

GROUND ZERO[®]

MOBILE ENTERTAINMENT

Installation guide BMW Sound-Upgrade

This Instruction is based on below BMW-Type:
E87 130i before facelift with BMW standard-speakersystem
(10cm / 4" fullrange and 16cm / 6" underseat-woofer)

Alternative procedure at different BMW models can't be ruled out. Errors and omissions excepted.

Products needed

	<p>1x GZRC 100FX</p> <ul style="list-style-type: none">-2-Way component-system-Extra flat 100mm / 4" Midwoofer-Coated paper cone-25mm / 1" Silk dome tweeter-Adjustable crossover-70 WRMS / 110W Peak / 4 Ohm
	<p>2x GZMW 200NEO</p> <ul style="list-style-type: none">-Extra flat 20cm / 8" Woofer-Neodym magnet-Coated paper cone-100 WRMS / 150 W Peak / 4 Ohm
	<p>1x GZBR 200BMW</p> <ul style="list-style-type: none">-20cm / 8" Steel-Adapterbracket for underseat-mounting of GZMW 200NEO instead of the BMW-woofer.
	<p>1x GZRX 2-Way Kick</p> <ul style="list-style-type: none">-2-Way kickwoofer crossover to use the GZRC 100FX in combination with the GZMW 200NEO as 3-way system.

Required tools and material

- Screwdriver T10 & T20 Torx



- Phillips head screwdriver PH2



- Slot head screwdriver



- 7mm & 8mm combination wrench



- Cordless screwdriver
- 3mm & 5mm spiral drill



- Ratchet with T50 Torx bit



- Wire cutter



- Plastic tool for doorpanel



- Carpet cutter



- Crimping tool



- Metal shears



- Crimp connector blue 4x



- Crimp connector red 10x



- Crimp plug red 10x



- Bond & Seal Silicone



- M4 x16 screws 8x & M4 screw-nut 8x



- Hot-melt adhesive



- Moulding sealant



- Foam sealing strip

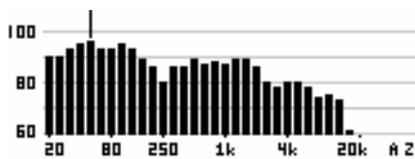


BMW standard components



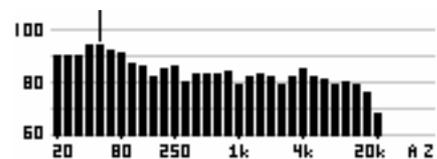
Frequency-curve

BMW



15dB difference between mid and high...
No high frequencies! Bad sound quality

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Very linear. 4kHz peak caused by reflexions,
but not affecting the sound quality.

Reference Car



E87 130i before facelift with BMW standard-speakersystem
(10cm / 4" fullrange and 16cm / 6" underseat-woofer)

Installation Instruction

1. Removing Doorpanel (Open left and right window before you proceed)



3 Screws at each doorpanel

Use the Plastic tool to take off the cover. Take care, it is fixed very strong.



1x Phillips head screw

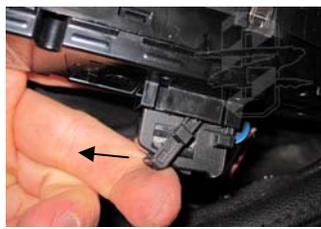
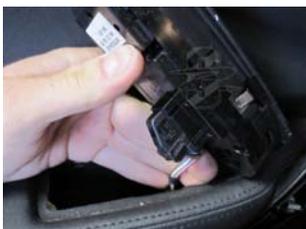
After removing the cover, unscrew 1x Phillips head screw at the door opener & 2x Torx T20 at the door pull



2x Torx T20



Use the plastic tool to remove the power window panel



Disconnect the plug

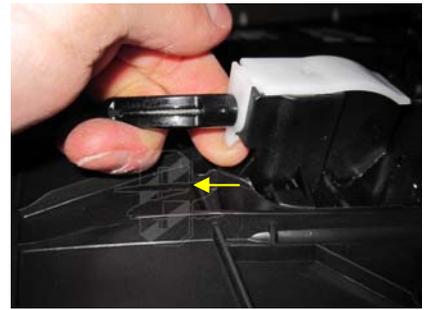


Use the plastic tool to unclip the doorpanel step by step



Pull to unclip the metal-clips at the top

Hold the panel in one hand and disconnect speaker cable and door opener with the other hand



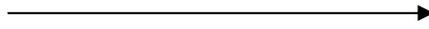
Lay the door panel on a soft underground (foam)

and

Unscrew the original BMW speaker



2. Installing midwoofer



Take the grill-bracket of the GZRC 100FX and use the BMW speaker as a center mark template



Use a 3mm spiral driller to pre-drill 3 holes



3mm spiral driller for pre-drilling

5mm spiral driller for enlarging the bore-holes

Use a 5mm spiral driller to enlarge each bore-hole



Use 8x M4x16 screws incl. screw-nuts and fix the midwoofer as shown at the pictures.



