Emergency services guidelines

Information for the emergency services Edition: September 2011



BMW Service MINI Service

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Table of contents

Foreword	4
Essential information	5
Medical aspects	5
Technical aspects	5
BMW ASSIST emergency call	5
Response of the restraint and safety systems after an accident	
Tips for using emergency equipment	7
Propping up vehicles.	7
Opening vehicle doors	8
Forcing dashboard forwards	10
Securing vehicles	
Safety concepts and systems	13
Complete overview of restraint and safety systems	13
Labelling of the safety systems	14
Airbag – Technical Information	15
Belt system integrated in seat (SGS)	
Active headrest.	22
Rollover protection system	23
Bodywork and materials	25
Structure of the bodywork	2J 25
Materials	
Glazing	26
Single-pane safety glass (ESG)	26
Composite safety glass (VSG)	26
Special safety glass	26
Electrics – Battery management	27
12-Volt batteries	27
Safety battery terminal	27
Disconnect the battery	28
	20
Alternative power systems	29
Hydrogen-powered vehicle	29
Electrically-powered vehicle	29
Hybrid vehicles	29
Fuels and tanks	30
Fuels	30
Tank	30
Frequently asked questions	31
Hydrogen 7 Frequently asked questions: essential rules	33
Emergency services cards	31
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Foreword

One of the main priorities of the products developed and realised by BMW is optimum safety under all conditions.

By taking an holistic view, the precisely-coordinated active and passive safety systems exceed the requirements set down by law.

They also take into account the technical requirements for emergency crews. This approach also includes providing specific information about how to work with the BMW restraint and safety systems as well as tips for using emergency equipment.

This brochure is intended as a set of guidelines for trained emergency crews. An understanding of how safety systems work, along with a knowledge of the vehicle's characteristics, are also required.

For emergency crews, the foremost priority is to save the lives of persons who have been involved in accidents without exposing the victims or themselves to additional danger.

These emergency guidelines contain information on how rapid and safe access to accident victims can be made easier.

We recommend using state-of-the-art emergency equipment as the materials and production methods used in the automotive industry are subject to ongoing developments.

These emergency guidelines have been drawn up in collaboration with the BMW fire brigade in Munich.

As a rule, these emergency guidelines are updated twice a year.

The latest version can be found at https://oss.bmw.de/index.jsp

BMW Service

MINI Service

BMW fire brigade Munich



Essential information

Both the medical and technical side of the emergency operation must be coordinated and the two aspects must dovetail.

Medical aspects

The first thing is to gain access (support opening) to the (locked in or trapped) people. As with all other methods used, the patients should be treated with all due care.

All efforts should be made to avoid dragging people out. The casualties should initially be left in the vehicle if they and emergency services are at no immediate risk.

Immediate life-saving measures and the initialexamination (basic check) are usually carried out inside the vehicle. The medical treatment administered in the vehicle should be restricted to absolutely essential care. Depending on the injured person's condition, this may however be very extensive. The emergency doctor or rescue personnel must be provided with access to the injured person (support opening) so that life-saving emergency procedures can be carried out. Depending on the pattern of injuries, persons who have been involved in accidents should essentially be immobilised, i.e. provided with appropriate splinting before they are extracted from the vehicle (rescue opening). The rescue opening should be of an adequate size and reflect the overall situation.

The casualties should receive continuous medical care during the technical stage of the rescue. As much of the technical emergency work as possible should be prepared while medical treatment is being given.

Exceptions which require a crash rescue

- Immediate risk from acute threat, e.g. fire or other accidents following the initial one
- Medical reasons

Technical aspects

- Identification of the vehicle model
- Visual check to see what restraint and safety systems are fitted
- Special features on the vehicle body which may influence the use of hydraulic emergency equipment

BMW ASSIST emergency call

BMW vehicles with an activated BMW Assist emergency call system and valid service contract can automatically or manually establish an emergency call. This is normally directed to a BMW call center, which handles the call and if necessary notifies the responsible rescue coordination center.

When the crash sensors register a significant accident, the system triggers an emergency call.

With advanced emergency calls, data including details about the accident severity is transmitted automatically. BMW automatically analyses this data based on medical and accident research and generates a simple-to-understand evaluation for the emergency services, who can therefore more easily determine the most appropriate rescue support.

Based on the GPS data transmitted from the vehicle, the BMW call center determines an exact address which, together with information about access to the accident site, they can pass on to the emergency services. Further customer and vehicle details are also available to the BMW call center, which can be passed on to help the rescue authorities if required.

This emergency call system works independently from the occupant's mobile phone.

If there is no BMW call center for the location, or no connection can be established on the reserved GSM network, the system may attempt to establish a call via the emergency services number (112).

Response of the restraint and safety systems after an accident

If the vehicle is stationary, the restraint systems will not normally be triggered.

Exceptions

- If the solid fuel in the gas generator (airbag) heats to above 200 °C
- If the airbag modules are subject to immense mechanical loads (sawing, drilling, grinding, welding)
- If the electric cables short circuit to activate the detonators
- If a stationary vehicle is struck by another vehicle (if the trigger criteria are satisfied, the restraint systems are triggered)

Using radio equipment

It is perfectly safe for walkie-talkies to be used close to restraint systems that have not been triggered.

Tips for using emergency equipment

Propping up vehicles



Example: Propping up vehicles

The vehicles can be propped up from underneath the whole of the side skirt. The precise location and number of prop points must be determined as a function of the situation in hand. Ideally, the points intended for the jack should be used.

Opening vehicle doors

Variant 1



Starting points for opening the doors on the A pillar

- 1. Use the hydraulic emergency spreader to crush the wing. This will produce a gap between the wing and front door.
- 2. Use the emergency spreader to increase the gap at the same height as the hinges.

The precise position of the hinges for the car in question is drawn on the emergency services cards, see page 34.

 Use the hydraulic cutter to cut off the hinges and open the door. Alternatively, the hinges and/or bolts can also be forced open using the emergency spreader.



Starting points for opening the doors on the A and/or B pillar

- 1. Use the hydraulic emergency spreader to force the window apart. This produces a larger gap between the front door and B pillar and/or between the wing and front door.
- 2. Use the emergency spreader to increase the gap at the same height as the hinges.

The precise position of the hinges for the car in question is drawn on the emergency services cards, see page 34.

3. Open the door on the side of the hinges or lock (use the lock side for vehicles without horizontal side impact protection).

The precise position of the hinges, locks and side impact protection for the car in question is drawn on the emergency services cards, see page 34.

Forcing dashboard forwards

There are various ways of pushing the dashboard forwards.

The method to be used depends in part on the

- Mechanism of the accident
- Presence of a dashboard support

Variant 1



Risk of injury! Emergency equipment may slip or slide.

