61 25 ... Assessing the transport capability of cell block in service workshops



Warning!

High-voltage system - danger to life!

The following points must be strictly observed **prior to starting work**:

- Safety information for handling electric / hybrid vehicles.
- Visual check of the high-voltage battery unit following an accident

Initiating:

For analysis and disposal purposes, it is necessary to transport an already used cell module. These lithium-ion based cell blocks are to be classified as hazardous material according to UN 38.3, and may only be transported under particular prerequisites.

Obtaining the certified transportability between the assessment and delivery of the cell block to the disposal / transportation company is the responsibility of a qualified person. For shipping one also needs to take into account the influence of the storage requirements and other possible occurring events for the determined transportability.

The transport in the sense of the hazardous goods legislation is organised in three areas:

1. Assessment of the transportability
2. Transport preparation
3. Performing the transport

This document contains all the necessary information in order to assess the transportability of a used cell block. The transport preparation and execution is **not** an element of this document.

Further information on this can be found in the information bulletin in the ASAP.

It will be explained which measures are necessary in order to assess the transportability. How these measures are to be performed individually depends on the particular situation at the location and is not an element of this document. These procedures are to be defined according to the local regulations / laws and recorded as valid local work instructions.

Prerequisites from a security perspective:

The analysis and assessment of the cell block is to be performed by an "expert for working on HV intrinsically safe vehicles".

The certificate of the transportability is the responsibility of the qualified person.

The following specifications for work safety must also be observed:

Storage of cell blocks

For dual-cell modules, the module connector should be disconnected.

The information for this can be found in the information bulletin in the ASAP.

Note: This document must be printed out and archived with the vehicle data.

Assessment cell block

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NAME	Date	Serial no.	VIN

Signature: ----------

The electrical assessment of the cell module takes place via the **diagnosis and test module**.

The de-energised state of the high-voltage battery unit is to be determined **before** it is removed from the vehicle.

De-energise the high-voltage system.

Transport preventing faults according to the diagnosis or the test module	Yes	No

Visual assessment:

Smoke	Yes	No
Evidence of fire damage	Yes	No
Heat development	Yes	No
Crack or opening on the housing	Yes	No
Dents on the housing, deformation, damage	Yes	No
Loose connections, loose or damaged	Yes	No
Serial number not readable	Yes	No
Suspected water damage	Yes	No

Cell module, transport capable	**No**	**Yes**

The serial number must be clearly legible. If the serial number can no longer be read, the housing of the cell block must be clearly marked with the serial number.

The electrical and visual assessment must be set down in writing!

If one or more points is/are answered with yes the following procedure must be clarified with technical support! Furthermore, the high-voltage battery unit that has been removed must be blocked off with high-voltage barrier tape. If the high-voltage battery unit is still in the vehicle, the vehicle must be made inaccessible and blocked off.

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61 00 ... Battery charging calendar

Battery charging calendar 2016 (PDF file)

Battery charging calendar 2017 (PDF file)

Battery charging calendar 2018 (PDF file)

Battery charging calendar 2019 (PDF file)

Information for the battery charging calendar

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61 25 ... Notes on repair of high-voltage battery unit

1. Prerequisite

Various organisational prerequisites need to be fulfilled before the repair of a high-voltage battery unit is permitted and can be carried out in an expedient way. These prerequisites concern both, the commercial company and the service employee.

The repair of a high-voltage battery unit is intended to be carried out exclusively by commercial companies featuring the service format BMW i Service Extended Battery or BMW i Service Full.

A commercial company featuring the service format BMW i Service Basic is able to remove and install a high-voltage battery unit but cannot perform any repair work on or in the high-voltage battery unit. If a repair is required according to the test schedule in the diagnosis system, the vehicle or the high-voltage battery unit must be transported to a commercial company featuring the service format BMW i Service Extended Battery or BMW i Service Full. The repair is to be carried out in such a workshop.

The commercial company must make available the required special tools and a suitable workbay for the repair.

The most important special tools are the following:

- Mobile lift table MHT 1200 + set of adapters to remove and install the high-voltage battery unit
- Charger for cell blocks of high-voltage battery unit
- Diagnosis system for the repaired high-voltage battery unit
- Lifting tackle to remove and install cell blocks
- Panel wedges made of plastic to remove clips within the high-voltage battery unit
- Lifting traverse for the complete high-voltage battery unit
- High-voltage barrier tape
- Yellow cones relating to high-voltage recommended

Sourcing reference:

See Aftersales Assistance Portal (ASAP) - Service/Technical - Workshop Equipment (Start BMW) - Shop Workshop Equipment or at www.bmwgroup.com

Only service employees being qualified for the repair of the high-voltage battery unit may carry out this procedure.

This includes training for "experts for work on high-voltage-intrinsically safe vehicles".

Before removing and opening the high-voltage battery unit, troubleshooting is to be carried out by means of the relative diagnosis system. Only if determined by the test schedule and if the prerequisite „no mechanical damage on the outside“ is satisfied, the high-voltage battery unit may be opened and the faulty component identified by the test schedule can be replaced. No other repair work relating to the high-voltage battery unit than the replacement of faulty components is planned.

It is essential to observe the operational steps specified in the repair instructions very precisely in order to carry out the replacement of a faulty component. The use of the special tools listed therein is absolutely essential as well.

2. Safety rules

- The first step after opening the housing cover to repair the high-voltage battery unit is a visual inspection for mechanical damage.
- A thorough visual inspection of the components inside the working area is required during and/or before and after every operation. When removing one component, all other involved components being accessible need to be checked for damages. If the housing or other internal high-voltage components are damaged, a qualified electrician or Technical Support must be contacted. All repair works relating to the high-voltage battery unit must be stopped immediately for safety reasons
- Check the correct latch mechanism of the connector of the insulation monitoring line at the control unit of the high-voltage battery unit. If this is not fully locked, an isolation fault may not have been detected.
- The separation of the high-voltage cable between the two cell modules mounted on the inside of the housing (across from the connection side of the high-voltage battery unit) is to be always carried out before working on the opened high-voltage battery unit. This procedure ensures the interrupt of the series connection (additional safety)
- The workbay required for the repair of the high-voltage battery unit must be clean (free of grease, dirt and swarf), dry (no leaking fluid) and free of flying sparks. Therefore, avoid close vicinity to areas intended for cleaning of vehicles and to workbays intended for repair work relating to the body. Use movable walls for separation, if needed

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- High-voltage barrier tape is required to secure the workbay against unauthorised access (insufficient qualification, customers, visitors, etc.). It is also required in case the high-voltage intrinsic safety is not established or the status is not determined yet. Placing yellow cones with lightning bolt to indicate high-voltage when leaving the working area is recommended
- Do not use tools or other objects with pointed and sharp blades/edges when working on high-voltage components or high-voltage cables and/or in their close vicinity. Diagonal cutting pliers, knives etc. are prohibited. Cable straps inside the low-voltage wiring harness may be opened by means of diagonal cutting pliers
  Allowed: Plastic wedges
- Cable straps relating to high-voltage cable may not be cut open. Damaged clips remain on the high-voltage cable. The remaining, damaged clip must be pushed to a position on the high-voltage line where the clip can not rub. A new clip must then be installed
- Defective or damaged high-voltage cables must be made unusable to ensure they are not reused
- No tools must be forgotten inside the high-voltage battery unit. Check whether all tools are present in the tool box before closing the housing cover
- It is absolutely essential to remove all small parts/screws that fell into the high-voltage battery unit. The use of magnetized screws is generally recommended in order not to lose any screws in the high-voltage battery unit during the repair
- When interruptions of work occur: Secure housing cover against unintended opening by screwing in several screws. Enclose the working area by means of high-voltage barrier tape
- Due to the very slim construction of the radiator, the risk of damage during disassembly and installation is high. Careful handling is absolutely necessary as the cooling of the cell blocks may not be guaranteed when the radiator is damaged (bent, dented). The consequence is a major loss of the electrical range and of the power of the vehicle. In extreme cases, even a breakdown may occur
- Very careful handling is necessary when disconnecting and connecting the insulation detector line at the control unit of the high-voltage battery unit (safety box coming) since high-voltage is present in the thin orange lines. Do not pull on the lines (e.g. to unplug the connector etc.)! The connector must be locked securely when plugged in
- Make sure the plastic lids of the modules are not removed when working on the cell modules (loosing screws, raising and lifting, …). The live cell contacting system is located thereunder. Continuing to work with the lid being removed is not permitted. A qualified electrician or Technical Support must be contacted
- A schematic diagram with limiting sample examples in the training is necessary to get to know the limits. These show when the further work for the "experts for intrinsically safe vehicles" is no longer possible due to absent intrinsic safety, and the Technical Support or a qualified electrician must be contacted
- Remove residual moisture and coarse contamination around the lid of the high-voltage battery unit before beginning the disassembly
- Clean gaskets and sealing surfaces (venting unit, high-voltage connector, signal connector, radiator connection) with a specified cleaning agent before reassembly
- If contamination is present in the high-voltage battery unit, check the cause and carefully clean the affected areas
  Approved cleaning agent:
  - Spirit
  - Windscreen cleaner
  - Glass cleaner
  - Distilled water
  - Vacuum cleaner with plastic top
- Visual inspection for contamination and damage of housing as well as of connections and degassing unit when installed (underfloor). A damaged diaphragm within the venting unit may indicate damaged storage cells. In this case, special carefulness is required when checking and opening the high-voltage battery unit
- Electrolyte
  The majority of the electrolyte is a mixture of lithium-nickel-manganese-cobalt oxide in bound state The quantity of free electrolyte in the high-voltage battery unit is very small. It is a noxious and irritant fluid. Absolutely avoid direct contact of skin with leaking fluid as acid burns may occur. In case of contact with eyes or skin, flush with plenty of clear water and consult a doctor immediately. Burning or evaporating electrolyte is also hazardous. CAREFUL: do not inhale! Ensure sufficient fresh air supply. If breathing ceases, apply artificial respiration and immediately consult a doctor. Notify fire brigade in case of fire. Clear the area immediately and make accident scene safe. Attempt to extinguish the fire without putting persons in danger and use suitable extinguishant, e.g. water

3. Repairing removed high-voltage battery units

- The high-voltage battery unit is a component of large dimensions and heavy weight. Only the combination of the housing and the cell blocks mounted therein provides the high-voltage battery unit with complete stability (rigidity), as required for driving. Therefore, it is necessary to ensure that the housing is positioned on the

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relative mounting/adapter of the lifting table during replacement and fixation of cell blocks. In this way, one can prevent the housing from bracing during the repair work and ensure the high-voltage battery unit is not installed in the BMW I01 in this condition

- It is extremely important to enter the serial numbers and the installation positions of the replaced components in the SME via the testing device, as well as to carry out the transmission into the diagnosis system. Otherwise, the new installation position will be assigned automatically by the SME. The consequence is an incorrect location data, as the SME does not set correct positions. For a renewed repair of the high-voltage battery unit, the diagnosed faults for the incorrect installation position will be displayed. The consequence is that replacement is done at the wrong location
- In diagnosis, it is not possible to enter the serial numbers of the cell supervision circuits. The serial numbers are transmitted from the cell supervision circuit to the SME using the CAN bus. The SME then sets a corresponding position assignment. This assignment is not always fault-free. That is why the serial number and installation position of the exchanged cell supervision circuit must be checked in the diagnosis after completed repair. If the positions do not match, a position change can be performed with diagnosis. A new serial number of a cell supervision circuit is not entered
- Attention: Do not use powered wrenches as the screws/threads located in the high-voltage battery unit may break due to the low torques!
- The seal must be renewed every time the housing cover is removed to guarantee tightness of the high-voltage battery unit
- The screws are thread-tapping, so pre-insert them manually before tightening them with a tool. Otherwise, the threads of the lower housing section may be damaged!

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61 00 ... Safety information on handling hybrid cars

1. *Qualification:*
   All repair work on high-voltage components may **only be performed by specially trained personnel** (qualification: Work on high-voltage inherently save vehicles) must be performed by qualified technicians. Each hybrid car requires additional vehicle specific training with training achievement controls.
   Required training is offered by the BMW Training Academy.
2. *Identification:*
   Observe **warning notices** on high-voltage components. When replacing individual high-voltage components, check if warning stickers are present. Independently attaching warnings is only allowed on the locations provided for them. Use only approved and appropriately identified original new parts.
3. *Rules of conduct/protective measures:*
   - Note operating instructions for handling high-voltage battery units.
   - Do not under any circumstances touch open high-voltage cables and high-voltage components on damaged vehicle before shutting down the high-voltage electrical system.
   - In the event of damage (mechanical, thermal) transition metal oxides, carbon, electrolyte solvents and their products of decomposition may be released.
     Suitable acid-resistant protective clothing/equipment must therefore be used when handling the vehicle!
     - Hand protection: Gloves
     - Eye protection: Safety goggles

     Damaged high-voltage battery units must be stored in an acid-resistant pan in a location in the open that is protected against the weather (sun, rain) and secured against unauthorised access. Do not inhale escaping gasses.
   - Prevent escaping substances from entering drains, pits and the sewer system.
   - Collect any material that is discharged and have it disposed of according to the work instruction, wear acid-resistant protective clothing when doing so.
   - Notify the fire brigade if fire breaks out, clear the area immediately and make accident scene safe. Attempt to extinguish the fire without putting persons in danger (suitable extinguishant: water and water foam).
   - A cut 2nd emergency separation point must be repaired with a butt connector.
4. *Measures before starting work:*
   - Each job on the vehicle must be assigned by appropriately trained personnel. Before work is started, this electrician must place the vehicle in the operating condition required to perform the relevant activity. The qualified personnel's instructions and directions absolutely must be followed. **No work may be carried out without this qualified personnel being consulted first.**
   - It is **not** permitted to work on the high voltage system or on high voltage components while the engine is running.
   - The readiness to drive must be ended before shutting off the voltage of the high-voltage system. The readiness to drive is ended when the driver is absent only under the following conditions:
     1. seat belt buckle unlocked **and**
     2. the driver's door is open **and**
     3. no brake activated **and**
     4. the accelerator pedal is not activated **and**
     5. speed < 3 km/h (2 mph)
   - Work on live high-voltage components is expressly prohibited. Before each operation on the high-voltage system, the system must be isolated from the power supply by qualified personnel (high-voltage safety connector Off) and secured against unauthorised recommissioning (padlock).
   - After each deactivation of the high-voltage system, it is essential to observe a **waiting period** of at least **10 seconds** prior to further work.
   - Before beginning work, it is mandatory to check that the equipment is de-energised and is protected against being energised again.
     Work is only permitted to begin if:
     1. Corresponding display in the KOMBI **High-voltage system deactivated** or

     When a high-voltage warning is active (indicator light, Check Control, etc.), it is essential to determine and eliminate the cause of this warning via the diagnosis system before continuing with any other work.
     If it cannot be definitively established that the equipment is de-energised, work is not permitted to begin. **Danger to life!** Before work begins, a qualified electrician (1000 V AC) must verify that the system is de-energised using appropriate measuring devices and procedures.
     => In this case, Technical Support must be contacted!
   - Do not perform any work on the vehicle while it is charging. Before starting work, disconnect the charging

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cable from the vehicle.
Battery charging may result in heating of the high-voltage battery unit. This heating may lead to sporadic launches of the electric fan (switch-on request from the electric fan). Therefore, work in the vicinity of the electric fan during the charging procedure is prohibited. Ensure freedom of movement of the battery charge lines in the vicinity of the electric fan.

5. *Measures during/after activities:*
   - Identifiable mechanical damage to or tampering with high-voltage components must be reported immediately to the qualified personnel in charge.
   - When carrying out any work on the high-voltage system, it is prohibited to drive externally all the drivetrain components (wheels, gearbox, drive shafts, etc.).
   - *E72 only:* When the “Power Electronic Box Cover” is removed, the high-voltage system is not permitted to be activated. The high-voltage service disconnect must only be used when the "Power Electronics Box Cover" is completely installed.
   - High-voltage cables (orange coating) and their connectors and stop parts **may not** be repaired. If damaged, a cable must always be replaced completely.
   - When working in the vicinity of high-voltage components (identified accordingly with warning stickers and orange-coloured coating), protect these components against damage.
   - The specified work steps in the repair instructions must be adhered to exactly.
   - High-voltage components and their holders must be screwed/bolted to the defined tightening torque. Tightening torques and tightening specifications must be observed.
   - Connecting high-voltage components to body ground is crucial to safety for reasons of equipotential bonding. For this reason, it is prohibited to operate any high-voltage components without them being correctly connected to body ground. The measurements (insulation/potential equalisation measurement) are performed automatically by the vehicle. Manual measurement is not therefore necessary.
     For a correct earthing connection, the retaining elements of high-voltage components must not be painted. Follow further painting notes.
   - Removed high-boltage battery units must be stored in a manner that protects them from misuse and damage.
   - Damaged or warning stickers that are no longer legible on high-voltage components must always be replaced.
6. *Potential compensation:*
   Equipotential bonding lines, high-voltage cables and the battery negative lead to the EME are fitted with safety screws.
   - Clean contact faces and have then checked by a second person.
   - Tighten down screws/bolts to specified torque.
   - Have tightening torque checked by a second person.
   - Both persons must document that the work has been carried out correctly in the vehicle records.

