



Do it your self

RETROFIT Folding Mirrors BMW 1 Serie convertible (E88)

Produced by TTMax for BMWcoding.com

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Introduction

This DIY is created for a BMW 1 Serie convertible (E88).
The layout for a BMW 1 Serie coupe (E82) is about the same and therefore I think identical for retrofit.

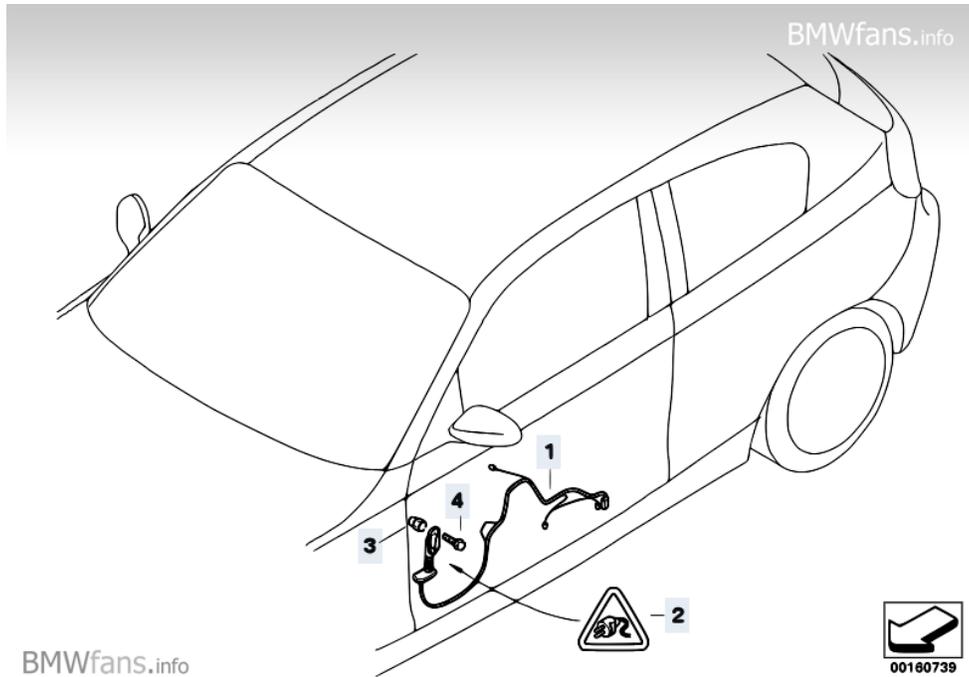
Please always check the necessary hardware for your car, because for each model year things could change.

This is quit easy to do so and I will explain this in this DIY.

Hardware equipment needed

The hardware you need to retrofit the folding mirrors are as follow:

- 2 Folding mirrors with 3 pin connector (=power, mass and LIN BUS).
The 5 pin connector does not make use of the LIN BUS .
You could buy them @ BMW but that is costly. Look on www.Ebay.de and you will find them for approximately € 150 a piece. Also you can look for the matching color to your car. If you don't find the right color, you could always change the covers with your own mirrors.
I would go for the complete set with, heated mirrors/folding/and dimming(electrochrome) (if you also have dimming rearview mirror)
- Control panel drivers door
(switches for windows and adjusting mirrors). The current panel has not the button to fold the mirrors. On Ebay are they about € 25 to € 35.
- Door cables. (<http://de.bmwfans.info/parts/catalog>)
(To make it easy for yourself buy new cables from BMW, they cost about €40 a piece including taxes). You could opt to changes the cable layout, but if you are not familiar with reading wiring diagrams I wouldn't do it.



Cable fahrerseite teilenummer 61 12 9 178 347

Cable beifahrerseite teilenummer 61 12 9 171 956

(don't worry when you see the cable fort he beifahrerseite it has a 5 pin's connector for the mirror. It is the correct cable anyway. I first checked if it was necessary to change the cables. The cables I had installed from factory where another teilenummer).

- Extra pins for the connectors (BMW Dealer)
2 pins for the connector in the door side chassis where the new door cable will be connected to.
1 pin that goes to the connector of the FRM connector.
- About 3-4 m cable (0,75 mm)

Hardware installation

First you replace the cable and start to disconnect the cable between chassis and door. There is 1 screw you need to remove. Then pull out gently the connector moving upwards. There is a slide on the top of it. When you pull the connectors will open. You will hear some little noises coming from the car but that are ECU's. You don't have to worry and can disregard it.

To remove the inside door panel, please look at this youtube movie. It is the retrofit for to upgrade the speakers, but the de installation of the panels is the same. This video is how to remove the right door panel. For the drivers door panel you can use the same procedure.

Note: Please be careful when removing the switch, they break easily and you need to reuse the one in the right door.