- 1. Place material under the vehicle to prevent the base from caving in.
- Carry out glass management (including separating the front windscreen horizontally in area 2 or 3).
- 3. Use hydraulic shears to cut off door at its hinges.
- 4. Use hydraulic shears to cut through side skirt **1** away from occupants towards the base.
- 5. Use hydraulic shears to separate both A-pillars in the lower section **2** or in the upper section **3**.
- 6. Attach support bracket to the B-pillar as shown. Note:

If the emergency cylinder is too short, insert the support bracket horizontally.

- 7. Where possible, insert the emergency cylinder between the central mounting and the dashboard.
- 8. Push front section away.

Variant 2



Risk of injury! Emergency equipment may slip or slide.

- 1. Place material under the vehicle to prevent the base from caving in.
- 2. Carry out glass management (including separating the front windscreen horizontally in area **2** or **3**).
- 3. Remove the (front) doors on both sides of the vehicle.
- 4. Use hydraulic cutters to cut through both side skirts **1** away from occupants towards the front end. To achieve the desired effect, it may be necessary to continue the cut into the front wheel arch ("nibbling technique").
- 5. Use hydraulic shears to separate both A-pillars in the lower section **2** or in the upper section **3**.
- 6. Attach support bracket to the B-pillar as shown.

Note:

If the emergency cylinder is too short, insert the support bracket horizontally.

- 7. Where possible, insert the emergency cylinder between the central mounting and the dashboard.
- 8. Push front section away.

Electric seat adjustment



Since the seats in vehicles with electric seat adjustment cannot be adjusted once the battery has been disconnected, under certain circumstances we would recommend disconnecting in the area marked.





Example: Possible ways of securing vehicles

Wheel chock

Place wheel chock in front of and behind the rear axle wheel on the side opposite that on which the vehicle will be raised.

Continuous loop

Secure the continuous loop to the rear or front by passing through the window openings and affix to a suitable end support.

Front and rear axle

When securing the vehicle, always combine several axle components (axle carrier, guides, drive shafts).

Towing eye



The towing eye must not be used to recover or secure the vehicle!

Safety concepts and systems

Complete overview of restraint and safety systems



- 1 Driver airbag
- 2 Front-passenger airbag
- 3 Side airbag
- 4 Head airbag
- 5 Positive battery cable

- 6 Battery
- 7 Side impact protection
- 8 Belt tensioner
- 9 Active headrest

Labelling of the safety systems

Airbag systems

Driver airbag

SRS, SRS Airbag or AIRBAG logo on the steering wheel (steering wheel baffle plate)

Front-passenger airbag

SRS, SRS Airbag or AIRBAG logo on the dashboard (passenger side)

Side airbag

- Side airbag in the interior door frame (virtually all BMW models): SRS, SRS Airbag or AIRBAG logo on the door
- trim (front and rear) in the area of the door lockSide airbag in the front seats (all MINI models
- and a few BMW models): AIRBAG logo on the outside of the backrest of the driver and passenger seat

Head airbag

SRS, SRS Airbag or AIRBAG logo on the trim of the A and C-pillar

Knee airbag

AIRBAG logo on the glovebox flap (top right) or on the steering column trim (top left)

Belt tensioner

No labelling

The vehicles contain four kinds of systems for reducing belt slack:

- Mechanical belt tensioners
- Pyrotechnic belt tensioners
- Pyrotechnic tensioners with end fitting
- Pyrotechnic automatic tensioner

Active headrests

No labelling

The active headrests are integrated into the driver and passenger seats.

Active headrests that have not been triggered require no special attention.

Rollover protection system

- 3 Series (E36): no labelling
- 3 Series (E46):
 "Rollover protection system" labelling on the top of the headrest on the rear seat
- 1 Series (E88)
 3 Series (E93)
 6 Series (E64):
 "Rollover protection system" labelling

The rollover protection system is only installed in convertibles in the 1 Series (E88), 3 Series (E36, E46, E93), Convertible and 6 Series (E64).

Rollover bars that have not been triggered require no special attention.

Child restraint systems

Passenger and side airbags can be deactivated when using child restraint systems. Stickers can be found near the airbag in question if this applies.

Airbag – Technical information

Usage

In view of different legal requirements in Europe and the USA, different airbag variants are used in BMW cars.

Front airbag for driver I

Large air cushion fitted as part of the vehicle's standard equipment (the volumes used in the USA and EU differ due to differing legislation)

Front airbag for driver II

Small air cushion (compact airbag; Eurobag) used in the vehicles equipped with a sports steering wheel

Front airbag for passenger

Air cushion, under the dashboard on the passenger side

Side airbag

Small air cushion, on the interior door frame (front and rear doors) or in the outside of the front seat

ITS head airbag

Air pipes, from the bottom end of the A-pillar along the inside of the roof structure to just shortly before the C-pillar

AITS head airbag

Head airbag stretching from the A pillar to the C-pillar; extension of the ITS head airbag with a canvas between the ITS airbag and roof frame

Curtain airbag

Head airbag stretching from the A-pillar to the C-pillar; extended coverage area for the side panes front and rear

Head airbag at rear

Small air cushion in the roof frame above the C-pillar

Knee airbag

Small air cushion, behind the glove box lid or behind the steering column trim (only available in the US version)

Driver airbag



Triggered driver airbag

The driver airbag is located in the steering wheel's impact absorber.

Acceleration is recorded and evaluated by a sensor. If the threshold for triggering is exceeded, the airbag control unit and/or the satellite responsible (= intelligent sensor) transmits a firing voltage to the detonator which then triggers the airbag. The gas created by firing escapes into the air sack which then unfolds in full.

Front-passenger airbag



Passenger airbag that has not been triggered

The passenger airbag is located in the instrument panel above the glove box on the passenger side.

A seat occupation recognition feature has been integrated in the vehicle to prevent the passenger airbag from being unnecessarily triggered in the event of a crash when the passenger seat is not occupied.

Using sensors in the passenger seat and by evaluating data in the airbag control unit and/or in the satellite (= intelligent sensor), above a weight of 12 kg, the passenger seat is recognised as occupied and the system activated.

Side airbag



Side airbag that has not been triggered

The side airbags are located in most BMW models behind the side trim panel in the door. On some BMW models, as well as on all MINI models, the side airbags are located to the side, in the backrest of the driver and passenger seat.

In the event of side impact, the transverse acceleration experienced is recorded by sensors.

If the threshold for triggering is exceeded, the airbag control unit and/or satellites responsible (= intelligent sensors) fire the side airbags and also the head airbag.

ITS head airbag



ITS not triggered (in the roof area) and triggered

The ITS head airbag, unlike other airbags, involves a tube system that is secured to the bodywork with belt straps.

When the generator is fired, the diameter of the head airbag increases and reduces its overall length. With this mechanism, the head airbag stretches between the lower end of the A-pillar and the rear fastening on the roof frame.

Unlike the front and side airbags that collapse relatively quickly after inflation, the head airbag retains its gas volume and therefore offers protection in the event of the vehicle rolling or secondary accidents.

