REPORT NUMBER 118-GTL-08-004

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 118 POWER-OPERATED WINDOW, PARTITION AND ROOF PANEL SYSTEMS

BAYERISCHE MOTOTENWERKE 2008 BMW 328i, PASSENGER CAR NHTSA NO. C80509

GENERAL TESTING LABORATORIES, INC. 1623 LEEDSTOWN ROAD COLONIAL BEACH, VIRGINIA 22443



AUGUST 21, 2008

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION ENFORCEMENT OFFICE OF VEHICLE SAFETY COMPLIANCE 1200 NEW JERSEY AVE., SE WASHINGTON, D.C. 20590 This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

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PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF TEST

A model year 2008 BMW 328i Passenger Car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 118 testing to determine if the vehicle was in compliance with the requirements of the standard. FMVSS 118 specifies requirements for power-operated window, partition, and roof panel systems to minimize the likelihood of death or injury from their accidental operation.

- 1.1 The test vehicle was a 2008 BMW 328i Passenger Car. The vehicle was identified as follows:
 - A. Vehicle Identification Number: WBAVC53588A246718
 - B. <u>NHTSA No.</u>: C80509
 - C. Manufacturer: BAYERISCHE MOTORENWERKE
 - D. Manufacture Date: 11/07
 - E. Color: Gray
- 1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 118 testing on August 5, 2008.

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure TP-118-06 dated 12 April 2006 and General Testing Laboratories, Inc. (GTL) Test Procedure, TP-118-03A, "Power Operated Window, Partition and Roof Panel Systems".

FMVSS 118 Compliance Testing was performed in the following sequence:

- A. Test Vehicle Identification/Documentation
- B. Power Window, partition and roof panel identification/documentation
- C. Interior, exterior and remote control switch identification/documentation
- D. Pre-test operation of all power windows, partitions and roof panels
- E. Photograph vehicle and interior, exterior and remote control devices
- F. Perform Interior Locking System Off Test
- G. Perform Interior Locking System with Key Removed Test
- H. Perform Exterior Locking System Test
- I. Perform Remote Actuation Device Test
- J. Perform Occupant Compartment Actuation Device Test(Sphere Test/Pull up or Pull Out Test)
- K. Perform Automatic Reversal System Test

Above tests J and K were performed for information purposes only.

2.1 <u>SUMMARY OF RESULTS</u>

The power window operational test resulted in no anomalies being noted. Test data indicate the FMVSS 118 requirements appear to have been satisfied. All test data resulting from the tests were recorded on test data sheets in Section 3.

TEST DATA

3.0 TEST RESULTS

The following data sheets document the results of FMVSS 118 testing on the 2008 BMW 328i.

FMVSS 118 COMPLIANCE DATA SUMMARY SHEET

VEHICLE MAKE/MODE	L/BODY STYLE:	2008 BMW 328i	
VEHICLE NHTSA NO:	C80509	VIN: <u>WBAVC53588A246718</u>	
VEHICLE TYPE:	PASSENGER CAR	DATE OF MANUFACTURE:	11/07

LABORATORY: <u>GENERAL TESTING LABORATORIES</u> TEST DATE: <u>08/05/08</u>

REQUIREMENT	PASS	FAIL	N/A
S4			
Interior Locking system in Off Position(s)	Х		
S4			
Interior Locking System with Key Removed	Х		
S4			
Exterior Locking System	Х		
S4			
Remote Actuation Device	Х		
S6			
Occupant Compartment Actuation Devices	Х*		
(Sphere Test/Pull Up or Pull Out Test)			
S5			
Automatic Reversal System	Х*		

REMARKS: * Compliance not required

RECORDED BY: G. Farrand

DATE: 08/05/08

APPROVED BY: <u>D. Messick</u>

WPRP PRE-OPERATIONAL CHECK

VEHICLE MAKE/MODEL/BODY STYLE: 2008 BMW 328i

VEHICLE NHTSA NO: <u>C80509</u>

VIN: WBAVC53588A246718

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 11/07

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 08/05/08

Identify power-operated WPRP and WPRP actuation devices

	LEFT FRONT	LEFT REAR	RIGHT FRONT	RIGHT REAR	TAIL GATE	LEFT VENT	RIGHT VENT	ROOF PANEL
Power WPRP Installed								
	Х	Х	Х	Х				Х
Individual Interior Actuation Devices	Х	х	х	х				х
Master Control Panel Actuation Devices	Х							
WPRP Operated by Exterior Locking System	х	х	х	х				х
WPRP Operated by Remote Control	Х*	X*	X*	X*				Х*
WPRP with Auto- Reverse Capability	Х	х	х	х				
WPRP with Express- Up Capability	Х	Х	Х	Х				х

* Remote control opens window but does not close window

Master Control Panel Location: DRIVER'S DOOR PANEL

Exterior Locking System Location:_____

Remote Control Type: () Line of Sight (X) Non-line of Sight

WPRP Actuation Device Design (Toggle, Rocker, Push/Pull (Lever) or describe other):

Master Control Panel	Push/Pull
Individual Window	Push/Pull
Roof Panel	Push/Pull
Vents	

Interior Locking System Key Positions (clockwise):NONE, USES ELECTRONIC KEY

All WPRP open/close cycles are satisfactory with key in "ON" position: (X) YES () NO

All WPRP open/close cycles are satisfactory with key in "ACCESSORY" position: (X) YES () Not Applicable –No power to WPRP's

REMARKS:

 RECORDED BY:
 G. Farrand
 DATE:
 08/05/08

 APPROVED BY:
 D. Messick
 08/05/08
 08/05/08

DATA SHEET 1 INTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MODE	EL/BODY STYLE:	2008 BMW 328	Bi	
VEHICLE NHTSA NO:	C80509		VBAVC53588A246718	
VEHICLE TYPE:	PASSENGER CAR	_ DATE (OF MANUFACTURE:	11/07
LABORATORY: GENE	RAL TESTING LABORA	TORIES	TEST DATE: 08/05/08	

Key lock position at start of test execution: (X) ON () ACCESSORY, Then to: Key lock off position during test execution: () LOCK (X) OFF () ACCESSORY

ACTUATION	DOORS	CLOSED	LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/
DEVICES	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	FAIL
	MASTER	CONTROL F	PANEL ACT	UATION DE	EVICES		
Left Front (LF)		х		х		Х	Р
Right Front (RF)		Х		х		х	Р
Left Rear (LR)		х		x		х	Р
Right Rear (RR)		х		х		Х	Р
Tail Gate (TG)							
Vents							
Roof Panel (RP)		х		х		Х	Р
		INDIVIDU	AL ACTUAT	ION DEVIC	ES		
Left Front (LF)		Х		х		Х	Р
Right Front (RF)		Х		х		Х	Р
Left Rear (LR)		х		х		Х	Р
Right Rear (RR)		х		x		х	Р
Tail Gate (TG)							
Vents							
Roof Panel (RP)		х		х		х	Р

REMARKS: Put key into receiver, started engine, then stopped engine. Remote key remained in receiver (equivalent to accessory position). Test then conducted. WPRP will not operate unless engine is started.

