HP (high-performance) and UHP (ultra high-performance) tires. Here at Bavarian Autosport, we've been offering Pirelli tires for nearly 20 years. In our experience, nothing out-performs Pirelli UHPs in the warm weather. (A leading consumer magazine recently rated the Pirelli P Zero Nero as the top performing summer tire.) Pirelli tires have also been original equipment on many BMW models. It makes sense, then, that they now offer "homologation" tires that have been approved as direct replacement for original tires, (even if those weren't Pirellis). Their P7 Cinturato All-season Plus tire, for example, delivers the quiet comfort and road-gripping performance your BMW or MINI craves, plus it offers greater durability (a 70,000-mile tread wear warranty).



Right now, if you buy a set of four Pirelli tires you can send a rebate form to Pirelli and receive a \$60 VISA pre-paid card. Plus, you'll be automatically entered to win a trip for two to Italy's famous Amalfi coast (left)! For more details visit [US.pirelli.com/promotions](http://US.pirelli.com/promotions).

Act now – the Pirelli rebate offer ends May 4, 2015.





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800.535.2002 | BavAuto.com

## Spring Fever

Small-world story... When it came time to choose the poster for this issue of *Fast Times*, we found this image sent to us by Klaus Schnitzer and fell in love. We asked Klaus to tell us about it. All he could remember was that he saw the car in Saratoga Spa State Park (NY) during the Vintage at Saratoga and took a picture of it. We contacted Frank Greppo, who organizes the annual Saratoga event, to see if he recognized the car. Yes, he did. It belongs to none other than Mike Miller, Technical Editor for both *Roundel* and *Bimmer* magazines, a colleague of Klaus' and a Bavarian Autosport customer. Here's Mike's description:

*"It's a 1976 2002 four-speed, originally Schwarz over tan, now Golf over black after a complete rotisserie body restoration at Mario Langsten's Vintage Sports and Restoration [VSR] in Bow, NH. Currently the engine is internally stock with a 2002tii exhaust manifold, E30 318i heat shield/exhaust manifold gasket, Ansa free-flow exhaust, mechanical advance distributor, Weber 32/36 carburetor and a K&N air cleaner.*

*The Getrag 232 gearbox was rebuilt at about 200,000 miles; today the car has 369,000 miles and it shifts perfectly. This spring, the original 3.90 open differential will be replaced with a 3.64 LSD and it will be given a lightweight flywheel. The exterior wears a Kamei front air dam, Cibie headlights, Cibie Super Oscar foglights, an E30 M3 antenna, a 2002 Turbo rear spoiler, and the original rear bumper from a 2002 Turbo.*

*The suspension was tuned with H&R springs, Bilstein shocks and ST sway bars (19mm front and rear). The BMW 13x5 alloy wheels are currently shod with 185/70-13 Yokohama AVID T4 tires. The interior features perforated leather, E21 Recaro seats and a 2002 Turbo two-gauge cluster with VDO oil pressure and voltmeter gauges. A 350mm MOMO Monte Carlo wheel turns the factory close-ratio steering box.*

*Because of a 20-year-long restoration of a 1977 320i going on in my garage, there wasn't room for the 2002 when I bought it, so off it went to VSR. Eight years later it rolled out. Needless to say, I can attest to how long it takes to restore cars with no money."*

... Okay, you can stop drooling now.

Make this your computer's/phone's wallpaper:  
Go to [BavAuto.com/wallpaper](http://BavAuto.com/wallpaper).



# Do-it yourself

performance intake | performance exhaust | clutch upgrade | camber | control arm bushings | KONI shocks

## DIY: Installing a performance intake. 🛠️

To keep engine noise at a marketable level, car makers put their air filters inside housings. While this makes the engine quieter, it restricts the amount of air that can enter. Performance intake systems eliminate the factory housing and use larger filters, allowing more air to enter the engine, producing more power. ("Cold-air" intakes offer the greatest gains; cold air is more dense than hot air, so when it combusts it produces more energy.) The result is stepped-up performance you can feel and hear.

The folks at aFe Power (aFe stands for advanced Flow engineering) are experts in extracting more power from engines by increasing air flow. They have designed three different types of air intake systems to meet the needs of power-hungry BMW and MINI engines. All of these systems feature high-flow, conical filters that significantly outflow the factory systems. aFe Power intake systems also use steel heat shields or molded plastic air boxes to reflect and keep out the heat, directing fresh, cold air to the filter. Inside the intakes, tapered velocity stacks and precision-designed intake tubes provide smooth, uninterrupted air flow to the turbo or throttle body.

A few years ago we posted a DIY article on our tech blog, detailing how to install an aFe Power intake system on a 2001 330Ci. We recently expanded this article to include two DIY videos made by aFe Power showing just how easy it is to install a performance intake system. One video shows the installation of an intake on a 335i 09 thru 11 (E90 chassis); the other shows the installation of an intake on a 335i 12 on (F30 chassis). While the details of installing an intake on other BMW or MINI models will vary, the basics are the same.