The head airbag can be cut off or (safely) cut through at the seat belt straps.

AITS head airbag





AITS for front and rear seat passengers (triggered)

The AITS head airbag is a head protection system like the ITS. Its advantage, however, lies in its curtain-like protection.

The AITS prevents the head and limbs from swinging back and forth. This means that the neck experiences lower shearing forces and there are fewer head injuries.

System features:

- Extended area of coverage for front and rear side windows
- Protection from broken glass and penetrating objects
- Optimised area of coverage, even for very large occupants

Curtain airbag



Curtain airbag triggered

The curtain airbag stretches from the A-pillar to the C-pillar and covers the entire side area. It unfolds between the occupant, side window and column shrouds.

System features:

- Extended area of coverage for front and rear side windows.
- Protection from broken glass and penetrating objects.
- Optimised area of coverage, even for occupants of different sizes.

The curtain airbag is stored folded-up in the roof frame area. It comprises the gas generator, the two gas lances and the curtain.

In the event of a side-on collision, the generator is fired. The resulting gas flows through the two gas lances into the curtain. The simultaneous filling of the curtain at the front and rear ensures more even filling.

The curtain airbag's securing to the A-pillar and Cpillar ensure that the head airbag is brought into position. As it unfolds, the curtain airbag stretches between the side window, column shroud and the occupant.

The closed system preserves the structural solidity and stability for several seconds.

Knee airbag





Knee airbag on driver side (top) and passenger side (bottom)

In the event of a collision when the driver or passenger is not wearing a seat belt, the knee airbag will support their knees.

This results in the upper body being shifted forwards in a controlled manner and being caught by the airbag.

The knee airbag on the driver side is located under the steering column, behind a cover.

The knee airbag on the passenger side is located in the lid of the glove box, behind a cover.

Firing sequence

The airbag is triggered by the airbag control unit and/or the satellite responsible (= intelligent sensor).

The integrated sensors activate the required systems when the trigger thresholds are exceeded. In the gas generator, the solid fuel sodium azide or nitro-cellulose mainly burn nitrogen gas. Lower and lower volumes of carbon monoxide and nitrogen oxide are produced. This gas then flows into the air sack and unfolds it. As the air sack unfolds, the cover (impact absorber of driver airbag, cover of passenger airbag, trim of side/head airbag) tears off at the intended points of rupture.

The deposits of talcum powder from the air sack laid down in the passenger compartment are totally safe.

Safety mechanisms

The restraint and safety systems are triggered using electronic and mechanical acceleration sensors. Two sensors which function independently of one another are always needed to trigger each airbag.

Electronic acceleration sensors

Driver and passenger airbag, head and side airbag, belt tensioner and safety battery terminal.

Mechanical acceleration sensor (safing sensor)

The driver and passenger airbags are triggered in conjunction with the mechanical acceleration sensors.

Electronic side crash sensors

Side and head airbags are triggered in conjunction with the electronic acceleration sensors.

Airbag control unit

The airbag control unit is the central unit in the entire restraint and safety system and undertakes the following tasks:

- Crash recognition
- Calculation of firing time for airbags, belt tensioner, safety battery terminal
- Firing of airbags, belt tensioner and safety battery terminal
- Self-test
- Error display and error memory with diagnosis capability
- Seat occupation and weight recognition for passenger seat

Satellites

Satellites consist of a control unit with integrated sensors for activating actuators (airbags, seat tensioners, etc.). Satellites are able to make intelligent decisions on selective and faster triggering of actuators. Any functions not needed are not activated.

In the 7 Series models (E65/66), the intelligent safety and integration system (ISIS) and, from 5 Series models (E60/61), 6 Series (E63/64) and Z4 (E85), the Advanced Safety Electronic (ASE) with satellites is installed.

Belt tensioner – Technical information

Four different belt tensioner systems are used in the vehicles:

- Mechanical belt tensioner
- Pyrotechnic belt tensioners
- Pyrotechnic automatic tensioner/tensioner with end fitting
- Belt system integrated in seat (SGS)

All the systems have the same goal of reducing belt slack. This is the biomechanical load to which the human body is subjected after an accident.

Pyrotechnic automatic tensioner/ tensioner with end fitting



Pyrotechnic automatic tensioner



Pyrotechnic tensioner with end fitting

The pyrotechnic automatic tensioner reduces the belt slack by creating friction in the belt guides, primarily in the shoulder area.

Sensors and control electronics ignite a pyrotechnical propellant charge, which starts the automatic shaft rotating through a wound cable.

To eliminate the film spool effect, a clamping device holds the belt strap secure when the occupants moves forwards.

At present, pyrotechnic tensioners with end fittings can only be fitted on the outer seats in the rear of the vehicle.

Since there is little space under the rear seat, a solution similar to that of the front belt tensioner is not possible. Belt slack is therefore overcome by drawing in the seat belt strap at the end fitting. The automatic belt unit forms the top point of attachment and the tensioner with end fitting the bottom one.

The tensioners with end fitting are fired by the seat satellites and/or the seat module, a pyrotechnic unit is responsible for tightening the safety belt.

Mechanical belt tensioner



On the mechanical belt tensioner, a mechanical sensor detects a collision and triggers the release of the tensioner energy via a switching mechanism. A force transfer element pulls the belt buckle obliquely downwards to tension the belt strap against the occupant's body. When the belt force is established subsequently, a locking system locks the belt buckle in any tensioned position. The occupant is therefore secured more effectively to the car.

In the event of a head-on collision, the mechanical impact sensor activates the system. A pretensioned spring pulls the belt buckle back. The shoulder and lap belt are tightened.





The pyrotechnic belt tensioner is a further development of the mechanical belt tensioner for reducing belt slack even more quickly.

The pyrotechnic belt tensioners are fired by the airbag control unit and/or seat satellites, a pyrotechnic unit is responsible for tightening the safety belt.

Belt system integrated in seat (SGS)



In the belt system integrated in the seat (SGS) all the belt elements, including the reversing points, are moved into the seats. In the event of a collision, all forces in vehicles without B pillars are absorbed by the undercarriage.

The headrest and top belt reversing point also automatically adjust depending on seat length adjustment.

A top seat belt strap tensioner fitted on the top belt exit point also restricts the amount by which the occupant moves forwards in the event of collision. The overall arrangement reduces the free seat belt strap lengths to a minimum.

Since all three belt points move with the seat adjustment, the belt geometry automatically produces the best possible way of enlacing the body regardless of seat position and body size.

Active headrest



The active headrests are integrated in the driver and passenger seats.

Function

If the vehicle is involved in a rear impact crash, the head nods backwards because it becomes the most inactive part of the body as it is so far away from the headrest. This nodding movement may result in cervical injuries (whiplash).