 RECORDED BY:
 G. Farrand

 APPROVED BY:
 D. Messick

DATE: 08/05/08

DATA SHEET 2 INTERIOR LOCKING SYSTEM WITH <u>KEY REMOVED</u> TEST

VEHICLE MAKE/MODEL/BODY STYLE:	2008 BMW 328i
VEHICLE NHTSA NO: <u>C80509</u>	VIN: <u>WBAVC53588A246718</u>
VEHICLE TYPE: PASSENGER CAR	DATE OF MANUFACTURE: <u>11/07</u>
LABORATORY: GENERAL TESTING LABORA	ATORIES TEST DATE: 08/05/08

Key lock position at start of test execution: (X) ON () ACCESSORY, Then to: Key lock off position during test execution: (X) LOCK () OFF () ACCESSORY

ACTUATION	DOORS	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		
DEVICES	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	FAIL	
	MASTER CONTROL PANEL ACTUATION DEVICES							
Left Front (LF)		х	Х		Х		Р	
Right Front (RF)		х	Х		х		Р	
Left Rear (LR)		х	Х		х		Р	
Right Rear (RR)		х	Х		х		Р	
Tail Gate (TG)								
Vents								
Roof Panel (RP)		х	х		х		Р	
		INDIVIDU	AL ACTUAT	ION DEVIC	ES			
Left Front (LF)		х	Х		х		Р	
Right Front (RF)		х	Х		х		Р	
Left Rear (LR)		х	Х		х		Р	
Right Rear (RR)		х	Х		х		Р	
Tail Gate (TG)								
Vents								
Roof Panel (RP)		Х	Х		х		P	

REMARKS: Windows operate for approximately one minute or until a door is opened. Put key into receiver. Engine started, then stopped. Remote key removed from receiver and test was conducted.

RECORDED BY: <u>G. Farrand</u> APPROVED BY: <u>D. Messick</u> DATE: <u>08/05/08</u>

DATA SHEET 3 EXTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MOD	EL/BODY STYLE:	2008 BMW 328i	
VEHICLE NHTSA NO:	C80509	VIN: WBAVC53588A246718	
VEHICLE TYPE:	PASSENGER CAR	DATE OF MANUFACTURE:	11/07
LABORATORY: GEN	ERAL TESTING LABORA	ATORIES TEST DATE: 08/05/08	

Is vehicle equipped with an exterior locking system that can close any of the power windows, partitions or roof panels? (X) YES () NO

Location of exterior locking system: Driver's Door Key Lock

Describe how the exterior locking system is activated: By turning the driver door key to the Lock position and holding it in the lock position.

Identify the windows, partitions or roof panels that can be closed by the exterior locking system. Also, in each case, identify whether continuous activation of the locking system is required.

WINDOW, PARTITION AND ROOF PANEL	EXTERIOR LOO	EXTERIOR LOCKING SYSTEM	
IDENTIFICATION	OPERABLE (YES/NO)	LE CONTINUOUS (PAS D) ACTIVATION REQUIRED (YES/NO)	
LEFT FRONT (LF)	YES	YES	Р
RIGHT FRONT (RF)	YES	YES	Р
LEFT REAR (LR)	YES	YES	Р
RIGHT REAR (RR)	YES	YES	Р
VENT WINDOW(s)			
PARTITION (P)			
ROOF PANEL (RP)	YES	YES	Р
TAIL GATE (TG)			

NOTE: *Continuous activation of the locking system is required for each WPRP to pass the exterior locking system safety standard requirement.

RECORDED BY: G. Farrand

DATE: 08/05/08

APPROVED BY: <u>D. Messick</u>

DATA SHEET 4 REMOTE ACTUATION DEVICE

VEHICLE MAKE/MODEL/BODY STYLE:	2008 BMW 328i
VEHICLE NHTSA NO: C80509	VIN: WBAVC53588A246718
VEHICLE TYPE: PASSENGER CA	R DATE OF MANUFACTURE: <u>11/07</u>
LABORATORY: <u>GENERAL TESTING LA</u>	BORATORIES TEST DATE: 08/05/08

Type of remote actuation device installed on vehicle:

(X) Non Line-of-Site

() Line-of-Site

Measured Range of Operation: Record the maximum operating distance of the remote actuation device in the boxes below. The range of operation shall not exceed six meters for a Non Line-of-Site Device or eleven meters for a Line-of-Site Device in any measured direction and continuous activation of the remote actuation device is required until all operable windows, partitions or roof panels are completely closed.

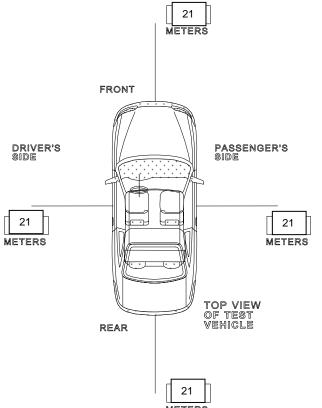
> Pass/Fail Pass

21 21 METERS METERS TOP VIEW OF TEST VEHICLE REAR 21 METERS

Denote places on the vehicle where signals from the remote device are received. Add directions and distances to other places where remote device does not comply.

REMARKS: Requires continuous activation and only opens windows, will not close windows.

RECORDED BY:	G. Farrand	DATE:	08/05/08
APPROVED BY:	D. Messick		



DATA SHEET 5 OCCUPANT COMPARTMENT ACTUATION DEVICE TEST <u>SPHERE TEST</u>

VEHICLE MAKE/MODE	EL/BODY STYLE:	2008 BMW 328i	
VEHICLE NHTSA NO:	C80509	VIN: WBAVC53588A246718	
VEHICLE TYPE:	PASSENGER CAR	DATE OF MANUFACTURE:	11/07
LABORATORY: GENE	RAL TESTING LABORA	TORIES TEST DATE: 08/05/08	

ACTUATION DEVICES	APPLICABLE (YES/NO*)	SPHERE ACTIVATED ACTUATION DEVICE CLOSES WPRP (YES/NO)	TEST RESULT PASS/FAIL	COMPLIANCE REQUIRED (Y/N**)
	MASTER	CONTROL PANEL ACTUATIO	ON DEVICES	
Left Front (LF)	Yes	No	Pass	No
Right Front (RF)	Yes	No	Pass	No
Left Rear (LR)	Yes	No	Pass	No
Right Rear (RR)	Yes	No	Pass	No
Tail Gate (TG)				
Vent Window(s)				
Partition (P)				
Roof Panel (RP)				
	INDI	VIDUAL ACTUATION DEVICE	S	
Left Front (LF)	Yes	No	Pass	No
Right Front (RF)	Yes	No	Pass	No
Left Rear (LR)	Yes	No	Pass	No
Right Rear (RR)	Yes	No	Pass	No
Tail Gate (TG)				
Vent Window (s)				
Partition(P)				
Roof Panel (RP)	Yes	No	Pass	No

*This requirement does not apply to actuation devices that are mounted in a vehicle's roof, headliner, or overhead console and that can close a window, partition, or roof panel only by continuous rather than momentary switch actuation or actuation devices that comply with the reversing requirement of FMVSS 118, S5.