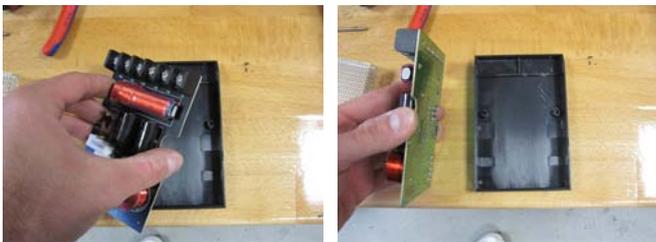
To get the best result, you should put some foam sealing strip at the front of the speaker as shown below.





Use the original screw-nuts to fix the speaker with the bracket according to the pictures

3. Installing crossover



Remove the crossover-board from the housing



Use bond&seal silicone to fix the crossover-board according to the pictures.
To fix the board directly, you can also use some additionally hot-melt adhesive.



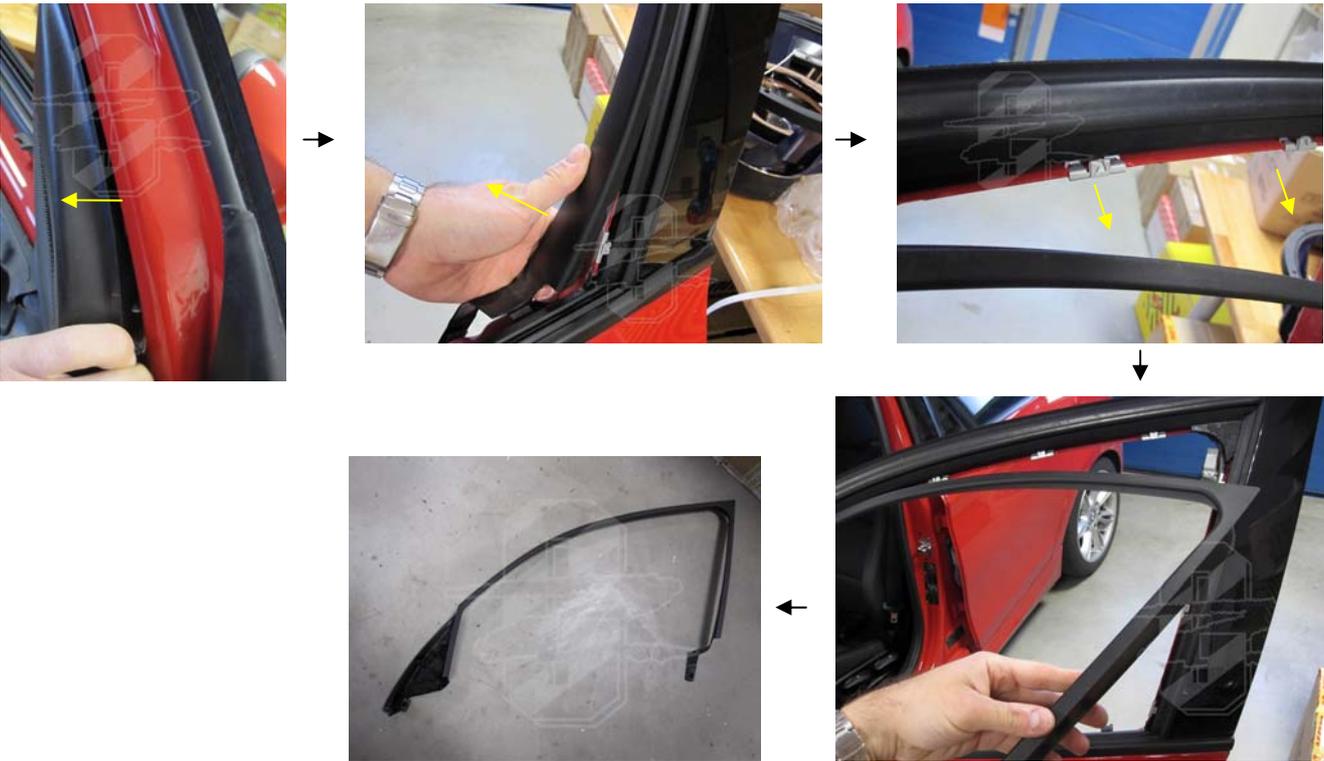
Connect midwoofer to the crossover and prepare some cables for tweeter and input



