

**Attention!**

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

Therefore, determine the installation location of the telematics control unit with the diagnosis system before starting work:

- Carrying out vehicle test
- Troubleshooting
- Function structure
- Functional wiring diagrams
- Body
- Telematics
- Select the wiring diagram
- Click on component of the telematics control unit
- Installation location

**Attention!**

Observe the [information on protection from electrostatic discharge](#).



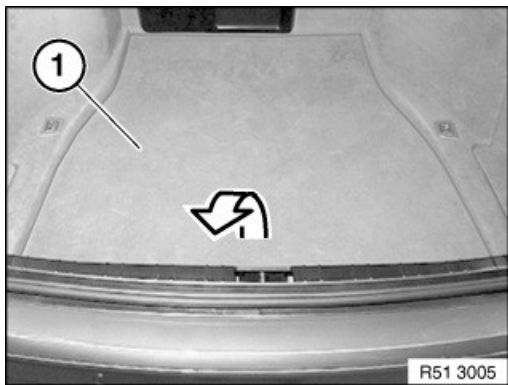
Comply [notes and notes on handling optical fibre](#).

**Attention!**

Risk of damage: Carefully unlock and disconnect connector on telematics control unit.

**Necessary preliminary work:**

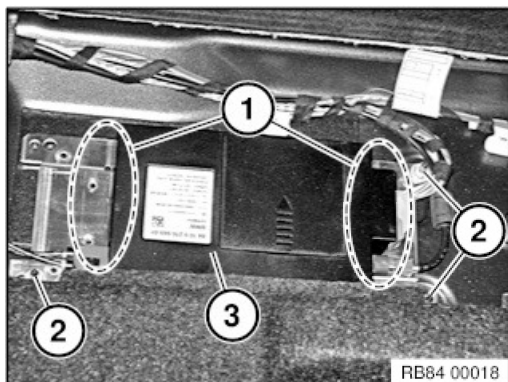
- Disconnect [battery earth lead](#)



Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Carefully unlock and disconnect all connectors (1).

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove telematics control unit (3).

Installation note:

Note colour coding of connector.



Note:

When replacing the telematics control unit, check whether the faulty telematics control unit is equipped with an [emergency battery](#):

- if no, then the new part is installed without an emergency battery!
- If yes, then the new parts is to be equipped with a new emergency battery (separate order, telematics control unit is shipped without an emergency battery!)



Replacement:

- Carry out [programming/encoding](#)



Attention!

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

Therefore, determine the installation location of the telematics control unit with the diagnosis system before starting work:

- Carrying out vehicle test
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- Installation location



Attention!

Observe the [information on protection from electrostatic discharge](#).



Comply [notes and notes on handling optical fibre](#).



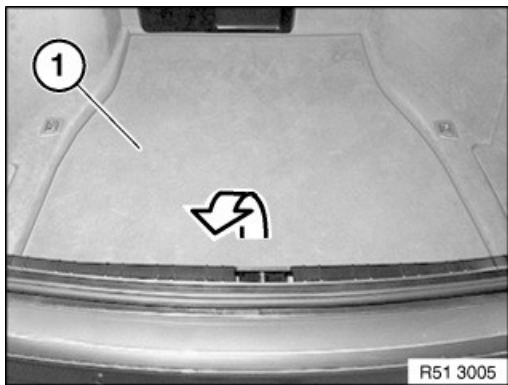
Attention!

Risk of damage: Carefully unlock and disconnect connector on the TCB.



Necessary preliminary tasks:

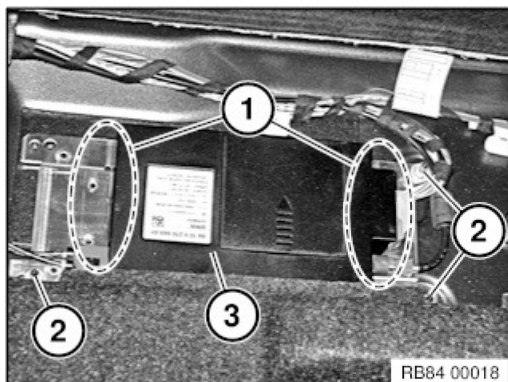
- Disconnect [battery earth lead](#)



Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Carefully unlock and disconnect all connectors (1).

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove TCB (3).

Installation note:

Note colour coding of connector.



Note:

When replacing the TCB, check whether the faulty TCB is equipped with an [emergency battery](#):

- if no, then the new part is installed without an emergency battery!
- if yes, then the new part should be equipped with a new emergency battery (ordered separately, TCB is supplied without an emergency battery!)



Replacement:

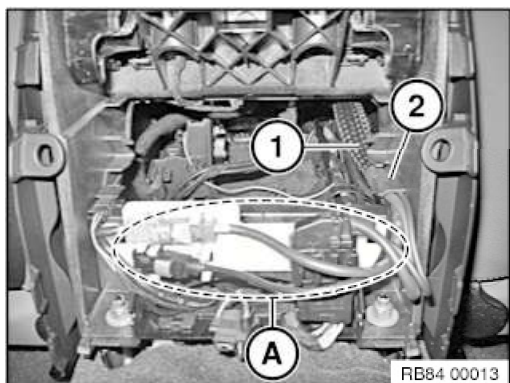
- Carry out [programming/encoding](#)

**Special tools required:**

- [00 9 327](#)

**Necessary preliminary tasks:**

- [Remove](#) rear centre console cover



Unlock and disconnect associated plug connections in area (A).