** Requirement is effective 1 October 2008. Early compliance is voluntary and test results are used for information only.

 RECORDED BY:
 G. Farrand

 APPROVED BY:
 D. Messick

DATE: 08/05/08

DATA SHEET 6 OCCUPANT COMPARTMENT ACTUATION DEVICE TEST FOR POWER-OPERATED WINDOWS ONLY <u>PULL UP OR PULL OUT TEST</u>

VEHICLE MAKE/MODEL/BODY STYLE: 2008 BMW 328i VEHICLE NHTSA NO: C80509 VIN: WBAVC53588A246718 VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 11/07 LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 08/05/08						
ACTUATION DEVICES	SWITCH ORIENTATION A – horizontal B – vertical C - angled	CLOSES POWER- OPERATED WINDOW ONLY IF: PULL UP OR PULL OUT	TEST RESULT PASS/FAIL	COMPLIANCE REQUIRED (Y/N**)		
	MASTER	CONTROL PANEL ACTUATIO	ON DEVICES			
Left Front (LF)	A	Pull Up	Pass	No		
Right Front (RF)	А	Pull Up	Pass	No		
Left Rear (LR)	А	Pull Up	Pass	No		
Right Rear (RR)	A	Pull Up	Pass	No		
Vent Window(s)						
	INDI	VIDUAL ACTUATION DEVICE	<u>s</u>			
Left Front (LF)	А	Pull Up	Pass	No		
Right Front (RF)	А	Pull Up	Pass	No		
Left Rear (LR)	А	Pull Up	Pass	No		
Right Rear (RR)	A	Pull Up	Pass	No		
Vent Window(s)						

** Requirement is effective 1 October 2008. Early compliance is voluntary and test results are used for information only.

RECORDED BY:	G. Farrand	DATE:	08/05/08
APPROVED BY:	D. Messick		

DATA SHEET 7 WPRP PHYSICAL CONTACT REVERSAL CAPABILITY

VEHICLE MAKE/MODE	EL/BODY STYLE:	2008 BMW 328i	
VEHICLE NHTSA NO:	C80509	VIN: WBAVC53588A246718	
VEHICLE TYPE:	PASSENGER CAR	_ DATE OF MANUFACTURE:	11/07
LABORATORY: <u>GENE</u>	RAL TESTING LABOR	ATORIES TEST DATE: 08/05/08	

Window, Partition, Roof Panel	Test Rod Placement In Window, Partition or Roof Panel	Test Rod Size (mm)	Window, Partition or Roof Panel Opening Before/After Closing (mm)	Maximum Force Measured on Test Rod (Newtons)	Window, Partition or Roof Panel Reversing Distance (mm)	Pass/Fail *
L.F	Center Top	5	230 / 285	91	280	**
L.R.	Rear Top	5	80 / 220	107	215	**
R.F.	Center Top	100	220 / 312	88	212	**
R.R.	Front Top	100	185 / 305	120	205	**
Roof Panel	Center Front	100	260 / 355	105	255	**

*WPRP must reverse direction before contacting or exerting a squeezing force of 100 Newtons. Upon such reversal, the WPRP must open to one of the following positions.

- A. A position that is at least as open as the position at the time closing was initiated.
- B. A position that is not less than 125 mm more open than the position at the time the window reversed direction, or
- C. A position that permits a semi-rigid cylindrical rod that is 200 mm in diameter to be placed through the opening at the same location as the test rod.

REMARKS: **Not required to meet reversal requirements. This test was performed only to gather data.

 RECORDED BY:
 G. Farrand
 DATE:
 08/05/08

 APPROVED BY:
 D. Messick
 08/05/08

SECTION 4 TEST EQUIPMENT LIST

VEHICLE MAKE/MODEL/BODY STYLE: 2008 BMW 328i					
VEHICLE NHTSA NO:	C80509	VIN: WBAVC53588A246718			
VEHICLE TYPE:	PASSENGER CAR	DATE OF MANUFACTURE: <u>11/07</u>			
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 08/05/08					

ITEM	MFR	MODEL	S/N	CAL. PERIOD	DATE OF LAST CALIB.	REMARKS
SLR DIGITAL CAMERA	NIKON	D50	N/A	N/A	N/A	
PINCH FORCE SENSOR	SENSOR DEVELOPMENTS, INC.	10293	179104	12 MO.	06/08	

REMARKS:

