

# fast times

the newsletter of **Bavarian Autosport**

Summer 2011

## Connect your iPod/smart phone/music player to your sound system, even on older models.



No matter what year and model BMW or MINI you drive, chances are we have a simple-to-install kit that lets you listen to your iPod, smart phone, portable satellite tuner, etc., through your car's factory radio. Some cars will have a choice of kits. Which one is right for you? It depends on the electronics and sound system in your year and model car. Your phone rep can help you figure out your options, or you can see them at [www.BavAuto.com](http://www.BavAuto.com).



In this issue we show you how to install the DICE Media Bridge (bottom of page) in a 2001 3 series. The installation procedure is same for the DICE SilverLine Duo (below right) and Smart iPod (below left). For pre-96 BMWs we offer the DICE FMRDS USB Pro (below center) that connects to the back of your radio. (No more sketchy transmitters.) We made videos that show you just how easy it is to install all of these kits.

continued on page 6...

DICE Electronics G2 iPod/iPhone cradle (\$59.95–79.95) works for all of the interface systems shown below.



Smart iPod for BMWs 96 thru 05, MINIs 02 thru 05 (without factory navigation). \$139.95–189.95

**NEW!**



DICE Electronics FMRDS USB Pro for many BMWs pre-96. \$159.95

**NEW!**



DICE Electronics SilverLine Duo for BMWs 96 thru 05 and MINIs 02 thru 05. \$189.95–269.95

**NEW!**



DICE Electronics Media Bridge with Bluetooth for BMWs 96 thru 05 and MINIs 02 thru 05. \$299.95–379.95

**F.Y.I.:** You can now use PayPal in our online store.



If you haven't visited our online store recently, you might not know that we now accept PayPal. It's just one more way Bavarian Autosport makes it easy for you to buy your BMW/MINI parts.

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# Product Focus:

**NEW!** Throttle body spacers now offered for many BMW engines.



Throttle body spacer for BMW twin turbos.

aFe's Silver Bullet throttle body spacers use a unique serrated/helix design to create turbulence in the air flow as it enters the engine. This turbulence causes air to tumble and swirl, allowing more complete combustion. The result is an increase in horsepower and torque as well as improved throttle response and fuel efficiency. In dyno testing, the aFe throttle body spacer for BMW twin turbo engines (135i, 335i, 535i 06 thru 10) produced 6hp and 3.5ftlb of torque, while the throttle body spacers for 4.5/5.0-liter V8s (06 thru 08) and 2.5-liter M54 engine (many 325i, 525i, X3, Z3 and Z4 01 thru 06) showed gains of up to 10hp and 14ftlb. ("Do I have an M54 engine in my BMW?" We have pictures on our web site to help you figure it out: simply select your year and model, search for "throttle body spacer" and click on the text link.)

aFe's Silver Bullet throttle body spacers are constructed of durable T-6061 billet aluminum and are backed by a 2-year warranty. The suggested retail price is \$161.25–187.44; our retail price is just \$129.95–157.95, making this one of the best "power-per-dollar" upgrades you can install in your BMW.



Throttle body spacer for newer V8s; spacer for 2.5-liter M54 engine has a similar appearance.



## NEW! Down pipes for BMW turbos = +28hp!



These race-only\* pipes for 135i 08 thru 10, 335i 07 thru 10 and 2011 335is eliminate the catalytic converters to maximize flow:

- 2 3/4" 304 stainless steel tubing and flanges for lifetime service.
- TIG-welded for leak-free performance.
- Factory fit for bolt-on installation.
- Stainless steel bungs for O2 sensors.

MSRP is \$926.22; our price is \$749.95.

\* aFe down pipes are intended for use during closed-course and open-course racing only. Any other use could be in violation of local, state or federal law.

Buy the down pipes with any aFe intake kit and get \$100 off!

