

New gear for 2011!



NEW! See better – look hotter! Introducing projector headlights with angel eyes. Whether you're looking to replace a cracked or broken headlight on your BMW, enhance your vision at night or give your Bimmer a more individualized look, you'll want to make the upgrade to a pair of these new complete headlight assemblies. The low beam on these headlight assemblies comes with a glass projector lens that focuses the light being emitted by the bulbs better than the stock lens. This projector lens illuminates a sharper, more defined area of the road before you. Because of this, it doesn't shine in the eyes of oncoming drivers. As for the high beams, they utilize a European-style reflector that directs more light farther ahead, making them superior for navigating those dark, back roads.

These headlights with angel eyes are available for most 3 series 84 on, 5 series 89 thru 03, 7 series 88 thru 01 and X5 00 thru 03. Plus, depending on your year and model, they're offered in a variety of configurations to suit your preference:

- Halogen headlights/halogen angel eyes
- Halogen headlights/LED angel eyes
- Xenon HID headlights/halogen angel eyes
- Xenon HID headlights/LED angel eyes

Not your typical LED angel eyes. If you get the LED angel eyes, you'll notice they contain a number of very small LEDs (light emitting diodes) that are aligned in a near 360 degree configuration around the rings. This makes them ultra-high power for maximum brightness.



Above: OE-style halogen angel eyes.
Top: ultra-bright LED angel eyes.

And the color matches the bluish-white look of xenon HID headlights and PIAA or Hella high-performance bulbs.

While these projector headlights with angel eyes are not DOT compliant, they all feature high-quality construction that meets or exceeds BMW's OEM specs, fit and finish, making installation simple – just swap the lights and wire the angel eyes. (An optional relay lets you tie the angel eyes into interior and/or fog light switches.) Plus they're compatible with BMW electrical systems so they don't cause any error messages. Prices range from \$259.95 to \$879.95.

continued on page 2...

UUC short shift kits, clutch stops and more!



NEW! We now carry products from highly-respected UUC Motorwerks! Shown above are some of their short shift products for quicker shifting. Below is the Big Boy clutch stop for precise pedal travel. For details on these and other UUC products offered for your year and model, call or visit www.BavAuto.com...



fast times table of contents

New gear for 2011	1–2
Introducing UUC Motorwerks	1
Kick asphalt with aFe intakes	2
Ask Bavarian Otto	3
D.I.Y.: Replacing crankcase ventilation systems	4–6
D.I.Y.: Power steering fluid flush & filter change	6–7
Product focus: Berber floor mats	7
February specials	8

BAVARIAN
autosport
PRODUCTS FOR BMW ENTHUSIASTS
© 2011 Bavarian Autosport

PRST STD
U.S. POSTAGE
PAID
BAVARIAN
AUTOSPORT

KEYCODE:

CUSTOMER #:

Bavarian Autosport
275 Constitution Ave.
Portsmouth, NH 03801

Aquapel Premium Windshield Washer Fluid and De-Icer. From the same folks who created the popular Aquapel windshield treatments! Advanced water beading technology helps keep your windshield clean and clear in wet and snowy conditions. Improved visibility means safer driving. Ready to use – the fluid pours directly into the windshield washer reservoir. Won't harm your vehicle's finish, and it won't freeze in the reservoir (safe to -30°F). 1 gallon. \$6.95



Aquapel aerosol glass cleaner. Cleans and polishes automotive glass and mirrors, and is safe to use on fiberglass, laminates, vinyl and other nonporous surfaces. Sprays on and wipes off easily. Fast-acting foam clings to vertical surfaces – no running, no dripping, no streaking. Cleans thoroughly and dries quickly. Contains no ozone-depleting chemicals. Leaves no film. The ammonia-free formula uses denatured alcohol to clean thoroughly and dry quickly, leaving a pleasant, clean aroma. 19 oz. aerosol can. \$4.95 (Note: Ground shipping only.)



