

fast times

the newsletter of **Bavarian Autosport**

winter 2004

Our Project Car Gets A G-Power Facelift.

When we saw our first G-Power BMW at the Essen Motor Show in Germany, we knew we were looking at something special. The car was incredibly striking; every piece of aerodynamics seemed to flow naturally out of the BMW's original lines. Of course, making a show car look great is one thing – any aero kit can look good with enough work. And you never know if you're looking at a "one-off" or a prototype. But when we learned that the BMW we were admiring was actually sporting "off-the-rack" aero from G-Power – without any custom work – we knew we wanted to bring G-Power to North America to join the other high-quality tuner lines we offer: AC Schnitzer, Hamann and Mutec.

Quality Materials For Long Life

G-Power aero is made of high-quality materials, including Kevlar and GFG (fiberglass). The GP/M kit on our car is fiberglass: it's light in weight, requires minimal paint prep and can be easily repaired if an angry piece of curbing decides to jump up and bite it.



Our 1999 323i with G-Power 19" Daytona II wheels and a full G-Power GP/M body kit. (Yes, that's an intercooler behind the grill of the front spoiler; it's part of the G-Power EVO I supercharger we installed. More on that in the Spring issue.)

In our experience, no matter how well a body kit is designed and manufactured, it will usually require some sort of modification. The modification could be as simple as sanding away some excess material on a tab, or as involved as cutting away sections of the rear apron to accommodate larger exhaust tips. We

decided that rather than send the car to a body shop, we would have the pieces painted and install them ourselves. That way, we would learn firsthand what our customers and their shops might encounter when installing the kit.

Designed For A Perfect, Simple Fit

Before we sent the G-Power pieces out to be painted, we dry-fit them to make sure everything lined up and to learn what, if any, modifications needed to be done. Perhaps the most pleasant surprise of the installation was discovering that every piece of the GP/M kit uses the original attachments points. (And the factory plastic rivets, too!) The front apron fits without any modification to the structural metal of the BMW bumper. The side skirts use a combination of factory attachment points plus a bit of adhesive.



In addition to the G-Power GP/M front spoiler, side skirts and rear apron, we added one of our pre-painted rear wings. For more on the rear wing, see "do-it-yourself" on page 2.



Have a question about your BMW? Ask that savvy old BMW enthusiast, "Bavarian Otto". See page 3...

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BAVARIAN
autosport
PRODUCTS FOR BMW ENTHUSIASTS

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The rear bumper, which also uses the original mounting points, is a two-piece design comprised of a full apron with separate diffuser. The single outlet in the diffuser accommodates dual exhaust tips or a large, single tip like the Tri-Flo we installed.

Once the pieces came back from the paint shop, installation was a breeze for



Our project car sports a G-Power GP/M rear apron and pre-painted rear wing.

the experienced enthusiasts here at Bavarian Autosport. Even the factory M5 fog lights (not included with the G-Power front bumper) fit beautifully using the factory trim pieces and fog light supports. (Please note: with most of the aerodynamics we offer, we strongly recommend professional instal-

lation. One exception is our pre-painted rear wings; see “do-it-yourself” at right.)

If you’re thinking about putting some aerodynamics on your BMW this spring, here are a few tips to help make your BMW’s “facelift” a pleasant experience.

1. Line up a good body shop. Ask around; look at other jobs they’ve done.
2. Order the aero as soon as possible. Don’t wait until the last minute – your shop will appreciate having the pieces in advance of your appointment.
3. When the pieces arrive, inspect them right away! Make sure you received the correct parts and that they fit. Remember, once an item has been altered, painted or installed, it is no longer returnable.

Finally, if you have any questions at all about aerodynamics, call and chat with one of our phone reps. They deal with this stuff every day and can save you a lot of time and aggravation. Start working on your BMW’s “facelift” now and you’ll be ready to show her off in Spring when the warmer weather arrives.