DIY video – installing performance intakes: [blog.BavAuto.com/go/afe-intake](http://blog.BavAuto.com/go/afe-intake)

Now thru April 30th, get a \$25 instant rebate on all aFe Power intakes. Plus they all ship for free!

## DIY: Installing a performance exhaust. 🛠️



Installing a new muffler or exhaust system is a task that may seem intimidating at first, yet most BMW/MINI owners should be able to complete the job in two to four hours. Almost all of the exhaust systems we offer are either "bolt-on" (i.e. a direct-fit replacement of the original part) or "cut-in." On a cut-in installation, an exhaust pipe is given a simple cut and the new exhaust system is slipped over the cut end of the pipe and clamped in place. In both instances, the new system hangs from the original mounting points, with the tips fitting neatly in the existing opening in the rear valance, below the bumper. (There are a handful of systems and/or tip styles that require an opening in the valance to be added or widened. Our Advisors and our website will tell you if this is required for the system you are considering for your BMW or MINI.)

In this article and DIY video (below), Otto shows you a typical installation of a cut-in exhaust system. The only specialized tool that you will need is a pipe cutter, which we offer. Follow along as we install a Scorpion performance exhaust on a 2007 335i. At the end of the DIY video, you can listen to a sound comparison of the stock exhaust vs. the free-flow Scorpion performance exhaust.



DIY video – exhaust installation: [blog.BavAuto.com/go/exhaust](http://blog.BavAuto.com/go/exhaust)

Exhaust systems are normally shipping exceptions, but now thru April 30th, all Scorpion exhausts ship for free!

## DIY: Upgrading to a performance clutch. 🛠️🛠️🛠️

There are lots of reasons to replace your clutch – maybe it's wearing out, acting up or has flat-out failed. Maybe it can't handle the horsepower upgrades you've installed. Or perhaps you simply don't like the feel of the stock, self-adjusting clutch and want something crisper with more feedback. Also, most late-model BMWs use a dual-mass flywheel designed to absorb vibrations from the engine and drivetrain, which it does – but it also makes it difficult to achieve smooth take-offs and gear changes, even when it is working properly. And can start to show signs of failure after as little as 50,000 miles of driving.



DIY video – Clutch & flywheel upgrade: [blog.BavAuto.com/go/clutchrepair](http://blog.BavAuto.com/go/clutchrepair)

If you just want your stock clutch to perform as it did when it was new, we have the replacement parts to make that happen. However, the time and labor it takes to repair the clutch is the same as it takes to upgrade the clutch, so why not install something that performs better and will last longer? We highly recommend higher-quality, direct-fit clutch components from UUC Motorwerks. In our opinion, nobody makes a better clutch for BMWs. Watch Bavarian Otto's DIY video (left) on replacing the self-adjusting clutch and dual-mass flywheel with a UUC clutch and flywheel kit.



All UUC Motorwerks clutch components are on sale during the month of April – save \$50-260 plus free shipping! See page 8...



## DIY: Understanding and adjusting camber. 🔧🔧🔧

See if this sounds familiar... When you last checked your tires, or added some air, the tread blocks looked nice and deep. Then, in what seems like just a short time later, you discover with some astonishment that the insides of the tires are almost completely bald but the outer tread blocks still have plenty of depth (fig. 1). Your tires need



Top left: Stage 1 front camber kit (black/red). Lower left: Stage 1 rear camber kit (silver/red). Center: Stage 2 front camber kit (blue). Right: Stage 3 front camber kit (black).

to be replaced, to the tune of several hundred dollars. How can this be? You've driven only a few thousand miles on them...  
**Welcome to the world of negative camber.** Simply put, camber is the angle of the wheel, top to bottom, when viewed from the front or rear of the vehicle. Camber is measured in degrees. Positive camber (e.g. +3°) means the top of the wheel is tilted away from the car. If the top of the wheel is leaning in towards the car, the camber is negative (fig. 2). Most high-performance cars come from the factory with some negative camber for better handling. On BMWs and MINIs, the factory camber settings are fairly aggressive. People who race their cars at the track prefer even more negative camber for better traction and handling. But excessive negative camber will result in less-than-optimal straight-line tracking (e.g. highway driving) as well as accelerated wear on the tire tread. The problems are



Figure 1

magnified on BMWs and MINIs with wider wheels and tires than those that originally came on the vehicle. Lowering the vehicle ride height (e.g. installing sport springs or a coil-over kit) also increases negative camber, accelerating tread wear and reducing tire life. Most BMWs and MINIs were not designed to allow camber adjustments. Bavarian Autosport offers camber adjustment kits (left) that replace the front upper strut mounts and provide a great degree of camber adjustment (as well as caster). The video at right shows you how to install and use our camber kits.