DiamondClear headlight polishing kit. For years we've been using the DiamondClear headlight restoration kit to sand and renew pitted, plastic headlight lenses. (See Spring 2005 *Fast Times* at www.BavAuto.com/newsletter.) But not all headlights need sanding – some are hazy or yellowed and just need polishing. So we now offer two kits: the restoration kit (\$48.95) and this new headlight polishing kit (right) with polishing wheel that attaches to your drill, applicator pad, buffer pad and PolyClear polish. \$34.95



Magnetic drain plugs. Prolong the life of your engine! Motor oil works best when uncontaminated. Continuous friction in your engine creates tiny metal particles that contaminate the oil. Oil filters catch particles larger than about 35 microns but not the smaller ones. These magnetic drain plugs do (see picture at right). They use the strongest neodymium magnets in the world – rated at over 300° F, so they continue to grab those particles even when things get hot. Custom made for BMW and MINI models. For engines, transmissions and differentials. \$29.95–34.95



Hunziker "Batmobile" T-shirt. Nicolas Hunziker's tribute to the 1976 BMW victory in the 24 hrs of Daytona. S-XL. \$29.95



Hunziker Collection driving shoes. Leather uppers, rounded heels, tire tread-style soles, more! Insoles depict original artwork by Nicolas Hunziker. Five styles: Clark, LeMans, Scuderia, Sterling Moss, Steve McQueen. Sizes 7–13 (no half sizes in 7, 12, 13). Each pair comes with extra insoles, extra laces and individual travel bags. \$149.95

Wanna kick some asphalt? Upgrade to an aFe cold-air intake.



+ 14 hp
+ 27 ftlb

For 335i 07 thru 10 – Stage 2 cold-air intake with Dynamic Air Scoops. This radically different, Stage 2 sealed cold air intake system is engineered to let maximum air in while keeping engine heat out. It features two uniquely shaped molded intake ducts that replace the stock, single intake tract, smoothly directing increased air flow from two directions for improved volumetric efficiency and maximum performance. Complementing the dual intake tracts are two Dynamic Air Scoops (D.A.S.) that, when mounted in the front grill, further direct air into the engine. The full effect of this system cannot be felt on a stationary dyno and can only be fully appreciated on the open road.

Gains: 14 max horsepower and 27 ftlb. of torque
Price: MSRP \$1,243.75 **Our price** \$995.95



+ 18 hp
+ 15 ftlb

For M3 08 on – Stage 2 cold-air intake. This aFe Stage 2 air intake system out-flowed the factory intake by 41%. The system's unique design utilizes the factory intake box to seal the intake tube and filter against unwanted underhood temperatures. At the same time it increases air flow and velocity for optimum performance. It features a washable/reusable conical Pro 5R air filter for maximum flow and long life, a dyno-tuned intake tube and all the hardware necessary for an easy installation. This system is truly a stealth upgrade .
Gains: 18 max horsepower and 15 ftlb. of torque
Price: MSRP \$560.00 **Our price** \$448.95



+ 7 hp
+ 7 ftlb

For Z4 3.0si thru 08 – Stage 2 cold-air intake. This aFe Stage 2, cold-air intake system out-flows the factory intake by an impressive 45%, delivering more air for your engine to burn. The system features a washable/reusable conical air filter and a durable 16 gauge, powder-coated heat shield that keeps hot engine air from entering and robbing your Z4 of power. It also uses a heat-insulating, molded plastic tube to replace the stock intake tract, giving you increased air flow with improved volumetric efficiency for maximum performance.
Gains: 7 max horsepower and 7 ftlb. of torque
Price: MSRP \$493.75 **Our price** \$395.95

Now thru February 28th, when you buy any aFe cold-air intake from Bavarian Autosport, we'll include the appropriate Filter Restore Kit absolutely free – a \$10-11 value.

ask "bavarian otto"

from our tech team

Over 240 years of BMW/MINI experience is yours for the asking - free!



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, free! 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 his searchable knowledge base on our new blog – blog.BavAuto.com.

