

Stage 1 Audio Upgrade (BMW Speakers) Installation Instructions for BMW 3 Series, E90 Sedan with Standard Audio

Tools Required:

- Metric Socket Set
- Panel Removal Tool
- Torx T20 screwdriver
- Small, Straight Pick Tool
- Brain

Before you Begin

- **Please review and familiarize yourself completely with these instructions before starting work on your vehicle!**
- **Insure that your bass and treble settings are set to their default middle positions before installing your new speaker upgrade.** Once you've installed your Stage 1, you can reset the bass and treble settings to your particular liking. Keep in mind that we generally recommend keeping them both very close to center as large adjustments introduce distortion into the audio signal and will lower performance of your system.
- **Perform the installation one door at a time.** Since there are many small parts that you'll remove when completing the project, limiting the work you're doing to one door will prevent you from confusing which parts go with what door. Take a quick listen to confirm that the speakers are functional, **but wait until all of the speakers are installed for a complete audition.** Installing the speakers into one door and comparing them to the rest of the factory speakers will not yield the desired results of the upgrade.

The Process

Keep in mind that it is important to remember that panel re-installation is essentially the reverse of the removal process outlined below. Variations occasionally occur, so if anything seems out of line with what is contained in the pages that follow, please don't hesitate to contact us.

If you experience any issues with your installation, please consult the troubleshooting guide located at the rear of this installation packet.

We're going to proceed as follows:

1. **Front Door Speakers - Please Note: The driver front door is removed identically to the passenger less of course the vertical handle. There is also one additional Torx screw behind the woodgrain/aluminum panel.**
2. **Rear Deck Speakers**

For any needed clarification, we cannot stress enough how important it is to view our complete video installation guide located directly on our website.

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Front Door Removal:

1. Start by rolling down the windows on all of the doors. This will decrease the chance of mistakenly scratching the glass or tint on the window.
2. Orient yourself with the door. Read these instructions fully before beginning the installation process. This will again ensure proper planning and that the process goes as smoothly as possible.
3. **Starting with the passenger door**, locate the wood grain/metallic panel that runs the length of the door panel. Using your Plastic panel removal tool, pry from the front edge and **carefully** work your way toward the back of the panel. There is a small hook that slides inward towards the rear of the panel. **See our installation video for a better visual of this portion of the panel removal.**

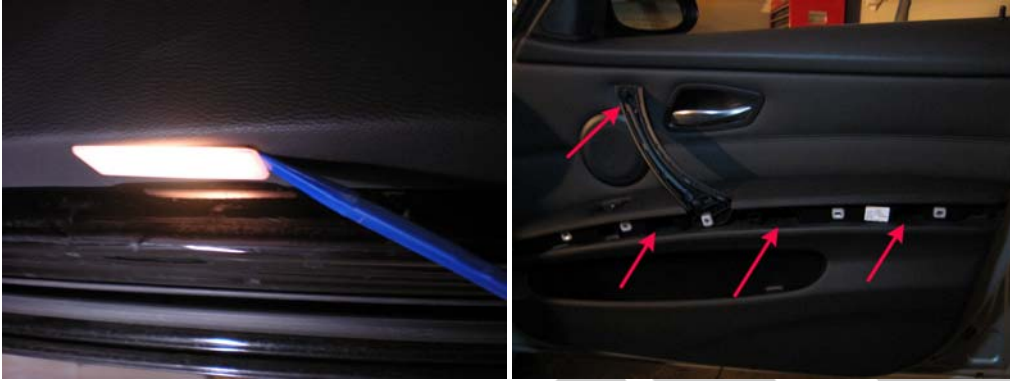


4. Now, we need to remove the door handle trim. Again, using our plastic panel removal tool, **carefully** pry the panel outward. You will see the seam where the handle will separate.

Again, please see our installation video for a better visual of this portion of the panel removal.



5. Now, let's get the under panel light out of the door panel. Again, using your plastic panel removal tool, carefully pry the light out of the panel and unplug it.