How easy is this? do-it-yourself

Add A Rear Wing In Less Than 30 Minutes. 🛠️



While we highly recommend professional installation for most aerodynamics pieces, our pre-painted rear wing can be installed by anyone who is handy with a drill and a screwdriver. In fact, the installation for most models takes less than 30 minutes (a little longer if the rear wing has a built-in brake light). Here’s how it goes:

- 1 Screw four stainless steel alignment screws (included) into the nuts molded into the bottom of the wing.
- 2 Gently position the wing exactly where you want it on the trunk. (It will be resting on the points of the screws.) Double check the position to make sure it is centered and aligned.
- 3 Once positioned, apply slight pres-

sure to the wing and wiggle it so that the screw points leave marks on the surface of the trunk. *Not too hard!* You don’t want to scratch the car, just leave visible “pilot” marks for the four spots where you will drill.

4 Using the pilot marks as guides, drill four small holes in the trunk lid. *TIP: Do this with the trunk lid up so you don’t accidentally drill through the quarter panels!*

5 Apply weatherstripping to the underside of the wing ends.

6 Screw the wing onto the trunk.

It really is that easy! In fact, some people spend more time figuring out their BMW’s factory color code than installing the wing!

Most of our pre-painted wings cost \$449.95. (See pages 53, 57, 58 & 61 in our Fall & Winter catalog.) If you have difficulty finding or identifying your BMW’s factory color code, ask your phone rep for help.

Product Focus: Bavarian Autosport Tri-Flo Exhaust.



In our performance exhaust comparison in the previous issue, we stated that our Tri-Flo exhausts were “mandrel-bent” and manufactured from “T-304 stainless steel.” A surprising number of you wanted to know more about these two facts. (And we thought you

were interested only in horsepower and decibels!) So here’s a little more knowledge for you:

“What the heck does ‘mandrel-bent’ mean?”

The pipes of a typical replacement exhaust system are “compression-bent.” Compression bending crimps and collapses the tubing, creating restrictions

in the exhaust flow and reducing the horsepower potential of your BMW. For example, with compression bending, an exhaust pipe with an outside diameter of 3” can be reduced by as much as 1/2” at the bends. (To understand what effect this has on exhaust flow, think of what happens to the flow of water when you get a kink in a garden hose.)

In contrast, Tri-Flo exhausts are “mandrel-bent.” Mandrel bending is a process in which the stainless steel tubing is supported from the inside by an articulated steel stiffener called a mandrel. At the same time, a pair of half-round steel dies are used to hydraulically bend the outside of the tubing. The mandrel is pulled through the tubing during the bending process, allowing the steel to stretch on the outside of the bend and compress on the inside. The results are smooth, even bends, a consistent diameter throughout the length of the



Left: compression bent exhaust pipes collapse in the corners. Right: mandrel-bent Tri-Flo pipes.

pipe and a reduction in backpressure of 20–35%.

“What makes T304 stainless steel so important?” Most late model factory exhausts are manufactured from 409 grade stainless steel. This low-grade stainless is defined as “ferritic” – it contains so much iron it is actually magnetic. Manufacturers use 409 grade stainless because it is relatively easy to form and comparatively inexpensive. Some aftermarket exhaust makers also use 409 grade so they can technically claim their exhausts are “stainless steel.”

Tri-Flo exhausts are made from T-304 grade stainless, an “austenitic” steel alloy containing at least 8% nickel and 18% chromium. This makes T-304 stainless steel extremely durable in harsh environments and gives it excellent thermal kinetic properties. (It is often referred to as “aircraft quality.”) T-304 lasts longer, looks better and performs flawlessly. That’s why it’s the steel of choice for serious performance exhaust manufacturers like Billy Boat... and why we offer a Limited Lifetime Warranty on every Tri-Flo we sell.



“I Did It!” Bleeding the clutch. ///

This past Summer, I decided to replace all the fluids in my 1999 323i: engine oil, transmission fluid, differential fluid, coolant and the hydraulics (brakes and clutch). The fluid changes went without any major problems...until it came to bleeding the clutch. I used ATE Gold DOT 4 and bled the brakes and clutch using the typical procedure (vacuum method) I have employed on many Volkswagens, and Audis. Well, after bleeding the clutch, I depressed the clutch pedal and felt absolutely no resistance. I was struck by a cold chill. I immediately consulted the Bentley manual and discovered that bleeding a BMW clutch was a much more involved process than I first thought.