Break the cycle of brake dust abuse. 🔧 🔧

Dear Bavarian Otto,

I have a 2008 335i coupe. I love everything about this car -- the styling, the handling, the power, the comfort -- but I hate the #\$\$%^@&! brake dust! I've owned Bimmers in the past, so I know brake dust can be a problem with OE pads. People on the forums say, "Hey, it's a BMW -- get used to it." I don't want to. Isn't there anything I can do to prevent it? It's driving me nuts! J.T.

Otto replies:

There actually are a few things you can do to reduce brake dust on your wheels. These include installing Kleen Wheels (aluminum brake dust shields) behind your factory wheels (more at www.BavAuto.com) as well as using Wheel Wax or Rim Wax to put a smoother finish on your wheels so brake dust doesn't stick to them as easily. But without a doubt, the most dramatic results will come from replacing your OE brake pads with Cool Carbon pads. Not only do Cool Carbons produce a lot less dust than the OE pads, they cost less and they perform better... a lot better! You can read more about Cool Carbon brake pads in the Spring 2008 issue of Fast Times. In that same issue, we show you how to replace brake pads yourself, saving you hundreds of dollars. You'll find it at www.BavAuto.com/newsletter.

What to do for Inspection 2? 🔧

Dear Bavarian Otto,

Just what does an "Inspection 2" on a 2005 BMW X3 3.0 cover? I recently had an oil/lube done by my dealer to the tune of \$102.65. The repair order shows lube, oil and filter change, check and refill all fluid levels, check antifreeze (good to -35F) and tire pressure check. They now want me to come back (260 mile round trip) for an Inspection 2. What's left to do? And why didn't they do it when I was in for the oil change? Thanks.

Jim

Otto replies:

On the later model BMWs, the inspection services are primarily driven by the on-board inspection and service tracking indicators. "Inspection 2" is essentially a run-through of simple inspections and fluid top-offs. (I can't tell you why the dealer didn't do it when they had the car there.) But to prevent major repairs down the road, I would highly recommend you follow a more vigorous preventative maintenance schedule than the BMW factory schedule, which seems designed to simply get the car through the warranty period. To ensure long lives for our BMWs (and avoid catastrophic repairs)

we developed "Bavarian Otto's Ultimate Maintenance Schedule." You'll find it in the Winter 2008 issue of Fast Times at www.BavAuto.com/newsletter.

Jim responds:

This is just what I needed! I e-mailed three dealer service departments to try and understand Inspection 2, and none of them (not even my own dealer) has responded to me. Thanks, Otto!

Resetting the microfilter service light on 3 series 06 on. 🔧 🔧

Dear Bavarian Otto,

I recently replaced the cabin air microfilter on my 2006 325i. How do I reset the "service overdue" light? Do I need to take it to a dealer?

Chris

Otto replies:

On the new 3 series 06 on, reset the various service reminders as follows:

- 1) Insert key and press START/STOP button without pressing clutch/brake. Wait for the service reminder to disappear. Immediately press and hold the odometer reset. After 3 seconds, a warning triangle will appear. Keep the odometer reset button pressed. After another 2-3 seconds, the "oil can" will appear. (If you hold the button too long, the system will go into an internal coding mode. In this case, shut everything down and start over.)
- 2) The system will now be in service menu mode. Use the push button on the end of the steering column wiper switch to scroll thru various service items.
- 3) When the item you wish to reset is displayed, press the button on the end of wiper switch. "Reset" should appear in the display. Press and hold the button for 2-3 seconds. A small clock display will show as it resets.
- 4) Select another item to reset (Step 4) or press START/STOP button to end.

Chris responds:

Thank you so much! That worked great. Replacing the microfilter was so easy, as was resetting the service light. You saved me about \$150 dollars!



Winner! BMW in motion. Jason Hower of Pennsylvania and his 1991 525i with nearly 400,000 miles on it. Upgrades and modifications include coil-over kit, staggered 17" wheels, HID lighting, performance headers, free-flow exhaust, performance chip, M Technic side skirts, M3 trunk lid spoiler and more.

For this photo, Jason received a \$100 Bavarian Autosport savings certificate. Complete details on our photo contest can be found on page 78 of our fall or winter catalog or visit www.BavAuto.com/photocontest...