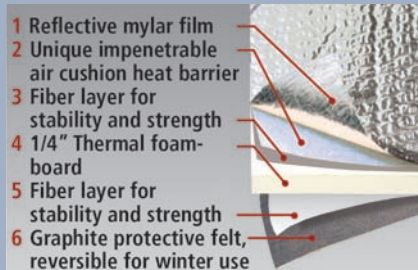


# Product Focus: Keep your cool with the Ultimate Reflector



Every Ultimate Reflector comes in its own handsome, leatherette storage bag.

Bavarian Autosport was the first company in the world to offer the Ultimate Reflector – a custom-fit, folding sunshade that keeps cars cooler in summer and warmer in winter. What makes this reflector "Ultimate?" It has six layers of material (see illustration) that, combined, provide you with the ultimate in reflection, protection and insulation. This hi-tech sandwich reduces heat build-up inside your BMW or MINI by as much as 40° F. It prevents ugly, costly cracks and/or fading on your dashboard, steering wheel, shifter and console. It unfolds in seconds and is held in place by your sun visors. In winter, reverse it so the mylar side is facing inward (to reflect residual heat back in) and the dark felt is facing outward (so the sun's energy is absorbed, not reflected). Backed by a Lifetime Warranty, the Ultimate Reflector is normally \$59.95. Now thru Aug. 31st it's just \$53.95 – you save \$6.00!





## Over 260 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 260 years. That's a lot of knowledge under one roof. And it's yours for the asking. Have a tech question about your BMW or MINI? Search Otto's knowledge base of nearly 1,000 tech Q&As at [blog.BavAuto.com](http://blog.BavAuto.com).

### One hoppy BMW. ✂

Dear Bavarian Otto,

I have 4 brand new tires on my '01 325i wagon, inflated to BMW spec (32lb front, 38lb rear). The car rides very stiff. While cornering it will hop over (turn left, it hops right) This occurs at normal speeds both on the highway and secondary roads. Is this an inherent problem with wagons? Is it fixable?

Jeanne

Otto replies:

First, let's set the rear tire pressure to 32 psi (38 psi would be more appropriate to a fully loaded car). This may help with both the firm ride and the "hopping." A second suggestion would be that the rear shocks may be worn out (as well as the fronts, for that matter). Do you know if/when they have been changed? Finally, this chassis family does have a history of broken rear springs. I would not be quick to blame the hopping on this, but it is something to check. Look for the first lower or upper coil of the spring to be broken from the rest of the spring.

Blog comment from Troy:

The broken spring problem is more common than one might assume... Of the four E46s from the early part of the decade that my group of friends own, two have experienced broken rear coils. I replaced mine with the Eibach spring kit front and rear which lowered the ride height and greatly improved handling. Most times the broken spring was accompanied by a bad shock (or two). Kudos to BavAuto for bringing this to light.

### Do those adjustable rear camber kits hold their settings? ✂

Dear Bavarian Otto,

My question is regarding the adjustable rear trailing arm bushings [a.k.a. rear camber kits]. I own a 2000 M Coupe which does not have an adjustable rear suspension. The inner shoulders of my rear tires are wearing significantly quicker than they should due to both camber and toe. I have heard that one of the biggest disadvantages of the adjustable kits compared to welded-on kits is that they go out of adjustment very quickly, requiring frequent alignments. Can you confirm whether this is true and whether these adjustable bushings can maintain a proper alignment for spirited driving on the street.

Wing

Otto replies:

We have many of these trailing arm-type rear camber kits out on the road and also on cars that see track days. We have not experienced the kits losing their settings. Additionally, the kit that your 2000 M Coupe would use (early style trailing arms – same as the E30 chassis) is of a design that

would be even more secure in its settings than the later trailing arm design. Through conversations with customers and installers, we have come to the conclusion that some are not properly tightening the nuts on the through bolts. In this case, the bushing would certainly have the potential to rotate and alter the settings. My personal E30 has this kit installed and the car does see track days. I have never had an issue with the settings changing.