 RECORDED BY:
 G. FARRAND
 DATE:
 08/05/08

APPROVED BY: D. MESSICK

PHOTOGRAPHS



FIGURE 5.1 ¾ FRONTAL VIEW FROM RIGHT SIDE OF VEHICLE



FIGURE 5.2 ¾ REAR VIEW FROM LEFT SIDE OF VEHICLE

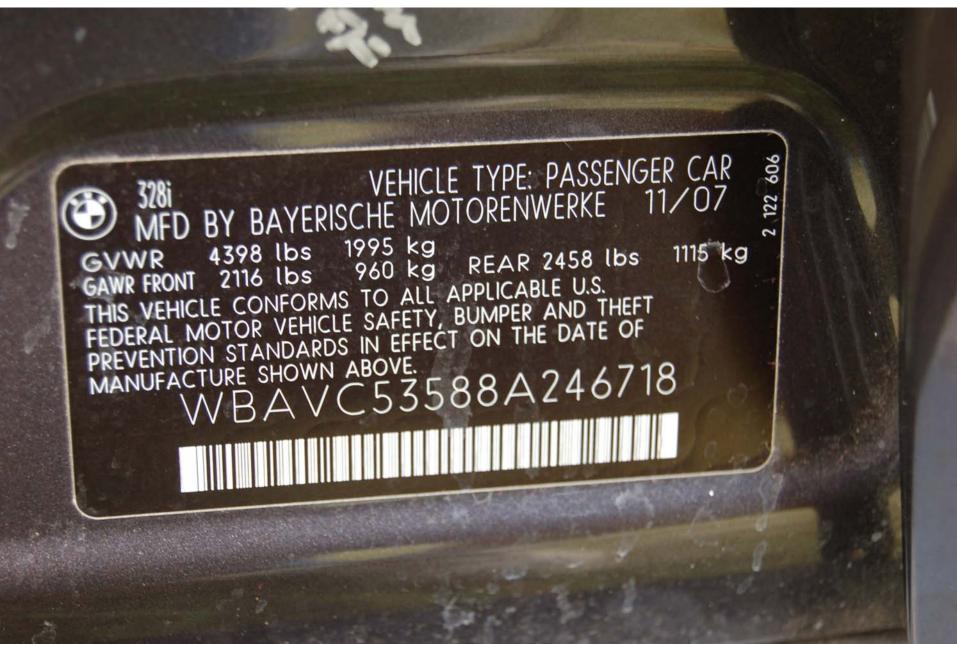


FIGURE 5.3 CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL

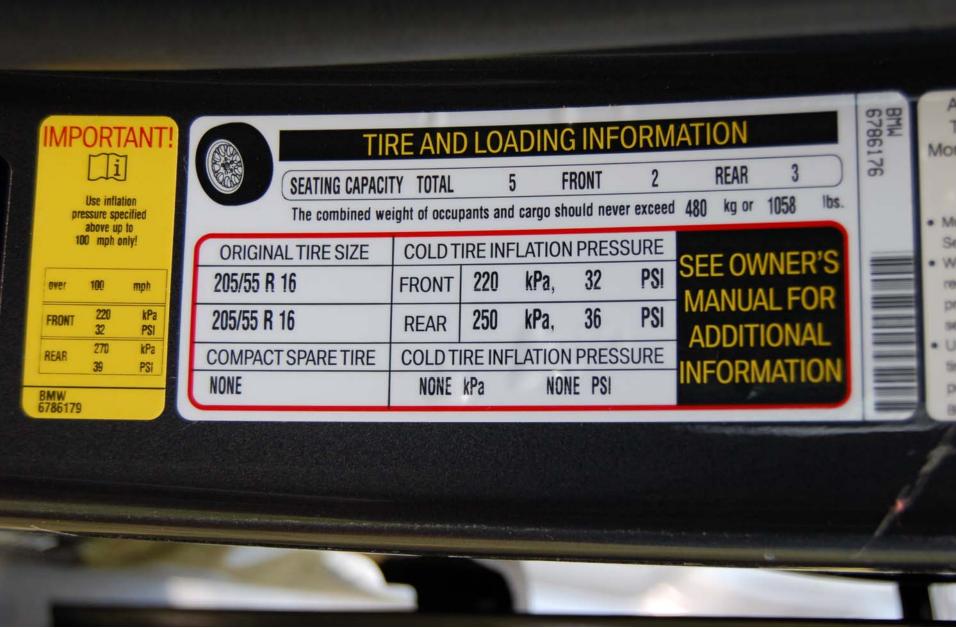


FIGURE 5.4 CLOSE-UP VIEW OF TIRE INFORMATION LABEL



FIGURE 5.5 POWER WINDOW MASTER SWITCH



FIGURE 5.6 LEFT FRONT POWER WINDOW SWITCH



FIGURE 5.7 LEFT REAR POWER WINDOW SWITCH



FIGURE 5.8 RIGHT FRONT POWER WINDOW SWITCH



FIGURE 5.9 RIGHT REAR POWER WINDOW SWITCH



FIGURE 5.10 ROOF PANEL POWER SWITCH



FIGURE 5.11 REMOTE/KEY RECEIVER IN DASH



FIGURE 5.12 REMOTE/KEY IN DASH



FIGURE 5.13 ENGINE START/STOP SWITCH





FIGURE 5.15 TYPICAL SWITCH/SPHERE TEST SET-UP



FIGURE 5.16 TYPICAL FORCE/DEFLECTION TEST SET-UP

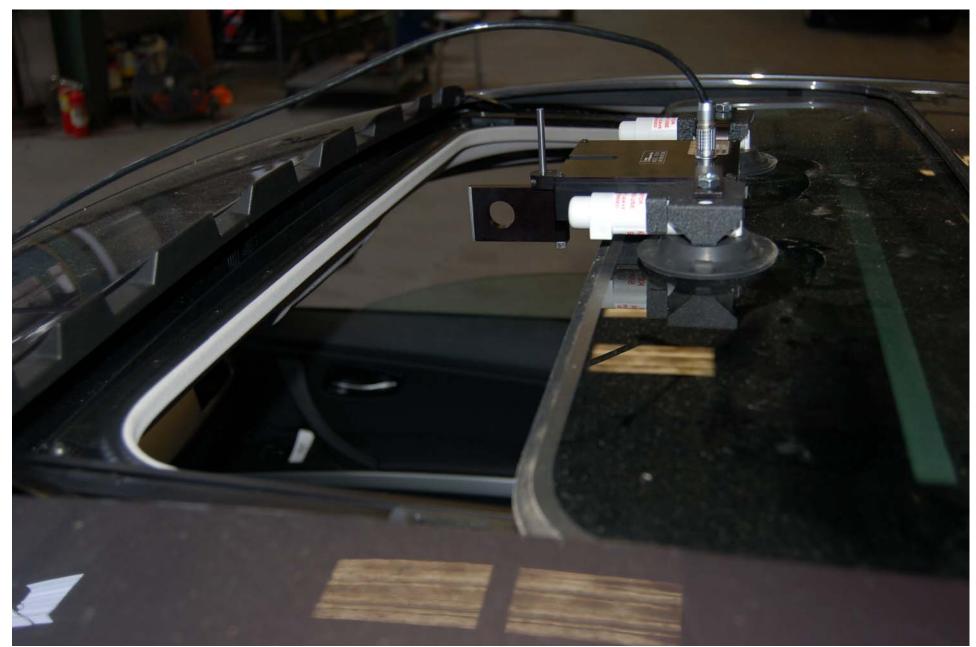


FIGURE 5.17 ROOF PANEL FORCE/DEFLECTION TEST SET-UP

SECTION 6 OWNER'S MANUAL INFORMATION

Opening and closing

Keys/remote controls



Each remote control contains a rechargeable battery that is automatically recharged when it is in the ignition lock while the car is being driven. Use each remote control at least twice a year for longer road trips in order to maintain the batteries' charge status. In cars with convenient access*, the remote control contains a replaceable battery, refer to page 28.

The settings called up and implemented when the car is unlocked depend on which remote control is used to unlock the car, refer to Personal Profile, next column.

In addition, information about service requirements is stored in the remote control, refer to Service data in the remote control, page 131.

Integrated key



Press button 1 to release the key.

The integrated key fits the following locks:

- Glove compartment, refer to page 92
- Driver's door, refer to page 22

 Sedan: Luggage compartment lid, refer to page 23

New remote controls

Your BMW center can supply new remote controls with integrated keys as additional units or as replacements in the event of loss.

Personal Profile

The concept

You can set many of your BMW's functions to suit your personal needs and preferences. Without any action on your part, Personal Profile ensures that most of these settings are stored for the remote control currently in use. When you unlock the car, the remote control used for the purpose is recognized and the settings stored for it are called up and implemented.

This means that your personal settings will be activated for you, even if in the meantime your car was used by someone else with another remote control and the corresponding settings. The individual settings are stored for up to three remote controls.

Personal Profile settings

For more information on specific settings, refer to the specified pages.