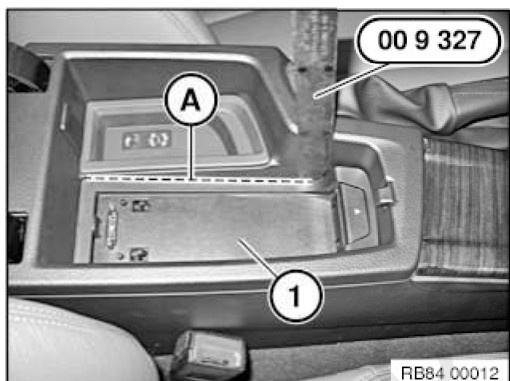
Unclip line (1) at centre console (2).

Reach under the base plate and unclip associated line (1) on centre console.

Installation note:

Make sure plug connections are correctly seated.

Ensure correct cable routing.

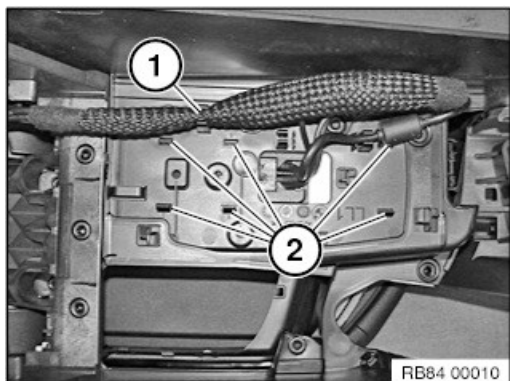


Mount special tool [00 9 327](#) as illustrated.

Reach from rear under base plate (1).

Carefully leverage out base plate (1) along marked line (A) and simultaneously press lightly from below to disengage latch mechanisms.

Remove base plate (1) and feed out line.

*Note:*

Centre console is shown removed for purposes of clarity.

Installation note:

Make sure line (1) is properly routed.

Catches (2) must not be damaged or missing.

Make sure base plate is correctly engaged on centre console.

84 10 702 Removing and installing/replacing base plate (with rear passenger compartment fresh air grille)



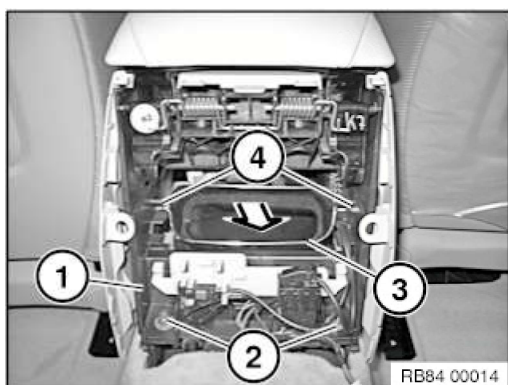
Special tools required:

- [00 9 327](#)



Necessary preliminary tasks:

- [Remove](#) rear centre console cover
- Remove [insert in centre armrest storage compartment](#)
- Remove [decorative trim on centre console](#)



Release centre console (1) at nuts (2).

Tightening torque [51 16 3AZ](#).

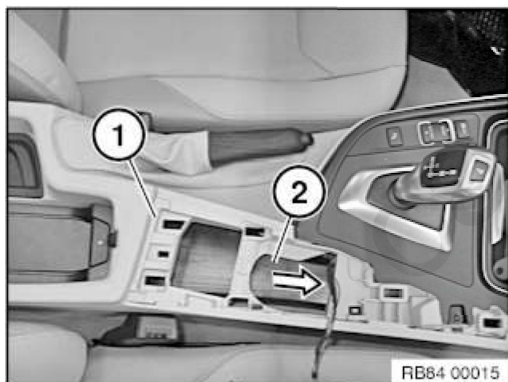
Release air duct (3) from bracket (4).

Lift centre console (1) slightly and pull air duct (3) out of centre console (1) toward the rear.

Installation note:

Feed air duct (3) into centre console (1) and slide in about half way (see next operation for further procedure).

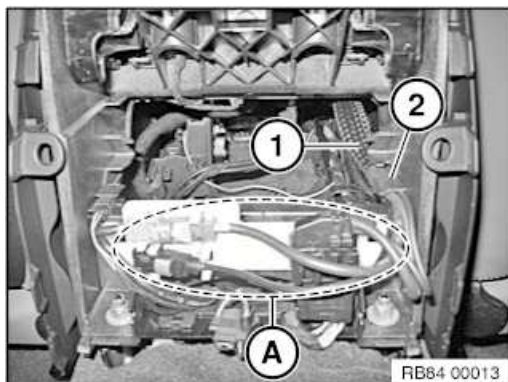
After complete installation of air duct (3), check that it is correctly seated in bracket (4).



Installation note:

Reach through openings in centre console (1) and feed air duct (2) in toward the front.

Make sure air duct (2) is correctly seated in centre console (1).



Unlock and disconnect associated plug connections in area (A).

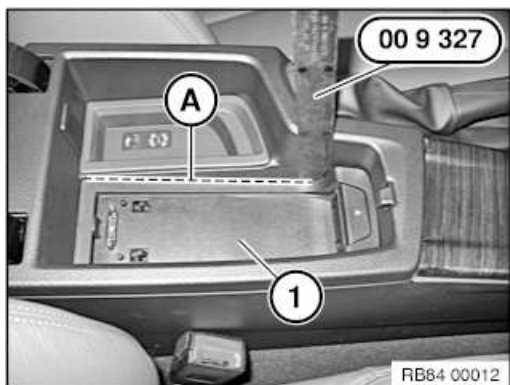
Unclip line (1) at centre console (2).

Reach under the base plate and unclip associated line (1) on centre console.

Installation note:

Make sure plug connections are correctly seated.

Ensure correct cable routing.