4. Removing side mirror panel and window frame

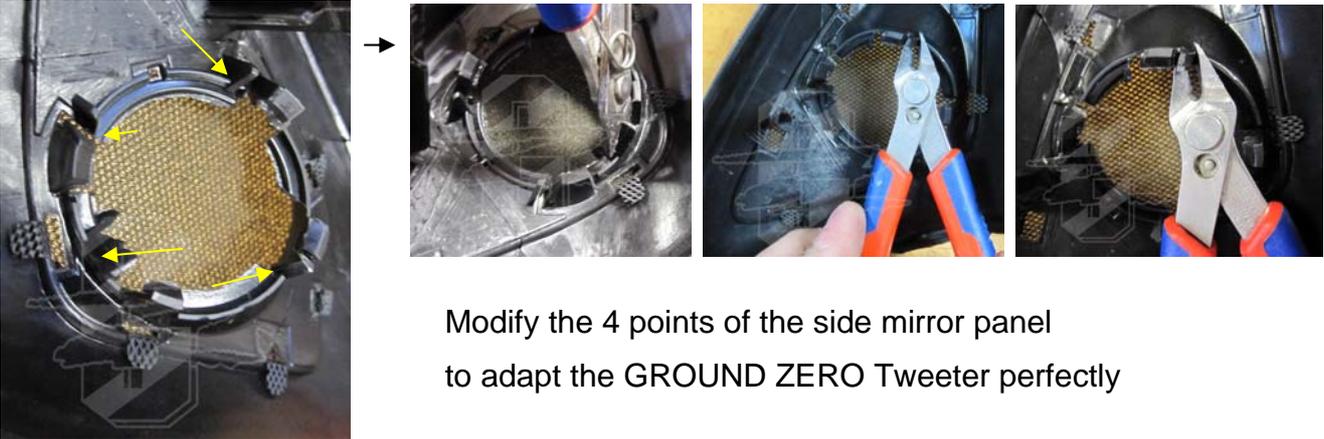


Unclip 3 fixing points and pull off the panel and the frame..



5. Installing tweeter

Please note, that some BMW models, for example E87 Facelift, do not have the preparation for tweeter-install. You have to order the correct side mirror panel at your local BMW dealer.



Modify the 4 points of the side mirror panel to adapt the GROUND ZERO Tweeter perfectly



Remove housing and the grill



Clip in the GROUND ZERO tweeter.

If the modification of the side mirror panel is done very accurate, the tweeter mounting should be very strong. You can also use some glue additionally.



Reassemble the side mirror panel and window frame in reversed order, according to point 4.

6. Damping

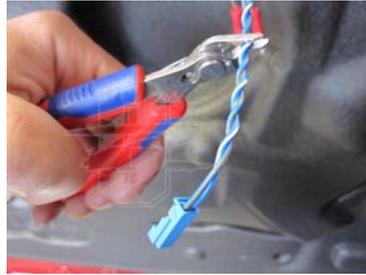


← Minimum damping that we recommend

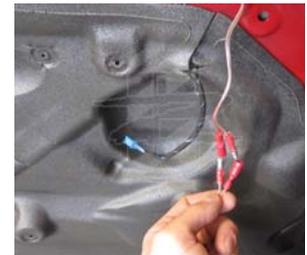
7. Connect tweeter and input signal-cable to crossover



Note the polarity of the OEM-cable



Cut the OEM and tweeter cable and fix crimp connector and plug



8. Adjusting crossover

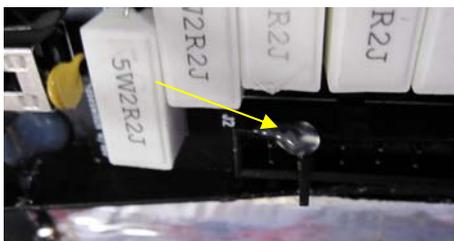
GROUND ZERO recommendation for best compromise of sound quality and efficiency.
For individual taste, you should try also different adjustments.