- Response of the central locking system when the car is unlocked, refer to page 19
- Automatic locking of the vehicle, refer to page 22
- Automatic call-up* of the driver's seat position after unlocking, refer to page 38
- Triple turn signal activation, refer to page 51

- Settings for the display in the instrument cluster:
 - 12h/24h format of the clock, refer to page 64
 - Date format, refer to page 64
 - Units of measure for fuel consumption, distance covered/remaining distances, and temperature, refer to page 64
- Light settings:
 - Pathway lighting, refer to page 79
 - Daytime running lamps, refer to page 80
- Automatic climate control*: AUTO program, cooling function and automatic recirculated-air control activated/deactivated, setting temperature, air flow rate and distribution, refer to page 86 ff
- Entertainment:
 - Audio volume, refer to separate Owner's Manual
 - Speed-dependent volume control, refer to separate Owner's Manual

Central locking system

The concept

The central locking system is ready for operation whenever the driver's door is closed.

The system simultaneously engages and releases the locks on the following:

- Doors
- Luggage compartment lid/tailgate
- Fuel filler door

Operating from outside

- ▷ Via the remote control
- Via the door lock
- In cars with convenient access*, via the handles on the driver's and front passenger's doors

The anti-theft system is also operated at the same time. It prevents the doors from being unlocked using the lock buttons or door han-

dles. In addition, if the remote control is used, the interior lamps and the door's courtesy lamps* are also switched on or off. The alarm system* is also armed or disarmed. For further details of the alarm system, refer to page 26.

Operating from inside

By means of the button for central locking, refer to page 22.

In the event of a sufficiently severe accident, the central locking system unlocks automatically. In addition, the hazard warning flashers and interior lamps come on.

Opening and closing: Using the remote control

Persons or animals in a parked vehicle could lock the doors from the inside. You should therefore take the remote control with you when you leave the vehicle so that the latter can be opened from outside.

Unlocking

Press the 🕰 button.

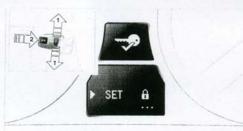
The interior lamps, the courtesy lamps* and the welcome lamps come on.

You can set how the vehicle is to be unlocked. The setting is stored for the remote control currently in use.

For operating principle, refer to page 64.

- 1. Switch on the ignition, refer to page 46.
- 2. Lightly push button **1** in the turn indicator lever up or down repeatedly until the sym-

bol appears in the display accompanied by the word "SET".



- 3. Press button 2.
- Lightly push button 1 in the turn indicator lever down repeatedly until the symbol appears in the display.



- 5. Press button 2.
- 6. Use button 1 to select:

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Press the A button once to unlock only the driver's door and the fuel filler door. Press the button twice to unlock the entire vehicle.

 \triangleright ::

Press the A button once to unlock the entire vehicle.

 Press button 2. The setting is stored for the remote control currently in use.

Convenient opening

Hold the 👰 button down. The windows and the glass roof*/panorama glass roof* are opened.

Locking

Press the O LOCK button.

Switching on interior lamps

While the car is locked: Press the O LOCK button. You can also use this function to locate your vehicle in parking garages etc.

Sedan:

Unlocking the luggage compartment lid

Press the 🗃 button for approx. 1 second.

The luggage compartment lid opens a short distance, regardless of whether it was locked or unlocked.

The luggage compartment lid swings back and up when opened. Ensure that there is sufficient clearance. To avoid locking yourself out by accident, do not place the remote control in the cargo bay. A previously locked luggage compartment lid is locked again after closing.

Before and after each trip, check that the luggage compartment lid has not been inadvertently unlocked. ◀

Sports Wagon: Unlocking the tailgate

Press the d button for approx. 1 second.

The tailgate opens a short distance, regardless of whether it was locked or unlocked.

The tailgate swings back and up when opened. Ensure that there is sufficient clearance. To avoid locking yourself out by accident, do not place the remote control in the cargo bay. A previously locked tailgate is locked again after closing.

Before and after each trip, check that the tailgate has not been inadvertently unlocked.

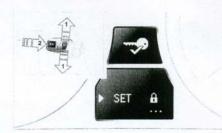
If you press the button on the remote control a second time for a longer period within three seconds, the roll-up cover is raised*. Before closing the tailgate, press the roll-up cover downward until it engages.

Confirmation signals

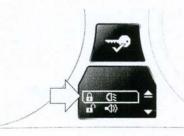
You can activate or deactivate the confirmation signals.

For operating principle, refer to page 64.

- 1. Switch on the ignition, refer to page 46.
- Lightly push button 1 in the turn indicator lever up or down repeatedly until the symbol appears in the display accompanied by the word "SET".



- 3. Press button 2.
- Lightly push button 1 in the turn indicator lever down repeatedly until the desired symbol appears in the display.



- Confirmation signal during unlocking
- ▷ 🔒 Confirmation signal during locking
- 5. Press button 2.
- 6. Use button 1 to select:
 - D de

The hazard warning flashers light up during unlocking/locking.

 $\triangleright \langle \langle \rangle \rangle$

An acoustic signal sounds during unlocking/locking.

⊳ **.())(**€

The hazard warning flashers light up and an acoustic signal sounds during unlocking/locking.

⊳ off

The function is deactivated.

 Press button 2. The setting is stored.

Malfunctions

The remote control may malfunction due to local radio waves. If this occurs, unlock and lock the car at the door lock with the integrated key.

If the car can no longer be locked with a remote control, the battery in the remote control is discharged. Use the remote control on an extended trip to recharge the battery, refer to page 18. The remote control for convenient access* contains a battery that may have to be changed, refer to page 28.

For US owners only

The transmitter and receiver units comply with part 15 of the FCC/Federal Communications Commission regulations. Operation is governed by the following:

FCC ID: LX8766S LX8766E LX8CAS

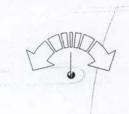
Compliance statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device must not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Any unauthorized modifications or changes to these devices could void the user's authority to operate this equipment. Controls

Opening and closing: Using the door lock



You can set the way in which the car is unlocked, refer to page 19.

Convenient operation

At the door lock, you can operate the windows and glass roof*/panorama glass roof*.

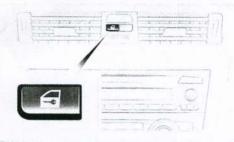
Hold the key in the position for unlocking or locking.

Watch during the closing process to ensure that no one is injured. Releasing the key stops the operation.

Manual operation

In the event of an electrical malfunction, you can lock and unlock the driver's door by turning the integrated key to the corresponding limit positions in the door lock.

Opening and closing: From inside



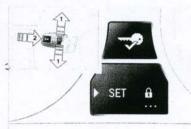
This button serves to unlock or lock doors and the luggage compartment lid/tailgate, but does not activate the anti-theft system. The fuel filler door remains unlocked.

Automatic locking

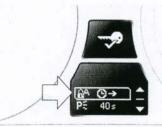
You can also set the situations in which the car locks:

For operating principle, refer to page 64.

- 1. Switch on the ignition, refer to page 46.
- Lightly push button 1 in the turn indicator lever up or down repeatedly until the symbol appears in the display accompanied by the word "SET".



- 3. Press button 2.
- Lightly push button 1 in the turn indicator lever down repeatedly until the symbol appears in the display.



- 5. Press button 2.
- 6. Use button 1 to select:
 - ⊳⊙on

The central locking system automatically locks the vehicle after some time if no door has been opened.