The Bentley manual discusses how to unbolt the slave cylinder, fit BMW tool #215030, press the pushrod into slave, hold the bleeder at the highest point, open valve, etc., etc. Rather complicated, plus I didn't have BMW tool #215030. So I called Bavarian Autosport and

spoke to Ian Nersessian (see “Bavarian Profile” below) about my situation. Ian told me that he was confident I would need to invert the slave, but he wanted to double-check on the rest of the procedure. Ian did a little research, consulted with others who had done the procedure and called me back quickly. He said what I needed to do is yes, remove the slave, invert it, bleed the slave with the bleeder at the highest point, and then told me how to proceed from there. He also told me that it is not absolutely necessary to use the special BMW tool (which costs \$79!).

After completing the steps Ian provided to me, I jumped in my BMW and recovered my lost clutch! This saved me easily another \$100 that the dealer wanted to charge me for a fairly simple procedure.

It's this kind of service that makes Bavarian Autosport a pleasure to do business with. Thanks, Ian!

Karl R., Oregon

If you've done a procedure on your BMW that you've never tried before or which presented an unusual challenge (especially if we help with advice and/or parts), tell us about it. If we use your story, we'll send you a \$50 savings certificate! You can e-mail your triumphant tale to IDidIt@bavauto.com, fax it to 800.507.2002 or send it to: I Did It!, 275 Constitution Ave., Portsmouth, NH 03801. We look forward to hearing from you!

Bavarian Profile Ian Nersessian

Ian has been with Bavarian Autosport for nearly two years. He came to us after more than two years of service at a well-respected BMW dealership here in New England. Over the years, Ian has owned quite a few 3 series and has worked on just about all other BMW models. Last year – in a move that still has us shaking our heads – he bought a black 2003 Chevy Silverado V8 pick-up on which he put 22 inch wheels and Pirelli Scorpion PZero tires. (He needed them for the amateur drag races he used to enter at the local track. Thankfully, he traded that truck last fall...for another '03 Silverado V8!) As you might imagine, Ian performs all the mods on his own cars and has a good working knowledge of all automotive systems. If you have any questions about your BMW, feel free to call Ian or any of our friendly, knowledgeable phone reps at 800.535.2002. (No Silverado questions, please.)



ask “bavarian otto”



Over 200 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 helping people like you work on theirs, it totals well over 200 years. That's a lot of BMW knowledge. And it's all yours just for the asking. Have a BMW question? Ask that savvy old BMW enthusiast, “Bavarian Otto” – just call 800.535.2002 or e-mail otto@bavauto.com. Here are a few examples of the dozens of questions Otto answers each day:

I can't get no power, Cap'n!

Dear Bavarian Otto,
My BMW was garaged for a couple of weeks and the battery went dead. I jump-started it as indicated in the owner's manual but now neither the power windows nor power sunroof are working. I've checked the fuses and all are OK. What could it be or where else should I check?

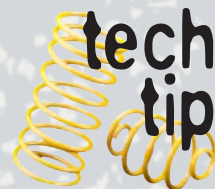
Enrique.G@-----.net

Dear Enrique,
Your 1988 635csi has a push-button circuit breaker for the power windows and sunroof. Likely it popped during your dead battery resuscitation. I'm not positive where the button is located on your 635csi, but typical spots on the 5 series and 3 series are in the under-dash panel, in the center console or in the middle of the dash near the radio and heater controls. Once you locate it, simply push the circuit breaker back in and see if that does the trick.

Otto

Dear Otto,
Bingo...windows and sunroof are now working. THANKS!

Enrique.G@-----.net



For BMW V8s '93 on:

The oil pump mounting bolts inside the oil pan can loosen and cause a “gurgle” at startup. The remedy? Remove the oil pan, apply Red LockTite™ to the bolts and tighten them up again.

My core runneth over.

Hi Mr. Otto,
I really liked the tech tip in the last issue of Fast Times (Fall 2003). Even AAA cannot get into BMWs with dead batteries. Who knew it was so simple? Anyway, I have a 1990 525i and I have a nasty radiator smell in the cab while in operation, plus intermittent heat and poor defrost in winter, but no visible leaking inside the cab. I think I need a heater core replacement. Is there anything else I can check first? How involved is a heater core replacement for this model and what might I expect to pay for such a repair?

dshafer@-----.com

Dear dshafer,
If you are smelling anti-freeze in your 525i's cabin, then there is likely a leak somewhere in the heater core or the tubing to and from it. The leak may be just a small trickle and not enough to make a puddle on the floor, yet it will definitely smell. The intermittent heat may or may not be directly related to the apparent leak. It could also be caused by a clogged heater core (which wouldn't mean a leak) or a problem with the water distribution valve. There are two different heater cores for your '90 525i, depending on the vehicle's production date (thru 12/89 or 1/90 on). I think you need to inspect the core and related piping before you do anything else. The early design of the system also had problems with cracking of the plastic water tube assembly (manifold) that connects to the heater core. The Bentley repair manual for the 5 series 89 thru 96

continued on page 4...