Driver focus	
Driver's side	Passenger's side
<ul style="list-style-type: none"> • Jumper J2: +2dB • Jumper High • Tweeterphase 0° 	<ul style="list-style-type: none"> • Jumper J2: +4dB • Jumper Low • Tweeterphase 0°

Front focus
Both sides
<ul style="list-style-type: none"> • Jumper J2: +4dB • Jumper High • Tweeterphase 0°

9. Fixing jumper

In order to prevent losing jumpers, caused by vibration, you should fix them also with a small glue joint with hot-melt adhesive



10. Reassemble doorpanel

Reassemble the Door panel in reversed order, according to point 1.

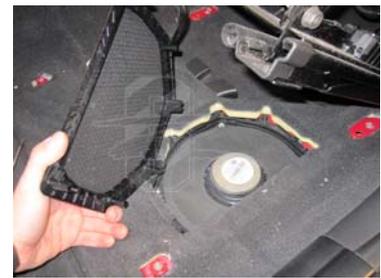
11. Removing OEM woofer



Unscrew 4x Torx T50
and tilt the seat backwards



**Please note: It is not necessary to disconnect
any cable from the seats!!**



Unscrew 6x Phillips PH2 screws and remove grill

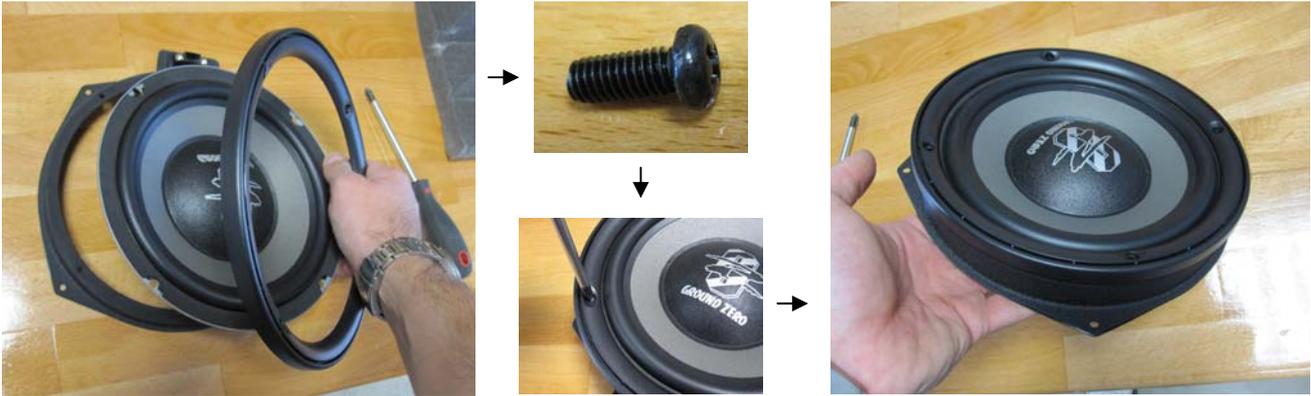


Unscrew 4x Torx T10 screws,
disconnect cable and
remove the OEM-woofer.

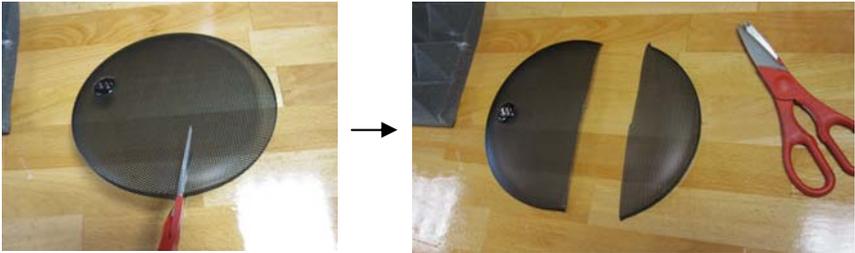
Take a carpet cutter and cut out
a ~ 10x15cm big area
of the carpet-foam.