If the vehicle is involved in a rear impact crash, the active headrest swings forwards towards the head to reduce the distance between the head and headrest.

Two additional crash sensors and/or satellites in the rear of the vehicle activate the gas generator in the backrest during a rear-end collision. The gas generator's piston rod moves a sliding piece. This sliding piece moves the supporting tube to which the headrest is attached forward and thereby reduces the distance between the head and headrest.

Depending on the height setting of the headrest, travel of 40 to 60 mm may result.

Rollover protection system

The rollover protection system is only installed in models in the 1 Series (E88), 3 Series (E36, E46, E93), Convertibles and 6 Series (E64). In the remainder of the convertible models, fixed rollover bars are installed.

The rollover protection system is an additional safety function in some BMW convertible models. In the event of rollover or other situations that encourage the vehicle to roll over, the rollover protection system extends, locks positively and thereby helps maintain a large enough area for occupants to survive the rollover.

Function of the BMW 1 Series E88, 3 Series E93, 6 Series E64 and MINI Convertible R57



Rollover protection in the 6 Series E64 in normal position and triggered (right)

Two extendable protective bars are stored behind the two rear seats in a carrier structure.

The rollover protection system is a separate system and is not linked to the airbag control unit.

On models in the 3 Series (E93), the ROC (Rollover Controller) control unit is installed in the carrier structure as well as the right-hand protective bar.

On models in the 6 Series (E64), the rollover sensor is located in one of the satellites.

The protective bars are retracted in the carrier structure during normal operation. The protective bars are pre-tensioned in the direction of ejection by a spring and held by the lock on the actuator.

BMW 3 Series E93 and MINI Convertible R57

If the ROC control unit detects an imminent rollover, the two actuators are triggered directly. The rollover bars are extended by spring force and mechanically locked in their limit position.

BMW 6 Series E64

If the rollover sensor in the satellite detects an imminent rollover, the data is sent via a light-linked bus system to the SGM safety and gateway module. At the same time, the signal to release the rollover protection system is sent via a copper cable (arming cable) to the SGM. This triggers the two actuators via an output stage. The protective bars are ejected by spring force.

Function of the 3 Series E36 and E46



Triggered rollover protection system in the 3 Series E46 (A) and E36 (B) Convertible

On models in the 3 Series (E36), the rollover protection system comprises two rollover bars behind the headrests on the front seat (visible) and, on models in the 3 Series (E46), of two rollover bars in the headrests of the rear seat (installed concealed).

The rollover protection system is a separate system and is not linked to the airbag control unit.

The rollover sensor is screw-mounted directly to the protective cover behind the bank of rear seats on the right. The rollover sensor consists of:

- A level sensor to detect the vehicle's inclination, crosswise and lengthwise acceleration
- A g-sensor (g = gravitation) to detect loss of contact with the road surface
- · Evaluation electronics with inbuilt diagnosis
- Two condensers to provide the reserve energy needed to trigger the protective bars should the onboard power supply fail

When the limit values are reached, the integrated rollover sensor issues a command to the actuator to release the locks. A solenoid actuates the lock and releases the spring-loaded rollover bar. The rollover bars are extended and mechanically locked in their limit position.

Bodywork and materials

Structure of the bodywork

Thanks to high-strength steels, greater wall thicknesses and a multi-shell construction, the stability of the vehicles is optimised and therefore the safety of the vehicle's passengers increased.

Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

The optimum cutting zone for the car in question is drawn on the emergency services cards, see page 34.

Materials

The type and percentage proportion of the material in question vary between the individual model series.

Structural reinforcements in the A and B pillars are primarily installed in convertibles, Roadsters and Coupés. This is where there are particular stability requirements on these cars.

Magnesium injection moulding

Magnesium injection moulding may be found in the area of the engine compartment and on the dashboard.

Glazing

A Please note!

Risk of injury!

Before removing panes of glass, the vehicle's occupants must be properly protected against dust and shards of glass.

Single-pane safety glass (ESG)

Single-pane safety glass (ESG) is thermally pretreated glass that can withstand high loads. If the load is too high, however, it shatters into many fragments with not particularly sharp edges.

ESG is used for side windows, rear windows and sliding roofs.

Note:

Intact ESG windows can jump out of position suddenly when recovery work is being performed on the car. Depending on the accident situation and the scope of the rescue work, the ESG panes should be removed first.

ESG panes can be removed by applying a pointed load, e.g. using a spring centre punch or an emergency hammer. The ESG panes should be secured before doing so.

Composite safety glass (VSG)

Composite safety glass (VSG) comprises two panes and an interleaving film. The panes remain largely intact when damaged.

VSG is used for front windscreens and possibly for side windows. The front windscreens are glued to the bodywork.

Note:

Since VSG panes cannot jump suddenly out of place, they only need to removed if the rescue work requires it.

VSG panes can be removed with special glass saws or windscreen cutters.

Special safety glass

Some cars are equipped with special safety glass. This is recognisable from the exterior by virtue of the thicker panes.

Special safety glass cannot be cut using conventional emergency equipment.

Electrics – Battery management

12-Volt batteries

7 Series Hydrogen E68:

Always note the detailed information, see Saloon 7 Series emergency services card page 5.

Notes on usage

The procedure should be defined on the basis of the situation assessment at the scene.

The use of active electrical systems, such as window lifts, seat adjusters or steering wheel adjustment, can significantly assist the rescue operation.

The decision to disconnect the battery is therefore up to the crew leader on site.

In some cases, following an accident, damaged cables in cars can represent a source of ignition despite their insulation.

Disconnection of the batteries can significantly reduce the risk of fire.

The extremely low risk of an unwanted triggering of the restraint system (airbags, belt tensioners) can be excluded by disconnecting the batteries.

The ignition must be switched off.

Position of the 12-Volt batteries

The vehicle may be equipped with one or two batteries.

The 12-Volt batteries are located in either the engine compartment or the luggage compartment, depending on the vehicle.

Exception:

On E34 and E32 models, the 12-Volt battery is located in the engine compartment or under the rear seat.

The precise position of the 12-Volt batteries for the car in question is drawn on the emergency services cards, see page 34.

Location of the positive battery cables

If the 12-Volt battery is not located in the engine compartment, the red positive battery cable usually runs along the floor of the vehicle towards the engine.

Safety battery terminal



The safety battery terminal is fitted on the battery's positive pole.

The safety battery terminals' detonators must not be squashed, disconnected or heated!

The safety battery terminal only disconnects the battery's positive cable between the battery and starter/generator.

Labelling

No labelling

Function

The safety battery terminal is screwed directly onto the battery's positive pole.

In order to minimise the risk of short-circuits following an accident, the vehicle electrical system is divided up into two current circuits on BMW cars: the onboard power supply section and starter circuit.

If the key criteria are satisfied during an accident, the airbag control unit and/or one of the satellites issues the command to fire the propelling charge in the safety battery terminal. The gas volume this produces slides the cable pin out of the battery terminal bracket, thereby separating the cable connection between the battery and starter/ generator.