### \$600 for a tune-up?! I'll do it myself, thank you very much. ✂

Dear Bavarian Otto,

I've got an awesome 2001 525i with 55k and apparently it needs a tune up according to the dealership. Only problem is they want \$600+. Can you break-down what I'd need to do it myself?

Jason

Otto replies:

We're not sure exactly what a dealer wants to do at the 55K mile point, but we doubt that it is worthy of your \$600. At this mileage, you could consider the following maintenance areas/items: spark plugs and connector boots; filters (air, fuel, cabin air); and inspections (fluids, accessory drive belts, front suspension ball-joints/bushings, brake pads/rotors). We would suggest that you read through the inspection articles in the Winter, Spring and Summer 2009 issues of Fast Times ([www.BavAuto.com/newsletter](http://www.BavAuto.com/newsletter)). They will guide you through detailed under-hood and under-car inspections. Please give our agents a call at 800-535-2002 and we can assist you in putting together your tune-up and inspection items... and help you take care of these areas for far less than the dealer charges.

### NEW! Bavarian Otto's Ultimate Maintenance Schedule by Chassis.

In the Winter 2008 *Fast Times*, Otto introduced his Ultimate Maintenance Schedule for BMWs and MINIs. Now he has taken that information, broken it out by individual chassis and put it into a PDF that you can print and keep in your glove box. Keep track of dates/mileage for oil changes, filter changes, tune-ups, replacement of fluids, belts, hoses, oxygen sensors, water pumps... all the info you need to keep your BMW or MINI in tip-top operating condition. Download the PDF for your chassis at [blog.BavAuto.com/go/ultimate-schedule](http://blog.BavAuto.com/go/ultimate-schedule).

### Our popular tech blog gets a new home and a makeover.



Since we started our tech Q&A blog in 2009, traffic has grown from a couple hundred visitors to more than 25,000 a month. This didn't make the blog's hosting service very happy – the high volume of visitors using the blog and watching our videos was causing the server to slow to a crawl. (The other blogs hosted on that server were not happy, either.) So we moved the blog to a more robust hosting service, upgraded the blog's platform (more features, better navigation, improved search) and gave it a clean, fresh look. Go check it out at [blog.BavAuto.com](http://blog.BavAuto.com) – it's fast, informative and free.



## DIY: Connecting an iPod/MP3 player in a BMW/MINI. Continued from page 1.



In this article we'll be installing a DICE MediaBridge unit in a 2001 330ci. Note that the general installation procedures for the Media Bridge are applicable to both the DICE SilverLine Duo and the Smart iPod adapter. Installation in other chassis will also be similar, though the exact locations of items and seat/panels removal will differ. The Bentley repair manuals will assist in these specific differences.

**1.** Remove the trunk floor panel.

**2.** Remove the driver's side taillight bulb holder assembly by releasing the securing clip, unplugging the wiring harness and removing the bulb holder.

**3.** Remove the driver's side trunk trim panel to expose the factory audio equipment and CD changer location: first, remove the plastic expanding rivets by prying out the center pin and then removing the rivet.



Figure 1

(We recommend using the non-marring pry tool set shown at right, part #ST9029) Pull the panel out from behind the rear trim panel and down under the trunk-opening flange. Depending on your final installation and cable routing, you may not need to fully remove the panel; this BMW, for example, has fold-down rear seat-backs so we do not need to fully remove the side panel – we can just push it forward to expose the audio mounting area (fig. 1). If your vehicle does not have fold down rear seat-backs, remove the side panel and the trim panel on the seat-back area. Remove the plastic expanding rivets, then pull the panels out.

**Note:** If the vehicle has a factory-installed CD changer, the side panel will have an access door that must be removed before removing the side trim panel.