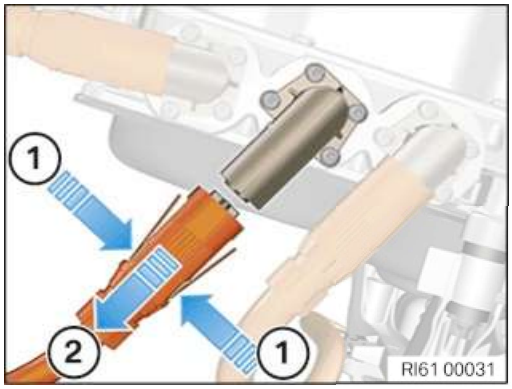
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61 13 ... Unlocking and disconnecting various plug connections in electrical and hybrid vehicles

Attention!

Observe the following instructions for handling high-voltage plug connections:

- Damaged high-voltage plug connections must be replaced completely. Repair is not permitted.
- Dirt contamination must be removed before opening the plug connection.



Disconnect the Hirschmann high-voltage connector:

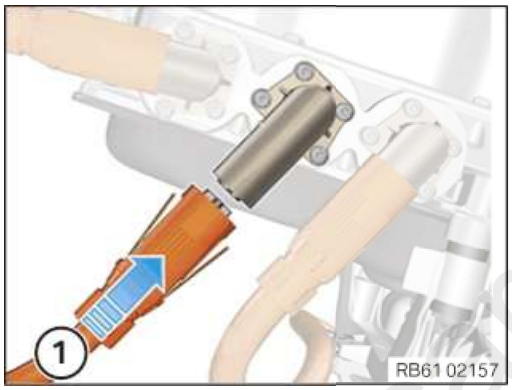
Press the lock (1) on the left and right on the connector in the direction of the arrow.

Pull off connector (2) in direction of arrow.

Attention!

Connector (2) is difficult to pull off.

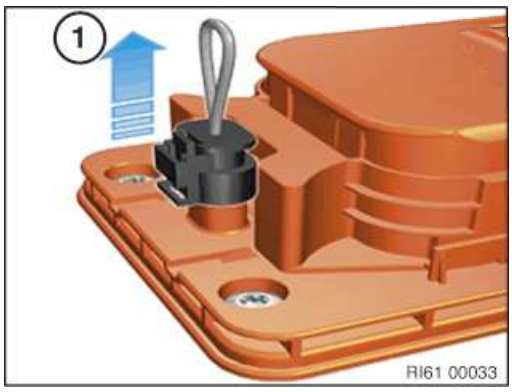
In the event of damage to high-voltage connector (2), the complete high-voltage cable must be replaced!



Connect the Hirschmann high-voltage connectors:

Slide the connector (1) on in the direction of the arrow.

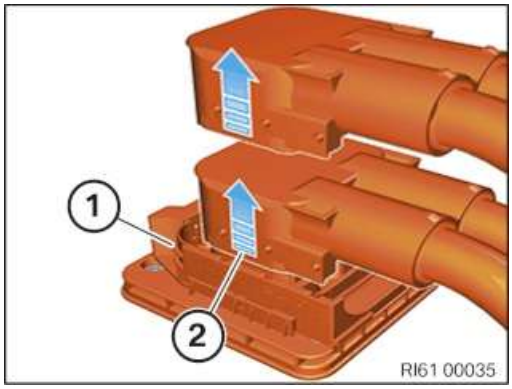
Note:
Connector (2) must lock audibly.



Disconnect the Kostal high-voltage connector:

Unlock and disconnect high-voltage interlock loop (1).

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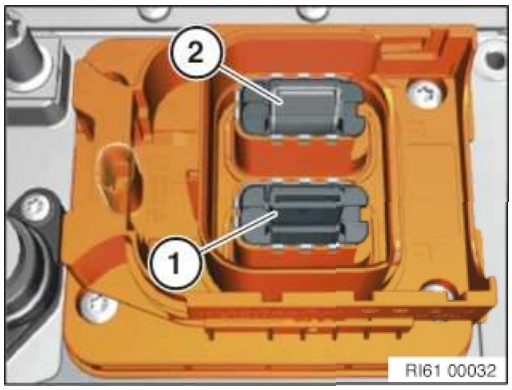
Push the lock (1) fully to the front.

Lift the connector (2) and remove it entirely.

Attention!

Plug connection (3) is difficult to pull off.

The connector (2) must be completely pulled off the opposite housing in one step. Damage may be caused to contact protection if connector is only partly pulled off and then closed again!



Check the Kostal high-voltage connector and connection for damage:

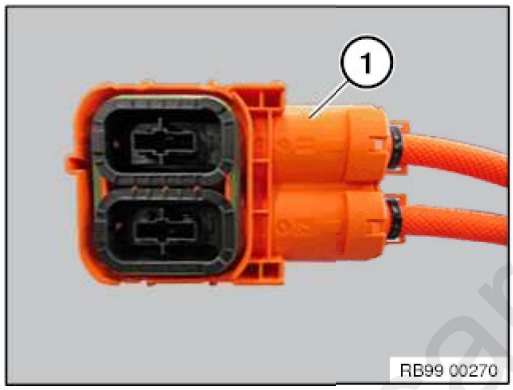
Check the touch protection for damage and correct positioning (1).

Warning!

Do not touch unprotected connector (2)!

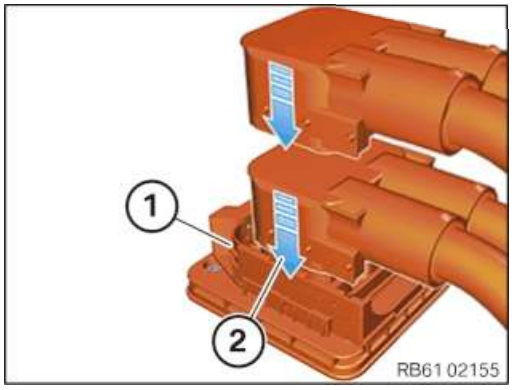
If the contact protection (1) has been pushed to the bottom (2), the high-voltage connector must be refitted.

If contact protection (1) remains in bottom position (2) after reinstallation, the contact protection is faulty and the component must be replaced!



Check the high-voltage connector (1) for damage.**Warning!**

In the event of damage to the high-voltage connector (1), the complete high-voltage cable must be replaced!



Connect the Kostal high-voltage connector:

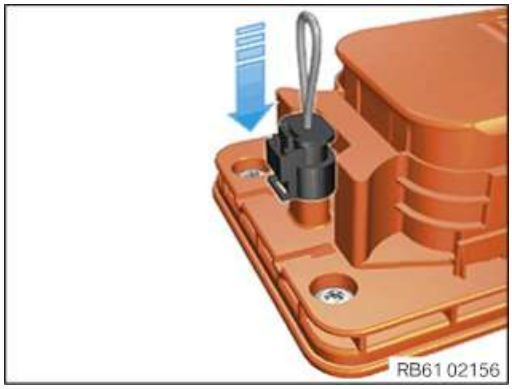
Connect the connector (2) in one single movement to the counter-housing.

Push the lock (1) fully to the rear.

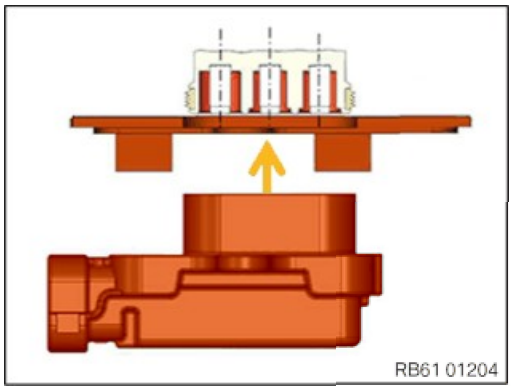
Attention!

Plug connection (3) must be correctly locked by lock (2), otherwise there is a risk of damage.

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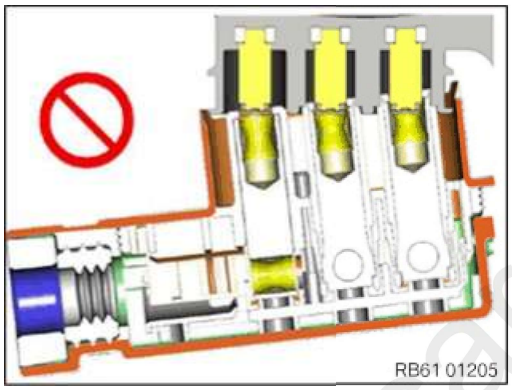


Connect the connector for the high-voltage interlock.



Three-phase high-voltage connector:

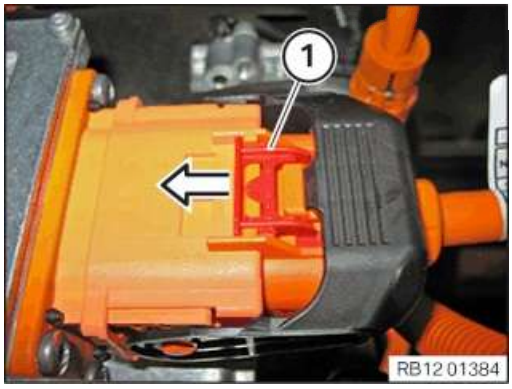
Connect and disconnect the connector straight.



Attention!

The system is designed to only offer limited protection against damage caused by connectors that are inserted at an angle.

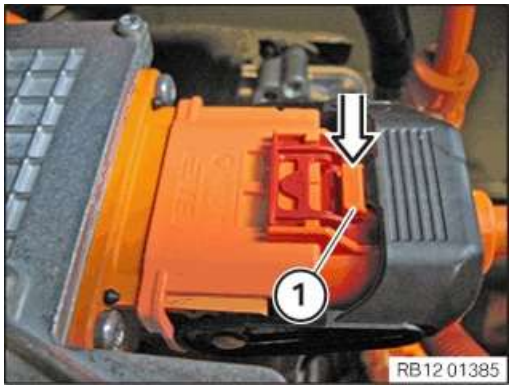
Increased tilted connections will increase the connecting force and the risk of danger.



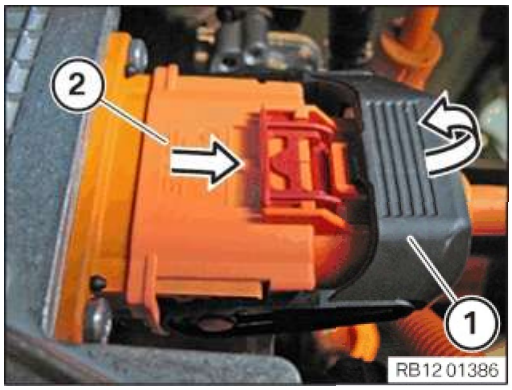
Disconnect the high-voltage connector from the high-voltage connection of the KLE:

Slide lock (1) in direction of arrow up to stop.

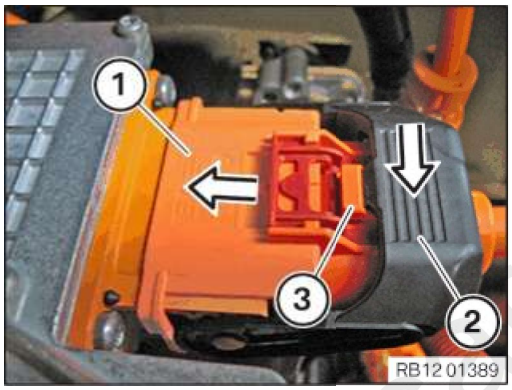
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Press lock (1).



Open the lock (1) completely and disconnect the connector (2).



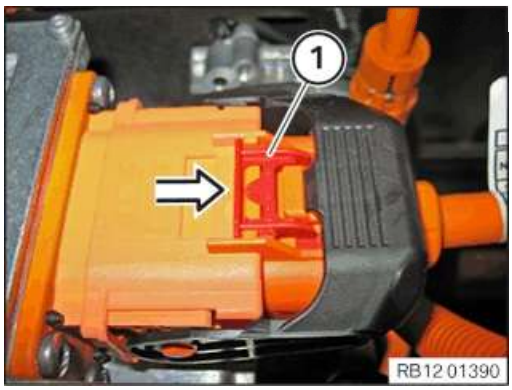
Connect the high-voltage connector to the high-voltage connection of the KLE:

Connect the connector (1) to the limit position and close the lock (2).

Attention!

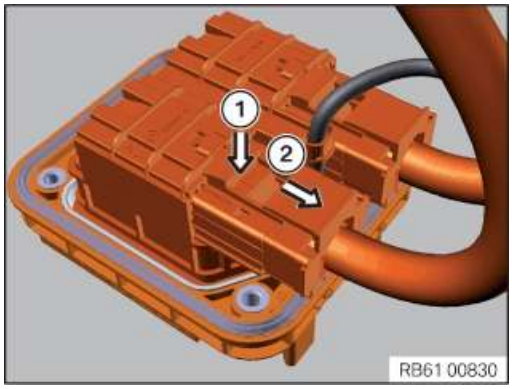
Lock (2) must snap audibly into place.

The retaining lug of the lock (2) must be positioned completely under the lock (2).



Slide the lock (1) on to the stop in the direction of the arrow.

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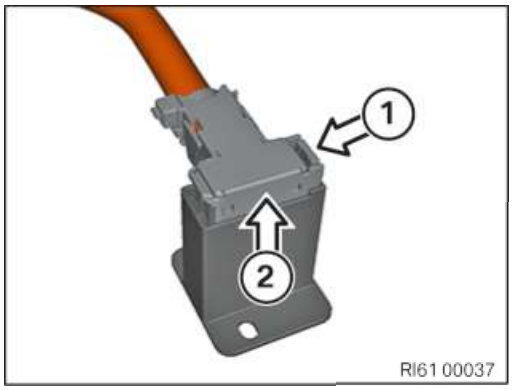
High-voltage connector on the high-voltage connection of the high-voltage battery unit:

Press down unlocking (1) in direction of arrow and pull off connector in direction of arrow (2).

Attention!

Contact protection is no longer provided in the event of a damaged connector housing.

In this case, contact technical support.



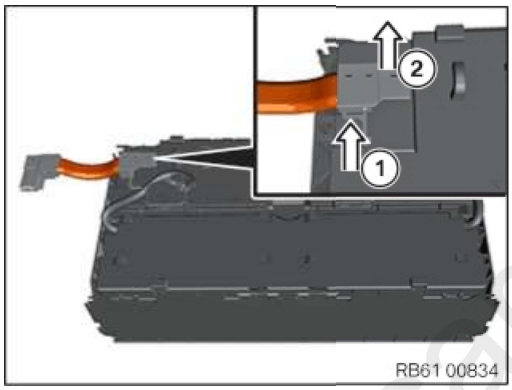
High-voltage connector on the cell module I01:

Press unlocking device (1) together and pull off connector upwards (2).

Attention!

Contact protection is no longer provided in the event of a damaged connector housing.

In this case, contact technical support.



High-voltage connector on the cell module (cell module connecting line):

Press unlocking (1) in direction of arrow and pull off connector in direction of arrow (2).

Attention!

Contact protection is no longer provided in the event of a damaged connector housing.

In this case, contact technical support.

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61 35 679 Initialise the rain-light-solar-condensation sensor

Note:
Initialisation is necessary:

- after replacing the windscreen
- after replacing the rain-light-solar-condensation sensor
- after removing and installing the rain-light-solar-condensation sensor

Note:

- Connect BMW diagnosis system
- Initialise the rain-light-solar-condensation sensor

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61 35 679 Initializing rain/light sensor

Note:
Initialisation is necessary:

- after replacing the windscreen
- after replacing the rain-light sensor
- after removing and installing the rain-light sensor

Note:

- Connect BMW diagnosis system
- Initializing rain/light sensor

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61 31 ... Moving receiver radio remote control

Note:
Repairs can be carried out only in the case of fault pattern "Wheel electronics: no reception".

Repairs may only be carried out according to the instructions of the test module.

Before carrying out repairs, run the test module over the following path:

- Driver assistance
- Tyre pressure control
- Wheel electronics: No reception

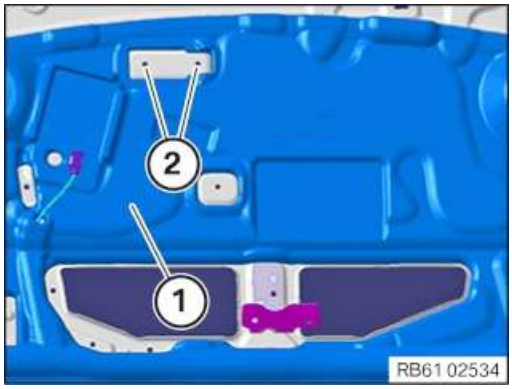
Parts required:

Parts	Part number	Number
Radio receiver	6 806 871	1
Holder	6 992 153	1
Sheet metal screws (holder to body)	6 801 211	2
Expanding rivet (radio receiver to holder)	1 908 077	1
Wiring harness adapter with 4 clips	6 991 308	1
Sound insulation	7 284 983	1
Felt	2 697 913	1
Seal plug (for closing the openings at the previous installation location)	7 221 349	2

Necessary preliminary work:

- Remove radio remote control receiver
- Remove emergency GSM aerial

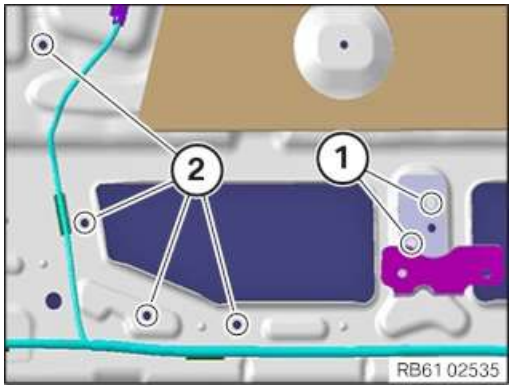
Read and comply with notes on handling wiring harnesses and wiring.