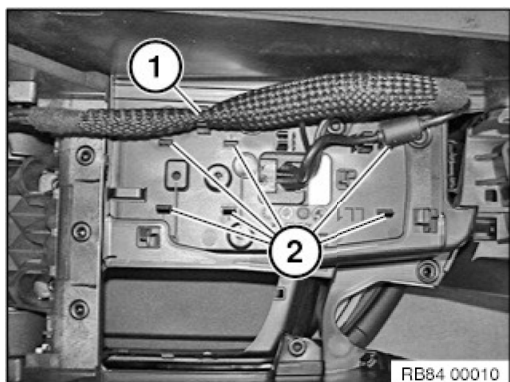


Mount special tool [00 9 327](#) as illustrated.

Reach under base plate (1) from behind.

Carefully leverage out base plate (1) along marked line (A) and simultaneously press lightly from below to disengage latch mechanisms.

Remove base plate (1) and feed out line.



Note:

Centre console is shown removed for purposes of clarity.

Installation note:

Make sure line (1) is properly routed.

Catches (2) must not be damaged or missing.

Make sure base plate is correctly engaged on centre console.

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**Important!**

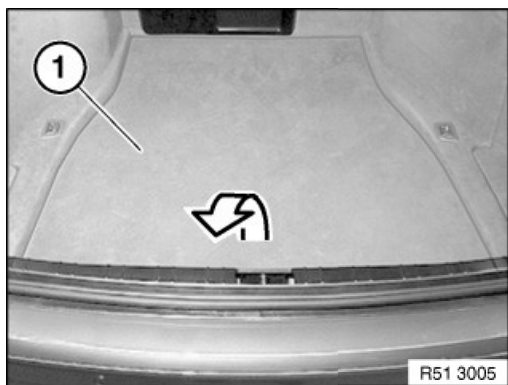
Read and comply with notes on protection against electrical damage ([ESD protection](#)).



Comply with notes and instructions on [handling optical fibre](#).

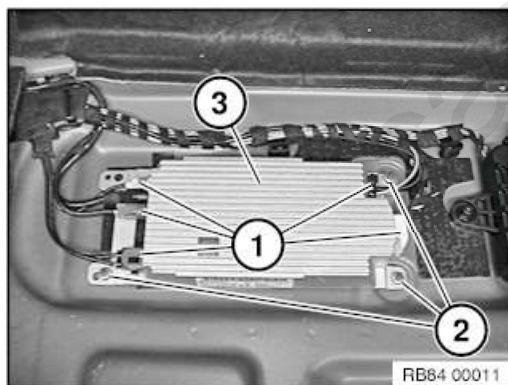
**Necessary preliminary tasks:**

- Disconnect [battery earth lead](#)

*Note:*

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Unlock plug connections (1) and disconnect.

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove Combobox (3).

Installation note:

Note colour coding of plug connection.

**Replacement:**

- Carry out [vehicle programming/encoding](#)

For vehicles with Teleservices optional equipment:

- Update services via menu in the central information display.



Attention!

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

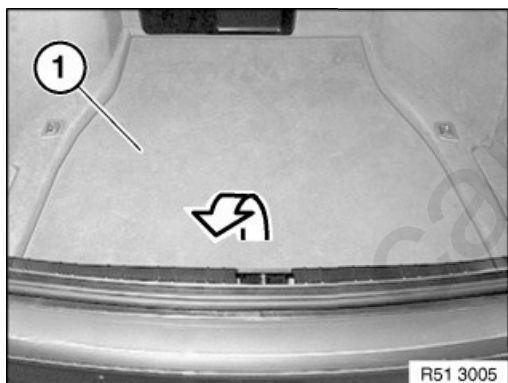
Therefore, determine the installation location of the telematics control unit with the diagnosis system before starting work:

- Carrying out vehicle test
- Troubleshooting
- Function structure
- Functional wiring diagrams
- Body
- Telematics
- Select the wiring diagram
- Click on component of the telematics control unit
- Installation location



Attention!

Observe the [information on protection from electrostatic discharge](#).



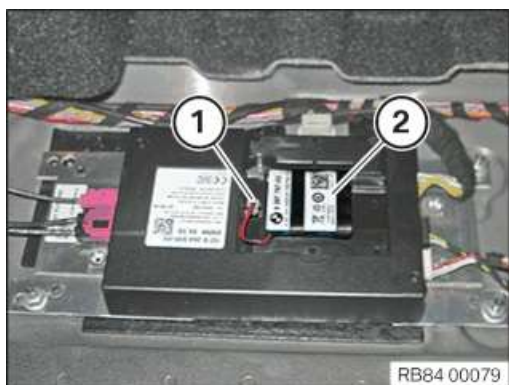
Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Open lid (1) on the TCB.



Disconnect connector (1).

Remove emergency battery (2) from TCB.

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**Attention!**

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

Therefore, determine the installation location of the telematics control unit with the diagnosis system before starting work:

- Carrying out vehicle test
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- Select the wiring diagram
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**Attention!**

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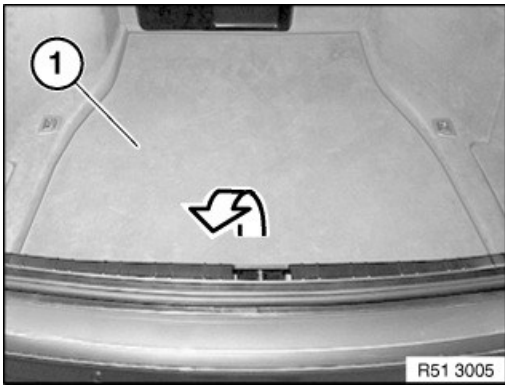
Comply [notes and notes on handling optical fibre](#).