⊳ → on

The central locking system automati-

cally locks the vehicle as soon as you drive off.

 $\triangleright \bigcirc \rightarrow$

The central locking system automatically locks the vehicle after some time if no door has been opened, or as soon as you drive off.

⊳ off

The central locking system remains unlocked.

7. Press button 2.

The setting is stored for the remote control currently in use.

Unlocking and opening doors

- Either unlock the doors together using the button for the central locking system and then pull the door handle above the armrest or
- pull on the door handle of each door twice: the first time unlocks the door, the second time opens it.

Locking

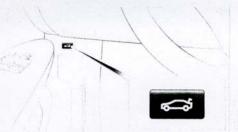
- Use the central locking button to lock all of the doors simultaneously, or
- press down the safety lock button of a door. To prevent you from being locked out, the open driver's door cannot be locked using the lock button.

Persons or animals in a parked vehicle could lock the doors from the inside. You should therefore take the remote control with you when you leave the vehicle so that the latter can be opened from outside.

Luggage compartment lid/ tailgate

In order to avoid damage, make sure there is sufficient clearance before opening the luggage compartment lid/tailgate.

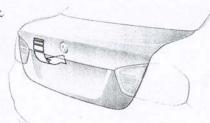
Opening from inside



Press the button: the luggage compartment lid/ tailgate opens unless it has been locked.

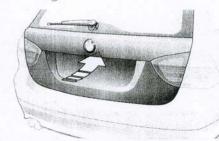
Opening from outside

Sedan



Press the button, see arrow, or the 🖾 button on the remote control for a longer period. The luggage compartment lid will open slightly. It can now be swung upwards.

Sports Wagon

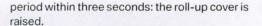


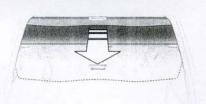
Press the button, see arrow, or the 🗃 button on the remote control for a longer period. The tailgate will open slightly. It can now be swung upwards.

Press the button, see arrow, or the 🗃 button on the remote control a second time for a longer

23

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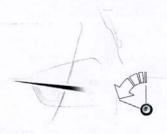




Before closing the tailgate, press the cover downward until it engages.

Opening manually

Sedan



The integrated key of the remote control, refer to page 18, fits the luggage compartment lid lock.

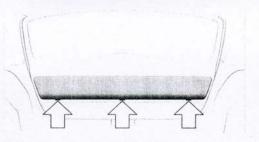
Turn the key all the way to the left: the luggage compartment lid opens.

If you open the luggage compartment lid using the key while the alarm system is armed, the alarm will be triggered. Switching off an alarm, refer to page 26.

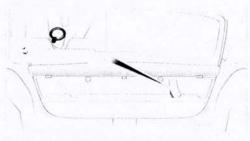
Sports Wagon

In the event of an electrical malfunction:

1. From the cargo bay, swing the cover on the tailgate upward.

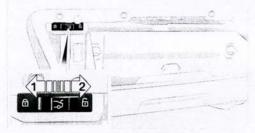


2. Pull the ring upward. The tailgate is unlocked.



 Open the tailgate and close the cover again.
 The tailgate is locked as soon as it is pressed shut.

Locking or unlocking separately



The switch is located in the glove compartment.

- 1 Locking the luggage compartment lid
- 2 Unlocking the luggage compartment lid

Locking separately

Push the switch in the direction of arrow **1**. The luggage compartment lid is locked and cannot be unlocked using the central locking system.



If you give the remote control without the integrated key to someone else while the glove compartment is locked, the luggage compartment lid cannot be opened. This is an advantage when valet parking, for example. Locking the glove compartment, refer to page 93.

Unlocking separately

Push the switch in the direction of arrow 2.

Emergency release



Pull the lever in the cargo bay. The luggage compartment lid is unlocked.

Closing

The handle recesses on the interior trim of the luggage compartment lid/tailgate make it easier to pull down.

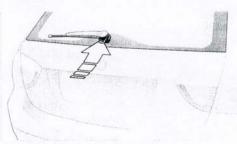
Make sure that the closing path of the luggage compartment lid/tailgate is clear, otherwise injuries may result.

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Sports Wagon: opening and closing the rear window

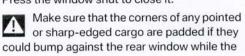
Small items can be loaded and unloaded quickly when the rear window is opened separately.

The roll-up cover is raised when the rear window is opened. Before closing the rear window, press the roll-up cover downward until it engages.



Press the button: the rear window opens slightly. It can now be swung upwards.

Press the window shut to close it.



vehicle is in motion, otherwise the heating elements of the rear window could be damaged.◀

Alarm system*

The concept

The vehicle alarm system responds:

- When a door, the hood or the luggage compartment lid/tailgate is opened
- To movements inside the vehicle: Interior motion sensor, refer to page 26
- When the car's inclination changes, for instance if an attempt is made to jack it up and steal the wheels or to raise it prior to towing away
- When there is an interruption in the power supply from the battery

The alarm system signals unauthorized entry attempts for a short time by means of:

- An acoustic alarm
- Switching on the hazard warning flashers
- Flashing the high beams

Arming and disarming

When you lock or unlock the vehicle, either with the remote control or at the door lock, the alarm system is armed or disarmed at the same time.

You can open the luggage compartment lid/tailgate even when the alarm system is armed, by pressing the button on the remote control, refer to page 20. The lid is locked and monitored again as soon as you close it.

Panic mode*

You can trigger the alarm system if you find yourself in a dangerous situation:

Press the 📷 button for at least three seconds.

To switch off the alarm: press any button.

Switching off an alarm

Unlock the car with the remote control, refer to page 19. Insert the remote control all the way into the ignition lock.

Indicator lamp displays

- The indicator lamp under the inside rearview mirror flashes continuously: the system is armed.
- The indicator lamp flashes after locking: doors, hood, luggage compartment lid/tailgate or rear window are not properly closed. Even if you do not close the alerted area, the system begins to monitor the remaining areas, and the indicator lamp flashes continuously after approx. 10 seconds. The interior motion sensor and the tilt alarm sensor are not activated.
- The indicator lamp goes out after unlocking: your vehicle has not been disturbed while you were away.
- If the indicator lamp flashes after unlocking until the remote control is inserted in the ignition, but for no longer than approx.
 5 minutes: your vehicle has been disturbed while you were away.

Tilt alarm sensor

The tilt of the vehicle is monitored. The alarm system reacts, e.g. to attempts to steal a wheel or tow the vehicle.

Interior motion sensor

In order for the interior motion sensor to function properly, the windows and glass roof must be completely closed*.

Avoiding unintentional alarms

The tilt alarm sensor and interior motion sensor may be switched off at the same time. This prevents unintentional alarms, e.g. in the following situations:

- In duplex garages
- During transport on car-carrying trains, boats/ships or on a trailer
- When animals are to remain in the vehicle

Switching off tilt alarm sensor and interior motion sensor

Press the O LOCK button on the remote control again as soon as the vehicle is locked.

The indicator lamp lights up briefly and then flashes continuously. The tilt alarm sensor and the interior motion sensor are switched off until the next time the vehicle is unlocked and subsequently locked again.