Replacing the crankcase ventilation system.

The Crankcase Ventilation Systems (also known as PCV, or Positive Crankcase Ventilation) on later model BMW V8 and 6-cylinder engines are well known for having problems with vacuum leaks due to deterioration and cracking of the hoses, ruptured diaphragms in the check valves, and/or clogging due to sludge build-up in the hoses and valves. Typical symptoms of these failures include: oil burning; rough idle; engine fault codes that suggest air/fuel mixture or oxygen sensor problems; and other conditions that indicate vacuum leaks in the system's ventilation hoses or a ruptured check valve diaphragm. We are seeing these systems fail between 50,000 and 100,000 miles. If not repaired, the engine can begin to ingest oil directly from the crankcase into the intake manifold and, ultimately, into the cylinders, leading to hydraulic lock (a condition that can cause catastrophic engine failure).

In this article, we will detail the systems on the M54 6-cylinder engines. Most if not all US model BMWs with these engines were delivered with the standard "warm weather" crankcase ventilation system. It consists of a number of ventilation hoses, an oil separator and check valve, and an oil drain-back hose. We offer repair kits that

include parts from the "cold weather" package (left), where the hoses and valve are insulated with molded foam insulation to prevent condensation in the hoses and separator valve, which leads to sludge build-up and clogging of the hoses or valve. Even if you do not live in the northern climates, these parts are a good choice to prevent sludge in the system.



In the early days, the generally accepted repair procedure (in order to replace the hoses and the valve) was to remove the intake manifold for access to the parts. We have found that the repair can be accomplished without removing the manifold. This greatly reduces the complexity and time of the repair. Here's a quick guide to replacing the crankcase ventilation system (PCV) on the BMW M54 6-cylinder engine. Tools required are standard metric and mechanic's tools.

Please note:

- Bentley manuals do not directly cover this repair, however most of the lead-up tasks are covered in the section on intake manifold replacement. Follow the basic steps in the Bentley manual for intake manifold replacement, up to the point where they are prepping for the actual manifold removal. Page numbers below refer to the Bentley repair manual for 3 series 99 through 05 (right).

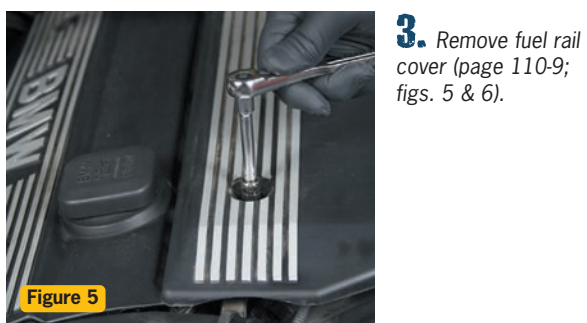


- Be absolutely certain to clear out the oil return nipple on the dipstick tube. The oil return on the car that was used for this article was fully clogged with an oil/water sludge. Additionally, the hose from the oil separator to the oil return nipple on the dipstick tube and the oil separator itself were fully clogged with sludge. In fact, ALL of the hoses were filled with sludge.
- All of the hoses and fittings were either brittle and cracked apart as soon as they were moved, or they were so deteriorated that they collapsed when handled.
- **Note:** A multi-part video of this repair is available at blog.BavAuto.com

1. Remove air filter box (fig. 1).



2. Open harness loom at front of microfilter tray and release the positive battery cable and sheathed harness. Remove microfilter and microfilter tray (page 110-9; figs. 2, 3 & 4).



3. Remove fuel rail cover (page 110-9; figs. 5 & 6).



4. While it is not required, removing the driver's side e-box closure panel will help to give access to remove and install the various parts that we will be dealing with in further steps (page 110-10; figs. 7 & 8).