**Attention!**

Risk of damage: Carefully unlock and disconnect connector on telematics control unit.

**Necessary preliminary work:**

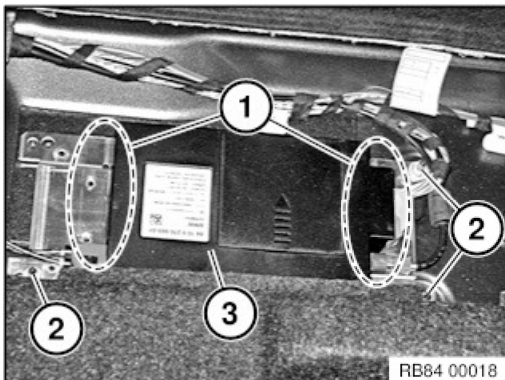
- Disconnect [battery earth lead](#)



Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Carefully unlock and disconnect all connectors (1).

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove telematics control unit (3).

Installation note:

Note colour coding of connector.



Note:

When replacing the telematics control unit, check whether the faulty telematics control unit is equipped with an [emergency battery](#):

- if no, then the new part is installed without an emergency battery!
- If yes, then the new parts is to be equipped with a new emergency battery (separate order, telematics control unit is shipped without an emergency battery!)



Replacement:

- Carry out [programming/encoding](#)



Attention!

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

Therefore, determine the installation location of the telematics control unit with the diagnosis system before starting work:

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- Click on component of the telematics control unit
- Installation location



Attention!

Observe the [information on protection from electrostatic discharge](#).



Comply [notes and notes on handling optical fibre](#).



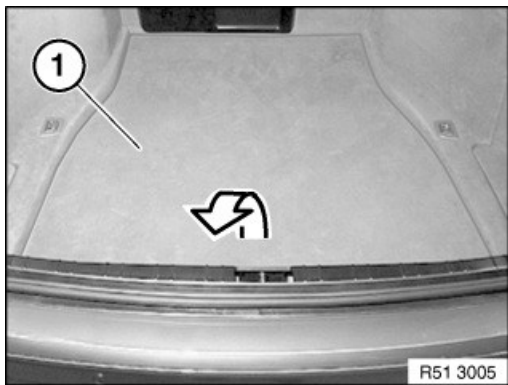
Attention!

Risk of damage: Carefully unlock and disconnect connector on the TCB.



Necessary preliminary tasks:

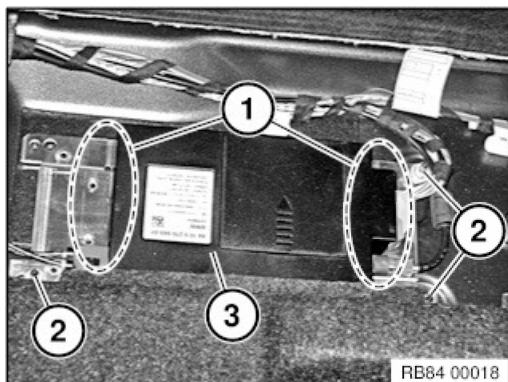
- Disconnect [battery earth lead](#)



Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Carefully unlock and disconnect all connectors (1).

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove TCB (3).

Installation note:

Note colour coding of connector.



Note:

When replacing the TCB, check whether the faulty TCB is equipped with an [emergency battery](#):

- if no, then the new part is installed without an emergency battery!
- if yes, then the new part should be equipped with a new emergency battery (ordered separately, TCB is supplied without an emergency battery!)



Replacement:

- Carry out [programming/encoding](#)

**Important!**

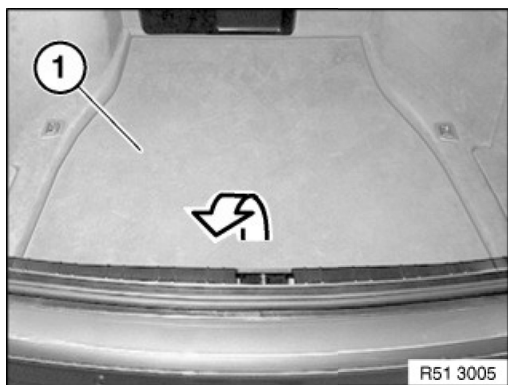
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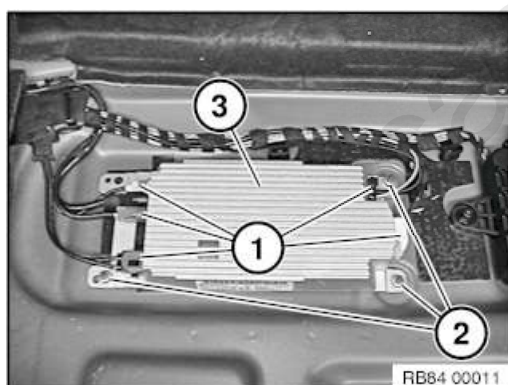
**Necessary preliminary tasks:**

- Disconnect [battery earth lead](#)

*Note:*

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Unlock plug connections (1) and disconnect.

Unscrew nuts (2).

Tightening torque [84 10 1AZ](#).

Remove Combobox (3).

Installation note:

Note colour coding of plug connection.

**Replacement:**

- Carry out [vehicle programming/encoding](#)

For vehicles with Teleservices optional equipment:

- Update services via menu in the central information display.