The other consumers continue to be supplied by their own connection to the battery (onboard power supply section).

The entire triggering process lasts around 3 ms.

Disconnect the battery

When disconnecting the battery, note the following:

- Switch off the ignition.
- First disconnect the negative pole, then the positive pole.
- If two batteries are installed, always disconnect **both** batteries.

Note:

Mechanical belt tensioners cannot be deactivated by disconnecting the battery.

Attention

If the vehicle cannot be de-energised:

- Do not remain in the area in which the untriggered airbag may unfold and do not place material in this area if heavy emergency equipment is being used.
- Wherever possible, treat casualties from the side.

High-voltage batteries

High-voltage batteries have a voltage of over 40 Volts.

Detailed information for the car in question is found in the emergency services cards starting on page 34.

- ActiveHybrid 7 F04, see Saloon 7 Series emergency services card page 11.
- X6 ActiveHybrid E72, see SAV X6 emergency services card page 3.
- MINI E, see MINI E emergency services card page 1.

Alternative power systems

Hydrogen-powered vehicle

For detailed information on Hydrogen 7 E68, see Saloon 7 Series emergency services card page 5.

Electrically-powered vehicle

For detailed information on MINI E, see MINI E emergency services card page 1.

Hybrid vehicles

For detailed information on ActiveHybrid 7 F04, see Saloon 7 Series emergency services card page 11.

For detailed information on X6 ActiveHybrid E72, see SAV X6 emergency services card page 3.

Fuels and tanks

Fuels

Diesel engine: diesel fuel DIN EN 590 Petrol engine:

- Super Plus, 98 RON
- Super unleaded, 95 RON
- Normal unleaded, 91 RON

Tank

The tank is located in the area of the rear axle on the vehicle's floor.

Exception:

On E32 and Saloon E34 models, the tank is located in the area of the luggage compartment.

The precise position of the tank for the car in question is drawn on the emergency services cards, see page 34.

Fuel filler flap

BMW:

The fuel filler flap is located on the right-hand side. MINI:

The fuel filler flap is located on the left-hand side.

The precise position of the fuel filler flap for the car in question is drawn on the emergency services cards, see page 34.

Frequently asked questions

How does an airbag work?

The acceleration recorded by the sensors is integrated and evaluated. Once the corresponding thresholds for triggering are exceeded, the airbags required are fired. The detonator in the gas generator obtains the firing voltage from the airbag control unit and/or relevant satellite. The gas produced escapes into the air sack.

How do I know whether a vehicle is fitted with airbags or not?

The word AIRBAG or SRS or SRS-AIRBAG appears on the steering wheel, dashboard, door trim and A pillar trim, C-pillar, the outside of the backrest of the driver and passenger seats. If in any doubt, assume that newer vehicles are equipped with an airbag.

Is smoke emitted during firing?

Dust is produced from the talcum powder applied to the air sack in the factory.

Does the airbag get hot?

The airbag doesn't get hot. Only the components inside the airbag module reach high temperatures after triggering. These components are near the airbag attachment and do not pose a risk to the emergency services. The parts need around 15 minutes to cool down.

Does the residue contain sodium azide?

Sodium azide, the solid fuel in the gas generator, combusts totally when the gas generator is fired and is totally chemically converted. The product of the reaction is mainly safe nitrogen gas which makes up approx. 80 % of the air we breathe.

What precautions need to be taken if an airbag module is damaged but has not triggered?

In the extremely unlikely event that the airbag gas generator has been destroyed, the fuel (pressed into tablet form) could fall out. If this happens, avoid contact with the skin at all costs (wear gloves and protective goggles). The tablets must be treated and disposed of with extra care. They must be kept away from any source of ignition (electricity, fire etc.).

If the vehicle catches fire, is there a risk of the airbag generator exploding?

The gas generator is designed such that it will normally be triggered when subject to fire if the surface temperature of the generator exceeds 200 °C.

Can water be used to put out the fire?

Yes. Any effective means of extinguishing the fire can be used, even in vehicles equipped with airbags.

Is it safe to inhale the air in the passenger compartment after an airbag has been triggered?

Yes. Chemical and medical analyses confirm that it is totally safe. You may however experience a tickly throat for a short period.

If the airbag has not been triggered during the crash, is it possible for it to trigger after the crash?

No. The crash sensors respond to the unique physical properties of an accident.

Are first-aiders putting themselves at any risk?

No. A first-aider (a helper without emergency equipment) will not notice any differences from working in a normal vehicle. If the vehicle is stationary, the airbag systems are not triggered.

If the airbag has not been fired during the crash, how can the system be deactivated?

Turn off the ignition, disconnect both battery cables (first the negative and then the positive) from the battery.

This rules out the risk of the airbag triggering during the provision of emergency aid. For exceptions, refer to the "Airbag" section.

Should the emergency services wait for the airbag system to be deactivated before administering aid?

No. Turn off the ignition, disconnect both battery cables (first the negative and then the positive) from the battery.

If the points raised in "Response of the restraint and safety systems after an accident" are noted, emergency aid can be given to the occupants straight away.

What should you do if people are trapped in the vehicle, individual airbag systems have not been triggered and the vehicle cannot be de-energised?

- Administer emergency medical aid immediately.
- Create support openings as a priority.
- Check: which untriggered airbag systems does the vehicle have and where are they in relation to where the emergency service and recovery helpers are working?
- If at all possible, do not pull the steering column with the spreader.
- Do not disconnect any cables near the airbag systems (this will result in a small risk of the airbag being triggered by a short circuit).
- Protect the casualty from the area in which an untriggered airbag would unfold.
- Attend to casualties from the side.
- Wherever possible, do not move your head or upper body into the area in which the airbag operates when people are working on the vehicle with heavy emergency equipment.
- Do not remain in or place material in the unfolding area of an untriggered airbag, especially when heavy emergency equipment is being used.

Can other emergency techniques be used?

Yes, the final decision on how the rescue is to take place always lies with the head of the technical emergency team and the emergency doctor or emergency services staff on site. They must reach agreement on how to proceed. The technical and tactical possibilities open to them, details of the accident and extent of vehicle destruction must also be taken into account.

Hydrogen 7 Frequently asked questions: essential rules

How is gas detection in the car reported during use?

Keep an eye on a safety button (door pin). All 4 doors would flash at the same interval. (1 flash every 2 seconds)

Can fire be fought with the usual methods?

A fire in the passenger compartment or engine compartment can be fought with the usual methods.

Warning:

The hydrogen flame is not visible in daylight. Use a heat detection camera!

What should be borne in mind when ventilating?

If there is no alarm (1 flash every 2 seconds): open the doors, tailgate and engine compartment!

Properties of hydrogen

What should be borne in mind if the car is completely closed and an alarm is displayed?