6. At this point let's remove the four Torx T20 bolts that secure the entire panel. They are located at the arrows shown above on the right.
7. With these bolts removed, we can now remove the panel itself. This is very easy, let us assure you. Using your plastic panel removal tool, carefully pry starting at the upper front edge of the panel and work your way down, pulling toward you as shown below:



With the panel freeing itself from the door, you can now see how it pops straight off of the door. The top edge pops right off as well. ***Here it is very advantageous to watch the install videos on our website.***

Now that we have the panel loose, we need to disconnect the lock mechanism, the window switches, and the Midbass and tweeter from each panel.

1. Let's get the Midbass and tweeter freed up before we do anything else. These are the shortest wires on the panel, so once they're disconnected we can have more room to work with. It's simple; just unplug the midrange and tweeter by pulling the connector straight out of the speaker!



2. We'll next disconnect the lock mechanism. The photos below are helpful, but ***the installation video will show you exactly how the mechanism is disconnected.*** Simply lift the lock mechanism out of the handle by lifting outward.



3. We can now disconnect the window switch and free the harness going down to the light, thus completely freeing the door panel. We can now take the panel over to our workspace where we'll install the midbasses and optional sound deadening material.

Before we upgrade the midbass, let's tackle the tweeter portion of the installation.



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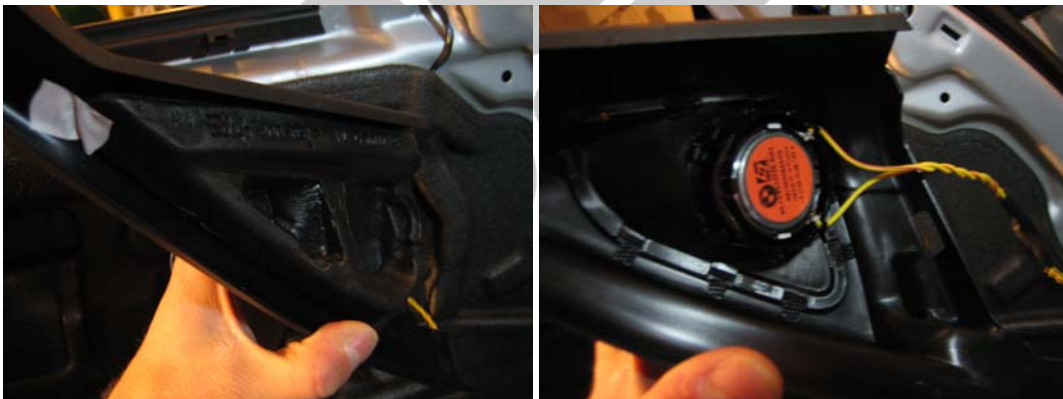
Front Tweeter Panel Removal

This is actually very easy. The factory tweeters are loosely pressure fitted into the plastic housing shown below:



All we need to do is carefully remove the tweeter sail and pop the factory tweeter out of it's housing using our angle pick tool included with your BSW tool kit.

Looking at the photo on the right above, use your plastic panel removal tool and carefully pry at the location of the arrow. Once the plastic housing is free, it will free itself and allow you to gain access to the tweeter.