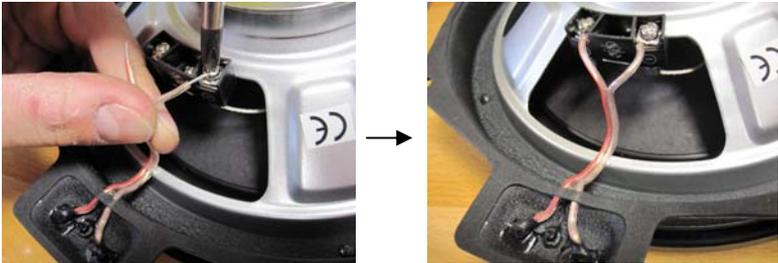
10. Installing woofer



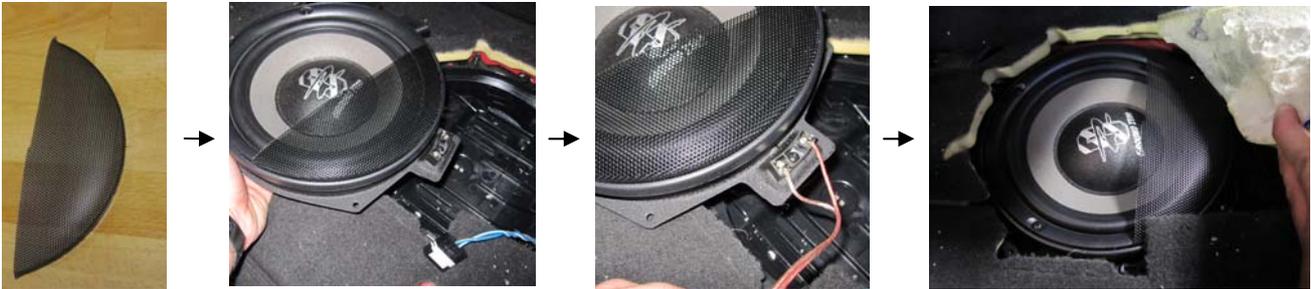
Put the metal-bracket GZBR 200BMW, the GZMW 200NEO and the plastic ring of the GZMW 200NEO-Grill together.
Take the 4x Phillips PH2 screws out of the small poly bag, packed in the GZBR 200BMW bag and screw together the bracket, the woofer and the plastic ring



Use a metal shears and cut ~ 1/3 of the mesh grill



Connect the cable of the GZBR 200BMW to the terminal of GZMW 200NEO



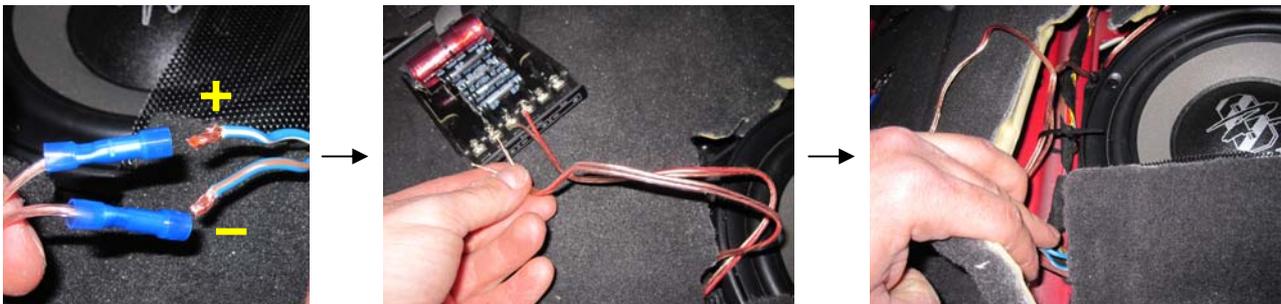
Add the mesh grill, connect a 1.5mm² cable with ~40cm length
Put the woofer back in position and fix the 4x Torx T10 screws



11. Connecting woofer and installing crossover

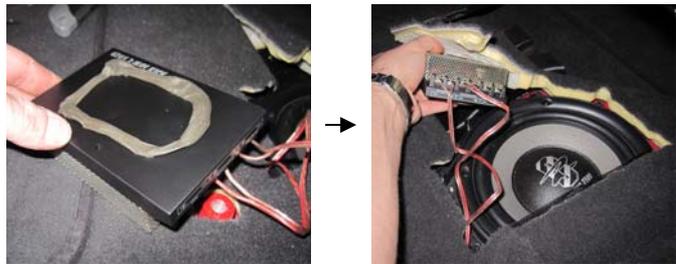


Take a carpet cutter and cut out a ~ 10x15cm big area of the carpet-foam.