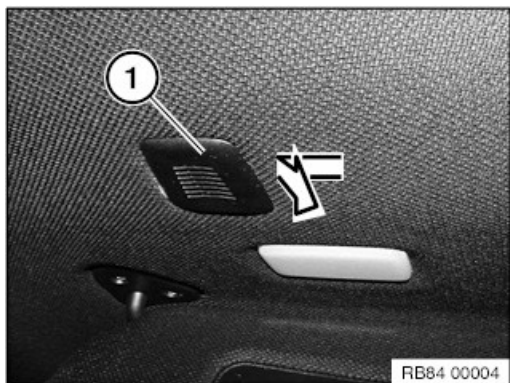
84 31 551 Removing and installing/replacing hands-free microphone, passenger's side



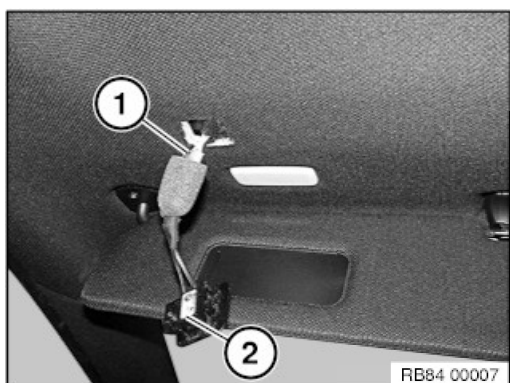
Operation is described in:

Removing [A hands-free microphone, driver's side.](#)

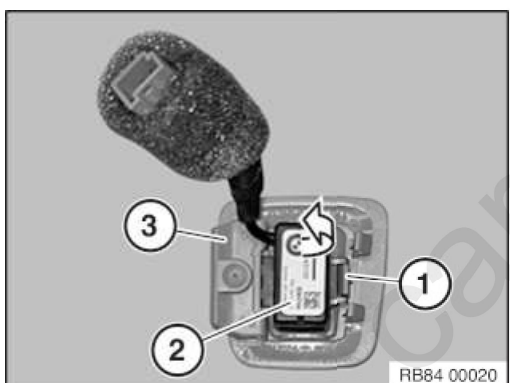
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Lever out microphone (1) in direction of arrow.



Disconnect plug connection (1) and remove microphone (2).



Replacement:

Release catch (1) and remove microphone (2) from trim (3).



Attention!

Depending on the vehicle and the vehicle equipment, there are different installation locations of the telematics control unit!

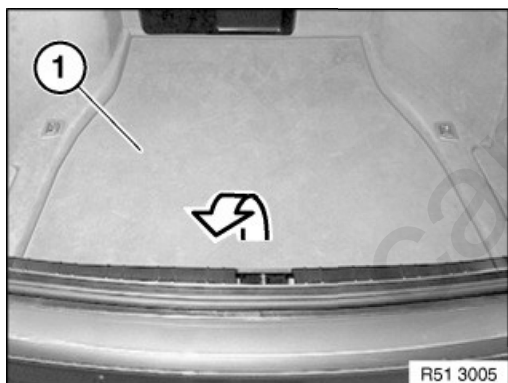
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Attention!

Observe the [information on protection from electrostatic discharge](#).



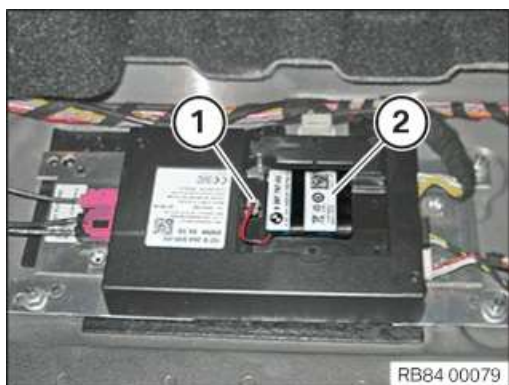
Note:

Graphics shown on the F20 by way of example, deviations in detail are possible in other models.

Remove luggage compartment floor trim panel (1) in direction of arrow.



Open lid (1) on the TCB.



Disconnect connector (1).

Remove emergency battery (2) from TCB.

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84 31 551 Removing and installing/replacing hands-free microphone, passenger's side



Operation is described in:

Removing [A hands-free microphone, driver's side.](#)

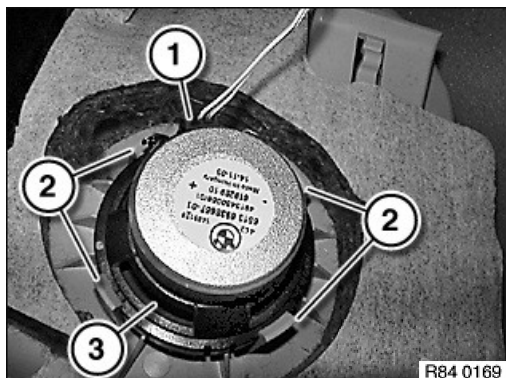
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84 31 020 Removing and installing/replacing hands-free system speaker (emergency loudspeaker)



Necessary preliminary tasks:

- Remove [trim panel for pedal mechanism](#)



Disconnect connector (1).

If necessary, loosen cable straps from latch mechanisms (2).

Unlock latch mechanisms (2).

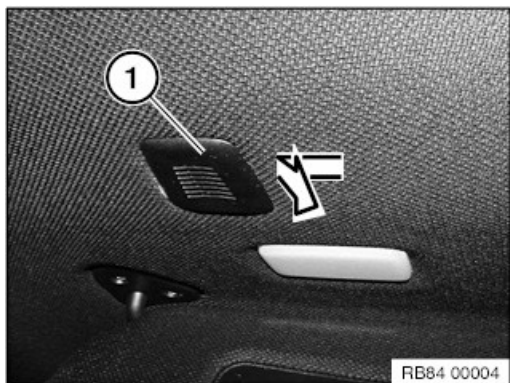
Remove speaker (3) from bracket.