Remove and dispose of sound insulation (1).

Seal holes (2) of the original installation location of the radio receiver using seal plugs.

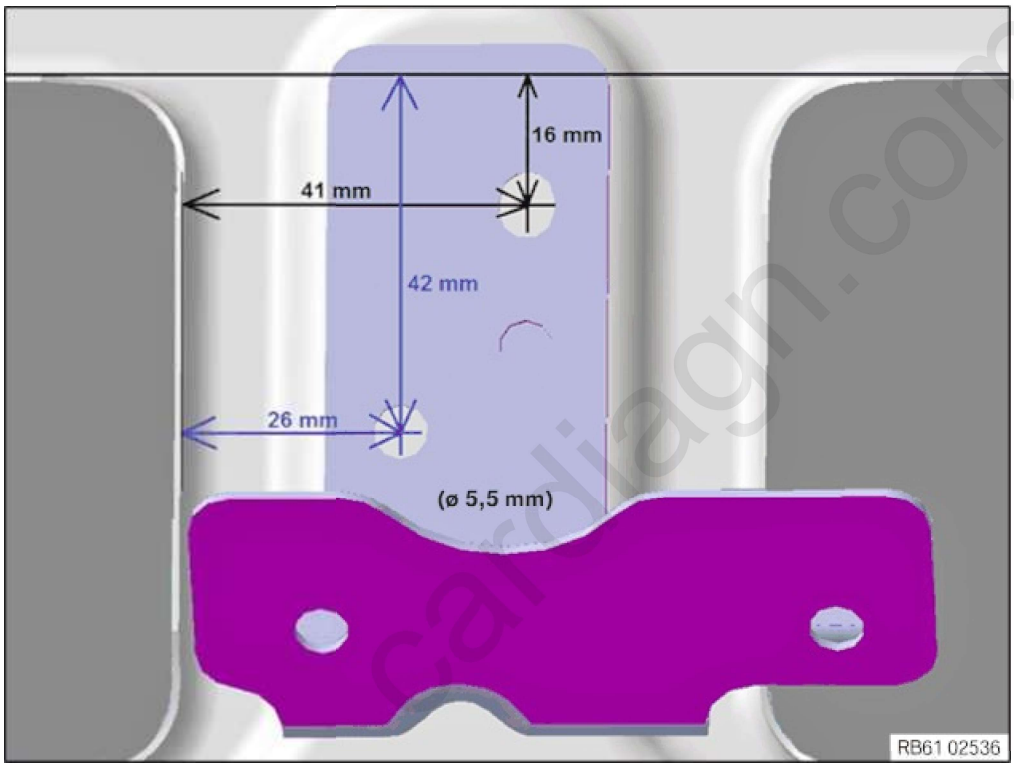
cardiagn.com



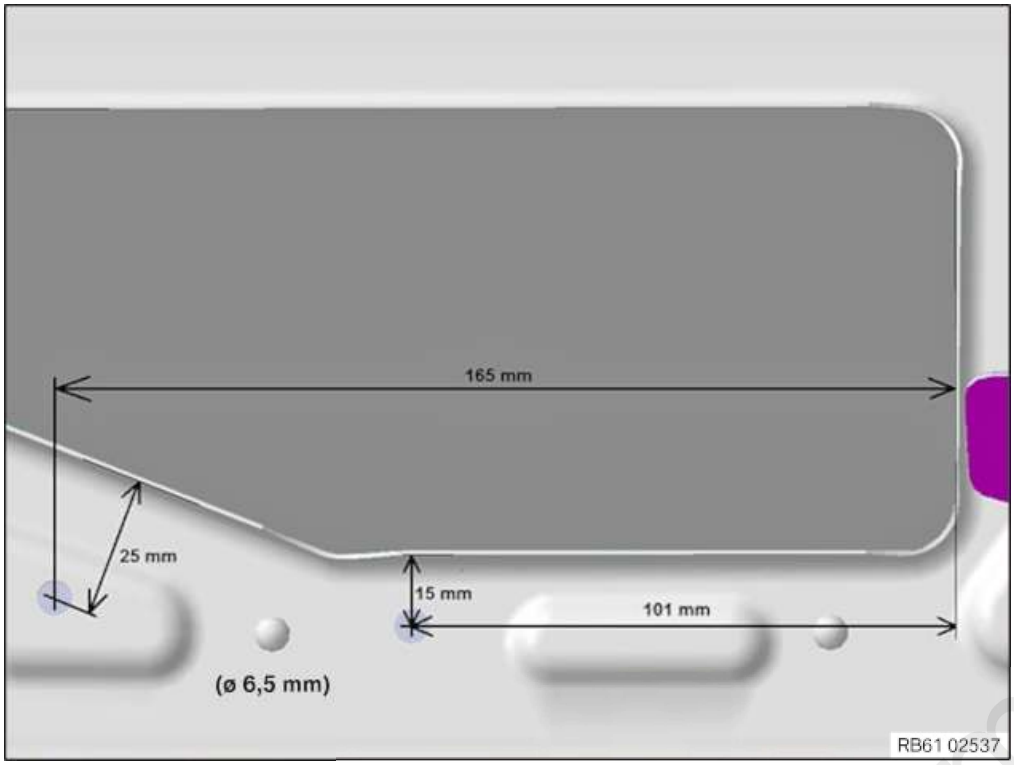
Overview of holes to be drilled:

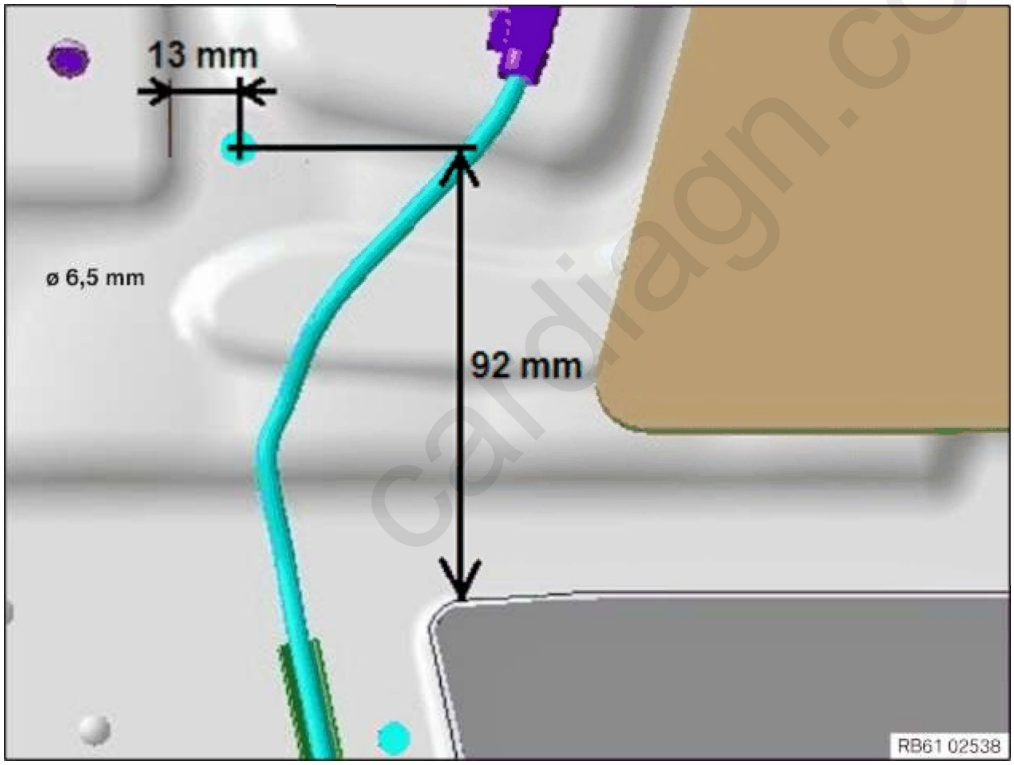
- Holes (1) for the holder (dia. 5.5 mm)
- Holes (2) for the clips of the wiring harness mounting (dia. 6.5 mm)

On the basis of the following four illustrations, mark the centre points of the holes to be drilled.*Note:*
All dimensions in mm.

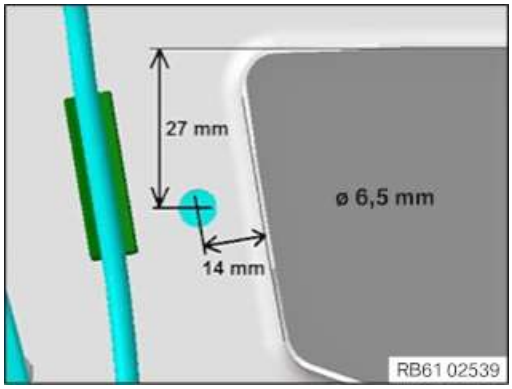


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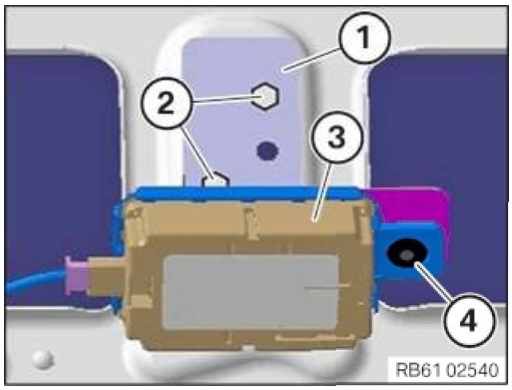


Mark centre of the indicated holes.

Drill two holes of the holder with dia. 5.5 mm and deburr.

Drill the remaining four holes with dia. 6.5 mm and deburr.

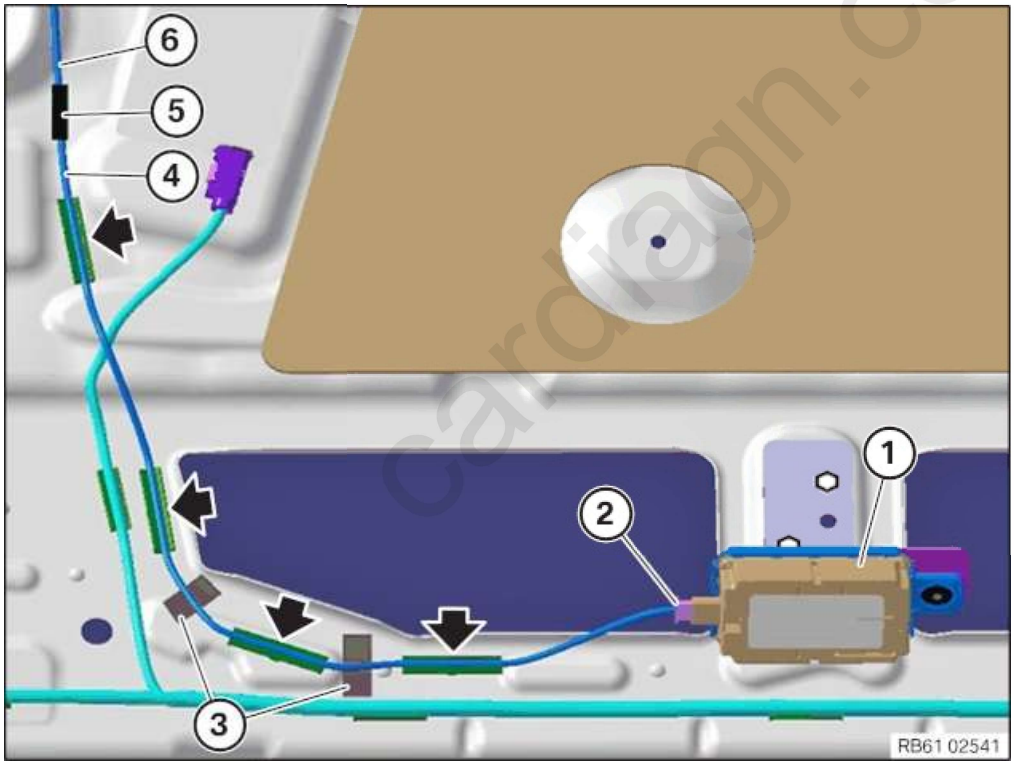
Install new sound insulation.



Mount holder (1) using sheet metal screws (2).

Tightening torque: 8 Nm

Secure new radio receiver (3) on holder (1) by means of expanding rivet (4).



Note:

For the purposes of clearer representation, illustration without the already installed sound insulation.

Cut two felt pieces (3) to size 3x4 cm.

Bond the two felt pieces (3) as shown.

Connect plug connection (2) from the wiring harness adapter (4) at the radio receiver (1).

Secure wiring harness adapter (4) at the points marked with an arrow.

Connect wiring harness adapter (4) with the vehicle wiring harness (6) by means of plug connection (5).

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Required follow-up work:

- Install emergency GSM aerial

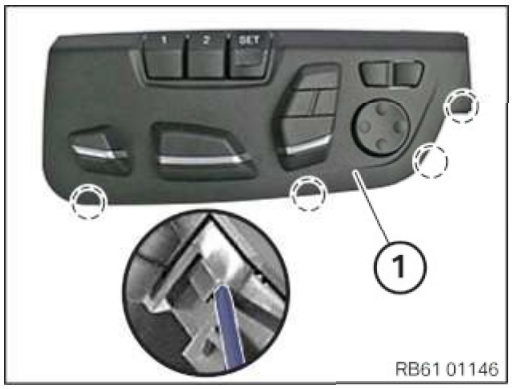
cardiagn.com

61 31 ... Remount operating unit for additional seat function (clipped version)

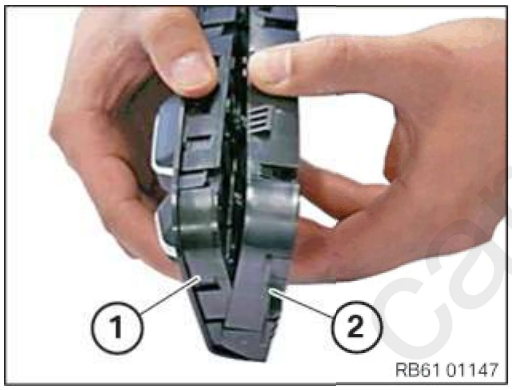
Necessary preliminary tasks:

- Remove operating unit of additional seat function

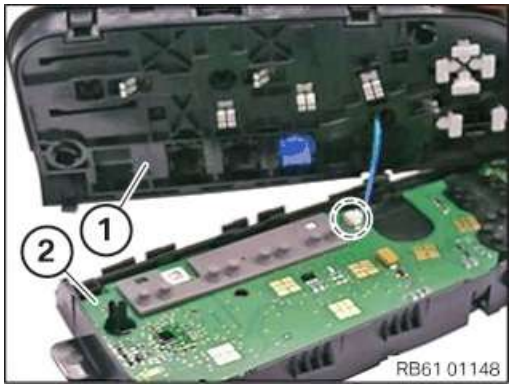
Removal:



Release all latch mechanisms on the operating unit (1) using screwdriver (3-mm blade).

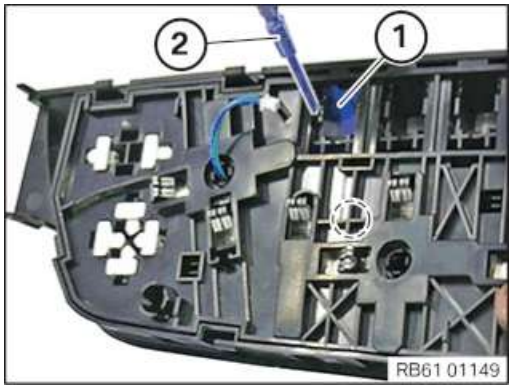


Feed out the operating unit (1) from the rear panel (2).



Disconnect the connector from the printed circuit board (2) and remove the operating unit (1).

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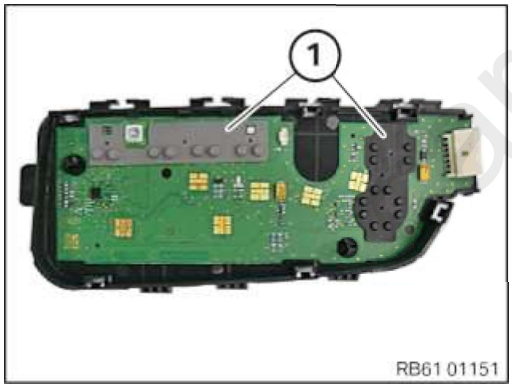


Unclip the button (1) using screwdriver (2) and pull out forwards.