**4.** Locate the CD changer wiring harness (fig. 2). If your vehicle has a pre-installed BMW CD changer, unplug the 6-pin and 3-pin harness connectors from the CD changer. (Note: Since the changer will now be non-functional, you might as well remove it.) If the vehicle has not had a factory CD changer installed, you will have to locate the harness. It is typically tucked up behind the amplifier and mounting bracketry. Look for the harness cord and a fabric pouch (with the harness wrapped up inside). Once the harness is located, route it forward through the bracketry.

**5.** Connect the 6-pin and 3-pin plugs from the CD changer harness to the MediaBridge harness (fig. 3).

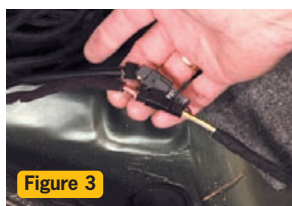
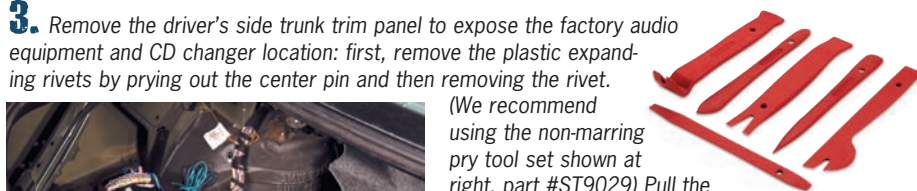


Figure 3



Figure 4

In this installation, we will run the harness under the trunk floor panel, over to the passenger side and then through the rear seat opening and under the rear seat bottom cushion (figs. 3 & 4). On models without the fold-down rear seat-backs, you will find a pass-through grommet on both the driver side and the passenger side of the seat-back panel (after removing the trim panel as noted earlier). The harness can be run through either grommet. On the interior, the seat back must be removed in order to access the grommet locations.



(We recommend using the non-marring pry tool set shown at right, part #ST9029) Pull the panel out from behind the rear trim panel and down under the trunk-opening flange. Depending on your final installation and cable routing, you may not need to fully remove the panel; this BMW, for example, has fold-down rear seat-backs so we do not need to fully remove the side panel – we can just push it forward to expose the audio mounting area (fig. 1). If your vehicle does not have fold down rear seat-backs, remove the side panel and the trim panel on the seat-back area. Remove the plastic expanding rivets, then pull the panels out.



Figure 2

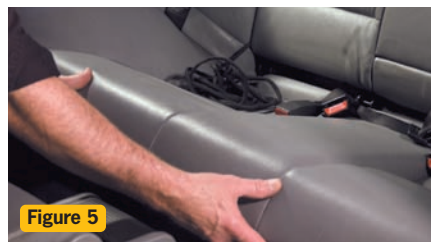


Figure 5

**6.** On the interior, remove the rear seat bottom cushion. Simply pull up at the front of the cushion on the driver and passenger sides to release the spring clips (fig. 5). Pull the cushion out of the vehicle and set it aside.

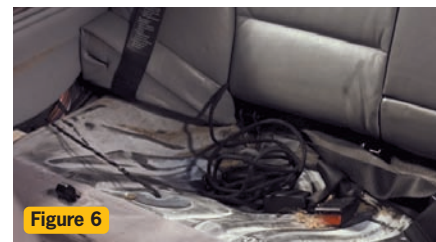


Figure 6

**7.** Route the harness through the area under the seat cushion, over to the passenger side trim panel (fig. 6). Push the harness up under the lower edge of the trim panel and work it down and under the door sill plastic trim panel.

**8.** Work the harness under the bottom of the doorsill trim panel, progressing to the front of the vehicle. Continue to work the harness under the forward kick panel (the side panel forward of the door sill trim panel).

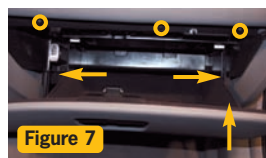


Figure 7



Figure 8

**9.** Remove the glovebox by removing the six Phillips-head screws securing the glovebox and pull the assembly out and down (figs. 7 & 8).