Installation note:

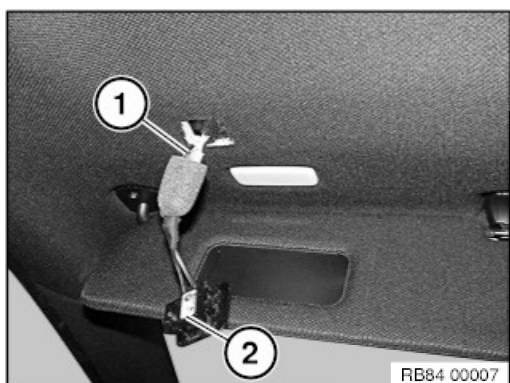
Latch mechanisms (2) must not be damaged.

Guide lugs of the bracket must be positioned in the corresponding grooves of the speaker (3).

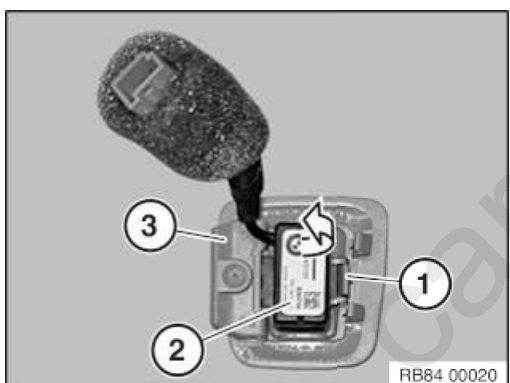
Speaker (3) must audibly engage in the bracket.



Lever out microphone (1) in direction of arrow.



Disconnect plug connection (1) and remove microphone (2).



Replacement:

Release catch (1) and remove microphone (2) from trim (3).

65 20 030 Removing and installing/replacing empty housing for roof-mounted aerial

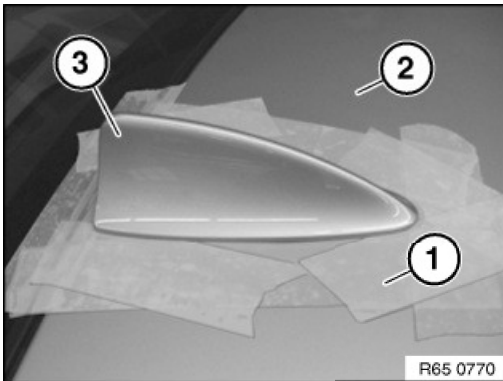


Important!

Note to customer:

In order to guarantee a permanent connection and adhesive hardening:

After bonding the empty housing for the roof-mounted aerial, wait 24 hours before driving the vehicle through a car wash.



Note:

Clean roof.

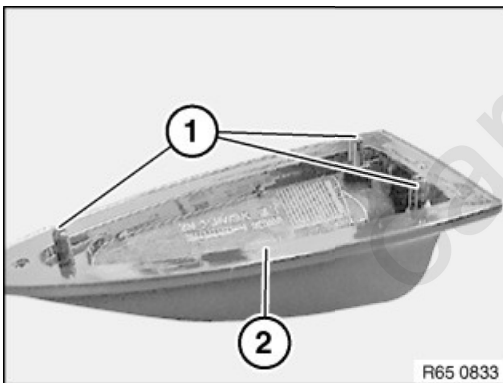
Mask roof (2) around empty housing for roof-mounted aerial (3) with yellow plastic adhesive tape (1). To do so, slide plastic adhesive tape under empty housing (3) slightly.

Cut through the adhesive bead (e.g. scalpel) and remove the empty housing for the roof-mounted aerial (3).



Installation:

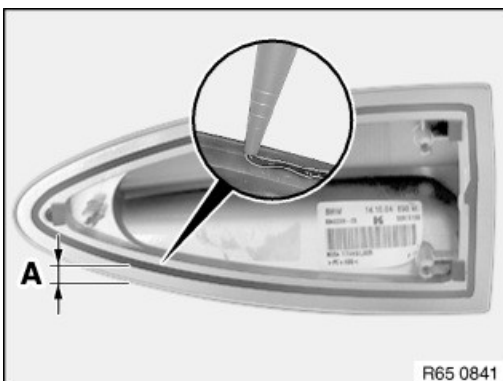
Empty housing for roof-mounted aerial is secured with window glass adhesive. All preparatory operations correspond to the [Window bonding notes](#).



Note:

Replace empty housing for roof-mounted aerial if centering pins (1) on empty housing are damaged.

Bonding surface (2) must be clean and free from grease.



Apply trace of adhesive bead all round outer contour as follows.

Distance between adhesive bead and edge of aerial housing:

A. $6.5 \text{ mm} \pm 1 \text{ mm}$

Start and end of bead trace must have an overlap length of max. 10 mm.

Important!

To prevent the adhesive from leaking, the adhesive bead diameter must not exceed 2.5 mm to 3.5 mm.



Note:

Attach the empty housing coated with adhesive by hand. To spread the adhesive better, move the housing back and forth horizontally slightly when pressing down.

Secure empty housing if necessary with adhesive tape and press down uniformly.