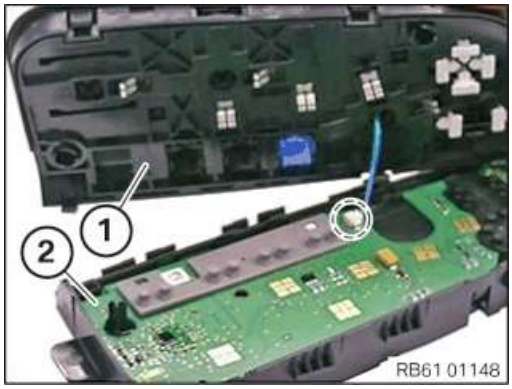
Installation:



Fit the memory button to the operating unit and press to lock into place.



Installation note:
Ensure keypads (1) are seated correctly.



Disconnect the connector from the printed circuit board (2) and remove the operating unit (1).

bmwdiagn.com



Fit the operating unit (1) to the rear panel (2) and press to lock into place.**Important!**

Pay attention to the freedom of movement and function of the remounted button!

Required follow-up work:

- Remove operating unit of additional seat function

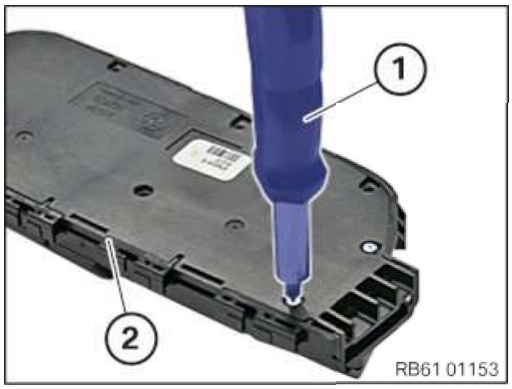
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61 31 ... Remount operating unit of the additional seat function (screwed version)

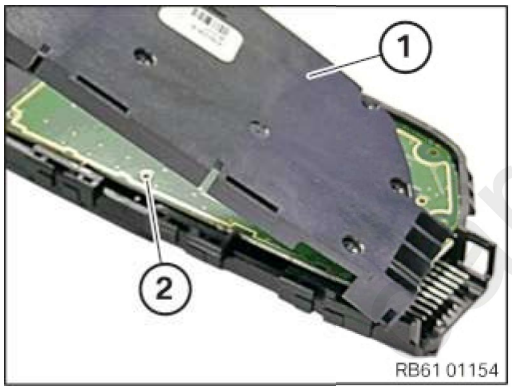
Necessary preliminary tasks:

- Remove operating unit of additional seat function

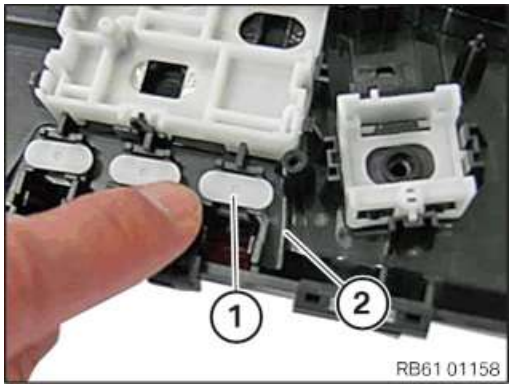
Removal:



Release all screws by means of screwdriver (1) on the operating unit (2).

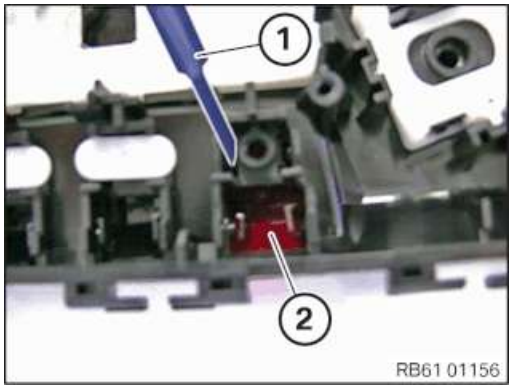


Remove the rear panel (1) and feed out the printed circuit board (2).



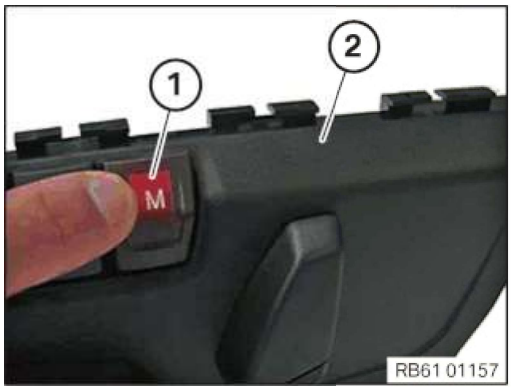
Take out the pressure pin (1) from the operating unit (2).

mbdiagn.com

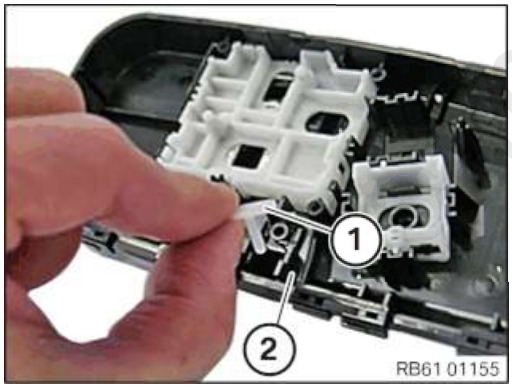


Unclip button (2) with the help of screwdriver (1) and remove.

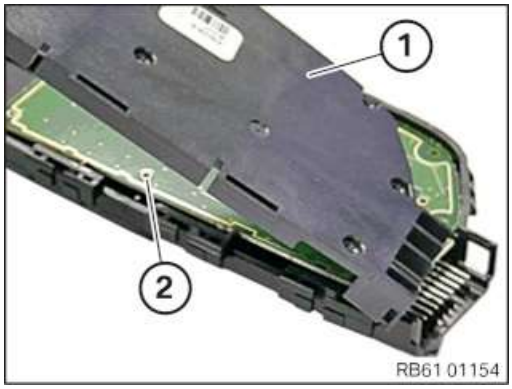
Installation:



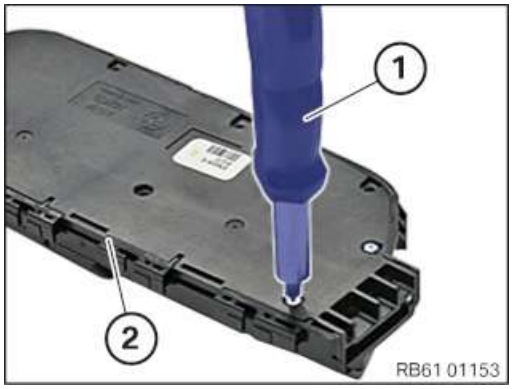
Add the button (1) to the operating unit (2) and lock using pressure.



Add pressure pin (1) to the operating unit (2).



Add the printed circuit board (2) and then the rear panel (2) to the operating unit.



Tighten all screws on the operating unit (2) with the help of screwdriver (1).**Important!**

Pay attention to the freedom of movement and function of the remounted button!

Required follow-up work:

- Remove operating unit of additional seat function

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61 35 177 Removing and installing (replacing) rain/light sensor



Operation is described in:

Removing solar rain/light sensor and condensation sensor

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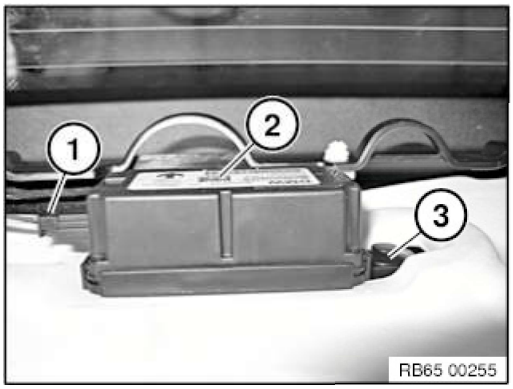
61 31 362 Removing and installing (replacing) receiver for radio remote control

Caution!

Read and comply with notes on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Remove trim panel for storage shelf (parcel shelf)



Unlock plug connection (1) and disconnect.

Lift out expanding rivet (3).

Remove the receiver (2).

Installation note:
Position the receiver (2) so that the positioning pin on the rear side engages in the associated bore hole.

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61 31 008 Removing and installing (replacing) steering column switch cluster

Important!

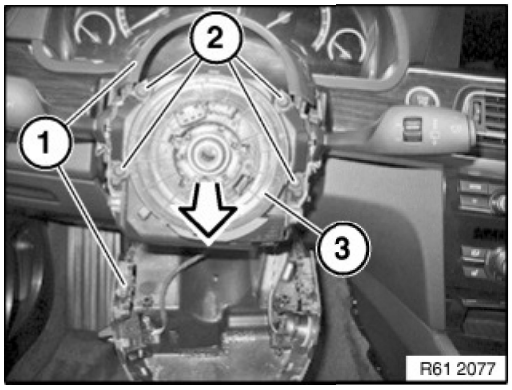
Move wheels into straight-ahead position and do not alter this position during the repair work.

Do not under any circumstances turn the steering column switch cluster when the steering wheel is removed.

Make sure the anti-twist lock locks during removal, the clock spring must not twist until installation.

Necessary preliminary tasks:

- Remove steering wheel



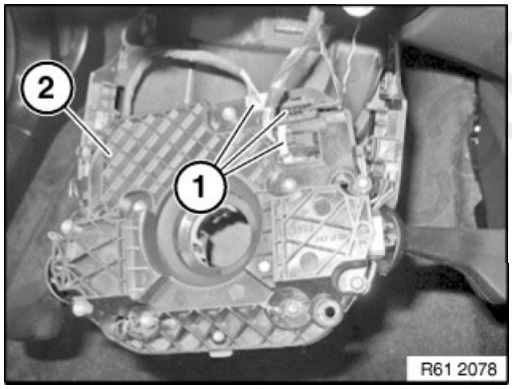
Unclip steering column shroud upper section and lower section (1).

Unfasten screws (2).

Tightening torque 61 31 3AZ.

Remove steering column switch cluster (3) in direction of arrow.

Installation note:
Make sure during installation that the anti-twist lock is positioned correctly on the coil spring cassette.



Disconnect plug connection (1).

Remove steering column switch cluster (2).

61 31 041 Removing and installing operating element for assist system

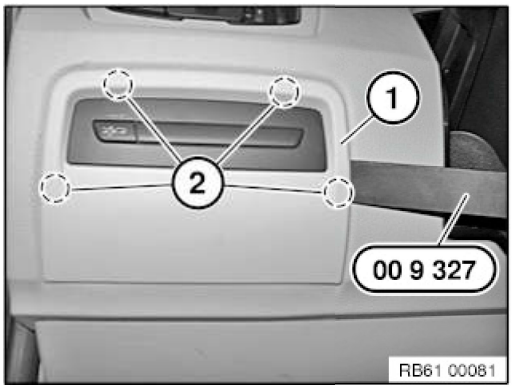
Special tools required:

- 00 9 327

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Important!

Read and comply with notes on protection against electrostatic discharge (ESD protection).

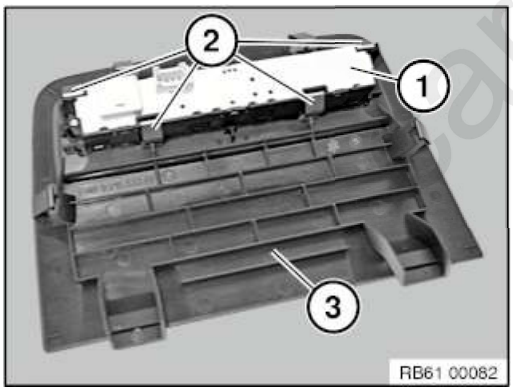


Note:
Work shown on the F30 by way of example, deviations in detail are possible in other models.

Carefully release cover (1) from clamps (2) with special tool 00 9 327 .

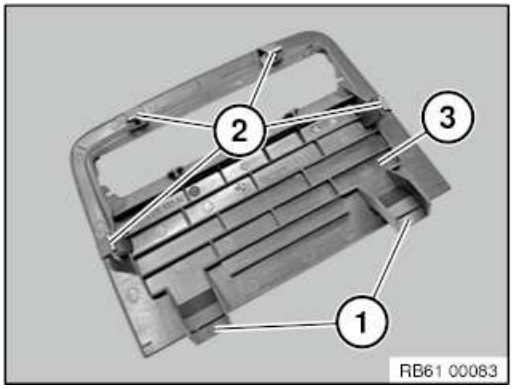
Disconnect associated plug connection and remove cover (1).

Installation note:
Make sure cover (1) is correctly seated.



Remove operating element (1) by releasing retaining clips (2) from cover (3).*Installation note:*
Make sure operating element (1) is correctly seated in cover (2).

carDiagn.com



Installation note:
Guides (1) and clamps (2) on cover (3) must not be damaged or missing.

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61 31 197 Removing and installing operating facility for centre console \PREMIUM

RISK OF DAMAGE

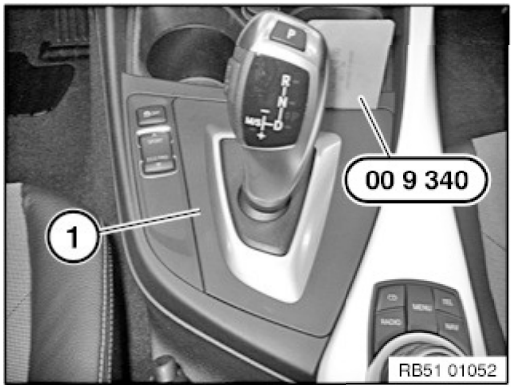
Scratches.

Tools and sharp-edged components can cause scratches.

- Protect working area.
- Handle tools and components carefully.

PRELIMINARY WORK

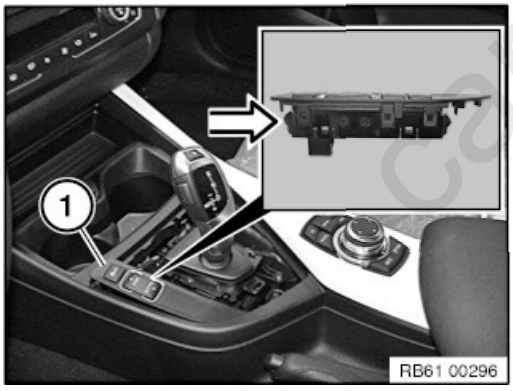
1 – Remove trim for selector lever



- Partially fit special tool **0 493 687 (00 9 340)** as pictured.
- Lift trim for selector lever (1) all around and remove upwards.
- If necessary, unlock associated plug connection and disconnect.

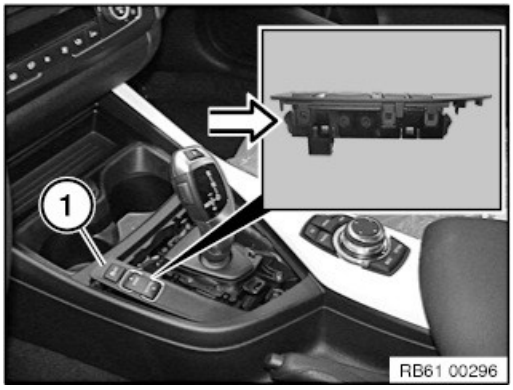
MAIN WORK

2 – Remove the operating facility in the centre console



- Reach under the front section of the operating facility in the centre console (1).
- Push the front latch mechanism in the direction of the arrow and simultaneously raise the operating facility in the centre console (1).
- Disconnect the associated plug connection and remove the operating facility in the centre console (1).

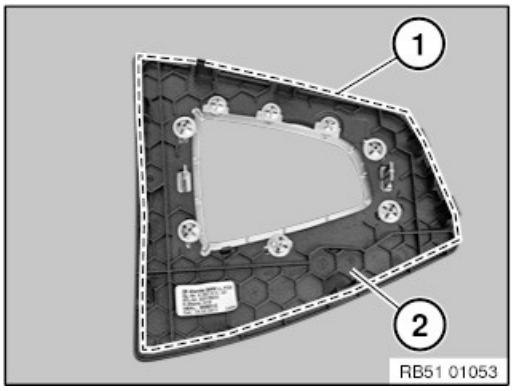
3 – Install the operating facility in the centre console



- Clip in the operating facility in the centre console.

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4 – Install trim for selector lever



TECHNICAL INFORMATION

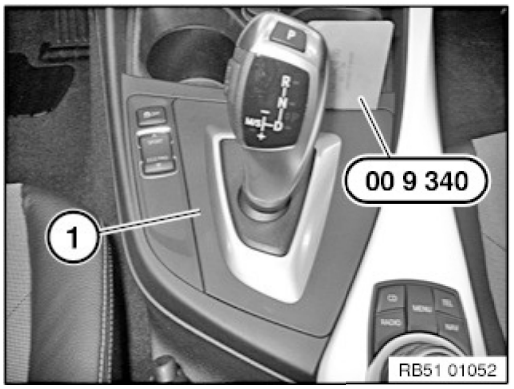
Latch mechanisms, guides and mounting elements must not be damaged or missing.

TECHNICAL INFORMATION

Remount the Drivelogic button when replacing the trim for the selector lever in F80/F82/F83.

For more information see: 61 31 ... Removing and installing/replacing Drivelogic button

- Check latch mechanisms for damage, if necessary replace trim for selector lever.