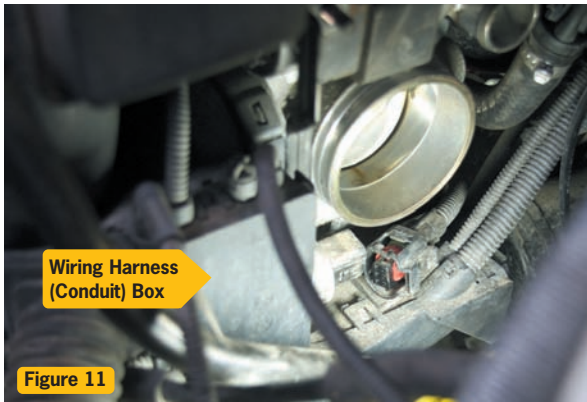
5. Remove intake bellows. Use care when removing the vacuum hoses from the plastic "F" fitting – the fitting is likely brittle and can easily break (page 110-11; figs. 9 & 10).



“We have found that the repair can be accomplished without removing the manifold. This greatly reduces the complexity and time of the repair.”

6. Remove throttle cable if applicable – later models have no cable. (page 110-11).

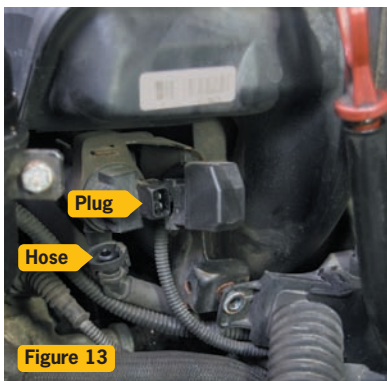
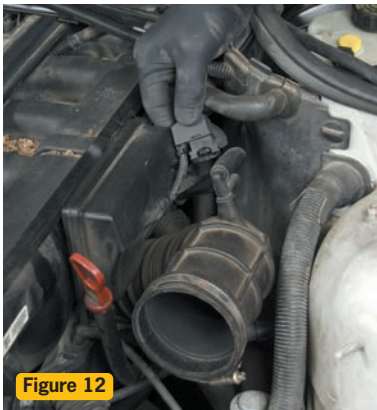
7. Unbolt wiring harness box (conduit) and pull it aside (page 110-12; fig. 11).



8. On electronic throttle models, remove plug on throttle housing. (page 110-12).

9. Disconnect harness plug from idle control valve (page 110-12).

10. Disconnect harness plug from resonance valve (page 113-7; fig. 12).



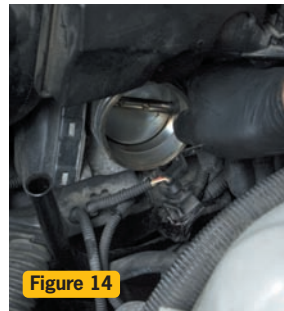
11. Disconnect harness plug from purge valve/fuel tank vent valve. (page 110-13; fig. 13).

12. Disconnect vent hose from underside of purge valve (fig. 13.)

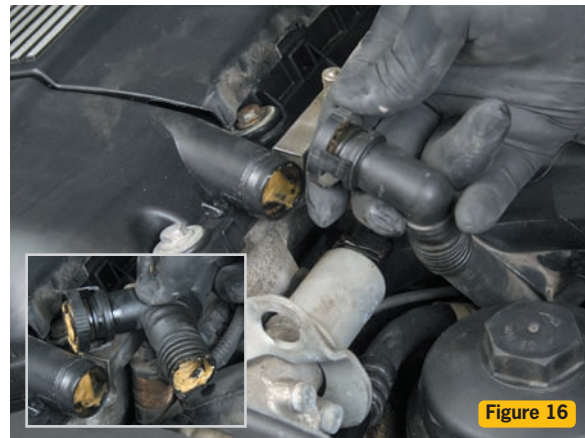
13. Pull purge valve (with the rubber hanger) off of the metal hanger tab.

14. Gently bend dipstick tube toward driver's side, to gain additional clearance.

15. Remove throttle body by removing the four 10mm hex-head bolts, then pull out the throttle body (figs. 14 & 15).



16. Disconnect the valve cover vent hose at the front of the valve cover, just in front of the intake manifold (page 110-10; fig. 16). Note the oil sludge that has filled the hose (inset).