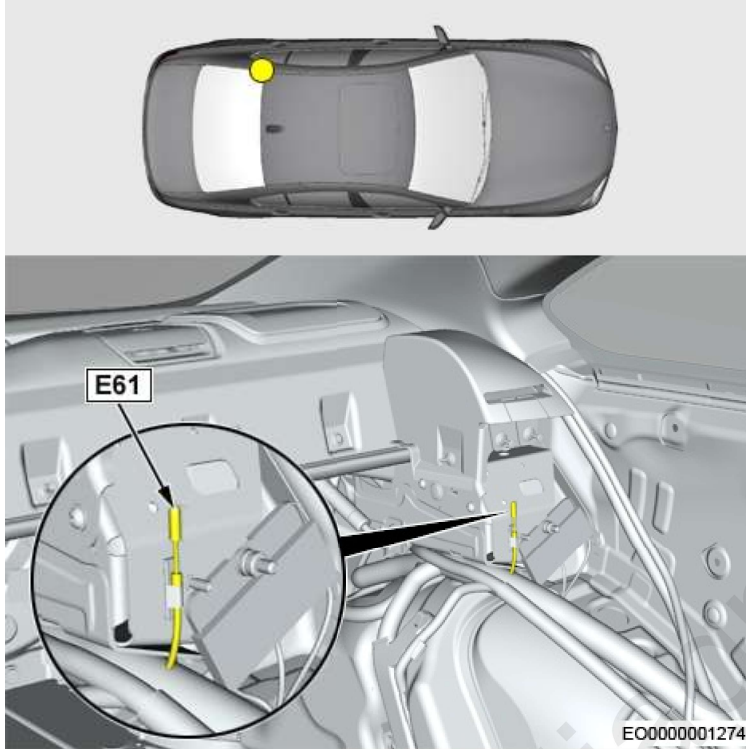
After bonding, leave vehicle to stand for at least 3 hours at room temperature.

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**Note:**

If a Combox is installed, the Bluetooth aerial is in the wiring harness to the Combox.

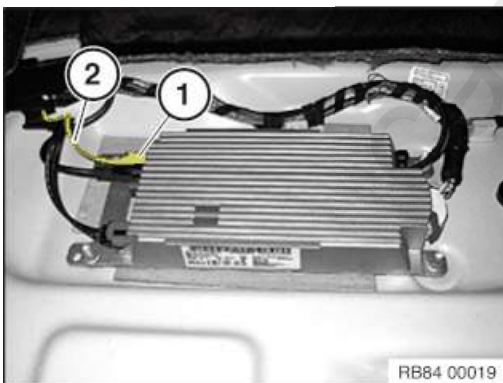
If the vehicle is equipped with a high equipment headunit, the Bluetooth aerial is located in the wiring harness to the high equipment headunit.

**Bluetooth cable aerial installation location (E61) when Combox is installed.**

Remove backrest side section

Remove rear left door sill cover strip.

Reposition underbody panelling on the left side.



Unlock and disconnect plug connection of Bluetooth cable aerial (2) at Combox (1).

Secure Bluetooth cable aerial (2) repair kit at wiring harness for entrance, and close plug connection (1).

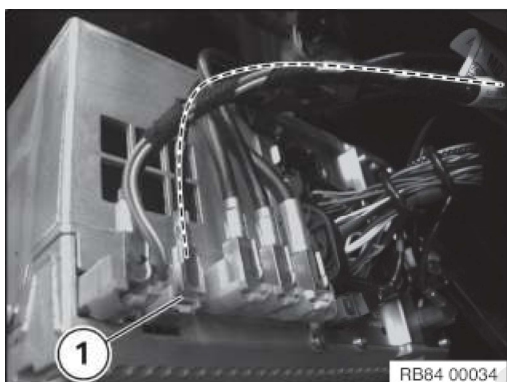
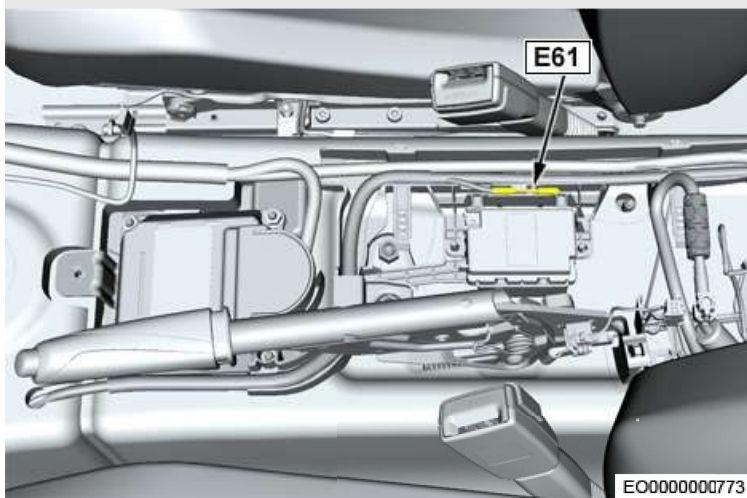
After successful completion of functional check, disconnect start and end of faulty Bluetooth cable aerial at first mounting point.



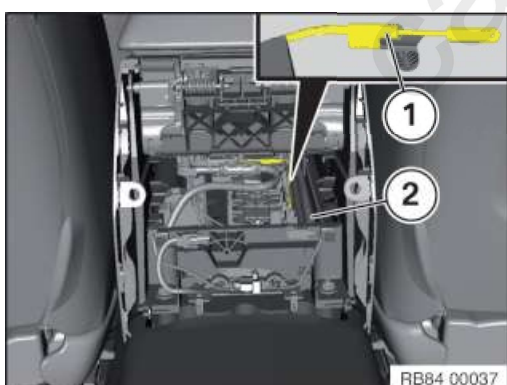
Installation location of the Bluetooth cable aerial (E61) on vehicles with NBT/HU.

Remove Headunit High or Headunit.

Partially remove centre console.



Unlock and disconnect plug connection of Bluetooth cable aerial (1).



Secure Bluetooth cable aerial (1) repair kit at wiring harness below centre console (2), and close plug connection.

After successful completion of functional check, disconnect start and end of faulty Bluetooth cable aerial at first mounting point.