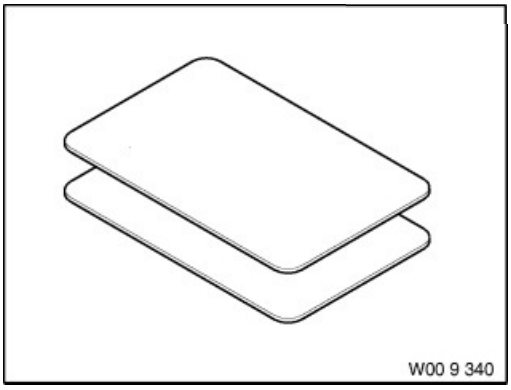


- Clip in trim for selector lever (1).

Additional Information

Overview of Special Tools

0 493 687 (00 9 340) Removal aid



Common	Used in step 1
Usage	(Removal aid (2 x)) For levering out switch block on driver's door.
Included in the tool or work	
Storage location	C2
Replaced by	
In connection with	
SI-Number	01 15 99 (483)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

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Links

Repair instructions	Used in step
61 31 ... Removing and installing/replacing Drivelogic button	4

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61 31 321 Removing and installing radio and A/C control panel

Special tools required:

- 00 9 340

Attention!
Risk of damage!

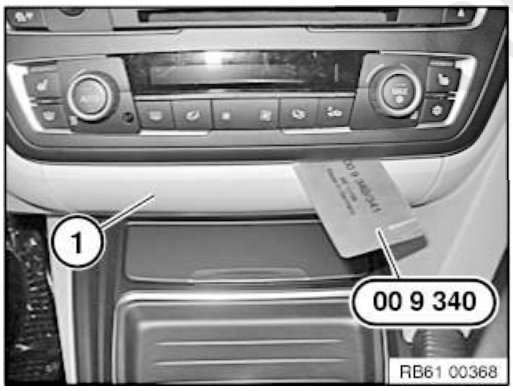
A hard disk is installed in the Car Information Computer (CIC).
Carry out mechanical work on the CIC and adjacent components with care.
Avoid subjecting the CIC to vibration/shocks.

Attention!
Read and comply with notes on protection against electrostatic damage (ESD protection).

Attention!
Carry out installation in a dust-free workshop area only.
To avoid damage, do not touch or dirty the display area.

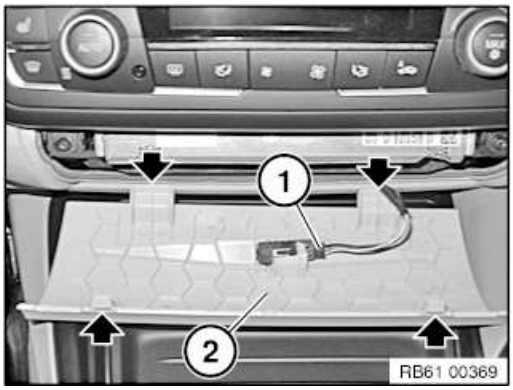
Necessary preliminary tasks:

- Remove decorative strip on dashboard in middle



Insert special tool 00 9 340 as illustrated.
Carefully lever out trim (1) towards front and unclip.

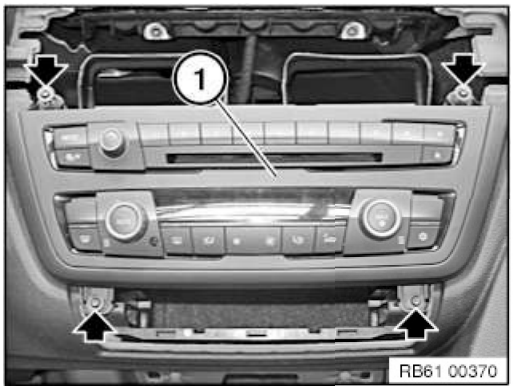
rdiagn.com



Unfasten plug connection (1) and disconnect.

Remove cover (2).

Installation note:
Retaining lugs and guides must not be missing or damaged.



Release all screws (arrow).

Pull control panel (1) forwards slightly.

Unlock associated plug connections and disconnect.

Remove the control panel (1).

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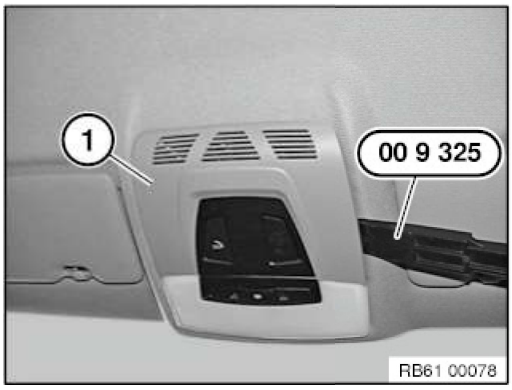
61 31 043 Removing and installing roof switch cluster (front)

Special tools required:

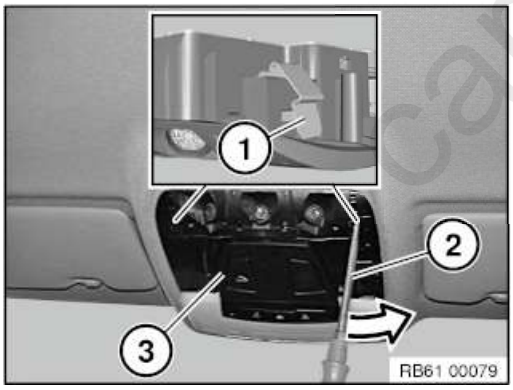
- 00 9 325

Important!
Follow notes for handling light bulbs (interior lighting).

Important!
Read and comply with notes on protection against electrostatic damage (ESD protection).



Carefully unclip cover (1) with special tool 00 9 325 and remove.*Installation note:*
Ensure cover (1) is correctly seated.



Unlock left/right retaining lugs (1) with screwdriver (2) in direction of arrow.

Remove roof switch cluster (3).

Unlock plug connections underneath and disconnect.

Installation note:
Retaining lugs (1) must not be damaged.

Make sure roof switch cluster (3) is correctly fitted.

If necessary, initialise slide/tilt sunroof.

Important!
Disconnecting the plug connection for the SOS emergency call button results in fault entries in the telephone control unit (restriction in the emergency call system).

After installation, read out fault memory and if necessary delete fault code entry.

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61 31 229 Removing and installing/renewing both switches on sports steering wheel

Operation is described in:

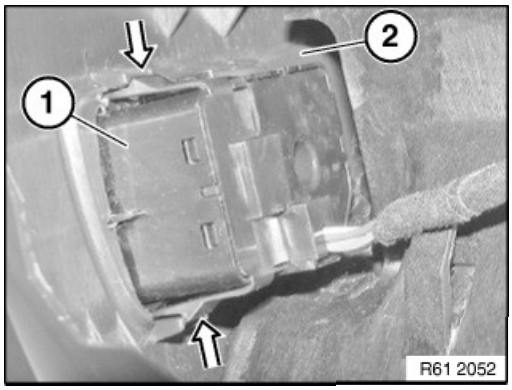
Removing both multifunction steering wheel switches.

cardiagn.com

61 31 062 Removing and installing/renewing button for steering wheel heating

Necessary preliminary work:

- Remove lower section of steering column shroud.



Note:
Similar to graphic.

Unlock associated plug connection and disconnect.

Unlock switch (1) on both sides and press out from steering column shroud (2).

Installation note:
Make sure switch (1) is correctly seated in steering column shroud (2).

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61 31 197 Removing and installing/renewing centre console operating facility

Necessary preliminary tasks:

Version with manual gearbox only:

- Partially remove gearshift lever gaiter

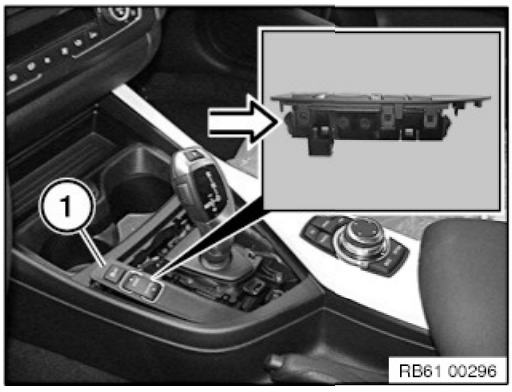
Version with automatic transmissions only:

- Remove cover for selector lever

Important!

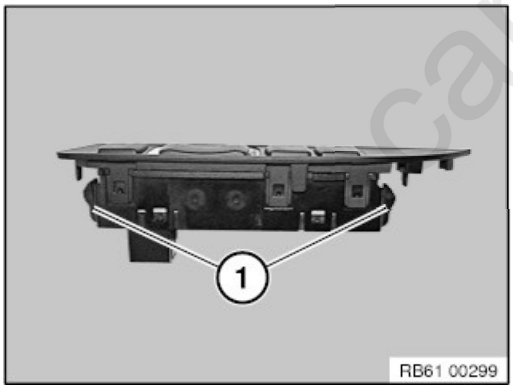
Risk of damage!

Centre console operating facility must not be pried out from the outside.



Note:
Graphic shows example of F20 with automatic transmission.

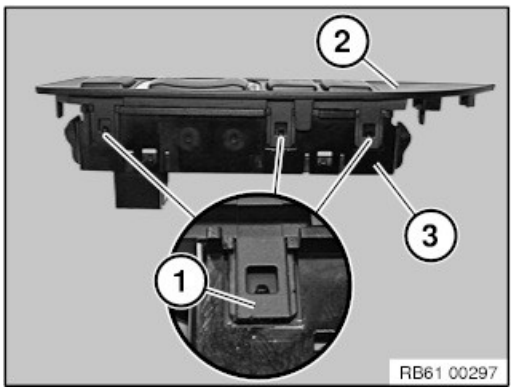
1. Reach under front section of operating facility (1).
2. Press front latch mechanism in direction of arrow and simultaneously raise operating facility (1) towards top.
3. Disconnect associated plug connection and remove operating facility (1).



Installation note:
Latch mechanisms (1) must not be damaged or missing.

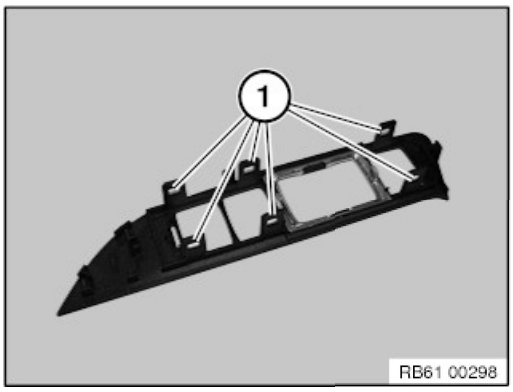
Make sure operating facility is correctly fitted in centre console.

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In case of replacement, remount operating unit cover:

Release latch mechanism (1) and remount cover (2), depending on equipment.



Installation note:
Latch mechanisms (1) must not be damaged or missing.

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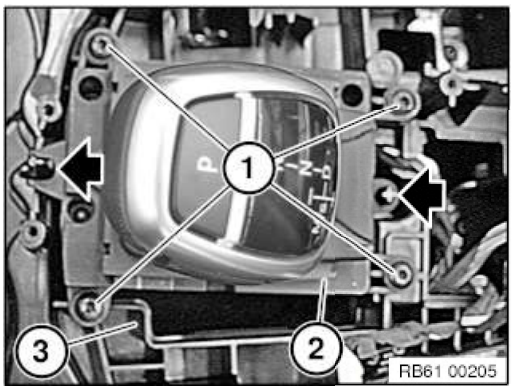
61 31 342 Removing and installing/renewing gear selector switch

Attention!

Read and comply with notes on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

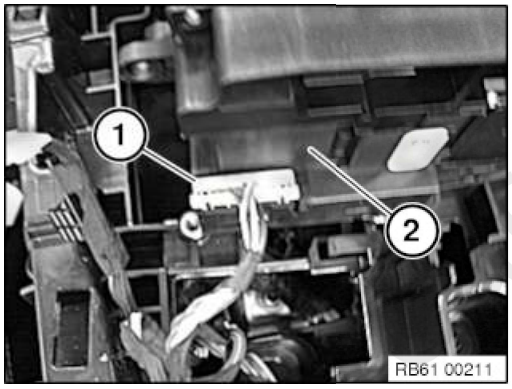
- Clamp off battery lead from negative connection point
- Remove the centre console trim



Release screws (1).

Tightening torque 61 31 1AZ.

Installation note:
Insert gear selector switch (2) correctly in front and rear fixation of centre console support (3).



Lift gear selector switch (2) and unlock plug connection (1) at gear selector switch (2) and disconnect.

Replacement:

Carry out vehicle programming/coding.

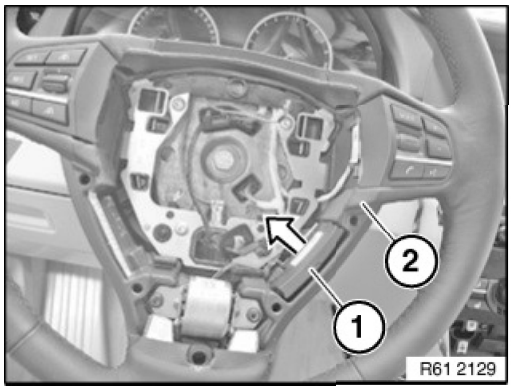
61 31 231 Removing and installing/renewing steering wheel module control unit

Important!

Read and comply with notes on protection against electrostatic damage (ESD protection).

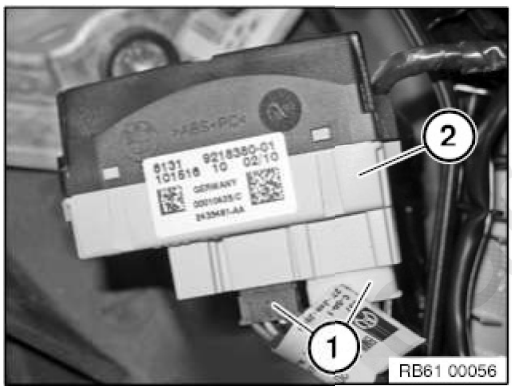
Necessary preliminary tasks:

- Remove airbag unit



Note:
Steering wheel cover is shown removed for purposes of clarity.

Remove control unit for steering wheel module (1) from steering wheel (2) in direction of arrow.



Disconnect plug connection (1).

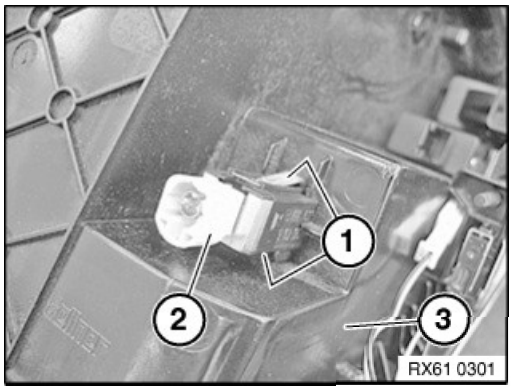
Remove steering wheel electronics control unit (2).

Installation note:
Make sure electronic steering wheel module (2) is fitted correctly.

61 31 137 Removing and installing/renewing USB interface connecting socket

Necessary preliminary tasks:

- Remove glove box with housing



Note:
Similar to graphic.

Release retaining clamps (1).

Push USB interface connecting socket (2) to the front from glove box (3).

Installation note:
Retaining clips (1) must not be damaged.

Make sure USB interface connecting socket (2) is correctly seated.

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61 31 133 Removing and installing/replacing A/V connecting socket

Note:
Operation is described in:

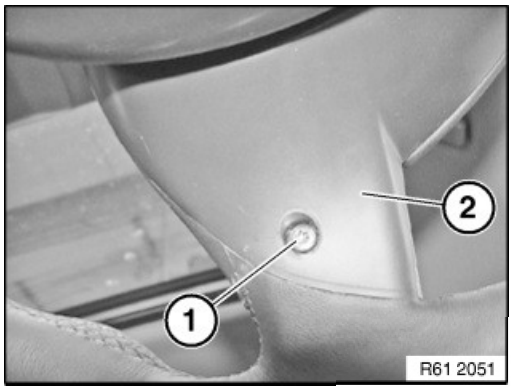
Remove USB audio interface connecting socket.

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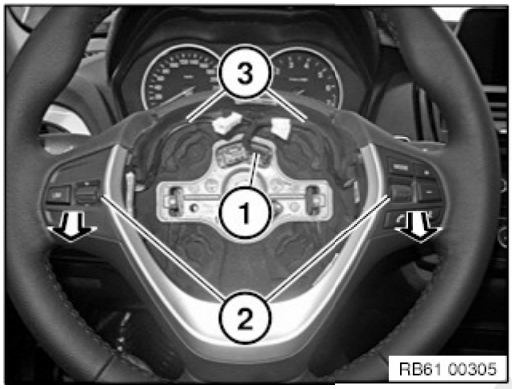
61 31 221 Removing and installing/replacing both multifunction steering wheel switches

Necessary preliminary tasks:

- Remove airbag unit



Release screws (1) on left/right on back of steering wheel (2).