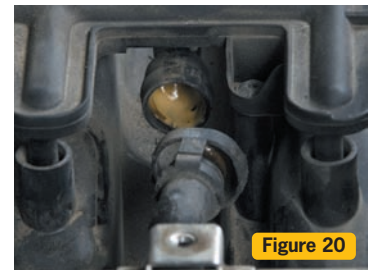
17. Working above the manifold, near the fuel injectors, disconnect the intake manifold vent crossover hose at the rearward end and at the forward end, where it attaches to the main vent hose. Be careful not to break the plastic manifold nipple at the rear connection point. If you break the crossover hose or the forward connection to the main vent hose, this is not a problem since these will be replaced (figs 17 & 18).



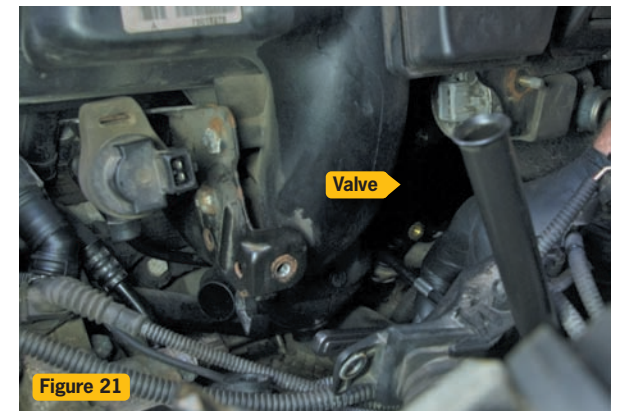
18. Disconnect the main vent hose from the forward end of the manifold. Be careful not to break the manifold connection nipple. Note that the check valve-to-manifold vent is filled with sludge (figs. 19 & 20).



19. Disconnect the oil drain hose from the bottom of the oil separator (or just cut the hose).



20. Remove the two Torx-head screws securing the oil separator valve to the underside of the intake manifold (fig. 21). Look at the new valve to see where the screws go.



21. Work on pulling the oil separator out. Typically, the valve cover hose and the main manifold vent hose are very brittle and, as you pull and twist the valve, you can break the hoses. If the hoses will not break apart, you will have to physically disconnect the hoses at the valve nipples. (Refer to the new valve for hose nipple locations).

continued on page 6...



for more detail, watch the video of this repair at blog.BavAuto.com...

continued from page 5...

22. Remove all of the sections of the old hoses (figs. 22 & 23) including:

- Valve cover to oil separator hose.
- Forward intake manifold to oil separator hose.
- Upper intake manifold crossover hose.
- Oil separator to oil return nipple hose.
- Vacuum hose on oil separator, if applicable.



Figure 22

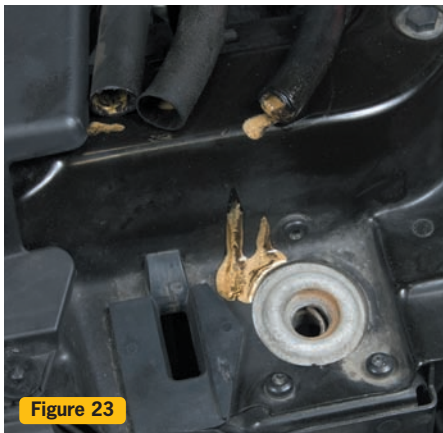


Figure 23

23. Clean the sludge out of the two upper manifold hose nipples and the valve cover nipple.

24. Clean the sludge from the oil return tube on the dipstick tube assembly. There is a 90-degree bend at the base of the dipstick oil return tube, just before it joins the main dipstick tube (where the dipstick goes through). Anything you insert into the tube to clear through the sludge will not go past the 90-degree bend. Connect a length of hose to the oil return nipple and try to blow through it (with the oil cap and/or the dipstick removed). If you cannot freely blow through the hose, the oil return is clogged. The easiest way to remove the clog is to apply compressed air to the oil return tube. This can be accomplished via a blow-gun (connected to a compressed air source) applied to the hose, connected to the oil return, or some similar type of set-up. Once the clog is blown through (into the oil pan), continue to apply the air in order to push the majority of the sludge through the tube (fig. 24). Alternately, you can remove the dipstick tube as outlined in the Bentley manual (page 110-13), and clean it out.