Removing right door panel

<http://www.youtube.com/watch?v=D3pZCyDuvLU>

You will see insulation you will need to remove. Start at the top and pull of gently so you don't rip off and tear is. After the top do the left and right side and leave it on the bottom. You will need to put it back and can reuse the sticky substance.

Then start to disassemble the cable and carefully look what connectors you disconnect so you know how to reconnect it again.

Then replace it with the new cable and reconnect all the connectors. It depend on your equipment, but it could be that you have connectors extra that you will not need.

After this reinstall the insulation.

Now take of the blend on the inside of the position where the mirror is. (if you not already have).

Disconnect the connector to the mirror. Then remove 3 screws. One you will find under the rubber. You can carefully tilt it up. With the last screw hold with one hand the mirror so your mirror does not fall on the ground!

Then install the new mirror, Watch for the rubber that you need to put through the hole. First carefully place the mirror on the door and then put the screws in by hand so the mirror can not fall down. Then tighten the screws.

Reinstall everything and perform the same on the other door.

Reconnect the door cables between door and chassis.

The windows will roll up and down as before. The mirrors will not work until programming has been done as also the additional connectors made for the right side mirror.

You will need to perform a re-initialization of the windows. So they can be used for one touch operation again.

Re-initialization of the windows

Initialization is performed on the power **window** switch of the relevant door.
Requirements for correct initialization:

- Initialization with engine running
- Convertible top, doors and windows closed

Initialization comprises:

- Erasure of initialization
- Reinitialization

An initialization must be performed:

- In the event of malfunctions, e.g. no one-touch control function, no opening or if available no comfort function is possible
- After the power window drive has been replaced
- After work is carried out on the power window mechanism
- After a power supply interruption, e.g. disconnection of the battery or disconnection of the power supply to the door
- After the door window glass has been removed and installed or replaced
- After adjustment work on the door window glass
- After adjustment work on the convertible top
- After replacement of seals

Erasure of initialization:

- Open door window glass fully
- Operate power window switch in "Open" position four times within 10 seconds

This erases initialization of the power window, anti-trapping protection and toll function are inactive.

Check whether one-touch control (toll) function is inactive, otherwise repeat procedure.

Reinitialization:

Avoid a break between the two steps!

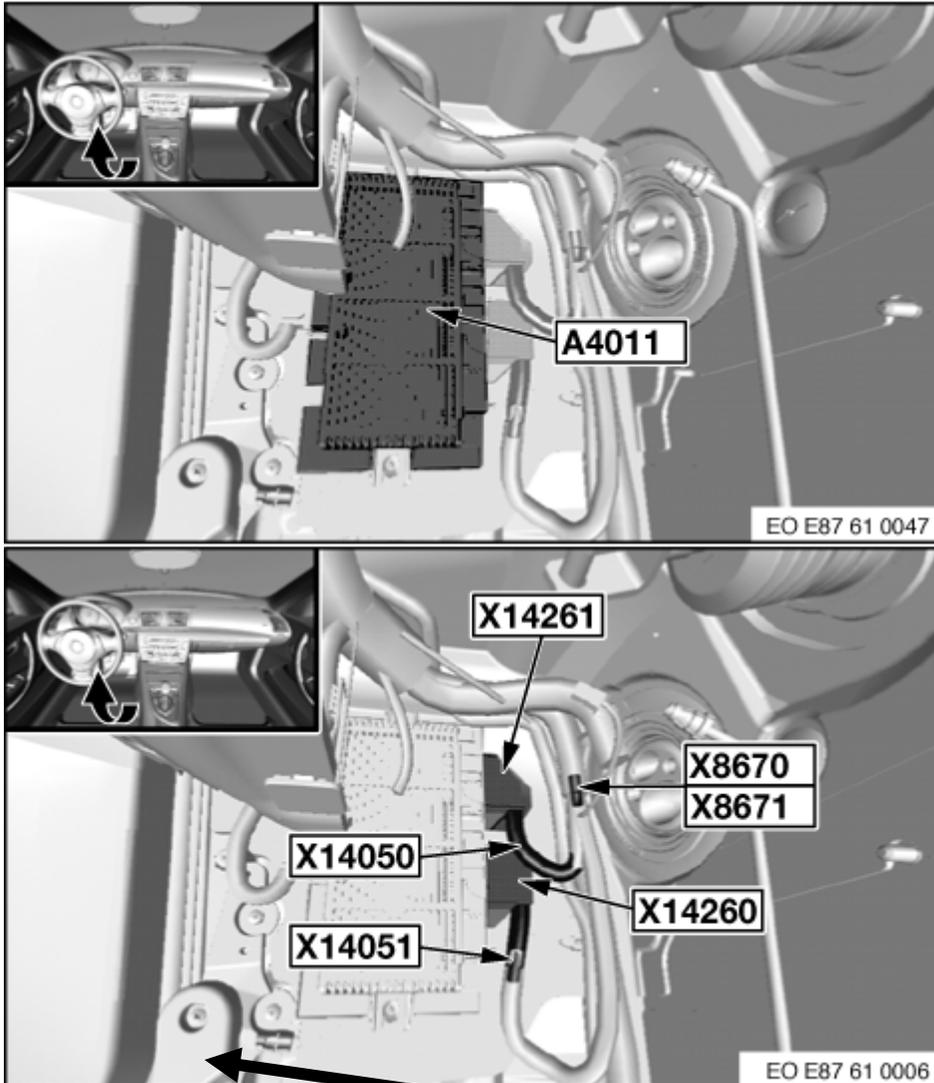
- Open door window glass fully
- Operate and hold power window switch in "Close" position (second switch stage)
- Once the upper end position has been reached, hold power window switch in "Close" position for approx. 2 seconds longer
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Additional hardware adjustment