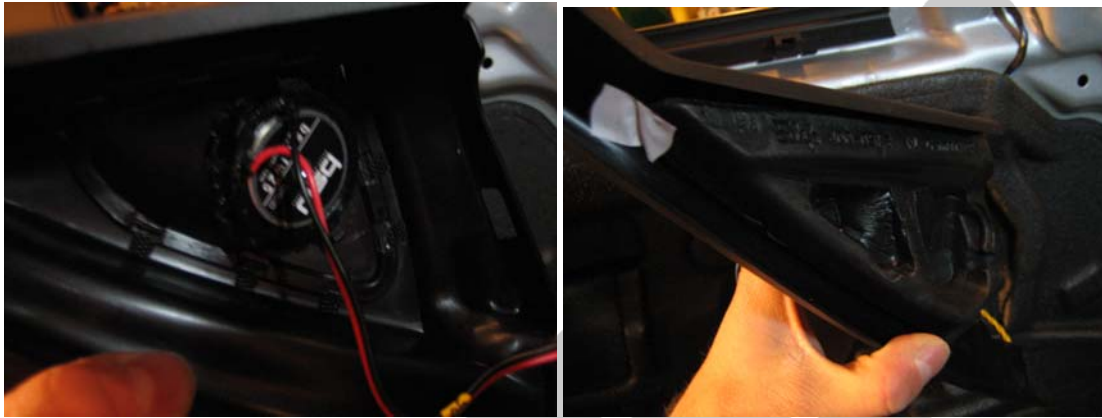


Remove the foam backing from the tweeter sail, and the tweeter itself will be revealed. It is very easily removed using your pick tool, or sometimes, we've seen the tweeters fall right out of their housings.

With the factory tweeter removed, let's install the new tweeters....

Front Tweeter Installation

To install your new front tweeters, simply snap them into the housing, and reinstall the foam backing material. Our new tweeter is a very tight fit, so be thorough in pressing the tweeter into the factory hole. We promise it's easy!



Reinstall the foam backing, snap the tweeter housings back into place on the doors, and let's move on to the Midbass installation.

Front Midbass Installation

Again, it doesn't get much easier than upgrading these midbass drivers. The factory speaker is attached by (3) 8mm nuts as shown. Remove these, and then remove the speaker itself.



With the speaker removed, we can now apply the optional sound deadening material to the door panel itself. Please note that there is no right or wrong way to apply the material. Just make sure you heat the sound deadening up sufficiently enough to activate the glue on the sticky side of the material. You can use either a heat gun or a hair dryer, whichever is more readily available.

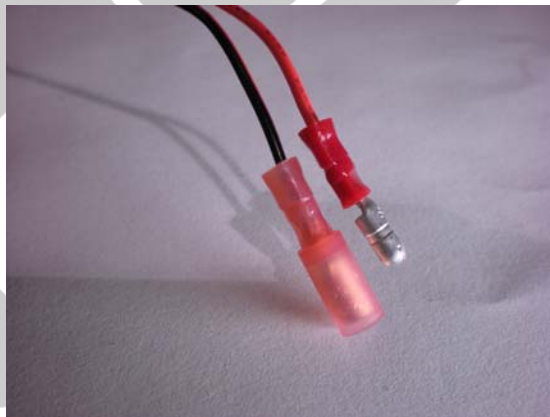
Sound Deadening/Midbass Installation Photos

The installation video on our website will better illustrate exactly how we recommend applying the sound deadening material as well as the reattachment process of the door panels.



With the sound deadening installed, we can re-attach the upgraded BSW midbass driver to the door panel. Easy enough, right?!

Plug the tweeter wires into the color matched wires coming from the midbass driver:



Now connect the blue connector on the midbass into the factory connector, and reconnect all other plugs (window, lower door light, lock mechanism). Now we can move to the rear deck speakers.



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Rear Deck Speakers

It doesn't get much easier than this. Lift each rear headrest all the way up and identify the rear speakers. Using your panel removal tool, carefully pry upward on the front edge of the grille covering each speaker set. There are two hooks on the rear most edge, so don't pry on the rear edge. **Again, the installation videos will highlight the exact removal process.**



With the panel removed, the factory speakers are simply unbolted, and our new midbass and tweeter are bolted right back into the factory locations. Both the tweeter and midbass are attached using 8mm bolts. **Install the new tweeter first, then the midbass driver.** There is no reason for sound deadening in the rear deck, as BMW has put more than enough back there.



5 Series shown for reference

Stage 1 Speaker Upgrade Troubleshooting Guide:

If you're experiencing an issue with your new speakers, please carefully read through this guide, as it covers almost any issue that you are likely to encounter.