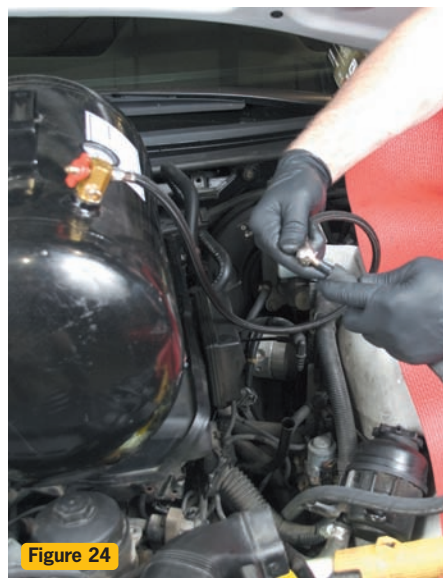


Figure 24

25. Install the oil separator.

26. Install the various vent and return hoses. (See the video at blog.BavAuto.com for details.)

27. Install the throttle body.

28. Re-assemble all of the hoses, electrical connections and brackets.

29. Install all of the remaining parts that were disassembled or removed.

As always, if you have a question about this or any other repair procedure, give us a call or go to blog.BavAuto.com and click on "ask Bavarian Otto"...



Power steering fluid flush and filter change. 🛠️

The power steering fluid and filter are one of the most overlooked preventive maintenance areas on most BMWs and MINIs. (Think about it – when did you ever change the power steering fluid on any vehicle?) This system provides boost not just for the steering but often for the power brakes and self-leveling suspensions, as well. Time and time again, we'll look at the power steering fluid in a BMW or MINI and it is filthy! (Running on old, degraded fluid will shorten the useful life of the steering rack/gearbox, brake booster, fluid pump, etc.) The fluid should be bright, clear red or, depending on the application, just clean and clear. One of the reasons this system gets overlooked is that there is no direct provision for changing the fluid; therefore the job is a bit more tedious. But it is not so tedious that it should be ignored. We recommend a biennial (every other year) or 50,000-mile fluid change for the power boost system. Additionally, most systems have a fluid filter incorporated into the fluid reservoir. (A lot of mechanics do not even know that this filter exists!) Change the filter when changing the fluid. (This is also a great time to replace any leaking power steering hoses.) There are three different fluids available; the correct fluid is typically noted on a label on the reservoir cap. We can assist in determining the proper fluid for your BMW or MINI.

There are options in what method you use to flush the power steering fluid. They range from easiest and least messy (while using a bit more fluid) to getting under the car, disconnecting hoses and catching and draining the fluid.

1) No drain "under the hood" method: Remove the fluid in the reservoir using a fluid transfer pump (part #FP 500, \$19.95). Replace the filter or reservoir/filter (whichever is applicable, depending on the model). Note that there may still be a fair amount of fluid in the bottom of the reservoir. (Be prepared to catch the fluid with a Pig Mat.) Replace the filter or reservoir with integral filter (plastic reservoirs). Refill with the appropriate fresh fluid. Start the engine. Keep sucking out old fluid and refilling with fresh, letting the engine run for a few minutes in between each removal/refill. Eventually, the fluid being extracted will be bright and clear indicating that most or all of the old fluid has been removed.

2) Hose drain method: You can disconnect all of the hose connections at the pump, steering rack and reservoir (after first sucking most of the old fluid from the reservoir) and let everything drain. Install the new filter/reservoir. Reassemble all of the hoses and then follow method 1, above, for refilling.