**10.** Continue to route the harness under the kick panel trim and up into the area forward of the glovebox. Notice the white plastic module mounting rack. Depending on the vehicle's specific options, you should find some, or all, of the compartments vacant. We will mount the MediaBridge control unit into one of the vacant compartments in the module mounting rack (figs. 9 & 10).

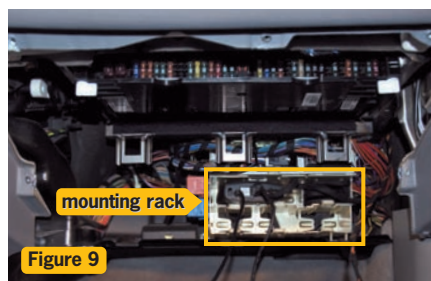


Figure 9

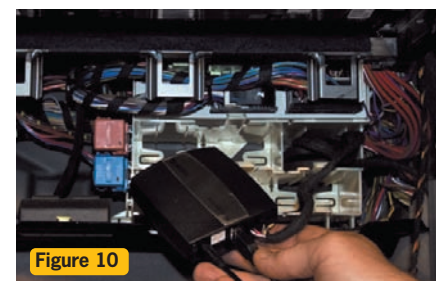


Figure 10

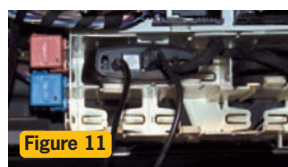


Figure 11

**11.** Connect the applicable harnesses to the MediaBridge control unit; the main vehicle connection harness, USB (for the iPod), Auxiliary input (for input of MP3 or other devices) and microphone (for Bluetooth phone operation). Slide the control unit into the mounting rack. Tuck the vehicle connection harness into a vacant slot in the mounting rack (fig. 11).

**12.** Determine where you want the USB/iPod, Auxiliary input and microphone wires to terminate. If using one of the G2 iPod mounting cradles (page 1), determine the mounting location and run the USB/iPod cable through the area above and/or forward of the glovebox and behind the center console side panel, working toward your intended location. Use this same pattern for the other connections. The wires are easily pushed up under the center console side trim, just as with the door sill trim. The shifter boot and/or ashtray can be removed in order to pull the cable into the console.

To read the rest of this article and watch our DIY video, go to [blog.BavAuto.com/go/media-bridge](http://blog.BavAuto.com/go/media-bridge).

On our blog you can also find installation videos for the Smart iPod and DICE FMRDS USB Pro. Just click on the videos category on the right, or search for videos...





# DIY: Restoring plastic headlight lenses.

The headlight lenses on many BMWs and MINIs are made of a hard plastic. Over time, exposure to the sun's UV rays can make these plastic lenses appear yellow and cloudy, while sand and stones encountered at high speeds can create pits in the surface. If your headlight lenses look like the one on the left of this 1995 M3, you have three choices: 1) live with it; 2) upgrade your headlight assemblies (see related article at right); or 3) renew your existing lenses using one of our Diamond Clear headlight kits (above). Follow along as we show you how easy it is to do this. *Note: Because the damage to the lenses on this M3 is moderate-to-severe, we'll use the Diamond Clear restoration kit; were these lenses only slightly yellowed or cloudy, we could use the Diamond Clear polishing kit.*



Prior to treatment, the lens on the right looked like the one on the left.

1. Use painter's tape to protect the areas surrounding the headlights (fig. 1).
2. Assemble the arbor and backing pad to a variable speed power drill. Apply the sanding pad, with sand paper, to the backing pad (fig 1).



3. Spray the lens liberally with water (an atomizing spray bottle works great) and begin to sand the lens using a moderately slow drill speed (fig. 2). Work across the lens in an even, methodical manner, covering the lens completely. Use the water spray to keep the lens wet and periodically flush the sanding debris from the lens.