Convenient access*

Convenient access enables you to enter your vehicle without needing to hold the remote control in your hand. All you need to do is wear the remote control close to your body, e.g. in your jacket pocket. The vehicle detects the corresponding remote control within the immediate vicinity or in the passenger compartment.

Convenient access supports the following functions:

- Unlocking/locking the vehicle
- Unlocking the luggage compartment lid/ tailgate separately
- ▷ Engine starting
- Convenient closure

Functional requirement

- The vehicle or the luggage compartment lid/tailgate can only be locked when the vehicle detects that the remote control currently in use is outside of the vehicle.
- The vehicle cannot be locked or unlocked again until after approx. 2 seconds.

The engine can only be started when the vehicle detects that the remote control currently in use is inside the vehicle.

Comparison to the standard remote control

In general, there is no difference between using convenient access or pressing the buttons on the remote control to carry out the functions mentioned above. You should therefore first familiarize yourself with the instructions on opening and closing starting on page 18.

Special features regarding the use of convenient access are described below.

If you notice a brief delay while opening or closing windows or the glass roof/panorama glass roof, the system is checking whether a remote control is inside the vehicle. Please repeat the opening or closing procedure, if necessary.





Grasp the handle on the driver's or front passenger's door completely, arrow **1**. This corresponds to pressing the **button**.

Locking

Touch the surface, arrow $\mathbf{2}$, with your finger for approx. 1 second. This corresponds to pressing the O LOCK button.

To preserve the battery, please make sure that the ignition and all electrical consumers are switched off before locking the vehicle.



Convenient closure

For convenient closure, keep your finger on the surface, arrow **2**.

Unlocking the luggage compartment lid/tailgate separately

Press the button on the outside of the luggage compartment lid/tailgate. This corresponds to pressing the descent button.

If the vehicle detects that a remote control has been accidentally left inside the locked vehicle's cargo bay after the luggage compartment lid/tailgate or rear window is closed, the lid will reopen. The hazard warning flashers flash and an acoustic signal* sounds.

Switching on radio readiness

Radio readiness is switched on by pressing the start/stop button, refer to page 46.



Do not depress the brake or the clutch, otherwise the engine will start.◄

Starting the engine

You can start the engine or switch on the ignition when a remote control is inside the vehicle. It is not necessary to insert a remote control into the ignition switch, refer to page 46.

Switching off the engine in cars with automatic transmission

The engine can only be switched off when the selector lever is in position P, refer to page 47. To switch the engine off when the selector lever is in position N, the remote control must be in the ignition switch.

Before driving a vehicle with automatic transmission into a car wash

- 1. Insert remote control into ignition switch.
- 2. Depress the brake.
- 3. Move the selector lever to position N.
- 4. Switch off the engine.

The vehicle can roll.

Malfunction

Convenient access may malfunction due to local radio waves. If this happens, open or close the vehicle via the buttons on the remote control or using the integrated key. To start the engine afterward, insert the remote control into the ignition switch.

Warning lamps



The warning lamp in the instrument cluster lights up when you attempt to start the engine: the engine cannot

be started. The remote control is not inside the vehicle or is malfunctioning. Take the remote control with you inside the vehicle or have it checked. If necessary, insert another remote control into the ignition switch.



The warning lamp in the instrument cluster lights up while the engine is running: the remote control is no

longer inside the vehicle. After the engine is switched off, the engine can only be restarted within approx. 10 seconds.



The indicator lamp in the instrument cluster comes on: replace the battery in the remote control.

Replacing the battery

The remote control for convenient access contains a battery that will need to be replaced from time to time.

1. Take the integrated key out of the remote control, refer to page 18.

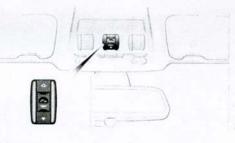


- 2. Remove the cover.
- Insert the new battery with the plus side facing up.

Sedan: glass roof*, electric

To prevent injuries, watch the glass roof while closing it.

Take the remote control with you when you leave the car, otherwise children could operate the roof and possibly injure themselves.



Raising

Press the switch.

- The closed glass roof is raised and the sliding visor opens slightly.
- The open glass roof automatically travels into the raised position. The sliding visor remains completely open.

Opening, closing

Press the switch backwards to the resistance point.

The glass roof and the sliding visor open together as long as you hold the switch in this position.

Press the switch backwards past the resistance point.

The glass roof and the sliding visor open automatically. Briefly press the switch again to stop the opening movement.

You can close the glass roof in a similar manner by pressing the switch forwards. The sliding visor remains open and can be closed by hand.

For information on convenient operation via the remote control or door lock, refer to page 19 or 22.

After switching off the ignition

When the remote control is removed or the ignition is switched off, you can still operate the roof for approx. 1 minute as long as no door has been opened.

Pinch protection system

If the glass roof encounters an obstruction during closing from approximately the middle of the opening in the roof, or during closing from the raised position, the closing movement is interrupted and the glass roof is opened again slightly.

Despite the pinch protection system check and clear the roof's travel path prior to closing it, otherwise the safety system might fail to detect certain kinds of obstructions, such as very thin objects, and the roof would continue closing.

Closing without pinch protection

If there is an external danger, press the switch forward past the resistance point. The roof closes without pinch protection.

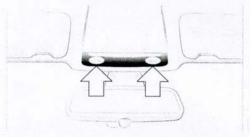
Following interruptions in electrical power supply

After a power failure, there is a possibility that the glass roof can only be raised. The system must be initialized. BMW recommends having this work done by your BMW center.

Closing manually*

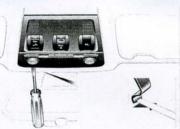
In the event of an electrical malfunction, you can move the glass roof manually:

1. Unclip the front of the cover of the interior lamps using the screwdriver from the onboard tool kit, refer to page 133.

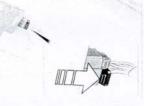


Controls

 Insert the screwdriver into the openings on each side to press the clips.



- 3. Remove the control unit.
- 4. Unplug the motor. Considerably less effort will be required for manual operation.



 Insert the Allen wrench* supplied with the onboard tool kit, refer to page 133, into the opening provided. Move the glass roof in the desired direction.



6. Reinstall the control unit and reattach the lamp cover.

Sports Wagon: Panorama glass roof*



To prevent injuries, exercise care when closing the panorama glass roof and keep

it in your field of vision until it is shut. Take the remote control with you when you leave the car, otherwise children could operate the roof and possibly injure themselves.





Raising

Press the switch.

The closed roof is raised and the sliding visor opens slightly.

Do not close the sliding visor forcibly with the roof in the raised position, as this would damage the mechanism.

Opening, closing

Sliding visor

The sliding visor can be opened or closed separately when the roof is in the closed or raised position.

Press the switch backwards to the resistance point.

The sliding visor opens as long as you keep the switch in this position.

Tap the switch backwards past the resistance point.

The sliding visor opens automatically. Tapping the switch again stops the operation.

You can close the sliding visor in a similar manner by pressing the switch forwards.