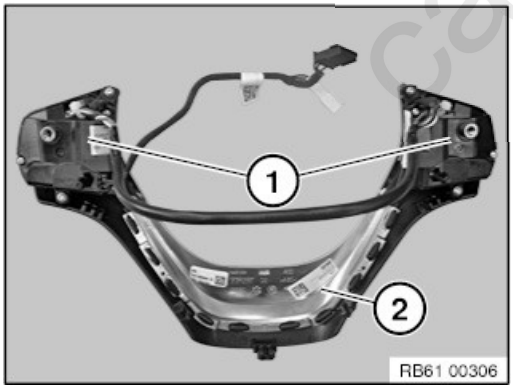


Disconnect plug connection (1).

Remove both multifunction steering wheel switches (2) together with cover from steering wheel in direction of arrow.

Installation note:
Make sure multifunction steering wheel switch (2) is fitted correctly.

Make sure electrical wiring (3) is correctly routed.



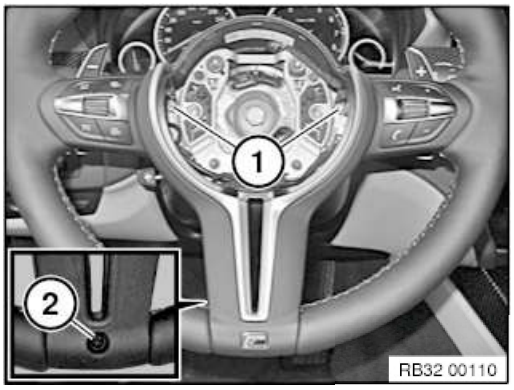
Remove switch of multifunction steering wheel (1) from cover (2).*Installation note:*
Make sure electrical wiring is correctly routed.

carDiag.com

61 31 221 Removing and installing/replacing both multifunction steering wheel switches (M sports steering wheel)

Necessary preliminary tasks:

- Remove airbag unit

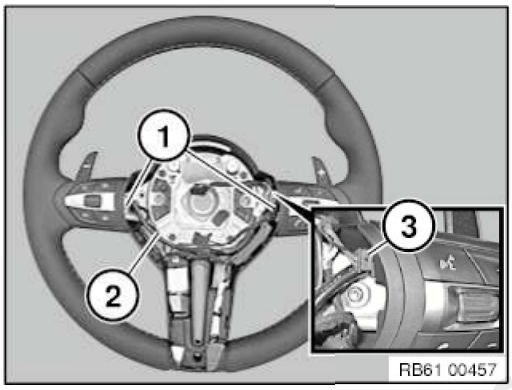


Release screws (1) on steering wheel.

Release screw (2) on rear side of steering wheel.

Remove design cover.

Installation note:
Make sure design cover is correctly seated.



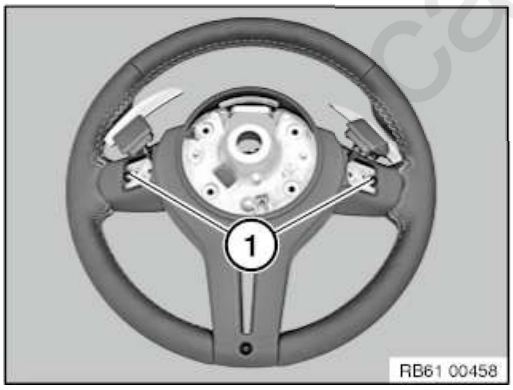
Note:
Steering wheel is shown removed for purposes of clarity.

Both multifunction steering wheel switches are connected to each other by wiring harness (2).

Release screws (1) for shift paddles.

Feed out wiring harness (2) and disconnect plug connection (3).

Installation note:
Make sure electrical wiring is correctly routed.



Note:
Steering wheel is shown removed for purposes of clarity.

Lift off shift paddles and release screws (1) on rear side of steering wheel.

Remove both multifunction steering wheel switches with wiring harness on front side of steering wheel.

Installation note:
Make sure electrical wiring is correctly routed.

Make sure shift paddles are correctly seated.

Make sure multifunction steering wheel switches are correctly seated.

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61 31 195 Removing and installing/replacing controller

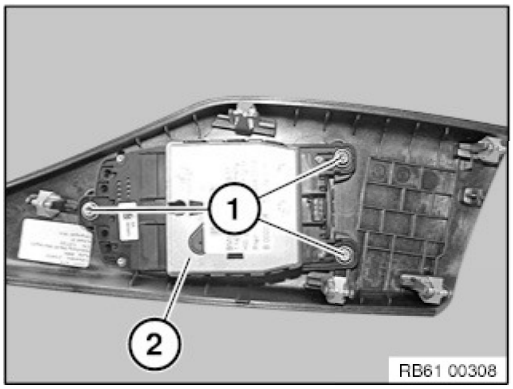
Attention!

Risk of damage!

The button for the controller must not be removed!

Necessary preliminary tasks:

- Remove decorative trim on centre console



Release screws (1).

Tightening torque 61 31 2AZ.

Remove controller (2).

Replacement:

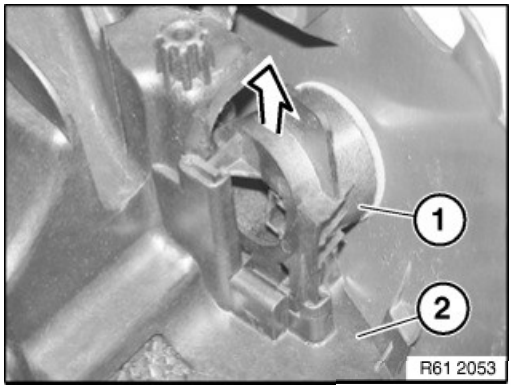
Carry out programming/encoding.

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61 31 021 Removing and installing/replacing emergency starting coil

Necessary preliminary tasks:

- Remove steering column shroud lower section



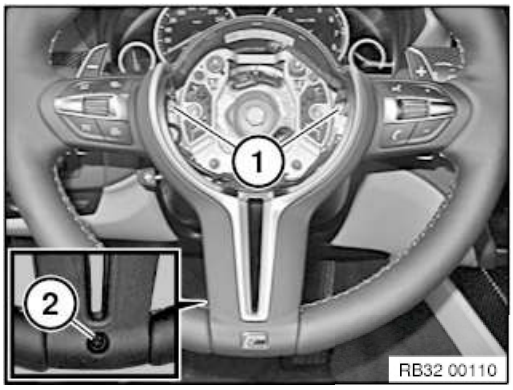
Release emergency starting coil (1) and pull in direction of arrow out of steering column shroud (2).*Installation note:*
Make sure emergency starting coil (1) is correctly seated.

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61 31 233 Removing and installing/replacing engine electrical system for lane departure warning (M sports steering wheel)

Necessary preliminary tasks:

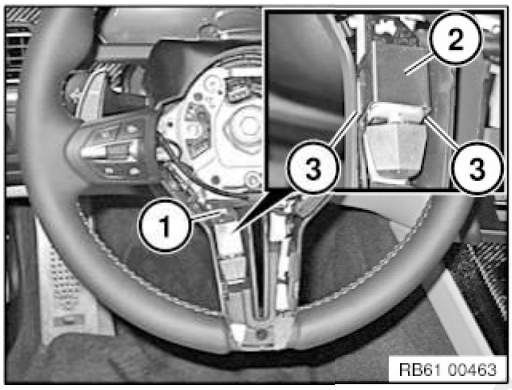
- Remove airbag unit



Release screws (1) on steering wheel.

Release screw (2) on rear side of steering wheel.

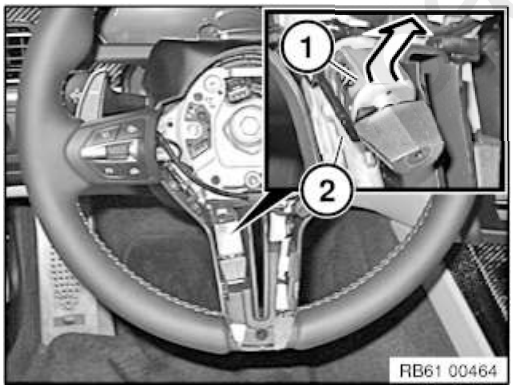
Remove design cover.



Disconnect plug connection (1).

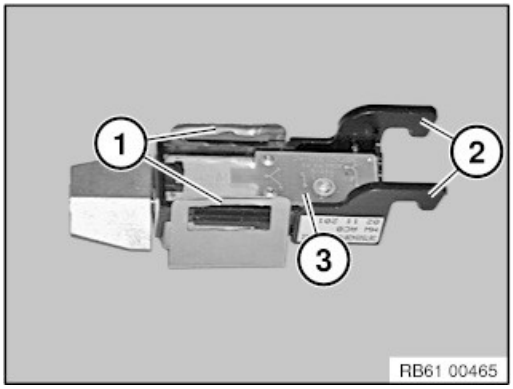
Carefully unlock retaining clip (2) on latch mechanisms (3) with suitable tool (e. g. screwdriver with 3-mm blade).

Note:
The unlocking procedure is simplified by pressing down the retaining clip (2).

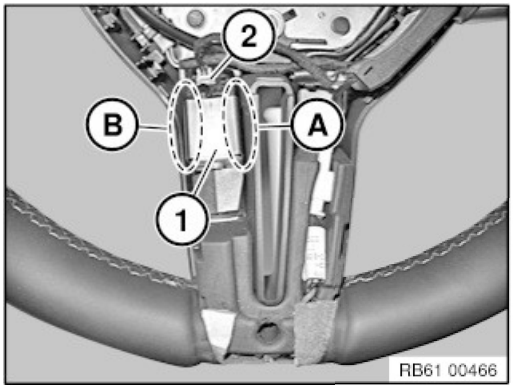


Remove engine electrical system of Lane Departure Warning (1) from steering wheel (2) in direction of arrow.

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Installation note:
Retaining clip (2) and guides (1) on engine electrical system of Lane Departure Warning (3) must not be damaged or missing.



Installation note:
First press down retaining clip (1) in area (A) until it engages. Then press down in area (B) until it engages.

Make sure engine electrical system of Lane Departure Warning is correctly seated.

Make sure plug connection (2) is correctly locked.



Replacement:

From version 03/2009 onwards, the engine electrical system must be adjusted.

For the adjustment, the resonance frequency stamped on the actuator is required. Note the resonance frequency of the new part.

Carry out service function under following path:

- Driver assistance
- Camera-based driver assistance systems
- Actuator comparison

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61 31 334 Removing and installing/replacing grip trim for gear selector switch

Special tools required:

- 00 9 327



Note:
Symbol plate (1) is glued on.

Mount special tool 00 9 327 as illustrated.

Detach symbol plate (1) from upper shell (2) in direction of arrow.

Important!

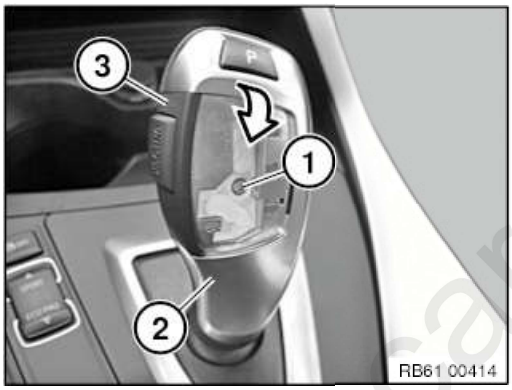
Risk of damage!

Do not leverage side panel (3) out of upper shell (2).

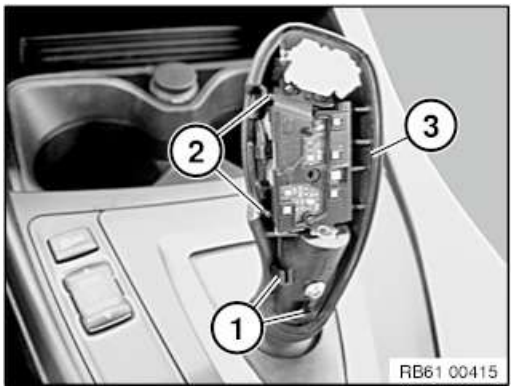
Installation note:
Remove any adhesive residue.

Remove the protective film from the back of the symbol plate before installing.

Make sure symbol plate (1) is correctly seated on upper shell (2).

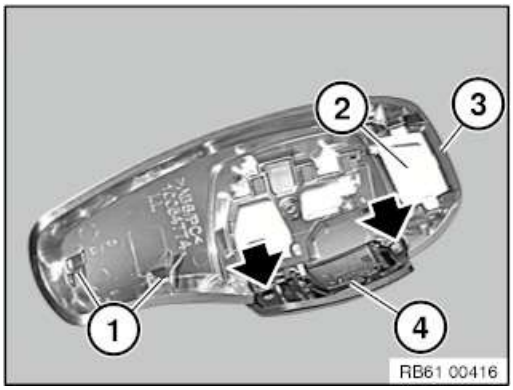


Release screw (1) and remove upper shell (2) with side panel (3) in direction of arrow.



Installation note:
Fixtures (1) and guide pins (2) on gear selector switch (3) must not be damaged or missing.

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Installation note:
Guides (1) and P-button (2) must not be damaged or missing.

Make sure P-button (2) is correctly seated in upper shell (3).

Make sure side panel (4) is correctly seated in upper shell (3)!

For better installation, secure UNLOCK button outside on the side panel (4) using adhesive tape.

Feed in upper shell with side panel into fixtures and guide pins on gear selector switch.

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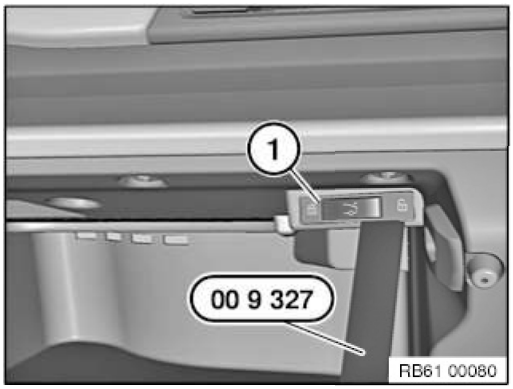
61 31 066 Removing and installing/replacing hotel position switch

Special tools required:

- 00 9 327

Necessary preliminary tasks:

- Open glove box.



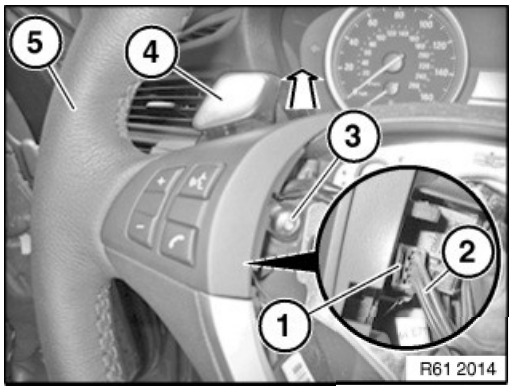
Lift out hotel position switch (1) with special tool 00 9 327 toward the front.
Disconnect associated plug connection and remove hotel position switch (1).

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61 31 112 Removing and installing/replacing left or right shift paddle for automatic transmission

Necessary preliminary tasks:

- Remove airbag unit



Disconnect plug connectionÂ (1).

Release screw (3).

Feed out wiring harness (2) and remove shift paddle for automatic transmission (4) in direction of arrow from steering wheel (5).

Installation note:
Make sure shift paddle for automatic transmission (4) is correctly seated on steering wheel (5)

Make sure wiring harness (2) is laid exactly.

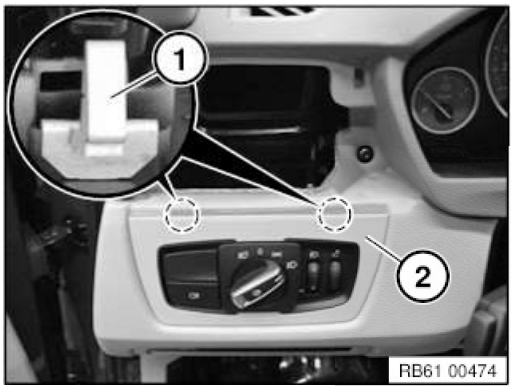
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61 31 037 Removing and installing/replacing light control unit

Note:
When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Remove decorative strip on dashboard on left

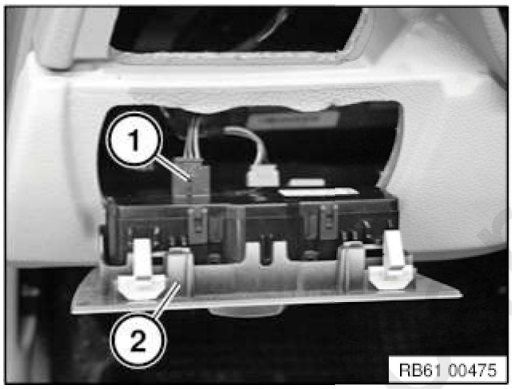


Note:
Work shown on the F30 by way of example, deviations in detail are possible in other models.

Reach behind the opening.

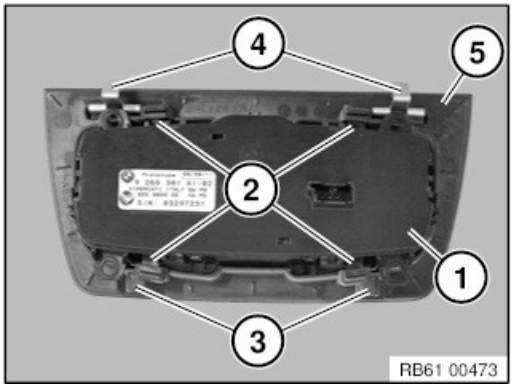
Unlock retaining clips (1) by pushing down.