“Ask Bavarian Otto” continued from page 3

would be of great help to you for both the diagnosis and repair procedures. Please don't hesitate to contact us if you would like additional assistance.

Otto

Serpentine! Serpentine!

Dear Bavarian Otto,
My mechanic said that my 1990 325is needs a serpentine belt and according to your catalog my car doesn't even have one. Is that true? Also, if my air conditioning isn't working and there are no leaks and supposedly the compressor, etc., are okay, could it be as simple as the air conditioning belt?

TiffanyC@-----.net

Dear Tiffany,
Your 1990 325is does not use a serpentine belt. All of the accessory drive belts (A/C, power steering and alternator/water pump) are of the standard V-belt type. You do, however, have a timing belt that connects the engine's camshaft to the crankshaft. This belt must be replaced every 60,000 miles or it will eventually fail. If the belt does fail, it can cause major engine damage. The timing belt is replaced along with the timing belt tensioner pulley. (The water pump and a few other maintenance items can be replaced at the same time for no additional labor charges.) If you do not know the mileage on the current timing belt, I would seriously consider immediate replacement!

Yes, the A/C system may simply be missing the compressor drive belt. If it is, install a belt and see what happens. I've included links to the parts on our website so you can see what the costs are. If you would like additional assistance, please don't hesitate to contact us.

Otto

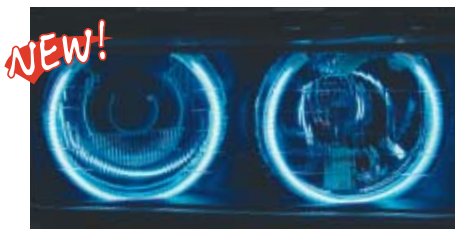
Dear Otto,
Thank you so much for the info. I cannot tell you how helpful that is!

TiffanyC@-----.net

Three new products for your BMW

“Great finds” from our latest shopping trip to the SEMA aftermarket car show in Las Vegas.

“Angel Eyes” upgrade kit gives almost any BMW the latest look. ✂



This past fall in Las Vegas, we found an “Angel Eyes” add-on kit that fits a ton of BMW models – most 3 series since 1977 (for 3 series 92 thru 98 you must have the Euro headlights), all 5 series thru 03, all 6 series (except with Euro high beams) and all 7 series thru 01. The kit consists of

four “angel eyes”, two compact ballasts, one relay and a wiring harness. Installation is a relatively simple procedure that involves attaching the rings to your headlamps, running the wires and splicing into your headlight harness. Typical installation time is about 90 minutes.

For 3 series 99 on, the “angel eyes” clip into existing sockets. For all other models, the “angel eyes” are attached using clear silicone adhesive (not included). Three dabs is all you need – two at the top and one at the bottom. We recommend using standard

wattage bulbs in your headlamps to avoid potential issues related to excess heat. Also, for headlights that are not housed inside a cover, we recommend our clear headlight covers to protect the “angel eyes” from damage or vandalism (see catalog page 21). The wiring specifics will vary depending on the year and model. Your phone rep can help you figure it out.

This new “angel eyes” kit is available now. The price is \$319.95. The headlight covers cost \$12.95/set of 4 for sealed beams; \$27.95/set of 4 for non-sealed beams.

Lexol pop-up Quick-Wipes make interior touch-ups a breeze.

Lexol products have long been recognized by auto restorers and detailing professionals as the best choice for leather care. Now Lexol has combined their unique and proven formulations with the convenience of pop-up wipes. These wipes do not replace the regular and complete treatment of your BMW's interior with Lexol. Rather they are designed for quick clean-ups and touch-ups.