**The following applies in general:**

To avoid damage, observe the following instructions:

- Avoid compressive and tensile loads
- To ensure professional repairs, perform repair work only with BMW-approved or recommended special tools and spare parts
- Make sure cables are laid without kinks or abrasions
- Ensure non-contacting routing at sharp-edged body parts; use edge protection if necessary
- Secure additionally laid cables/leads with cable ties

The following additionally applies:Shielded lines

Interference radiation and interference resistance can lead to neutral zones at contact points in the shielding. Consequently, distinctions have to be drawn between the following types:

Coaxial lines

- Shielded coaxial cables RTK031 may only be repaired with a special [crimping tool](#).
- For aerial lines only the bushing contact may be repaired.
- RG174 Lines and the bushing contact may not be repaired.

CVBS lines

- CVBS cables may not be repaired.
- CVBS cables must be replaced in their entirety.

HSD lines

- HSD cables may not be repaired.
- HSD cables must be replaced in their entirety.

Optical fibre cable:*Note:*

Fibre-optic cables are coloured differently as follows:

- Green = **MOST** (Media Oriented Systems Transport) optical fibres
- Yellow = **ISIS** (Intelligent Safety and Integration System) optical fibres
- Orange=repair fibre-optic cables

Attention!

- Optical fibres are permitted to show only one junction point (bridge). Replace optical fibres if necessary
- Smallest permissible bending radius is 25 mm
- Avoid effects of heat $\geq 85^\circ$

[Treating cables and fibre-optic cables](#)FlexRay (twisted cables):

It is possible to repair the FlexRay. In the event of damage, the cables can be joined with conventional [butt connectors and heat-shrink tubing](#).

Note:

- FlexRay lines may only reveal one separation point (bride); renew complete line if necessary.
- If possible, maintain twisted cable after repair.
- After repairs, twist cables as close as possible to the connector/separation point.
- Twisting must be as symmetrical as possible.

Airbag lines:

[Repairing airbag cables](#)

Ribbon cables:

[Repairing ribbon cables](#)

Replacing wiring harnesses

Repair wiring harnesses mainly cover the full equipment of the vehicle. If certain optional equipment is not installed in the vehicle, note the following:

- If necessary, secure the remaining connectors.
- If necessary, seal the remaining connectors outside the vehicle interior, for example, with butyl tape in such a way that moisture ingress can be eliminated permanently.
- [If necessary, repin the connector of the repair wiring harness.](#)

Note:

Repair wiring harnesses can be equipped with an **additional socket housing** (30-pin, for example), **which was not provided on the previous vehicle-side wiring harness**. This socket housing also cannot be found in the wiring diagram.

Procedure

The separation point between the vehicle-side wiring harness and the repair wiring harness is located **in the vehicle interior** (in the footwell, for example):

- Cut the additional socket housing and connect the lines to the vehicle-side wiring harness using a butt connector.
- Alternatively, a suitable pin housing can be fitted on the vehicle-side wiring harness and connected to the additional socket housing.

However, this is permitted only if the following conditions are met:

- Carpets must not protrude visibly or become deformed due to the installation of the additional plug connection.
- It must be possible to install the adjacent components (for example, trims, trim panels, etc.) correctly after installing the additional plug connection.
- All the attachment points of the adjacent components (for example, trims, trim panels, etc.) must engage correctly.
- There must be no rattling noise due to the installation of the additional plug connection.
- The additional plug connection must not damage the adjacent components/wiring harnesses, etc..

The separation point between the vehicle-side wiring harness and the repair wiring harness is located **outside the vehicle interior** (in the wheel arch, for example):

- Cut the additional socket housing and connect the lines to the vehicle-

side wiring harness using a butt connector.

- **Using the additional socket housing is not permitted with a separation point outside the vehicle interior.**

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64 00 ... Information on using cleaning agent/paints (personal protection equipment)



Warning!

Use of cleaning agents/paints not compliant with instructions can cause serious injuries or burns!

Handling cleaning agents/paints can trigger allergic skin and respiratory reactions!



Important!

Observe following instructions:

- Store cleaning agents/paints only in a secure cabinet.
- Keep cleaning agents/paints away from naked flames and other sources of ignition.
- Protect cleaning agents/paints from high temperatures and direct sunlight.
- Always keep an eye douche on hand, change the water regularly (once a month).



Important!

Observe following instructions before use:

- Manufacturer's instructions (on container/packaging)
- Hazard warnings (on container/packaging)
- Manufacturer's instructions on package insert
- Material safety data sheet of manufacturer
- Product information in EPC
- National market regulations



Important!

Observe following instructions during use:

- Do not eat, drink or smoke while working with these products.
- Avoid direct contact with skin and eyes.
- Wear personal protective clothing/equipment.
- Ensure that all enclosed areas are well ventilated or extract fumes directly.
- Immediately change working clothes soiled with cleaning agent/paint.
- After finishing work, wash your hands and apply protective skin cream.



Important!

Follow hazard warnings and wear personal protection equipment!



First Aid:

- If product comes in contact with eyes, immediately flush with running water for about 10 - 15 minutes. Seek the advice of eye specialist.
- In the event of skin contact and where applicable an allergic skin reaction, clean the affected areas immediately with soap and water and then apply silicone-free skin cream. Seek advice of physician.
- If an adhesive product is swallowed, rinse mouth/parts of mouth thoroughly with running water. Drink 1-2 glasses of water. Do not induce vomiting. Consult a doctor.
- After inhaling vapours ensure ample supply of fresh air. Keep calm, keep respiratory tracks clear and call doctor.



Recycling:

Dispose of cleaning agents/paints in a professional manner!

Observe national/country-specific disposal regulations.

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