Installation of pins (2) in connector right side chassis.

You will need 2 pins for it. The pins can be plugged into the connector in the back of it. First check if you have a pin installed on pin number 6 (LIN BUS) and 8 (power +). The pin 8 needs to be connected to a permanent plus +. I have connected it to a thick wire (Red with a grey line) underneath the hand glove compartment.

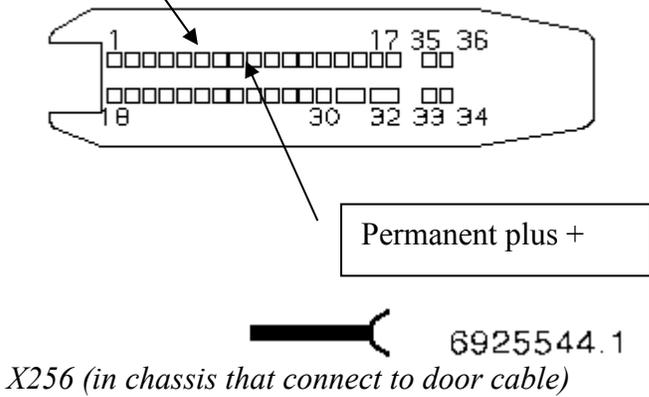
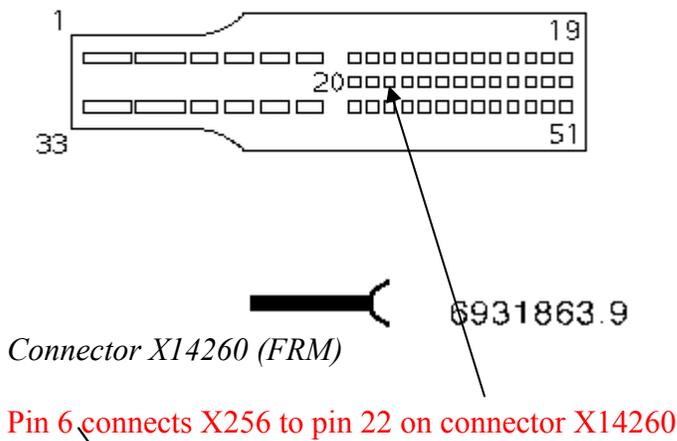
Installation LIN BUS on FRM



You will find the FRM on the right hand side of the opener for the Engine hood. So you will need to remove the cover. There are 2 screws to do so. One is in the opener of the engine hood and one is right beneath it.

Then there are 2 bolts(plastic) that holds the FRM. Loosen the top and remove the bottom. You can bring the FRM a little bit more to the front so you can reach the connector (the bottom one). There is a latch you need to lift a little and move it to the left. Careful do not break it.

Now you can take it apart and get on the back of the connector. Look for pin 22. You need a open pin (small) to insert here.



After connection reinstall all parts.
The hardware installation has finished now.

Programming

You will need a little programming experience, a laptop with software (NCSExpert) and a OBD cable to program.

I will not go in detail how to program, but will reveal what needs to be programmed in order to have it working.

Add VO options

\$313 (folding mirrors) and
\$430 (Interior/outside mirror with auto dip) only if you also have electrochrome mirrors

Module CAS

ASP_LIN_VERBAUT
aktiv
KOMFORTSCHLIESSUNG_FB
aktiv

(This will activate the LIN BUS so the mirrors get the info)
(This allows communication between CAS and CTM when closing by FOB)

Module FRM

SPIEGEL_BORDSTEIN_AUTOM
aktiv
SPIEGEL_EINKLAPPEN
aktiv
SPIEGEL_ELEKTROCHROM
aktiv
SPIEGEL_HEIZUNG
aktiv
SPIEGEL_KOMFORT_EINKLAPP
aktiv
SPIEGEL_MEMORY
aktiv

PS: For cars build from 2009 (my car is 2008) you need to set
ASP_SPIEGEL_EINKLAPP.