Fold cover with light control unit (2) out of instrument panel.



Unfasten plug connection (1) and disconnect.

Remove cover with light control unit (2).



Replacement:

Remove light control unit (1) from latch mechanism (2) and remove from trim (5).

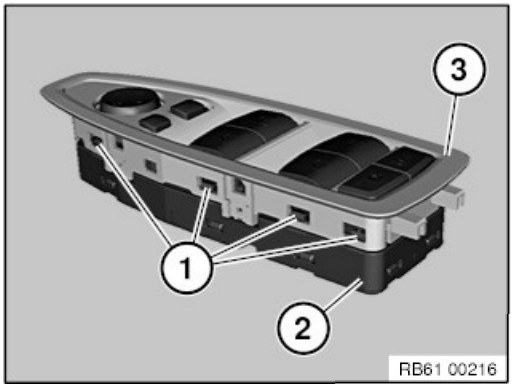
Installation note:
Ensure the light control unit (1) is latched correctly in the trim (5).

Guides (3) and clamps (4) on cover (5) must not be damaged or missing.

61 31 117 Removing and installing/replacing power window switch (driver's side)

Necessary preliminary tasks:

- Remove switch cover on front door trim panel



Release catches (1) on both sides.

Remove switch (2) from cover (3).

Installation note:
Latch mechanisms (1) must not be damaged or missing.

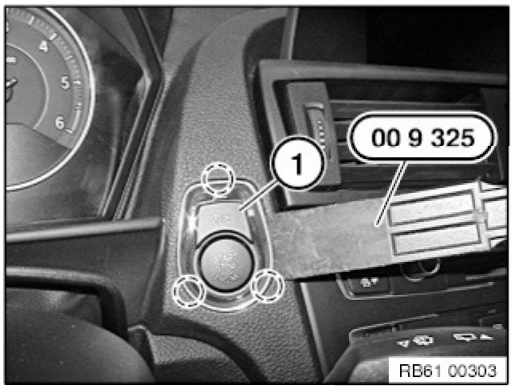
cardiagn.com

61 31 014 Removing and installing/replacing Start/Stop switch

Special tools required:

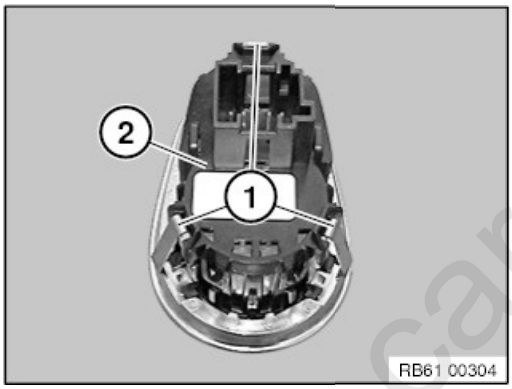
- 00 9 325

Note:
When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.



Pry out Start/Stop switch (1) at the marked retaining points using special tool 00 9 325 .

Disconnect associated plug connection and remove Start/Stop switch (1).



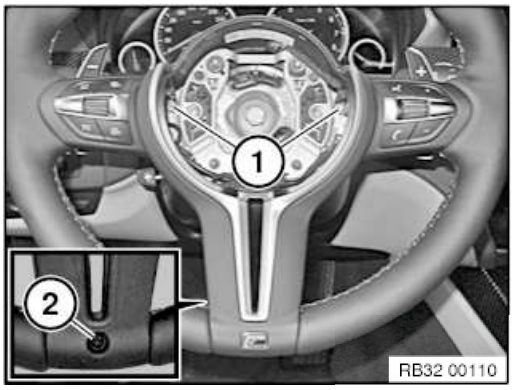
Installation note:
Retaining clips (1) on Start/Stop switch (2) must not be bent or damaged.

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61 31 231 Removing and installing/replacing steering wheel module (M sports steering wheel)

Necessary preliminary tasks:

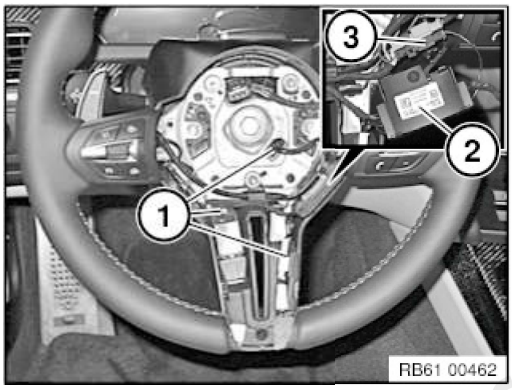
- Remove airbag unit



Release screws (1) on steering wheel.

Release screw (2) on rear side of steering wheel.

Remove design cover.



Disconnect plug connection (1).

Release steering wheel module (2) from bracket.

Release underlying plug connector (3) from bracket and disconnect.

Remove steering wheel module (2).

Installation note:
Make sure cables are correctly routed.

Make sure the plug connections (1; 3) are correctly locked.

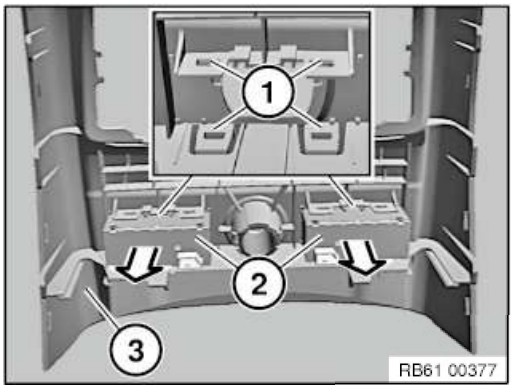
Make sure steering wheel module (2) and plug connection (3) are correctly seated in bracket.

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61 31 091 Removing and installing/replacing switch for (rear) left or right seat heating

Necessary preliminary tasks:

- Remove rear centre console trim



Use a suitable tool to release latch mechanisms (1) on left/right switch (2).
Remove switch (2) from cover (3) in direction of arrow.

Installation note:
Latch mechanisms (1) on cover (3) must not be missing or damaged.
Make sure switch (2) is correctly fitted in cover (3).

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61 31 038 Removing and installing/replacing switch for front passenger airbag deactivation

Special tools required:

- 00 9 323

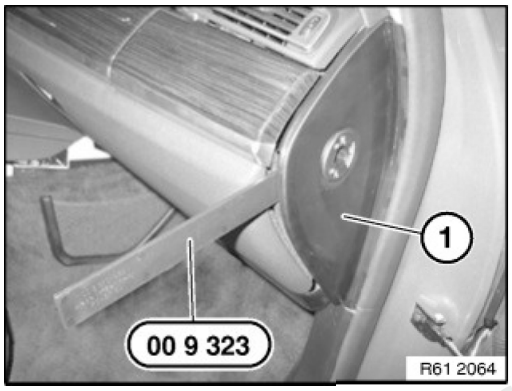
Warning!

Read and comply with safety regulations for handling airbag modules and pyrotechnical belt tensioners.

Incorrect handling can activate airbag and cause injury.

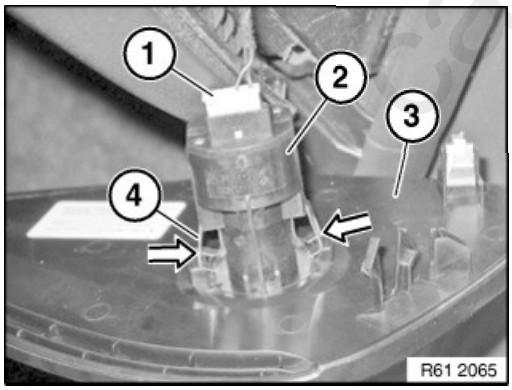
Necessary preliminary tasks:

- Disconnect battery earth lead



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

Carefully lever out side cover (1) with special tool 00 9 323 .



Disconnect plug connection (1).

Unlock latch mechanisms (4) in direction of arrow.

Feed switch for front passenger airbag deactivation (2) out of side cover (3).

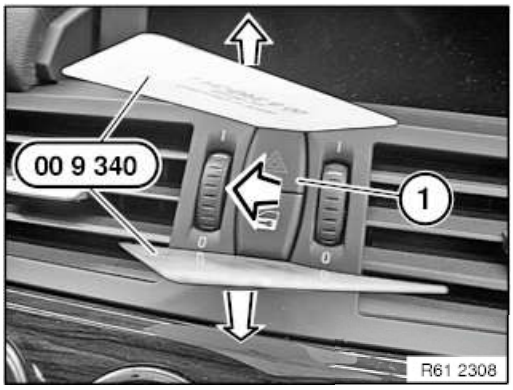
Installation note:
Make sure switch for passenger airbag deactivation (2) is correctly seated in side cover (3).

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61 31 079 Removing and installing/replacing switch for hazard warning flashers/central locking

Special tools required:

- 00 9 340



Carefully lever out switch for hazard warning system/central locking (1) with special tool 00 9 340 in direction of arrow.

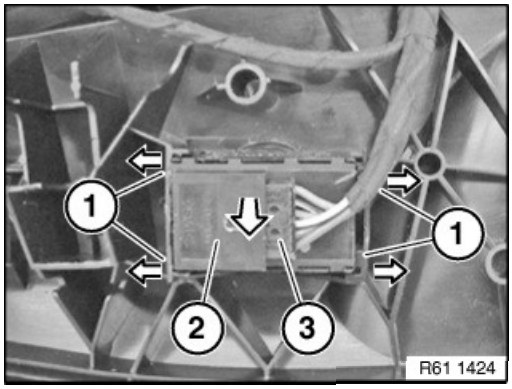
Remove switch for hazard warning system/central locking (1) in direction of arrow and disconnect plug connection behind.

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61 31 208 Removing and installing/replacing switch for lumbar support

Necessary preliminary tasks:

- Remove outer cover on front seat



Disconnect plug connectionÂ (3).

Unlock latch mechanisms (1).

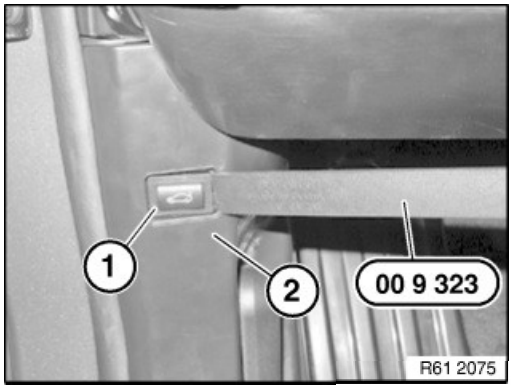
Remove switch for lumbar support (2) in direction of arrow.

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61 31 083 Removing and installing/replacing switch for unlocking tailgate

Special tools required:

- 00 9 323



Note:
Graphic similar!

Lever switch for tailgate unlocking (1) sideways out of A-pillar trim panel (2) using special tool00 9 323 .

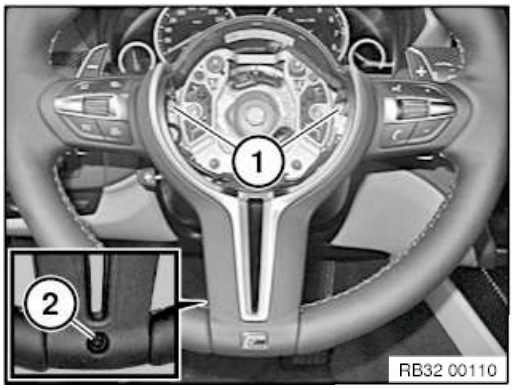
Disconnect associated plug connection and remove switch for unlocking rear lid (1).

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61 31 132 Removing and installing/replacing the shift paddles for the transmission (M sports steering wheel)

Necessary preliminary tasks:

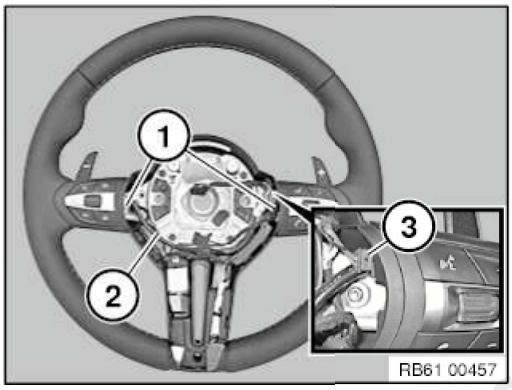
- Remove airbag unit



Release screws (1) on steering wheel.

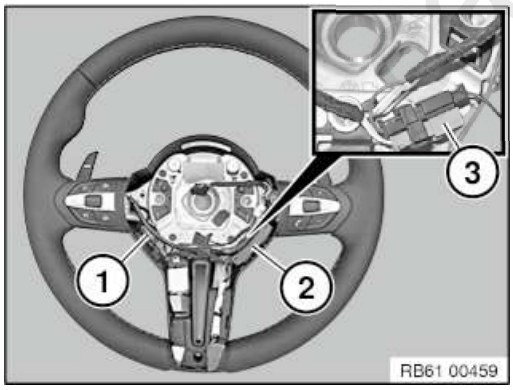
Release screw (2) on rear side of steering wheel.

Remove design cover.



Note:
Steering wheel is shown removed for purposes of clarity.

Release the screws (1) and feed out the wiring harness (2).



Note:
Steering wheel is shown removed for purposes of clarity.

Pull the steering wheel module (2) out of the steering wheel.

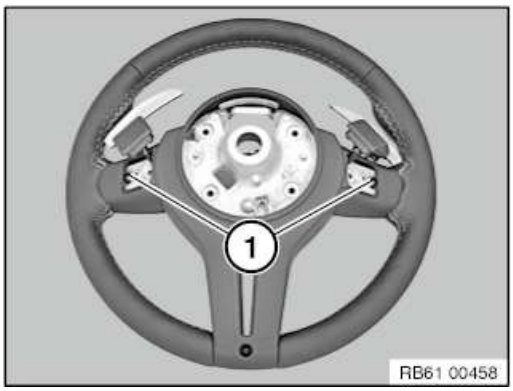
Release the plug connections (1, 3) from the steering wheel and disconnect.

Installation note:
Make sure electrical wiring is correctly routed.

Make sure the plug connections (1, 3) are correctly seated.

Ensure that the steering wheel module (2) is correctly seated.

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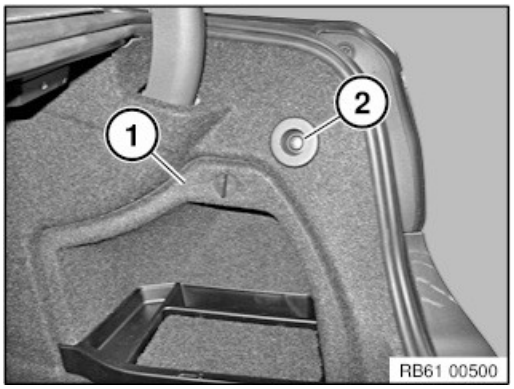
Note:
Steering wheel is shown removed for purposes of clarity.

Feed out the cable though the steering wheel spokes (1) and take off the shift paddles.*Installation note:*
Make sure electrical wiring is correctly routed.

Ensure that the shift paddles are correctly seated.

cardiagn.com

61 31 122 Removing and installing/replacing trailer tow hitch switch



Open flap (1).

Grip behind trim panel.

Press trailer tow hitch (1) out of trim panel, releasing the catch.

Disconnect plug connection behind.

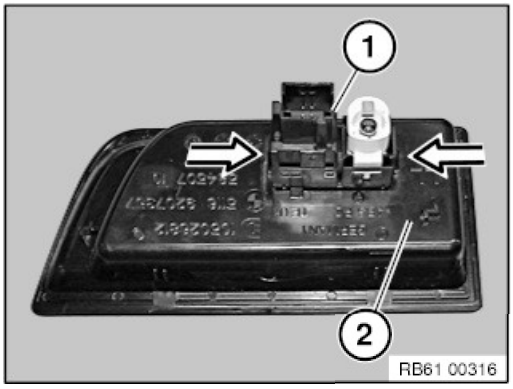
Installation note:
Make sure trailer tow hitch switch (2) is correctly fitted.

cardiagn.com

61 31 134 Removing and installing/replacing USB audio interface connecting socket

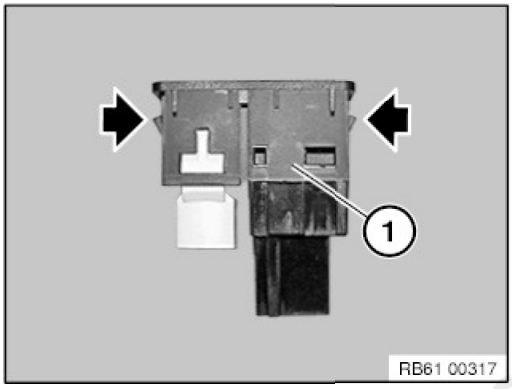
Necessary preliminary tasks:

- Remove insert in centre armrest storage compartment



Release connecting socket (1) from latch mechanism on both sides.

Remove connecting socket from storage compartment (2).



