









doorboards with soundsystem, BMW 3 E92 / 93 convertible + coupe

Technical Details:

Car Features:	2-doors
Model/Year:	E92/E93 (03.2006)
Setup-Advice:	To reach the best performance, the setup of the radio (Bass, Loudness etc.) should be null or neutral.
recommended amplifier power:	from 2x 150 - 300 Watt / 4 Ohm



Parts list:

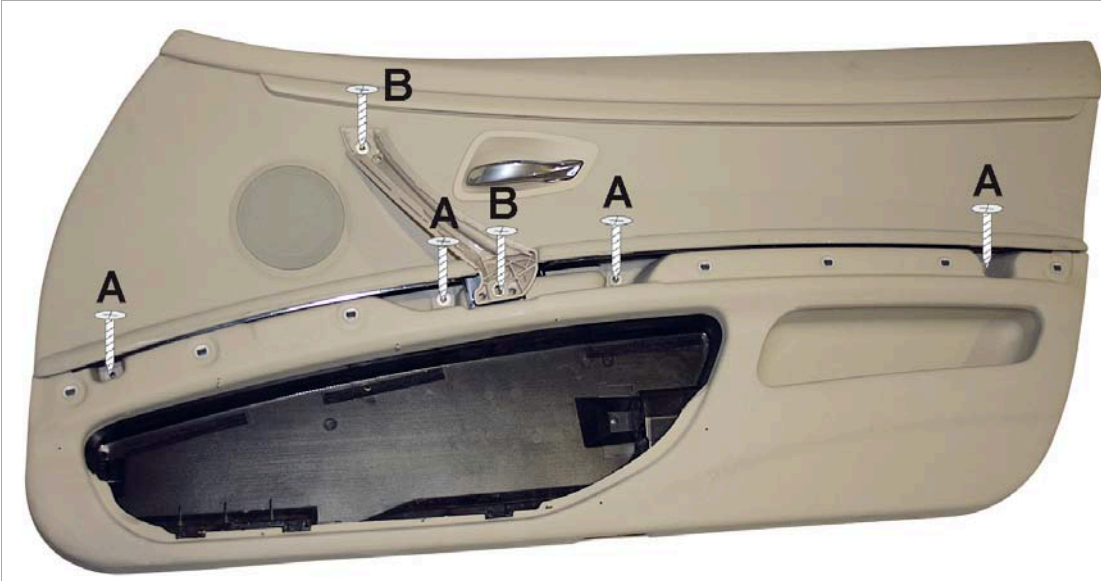
1x	Doorboards (right+left) BMW 3series E92/E93 convertible/coupé/M3, covered
1x	grills (right+left) BMW 3series E92/93 convertible/coupé/m3, cover: acoustic fabric
2x	XE 26 - Neodymium-Tweeter ø 26mm (1") incl. mounting device, Hex nut M4, washer ø 12mm
2x	XM 110 - High-End-midrange driver, ø 100mm (4"), incl. adapterring
8x	XM 165 - Low midrange driver, power woofer ø 165mm (6,5")
1x	serial wire set for woofers (right + left)
1x	3-way frequency crossover (right+left) BMW 3 E92/E93 convertible, coupé, M5 - part-no. 75166
1x	Hardware bag, BMW E 92/E 93 convertible/coupe - part no. 75167/71167
8x	 flat head srew M4 x 40
4x	 flat head srew M4 x 50
14x	 hex nut M4
4x	 sheet metal nut 3,9mm
12x	 sheet metal screws, black, 3,9 x 32
2x	 Velcro strip à 2,5 cm (reserve)
10x	 washer 12mm
8x	 washer 20mm

Garantee:

We grant a manufacturers guarantee of 2 years starting from the date of purchase of the doorboard or sound system from the dealer. Within this guarantee period to our choice we either repair or replace free of charge all defects due to material or workmanship. Exempt from this guarantee are damages due to improper use, wear and tear or damages which have to be led back on wear or interventions by third parties. The guarantee does not cover subsequent damages or such defects that only insignificantly impair the value or the usability of the doorboard/sound system. The guarantee does not cover damages due to external influences. Doorboards with additional or wrong assembly drill holes cannot be returned. These are damages to the doorboard which cannot be repaired again.