If the windscreens are intact and an $\rm H_2\mathchar`-gas$ alarm is assumed:

Break the glass (e.g. with a spring centre punch)!

What does a fog cloud on the car (roof) mean?

Cold hydrogen is probably escaping in large quantities.

Where are the rattling sounds coming from?

The safety valves are engaging. Cold hydrogen is escaping via the roof exhaust valve.

What does ice formation mean?

If $\rm H_2$ has leaked, a layer of ice in the centre of the roof will remain there for longer.

Parameters	Unit	Hydrogen	Natural gas	Petrol
Lower thermal value	kWs/g	120	50	44.5
Self-ignition temperature	°C	585	540	228 - 501
Flash temperature	C°	2045	1875	2200
Ignition limits in the air	Vol%	4 – 75	5.3 – 15	1.0 – 7.6
Minimum ignition energy	mWs	0.02	0.29	0.24
Detonation limits	Vol%	13 – 65	6.3 – 13.5	1.1 – 3.3
Theoretical explosion				
energy	kg TNT/m³ gas	2.02	7.03	44.22
Diffusion coefficient	(cm²/s)	0.61	0.16	0.05

Further information on the project

Advice on fire brigade-specific questions can be obtained by calling +49 (0)89-382-23666.

General information on "BMW CleanEnergy" can be found at http://www.bmwgroup.com/cleanenergy/

Emergency services cards

BMW Saloon

3 Series
3 Series E36 1 (07/1990 - 03/1999)
3 Series E46 3 (12/1997 - 02/2005)
3 Series E90 5 (since 03/2005)
5 Series
5 Series E34 1 (11/1987 - 07/1996)
5 Series E39 3 (09/1995 - 07/2003)
5 Series E60 5 (03/2003 - 02/2010)
5 Series F07 7 (since 08/2009)
5 Series F10
7 Series
7 Series E32 1 (06/1986 - 08/1994)
7 Series E38 3 (07/1993 - 07/2001)
7 Series Hydrogen 7 E68 5 (12/2006 - 07/2007)
7 Series E65/66 9 (07/2001 - 07/2008)
7 Series ActiveHybrid 7 F04 11 (since 04/2010)
7 Series F01/F02

1 Series E87 1 (06/2004 - 08/2011)
1 Series E81 3 (since 03/2007)
1 Series E82 5 (since 09/2007)
BMW ActiveE
1 Series F20 10 (since 09/2011)
3 Series
3 Series E36 1 (11/1990 - 04/1999)
3 Series E36 Compact 3 (01/1994 - 08/2000)
3 Series E46 5 (12/1998 - 05/2006)
3 Series E46 Compact 7 (04/2001 - 12/2004)
3 Series E92 9 (since 06/2006)
6 Series

BMW Coupé/Compact

1 Series

6 Series

6 Series E63	1
(09/2004 - 09/2010)	
00 J = = 10	~

6 Series F13 3 (since 10/2011)

8 Series

8 Series E 31										1
(07/1989 - 05/1999)										

Z3

Z3 Coupé E36/7	1
(01/1998 - 06/2002)	

Z4

Z4 Coupé E86	1
(04/2006 - 08/2008)	

BMW Touring

3 Series

3 Series E36 1 (11/1994 - 05/1999)
3 Series E46 3 (06/1999 - 07/2005)
3 Series E91 5 (since 03/2005)
5 Series
5 Series E34 1 (10/1990 - 06/1996)
5 Series E39 3 (11/1996 - 12/2003)
5 Series E61 5 (03/2004 - 05/2010)
5 Series F11 7 (since 06/2010)

BMW Convertible

1 Series

1 Series E88 1 (since 12/2007)	
3 Series	
3 Series E36 1 (09/1992 - 09/1999)	
3 Series E46 3 (12/1999 - 08/2006)	;
3 Series E93 5 (since 12/2006)	;
6 Series	
6 Series E64 1 (09/2004 - 09/2010)	

6 Series F12 3 (since 03/2011)

Z3

Z3 Roadster E36/7	1
(09/1995 - 06/2002)	

Z4

Z4 Roadster E85 (09/2002 - 08/2008)	 1
Z4 Roadster E89	 3

Z8

Z8 Roadster E52								1
(01/2000 - 07/2003)								

BMW SAV

Y1

X1 E84	1
X3	
X3 E83	1
X3 F25	3
X5	
X5 E53	1
X5 E70	3
X6	

X6 E71 (since 01/2008)	1
X6 ActiveHybrid E72 (since 10/2009)	3

MINI Coupé

R50

MINI Coupé R50	 				 			1
(04/2001 - 11/2006)								

R53

MINI Coupé R53 (Cooper S)	1
(12/2001 - 11/2006)	

R56

MINI Coupé R56									1
(since 09/2006)									

E

MINI Coupé E	1
(06/2008 - 06/2009)	

R58

MINI Coupé R58									1	
(since 10/2011)										

MINI Clubman

R55

MINI Clubman R55	1
(since 08/2007)	

MINI Convertible

R52

MINI Convertible R52 1 (04/2004 - 07/2008)

R57

MINI Convertible R57 1 (since 12/2008)

MINI Countryman

R60

MINI Countryman R60 1 (since 08/2010)










Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	0 0	12-Volt battery
Ó	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon 3 Series

BMW Saloon 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



(12/1997 - 02/2005)





Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Cor

3

BMW Saloon 3 Series

BMW Saloon 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, our orth and property.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



damper

Fuel tank

11

Belt tensioner

This overview shows the maximum vehicle equipment.

BMW Saloon 3 Series

BMW Saloon 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements	* 0	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	a 6	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

1

BMW Saloon 5 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	aa	Gas pressure damper	a 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon 5 Series

BMW Saloon 5 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



(03/2003 - 02/2010)







Legend

0	Airbag		Bodywork reinforcements	₽ ₽	Airbag control unit
	Gas generator	aa	Gas pressure damper	a 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon 5 Series

Opening the car

This information applies only to trained rescue workers. This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



5 Series F07

(since 08/2009)









Legend

0	Airbag		Bodywork reinforcements	₽ ₩	Airbag control unit
	Gas generator	aa	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon 5 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, our orth and property.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



5 Series F10

(since 03/2010)







Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	aa	Gas pressure damper	a 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

9

BMW Saloon 5 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also requiredAn understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	a 6	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon 7 Series

1

BMW Saloon 7 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting devices
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	aa	Gas pressure damper	a 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon 7 Series

3

BMW Saloon 7 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, expective and preperly.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



7 Series Hydrogen 7 E68 (12/2006 - 07/2007)

Hydrogen 7



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The ignition limit measurement equipment of the Fire Services detects a hydrogen-explosive atmosphere. Because calibration is performed with nonane or heptane, ignition is approximately five times faster than shown.