Lexol-pH Leather Cleaner quickly and safely removes dirt and embedded grime, preparing leather surfaces for the

special oils and preservatives contained in Lexol Leather Conditioner. Using these wipes regularly will make your complete Lexol treatments much easier and more effective, as you'll have less dirt build-up to contend with.

Vinylex Protectant is a patented formula for the care and preservation of vinyl, rubber and plastic surfaces. It is a state of the art protectant that actually penetrates below the surface layer to restore the underlying plasticizers. And there is no destructive formaldehyde that you'll find in other vinyl treatments! Of the five patents that govern silicone protectants, Vinylex carries two of them. (Bonus benefit: when you clean your dash with the Vinylex Quick-Wipes, you don't get spray all over your windshield!)

Each container of new Lexol Quick-Wipes holds 25 pre-moistened towels. The cost is \$6.95 per container.

Clear vinyl Protect-a-mats – excellent protection with a custom fit.



Products like Protect-a-mats have been around for a long time. (You can find similar items in just about any national retail chain or auto parts store.) Here at Bavarian Autosport, we have always admired the functionality of clear vinyl mats – they keep dirt off your BMW's carpet or your new plush floor mats and provide an alternative look to our heavy-duty all-weather floor mats. But there were two things we never liked about the vinyl mats that

were available to us: 1) the quality wasn't up to our standards, and 2) the patterns were “universal” so they didn't fit our BMWs without cutting (And if you didn't cut them, they created dangerous footing.)



These new Protect-a-mats are different. First of all, they are thicker than ordinary clear vinyl mats, and the non-slip nubs on the bottom are sturdier so they won't break off. Second, Protect-a-mats are custom-cut to fit your year and model precisely, just like our plush mats, berber mats and Ultimate floor mats. If you're looking for custom protection for your interior, we highly recommend Protect-a-mats. They're currently on sale at \$5 off thru Feb. 29: regularly \$59.95 for set of 4; now \$54.95.

How easy is this?!

do-it-yourself

Changing Transmission & Differential Fluids: Easier Than You Think, More Important Than You Know. 🛠️

While all of us know the importance of regular engine oil changes – and the penalties of neglecting this common maintenance task – there are two other important fluid changes that we tend to ignore. Perhaps the two most neglected maintenance tasks on most vehicles, including our BMWs, is the regular changing of fluids in the differential (rear-end) and the transmission.*

Like engine oil, the fluids in your BMW's differential and transmission perform two tasks. They not only lubricate and prevent wear to the parts that are moving against each other, they also help cool the assembly by removing heat from the metal parts and transferring it to the case. Air moving over the outside of the iron or aluminum case then removes the heat from the case. Unlike engine oil, however, these fluids do not build up contamination from engine combustion. But they do break down from heat and "sheer" (the fluid's molecules being broken down by the grinding action of the gears and bearings). Additionally, these fluids do become contaminated with minute metallic particles that are the byproducts of metal-on-metal wear.

The best way to assure that your BMW's differential and transmission oils are doing their jobs (anti-wear & cooling) and protecting their respective assemblies is to replace them annually. This is a relatively simple task; if you are already changing your own engine oil, you should be able to change your differential and transmission fluids. Here's an overview of the basics, followed by a step-by-step guide:

Differential Basics

The fill plug is in the rear aluminum differential cover. (See Figure 1 below.) The drain plug will be in either the rear cover, below the fill plug, OR in the passenger side of the differential housing. Both plugs are internal hex (Allen type). The drain plugs on early BMWs are removed using a 10mm hex

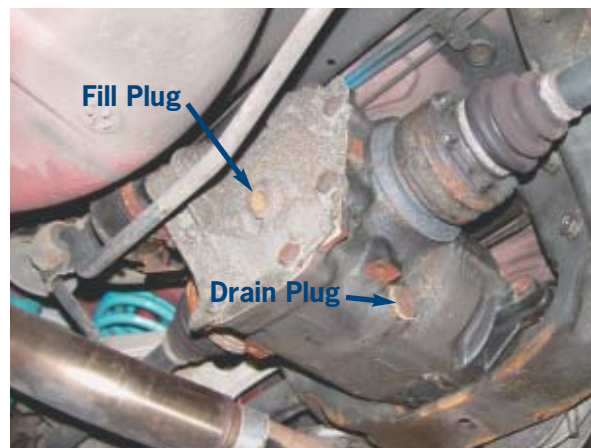


Figure 1: Rear differential on a 1999 323i. Fill plug and drain plug are indicated with arrows.

tool; later BMW drain plugs require a 14mm hex tool. Two quarts of fluid will be required, though you may not use it all.