1 Disassembly of the door card

1.1 Roll down window completely.



1.2 Pry off the trim strip. Unscrew screws underneath.

1.3 **only copassenger's side:** Pry off the door handle and unscrew the screws underneath.

1.4 Lift the door card out of the sealing above and simultaneously move it horizontally and forward away from the inner door metal.

1.5 Remove the Bowden pull wire of the door latch lever.

1.6 Unplug switch for electric window control.

1.7 Disconnect the original loudspeaker plugs and dismount the original speaker.

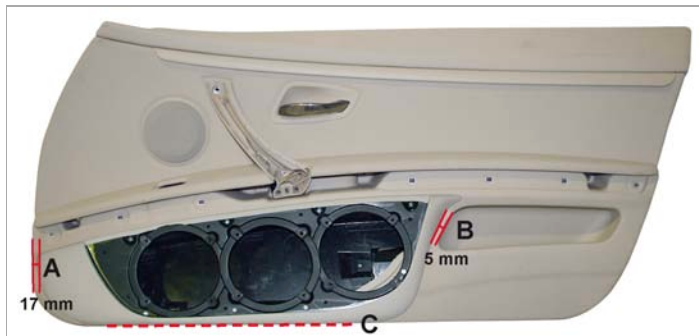
1.8 Remove the mobile card drawer out of the door card.

2 Handling of door card: Doorboard alignment

2.1 Place the door card on a plane surface.

2.2 Dismount the loudspeakers attached to the doorboard for transport protection --> retain the screws for later assembly.

2.3 Place the doorboard without speakers on the door card and align it:



 **Only precise alignment of the doorboards with the door card warrants optimal fit!**

Reference points for alignment:

Reference point A- front edge of the doorboard:

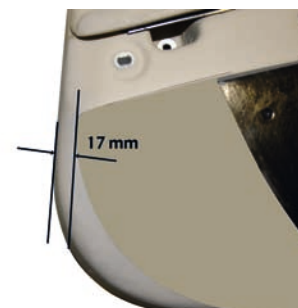
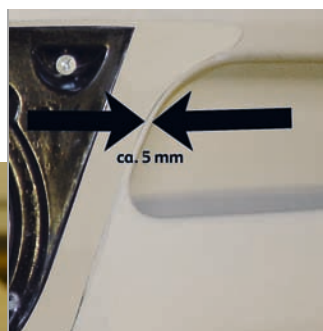
approx. 17 mm distance between front edge of the doorboard and outer edge of the door card

Reference B:

approx. 5mm distance between the edge of the doorboard and tray.


Reference C:

the bottom edge of the doorboard
(C) is flush with the door card.



3 Handling of door card

3.1 Use the doorboard as template in order to mark fastening points and cut-outs:

 **Precisely align the doorboard to the fixing points of the door card.**

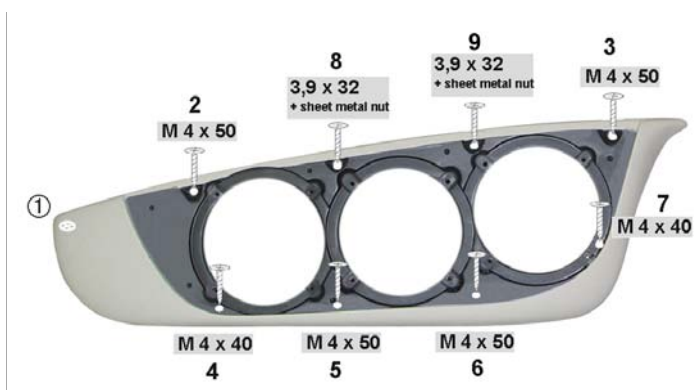
4 Marking fastening points

4.1 Mark the fixing point 1 - premounted in the doorboard:

Pressing the doorboard onto the door card leaves a visible impression of the screw - the fastening positions of the door card

Marking of the pre-drilled fastening points 2-7:

Use a thin awl to set the marks on the door card.