→ Example: if the ignition limit measurement equipment of the Fire Services shows 100 % LEL in a hydrogen environment, the actual mixture ratio is only 20 % actual H_2 LEL.



1_a. Usage procedure for hydrogen vehicles

For example: after a road accident,...









2. Opening the vehicle roof



Separate the A and B-pillars in areas (1) and (2), then make a cut in the roof at area (3) in front of the roof diverter valve approximately 20 cm deep.

The roof can then be folded back and secured.

Note:

The bodyshell is reinforced with CFRP at area (1) and (3). If possible, cut slowly towards

the front so that the fibres of the carbon layer are torn more easily.

Only separate/crush the C-pillars in an absolute emergency.

3. Identifying features of the vehicles

- 1) Additional fuel filler flap (in the right-hand C-pillar)
- 2) Vehicle designation on the boot lid: "Hydrogen 7"
- 3) 15 cm round roof diverter valve
- 4) Writing on the front mudguard: "Hydrogen"
- 5) Rear blind with Hydrogen Power
- 6) Engine hood with an extra Powerdome
- 7) Translucent locking knobs, perhaps flashing red
- 8) Higher parcel shelf in the centre
- 9) Rear apron panel in chrome



BMW CleanEnergy

4. Location of the hydrogen-bearing parts



Important information



7 Series E65/66









Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
	Gas generator	aa	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon 7 Series

BMW Saloon 7 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.



Special features:

High-voltage system with DC voltage up to 130 Volts! Do not touch high-voltage components. For labelling characteristics and details, see reverse!

11

Labelling characteristics:

"ActiveHybrid" logo on the tailgate, side wall and front door sill cover strips.





Remarks:

The negative terminal of the 12 Volt battery must be disconnected.

- Disconnecting the negative terminal of the 12 Volt battery automatically disables the high-voltage system.
- In the event of an accident in which the airbag is triggered, the high-voltage system is also disabled.



Risk of death!

Do not touch high-voltage components.

The high-voltage battery is located under the luggage compartment trim panel.

Labelling of the high-voltage battery:



Labelling of the other high-voltage components:



BMW Saloon 7 Series

BMW Saloon 7 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW Saloon 7 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



(06/2004 - 08/2011)





Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
	Gas generator	aa	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Coupé/Compact 1 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, our other and preperly.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW SAV

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, our other and preperly.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



1 Series E82 (since 09/2007)







Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.
BMW Coupé/Compact 1 Series

BMW Saloon

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, and properly.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



(since 09/2011)









Legend

0	Airbag		Bodywork reinforcements	\$ ₽	Airbag control unit
	Gas generator	a <u></u> 0	Gas pressure damper		12-Volt battery
8	Belt tensioner		High-voltage components		

This overview shows the maximum vehicle equipment.



Special features:

High-voltage system with DC voltage up to 355 Volts! Do not touch high-voltage components. For labelling characteristics and details, see reverse!

Labelling characteristics:

- No exhaust system, see arrow.
- Scoop on the engine compartment lid, see arrow.





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Remarks:

he negative terminal of the 12 Volt battery must be disconnected.

- Disconnecting the negative terminal of the 12 Volt battery automatically disables the high-voltage system.
- In the event of an accident in which the airbag is triggered, the high-voltage system is also disabled.



Risk of death!

Do not touch high-voltage components.

The three high-voltage batteries are located:

- In the engine compartment (directly up against the bulkhead)
- In the central tunnel area (gear tunnel/crank shaft)
- In the tank area (below the back seat bench)

Labelling of the high-voltage battery:



□ BEV13 Elektrisches Energiespeichersystem U_n= 355,2V; C=18Ah; m=255kg □ BEV10 Elektrisches Energiespeichersystem U_n= 355,2V; C=18Ah; m=503kg □ Tank: U_n= 103,6V; C=18Ah; m=138kg

□ Tunnel: U_x= 159,1V; C=18Ah; m=234kg □ Stirnwand: U_x= 92,5V; C=18Ah; m=134kg

Labelling of the other high-voltage components:





BMW Saloon

BMW Coupé/Compact

Series

BMW Coupé/Compact 1Series

BMW Saloon

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.



1 Series F20

(since 09/2011)









Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
1	Belt tensioner	a <u></u> 0	Gas pressure damper	a 6	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



(11/1990 - 04/1999)







Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	0 0	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

MW Tourin

BMW Saloon

BMW Coupé/Compact 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting devices.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



3 Series E36 Compact (01/1994 - 08/2000)





Legend

0	Airbag		Bodywork reinforcements	40 ***	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	00	12-Volt battery
	Fuel tank				

This overview shows the maximum vehicle equipment.

MW Touring

BMW Saloon

BMW Coupé/Compact 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
	Gas generator	aa	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

MW Touring

BMW Saloon

BMW Coupé/Compact 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, our orth and presents.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



3 Series E46 Compact (04/2001 - 12/2004)







Legend

0	Airbag		Bodywork reinforcements	***	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner	Ó	Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon

BMW Coupé/Compact 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

ivertible

BMW Saloon

BMW Coupé/Compact 3 Series

BMW Coupé/Compact 3 Series

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, our other and preperly.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



(09/2004 - 09/2010)







Legend

0	Airbag		Bodywork reinforcements	40 ***	Airbag control unit
	Gas generator	a0	Gas pressure damper	00	12-Volt battery
1	Belt tensioner	Ó	Fuel tank		

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, cutters and preserve.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



6 Series F13

(since 10/2011)









Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
1	Belt tensioner	6 0	Gas pressure damper	0 0	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Coupé/Compact 6 Series

BMW Saloon

BMW Touring

BMW SAV

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information











Legend

0	Airbag		Bodywork reinforcements	Û	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	0 0	12-Volt battery
	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

BMW Coupé/Compact 8 Series

BMW Coupé/Compact 8 Series

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW Saloon BMW Coupé/Compact Z3

1

Coupé/Compact Z3

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



Z4 Coupé E86







Legend

0	Airbag		Bodywork reinforcements	40 ***	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	00	12-Volt battery
	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

BMW Coupé/Compact 24

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



(11/1994 - 05/1999)







Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	0 0	12-Volt battery
Ó	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented, support the set of the set

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.











Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	a0	Gas pressure damper	00	12-Volt battery
1	Belt tensioner	Ó	Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.



This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, our orth and presents.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.











Legend

0	Airbag		Bodywork reinforcements	\$	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	00	12-Volt battery
	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.



(11/1996 - 12/2003)







Legend

0	Airbag		Bodywork reinforcements	*	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
8	Belt tensioner	Í	Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high performance outters must be used by trained personnel, superty, and superty.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.


5 Series E61

(03/2004 - 05/2010)







Legend

0	Airbag		Bodywork reinforcements	40 ***	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.



5 Series F11 (since 06/2010)







Legend

0	Airbag		Bodywork reinforcements	***	Airbag control unit
	Gas generator	aa	Gas pressure damper	a 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information

The information for relief units must be observed; see Emergency services guidelines, pages 4 - 33.