Transmission Basics*

On a manual transmission case (Figure 2) there are both a fill plug and a drain plug. The fill plug is on the passenger side of the transmission case, near the middle of the side of the case. The drain plug is on the bottom of the transmission, at the rear. There are two types of fill and drain plugs: one has an external 17mm hex head; the other has an internal 17mm hex (Allen type). Again, two quarts of fluid will do the job, though you may not use it all.

On automatic transmissions, there is just a drain plug; filling is accomplished through the transmission dipstick tube under the hood. The drain plug is typically a 6mm or 17mm hex head.

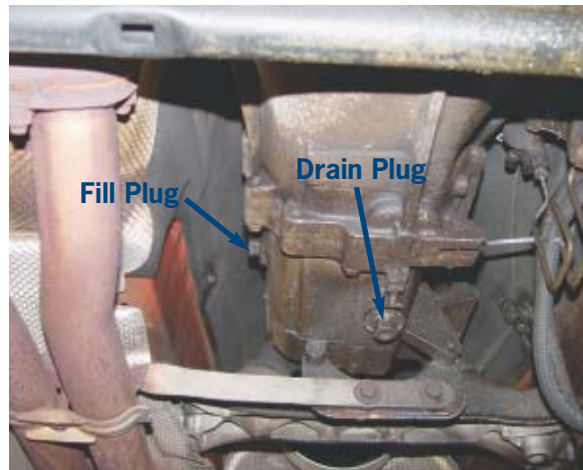


Figure 2: Manual transmission on a 1999 323i. Fill plug and drain plug are indicated with arrows.

Changing The Fluids

The following procedure is applicable to both the differential and the transmission.

ATTENTION: For both of these tasks, the vehicle must be raised and safely supported so that you can access the underside of the vehicle. If you are not using a vehicle lift, you must jack up and securely support the vehicle on jack stands. Be sure to wear safety glasses while working under the vehicle. Before raising the vehicle, drive it for a few miles to warm up the fluids.

Since the filler hole for the differential and the manual transmission are under the vehicle, you can't just pour the fluids in to them as you can with the engine. You will need some type of fluid transfer pump or hand siphon.

* Newer BMW automatic transmissions use "lifetime" fluid which supposedly never needs to be changed. We're not convinced of this, but the fluid is available in 55 gallon drums only, making this procedure impractical for do-it-yourselfers.

- 1 Remove the fill plug (dipstick for auto. trans.).
- 2 Drain the old fluid into a suitable container (drain pan) by removing the drain plug and allowing the fluid to empty completely.
- 3 Clean the drain plug of any accumulated sludge and/or metallic particles.
- 4 Replace the drain plug.
- 5 For automatic transmissions: you will need to remove the oil pan (attached by several bolts), replace the filter (also called a "screen"), install a new oil pan gasket and replace the oil pan.
- 6 To fill a manual transmission or differential, use a pump or hand siphon to add fluid through the filler hole until the level reaches the bottom of the hole. To fill an automatic transmission, check your owner's manual for fluid capacity, then use a funnel to add the correct amount of fluid through the dipstick tube.
- 7 Replace the filler plug or dipstick and dispose of old fluids properly.

That's all there is to it! If you have any questions about these procedures – or anything to do with your BMW – please give us a call or e-mail your tech question to: otto@bavauto.com.



Recommended parts for these jobs include:

Red Line transmission oil	2 qts. @ \$8.95
Red Line differential fluid	2 qts. @ \$8.95
No-spill oil change pan	\$12.95
SafeGrip disposable gloves (50 per box)	\$14.95
17mm hex head socket tool	\$24.95
Automatic transmission filter kit	\$22.95–54.95

If you don't already have the following (or a friend who has them), you'll also need jackstands, a pump or hand siphon, and a 10mm/14mm hex tool. Over the life of your BMW, you'll save hundreds of dollars over what a dealer or service center would charge.