5 Handling of door card cut-outs

The cut out behind the speakers are providing the required full volume of the car door:



Example

5.1 Mark the cut outs for the woofers on the door card. Enlarge them approx. 1cm (= approx. outer diameter of the woofers)

⚠ IMPORTANT! Check all cut-outs marked:

🔧 The fastenings of the doorboard must have to be screwed with the door card.

🔧 The fastenings of the door card must not be removed!

5.2 Remove the doorboard again and cut out the positions marked on the door card. Use a compass saw.

5.3 Drill the bore holes for the M4-screws according to the marks set before - use a 4mm drill and enlarge to 7-8mm.

Please observe!: not for **7 + 8**)



Example



Example

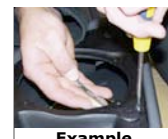
6 Fastening Doorboard

6.1 Fastening points 2-7:

Screw in the M4-screws supplied with. Affix the doorboard to the door card.

Screw all M4-screws only hand-tight . Secure all screws with washers and nuts.

TIP: Treat the screw thread with a liquid for screw-in type fuse. (Speaker vibrations may loosen the screws after some time)



Example

6.2 Fastening point 8+9:

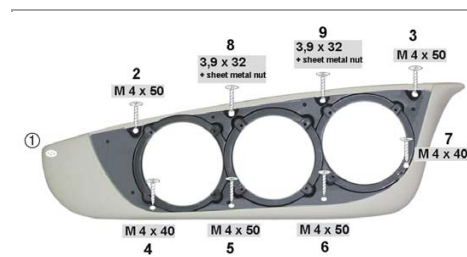
Screw in the screws (3,9x32) supplied with. Affix the doorboard to the door card.

Screw the screws only hand-tight . Secure the screws with washers and sheet metal nuts.

6.3 ⚠ Check the length of screws and staybolts:

In order to avoid damages to the car door, check all length of the staybolts / screws on the backside of the door card once again and possibly shorten staybolts or change screws.

6.4 Check again for precise fit and tighten the screws.



🔧 All cutting edges of the doorboard must fit to the door lining snugly all around without gap!

7 Midrange installation: original mount of the door card

The original speaker in the door card is replaced with the JEHNERT - 100mm High-end-midrange driver:

7.1 Unplug the original speaker. The original speaker fastenings may be used for the installation of the midrange adapter plate (original cables are not needed any more)

7.2 Connect the JEHNERT midrange with speaker cable (1,5 - 4 qmm). Lead the speaker cable to the mount of the crossover in the doorboard.

7.3 Insert the midrange with adapter in the original place and use the original screwing.



8 Tweeter installation - original mount of the mirror triangle

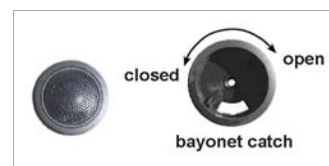
Remark for the tweeter-installation:

There are two different original mirror triangles - with or without »prepared installation«. With »prepared installation«: Only insert the tweeter in the given cut-out. Without »prepared installation«: The tweeter has to be adapted in the mirror triangle (cut-out), alternatively the mirror triangles with a »prepared tweeter installation« are available at your BMW dealer.

8.1 Dismount the mirror triangle If existing dismount the original tweeter and unplug the cable connection (the original connecting cables and the tweeter will not be used any more).

8.2 Remove the tweeter out of the catch:

--- > bayonet catch: turn to the right and pull out of the holding device (by means of the screw)



Original mirror triangle without tweeter installation prepared:

8.3 Front side of the mirror triangle with speaker grill (factory installed): position the mounting plate on the original speaker cut-out - see fig. Mark the outlines of the backside of the mounting plate »Ø 48mm« and carefully go on with a jig saw **within the lines marked** and cut out the size of the mounting plate. If necessary adapt the cut-out edge with a dremel.