1 Series E88

(since 12/2007)







Legend

0	Airbag		Bodywork reinforcements	₽ ₽	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	00	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters are required hydraulic cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



3 Series E36





BMW Saloon





Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	a 6	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW SAV

BMW Convertible 3 Series

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained percented expertly and property.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



3 Series E46

(12/1999 - 08/2006)







Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
1	Belt tensioner	a <u></u> 0	Gas pressure damper	a 6	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



3 Series E93

(since 12/2006)







Legend

0	Airbag		Bodywork reinforcements	\$ ₿	Airbag control unit
1	Belt tensioner	aa	Gas pressure damper	00	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected.

Cut along the upper lateral edge of the windscreen, as far outward as possible, parallel to the A pillar. Remove the roof outer skin on the C pillar with a spreader and cut the folding-top frame using an angle grinder.

Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



6 Series E64

(09/2004 - 09/2010)







Legend

0	Airbag		Bodywork reinforcements	\$ *	Airbag control unit
1	Belt tensioner	a0	Gas pressure damper	00	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Saloon

BMW Coupé/Com

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW Convertible 6 Series

BMW Saloon

BMW SAV

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW SAV

BMW Convertible Z3

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and property.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



Z4 Roadster E85





BMW Saloon

<image>

Legend

0	Airbag		Bodywork reinforcements	¥۵	Airbag control unit
1	Belt tensioner	t t	Gas pressure damper	a 0	12-Volt battery
Í	Fuel tank				

This overview shows the maximum vehicle equipment.

BMW Convertible Z4

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW SAV

BMW Convertible Z4

BMW Saloon

BMW Coupé/Compact BMW Saloon

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Cut along the upper lateral edge of the windscreen, as far outward as possible, parallel to the A pillar. Remove the roof outer skin on the C pillar with a spreader and cut the folding-top frame using an angle grinder.

Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW SAV

BMW Convertible Z8

BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



X1 E84 (since 09/2009)









Legend

0	Airbag		Bodywork reinforcements	***	Airbag control unit
	Gas generator	ab	Gas pressure damper	a 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

3MW Touring

BMW SAV X1

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.

The high-performance cutters must be used by trained personnel, expertly and properly.

- 2 Door locks
- 3 Door hinges

Important information



X3 E83

(09/2003 - 08/2010)







Legend

0	Airbag		Bodywork reinforcements	***	Airbag control unit
	Gas generator	ab	Gas pressure damper	a 6	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



X3 F25 (since 09/2010)







Legend

0	Airbag		Bodywork reinforcements	***	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- **3** Door hinges

Important information

X5 E53



(09/1999 - 09/2006)





$\left(\right)$	Airbag		Bodywork reinforcements	*	Airbag control unit
	Gas generator	aa	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner	Ó	Fuel tank		

This overview shows the maximum vehicle equipment.

BMW Convertible B

BMW Saloon

BMW SAV X5

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



X5 E70 (since 10/2006)









Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
	Gas generator	a <u></u> 0	Gas pressure damper	00	12-Volt battery
1	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



This overview shows the maximum vehicle equipment.

BMW Saloon

BMW SAV X6

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information


Legend

0	Airbag		Bodywork reinforcements	\$	Airbag control unit
	Gas generator	aa	Gas pressure damper	00	12-Volt battery
1	Belt tensioner		Fuel tank		High-voltage components

This overview shows the maximum vehicle equipment.



Special features:

High-voltage system with DC voltage up to 650 Volts! Do not touch high-voltage components. For ActiveHybrid labelling characteristics and details, see reverse! BMW SAV X6

BMW Saloon

Labelling characteristics:

- Scoop on the engine compartment lid, see arrow.
- "ActiveHybrid" logo on the tailgate and front side wall.





Remarks:

The negative terminal of the 12 Volt battery must be disconnected.

- Disconnecting the negative terminal of the 12 Volt battery automatically disables the high-voltage system.
- In the event of an accident in which the airbag is triggered, the high-voltage system is also disabled.



Risk of death!

Do not touch high-voltage components.

The high-voltage battery is located under the luggage compartment trim panel.

Labelling of the high-voltage battery:



Labelling of the other high-voltage components:





BMW Touring

npact BMW Saloon

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- 1 The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
 - The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- **3** Door hinges

Important information



1

MINI Clubman

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



MINI Coupé R53

MINI Clubman

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



MINI Coupé R56

MINI Clubman

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



0	Airbag		Bodywork reinforcements	* 0	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
1	Belt tensioner		High-voltage components		



Special features:

High-voltage system with DC voltage up to 400 Volts! Do not touch high-voltage components. For labelling characteristics and details, see reverse!

Labelling characteristics:

- Symbol on the engine compartment lid, roof and cap of the charging socket (tank flap).
- No exhaust system present.



Notify the BMW fire brigade:

+49-(0)89-382-112

Remarks:

The negative terminal of the 12 Volt battery in the engine compartment must be disconnected.

- Disconnecting the negative terminal of the 12 Volt battery automatically disables the high-voltage system.
- In the event of an accident in which the airbag is triggered, the high-voltage system is also disabled.

Switch off the high-voltage system:

- 1. Open the luggage compartment.
- 2. Turn the Service Disconnect counter-clockwise to the "Off" position.





Risk of death!

Do not touch high-voltage components.

The high-voltage battery is located under the luggage compartment trim panel.

Labelling of the high-voltage battery:



Labelling of the other high-voltage components:



This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information

MINI Coupé R58



(since 10/2011)





Legend

0	Airbag		Bodywork reinforcements	\$ \$	Airbag control unit
	Gas generator	a0	Gas pressure damper	0 0	12-Volt battery
8	Belt tensioner		Fuel tank		

This overview shows the maximum vehicle equipment.

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- **3** Door hinges

Important information



MINI Clubman R55

MINI Coupé

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



MINI Convertible R52







Legend

0	Airbag		Bodywork reinforcements		Airbag control unit
1	Belt tensioner	ab	Gas pressure damper	0 0	12-Volt battery
	Fuel tank				

This overview shows the maximum vehicle equipment.

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



Fuel tank

This overview shows the maximum vehicle equipment.

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information



MINI Countryman R60







 Legend

 Airbag
 Bodywork reinforcements

 Gas generator
 Gas pressure damper

 Belt tensioner
 Fuel tank

This overview shows the maximum vehicle equipment.

MINI Clubman

MINI Coupé

Opening the car

This information applies only to trained rescue workers. An understanding of how safety systems work, along with a knowledge of the car's characteristics, are also required.



- The areas mark points at which the roof can be disconnected. Modern high-performance cutters are required for cutting open the bodywork; older hydraulic cutting devices may be insufficient. The high-performance cutters must be used by trained personnel, expertly and properly.
- 2 Door locks
- 3 Door hinges

Important information