3) Full flush method: Suck the fluid from the reservoir. Install the new filter/reservoir. Remove the return fluid hose from the bottom of the reservoir. Place the hose in a bucket (you may have to attach a double-ended nipple and more hose to get to the bucket). Use a plugged piece of hose to cap the nipple on the reservoir (where the return hose was attached). Be prepared with a few quarts of fresh fluid. Fill the reservoir. Have a helper start the engine and then keep pouring fresh fluid into the reservoir until the fluid coming out of the return hose (in the bucket) is fresh and clear (do not let the reservoir go dry). Turn off the engine. Re-attach the hoses. Fill the reservoir and start the engine; adjust the fluid level as needed.

Follow along as we replace the power steering reservoir/filter and flush the fluid on a 2001 330xi, using method 1 described above.

Tools & products used:

- Fluid transfer pump
- Hose clamp driver
- Pig Mat, oil absorbent mats
- Protective gloves
- Appropriate power steering fluid
- Power steering reservoir/filter
- Power steering hoses (if needed)
- Hose clamps
- Scrubs In A Bucket hand wipes

1. Remove air filter box as follows: using the hose clamp driver, loosen hose clamp on intake boot to Mass Air Flow sensor (MAF); unclip harness plug from MAF; remove two Torx or hex head bolts securing the air filter box to the inner fender; separate the intake boot from the MAF and lift the rear of the filter box out of the bay, while separating the cold-air snorkel from the passenger side of the box; lift the box up and out (fig. 1).



2. Use the fluid pump to transfer as much fluid as possible from the reservoir to a drain pan (fig. 2). The filter is in the bottom of the reservoir, so you will still have a few ounces of fluid that cannot be removed with the pump.



3. Remove the two 13mm bolts that secure the reservoir mounting bracket to the oil filter housing assembly and pull the reservoir toward the driver side of the engine bay (fig. 3).



4. Place a sheet of the Pig Mat oil absorbent mat under the reservoir, with the drain pan on the mat. Cut off the original hose crimp-clamps, using end-cutters. Hold the reservoir over the drain pan and pull the hoses from the reservoir nipples. Drain the reservoir and the hoses (fig. 4).



5. Clean up the hoses with the Scrubs In A Bucket wipes (fig. 5).



6. Loosen the clamping bolt on the reservoir mounting bracket. Remove the bracket from the old reservoir and install it on the new one. Do not fully tighten the clamping bolt.

7. Install the hoses to the new reservoir, using new hose clamps (fig. 6).



8. Install the reservoir and mounting bracket to the oil filter housing. Tighten the mounting bracket clamping bolt.

9. Install the air filter box.

10. Fill the reservoir with fresh Dexron-III or Pentosin fluid as appropriate.

11. Start the engine. Let it run for a couple minutes then use the fluid transfer pump to remove the fluid (with the engine running). Remember, there is still fluid under the filter top plate so you are not running the system dry (fig. 7). Add fresh fluid, run for a couple of



minutes and repeat the fluid removal and refilling. Do this until the fluid is clear and does not cloud up. Recheck the fluid after a couple of days. If fluid is no longer bright and clear, perform a couple more fluid exchanges.



for a more detailed description of this repair, watch the 10-minute video at blog.BavAuto.com...

Product Focus:

Upgrade your interior with Berber mats.

Berber carpeting combines classic styling with incredible durability. Our Berber floor mats are made using a heavy-duty, stain-resistant, 42oz. yarn on top of an insulating layer, on top of a waterproof membrane. This “sandwich” is cut to fit your year and model BMW or MINI precisely, then finished with genuine serge edging for the ultimate in style and long life. (They’re backed by a Lifetime Warranty!) We offer them in five colors (*below*). You can order them: a) plain, b) embroidered with the Bavarian Autosport logo or c) embroidered with your model number. And now through Feb. 28th, you can save \$15! Plain and logo mat prices have been lowered from \$129.95 to \$114.95, while the embroidered mats are discounted from \$154.95 to \$139.95.

Make sure you get the best match; ask for free color samples before ordering.



Colors (left to right): Medium Beige, Dark Beige, Medium Gray, Dark Gray and Black.



“Running on old, degraded [power steering] fluid will shorten the useful life of the steering rack/gearbox, brake booster, fluid pump, etc.”