8.4 Front side of the mirror triangle: install the mounting plate in a way that the JEHNERT signet is exactly horizontal on the tweeter --> consider the turn of the bajonet catch!

Check: the mounting plate has to end plane on the front side of the mirror triangle.

8.5 Adjust the mounting plate so, that the ring of the catch ends exactly on the front side of the mirror triangle. Affix all around with hot melt adhesive, silicone or butyl tape on the backside.

8.6 Insert the JEHNERT tweeter in the grooves on the edge of the mounting plate;simultaneously lead the tweeter cable through the cable entry in the mounting plate. Fasten the tweeter with a slight turn to the left (bajonet catch).



or:

Original mirror triangle with tweeter installation prepared:

8.7 Back side of the mirror triangle: install the JEHNERT tweeter and affix all around with hot melt adhesive.

8.8 Adapt the JEHNERT-tweeter cable with the speaker cable (1,5 - 4 qmm), length of cable up to where the crossover is installed in the doorboard.

8.9 Reinstall the mirror triangle

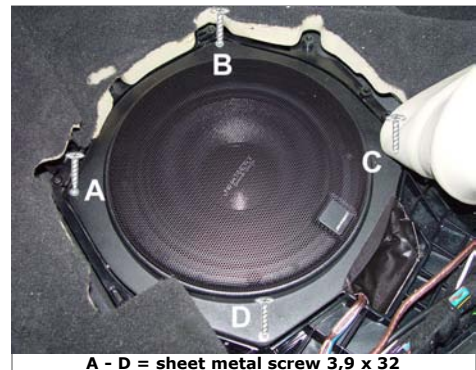
9 Woofer installation: below the driver\'s -/ co-driver\'s seat

The original speakers are being replaced by the JEHNERT-Power-Woofer:

9.1 If necessary remove the original speakers and unplug connecting cables. Use the original speaker fastenings for the installation of the JEHNERT adapter plate (connecting cables are no more needed)

9.2 Connect the JEHNERT woofer with speaker cable (1,5 - 4 qmm). Lead the speaker cable to the mount of the crossover in the doorboard.

9.3 Insert the woofer with adapter in the original place and screw in the 3,9 x 32 -screws supplied with.



A - D = sheet metal screw 3,9 x 32

10 Adaptation amplifier - crossover circuit / Insulation of the car doors

10.1 Carefully remove the moisture protection foil.

10.2  **Insulation of the car doors** - Important tips against vibration-noise (see attached installation recommendation)

10.3 Adaptation amplifier - crossover circuit:
Lead 1x speaker cable (1,5 - 4 qmm) from amplifier to the crossover circuit:
mount of crossover circuit: car door / behind the doorboard over the tray

 **In order to avoid vibration noise secure all cables with insulating tape e.g.**

10.4 Reinstall the moisture protection foil to fit precisely.

10.5 For the bass performance the speakers are using the volume of the car door:
Place the door card on the car door as template and mark the position for the woofers on the moisture protection foil. Take away the the door card and cut out (**u-form see fig.**) behind the woofers. Stabilize the lateral cutting edges in order to avoid vibration noise (e.g. use a packing tape)



11 Insulation of the door card

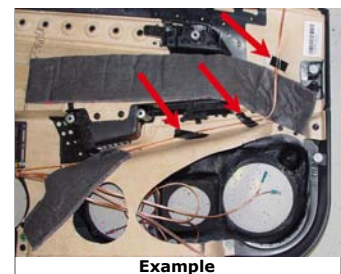
 **In order to avoid vibration noise insulate all cables with insulation tape e.g.**

11.1 Backside of the door card e.g. insulate with self-adhesive vibration suppressing insulation fleece – see attached installation recommendation.