4. Continue sanding until the complete lens has an even, light sanded haze and the pitting is minimized or gone. Clean/flush all of the sanding debris from the lens. At this point, the lens should feel smooth to the touch.

5. Remove the sanding pad from the backing pad and install the white polishing pad. Liberally wet the pad and the lens with the water spray. Apply a small amount of the polishing paste to the polishing pad (fig. 3).



6. Use the polishing pad and paste in a similar manner to the sanding pad, covering the lens fully and evenly. Do this for a few minutes, applying water to keep the paste wet and applying additional paste as needed.

**Note:** It does not take much paste to get the polishing done.

7. The polishing part of the process is complete when all of the sanding marks are gone and the lens is uniformly clear. When satisfied, clean the paste residue from the lens.

To read the rest of this article and watch our DIY video, go to [blog.BavAuto.com/go/lens-restore](http://blog.BavAuto.com/go/lens-restore).

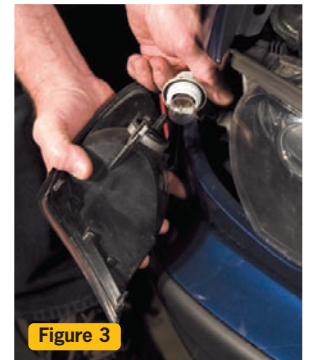


# D.I.Y.: Installing headlights.

Whether you're replacing a broken headlight or upgrading your stock headlights to projector/angel eye assemblies, the prospect of removing the old headlights and installing the new ones can appear intimidating at first glance. In reality, it's not that difficult. Follow along as we install a set of the new projector headlights with LED angel eyes on a BMW 3 series 99 thru 05 (E46 chassis). Installation procedures on other BMW chassis will be different (see the applicable Bentley repair manual), however the wiring of the angel eyes will be similar to what is described here. *Note: If you're just installing a replacement headlight assembly, follow all the steps in this article until we begin wiring the angel eyes themselves.* On this vehicle we will be installing halogen projector headlights with LED angel eyes; for HID/xenon lights the installation will be similar.



**TIP:** Cover the upper surface of the painted bumper cover with a couple layers of painter's tape. This will protect the paint as you remove and install the headlight lower trim strip and the headlight assembly.



1. Remove the parking/turn-signal lens housing. The E46 models employ two different designs for securing the parking/turn-signal lens housings. One style has a plastic spring-tab that is depressed and then pushed forward. The other employs a Phillips head screw and clamping ring. When you look into the fender flange access hole (fig. 1) you will either see the end of the spring tab or you will see a Phillips head screw. This 330ci has the spring-tab type. Insert a long flat-blade screwdriver into the access hole in the edge of the fender flange. Locate the spring-tab. You can tell when you are on the tab by pushing down gently – the tab will depress and have a “springy” feel. Gently push the tab down and pry the end of the screwdriver toward the front of the car. This will push the lens housing forward and you can then pull it out (fig. 2). On models that have the Philips head screw and clamping ring, simply loosen the screw (through the access hole), then pull the lens housing forward and out. (Do not fully remove the screw.) Remove the bulb socket from the lens housing by twisting the socket counter-clockwise (fig. 3).



2. Remove the lower headlight trim. The trim is held in place by clips on its inner and outer ends (fig. 4). Disconnect the inner end by inserting a medium-small flat-blade screwdriver along the clip tab (at the inboard end of the trim strip) and into the slot that the clip is secured in. Gently pry the handle of the screwdriver toward the middle of the car, while moving the tip toward the front. This will release the securing clip and push the tab forward, out of the slot.

To read the rest of this article and watch our DIY video, go to [blog.BavAuto.com/go/headlight-install](http://blog.BavAuto.com/go/headlight-install). For more information on our projector headlights with angel eyes, ask your phone rep or visit [www.BavAuto.com](http://www.BavAuto.com).