If the issue cannot be resolved, please call us at (404) 963.8857 for further support.

Here are the most common issues we've experienced:

- **No sound from speaker (s)**
- **Distorted sound from speaker (s)**
- **Physically defective speaker (broken or damaged during shipping, no sound)**
- **Missing product**

Let's address each bullet point:

- **No Sound from Speaker:**

One of three things is most likely happening, and they are listed in order of most common occurrence:

1. Wiring on plug-n-play connector is misaligned.
Here we want to check for alignment of wires from their factory plug through the BSW connector.
Do they line up? If so, was the factory speaker working prior to replacing the speaker? Go ahead and plug the factory speaker back in to confirm operation. If the factory speaker works, and the wires in the plug are aligned, the speaker is defective. We need to get you a new speaker!
If not, let us guide you to the proper connections. Remember, on our wires, the Red Stripe is positive, while the solid black is negative, while on the BMW side of the plug that following holds true:
 - Black Stripes, Red Stripes, White Stripes, Purple Stripes are Positive.
 - Solid wires are negative, as are wires with Brown Stripes or Grey Stripes.
2. Check to make sure that no speaker terminal is touching metal. This can cause the speaker to not function, as it is effectively grounded (shorted) out.
If you find that this was the case, place electrical tape over the terminals to prevent future mishaps. If the entire system has no sound after the installation of new speakers, we almost know for sure that there is a speaker whose terminals are grounded out. Let's check by disconnecting each speaker until the music comes back on and we've isolated the problem speaker.
3. The Factory Speaker did not work either. If this was the case, and you were trying to fix the problem by purchasing new speakers, we may need to look at the factory amplifier, as it is most likely the culprit. Is the entire side (left front, right rear, right front, left rear) not working, or is it a particular speaker that was not working. Most likely it was a single speaker. If an entire side is not working, make sure, especially on the tweeters that you just installed, that neither the positive or negative terminals are touching metal. This can contribute to an entire side (channel) not working properly.

- **Distorted Sound coming from new Speaker**

Again, a few things come to mind:

1. Where are the bass/treble settings on the radio/EQ? Flatten out the settings to ensure no pre-amp distortion is the cause of the problem. If you're using the radio to test the speakers, go ahead and use a CD or directly connected iPod instead.



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2. Speaker terminals may be touching ground (metal). Where is the distortion coming from? A single speaker, an entire side (channel), or the entire system? Its best at this point to go back and disconnect each speaker until the distortion goes away. The most likely culprits are the front tweeters.
 3. The factory speaker was distorted as well. If a single speaker was distorting, the most likely culprit is the amplifier. We may need to explore replacing/repairing your factory amplifier.
- **A speaker is physically defective, as in defective from shipping or directly from the manufacturer.**
There is only one solution here:
 1. We will be happy to get a replacement speaker out to you. We'll need to bill you for the replacement speaker, and once the defective speaker arrives back to us, we will gladly issue a refund. Once you get the new speaker, please keep us posted on the results, as want to make sure that everything is sounding as it should.
 - **Missing Product(s)**
If you feel that a product or accessory is missing, let's check a few things before we send out replacements. It'll save everyone a lot of time!
 1. Please check to make sure that nothing has gone unnoticed in the packaging. If you're calling from your office and don't have access to the package, please bring the package to the office the next day so that we can go over with you exactly what was supposed to be in the packages that we shipped out to you. Sometimes our shipping department uses filler boxes in packages to ensure that your products aren't damaged in shipping, and often times those boxes are mistaken for missing products.
 2. If indeed a product is missing, firstly please accept our apologies. We try our best to ensure that all orders are filled as they should be, but we're only human! ☺ Please notify us immediately of the missing product, and we will the appropriate pieces out to you that same business day, provided FedEx hasn't already come for the day. We want you to get your new equipment installed as quickly as possible, so we'll make sure you have it in an expedited fashion once we've been made aware of the problem.