 **ATTENTION / danger ! No insulation behind the side-airbags!**

 **IMPORTANT:**

No insulation material behind loudspeaker, door latch lever and fastening points of the door card.



Example

12 Installation of the door card onto the car doors

12.1 Check up length of the screws and bolts:

In order to prevent damages of mechanic parts of the car doors, please check once again the length of all bolts and screws on the back side of the door card! No touch with any mechanic parts of the car doors! (please shorten if necessary)

12.2 Put the door card into the upper sealing of the car door.

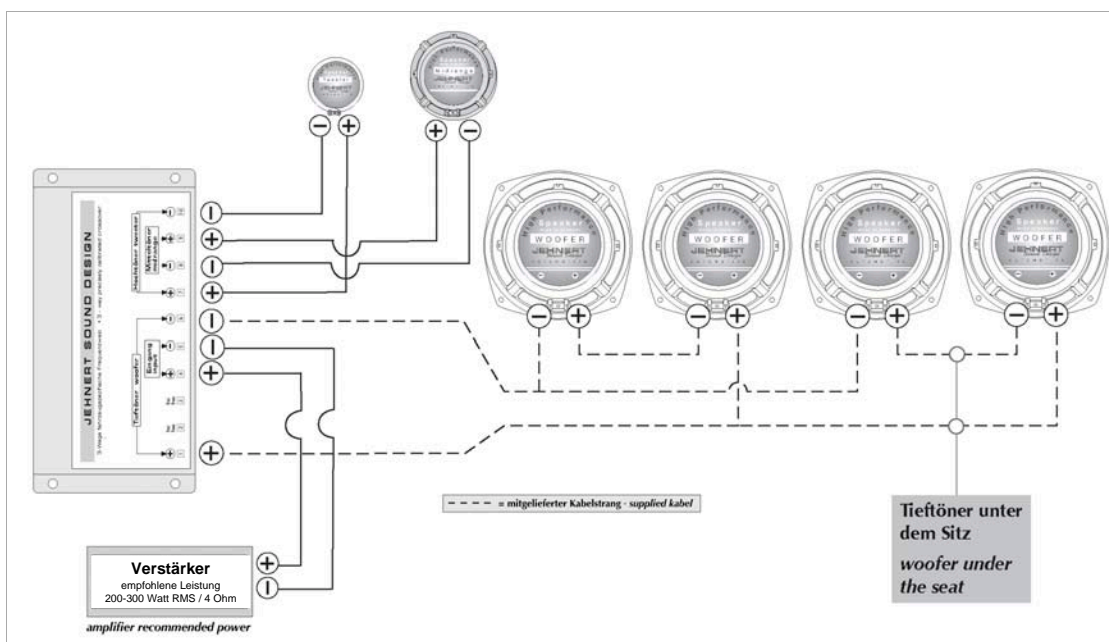
12.3 Fit the door card in contrary order of succession.

Final inspection after installation of the door card:

Please check all functions of the operating elements such as seat adjustment, opening of the glove box, window winder etc.

13 Installation of crossover circuit

13.1 Precable crossovers - see wiring diagram.



13.2 Install crossover behind the door card over the card drawer – without housing; covered with foamed material (see fig.) and ensure precise fit.

***Important:**
Protect the sheet bar against humidity and observe that the sheet bar does not touch any metal parts – danger of short circuit!

13.3 Connect all speakers to the crossover circuit according to the wiring diagram.

13.4 Insert woofer.

13.5 Notice: You should check the polarity of all woofers after having connected them to the crossover circuit with a 9 volt battery (input cable on the side of the amplifier):

pole of the crossover circuit input + to + of a 9 Volt battery
pole of the crossover circuit input - to - of a 9 Volt battery

All woofers must move uniformly!

 Wrong polarity of a woofer can totally equalize the bass sound!