Installation note:

- Connecting socket latch mechanisms (1) must not be damaged or missing
- Make sure connecting socket (1) is correctly fitted in storage compartment

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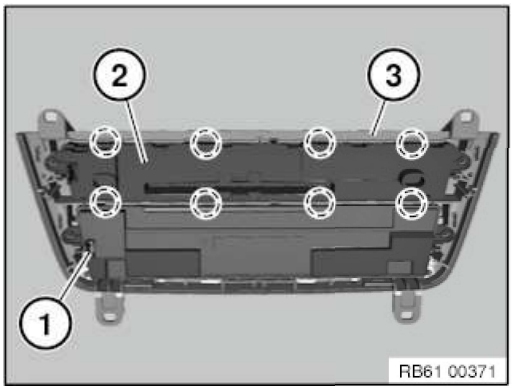
61 31 823 Replace ACP (for vehicles equipped with CID)

Important!

Read and comply with notes on protection against electrostatic damage (ESD protection).

Necessary preliminary tasks:

- Remove radio and IHKA controls



Disconnect plug connection (1).

Unclip audio operating unit (2) at the marked points using a suitable tool (such as a screwdriver - 3 mm blade).

Remove the audio operating unit (2) from the cover (3) toward the rear.

Installation note:
Audio control unit (2) must noticeably and audibly snap into cover (3).

cardiagn.com

61 31 198 Replace controller chrome ring

Special tools required:

- 00 9 340



Lever out "OPTION", "BACK", "MENU" buttons with special tool 00 9 340 .



Lever out chrome ring (1) from latch mechanisms with special tool 00 9 340 and remove upwards.*Installation note:*
Retaining lugs on controller must not be damaged.

Check function of the controller.

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61 35 179 Replacing and installing (replacing) the solar rain/light sensor and condensation sensor

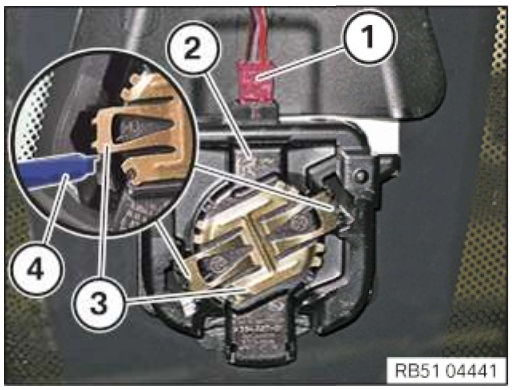
Caution!

Observe the information on protection from electrostatic discharge.

Necessary preliminary work:

- Remove inside mirror

Removal:



Disconnect connector (1).

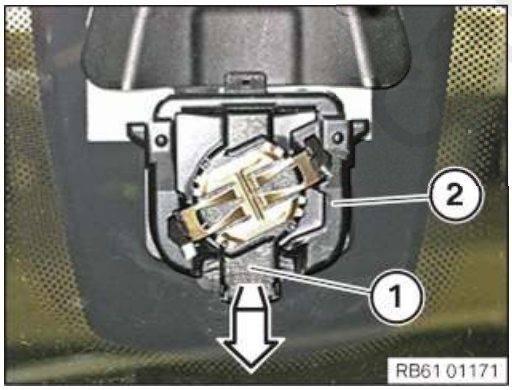
Unlock rain/light/solar and condensation sensor (2) at metal spring (3).

For this purpose, press both sides of the metal spring (3), insert the screwdriver (4) on the side and raise the latch mechanism.

Caution!

Risk of damage!

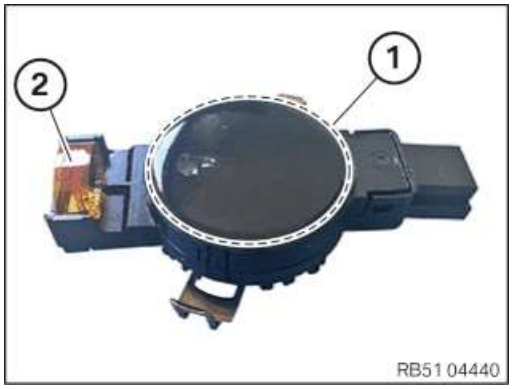
After loosening lock, wait approx. 30 min. at 20 °C for silicone surface to relax.



Pull the rain/light/solar and condensation sensor (1) slowly from holder (2) in direction of arrow.*Note:*
When replacing the windscreen, only remount the rain/light/solar and condensation sensor (1) after disassembly of the windscreen.

Pull off the rain/light/solar and condensation sensor (1) slowly while observing from outside the release of the silicone surface.

The silicone surface must evenly loosen from the windscreen, if applicable, pull off slower.



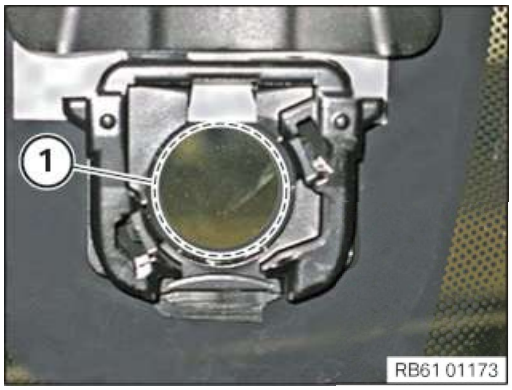
Caution!

Risk of damage!

The silicone-coated surface (1) and the printed circuit board (2) on the rain/light/solar and condensation sensor must not be touched or damaged!

Replace damaged gel pad.

When replacing the windscreen, immediately install the rain/light/solar and condensation sensor into the new windscreen following removal.



Caution!

Risk of damage!

The area (1) on the windscreen must not be touched or damaged!

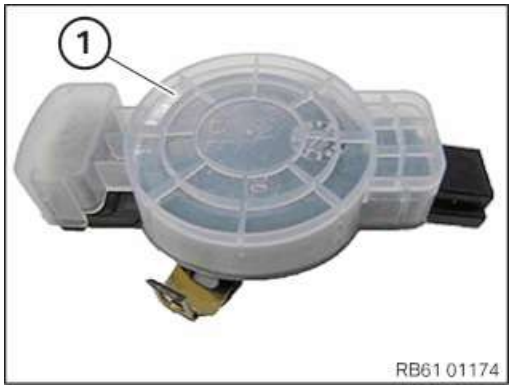
The area (1) may have remnants of the separation oil of the rain/light/solar and condensation sensor that are easy to remove. This does not indicate that the rain/light/solar and condensation sensor is damaged.

Remove all separating oil residue within and outside of the area (1).

Replacement:

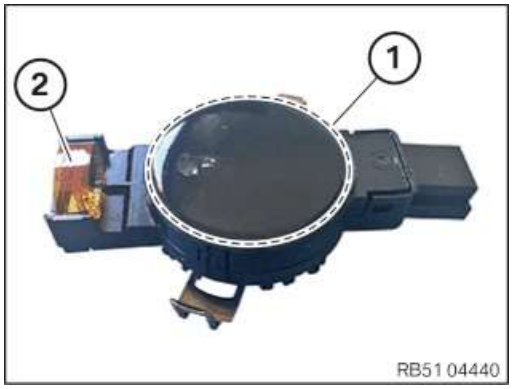


Carefully clean the windscreen at the contact area (1) with the rain/light/solar and condensation sensor! All silicone and separation oil residue must be removed!



Remove protective cover (1) from new rain/light/solar and condensation sensor.

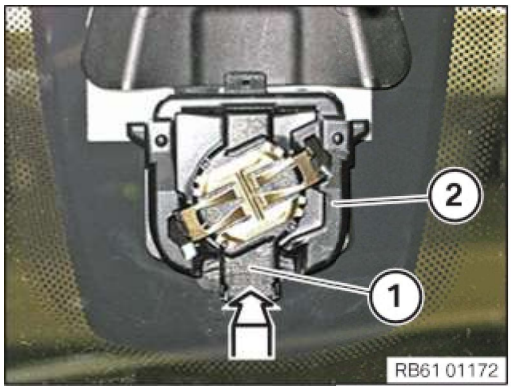
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Caution!

The silicone-coated surface (1) and the printed circuit board (2) on the rain/light/solar and condensation sensor must not be touched or damaged!

Installation:

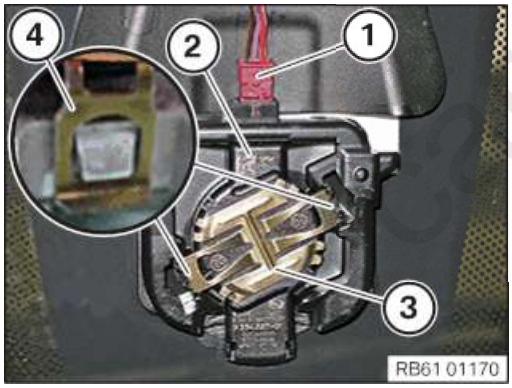


Caution!

Risk of damage!

The silicone-coated surface on the rain/light/solar and condensation sensor must not be touched or damaged.

Feed the rain/light/solar and condensation sensor (1) into holder (2) in direction of arrow.

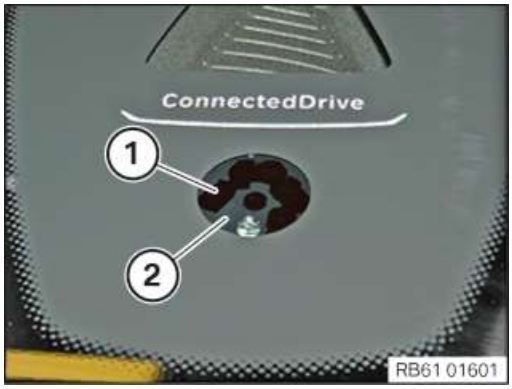


Installation note:
Connect connector (1) only after the rain/light/solar and condensation sensor has been locked.

Press on the rain/light/solar and condensation sensor (2) at the metal spring (3) in a centred position.

To lock, consecutively press down both sheet metal tabs (4) on each side.

Connect connector (1) with the rain/light/solar and condensation sensor (2).



Installation note:
Visible shades (1 and 2) do not have any air pockets, but show the optical element of the sensor.

Visible shades (1 and 2) do not represent any functional limitation.

bmwdiagn.com



For vehicles up to 03/2014:

Initialise sensor.

Note:

- For F2x; (not F25/F26); F3x and F80/F82/F83 the encoding is **automatically** implemented by **JBBFE**.
- For F25/F26 the encoding is implemented **automatically** with a terminal change (terminal 15) using the **junction box**.

For vehicles built after 03/2014 (except F25 / F26):

Initialisation and encoding are performed **automatically** by BDC control unit.



Required follow-up work:

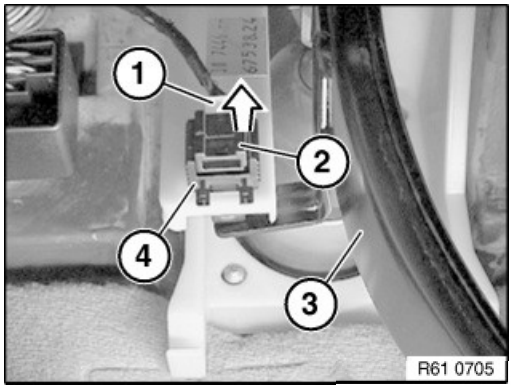
- Install interior mirror

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61 31 310 Replacing brake light switch

Necessary preliminary tasks:

- Remove trim panel for pedal mechanism.

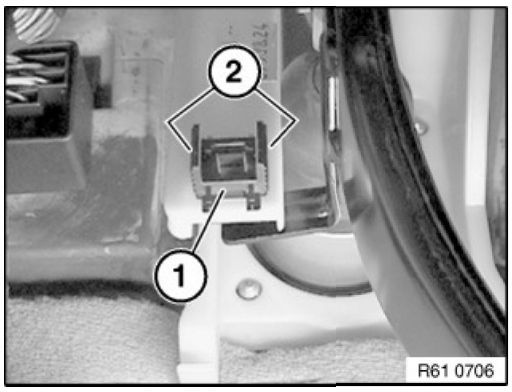


Disconnect plug connection (1).

Pull brake light switch (2) in direction of arrow out of brake light switch holder (4).

Installation note:

- Press brake pedal (3) to floor.
- Push brake light switch (2) as far as it will go into brake light switch holder (4).
- Counter hold brake light switch (4) holder, slowly return brake pedal (3) to initial position and tighten to stop.



Note:
Removing brake light switch holder (1):

Press brake pedal.

Unclip brake light switch holder (1) at shanks (2) and remove towards rear.

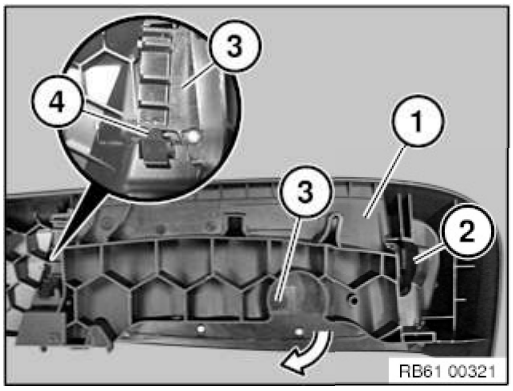
cardiagn.com

61 31 204 Replacing operating unit for seat adjustment

Important!
Observe the information on protection from electrostatic discharge.

Necessary preliminary tasks:

- Remove cover from front seat



Unlock catch (2).

Unscrew the operating unit (3) in the direction of arrow from front seat cover (1).

Installation note:
Operating unit (3) must be fitted correctly under the latch mechanism (4).

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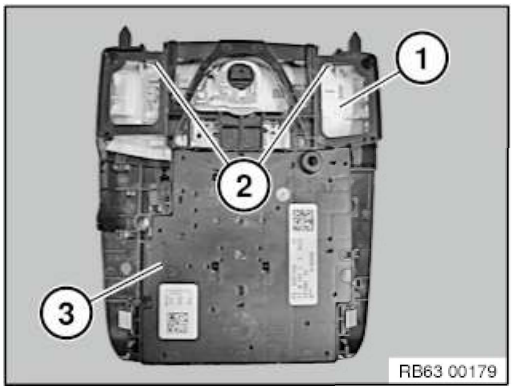
61 31 544 Replacing roof switch cluster (front)

Important!

Read and comply with notes on protection against electrostatic discharge (ESD protection).

Necessary preliminary tasks:

- Remove roof switch cluster



Release interior roof light (1) at clamps (2) and feed out of roof switch cluster (3).*Installation note:*
Clips (2) must not be missing or damaged.

Make sure interior roof light (1) is correctly seated in roof switch cluster (3).

High-spec roof function centre only:

Carry out vehicle programming/coding.

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61 31 255 Replacing switch for exterior mirror



Operation is described in:

Removing power window switch (driver's side).

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61 31 118 Replacing the power windows regulator on the passenger's side



Operation is described in:

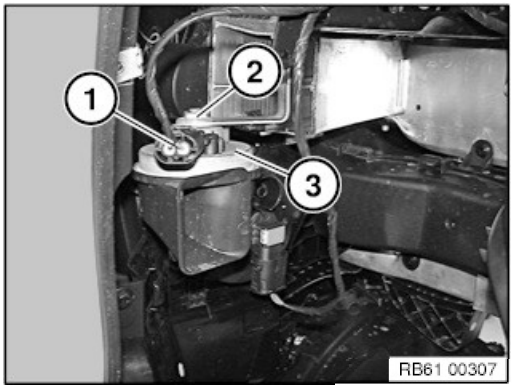
Remove/install/replace switch for power window on driver's side.

cardiagn.com

61 33 050 Removing and installing/replacing left or right fanfare

Necessary preliminary tasks:

- Release front wheel arch cover at front area



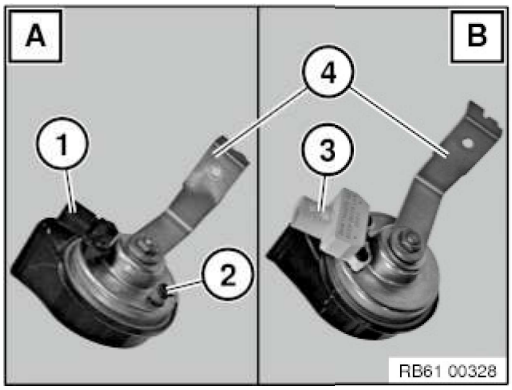
Note:
Graphic displays F20, deviations in detail possible in other models.

Unfasten plug connection (1) and disconnect.

The nut (2) must not be released.

Bore out the blind rivet on the holder of the fanfare with the aid of a suitable drill (e.g. 8 mm).

Remove the fanfare (3) including the holder.



Note:
Electromechanical fanfare is installed as standard. The electronic fanfare is only installed in China, India, Russia, South Africa and Gulf states as of 01/2011.

A: Electromechanical fanfare

B: Electronic fanfare

Distinguishing features:

- Electromechanical fanfare has a black connector (1)
- Electronic fanfare has a white connector (3)
- Only the electromechanical fanfare has no adjusting screw (2)
- Holder (4) is vehicle-specific and may deviate from the graphic.

Attention!

In vehicles with a production data before 01/2011, both fanfares must be replaced in the countries listed above.

The electronic fanfare has a different sound pattern.

Combining the mechanical and electronic fanfares is not permissible.

The connector position may vary slightly.

Pay particular attention to ensuring that the holder is securely seated on the vehicle and that the fanfare is securely seated on the holder! This greatly influences the tone!

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