Stretch the OEM cable with ~30cm 1.5mm² speaker cable. Please note that the **brown** marked cable is **ground** - !

Connect speaker and line-in to the crossover. Put some moulding sealant at the bottom of the crossover and put it at the plastic air shaft below the carpet.



Finally you can reassemble the plastic-grill with 6x Phillips PH2 screws.

Flip the seat forward and fix the 4x Torx T50 screws.

Please take care of the max. torque from BMW specification for the seats.

Woofer adjustment

- Jumper J1: Low - Jumper J2: without function



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According to different car-type, year of manufacture and car configuration,
we can not rule out any difference of the type of installation.

This instruction solely refers to the reference-car equipped by GROUND ZERO.
GROUND ZERO will assume no responsibility of any kind of defect or damage, caused by
above listed differences or faulty installation.

Errors and omissions are excepted.

GROUND ZERO GmbH

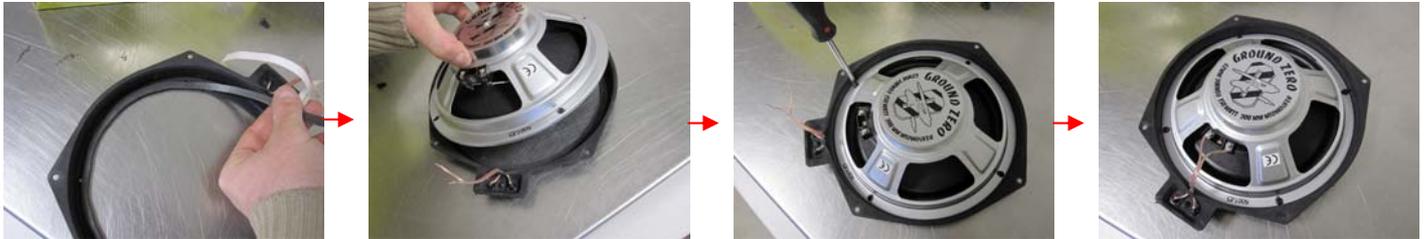
www.ground-zero-audio.com
Info@ground-zero-audio.com

Additionally information to point 10/11

BMW E90 / 91 / 92 / 93



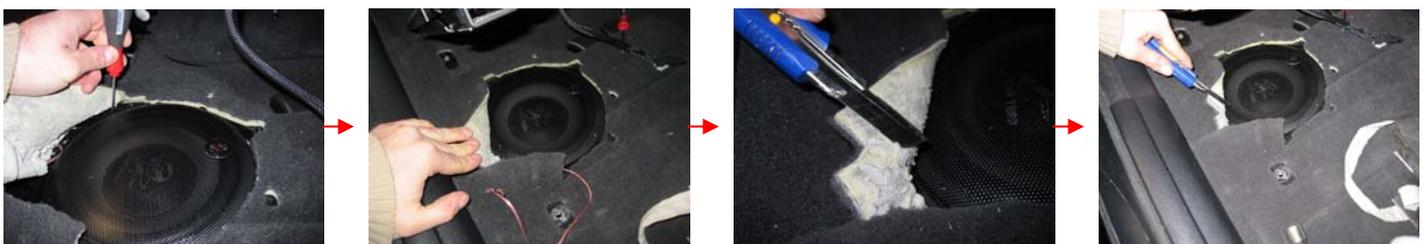
Because of a limitation of the mounting height at above shown BMW models, you should pay attention to below instruction. The instruction is based on a BMW E90 with the basic Stereo-System. According to different car-type, year of manufacture and car configuration, we can not rule out any difference of the type of installation. This instruction solely refers to the reference-car equipped by GROUND ZERO



- Fix up one layer foam inside the GZBR 200BMW.
- Fix the GZMW 200NEO into the Adapter
- Connect cable
- Cut the overlaying screws



- Connect the speaker according to point 10 and 11 and put it in the original chamber
- Put on the provided metal-meshgrill
- Fix the adapterring with the 4 original T10 screws
- Thin-out the bottom side of the carpet



- Cut off the whole edge at the plastic cover according to above pictures
- Put on the plastic cover and screw carefully
- The metal meshgrill will be also fixed if you screw down the original plastic cover
- The surface curvature is due to the metal meshgrill. There will be no reduction regarding the fitment and function of the seat and the components.