14 Installation of the doorboard grills

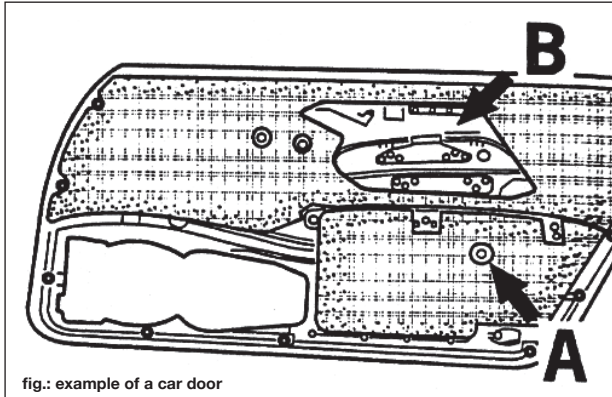
14.1 Carefully press grill with Velcro fasteners onto the doorboards:

 IMPORTANT: The Velcro fasteners stick very strongly!

Therefore only press the grills to the doorboard at the end of the installation of the doorboard and the soundsystem!

14.2  Further tips see attached installation recommendation.

Insulation of the door lining



Attention / Danger !!!
No insulation behind
the side-airbags (fig. "B")



Important:
No insulation material behind
 - loudspeaker
 - door latch lever
 - drill a hole for the installation clip (fig. A)

Important tip:

the use of woofer in the door lining may cause vibrations which lead to annoying rattle noises in the car door

Preventive measurements against vibration noise:

- use our self-adhesive insulation fleece (art.no.: 27000) or a foam material for the backside of the door lining (see fig. above) or
- stabilize the backside of the door lining by means of a special material (Glass Fibre Filler or stiffening material)
 important: keep the cut-outs for the door-airbags and speakers open
- affix the *backside of the inner door metal with self-adhesive asphalt mats (see fig. *)
- by knocking on the car door, vibrations caused by mechanic parts (e.g. Bowden pull wire etc.) and wiring harness may be found out. Cover these parts with foamed material, felt or something like that
- cut off overlapping cable tie (rattle noise)
- adhere felt or foamed material under the original wiring harness



fig.: example of a car door

Installation of the speaker's grill

Precisely align and carefully press grill into the Velcro fasteners.



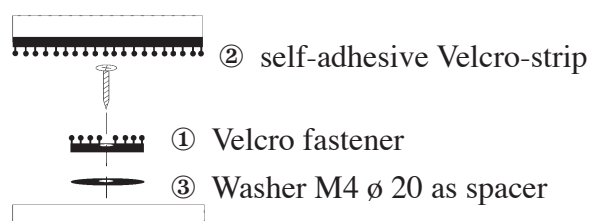
The Velcro fastener makes a crackling sound when it is closed correctly.

Our Tip:

If the panel cannot be pressed on completely at some points. . .

Cause: the special form at these points and the resulting differences in material cross section of the grill.

Solution: the distance can be levelled out with spacers ③ under the Velcro disc.
(Spacers included with the screw kit)



6. Removing the grills:

The Velcro fasteners stick together very strongly! The grills can be removed anytime by carefully lifting them off. Please, avoid any way of forceful yanking at the grills. It could break!

Self-help and fault diagnosis

The following notes serve to help troubleshoot and eliminate faults or malfunctions on your own. If the following measures are not effective, please call us. **Info-Hotline Tel. +49-7127/9 34 57-0**

What can it be if ...	possible cause/ solution
...it doesn't sound right	<ul style="list-style-type: none">· wrong polarity on the subwoofers (see „speaker connection“)· crossover circuit attached wrong (see „wiring diagram speaker connection“)· door lining and moisture protection foil not cut out (see. „installation of the door lining“ and „installation of the speakers grill“)· amplifier doesn't have enough power (see. „technical details“)· amplifier connection
...it doesn't fit correctly	<ul style="list-style-type: none">· door panel customization (see „handling of the door lining“)· installation of the panels on the door lining
.....grills do not hold	observe notes (see „installation of the speakers grill“)
vibrations	observe notes (see „insulation of the door lining“)