Panorama glass roof

When the sliding visor is open, proceed as described under Sliding visor.

For information on convenient operation via the remote control or door lock, refer to page 20 or 22.



Opening and closing the roof and sliding visor at the same time

Tap the switch twice in quick succession beyond the resistance point.

Tapping the switch again stops the operation.

Convenience functions

- With the roof open, press the switch twice: The roof is raised.
- With the roof open, tap the switch twice in the direction for opening: The roof is opened fully.

Comfort position

In the comfort position, the roof is not completely open, thus reducing wind noise in the passenger compartment.

Each time the panorama glass roof is opened or closed completely, it stops in the comfort position. If desired, continue the movement by pressing the switch.

After switching off the ignition

When the remote control is removed or the ignition is switched off, you can still operate the roof for approx. 1 minute as long as no door has been opened.

Pinch protection system

If the panorama glass roof or the sliding visor encounters an obstruction while closing from a position about two-thirds closed, or during closing from the raised position, the closing movement is interrupted and the panorama glass roof and the sliding visor are opened again slightly.

Despite the pinch protection system check and clear the roof's travel path prior to closing it, otherwise the safety system might fail to detect certain kinds of obstructions, such as very thin objects, and the roof would continue closing.

Closing without pinch protection

If there is an external danger, press the switch forward past the resistance point and hold it there. The roof closes without pinch protection.

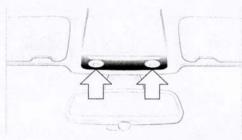
Following interruptions in electrical power supply

After a power failure, there is a possibility that the panorama glass roof can only be raised. The system must be initialized. BMW recommends having this work done by your BMW center.

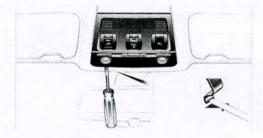
Closing manually*

In the event of an electrical malfunction, you can move the panorama glass roof manually:

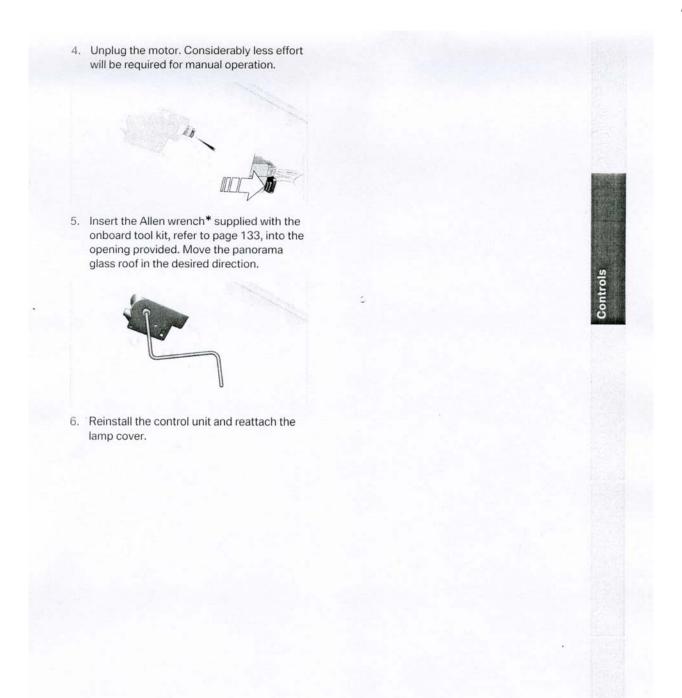
- 1. Unclip the front of the cover of the interior
- lamps using the screwdriver from the onboard tool kit, refer to page 133.



2. Insert the screwdriver into the openings on each side to press the clips.



3. Remove the control unit.



Driving

Ignition lock

Insert the remote control into the ignition lock



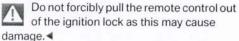
Insert the remote control all the way into the ignition lock.

Radio readiness is switched on. Individual electrical consumers can operate.

Convenient access*

If the car is equipped with convenient access, only insert the remote control into the ignition lock under special circumstances, refer to page 27.

Removing the remote control from the ignition lock



Before removing the remote control, push it all the way in to release the locking mechanism.

The ignition is switched off if it was on.

Automatic transmission

You cannot take out the remote control unless the selector lever is in the P position: interlock.

Start/stop button



Pressing the start/stop button switches radio readiness or the ignition on or off.

The engine is started when you press the start/stop button and depress the clutch if the car has manual transmission, or the brake if the car has automatic transmission.

Radio readiness

Individual electrical consumers can operate. The time and the outside temperature are displayed in the instrument cluster.

Radio readiness is switched off automatically:

- When the remote control is removed from the ignition lock
- In cars with convenient access*, by touching the surface above the door lock, refer to Locking on page 27

Ignition on

All electrical consumers can operate. The odometer and trip odometer are displayed in the instrument cluster.

When the engine is off, please switch off the ignition and any unnecessary electrical consumers in order to preserve the battery.

Radio readiness and ignition off

All indicator and warning lamps as well as displays in the instrument cluster go out.

Starting the engine

Do not run the engine in closed rooms, otherwise the inhalation of toxic exhaust gases can cause unconsciousness and death. The exhaust gases contain carbon monoxide, an odorless and colorless, but highly toxic gas. Never leave an unattended vehicle with the engine running, otherwise such a vehicle represents a potential safety hazard.

Before leaving the car with the engine running, place the transmission in idle or move the selector lever to position P and forcefully apply the parking brake to prevent the car from moving.

Avoid frequent starting in quick succession as well as repeated start attempts in which the engine does not start. Otherwise, the fuel is not burned or incompletely burned and there is a danger of overheating and damaging the catalytic converter.

Do not wait for the engine to warm up while the vehicle remains stationary. Start driving right away, but at moderate engine speeds.



Manual transmission

Remote control in the ignition lock or, with convenient access, inside the vehicle, refer to page 27.

- 1. Depress the brake.
- 2. Depress the clutch and shift to idle position.
- 3. Press the start/stop button.

The starter operates automatically for a certain time, and stops automatically as soon as the engine has started.

Automatic transmission

Remote control in the ignition lock or, with convenient access, inside the vehicle, refer to page 27.

- 1. Depress the brake.
- 2. Move the selector lever to position P.
- 3. Press the start/stop button.

The starter operates automatically for a certain time, and stops automatically as soon as the engine has started.

Switching off the engine

Always take the remote control with you when you leave the vehicle. When parking, apply the parking brake forcefully, otherwise the vehicle could begin to roll.

Manual transmission

- With the car at a standstill, press the start/ stop button.
- 2. Shift into first gear or reverse.
- 3. Forcefully apply the parking brake.
- Removing the remote control from the ignition lock, refer to page 46.

Automatic transmission

- With the car at a standstill, move the selector lever to position P.
- 2. Press the start/stop button.
- 3. Forcefully apply the parking brake.
- Removing the remote control from the ignition lock, refer to page 46.

Parking brake

The parking brake is primarily intended to prevent the vehicle from rolling while parked; it brakes the rear wheels.