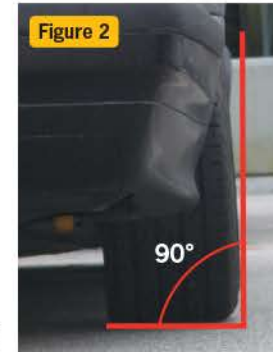


Figure 2



Front camber kits have indicators to help you mark your settings so you can quickly and accurately change from street to track, and back.



DIY video – installing a camber kit: [blog.BavAuto.com/go/camber-kit](http://blog.BavAuto.com/go/camber-kit)

Now thru April 30th, take 10% off our adjustable front and rear camber kits, plus free shipping! More on page 8....

## DIY: Replacing front control arm bushings on most BMW 3 series and MINIs. 🔧🔧



One of the most common sources of vibration in the front ends of BMWs/MINIs is worn control arm bushings. If all other front-end suspension and steering parts are in proper functioning condition, it is likely that the control arm bushings have become soft, allowing the control arms to oscillate and send vibrations through the chassis and/or the steering wheel.

Replacing the control arm bushings can be accomplished by most DIYers in just a couple hours, provided you have the proper tools, saving you hundreds of dollars. In our DIY video (below right) we show how to replace the control arm bushings on most 3 series BMW models from 1984 through 2005 (E30/E36/E46 chassis) and all MINIs 02 on. For greater control and longer replacement intervals, we recommend Powerflex performance urethane bushings.



DIY video – replacing control arm bushings: [blog.BavAuto.com/go/bushing3](http://blog.BavAuto.com/go/bushing3)

Now thru April 30th, take 10% off Powerflex bushings when you buy three sets or more. See page 8...

## Upgrade to KONI shocks...

KONI produced the industry's first adjustable damper (shock) in 1945. Since then, KONI has demonstrated its commitment to innovation. KONI's non-adjustable S.T.R.T is a performance street shock that's perfect as a replacement/upgrade for original equipment shocks. Their Sport shock is adjustable, offering big handling improvements and good ride quality with lowering springs. Their FSD shock sets use KONI's latest technology to deliver great handling and excellent ride quality. You can also get KONI suspension kits complete with H&R or Eibach performance springs.



DIY videos – installing KONI shocks: [blog.BavAuto.com/go/shock-install](http://blog.BavAuto.com/go/shock-install)

25% off KONI shocks/suspension kits. Plus most ship for free! Save even more when you install them yourself – watch the video at left.



# April specials

Money-saving deals on gear you can use right now

Sale ends April 30, 2015. Don't delay – order today!



## Save \$5

DR. COLORCHIP™ PAINT CHIP REPAIR KITS. See page 2...

Orig. \$59.95–64.95

Now \$54.95–59.95



## Free shipping

SCORPION EXHAUST SYSTEMS. More horsepower and a better sound! Normally a shipping exception, they ship for free in April (to 48 contiguous United States only). See page 6...

## \$25 rebate

ON ANY AFE POWER INTAKE. See page 6...

Orig. \$244.95–1594.95

Now \$219.95–1569.95



## Free!

GRIOT'S GARAGE DETAILING GEAR. Buy a Griot's Garage 6" Random Orbital Buffer – get a free Microfiber Fast Finish Pad (a \$14.95 value). And buy \$25 worth of Griot's Garage cleaners and waxes – get a free 22oz. Speed Shine (a \$10.95 value). See page 2...

## 10% off

BREMBO REPLACEMENT ROTORS AND BRAKE PADS. See page 1...

Orig. \$25.95–94.95

Now \$23.35–85.45



## 10% off

BAVARIAN AUTOSPORT ADJUSTABLE CAMBER KITS. Let you improve traction and prolong tire tread life. See page 7...

Orig. \$269.95–524.95

Now \$242.95–472.45

## 10% off

UUC MOTORWERKS CLUTCH KITS. UUC makes three different kits: clutch only kits, clutch & flywheel kits and twin disc kits. See page 6...

Orig. \$534.95–2649.95

Now \$481.45–2384.95



## Save \$5

FULL WHEEL REPAIR KIT. See page 2...

Orig. \$59.95 Now \$54.95



## Save!

POWERFLEX BUSHINGS.

Purchase three sets or more – take 10% off your total. See page 7...

Orig. \$24.95–529.95 set

Now \$22.45–476.95 set

## 25% off

ALL KONI SHOCKS. See page 7...

Orig. \$95.95–1257.95

Now \$71.96–943.46



## Rebate!

KW SUSPENSION KITS. Buy a KW suspension kit – Variant 1, Variant 2, Variant 3, Club Sport, DDC, DLC or HAS – and get a manufacturer's rebate of \$100-200.

Orig. \$899.95–6348.95

Now \$799.95–6148.95



Be among the first to know about specials and new products – sign up for our email at [BavAuto.com/email](http://BavAuto.com/email).